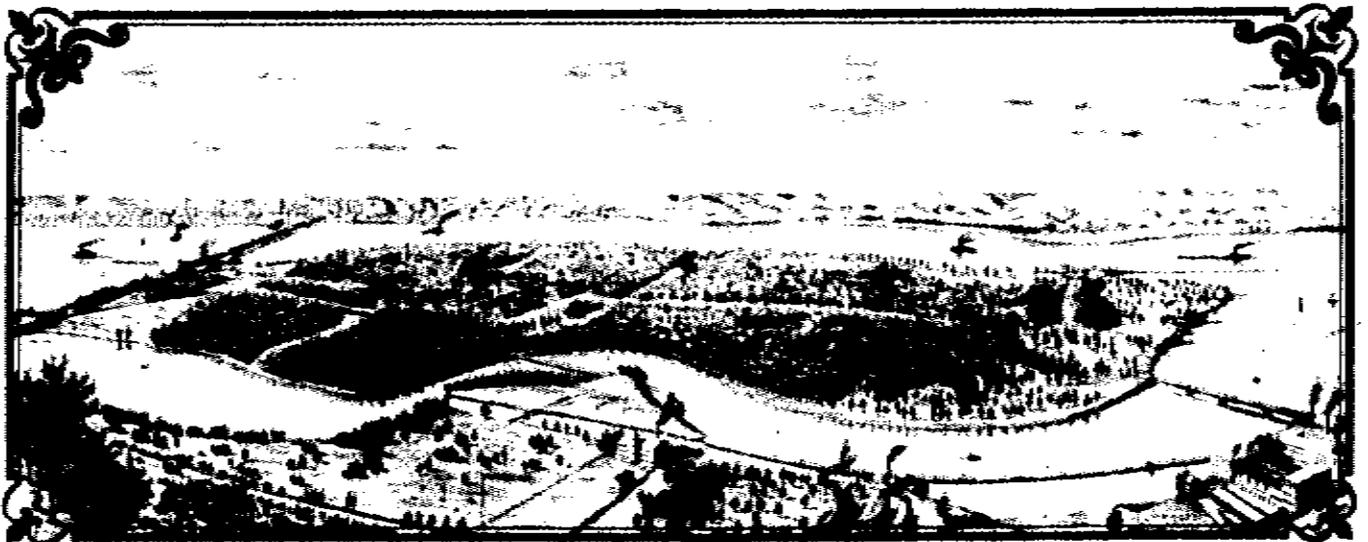


An Illustrated History
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And
Arsenal Island

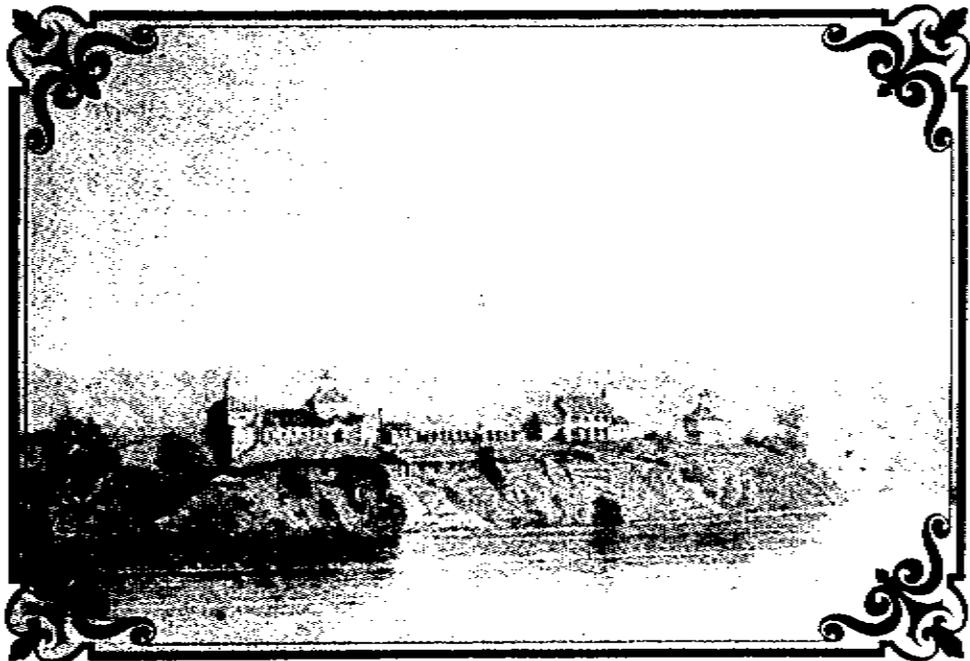
Parts
One And Two



Rock Island Arsenal, 1876

An Illustrated History
Of The
Rock Island Arsenal
And
Arsenal Island

Part One
(Revised Edition)



Fort Armstrong

PREFACE

The year 1988 marked a milestone in Arsenal Island history, for in that year, the Rock Island Arsenal (RIA) celebrated designation of the arsenal's old stone buildings as National Historic Landmarks by United States Secretary of the Interior. To commemorate such an occasion, the Rock Island Arsenal Commander, Colonel David T. Morgan, Jr., has requested that this illustrated historic series be completed.

An Illustrated History Of The Rock Island Arsenal And Arsenal Island Part One (Revised Edition) covers nearly two hundred years of island history prior to the establishment of the Rock Island Arsenal. This historical overview explains, through the use of photographs and words, the rich historic past of Arsenal Island.

The United States Government's presence on Rock Island makes it the oldest institution in the Quad-Cities area. The government's historic ties with Arsenal Island date back to the signing of the Treaty of 1804 and the establishment of Fort Armstrong on the island in 1816. The United States flag flew above Rock Island long before any of the communities of the surrounding area were founded. Even before Illinois and Iowa had achieved statehood, the U.S. Army had established a significant military presence on Rock Island with the building of Fort Armstrong. The fort served as a sanctuary to early pioneers who sought refuge behind its walls during the threatening days of Indian uprisings. Part One also examines the historic ties and conflicts between the government and local interests concerning the economic development of Rock Island. This illustrated history is intended for the enjoyment and education of its readers.

The author would like to thank Colonel David T. Morgan, Jr., for requesting such a project; Dr. Herbert P. LePore, Chief of the AMCCOM Historical Office, to whom I owe a special thanks for guiding my work through this revised edition, and taking time from his busy schedule to personally edit the text of this work. Also, I would like to express my appreciation of the support of people and organizations both within and outside of government service. Key individuals within the Rock Island Arsenal community, such as Mr. Ronald E. Sikorski, Mr. Patrick J. Broderick, and past RIA Commander, Colonel John S. Cowings, sustained my efforts during the completion of the first edition. Likewise, the Rock Island Arsenal Historical Society supported the publication of the first edition. I would like to acknowledge the encouragement I received from my colleagues, Dr. Robert H. Bouilly and Mr. Ralph C. Krippner. Thanks is also due Mrs. Allie Callear for assisting in developing the format and putting the narrative of the first edition into the computer and to Mrs. Carol Secoy and Ms. Nancy Newton, AMCCOM Historical Office, for respectively providing the necessary editorial support and administrative support for the revised edition. In addition, thanks is extended to the Field Printing Plant for their professional assistance.


THOMAS J. SLATTERY

October 1988

AN ILLUSTRATED HISTORY
OF THE
ROCK ISLAND ARSENAL AND ARSENAL ISLAND
PART ONE

By
Thomas J. Slattery

Historical Office
U.S. Army Armament,
Munitions and Chemical Command
Rock Island, Illinois 61299-6000

1988

**AN ILLUSTRATED HISTORY
OF THE
ROCK ISLAND ARSENAL AND ARSENAL ISLAND**

PART ONE

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Below: *Replica of Fort Armstrong Blockhouse dedicated during the Fort Armstrong Centennial Celebration held June 18-26, 1916.
(From AMCCOM-HO Archives)*

Right: *North of Old Stone Shops, on Rodman Ave., built over a twenty-five year period beginning in 1867.
(AMCCOM-HO)*



INTRODUCTION HISTORIC ROCK ISLAND

The history presently being preserved at the Rock Island Arsenal encompasses more than the history of the arsenal itself. It also includes the frontier history of Fort Armstrong, the regional history of Colonel Davenport, the regional history of Black Hawk, the history of the first bridge to span the Mississippi River, and the Civil War history of the Rock Island Prison Barracks. The entire island is listed on the National Register of Historic Places, and is known as Arsenal Island. In June 1988, the Secretary of the Interior designated the old stone buildings, which formed the 19th Century Rock Island Arsenal, National Historic Landmarks.

The history of Rock Island is divided into three successive eras: the regional history, and two periods of "permanent" U.S. Government occupancy on the island. The regional history includes those events prior to 1816 which led to the government establishing a military post on the island. The military post and the depot era of Fort Armstrong constituted the first "permanent" presence of the U.S. Government on Rock Island, and the establishment of Rock Island Arsenal was the second. Rock Island has made an indelible contribution to local history, as well as contributions to national history.

Below: Pere Marquette, a Jesuit Missionary, and Louis Joliet, trader and explorer, were the first Europeans to travel the upper Mississippi River. They entered the river from Green Bay by way of the Fox River-Wisconsin River portage route in 1673. (Illinois State Historical Society Office, Old Market Building, Galena, Illinois)



CHAPTER ONE ISLAND HISTORY PRIOR TO 1816

Rock Island was in the "backwaters" of American history in the days of the Old Northwest where the Mississippi River formed the western boundary of the United States. History seldom impacted on Rock Island in the middle of the 18th and early 19th centuries.

On the occasions when it did, it was in support of historical developments which were taking place up river at such places as Prairie du Chien, Dubuque, or Galena. The prospect of acquiring wealth initially attracted Europeans and white Americans to the fur trading area of Prairie du Chien and the lead region of Dubuque. French traders seeking to expand their Indian trade discovered that the most convenient portage, from the Great Lakes to the Mississippi River, was by the Fox River-Wisconsin waterway. At each end of the route important French fur trading communities developed. Prairie du Chien, at the mouth of the Wisconsin River on the Mississippi, and Green Bay on Lake Michigan anchored both ends of the Fox River-Wisconsin River portage route.

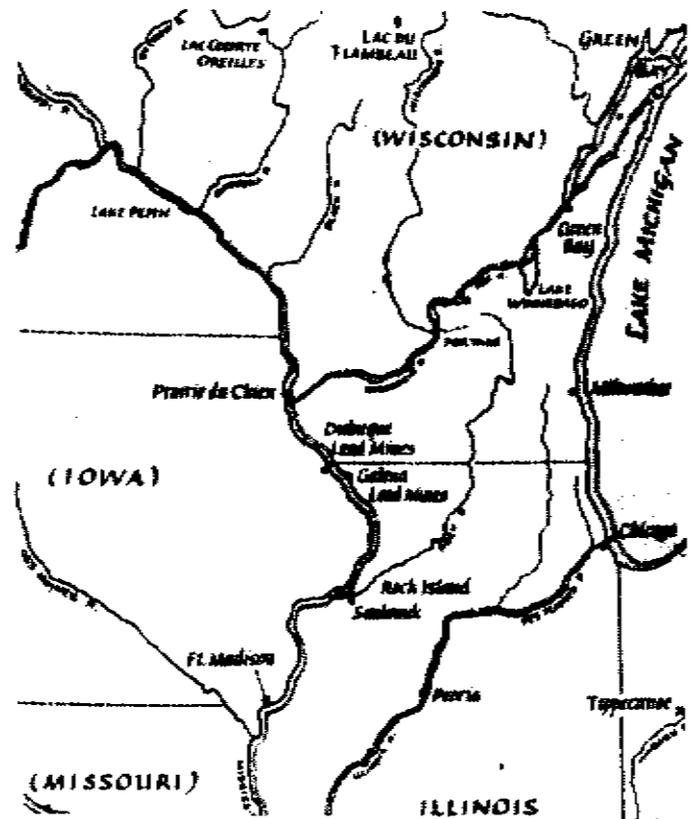
Prairie du Chien, not Rock Island, was

originally the leading fur trading post on the upper Mississippi River. However, it was not long before French-Canadian *voyageurs* and *coureur de bois* from Prairie du Chien, began extending trading operations down river. These French-Canadians established trade with various Indian tribes along the Mississippi River and its main tributaries.

Voyageurs were French Canadians employed by fur traders to transport "made goods" and canoes from the remote regions of the Old Northwest. A *coureur de bois* differed from a *voyageur* in that he operated without a French fur license, and he often illegally traded with the British. Often the *coureur de bois* was a French-Indian woodsman.

Early fur traders in the Rock Island area paddled a canoe called the *canot du nord* or North Canoe. The North Canoes were 20 feet in length and could carry as much as a ton of cargo besides its crew of eight *voyageurs*. The cargo primarily consisted of trade goods which were packed into 90 pound bundles for easier handling. The bundles contained the material needed for bartering such

Right: The Fox River - Wisconsin River Portage Route was a convenient fur trading route that linked the Great Lakes with the Mississippi River.
(Jo Davies County Historical Society, Galena, Illinois)



as cloth, kettles, traps, blankets, guns, ammunition, and whiskey.

Several French traders, and later British agents, referred briefly in their journals to the "big island" (Rock Island) at the bend of the Mississippi River near the "upper rapids". These early journals mentioned in greater detail the Sauk camp near the mouth of the Rock River and also Credit Island, an island which was situated a mile or so down stream from Rock Island.

French-Canadian traders seemed to prefer Credit Island to Rock Island as the site of their trading and established a small trading post on Credit Island. These traders extended credit to Indians in exchange for their promise of pelts. The island, so associated with this practice, became known as Credit Island. Later, British traders often set up their trading camp on Rock Island instead of Credit Island when trading in the vicinity.

Occasionally, after trading, a French Canadian *coureur de bois*, or a woodsman known as a *hiverant*, would spend the winter at the Sauk village on the Rock River. By living among the Indians, the trader not only established good relations with the Sauk, but he also protected his investment by serving as a reminder to the tribe of their debt. In 1763, France lost its colonial possessions in North America to Great Britain as a result of the French and Indian War. However, many of the French-Canadian traders and *voyageurs* continued to work in the fur trade, first for the British and then later for the Americans.

After the French and Indian War, the British Government in Canada continued the French practice of providing gifts to Indians. The tribes, which made pilgrimages each spring to the Canadian communities of Montreal and later Malden to council with their "great father", received presents. British medals and flags were presented to Indians who agreed to trade with British agents. Malden is situated near Windsor, Canada.

Foreign intrigues planned by British agents successfully brought most of the Indian nations of the Old Northwest, including those of the upper Mississippi River Valley, under the influence of the British. During the American Revolutionary War, almost every tribe of the Old Northwest fought as auxiliaries for the British.

In 1778, Sauk and Fox warriors were among the Indians who gathered at Montreal to receive British presents and medals.¹ Later in 1780, Sauk and Fox braves participated in an unsuccessful attack on the town of Vincennes, which eventually became St. Louis, Missouri. These Indians had joined a British force of soldiers, traders, and other Indians from Prairie du Chien in attacking Vincennes. Lieutenant Colonel John Montgomery, under orders from Colonel George Rogers Clark, led a combined force of American Rangers, and French, Spanish, and American settlers from St. Louis in a retaliatory strike against the Sauk village located at the mouth of the Rock River. Colonel Montgomery and his 300 men supposedly burned the Sauk village, making this action the westernmost conflict of the American Revolution.²

Later, under the provisions of the 1783 Treaty of Paris which ended the American Revolutionary War, the British ceded to the

Below: *Voyageurs "Shooting the Rapids". Early fur traders used similar canoes in the Rock Island area. (Jo Davies County Historical Society, Galena, Illinois)*



United States a huge western tract of land known as the Northwest Territory. The territory included the present states of Illinois, Indiana, Michigan, Ohio, Wisconsin, and part of Minnesota.

Britain, however, unwilling to give up its valuable trade with Indians of the territory, continued to operate its trading companies on American soil, from Canada. Long after the treaty was signed, British agents continued to trade along the upper Mississippi River Valley, including the Rock Island vicinity. British traders used their influence among the Indians to discredit their competitors, the American traders. The British Government in Canada, acting in its own interest, agreed to supply arms and ammunition to Indian leaders such as Tecumseh, who formed an Indian confederacy to counter the encroachments of American traders and settlers into the Northwest. The noted Sauk warrior, Black Hawk, was among the braves that joined the confederacy. As American settlers advanced through the frontier of the Northwest, they defeated the confederacy at Fallen Timbers, Ohio, in 1794 and at Tippecanoe Creek in 1811.

In dealing with the Indians of the Northwest

Territory, the United States Government established the precedence of negotiating formal treaties with the Indians to gain possession of land they occupied. These treaties defined and redefined boundary lines between advancing white settlements and retreating Indian tribes. In many of the treaties, provisions were added to reserve the right of the United States Army to establish forts at strategic locations within the newly drawn boundaries of the Indian territory. This chain of events formed a scenario which was repeated as the American frontier advanced through the Northwest territory.

Lead Mining and Other Trade with the Indians

In the 18th and early 19th Centuries, European trade with the Sauk and Fox Indians involved more than fur pelts. Although pelts were profitable, Europeans also traded for lead, corn, beeswax, feathers, and tallow.³ Lead was of particular importance to European and American traders. In fact, Sauk and Fox women were taught by Frenchmen to mine for lead and to operate crude furnaces near the Fox villages, which were close to the present city of Dubuque, Iowa. The Sauk of the Rock River region and the

Below: The 1840s lead mining community of Galena, Illinois. Note the smoke from the lead furnaces operating in the hills. (Alfred W. Mueller, Galena Historical Collection)



Fox Indians of both the Rock Island and Dubuque vicinities developed a brisk trade in lead with Europeans.

The French initially attempted to develop the lead region of northeast Iowa, northern Illinois, and southern Wisconsin. However, a series of Indian wars with the Fox Indian tribe severely hindered French mining efforts. Fox warriors periodically raided the fur and mining expeditions that traveled the portage route between Prairie du Chien and Green Bay. When not actually raiding the expeditions, they extracted a tribute from those that traveled the route. The Fox tribe, in order to survive a war of annihilation waged on them by the French, allied themselves with the Sauk tribe from the Saginaw Bay area of Michigan. Eventually, the two tribes migrated to the mouth of the Rock River near Rock Island.⁴

In 1788, the Fox Indians granted lead diggings near the present city of Dubuque to Julien Dubuque, a French trader. Miners such as Dubuque shipped lead down river to St. Louis instead of by portage to the Great Lakes.⁵

By purchasing the Louisiana Territory from France in 1803, the United States doubled its size, and opened the mouth of the Mississippi River to American commerce. The Mississippi River no longer formed the western boundary of the U.S., and by the early 1820s, speculators began leasing land in the lead region of the upper Mississippi Valley from the United States Government. Out of the mining area along the Fever River in Illinois grew the mining community of Galena. Numbering less than 50 persons in 1822, Galena's population rose to over 10,000 people a decade later. The sudden influx of miners resulted in clashes between the mining communities and Indians of the area. This led to the "Winnebago War" of 1827. A short-lived uprising led by Red Bird, a Winnebago chief, was easily put down by a show of U.S. Army Regulars.

Federal Government Acquires Rock Island

In 1804, Rock Island came under Federal control. President Thomas Jefferson instructed the Governor of the Indiana Territory, William

Below: Lead furnace near Galena. Note the 75 lb. lead "pigs" stacked behind the scale. (Alfred W. Mueller, Galena Historical Collections)



Henry Harrison, to acquire Indian lands which adjoined the Mississippi River and its tributaries. Harrison, later the ninth President of the United States, made an effort to obtain Indian land cessions. Through bribery, liquor, and threats, he succeeded in obtaining these lands and seized every opportunity to "negotiate" away the Indian lands.⁶

In November 1804, four Sauk chiefs and two Fox chiefs arrived in St. Louis to meet with Harrison regarding the release of a Sauk brave being held for killing a white man. Harrison, during negotiations for the release of this brave, persuaded the chiefs to sign a treaty which ceded to the U.S. a vast tract of land controlled by the respective tribes. The ceded land included territory on both sides of the Mississippi River, roughly between the Wisconsin River on the north and the Missouri River on the south; and extending east to the middle of the present Illinois River and west as far as the watershed region between Des Moines and the Missouri River. Both the Sauk villages on the Rock River and Rock Island were included in the land purchase.

In return, the Indians were to receive the

official protection and friendship of the United States, and were to be paid \$2,234.50 in goods, plus an additional guaranteed annuity of \$1,000 in goods to be received annually thereafter.⁷

A story regarding the unethical practices used by William Henry Harrison during negotiations with the Sauk and Fox chiefs has been included in several historical works of the Rock Island area.⁸ The minor chiefs supposedly told members of their tribes that they were inebriated during the majority of their stay in St. Louis. The chiefs explained that the \$2,234.50 of trade goods they were to receive from the Federal Government was instead given to Pierre Chouteau, a wealthy French fur trader, for payment of the chiefs' expenses. Chouteau witnessed the signing of the treaty and also served as host for William Henry Harrison during his visit to St. Louis. As for the brave being held by army authorities, he allegedly was shot while running from his guards.⁹

Later, a dispute over the meaning of Article Seven of the 1804 Treaty led to the undoing of the Sauk and Fox Indians in Illinois. Article Seven stated:

As long as the lands which are now

Below: An 1829 map of the U.S. lead mines in the upper Mississippi River region. At that time, the mines were worked by private individuals who paid the U.S. Government a tenth of all the lead manufactured for the privilege. Much of the lead was shipped down the Mississippi River, through the Upper Rapids at Rock Island, on its way to St. Louis. Fort Armstrong, Rock Island, and the Upper Rapids appear at the lower left corner of the map. (Wisconsin State Historical Society)



This level of country upon the high lands is greatly yielding, but as you approach the lower-water courses it becomes more and more high, terminating in high, narrow, flat, along their margins about one third to first rate farming land. Not more than a third is covered with timber which grows in detached groups, the balance pasture. Springs of the pure water are to be found in abundance. The water is healthy, no local miasms of any kind except in the Mississippi. The climate is pleasant & desirable except during the spring months. Some sudden extremes of weather in depth during winter. All the fruits, vegetables and grains which grow in the same latitude in our Eastern States, would succeed equally well here.

The minerals delineated on the map are natural formations rising several hundred feet above the level of the country, some are of which must be seen from almost every part of the mines, serving as natural barometers to denote the regularity in its course.

Amount of Lead manufactured in 1825	1826	1827	1828	1829
100,000	150,000	200,000	250,000	300,000

Estimated number of inhabitants in 1825	1826	1827	1828	1829
10,000	15,000	20,000	25,000	30,000

about to see towards a future time.

The United States have the best Sample in part, and the right to occupy the whole of the territory between the Wisconsin and the upper levels, such as Rock river, and the line marked along upper level to the Mississippi. The Indians have the right to the whole of the territory between the Wisconsin and the upper levels, such as Rock river, and the line marked along upper level to the Mississippi.

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The same process may be used in all operations. The same process may be used in all operations. The same process may be used in all operations. The same process may be used in all operations.

Below: *The Old Chouteau Mansion in St. Louis, MO.*

Right: *Brothers Pierre and Auguste Chouteau, early French fur traders who respectively participated in the 1804 and 1816 U.S. treaty negotiations with Sauk and Fox Indians. (Both photos from Augustana College Library Special Collections)*



Pierre Chouteau



Auguste Chouteau

ceded to the United States remain their property, the Indians belonging to said tribes (Sauk and Fox) shall enjoy the privilege of living and hunting upon them.¹⁰

The six chiefs who agreed to the 1804 treaty were supplied with liquor, however, not unknowingly. Liquor was certainly nothing new to the chiefs for Sauk and Fox Indians had been trading with French and British agents for over a century and a half. Many traders included liquor as part of the trade goods offered the Indians of the upper Mississippi River Valley.

The chiefs probably believed they were receiving free liquor in exchange for granting Americans the use of hunting grounds they already shared with other tribes. Furthermore, the White American concept of land as property was foreign to Indians. Adding to their confusion were the differences they encountered negotiating with American agents rather than Europeans. Europeans gave "presents" to the Indians after counseling them. They also readily extended them credit for pelts yet to be trapped.

The British especially ingratiated themselves with the Sauk Indians through the use of these tactics. The gifts and credit placed them in good favor with the Sauk, while at the same time indebting the Indians to the British for some future request or deed.

In contrast, the U.S. Government would not allow its agents to extend credit to Indians. United States agents were instructed to receive either pelts, land, or something tangible in exchange for their trade goods. For several years after the treaty, many Sauk braves believed that the \$1,000 annuities they received from U.S. agents were "presents" rather than payments for their land.¹¹ As experienced as the Sauk and Fox were in dealing with Europeans, they nevertheless struck a "bad bargain" with William Henry Harrison.

Rock Island Comes to the Attention of the U.S. Army

Lieutenant Zebulon Pike first brought Rock Island to the attention of the U.S. Army. In 1805,

Right: William Henry Harrison, the first Governor of the Indiana Territory which included Illinois, was appointed special commissioner to negotiate boundary treaties with various Indian tribes. Later, William Henry Harrison became the ninth President of the United States. (AMCCOM-HO)

Below: Excerpt from beginning paragraph of the 1804 Treaty with Sauk and Fox Indians cited below. Note that the purpose of the article was to bring the two tribes under U.S. influence by restricting the tribes' dealings with foreign powers. (AMCCOM-HO)



A Treaty between the United States of America and the United States of Sac and Fox Indians

Articles of a Treaty made at St. Louis in the District of Louisiana Between William Henry Harrison, Government of the Indiana Territory and District and Commissioner Plenepotentiary of the United States for concluding any treaty or treaties which may be found necessary with any of the Northwestern Tribes of Indians of the one part, and the chiefs and headmen of the United Sac and Fox Tribes of the other part.

Article 1. The United States receive the United Sac and Fox Tribes into their friendship and protection, and the said tribes agree to consider themselves under the protection of the United States, and of no other power whatsoever.

Lower Right: Early U.S. Army posts near St. Louis, MO, such as Fort Bellefontaine, Camp Adams, Cantonment Miller, and Jefferson Barracks, served as the starting points for numerous military expeditions and exploratory ventures into the upper Mississippi River Valley. Jefferson Barracks is depicted in early sketch to the right. (Augustana College Library Special Collections)



he led an expedition up the Mississippi River from St. Louis. His instructions were to gather information regarding the river and to note potential sites for the construction of forts which were to be strategically located in the new territory. In addition, Pike was to record British activity among the Indians of the upper

Mississippi River Valley. Based on Pike's report, Congress passed legislation in June 1809 to reserve Rock Island, or "big island" as it was referred to in Pike's journal, as a federal military reservation.

Pike recorded several chance meetings with individuals and groups on his journey up the

Below: Lieutenant Zebulon Pike, who in 1805 led an exploring party up the Mississippi River, is pictured at the lower left. (Hauberg Museum, Black Hawk State Park)

Right: Winter lodge of Sauk and Fox Indians. (Hauberg Museum, Black Hawk State Park)



Mississippi River. In the vicinity of Rock Island, he met with James Aird, a fur trader from Prairie du Chien who operated a trading camp on Credit Island. Mr. Aird informed Pike that in 1781 or 1782 the Sauk village on the Rock River was burned down by about 300 Americans. This account corroborated the story regarding Colonel Montgomery's raid on the Sauk village during the American Revolution. According to his journal, Pike met with four canoes of Sauk warriors near Rock Island.

We met four canoes of the Sacs, with wicker baskets filled with young pigeons. They made motions to exchange them for liquor to which I merely turned the back of my hand.¹²

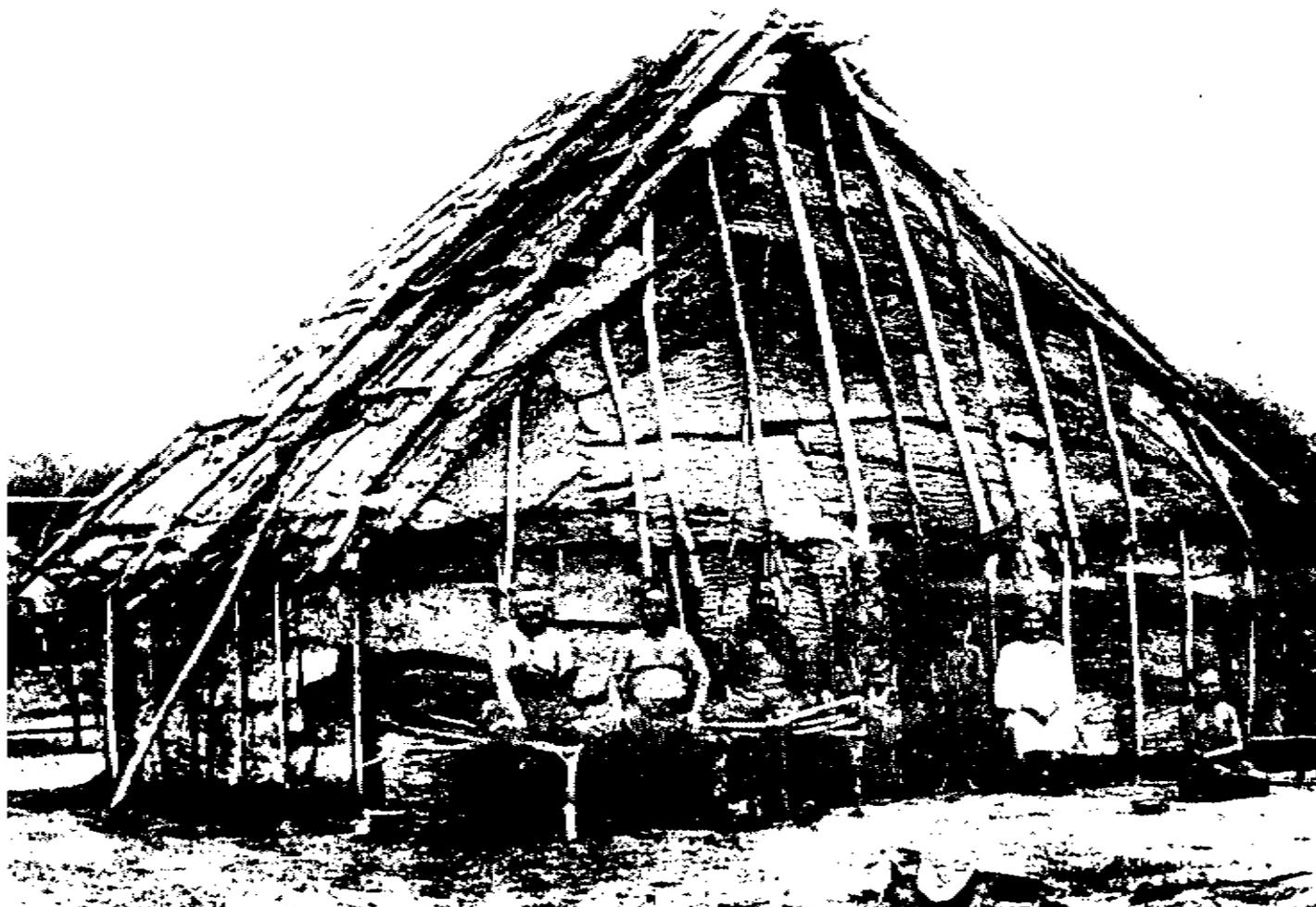
Another encounter with Sauk warriors was also included in the Pike journal. Pike mentioned in his journal a meeting he had with a Captain Many, who was traveling the river in search of Osage Indian prisoners among the Sauk and Fox Indians of the region. Captain Many told Pike that the Sauk expressed hostility towards Americans during his visit to their village near

Rock Island. Pike also wrote that a White American, working as a government representative, was living among the Sauk and Fox Indians of the Rock Island vicinity. The American was hired to teach the Indians methods of farming; but, according to Pike, was fired the following year for neglecting his job. The teacher's position was a provision of the 1804 treaty with the Indians.

Sauk and Fox Indians

Lieutenant Pike's journal supported the claim that Sauk and Fox warriors had a reputation for being hostile. When Fox and Sauk warriors controlled the Fox River-Wisconsin River portage, they were notorious for demanding tribute from those who traveled the route. They were also fond of "taking" pelts from neighboring tribes. French traders at Green Bay, tired of the hostile ways of the two tribes, formed an alliance with the Menominee, the Ottawas, and the Chippewas and forced the Sauk and Fox

Below: Traditional Sauk and Fox summer lodge covered with tree bark. (Quad Cities Times Newspaper, Photo Archives.)



from the area. Migrating to the Rock River in present day Illinois, the Sauk and Fox warriors in turn drove the Illini Indians from the Rock Island and Rock River regions.

In addition to defeating the Illini and nearly annihilating the entire Mascoutin tribe, the Sauk and Fox Indians also sent war parties out against the Menominees, the Sioux, the Pawnee, and the Osage, among others. Today, writers and local museum curators tend to emphasize the Sauk's planting, mining, and hunting skills rather than their fighting ability. However, the Sauk and Fox were proud of their reputation as fierce warriors.

American artist George Catlin referred to a Sauk village on the north banks of the Rock River as "Saug-e-nug" in his 1837 writings. This may explain the popular use of the term "Saukenuk" for the name of the village. Although neither tribe located its village on Rock Island, they frequently visited the island to gather berries, nuts, fish, and hunt game.

Black Hawk's British Band and the War of 1812

Sauk and Fox chiefs attempted to honor the 1804 agreement with the U.S. Government.

Below: Sauk warrior Black Hawk as painted by American artist George Catlin. The original painting by George Catlin is in the National Portrait Gallery, Smithsonian Institution, Washington, D.C. (AMCCOM-HO Archives).



However, when war broke out between the United States and Britain in 1812, a large band of Indians led by the Sauk warrior Black Hawk chose to fight as auxiliaries for the British. Black Hawk, also called Ma-Ka-Tai-Me-She-Kia-Kiak or "Black Sparrow Hawk" allegedly offered his services to American soldiers at Fort Madison; but the soldiers declined the offer. It was known that Black Hawk was displeased with the Americans at Fort Madison for refusing to extend him credit for winter supply goods. Therefore, when the British traders arrived at Rock Island, he readily welcomed them. These traders had a variety of gifts for the Indians and a confidential message for Black Hawk. The message, from a British colonel, urged Black Hawk to raise a war party and join the British force at Green Bay.

The British Colonel was Robert Dickson, a British trader active in recruiting Indians to aid the British in the War of 1812. He had long been a trader at Prairie du Chien.

Black Hawk raised the war party, traveled to Green Bay, and for a time fought as an ally of the

British during the War of 1812. Despite his desire to wage war down the Mississippi Valley, the British instructed Black Hawk to fight with their troops near Detroit. Black Hawk and his Sauk warriors were present during the Fort Dearborn Massacre of 15 August 1812. However, after initial success, the fighting did not go well for the British, and Black Hawk returned to his village on the Rock River.

Though he returned to the village, Black Hawk remained hostile toward the United States. On three occasions during the War of 1812, Black Hawk led Sauk warriors against U.S. military forces attempting to journey up river from St. Louis.

Governor William Clark of the Missouri Territory, and famous partner of the explorer Meriwether Lewis, organized the first expedition from St. Louis in 1814. Clark intended to build a fort near Prairie du Chien to protect American fur traders in the upper Mississippi River Valley, and to create a buffer protecting St. Louis from British and Indian attack via the Mississippi

Below: William Clark, Governor and Superintendent of Indian Affairs for the Missouri Territory. He supervised the U.S. Indian agents at Fort Armstrong. (Hauberg Museum, Black Hawk State Park)

Right: The 1905 dedication of the Illinois State Memorial commemorating the 1814 Battle of Campbell's Island. (Rock Island County Historical Society)



River.

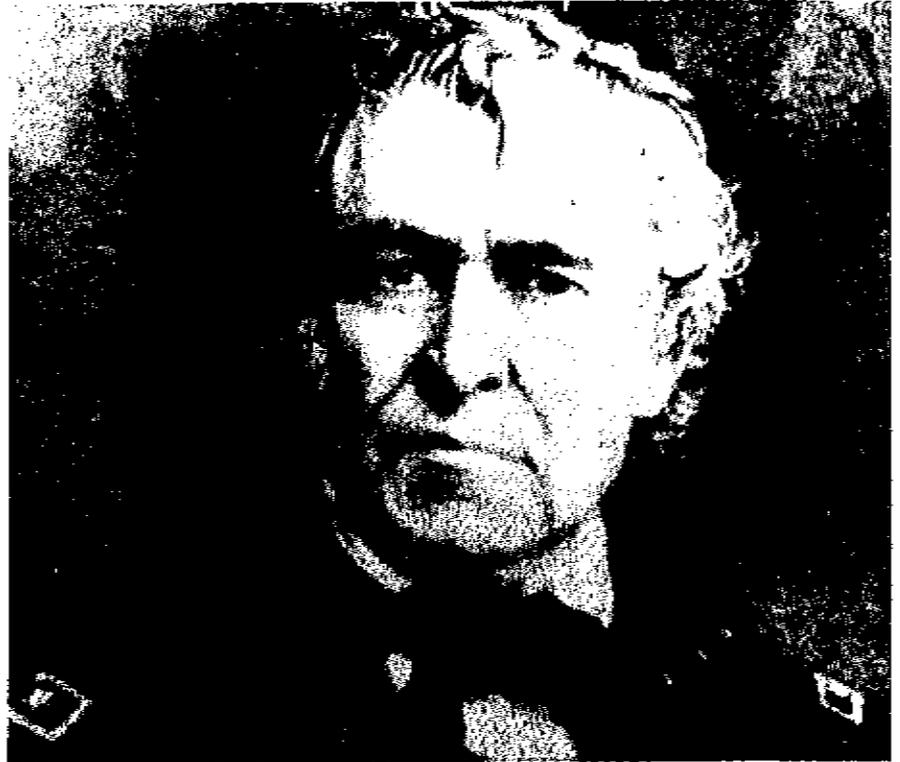
With the exception of a skirmish with Sauk Indians near Rock Island, Clark's expedition uneventfully made its way up river to Prairie du Chien. At Prairie du Chien, Clark's men erected a stockade and named it Fort Shelby. The detachment of American troops left behind at Fort Shelby were attacked by the British, forcing them to abandon Fort Shelby and return to St. Louis. As they returned to St. Louis, the troops were again fired on by Sauk warriors as they passed Rock Island.

An earlier attempt by American soldiers to strengthen the garrison at Fort Shelby also failed. Lieutenant John Campbell, with three keelboats loaded with 133 regular army and volunteer soldiers, embarked from St. Louis in early July 1814 for Prairie du Chien. On 19 July, Campbell's expedition departed Rock Island and immediately encountered bad weather. Forced ashore on an island six miles upstream from Rock Island, Campbell's vessel came under attack by Indians. Black Hawk and

other Sauk warriors had been trailing the three boats and ambushed the stranded craft. Lieutenant Campbell and several members of his crew escaped to another vessel. *The National Intelligencier* of August 1814 stated the number of killed and wounded in this engagement to have been thirty-six. Lieutenant Campbell and surgeon's mate Dr. Abraham Stewart were among the wounded.¹⁹ Black Hawk pillaged the abandoned keelboat, while Sauk braves scalped the mortally wounded and the dead left behind. Later, according to Black Hawk's own account of this incident, the Sauk warriors "put on the clothes of the dead soldiers and danced over their scalps". Black Hawk's account of this incident is recorded by Antoine LeClaire, a government interpreter and prominent businessman of the Rock Island area. According to LeClaire, Black Hawk stated that he gave the books and papers found on Campbell's boat to British soldiers.

Lieutenant Campbell's boat, partially destroyed by fire, remained at the battle site and

Right: Colonel Zachary Taylor who in the War of 1812 unsuccessfully led U.S. forces against Sauk and Fox Indians at the Battle of Credit Island. Nearly twenty years later, Colonel Taylor would lead U.S. Infantry Regulars to victory over Sauk and Fox Indians in the Black Hawk War of 1832. Eventually, Zachary Taylor would become the twelfth President of the United States. (AMCCOM-HO Archives)



for years was a landmark for river boats. Since this historic battle, the island has been referred to as Campbell's Island. The Illinois state legislature, around 1904, appropriated \$5,000 for a monument to be placed on Campbell's Island in commemoration of those who fought and died in the battle.

Zachary Taylor and the Battle of Credit Island

During the War of 1812, Zachary Taylor, later the twelfth President of the United States, led a reprisal attack against the Sauk of the Rock River region. In September 1814, as a Brevet Major, Taylor left St. Louis with 334 men, primarily militia and rangers, but also including a few regular army soldiers. His mission was to undertake a retaliatory strike against the Sauk to punish them for their attacks on the earlier American expeditions of Governor Clark and Lieutenant Campbell. However, before he could attack, his vessels were discovered. British artillery placed on Credit Island and Sauk musket fire riddled Major Taylor's vessels, forcing them to retreat back to St. Louis. Lieutenant Duncan Graham was the officer-in-

charge of the British troops who aided the Indians. Sergeant John Keating of the Royal Artillery Regiment earned a commission as a lieutenant for his efforts in the Battles of Credit Island and Fort McKay. Besides providing artillery, the British had gathered a large war party with Indians from other pro-British tribes to aid the Sauk and Fox in their fight against the Americans. Greatly outnumbered, there was little more Zachary Taylor could do but retreat.¹⁴

British Control of the Upper Mississippi River Valley

The rivalry between Great Britain and the United States for dominance over the Indians of the Northwest was a contributing factor to the War of 1812. The British in Canada, acting in their own self-interest without regard to the safety of Americans, began supplying arms and ammunition to Indians known to be hostile toward Americans. Congress considered British support of the Indians as one of the reasons for declaring war against Great Britain.

During the War of 1812, Great Britain temporarily gained control of the upper

Right: Sauk warrior Black Hawk was the leader of the last hostile Indian uprising in the State of Illinois, known as the Black Hawk War of 1832. Black Hawk stated that Rock Island supplied his tribe with fruits, nuts, and plenty of fish from the rapids. He said he spent happy times on the island and that a good spirit lived in a cave in the rocky bluffs beneath the fort. "But the noise of the fort has since driven him away and no doubt a bad spirit has taken his place."
Black Hawk's Autobiography
(AMMCOM-HO Archives)



Mississippi River Valley and the Great Lakes region of the Illinois Territory. American authority in the territory north of Fort Edwards collapsed. (The location of Fort Edwards is cited on the map on page 18). The war ended with the British in control of all the U.S. forts and the U.S. Government trading factories in the Illinois Territory above a line that stretched from Fort Edwards to Peoria.

Pro-British sentiment remained strong among some of the Indians of the Northwest after the war. Indians such as the Sauk and Fox continued to trade with the British after the War of 1812 and, as late as 1820, Sauk warriors such as Black Hawk continued to make their annual pilgrimage to Fort Malden, Canada, to receive presents during their visit with their "British Father." Five years after the end of the War of 1812, some Indians, such as the Sauk of Rock River, continued to display the British flag and British medals in their village. The British in Canada had cast a special silver medal to honor Black Hawk for efforts during the war.¹⁵

Major Morrell Marston, while commanding officer of Fort Armstrong, wrote to Jedediah

Morse in November 1820 that he considered it important that, as soon as possible, the government should exchange all British flags and medals the Indians had in their possession for American ones. He also wrote that the flags given to them ought to be made of silk which would make them as durable and portable as the British flags. According to Major Marston, these American flags should be large to match the size of the British flags.¹⁶

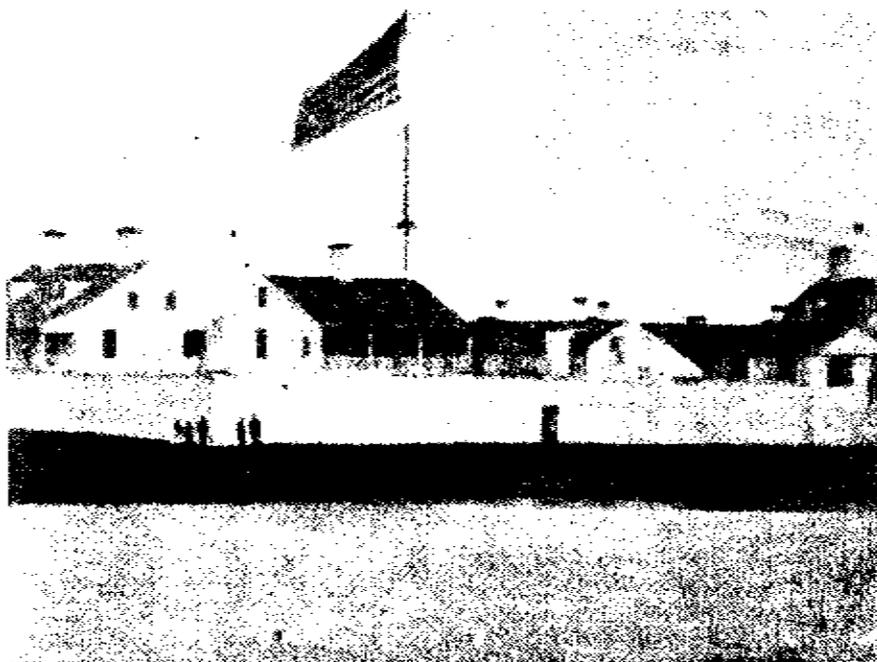
Treaty of Portages des Sioux

Though Black Hawk's warriors had been successful in thwarting American expeditions up river from St. Louis, the war was not totally successful for the British. On 24 December 1814, the War of 1812 concluded with the signing of the Treaty of Ghent. Though peace with the British was achieved, such was not the case with their Indian mercenaries or allies.

However, in 1815, President James Madison appointed Missouri Territorial Governor William Clark, Illinois Territorial Governor Ninian Edwards, and Auguste Chouteau, a St. Louis fur trader, as commissioners to negotiate treaties

Below: Often government trading factories were established at military posts. (Fort Howard at Green Bay was one such post. (AMCCOM-HO)

Right: A typical fur trader of the Northwest Territory. (Augustana College Library Special Collections)



with the principal tribes who aided the British during the War of 1812. Nine months later, in September 1815, the U.S. signed a separate peace treaty at Portages des Sioux with all but a few of the Indians who had fought for the British. Instead of attending the peace conference, the Sauk of the Rock River sent messengers to Canada to meet with the British. However, the messengers returned without a promise of aid from the British. Receiving no support from the British and fearing an attack by American troops, the Sauk of the Rock River agreed to peace terms in St. Louis on 13 May 1816. The treaty approved by Sauk leaders, including Black Hawk, reaffirmed the United States Government's claim to Sauk and Fox Indian lands according to the terms set down in the treaty of 1804.

Government Trading Factories

As early as 1795, 17 years before the War of 1812, the U.S. Government devised a plan to reduce the presence of private traders upon the Indians of the Mississippi River Valley. The Federal Government established a system of government trading factories and trading posts

in the Northwest. These government owned and operated trading houses made the Indians more economically dependent upon the United States, and by doing so, diminished the influence of foreign traders upon them. The government intended the trading factories to also provide the Indians with a more equitable deal than they had been receiving from private traders, especially the unscrupulous ones.

Unfortunately, the government trading factories were ineffective and too costly to maintain. They had higher overhead than the private traders, which may account for the fact that the government prices were usually higher than those of the private trader. In addition to being more expensive, the quality of the government goods was reported to be inferior to those of the private trader. The Indians continued, however, to trade with foreign agents and private American traders, though ostensibly under government control.¹⁷

A note written by Major Morrell Marston, the commanding officer at Fort Armstrong on Rock Island from August 1819 - June 1821, best expressed the Indian attitude toward attempts by the U.S. Government to compete with private

Right: Private traders regularly traveled to the Indian villages with their trade goods, contrary to the practice of government traders, who operated trading posts known as factories. (Augustana College Library Special Collections)



traders for their Indian trade. According to Major Marston, a typical reply by Indians in his vicinity, when informed that the President of the United States supplied the trade goods at the government trading houses, was:

You are a pasi-i-to (a fool), our Great Father is certainly no trader; he has sent those goods to be given to use, as presents, but his agents are endeavoring to cheat us, by selling them for our peltries.¹⁸

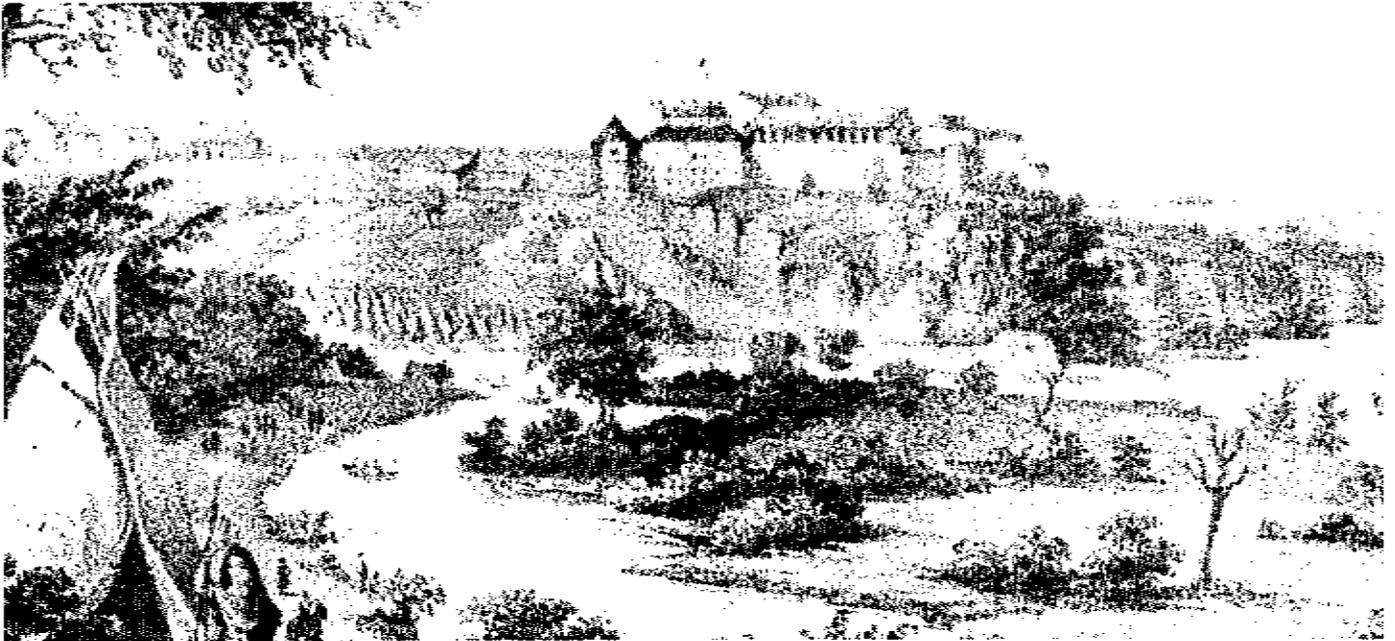
After the War of 1812, the U.S. Government reestablished trading factories at Prairie du Chien, Chicago, and Green Bay. In 1818, for example, the government added a trading house at Fort Edwards and, in 1819, it was operating independently. The high traffic of liquor traded to Sauk and Fox Indians between the region of Fort Edwards and Rock Island led to the establishment of the federal trading factory at Fort Edwards. The trading of liquor to Indians, though illegal, was however commonly practiced by French, Spanish, English, and American Traders. As an aside, Indians of the upper Mississippi Valley purportedly traded anything they possessed for whiskey. Those

Indians supposedly bartered away an entire season's worth of pelts, clothing off their backs, their weapons used for hunting, and their women, to traders for liquor.¹⁹

At the factories or trading posts, furs were sorted as to grade and quality, and treated and pressed into bales in preparation for shipment. Trading houses, such as the Fort Edwards factory, shipped pelts and skins of deer, bear, beaver, otter, raccoon, and muskrat down river to St. Louis. During the winter season of 1819, the Sauk and Fox Indians supplied five traders with nine hundred and eighty packs of peltries. They consisted of 2,760 beaver skins, 922 otter, 13,440 raccoons, 12,900 muskrats, 500 mink, 200 wild cats, 680 bear skins and 28,680 deer peltries. The estimated value of the furs was cited at \$58,000 dollars.²⁰ A manager supervised each factory and, at times had a staff that included clerks, laborers and interpreters.

Government trading factories were too few and scattered to have had any effective impact on the fur trading business of the Northwest. The government estimated that during their peak years the factories only handled 10 percent of the fur business. Indians saw little advantage in

Below: Fort Snelling, built in 1819, was originally named Fort Saint Anthony Falls. In 1824, it was renamed for its first commander Josiah Snelling. The fort was situated on a high bluff at the confluence of the Minnesota and Mississippi Rivers. The construction of Fort Snelling completed a series of U.S. forts built to reestablish United States control of the upper Mississippi River Valley. Today, it is a historical site of the Minnesota State Historical Society. Fort Armstrong, at Rock Island, was another of these posts built after the War of 1812. (AMCCOM-HO)



During the period from 1816-1819, the United States Army reconstructed Fort Dearborn near Chicago, built Fort Howard at Green Bay, and constructed Fort Crawford at Prairie du Chien. These forts effectively prevented foreign traders from using the Fox River-Wisconsin Waterway portage to enter the Mississippi River Valley. In addition to Fort Crawford, two smaller posts were constructed in 1816-1817. They were Fort Armstrong at Rock Island and Fort Edwards at the mouth of the Des Moines River. In 1819, Fort Snelling, constructed at the confluence of the Minnesota and Mississippi Rivers, completed the series of forts along the upper Mississippi River Valley.²¹ The army strategically placed the forts where it did to impress the Indians and monitor their trade. Government Indian agencies were also frequently established at or near these military posts.

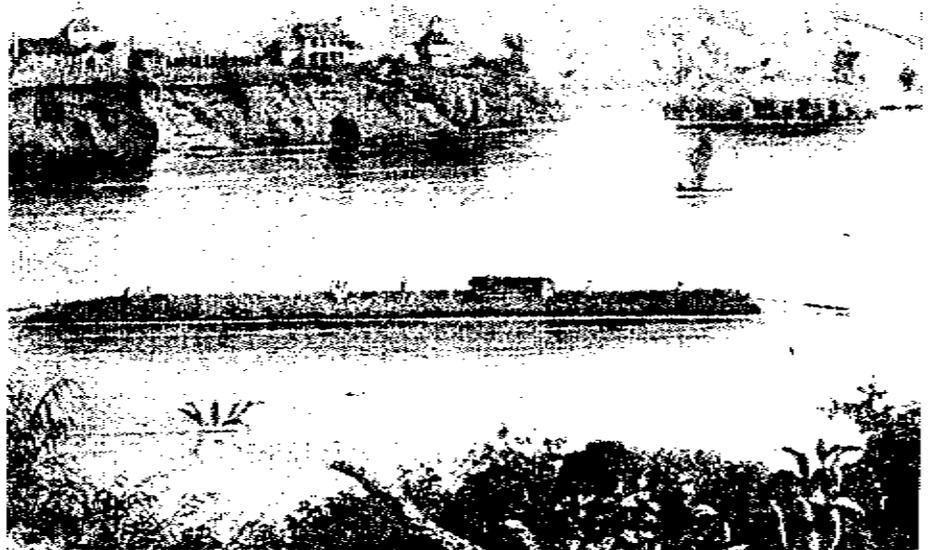
Indian Agents

Indian agents and their subordinate agents were the official civilian representatives of the U.S. Government at many of the forts of the upper Mississippi River Valley. Agents, such as

Thomas Forsyth at Fort Armstrong, provided a communication link between the Sauk and Fox Indians and the Federal Government. The duties of Forsyth and his subagents included administration of the government's treaty obligations such as the payment of annuities to the Sauk and Fox tribes. Forsyth's other duties included granting licenses for trade with the Indians; enforcing regulations pertaining to the fur trade; distributing presents to principal chiefs; and receiving visiting Indians. Indian agents also performed the difficult task of explaining new government regulations and correcting Indian misconceptions of past treaties.

An example of an Indian agent performing such duties occurred in 1818, when agent Thomas Forsyth informed the Sauk and Fox tribes that the annuities they had been receiving were not presents but actually part of the purchase price for their lands. Although many Indians continued to accept the annuities, some did not. Black Hawk among others, refused to receive any annuities after hearing Forsyth.²²

Right: Fort Armstrong, active 1816-1836, was situated on the northwest corner of Rock Island, strategically placed to control both channels of the Mississippi River. (AMCCOM-HO Archives)



CHAPTER TWO FORT ARMSTRONG: THE FIRST PRESENCE OF FEDERAL GOVERNMENT ON ROCK ISLAND

In the spring of 1816, Brevet Brigadier General Thomas A. Smith was dispatched from St. Louis to Rock Island. As earlier mentioned the War Department instructed the army to build a number of military posts on the upper Mississippi River to deter British and other foreign trading outfits from operating in the river valley. General Smith, remembering the defeats inflicted upon U.S. expeditions by Sauk and Fox Indians, selected Rock Island as a site for one of the forts.²³

Brigadier General Smith arrived at Rock Island in early May 1816 and chose the western tip of the lower end of the island as the construction site for the fort. From this site U.S. troops could observe the troublesome Sauk and Fox Indians; protect American fur traders; be kept apprised of any foreign intrigues; and keep open a line of communication and commerce to Prairie du Chien and other posts further up river.

On 10 May 1816, a detachment of troops from the U.S. 8th Infantry landed on the island and immediately began building a fort. Shortly thereafter, General Smith and a detachment of troops proceeded up river to construct Fort Crawford at Prairie du Chien. In General Smith's absence, Colonel William Lawrence assumed command of the construction site at Rock Island and, upon completion, the fort at Rock Island was named Fort Armstrong in honor of John Armstrong.

John Armstrong had been an army officer in the American Revolutionary War and later served as United States Secretary of War during President James Madison's administration. His role in the U.S. invasion of Canada during the War of 1812, coupled with the British retaliatory capture of Washington and their burning of the capital, led ironically to Armstrong's resignation as Secretary of War in 1814.

Below: View of Fort Armstrong. Note the absence of fortified walls on the sides facing the river. The 25' to 30' high bluffs provided sufficient protection. Also noticeable are the caves beneath the bluff that Black Hawk referred to in his autobiography. (AMCCOM-HO Archives)



Description of Fort Armstrong

In many respects Fort Armstrong represented the army's stock plan for building military posts on the western frontier. It had squared hewn timbers with dovetailed corners; and its blockhouses had an overhang and a monitored roof which provided a lookout station. Usually, buildings such as the barracks, which were made from hewn timber, formed the exterior walls of the fort. Noticeable was the fact these buildings had inward sloping shed-type roofs.

At many of the frontier military posts, pickets were stationed to guard against surprise attacks. In 1817, the army assigned Major Stephen H. Long, a topographical engineer, the task of charting the Mississippi River as far north as

Prairie du Chien. On 2 August 1817, Major Long wrote in his journal probably the best description of Fort Armstrong. He wrote:

The Fort (Armstrong) is situated immediately upon the lower extremity of Rock Island, at which place the shores are perpendicular cliffs of limestone 30 feet high. In some instances the cliffs project over their base and even some parts of the Fort overhang the water.

Major Long elaborated with the following detailed description of Fort Armstrong:

The Fort (Armstrong) has two entire faces only, the other two sides being sufficiently fortified against an assault by the cliffs before mentioned. The

Below: Fort Armstrong, about 1845, probably during its last days as an army depot. Note that the fort had three blockhouses with the one towards the interior being the largest. (AMCCOM-HO Archives)



east face commences immediately upon the top of the cliff, where here is a Block (No. 1) 2 stories high and 21 feet square. The front upon this side is 277 feet including a Block House (No. 2) at the NE corner of the Fort 26 feet square. The North face forms a tight angle with the east and extends from Block House No. 2 to the North Channel of the River, where it is terminated by Block House No. 3 of the same dimensions as No. 1, presenting a front of this side of 288 feet. Both faces are flanked by Block House No. 2, the other Block Houses being placed in such a manner as to form a part of the Front of the two faces. The Block Houses are all two stories high, their second stories being placed diagonally upon the first. No. 2 has also a basement story which is used as a store house. The faces are made up principally by the rear walls of the Barracks and store houses. They are about 20 feet high and furnished with two rows of loop holes for muskets. The spaces between the buildings are fortified by walls of stone about 8 feet high supporting a breast work of timber 5 feet high.

The buildings ranged along the Faces contain 7 rooms 20 feet square upon each side; 8 of which are occupied as soldiers quarters, 3 as hospital, 2 as store houses, and 1 as Guard House. On the south and west

sides detached from other parts of the works are situated 2 other buildings (one word illegible) 64 feet long & 16 wide, containing four rooms each, designed for officers quarters. In the SW corner is a 2-story building with low wings designed as quarters for the Commanding Officer and Offices for the use of the Garrison. The body of the building is furnished with Piazzas on both sides, and the whole combines a degree of taste and elegance worthy of imitation at all other military posts in this part of the country.

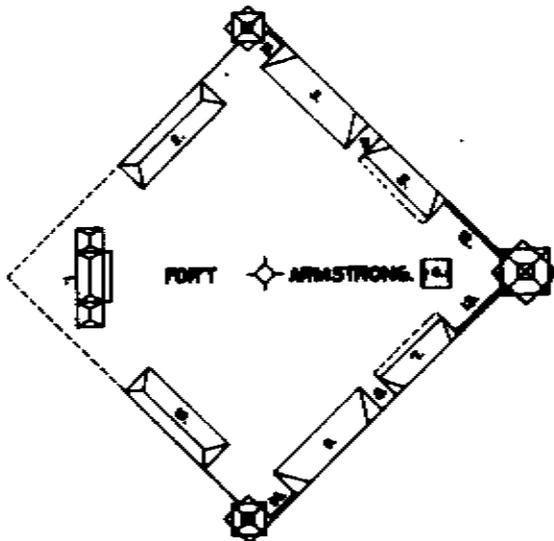
The works are constructed principally of square timber, the lower part of the block houses including embrasures (an opening for a gun in the wall or parapet) is of stone. The Magazine also is of stone, 7 by 10 feet in the clear, its walls 4 feet in thickness. Besides these, there are a few other buildings outside the Garrison, viz. a smith shop, sutler's and contractor's stores, a stable, etc.²⁴

Fort Armstrong's strategic position on the western tip of Rock Island's lower end provided the fort with command of both channels of the Mississippi River. Troops constructed fortifications only on the two sides of the post facing inland. Steep bluffs eliminated the need for two fort walls and one blockhouse. The three block houses of the fort anchored the walls which faced the interior of the island, and three companies of infantry were quartered in the barracks. Additional buildings housed the fort's

Below: Excerpted from a report by Major Morrell M. Marston, Fort Armstrong Commander, 1819-1821, to Major General Macomb, dated September 10, 1819. Note that Major Marston's report refers to the three blockhouses being equipped with three 6-pounders (cannons). (AMCCOM-HO)

EXTRACT FROM THE REPORT OF MAJOR M. MARSTON, OF THE 5TH INFANTRY TO MAJOR GENL. MACOMB— COMMANDING 5TH MILITARY DEPARTMENT. DATED, FORT ARMSTRONG, ROCK ISLAND, SEPT. 10TH 1819.

"THIS FORT IS ABOUT 270-FEET SQUARE, WITH THREE BLOCK HOUSES, MOUNTING THREE 6 POUNDERS. THE BARRACKS ARE WELL CONSTRUCTED OF HEAVY TIMBER, AND ARE SUFFICIENTLY EXTENSIVE TO QUARTER THREE COMPANIES. THE MAGAZINE IS OF STONE AND WELL BUILT. THE COMMANDING OFFICER'S QUARTERS CONSIST OF A CENTER TWO STORY BUILDING 28 FEET IN LENGTH, WITH WINGS OF ONE STORY 18 FEET IN LENGTH, AND PLAZAS BUILT IN FRONT AND REAR. THE FORT IS BUILT ON THE LOWER POINT OF ROCK ISLAND, AND UPON A PERPENDICULAR BANK OF LIMESTONE OF ABOUT 28 FT. IN HEIGHT; IT COMPLETELY COMMANDS BOTH CHANNELS OF THE RIVER. THE GARRISON IS A GREAT CHECK UPON THE INDIANS IN THIS COUNTRY AND FROM ITS CENTRAL SITUATION, IT APPEARS TO ME TO BE A STATION OF CONSIDERABLE IMPORTANCE: AN EXPRESS COULD REACH THIS IN TEN DAYS FROM COUNCIL BLUFFS, ON THE MISSOURI, AND IN THE SAME TIME FROM THE MOUTH OF THE RIVER ST. PETERS, AND FROM FORT DEARBORN, AND IN FIFTEEN DAYS FROM FORT HOWARD AND FIVE FROM ST. LOUIS. THE SOIL OF THIS ISLAND APPEARS TO BE GOOD, AND IT CONTAINS A GOOD SUPPLY OF WOOD FOR FUEL AND OTHER PURPOSES. THERE IS ALSO AN EXCELLENT SPRING OF WATER ABOUT ONE HUNDRED YARDS FROM THE GARRISON. THERE IS ABOUT FORTY ACRES OF LAND IN THE VICINITY OF THE GARRISON CLEARED AND FIT FOR CULTIVATION.



SCALE 64 FT. TO AN INCH.



surgeon, interpreter, Indian agent, blacksmith, servants, officer, and commandant.

The Garrison at Fort Armstrong

Nearly 1,000 men comprised General Smith's expedition, which constructed military posts near the mouths of three major tributaries to the Mississippi River. The expeditions were composed of 800 regular army soldiers and 150 laborers, which actually comprised at that time approximately 1/10 of the nation's standing army.²⁵

During construction, Fort Armstrong had a garrison of 600 soldiers; but, shortly thereafter its number was reduced to less than 200 troopers. Frequently, between 1824-1836, the garrison at Fort Armstrong fell below 100 soldiers.

Fort Crawford, located near the mouth of the Wisconsin River, had a garrison strength of approximately double the size of Fort Armstrong. Fort Edwards, the first of the three posts to be constructed, was situated near the mouth of the Des Moines River at the site of the present community of Warsaw, Illinois, and generally had a smaller garrison than Fort Armstrong. Its garrison strength consistently numbered below 100 men. In 1824, the U.S. Army closed fort Edwards. However, Fort Armstrong continued as an active military post until 1836 and an army garrison remained at Fort Crawford until 1856.

The initial site selection of Fort Crawford, near Prairie du Chien, was poor. Spring floods forced the selection of a new site further back from the Mississippi River. Fort Crawford was abandoned briefly in 1826, but reestablished only a short time later with the construction of a new stone fort.

Below: Fort Crawford, near Prairie du Chien, Wisconsin, at the confluence of the Wisconsin River and the Mississippi River. Spring floods forced the selection of a new site farther back from the river. The post was abandoned briefly in 1826, but with the increasingly hostile Indian situation a new stone fort was constructed. (Davenport Public Library Special Collections)



The small army posts situated in the West, along the upper Mississippi River, were isolated from civilization especially during the winter months when the river froze over. Periodic stops by supply boats or mail couriers who arrived by river or by overland routes broke the isolation with news from the East. Each post, however, was also visited by an inspector general who attempted annually to conduct an inspection tour of all posts on the western frontier. His visits brought military discipline to the posts and raised the *esprit de corps* of troops whose spirit and training had eroded due to isolation and the lack of soldierly instruction.

From 1826 to 1845, Colonel George Croghan, a hero of the War of 1812, served as the inspector general of these outposts. Colonel Croghan annually toured the western frontier inspecting posts and preparing first hand comments of activities at the forts for inclusion in his official reports to Washington.

His inspection report of Fort Armstrong in August 1826 praised the post for the excellent deportment displayed by its soldiers. Colonel

Croghan attributed the discipline to the lack of whiskey available at Fort Armstrong during Major J.H. Vose's command. Major Vose enforced general orders which restricted each soldier's purchase of liquor to one gill ($\frac{1}{4}$ of a pint or four ounces). The four ounce daily ration from the post sutler was poured out at the mess hall door. Soldiers who received permission to purchase whiskey received a half-a-gill ration (two ounces) just before breakfast, and the remaining two ounces at dinner. Although general orders from the Adjutant General's Office restricted, then banned, the daily ration of alcohol at military posts, replacing it with coffee, the soldiers at Fort Armstrong and other installations managed to purchase a steady supply of liquor from other sources.²⁶

The life of a soldier at Fort Armstrong tended to be routine, especially during the winter months when the Mississippi River froze over and the river closed to navigation.

The soldiers, in addition to their military tasks of performing guard duty, drilling, and keeping the peace, served as carpenters, teamsters,

Below: A partial listing of the Commanding Officers of Fort Armstrong, 1819-1832. These officers commanded the fort during the events which led to the Black Hawk War of 1832. (AMCCOM-HO Archives)

FORT ARMSTRONG

Commanding Officer	Date: From	To	Garrison:
Capt. M. Marston, Fifth Infantry	Aug --, 1819	Jun --, 1821	Company F
Capt. S. Burbank, Fifth Infantry	Jun --, 1821	Jun --, 1823	Company D, E, F, and H
Maj. J. H. Vose, Fifth Infantry	Jun --, 1823 May 21, 1826	Jun 4, 1825 Oct 9, 1827	Company D, E, F, and H Fifth Infantry
Capt. J. Plympton, Fifth Infantry	Oct 9, 1827	Apr 28, 1828	Companies E and H Fifth Infantry
Capt. J. Green, Third Infantry	Apr 30, 1828	Jun --, 1828	Companies C and G Third Infantry
Capt. J. S. Nelson, Third Infantry	Jun --, 1828	Aug 13, 1828	Companies C and G Third Infantry
Capt. John Bliss Third & First Infantry	Jul 27, 1830 Sep 2, 1831	Jul 26, 1831 May 4, 1832	Companies D and H Third Infantry Companies C and K First Infantry

gardeners, hospital orderlies, blacksmiths, and livestock handlers. At times, a portion of the troops stationed at Fort Armstrong would be detached to either Fort Crawford or Fort Edwards. Soldiers also were frequently dispatched to the lead mining region near Galena and Dubuque. Officers stationed at Fort Armstrong, or at one of the other frontier posts in the Mississippi Valley, often went on furlough to escape the drudgery of frontier duty. Soldiers on furlough for more than a year without leave, however, were reported as deserting the army. Desertion and drunkenness among the troops were two of the more serious problems that the Commanding Officer of Fort Armstrong had to contend with on the frontier. Other problems included enforcement of regulations that prohibited foreign traders and the sale of alcohol to Indians. Periodically, soldiers who strayed

from the garrison were killed and scalped by Indians. One such soldier, John Haines, left Fort Armstrong alone to hunt on 27 September 1820. His body was discovered a week later, shot, scalped, and mutilated with multiple stab and club wounds. The army responded to such acts of violence by demanding that the responsible tribe, in this case the Winnebagos at Prophet's Town, turn over to them the guilty party. To ensure such action was taken, the army held five Winnebago chiefs as hostages until the murderers were delivered to them.

Colonel George Davenport and Antoine LeClaire

Two future entrepreneurs, George Davenport and Antoine LeClaire, became historically significant individuals. Davenport was employed as the post sutler at Rock Island and Antoine

Below: Russell Farnham, partner of Colonel Davenport. In 1826, they built an inn around which the village of Farnhamsburg, IL, developed. This site is now part of Rock Island, IL. (Hauberg Museum, Black Hawk State Park)

Right: Colonel George Davenport, foremost founder of Rock Island area. (AMCCOM-HO Archives)



LeClaire was hired as the interpreter for the Fort Armstrong commander and the Indian agent. Both of these men became prominent business leaders of the communities they later founded on each side of the Mississippi River opposite Rock Island.

In 1816, the army did not have a commissary department that provided personal items to soldiers. Instead, a private contractor was commissioned by the government to provide the items. George Davenport, as the agent for the private contractor, sold supplies to the soldiers stationed at Fort Armstrong. He had been a seaman, an army recruiting sergeant, and a post sutler. However, Davenport did not become wealthy until he started trading with the Indians. In 1818, he quit his post sutler position and devoted his time entirely to his Indian trade business. Davenport became a full-time trader the same year Illinois became the 21st state to be admitted to the union. In addition to his store on Rock Island, Davenport established several other trading posts in the area.

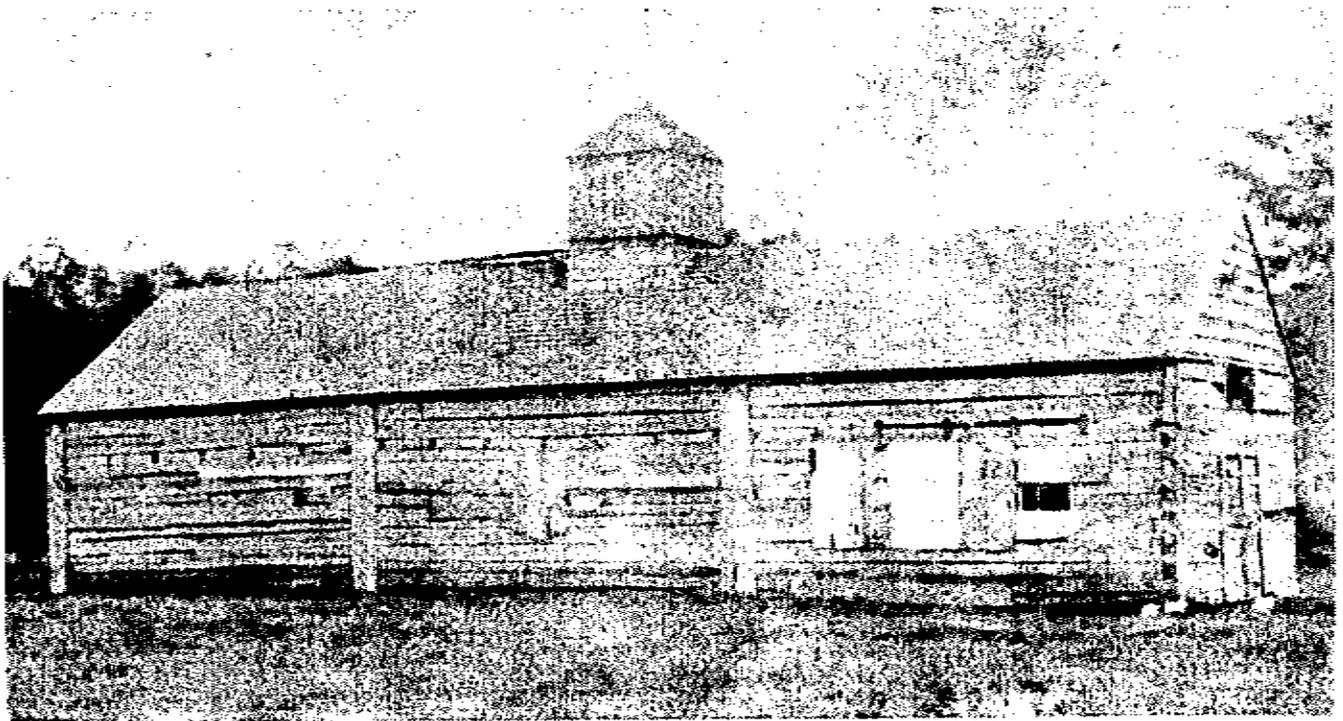
In 1822, George Davenport expanded his trading operations with various tribes of the

upper Mississippi River Valley. He established a trading post on the Fever River near Galena, Illinois. Colonel Davenport also set up trading houses at Flint Hills (Burlington, Iowa), at the mouth of the Iowa River; and on the Wapsipinicon (Wapsi) and Maquoketa Rivers in Iowa territory. He also included in his operations three trading posts along the Rock River in Illinois.

At Rock Island, George Davenport's double log cabin initially served as a combination trading post and quarters. Indians and early settlers frequently visited Davenport's cabin to receive provisions on credit. He provided them with "grub stakes" (credit) until they were ready to market their peltries or crops.

Considered by many to be the first white civilian to live on Rock Island, George Davenport was born in England and came to the United States as a young man. He used his English background to gain the confidence and trade of the Sauk, Fox, and Winnebago tribes. Wabokieshiek, also known as the Prophet, was leader of the Winnebagos camped on the Rock River at Prophet's Town. These Indians

Below: Double log cabin, Colonel Davenport's trading post and quarters on Rock Island. "Relic" of Fort Armstrong Series of stereoscope views by Western View Company. (AMCCOM-HO)



considered George Davenport as an Englishman and friend.

Davenport's wealth increased after he formed a partnership with Russell Farnham in 1824. In 1826, the two traders sold their trading business to Astor's American Fur Company and became agents for that trading company. Also in 1826, Davenport and Farnham built a combination inn, tavern, and stagecoach station, known as the John Barrel House, on the Mississippi shore at a site which was within the city of Rock Island. The station was part of a stage route to Galena from southern Illinois. The village of Farnhamsburg, one of two villages that formed the city of Rock Island, developed around that inn. The John Barrel House became the seat of justice for Rock Island County and was the site of the county's first election.

George Davenport capitalized on the increasing traffic between southern Illinois and Galena. A man of many talents, he piloted *The Virginian*, the first steamboat to dock at Rock Island through the "Upper Rapids" or Rock Island Rapids of the Mississippi River. The steamboat serviced the lead mining region of Dubuque and Galena. Soon Mississippi steamboats were frequently navigating the

"Upper Rapids" carrying workers and supplies to this mining region. Lead diggings near Dubuque and Galena, approximately 100 miles upstream from Rock Island, increased the local economy. Traders, such as Davenport, had for several years acquired lead, as well as pelts by barter with the Sauk and Fox Indians. John Shaw, another trader who operated a trading boat between St. Louis and Prairie du Chien, also traded with the Indians for lead. By 1823, thousands of pounds of lead were being shipped downstream from the mines around Galena and Dubuque.

It was not long before settlers, speculators, and men looking for work made their way to these mines north of Rock Island. Not all of the traffic traveled by boat; many walked the trails across the Rock River Valley and along the Mississippi River to Galena. By 1823, a few of these travelers from southern Illinois settled as squatters on Sauk lands along the Rock River Valley. Since the land had not yet been surveyed or opened for public sale, these settlers were encroaching upon the Indians camped near the mouth of the Rock River.

Antoine LeClaire, post interpreter, was of French and Potawatomi Indian background, and

Below: Antoine LeClaire, part French and Pottawatomi Indian, was the U.S. interpreter at Fort Armstrong. Later, he became a prominent land developer and a prosperous resident of Davenport, Iowa. (Putnam Museum, Davenport, Iowa.)

Right: Signing of the treaty of 1825 at Prairie du Chien. (Augustana College Library Special Collections)



acquired vast tracts of land from these Indians. He served as interpreter at treaty councils between the Sauk and Fox nation and the U.S. Government which took place in 1829, 1831, 1832, 1836, 1837, and 1842. From the treaty of 29 July 1829, Antoine LeClaire and wife Frances received two sections of land totaling 1,280 acres from the Sauk and Fox Indians. The LeClaire Reserve, another tract of land, was acquired by LeClaire after serving as interpreter during the 1832 Black Hawk Treaty. Davenport purchased this land from LeClaire, and at the head of the "Upper Rapids" or Rock Island Rapids laid out the town of LeClaire naming it in his honor. According to George W. Wickstrom's work, *The Town Crier*:

Colonel George Davenport and two other men who had an eye for a little quiet speculation in corner lots plotted a city in 1832 or 1833 where downtown Rock Island now stands. They laid out whole blocks for court, jail, churches, and a college, and they named the streets for the mighty men, white and red, who then lived in these parts.²⁷

In 1836, LeClaire and Davenport, along with a few other land speculators, founded the city of Davenport on the west bank of the Mississippi River opposite Rock Island. Colonel Davenport purchased an interest in the town site of Port Byron, Illinois, and later, in 1841, he laid out an addition to the city of Moline. Rock Island became the "cradle" of the Quad Cities. Much of the organizing and mapping out of these communities occurred at meetings held at the Davenport House located on Rock Island.

Impact of Intertribal Feuds Upon Rock Island Region

Intertribal squabbles and sporadic fighting took place among various tribes of the Mississippi River Valley which disturbed and frightened settlers near Fort Armstrong. Settlers were shocked by the ruthlessness of Indian intertribal warfare. Under the Indian code of conduct, no one of the enemy tribe was spared. Indian agents and commanders at Fort Armstrong and other military posts along the Mississippi River intervened constantly in intertribal feuds to prevent disputes from erupting into full scale frontier wars.

Below: Saukenuk, a Sauk Indian village which was once situated on the banks of the Rock River, near the confluence of the Rock and Mississippi Rivers. (Hauberg Museum, Black Hawk State Park)



In 1825, the U.S. Government attempted to arrange peace between warring Sioux and the Sauk and Fox tribes. According to Indian tradition, relatives of a murdered victim could demand payment in blood or "gifts" from the attackers to "cover" the loss of their dead relative. Government agents tried to develop a plan which eliminated the need for such avenging attacks. The government attempted to provide a peaceable solution to the problem. It agreed to cover the dead on both sides of the Indian conflict. Government officials considered such a procedure to be less expensive than mobilizing the army.

The plan, however, proved ineffective. Territorial encroachments by hunting parties continued to occur and many of the hunting parties returned to their villages with the scalps of their enemies.

Settlers feared an attack on the Sauk and Fox villages near Dubuque and Rock Island by the Sioux, Menominee, and Winnebago Indians might threaten their settlements. Captain Wynkoop Warner, a sub-agent at Fever River near Galena, attempted to ameliorate intertribal

warfare by inviting the Fox chiefs of the Dubuque and Rock Island vicinities to parley with Sioux, Menominee, and Winnebago forces. However 16 chiefs and 1 woman from the Fox village across from Rock Island were attacked by a war party of Sioux, Winnebago, and Menominee warriors while en route to the parley. The attackers spared one of the Fox chiefs so he could return to his village and tell the tale of the attacks. Again, as in other attacks, the massacre of the Fox leaders was in retaliation to earlier hostile acts performed by the Sauk and Fox against the Sioux.²⁸

The Sauk and Fox tribes prepared for war by mobilizing a force of approximately 1,000 braves. However, the Fox tribe camped near Dubuque, fearing an attack from the Sioux and their allies, evacuated its village and fled downstream to Sauk and Fox villages near Rock Island. As soon as the Fox village was abandoned, squatters from Galena took possession of the Indian diggings; however, federal troops drove off these intruders.

Government agents negotiated a treaty, in July 1830, with the feuding Indians that supposedly

Right: Next to Keokuk, Chief Wapello was probably the most influential leader among the Sauk and Fox Indians. (Hauberg Museum, Black Hawk State Park)



"covered" (provided payment for) the losses on all sides involved in the intertribal fighting. An interesting side note to the treaty was that the American Fur Company obtained a provision to the treaty whereby Sauk and Fox Indians were obligated to pay the debts they owed to Company agents, George Davenport and Russell Farnham, from the future sale of tribal lands to the United States.²⁹

Unfortunately, the intertribal warfare was not resolved by the treaty of 1830. Many Fox Indians felt the gifts they received to cover the loss of their dead chiefs had not been sufficient; besides, the desire for revenge was too great among many of the Fox braves. In August 1831, a combined Sauk and Fox war party massacred twenty-five Menominee camped at Prairie du Chien in retaliation for the previous slaughter of Fox leaders. When United States agents realized that their plan to prevent any future revenge raids by covering the dead on all sides would not prevent another series of retaliatory attacks, they called for military intervention. Winter prevented, however any immediate action by the United States Army. In the following spring, General Henry Atkinson, representing the United States Government, held a council at Rock Island in which he threatened to use military force, if necessary, to apprehend the braves involved in the attack on the Menominees. Keokuk and Wapello, two chiefs who were consistently friendly to the United States Government, agreed to the demand. The chiefs, however were not able to deliver more than three participants to the massacre. The others involved in the slaughter at Prairie du Chien had joined Black Hawk's hostile band camped on the Rock River. The government did not press the issue any farther, fearing that a show of military force might drive more braves into the camp of

the hostiles. Many Sauk and Fox Indians were bitter against the Americans because their Fox leaders were killed while trying to comply to a request by the United States Government.

Encroachment by Squatters

Civilization steadily encroached on the Indians in Illinois. Though Illinois achieved statehood in 1818, much of the northern portion of the state had yet to be settled. By 1827, the lead mining community of Galena had become the county seat for the newly organized Jo Davies County, as a result of an increase in population. In that same year, a road linking southern Illinois with Galena was being surveyed and staked out. In the midst of this progress, the commanding officer at Fort Armstrong had to dispatch arms and ammunition to Galena to defend the settlement against an uprising of hostile Winnebagos. A show of military force by army regulars quickly put down the uprising. Illinois Governor Ninian Edwards, in response to the outbreak of Indian hostilities, petitioned the War Department to remove all hostile tribes, including the Winnebagos and the Sauk and Fox,

Right: Keokuk and his son.
(Hauberg Museum, Black Hawk State Park)



from Illinois. The War Department, in turn, pressured Tom Forsyth, the Indian agent at Fort Armstrong, to convince the Sauk and Fox tribes that they should leave Illinois and relocate on the west bank of the Mississippi River. In the fall of 1828, Keokuk, spokesman for the friendly faction of the two tribes, persuaded many of the Indians to join him at a new camp situated on the Iowa River in what is now the state of Iowa. However, a smaller more militant faction led by Black Hawk remained at the Sauk village located on the banks of the Rock River. Eventually dissident Indians from the Fox and the Kickapoo tribes joined Black Hawk's band. Counting women and children, the hostile band numbered approximately 1,500 Indians. Keokuk's peaceful group included a majority of the Sauk and Fox braves and their chiefs, and the camp numbered approximately 3,500 Indians.

Black Hawk's band continued to live in Illinois and practiced their Indian traditions. After the crops had been harvested in the fall, the braves left their village on the Rock River to participate in their annual winter hunt. In the fall of 1828, and again in 1829, news spread throughout the state that Black Hawk's British band had left Illinois for good. A rumor also spread that the supposedly abandoned Sauk land would be offered for public sale by the Government Land Office. Soon squatters began to occupy some of the lodges and portions of the land near the Rock River village; but each spring, to their surprise, Black Hawk's band returned to the village. Black Hawk was astonished by the increasing number of settlers residing in the Rock Island vicinity. Disputes arose between the settlers and Indians over possession of lodges, cornfields, and land. The Indians resented their lodges being occupied or destroyed by squatters; their cornfields being fenced in and taken possession

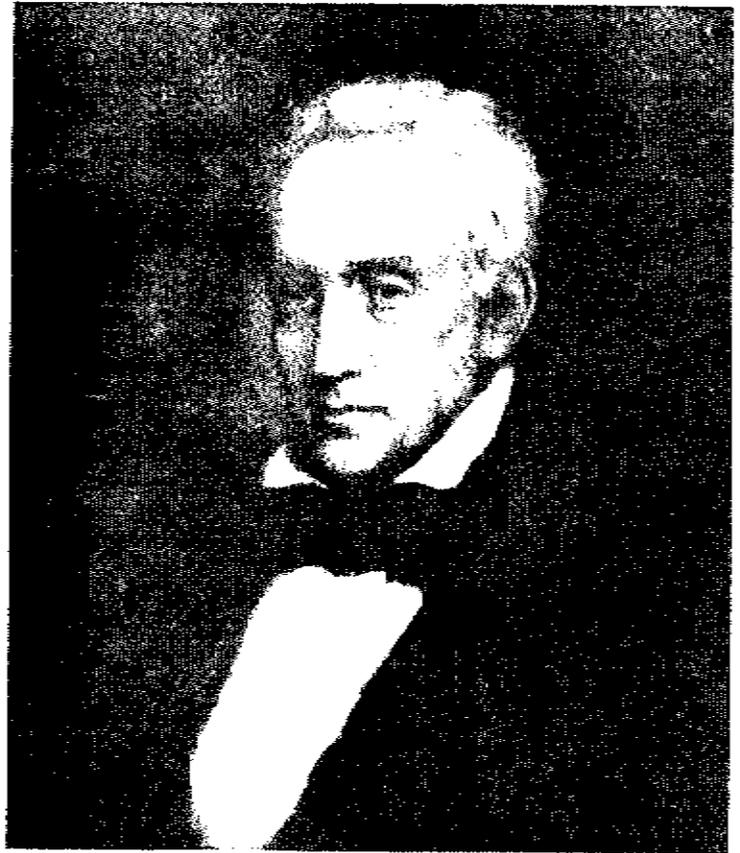
of by these settlers; and their burial grounds being destroyed by the squatters plows. A clash between the Indians and settlers was inevitable as both sides continuously harassed one another. The Indian agent at Fort Armstrong received a steady stream of complaints from settlers and braves. Squatters were especially adept at writing petitions and letters of grievances. Governor Reynolds, upon receiving these written pleas for the removal of Black Hawk's British band from Illinois, wrote the War Department for assistance. He also called for a volunteer army of Illinois citizens to, if necessary, remove Indians by force.³⁰

Article seven of the 1804 treaty stated the Sauk and Fox Indians could remain at their Indian settlements for as long as the Federal Government possessed the land. Instead of dispatching troops to force an eviction, which would have violated the spirit of the 1804 treaty,

Below: Keokuk, rival of Black Hawk, was appointed Chief of Sauk Indians by Illinois Governor J. Reynolds and General W. Scott at the close of the Black Hawk War. (AMCCOM-HO Archives)



Right: *Illinois Governor John Reynolds, organized the State Volunteers against Black Hawk's party. (Hauberg Museum, Black Hawk State Park)*



the Federal Government began to open portions of the Sauk land for public sale.

In October 1829, the U.S. Government Land Office opened for public sale the land in the vicinity of the old Sauk village. Colonel George Davenport and his partner, Russell Farnham, purchased 80 percent of this land. Black Hawk, believing he had the support of other tribes and the support of the British in Canada, threatened the settlers and demanded they leave.

The settlers were convinced the Sauk had formed an alliance with the Fox, Kickapoo, Potawatomi, and Winnebago tribes. Fearing an attack, the settlers fled to Fort Armstrong and Davenport's trading post on Rock Island.

Colonel Davenport erected a stockade around his cabin and outbuildings and placed an old swivel gun at the entrance. Only a garrison of 80 U.S. Regulars, under the command of Captain John Bliss, stood between the settlers and what they believed to be several thousand hostile Indians.

Governor Reynolds, fearing a possible massacre, requested additional federal troops to protect the settlers. In response, General

Gaines, at Jefferson Barracks near St. Louis, dispatched a large military force to Rock Island.

As a show of force until reinforcements arrived, Captain Bliss had his soldiers begin target practice. He also ordered the firing of morning and evening (cannons) guns for the first time.

General Gaines and six companies from the 6th U.S. Infantry arrived at Rock Island by steamboat in early June 1831; and Colonel Zachary Taylor brought four additional companies down from Fort Crawford to Rock Island. In an attempt to peaceably settle the dispute, General Gaines held a council with Sauk and Fox leaders. Keokuk, Wapello, and other chiefs arrived peacefully at the council; however, Black Hawk did not. He appeared with his warriors in war paint; carrying arms; and singing war chants.³¹

General Gaines explained the government's position regarding the land the Sauk and Fox had ceded to the United States. He stated that by the provisions of the 1804 treaty, the Indians must relocate because the government had opened the ceded land for public sale. Keokuk

Right: Major General Edmund P. Gaines, parleyed with Black Hawk at Fort Armstrong in 1831. (Hauberg Museum, Black Hawk State Park)



and the other chiefs encouraged Black Hawk and his band to cross the Mississippi River and join them at their camp. However, Black Hawk refused to leave.

On 19 June 1831, Governor Reynolds arrived with his volunteer army and joined General Gaines near the mouth of the Rock River. The combined forces closed in on the Sauk village. U.S. Regulars, along with a company of local volunteers known as the Rock River Rangers, marched from Fort Armstrong across the site of the present day city of Rock Island to the Sauk village on the Rock River. The Rock River Rangers was comprised of 58 men and older boys from the Rock River Region.

The steamboat *Enterprise* carried a company of soldiers and a cannon up the Rock River to the Indian camp. However, when the troops arrived at the village, they found it deserted. Black Hawk, fearing that the rowdy, undisciplined Rangers could not be controlled by their officer, had fled with his band across the Mississippi River the previous night. The Rangers, who were spoiling for a fight, took out their frustrations by destroying the abandoned Sauk village.

General Gaines sent an ultimatum to Black Hawk stating that if he did not return to the council he would send his army across the Mississippi River after him. On 30 June 1831, Black Hawk met with Governor Reynolds and General Gaines at Rock Island. At this conference, 27 chiefs and warriors, including Black Hawk, signed a treaty that included three major agreements: to honor the provisions of the 1804 treaty; to move to Keokuk's camp on the Iowa; and not to return across the Mississippi River without the permission of the U.S. Government. In addition, the Sauk and Fox tribes were to break off all communication with the British. In return, the U.S. Government agreed to provide food and replace the loss of the cornfields that Black Hawk's party abandoned on the Rock River in Illinois.

Within a year Black Hawk had broken his promise. On 8 April 1832, Black Hawk and his party recrossed the Mississippi River. They entered the state of Illinois at Yellow Banks near the present community of Oquawka. According to several accounts, Black Hawk and his British band crossed the Mississippi singing and

Below: General Henry Atkinson
(AMCCOM-HO Archives)

Right: Map showing the course
of Black Hawk's band during the
Black Hawk War of 1832.
(AMCCOM-HO Archives)



banging their drums in what seemed a very threatening manner. Settlers in the Rock Island vicinity, upon hearing the ruckus, fled to Fort Armstrong for protection. To the settlers on the Illinois frontier, it appeared that Black Hawk's band was a war party invading the state to attack their settlements. The settlers and government officials responded to this threat by arming themselves, organizing a state army of mounted volunteers, and calling for assistance from federal troops.

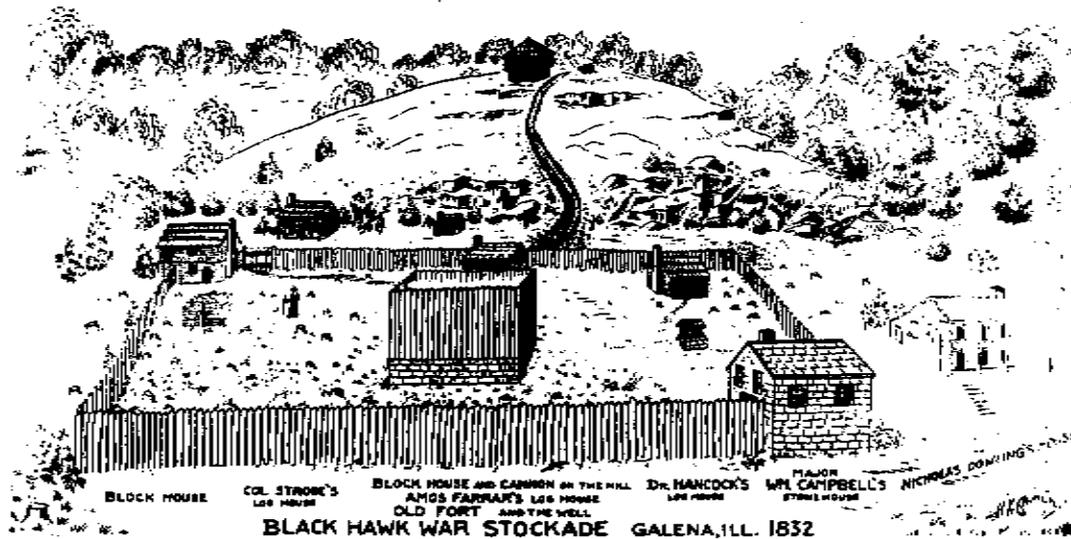
Although the sight of approximately 1,500 Indians noisily crossing the river startled the settlers, the band was not a typical war party. Women and children customarily did not travel with war parties. Black Hawk's band that crossed the river, however, consisted of nearly 500 warriors and approximately 1,000 women and children.

Black Hawk claimed his party had accepted an invitation from the "Prophet" to live and to plant corn at Prophet's Town, located up the Rock River nearly 40 miles from Rock Island. However, Black Hawk did possess some vague

plan to persuade Keokuk and his followers to join his conspiracy; but they refused. Two members of the dissident band provided Black Hawk with faulty advice. The Prophet related to Black Hawk his visions of neighboring tribes joining him in driving off the settlers. Neapope, one of the few Sauk chiefs to have joined the dissident band, falsely informed Black Hawk that he had received a pledge of arms and ammunition from the British during a visit to Canada in 1831. Based on this information, Black Hawk began his journey to retake his former village. Not grasping the severity of his situation, he ignored messages from Fort Armstrong and from the peaceful Sauk and Fox camps advising him to return to the west banks of the Mississippi River. Illinois Governor John Reynolds labeled the Indian crossing an invasion and called for the immediate formation of an army of state volunteers to drive them back across the river.

Governor Reynolds defended his organization of a volunteer army by saying, "If I did not act, and the inhabitants were murdered after (I was)

Below: The stockade erected by anxious civilians near Galena during the Black Hawk War. (Alfred W. Mueller, Galena Historical Collections)



informed of their situation, I would be condemned."³² It was also clear that Governor Reynolds equated victory over the Indians with political victory. In a letter to General Atkinson he wrote: "Nothing will save me but a decisive stroke on the Indians."³³ The Governor circulated petitions asking for aid throughout the counties, and he made speeches urging people to volunteer to defend the frontier. After receiving General Gaines' written report of his earlier meeting with Black Hawk at Rock Island, Governor Reynolds wrote to Gaines that:

I was very much rejoiced on receiving (your) letter, as it puts my whole proceedings on a legal and constitutional footing, the responsibility of the war was removed from me.³⁴

While Black Hawk's band was proceeding up the Rock River toward the Winnebago camp at Prophet's Town, federal troops were on their way to Rock Island. General Atkinson left Jefferson Barracks near St. Louis with the 6th Infantry Regiment on 10 April 1832. Governor Reynolds had assembled 2,000 volunteers at Beardstown, Illinois. Near Yellow Banks, the volunteers, under the command of General Samuel

Whiteside, were to be joined by General Atkinson's Regiment.

Fort Armstrong became the headquarters for military operations during what would be known as the Black Hawk War. A company of Illinois volunteers were stationed at Fort Armstrong as reinforcements from April to June 1832. The company pulled garrison duty and was composed of men from Rock Island and nearby counties. George Davenport supposedly volunteered for duty during the Indian trouble and received the commission of quartermaster at Fort Armstrong with the rank of Colonel.

In the 15 weeks of the Black Hawk War, a majority of the fighting actually took place in northern Illinois and southern Wisconsin, even though the spark that ignited the conflict happened in the vicinity of Rock Island. After Black Hawk had inflicted a humiliating defeat on a detachment of 275 mounted volunteers commanded by Major Isaiah Stillman at Sycamore Creek near Dixon Ferry, it was no longer possible to settle the dispute peaceably.

Major Stillman's Rangers, anxious to fight Indians, had volunteered to serve as a scouting party for the U.S. Regulars. Stillman's troops,

Below: Posters such as this helped shape public opinion and contributed to the spreading of fear among civilians of a general Indian uprising on the frontier. (Davenport Public Library Special Collections) **Middle:** Sauk warrior Se-us-kuk, son of Black Hawk. (Rock Island County Historical Society) **Right:** Major Isaiah Stillman (Augustana College Library Special Collections)



ignoring an opportunity to parley with Black Hawk, fired on Indian messengers carrying a flag of truce. The Rangers pursued the few Indians that escaped to Sycamore Creek, where Black Hawk surprisingly attacked the Rangers. Black Hawk and approximately 40 braves routed the volunteers. Stillman's mounted Rangers panicked and retreated. Only 11 volunteers actually were killed in the skirmish, but their bodies were horribly destroyed. The Indians had scalped them and mutilated them. The rout of these undisciplined volunteers became known in the Rock Island vicinity as the Battle of Stillman's Run. War could no longer be avoided, and state-wide panic occurred as newspapers in the state carried vivid accounts of the butchery. The politicians, regular soldiers, and volunteer Rangers became more determined to defeat Black Hawk.³⁵

Black Hawk's band fled north, searching for a place to recross the Mississippi River. During these weeks of flight, isolated attacks occurred by small bands of warriors. The raiding Indians would sneak up on a lone cabin, then murder,

scalp, and steal provisions of the inhabitants. The roving parties included Winnebago, Potawatomi, and Kickapoo braves in addition to Sauk and Fox warriors. On 27 May 1832, a raiding party attacked three families that had gathered at a cabin along Indian Creek, just six miles north of Ottawa, near the Illinois River. The Indians massacred 15 men, women, and children at the cabin, but spared two 17 and 15 year old sisters. The sisters were taken captive and later ransomed for horses at Blue Mound, Wisconsin.³⁶

Besides attacking lone cabins, the small bands of marauding warriors also ambushed travelers. Another example of the random nature and savageness of the attacks by these small, roving war parties occurred on 23 May 1832. Felix St. Vrain, the Indian agent at Fort Armstrong who had replaced Thomas Forsyth, was killed while delivering dispatches from Fort Armstrong to Galena. Agent St. Vrain and his three companions were killed and scalped. Reportedly, St. Vrain's body was dismembered and his heart cut out and eaten by his killers.³⁷

Below: Lieutenant Robert E. Lee. In 1837, he surveyed the upper rapids of the Mississippi River at Rock Island. (Davenport Public Library)

Right: The upper rapids at Rock Island forced steamboat crews to unload their cargo and transport it overland past the rapids in order to lighten the vessel for its trip through the rapids. Rock Island was a break-of-bulk point. (AMCCOM-HO Archives)



Many of the settlers serving as Rangers on the Illinois frontier were just as savage. Several of these citizen volunteers took Indian scalps as trophies during the campaign. The federal troops were issued specific orders not to scalp or mutilate any Indians in the course of the conflict. The Black Hawk War was the last gasp in defense of preserving the Indians' way of life in Illinois.

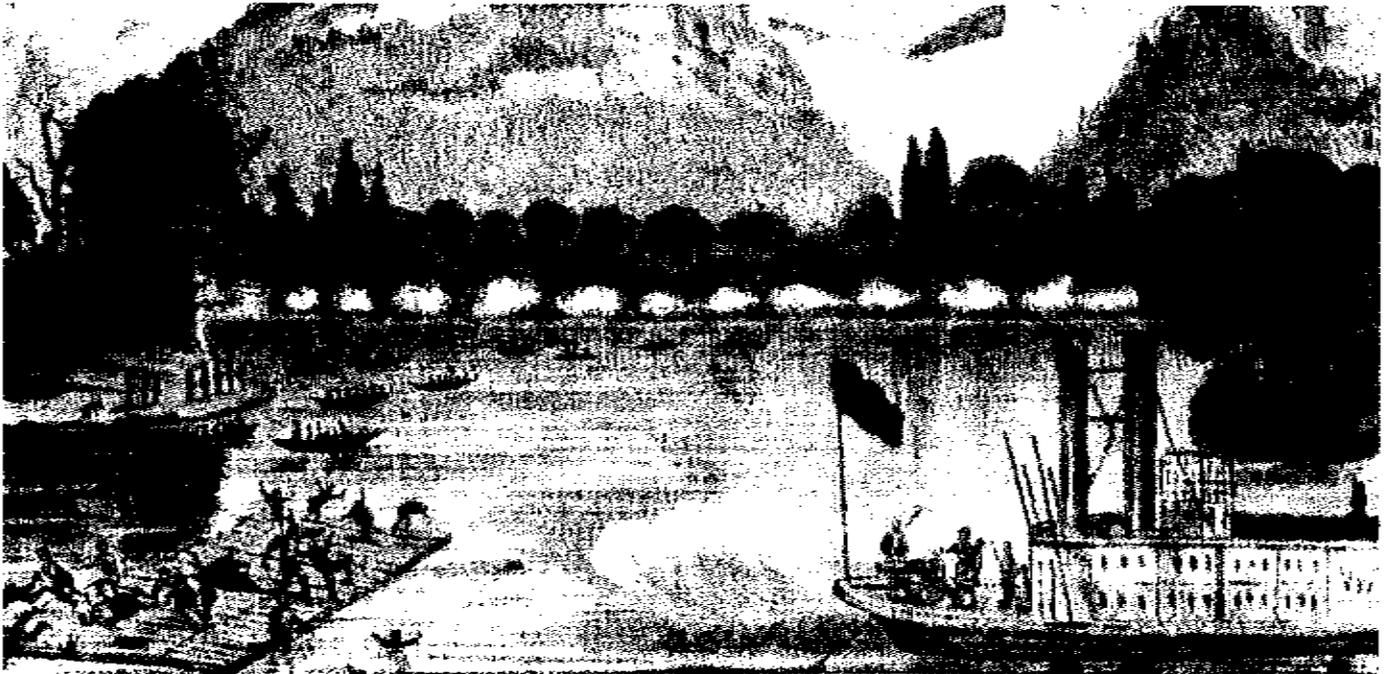
During the Indian conflict, progress continued to be made in opening the state's northern frontier region. In 1829 Lieutenant Napoleon Buford, while on topographical duty, began to draw up surveys of the rapids of the upper Mississippi River, including those at Rock Island. Also in 1829, President Andrew Jackson appointed a commission to approach the Fox Indians regarding the transfer of mineral rights to the Federal government.³⁶ On 9 February 1831, the Illinois state legislature passed an act to establish Rock Island County, which included the area of the former Sac village. Section One of the act established the boundaries. Section Two stated that 350 inhabitants were needed for a general election to be held for the electing of three commissioners, a sheriff, and a coroner.

Due to the Indian unrest in the Rock Island area, the county elections were not held until 1833.

Battle of Bad Axe and the Capture of Black Hawk

Black Hawk and his followers continued north along the Mississippi River searching for a place to cross. On 2 August 1832, General Atkinson, with about 500 Regulars and some volunteers, caught up with Black Hawk's band in southern Wisconsin at the confluence of the Bad Axe River and the Mississippi. At the Battle of Bad Axe the Indians were decisively defeated by federal forces with the aid of the steamboat *Warrior* and its six-pound gun. Driven into the river by their pursuers, the Indian warriors, their old people, women, and children were shot down or drowned as they tried to escape. Many of those that reached the west banks of the Mississippi were slain by a band of Sioux recruited by the U.S. Army. Black Hawk, however, escaped with a small band that included the Prophet. Two weeks later, they were captured by Winnebago Indians who also had been recruited by the United States Army. The army had also recruited Sioux Winnebago, and Menominee warriors to

Below: *The Battle of Bad Axe depicted below resulted in a crushing defeat and slaughter of Black Hawk's band of hostile Indians. (AMCCOM-HO Archives)*



aid in the capture of Black Hawk.

Lieutenant Robert Anderson, later of Fort Sumter fame, was one of the army officers aboard the steamboat, *Warrior*. In addition to Lieutenant Anderson, an impressive number of participants in the Black Hawk War later became famous as politicians and as soldiers. Included among the roll call of Black Hawk War veterans were United States Presidents, Abraham Lincoln and Zachary Taylor; Commander-in-Chief of the U.S. Army General Winfield Scott; and Secretary of War and later President of the Confederate States of America, Jefferson Davis. Several other participants later rose to the military rank of General. Among this group were two Confederate Generals, Albert Sidney Johnson and Joseph E. Johnson. A half dozen other veterans of the Black Hawk War were later elected Governor of Illinois, and another veteran of the Indian conflict later became Governor of Wisconsin.³⁹

The Winnebago Indians had been under suspicion of having possibly assisted Black Hawk's band during the war, but they demonstrated their loyalty to the United States

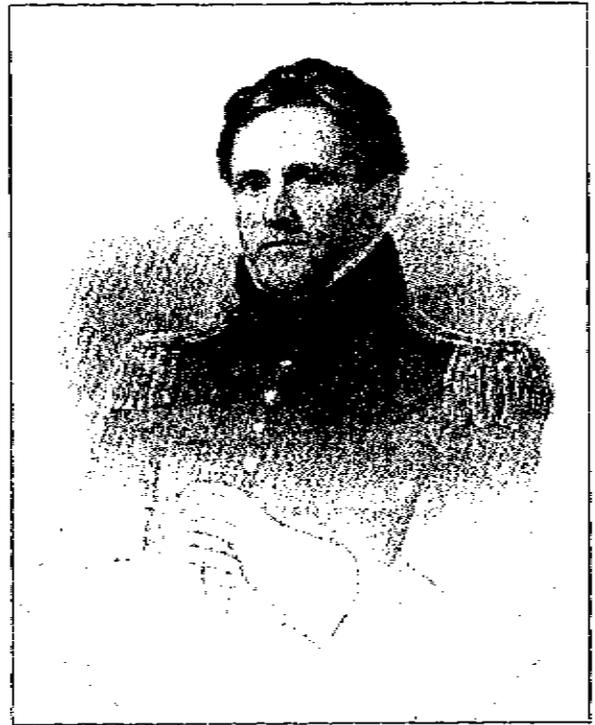
government by apprehending Black Hawk and his followers. The reward of money and horses made the task more palatable. On 17 August 1832, the Winnebagos turned Black Hawk over to authorities at Prairie du Chien. Colonel Zachary Taylor, the Commanding Officer at Fort Crawford, appointed Lieutenant Jefferson Davis to take Black Hawk by steamboat to Jefferson Barracks near St. Louis.

The Black Hawk War became a secondary issue during the 1832 presidential campaign of Andrew Jackson. Governor John Reynolds' volunteer army of Illinois settlers, with politicians as officers, had been unable to apprehend Black Hawk's hostile band of Indians. When the governor requested additional federal troops to subdue Black Hawk, President Jackson ordered General Winfield Scott to assume command of an army of 1,000 Regulars, which was to be dispatched from the East to Fort Armstrong.

General Scott's expedition was ill fated from the beginning. While en route to Chicago, aboard four steamboats, his troops were stricken with an outbreak of Asiatic cholera. When General Scott's forces finally reached Fort

Below: General Winfield Scott's headquarters at Rock Island just east of the present Clock Tower. (AMCCOM-HO Archives)

Right: General Winfield Scott, Commander of U.S. troops at close of Black Hawk War. (AMCCOM-HO Archives)



Armstrong, they had been decimated by the disease. Only 220 U.S. Regulars completed the march from Chicago to Rock Island. Scott's army arrived too late to take the field against Black Hawk. A few weeks earlier, Black Hawk's dissident band had been virtually obliterated at the Battle of Bad Axe. All that was left for General Scott and his troops to do was to assist Governor Reynolds in drafting the peace treaty and to guard the few prisoners that survived the battle.

However, within a week of General Scott's arrival at Fort Armstrong, cholera once again surfaced among the soldiers in epidemic proportion. General Scott had distinguished himself in an exemplary manner in his efforts to save the lives of his soldiers. General Scott, in disregard to his personal safety, dispensed medicine and cared for the sick. His strict orders to enforce discipline provided the critical leadership needed during such a crisis. Army physicians knew little as to the cause of the disease, except for their observation of the stricken. The disease seemed to attack men that were under the influence of alcohol and those

weakened by the lack of proper eating habits or living in crowded, unsanitary quarters. General Scott issued the following order to the U.S. Regulars and volunteer Rangers stationed at the fort on 28 August 1832:

It is believed that all these men were of intemperate habits. The Ranger who is dead, it is known, generated this disease within himself by a fit of intoxication. . . Sobriety, cleanliness of person, cleanliness of camp and quarters, together with care in the preparation of the men's messes are the great preventatives. . . The Commanding General. . . therefore, peremptorily commands that every soldier or Ranger who shall be found drunk or sensibly intoxicated, after the publication of this order, be compelled, as soon as his strength will permit, to dig a grave at a suitable burying place, large enough for his own reception, as such grave cannot fail soon to be wanted for the drunken man, himself, or some drunken companion. This

Below: Veterans of the Black Hawk War. General Samuel Whiteside of the Illinois Volunteers, seated third from the left. (Hauberg Museum, Black Hawk State Park)



order is given as well to serve for the punishment of drunkenness as to spare good and temperate men the labor of digging graves for their worthless companions.⁴⁰

The order also served as a means of controlling fearful soldiers who might turn to drink in despair. After prohibiting intoxication, improving sanitary conditions, and quarantining nearly 1,500 federal soldiers and state volunteers in small groups about the banks and hills along the Mississippi River and the Rock River, the army was successful in bringing about an end to the cholera epidemic.

The Black Hawk Purchase (Treaty of 1832)

The United States Government held a three day peace conference from 19-21 September 1832 with the Sauk and Fox tribes. General Winfield Scott and Illinois Governor John Reynolds conducted the sessions and drafted the final treaty. The opening session was held in a tent on the west banks of the Mississippi, rather than at Fort Armstrong, since some soldiers were

yet inflicted with cholera. The Sauk and Fox tribes ceded to the U.S. approximately 6 million acres of land bordering the west banks of the Mississippi River, primarily in eastern Iowa. The ceded land included the Fox Indians' lead diggings near Dubuque. The Indians received \$660,000 in exchange for the land, and the money was divided into \$20,000 annuities, to be paid over a 30-year period by the U.S. Government. The first two years' annuities, totaling \$40,000 were awarded to Colonel Davenport to settle a credit debt the Sauk and Fox tribes owed him.⁴¹

The Indians agreed to vacate the ceded area by 1 June 1833. However, a 400 square mile tract of land on the Iowa River known as the Keokuk Reserve, remained in possession of the Indians. Other provisions of the treaty included the appointment of Keokuk as Chief of the Sauk tribe; the awarding of two sections of land to the U.S. interpreter, Antoine LeClaire, and the supplying of food to Sauk and Fox women and children whose men were killed in the war. In

Below: *Black Hawk Purchase Treaty depicting Antoine LeClaire, Governor John Reynolds, and General Winfield Scott at the table. Original mural on display at the Davenport Bank Building, Davenport, Iowa. (Quad Cities Times Photo Collection)*



Below: Early photo of Fort Armstrong from the levee at Rock Island (1845). Note the extremely high flagpole. (AMCCOM-HO Archives)



addition, General Scott and Governor Reynolds agreed to honor a request by Keokuk for 40 kegs of tobacco and 40 kegs of salt.

Keokuk (He Who Has Been Everywhere), Wapello (He Who Is Painted White), and Poweshick (The Roused Bear) were among the Indian leaders listed as agreeing to the provisions of the treaty. Wapello and Poweshick were the two leading Fox Indian chiefs at the peace council. This treaty, later known as the Black Hawk Purchase of 1832, officially ended the Black Hawk War. Within a couple of years, all the other Indian tribes in Illinois were also relocated to areas west of the Mississippi River by the United States Government.

Since the threat of Indian hostilities no longer existed, the War Department removed the garrison at Fort Armstrong. Although the army abandoned the fort in 1836, the government retained Rock Island as a government reservation. In 1840, the U.S. Army made some repairs at Fort Armstrong and established an ordnance depot at the old post. Captain William Shoemaker commanded the depot until 1845, when its stores were transferred to St. Louis in

support of American efforts during the Mexican War. Fort Armstrong again became vacant, a decaying reminder of Rock Island's vanishing frontier. In 1856, the last of several fires destroyed the abandoned old post.

The Rock Island area had settled quickly once the Indians were removed from the vicinity. Colonel Davenport played a prominent role in its development and became one of the first three commissioners of Rock Island County. With help from others, Davenport laid out the county seat, which was to be named "Davenport". However, in a letter published in the *Galena Advertiser*, Colonel Davenport ridiculed a state legislator for his participation in the Battle of Stillman's Run. The legislator, in retaliation, blocked the naming of the county seat in honor of Davenport. In 1835, the name Stephenson was substituted for Davenport, and Illinois State Legislature approved the charter. In the meantime, Colonel Davenport, Antoine LeClaire, and others organized and plotted another community on the west bank of the Mississippi River opposite Stephenson. In 1836, the community on the Iowa banks became

Below: Official letter announcing the newly elected Commissioners of Rock Island County, for the first county election held in 1833. (AMCCOM-HO Archives)

^{Supervisor's Rec. A}
Special Term of the County
Commissioners Court July 1833

Be it Remembered that in per-
suance of an act of the people of
the state of Illinois represented in the
General Assembly entitled an act
establishing the Courts of County
Commissioners, and also an act
passed at the last Session of the
General Assembly, entitled an
act to establish a permanent seat
of Justice for Rock Island County
It appearing from the elections
held on the first Monday in the
month of July 1833, for Rock Island
County, that George Davenport John W
Spencer and George W. Harlan
were duly elected as Commissioners
for the County of Rock Island and
thereupon they took the several
oaths prescribed by law as County
Commissioners for the County of Rock Island
Legal notice being given that a spe-
cial Term would be held on the
Eighth day of July 1833 for Rock
Island County Whereupon the
said George Davenport John W
Spencer and George W. Harlan took
their seat and thereupon a
special Court was holden by the
Commissioners for Rock Island
County on the 8th day of July
in the year of our Lord one
thousand eight hundred and
thirty three

Present
George Davenport } Co.
John W. Spencer } Com.
George W. Harlan } and

Below: A view of Colonel Davenport's house built in 1833. Note the original structure had three wings, two of which are visible in the photograph. (AMCCOM-HO Archives)



Davenport. The village of Stephenson became Rock Island in 1841.⁴²

The planning of these two communities, plus the organizing of the LeClaire and Port Byron villages, occurred at meetings held by Colonel Davenport at his island estate. In addition to land speculation, the building of railroads, bridges, river commerce, and business development in the Rock Island area were also topics discussed at these meetings. The Davenport House became the gathering point for the early "shakers and movers" of the Rock Island area.

The Colonel Davenport House

In 1833, a year after the Black Hawk Purchase, Colonel Davenport built the most elegant family home for that time in the Rock Island vicinity. The Davenport family included his wife, Margaret; stepdaughter, Susan Lewis; and sons, George L'Oste and Bailey, the latter born to his stepdaughter, and purportedly fathered by Colonel Davenport.

Federal authorities in 1833 rewarded Colonel Davenport for his service to the government by allowing him to build his family residence on the northwest shore of Rock Island. In 1844, Congress passed a special act confirming Colonel Davenport's title to the property.⁴³

Colonel Davenport's home was not the typical pioneer cabin. Clapboard lumber, ordered from the East, covered the two-story log-frame house. The clapboard siding gave Colonel Davenport's frontier home the exterior appearance of a fine eastern residence. Other features of the house included a portico or porch roof, supported by columns; double hung wood sashes; a gable roof with sawed shingles; and two massive brick chimneys.

The Murder of Colonel Davenport

On 4 July 1845, robbers murdered Colonel Davenport at his island estate. Rumors of \$20,000 in gold, supposedly hidden on the Davenport property, attracted the robbers to the island. Colonel Davenport's wife and two sons

Below: Outlaw John Long's skeleton (Quad City Times photo collection) **Top Right:** Long's Grave, in Rock Island's Pioneer Cemetery. He was buried 133 years after his hanging. (AMCCOM-HO)



had gone to an Independence Day celebration in the city of Rock Island. Finding the Colonel alone, the four bandits shot, stabbed and tortured him. However, they departed the island with only a few hundred dollars they had found in the house. Colonel Davenport died from the wounds inflicted upon him by the robbers. A few months later, on 29 October 1845, John Long, Aaron Long, and Granville Young were hanged in the town of Rock Island for the murder of Colonel Davenport. The three outlaws were members of the notorious "Banditti of the Prairie" gang. A crowd of nearly 5,000 which was then approximately three times the population of Rock Island, witnessed the public hangings. The crowd watched and cheered as the Rock Island County Sheriff paraded the three bandits through the streets of Rock Island to the

gallows. Then the band played, the people prayed, and the three were hanged. Unfortunately, for Aaron Long, his rope broke. The sheriff supposedly supplied him with a stiff drink, then hanged him a second time.

As for Aaron's brother, John Long, his body was supposedly shipped to a physician in a barrel of rum. The physician displayed Long's skeleton in his office. Years later, the doctor's widow returned the skeleton to Rock Island. For years, the bones of the murderer of Colonel Davenport were displayed at the Rock Island County House, and later at Black Hawk State Park Museum. After several more years in storage, John Long's skeleton was finally buried in the old pioneer's cemetery at Black Hawk State Park on September 14, 1978.⁴⁴

Below: *Colonel Davenport's house prior to renovation in 1906. (AMCCOM-HO Archives)*



Repair of the Colonel Davenport Ruins

In preparation for establishing an arsenal on Rock Island, the Federal Government regained sole possession of the island. A federal commission purchased the more legitimate property claims held by private citizens such as the Colonel Davenport family. The government used the house as an office, and later as a storehouse. Gradually, the Colonel Davenport home deteriorated and fell into disrepair. By the turn of the century, the building was in a state of ruin. In 1906, the Association of Rock Island County sponsored the repair of the dilapidated

structure. Public interest in the Davenport House during the 1950s and early 1960s again saved the building from disrepair. On this occasion, the Scott County Home Builders Association collaborated with the Quad Cities Association of Home Builders to repair the structure. Whereas the main portion of the Davenport House has been renovated, the attached wings to the house were removed in 1906 and have not yet been restored. Currently, the Colonel Davenport Historical Foundation maintains the house as a historic site open to visitors.

Below: After the departure of the military in 1836, civilian custodians such as H.Y. Slaymaker, had difficulties preventing trespassers from exploiting the island's timber. (AMCCOM-HO Archives)

Notice to Trespassers

On the U. S. Reserve on Rock Island.

All persons detected in cutting or destroying Timber on the United States Reserve on Rock Island, will be prosecuted according to the following Act of Congress, passed the 3rd day of March, 1859:

CHAPTER LXXVIII. Be it enacted by the Senate and House of Representatives of the United States, &c. That if any person or persons shall unlawfully cut, aid, or assist, or be employed in unlawfully cutting, or shall wantonly destroy, or procure to be wantonly destroyed, any timber standing, growing, or being upon the lands of the United States, which, in pursuance of any law passed or hereafter to be passed, have been or shall be reserved or purchased by the United States for Military or other purposes; every such person or persons so offending, on conviction thereof, before a Court having competent jurisdiction, shall for every such offence pay a fine not exceeding Five Hundred Dollars, and shall be imprisoned not exceeding Twelve Months.

July 23, 1860.

**H. Y. SLAYMAKER, Agent,
for Qr. M. Dep. U. S. Army.**

CHAPTER THREE

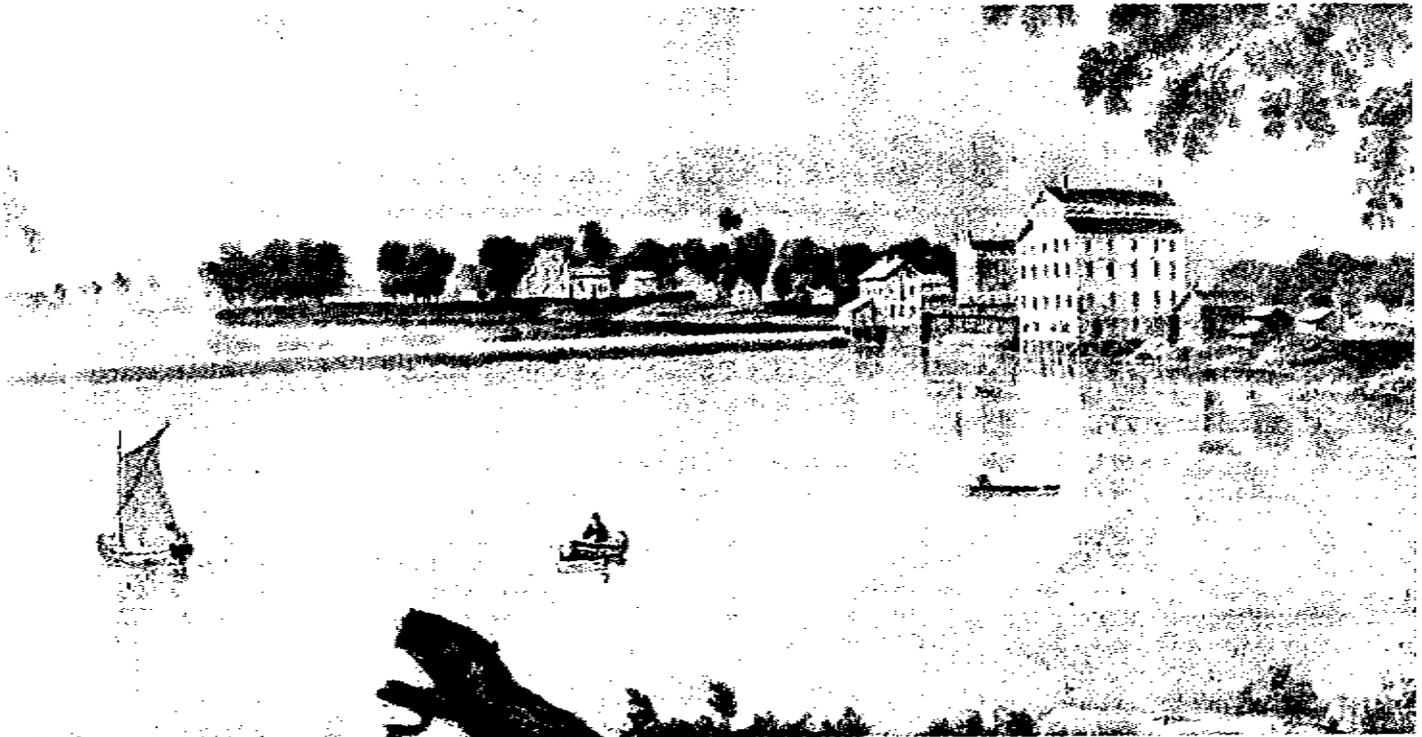
CIVILIAN DEVELOPMENT ON ROCK ISLAND AND THE CAMPAIGN FOR AN ARMORY

After the soldiers left Fort Armstrong in 1836, and again when the army depot closed in 1845, the Federal Government placed civilian agents or custodians in charge of Rock Island. Joseph Street, an Indian agent from Prairie du Chien, was the first of these civilian agents. In 1836, the government transferred him to Rock Island. From 1836-1838 "General" Street served as Indian agent and custodian of Rock Island. In 1838, William Davenport succeeded Joseph Street as the Indian agent to the Sauk and Fox residing in eastern Iowa. Captain W.R. Shoemaker, the Army Depot Commander, assumed command of the island and the depot from 1840-1845. After the depot closed, a series of four civilian agents were placed in charge of Rock Island. The four agents and the period that they served as custodians of Rock Island were: Thomas L. Drumm, 1845-1853; Sergeant Cummings, 1853-1854; Mr. J.B. Danforth, Jr., (founder of the *Rock Island Argus*) 1854-1857; and H.Y. Slaymaker, 1857-1863. Though these agents were placed in charge of Rock Island they

did not usually reside on the island. The civilian development of Rock Island occurred during the time when there was no military presence nor civilian agents residing on the island. During this period, numerous interested civilians attempted, with some success, to settle on portions of the island. These squatters considered Rock Island to be part of the public domain, especially after the military had departed the island.

The War Department was somewhat reluctant to release the island property for public sale. The army wanted to keep Rock Island in reserve and as early as 1825, Secretary of War John C. Calhoun had informed the Commissioner of the General Land Office that Rock Island was necessary for military purposes. Secretary of War Calhoun directed that Rock Island be reserved from public sale. Ten years later, in 1835, Congress ordered a survey to select potential construction sites for a new armory in the West. In the next two decades, several reports drafted by army officers favorably suggested Rock Island as a potential site for the

Below: The first dam built on Mississippi River in 1841; it stretched from Moline across Sylvan Slough to Rock Island. The two large mills at the dam were owned by David B. Sears. (AMCCOM-HO)



armory. Major D.W. Flagler's *History of the Rock Island Arsenal*, published in 1877, included the following excerpts from one such report, submitted by ordnance officer Captain William H. Bell.

Soon after returning, about the 16th of October 1840, from Cincinnati, I proceeded up the river to Rock Island, agreeably to your orders of the 17th September, and having surveyed the grounds and buildings (old buildings of Fort Armstrong) of the island, have the honor to report that the whole island, containing about 850 acres, belongs to the United States, having been specially reserved from sale for public purposes.⁴⁵

Captain Bell concluded his report with a strong statement of Rock Island's value.

I thought it advisable to communicate these facts, that the Government may be fully aware of the value of this island and its vicinity as the greatest and most practicable and desirable water power

in the valley of the Mississippi.⁴⁶

In September 1841, Congress passed an act empowering a commission or board, appointed by the Secretary of War, to conduct a thorough examination of the western regions "for the purpose of selecting a suitable site on the western waters for the establishment of a national armory." The Secretary of War selected Brigadier General W.K. Armistead, Surgeon General Thomas Lawson, and Lieutenant Colonel S.H. Long as the commissioners for the survey.

The board's final report to Congress covered 400 pages and included a section on Rock Island. The three officers stressed in their report the ample supply of resources that they "discovered" on Rock Island and in the nearby vicinity. The officers specifically cited the abundance of limestone and the variety of timber on the island as more than sufficient for building purposes. The commissioners also emphasized the potentially great source of water power available at Rock Island. Surgeon General Thomas Lawson endorsed the Rock Island site

Below: In 1846, David B. Sears built a second dam that connected Rock Island with Benham's Island. He also constructed the mill shown below on Benham's Island. (Moline Public Library)



as a healthy location.

He stated in the study that his endorsement was based on health reports of troops stationed at various military posts. He compared those reports with the shorter sick lists from Fort Armstrong for the same 20-year period. The board also listed Rock Island's convenient location, its rich soil, and its nearness to coal, lead, and other mineral deposits.

The board visited Rock Island in 1842, shortly after David B. Sears had erected a mill-dam across the south channel of the Mississippi River. The dam connected Rock Island with the Illinois mainland; and the officers reported the dam had attracted another saw mill to the island. In 1846, David B. Sears built a second dam. This dam lined the main island, Rock Island, with Benham's Island, an island in the main channel. The flat surface of the two dams provided a convenient wagon route from the Illinois mainland to Rock Island.

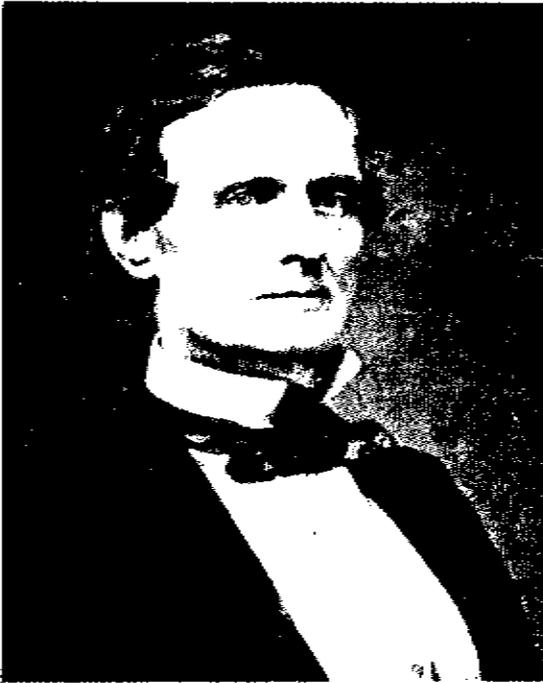
By the next decade, civilian development on the island had increased. The dams and the water power attracted additional mills, plants, and squatters to Rock Island. These interested civilians, along with speculators, manufacturers,

railroads, and waterpower companies, attempted to acquire titles to lands on the island. Eastern speculators who had investments in western land development, railroads, and waterpower companies also attempted to acquire the island. The local citizenry was divided between those interested in personally exploiting the island's natural resources and those that supported the establishment of an arsenal on Rock Island.

Many citizens of the Rock Island vicinity recognized the positive economic impact an arsenal would have on the development of the area. A committee, comprised of Rock Island County citizens, John Buford, Joseph Knox, Joseph B. Wells, John Morse and George Mixter, drafted an appeal to President John Tyler in the early 1840s to select Rock Island as the site for the new arsenal. The committee reminded the President that the selection of Rock Island would eliminate the need to purchase a site. Another argument presented by the committee included the ease by which arms could be supplied to the West from Rock Island via the Mississippi River and its tributaries. In addition, the appeal cited the rich mineral regions near Rock Island and the vast water power available at Rock Island.⁴⁷

Left: Jefferson Davis, Secretary of War, 1853-1857, used the authority of his office first as Senator then as War Secretary to block the sale of Rock Island. (AMCCOM-HO Archives)

Right: Dred Scott, slave and household servant of Dr. John Emerson, accompanied the doctor, an army surgeon, to Rock Island in 1833. Years later, Dred Scott became involved in a legal battle for his freedom which reached the U.S. Supreme Court. In its famous "Dred Scott Decision" of 1857, the U.S. Supreme Court declared that Scott and other Negro slaves were not citizens of the U.S., and therefore, not entitled to sue in court for their freedom. (AMCCOM-HO Archives)



Several prominent politicians in Washington, D.C., also supported the view that Rock Island should be kept in reserve and not offered for public sale. The staunchest of these supporters was Jefferson Davis. First as a Senator in 1850, and four years later, as the Secretary of War, Jefferson Davis used the authority of his office to block the sale of Rock Island. In an 1854 response to a congressional request for his views regarding the sale of the island, War Secretary Davis outlined his department's plan for Rock Island.

I have the honor to acknowledge the receipt of your letter...asking the views of this Department as to the expediency of selling the military reservation at Fort Armstrong, on Rock Island, Illinois, as contemplated by Senate bill No. 195. The water power available at that place, and the communication by water and by railroads projected or in course of construction, concur with other circumstances in rendering Rock Island one of the most advantageous

sites in the whole western country for an armory or an arsenal of construction for the manufacture of wagons, clothing, or other military supplies. . . . Any act that may pass to authorize the sale of (the island) should, I think, leave to the (War) Department full power to retain whatever of the reservation may be found useful and proper for the contemplated works, for which it is hoped that Congress will at some future day make the necessary appropriation.⁴⁸

Ironically, less than a decade later, Jefferson Davis had become President of the Confederate States of America; Congress had appropriated funds for the establishment of an arsenal at Rock Island; and the Union Quartermaster Corps had constructed on Rock Island a prison barracks for the detention of captured confederate soldiers during the Civil War.

Despite Jefferson Davis' success in preventing the sale of Rock Island, private encroachment continued. By 1854, private citizens, in disregard

Below: *David B. Sears' 1850s Mississippi Mills on Rock Island, along the northeast opposite Benham's Island. (cartouche from 1857 map of Moline) (Rock Island County Historical Society)*



to government objections, erected a variety of buildings on Rock Island. These citizens did not fit the stereo-typed "dirt poor" pioneer squatter found in contemporary literature and films. Instead, many of the "squatters" on Rock Island were successful businessmen. They operated on the island several saw mills, a sash and blind factory, a chair factory, a wooden tub and pail plant, two shingle shops, two warehouses, a number of stables, and several lumberyards. A few railroad shanties, a dozen or so homes, and other lesser buildings were also on Rock Island. Several of these island businessmen became prominent citizens of the local area. They included David B. Sears, Spencer H. White, and John W. Spencer, owners of a brush dam built in 1841 across Sylvan Slough which connected Rock Island to the Illinois mainland. The three dam owners laid out a town on the Illinois mainland opposite the upper end of Rock Island. Initially, they named the town site Rock Island Mills. However, there were already numerous communities, a river, and an island with similar Rock Island names. Therefore, David B. Sears

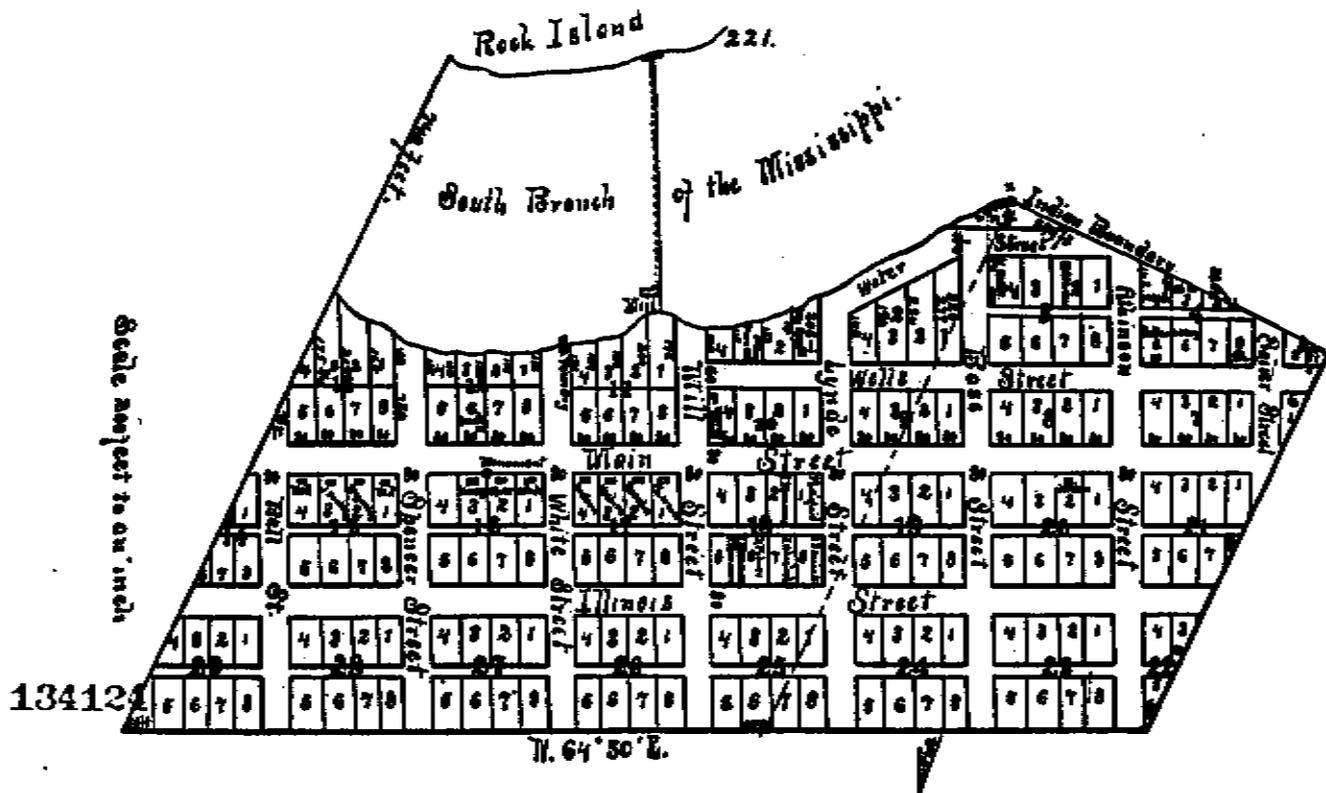
and the others joined with Huntington Wells, Charles Atkinson, and Joel Wells in plotting out a larger town in 1843, naming it Moline.

David B. Sears, DeWitt Dimock, and John Gould - Early Entrepreneurs

In 1855, David Sears purchased title to Benham's Island, situated near the upper or eastern portion of the larger island of Rock Island. Earlier, in 1846, he had built a stone wall dam which connected Benham's island with Rock Island. The dam furnished water power to Sear's flour mill on Benham's Island and to several businesses on the main island. In addition to the mill, a house with barn, outbuildings, three warehouses, and a steamboat landing were built by David Sears on Benham's Island. A road built between the two dams formed part of a wagon route that stretched from Moline, across the dam at Benham's Island, to the steamboat landing. From this steamboat landing, wagons were ferried across the Mississippi River to the Iowa

Below: Reproduction of original Moline survey plat by P.H. Ogilvie in 1843. Note the dam across Sylvan Slough to Rock Island and the notation of the Sears Mill at the southern end. (AMCCOM-HO Archives)

Reproduction of Original Moline Survey Plat



This is a reproduction of P.H. Ogilvie's original survey for the town of Moline, which was made in 1843.

shore.

The Sears' mills and dams built at Rock Island attracted other businesses to Rock Island. The waterpower available at Rock Island brought commerce to the island. In 1847, Sears persuaded John Deere and his partners, Robert N. Tate and John Gould, to resettle in Moline along the shore of the Sylvan Slough. He did this by offering Deere and Associates rent-free waterpower for a period of time, and also promising he would build them a frame factory if they would relocate their plow shop from Grand Detour, Illinois, to Moline.

David B. Sears and other citizens who held property on Rock Island without legal authority maintained extended correspondence with legislators in Washington, D.C., in an effort to obtain titles to the properties. Only the persistence of Colonel George Davenport and David B. Sears paid off. They were the only

ones to receive legal title to property on Rock Island. As with the case of Colonel Davenport, David Sears received title to the 35.45 acres of land on Rock Island opposite Benham's Island through a special act of Congress. Influential politicians had aided both Sears and Colonel Davenport. In 1855, David B. Sears succeeded through the special act of Congress to purchase 35.45 acres of island property for \$1.25 an acre; the same price per acre that Colonel Davenport paid for his 158 acres in 1844.

Mr. Sears, an enterprising man, laid out a portion of his island property in lots. He planned to develop it as a subdivision to the city of Moline. Although David Sears sold a few lots to his Rock Island Village, the village never developed, and Mr. Sears sold the property back to the Federal Government for \$145,175. The price reflected improvements he had made on his property.

Top Right: DeWitt C. Dimock, (Moline Public Library)

Bottom Right: John M. Gould. The two partners operated a woodware factory on Rock Island, 1852-1857. Dimock, Gould and Company continued its lumber business for over a century in Moline, IL. (Moline Public Library)

Bottom Left: Expansion of Dimock & Gould was announced by this advertisement in the Fleming and Torrey city directory of Moline for 1856-1857. (Moline Public Library)



DIMOCK & GOULD.
MANUFACTURERS OF
TUBS, PAILS,
AND BEDSTEADS;
ALSO, ALL KINDS OF TURNED STUFF.
Have doubled their machinery since last year.

■ ■ ■

Expansion of Dimock & Gould was announced by this advertisement in the Fleming and Torrey city directory of Moline for 1856-1857.



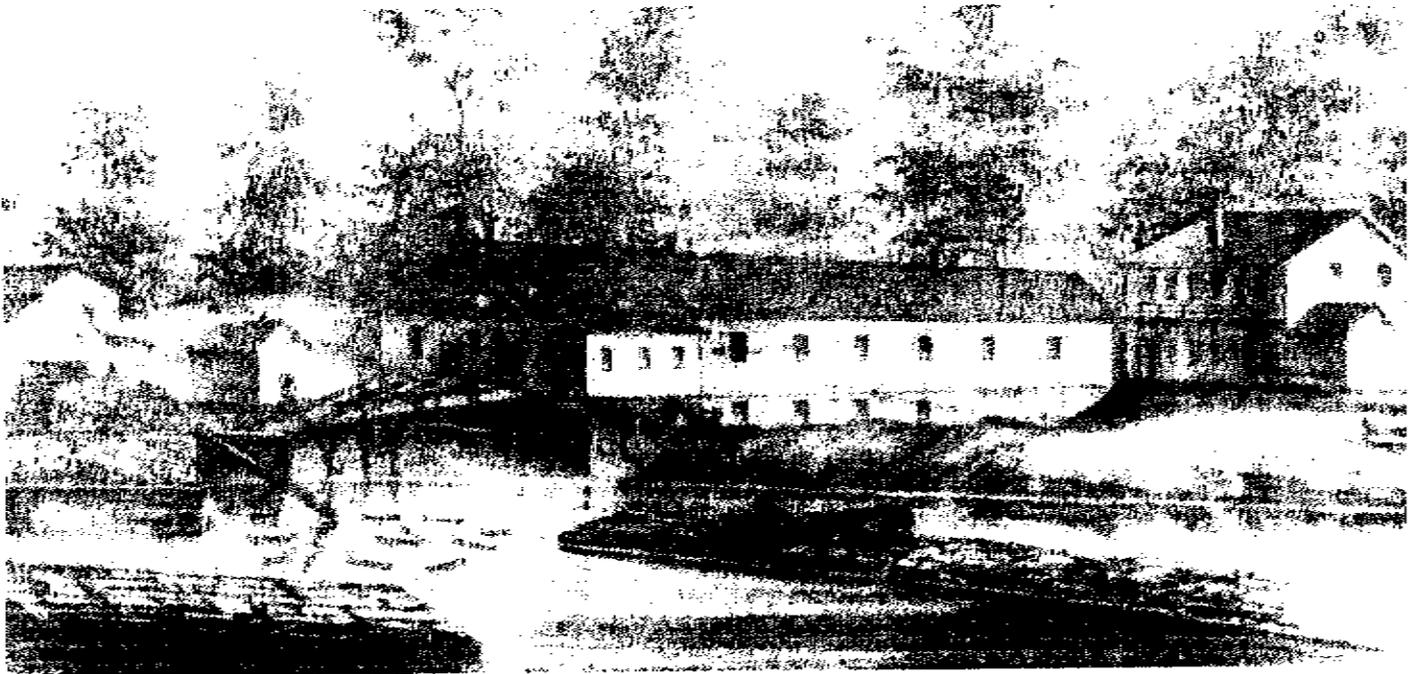
Dimock, Gould and Company

Shortly after John Deere and Robert N. Tate moved their plow shop from Grand Detour to Moline, the two partners invited John Gould, an accountant from Grand Detour, to buy into their plow business. In November 1851, Mr. Gould sold his interest in the company to John Deere for \$2,600. John Gould then formed a partnership with his brother-in-law, DeWitt Dimock. In 1852, they opened a woodenware business on Rock Island named Dimock, Gould and Company. The two partners selected the island as a site for their business in order to take advantage of the waterpower and to be closer to the lumberyards on the island. DeWitt Dimock had earlier, in 1846, established a bedstead factory on Rock Island; but, in 1852, he sold his factory and joined John Gould in forming their wooden tub and pail factory on the island. Their printed business cards read: "Dimock and Gould manufacturers of wooden tubs, pails, bedsteads, and all kinds of (wooded) turned stuff."⁴⁹

Dimock, Gould and Company's woodenware factory was the first of its kind in the local area.

Prior to 1852, woodenware was shipped into the area from the East at great expense. DeWitt Dimock employed the latest technology in his plant. He instituted the assembly line system, and mass production methods, and relied heavily upon machinery to do practically everything but fasten rivets and paint the products. However, in 1856, a fire destroyed the factory; but, by the following year, Dimock and Gould had built another on the island. After the old brush dam road was washed out due to a flood, Dimock, Gould and Company replaced the road with a wooden bridge that spanned the slough from Moline to the island. Later, the Federal Government replaced the bridge with a stronger one, constructed in 1873. During the Civil War, Dimock and Gould found an excellent customer for their products right on the island. The woodenware company provided wooden barrels, tubs, pails, and other wooden products for the Rock Island Prison Barracks. Later, wooden buckets, pails, barrels, etc., were replaced by galvanized (coated with rust-resistant zinc)

Below: *Dimock, Gould and Company's Tub and Pail Factory on Rock Island. The island factory was located near the dam which crossed the Sylvan Slough to Moline, Illinois. Cartouche from 1857 map of Moline. (Rock Island County Historical Society.)*



metal products. In 1862, when Congress passed an act establishing a national arsenal at Rock Island, Dimock, Gould and Company, plus several other parties who had received grants for temporary property leases, were notified by the War Department to leave the island. By 1867, it became evident to the two partners that they were not going to receive a permanent title to the property which they had developed on Rock Island. Neither Dimock or Gould submitted a claim for monetary settlement to the federal commission that handled the final settlement proceedings. Instead, however, the firm packed its equipment and reestablished itself at a new location on the Moline side of the Mississippi River. It was at this new location that Dimock, Gould and Company developed their famous paper pail. Dimock, Gould and Company outlasted its founders. For over a century, the company which the two brothers-in-law initially started on Rock Island continued to operate in Moline and the surrounding communities.

The presence of squatters on Rock Island, however, had a negative effect on the island.

They damaged Rock Island's timber by cutting and stealing the wood. Joseph M. Street, U.S. Indian agent for the Sauk and Fox Indians after the Black Hawk War, notified the War Department that the island, though once well-timbered, had been nearly cleared of its original growth by the public. The squatters destroyed young and old trees and also took possession of favored spots of land on the island. After being informed regarding the squatters and wood stealing at Rock Island, President Martin Van Buren issued a statement instructing the marshal to remove the squatters from the military reservation at Rock Island and, if necessary, to take additional legal steps against the trespassers. Nevertheless, the U.S. marshals and other civil officers were, for the most part, ineffective in their attempts to remove the offenders. In addition to squatters cutting clearings in the island's timber; and other trespassers piffing wood for fuel, railroad workers in 1853 began clearing a 100 foot wide path across the island in preparation for laying track.

Below: View of first bridge from Rock Island to Davenport, railroad bridge built 1853-1856. Note the suspension chains added in 1859 to reinforce the fixed wooden spans. (AMCCOM-HO Archives)



First Bridge Across the Mississippi River

Plans for a transcontinental railroad had long been a dream of railroad men in America. But, before the dream could be a reality, major obstacles had to be overcome. Several of these obstacles were man-made, such as the right of each state government to grant charters and to regulate railroad construction within the boundaries. Southern politicians attempted to block the advancement of the northern rail route across the United States. Northern Congressmen, in turn, were successful in vetoing a southern rail route to the Pacific Coast. In 1853, Jefferson Davis, Secretary of War in the pro-southern administration of President Franklin Pierce, arranged to buy the Gadsden Purchase from Mexico. This strip of 30,000 square miles in New Mexico and Arizona provided the missing link in a proposed New Orleans-to-San Diego railroad. Davis, smarting from the congressional defeat of a southern rail route to the Pacific Coast, was extremely active in delaying the northern route to California.

A proposed Chicago-to-San Francisco rail route crossed the Mississippi River at Rock Island, an island under control of the War Department. Secretary of War Davis attempted to halt construction by involving the bridge company in litigation over the company's right-of-way across the island.

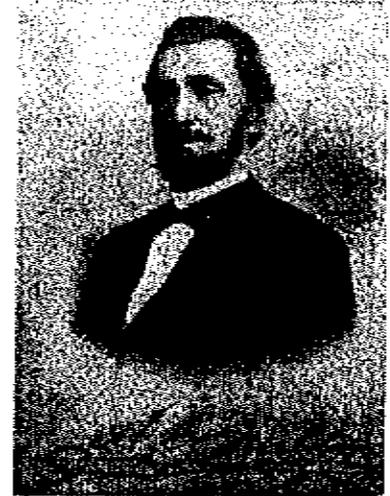
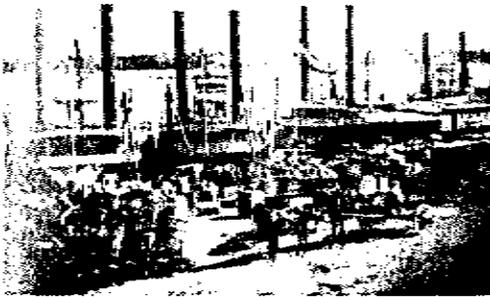
Other interests, besides southern politicians and southern railroad men, were against the building of a rail route across the heartland of America. Steamboat and river town interests perceived the railroad as a threat to their inland waterway commerce. The Mississippi River and its tributaries provided a natural north-south trade route for the Midwest's agricultural products and raw materials. St. Louis became the clearing-house for such trade. From St. Louis, merchants shipped trade goods up the Ohio River to Pittsburgh or transported the cargo down river to New Orleans.

The arrival of the railroad on the east bank of the Mississippi River at Rock Island, however, offered midwest farmers of Iowa and northern

Below: A view of the St. Louis docks jammed with packets. St. Louis steamboat owners attempted to block construction of the 1856 railroad bridge at Rock Island. (Davenport Public Library)

Right: Bridge advocate A.C. Fulton (Davenport Public Library)

Middle: Judge James Grant, President of the Rock Island and LaSalle Railroad Company. Judge Grant resided in Davenport, Iowa. (Davenport Public Library Special Collections)



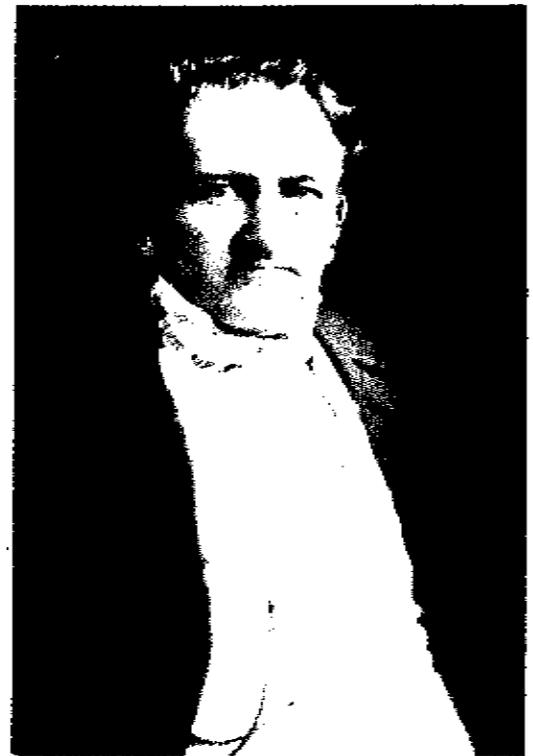
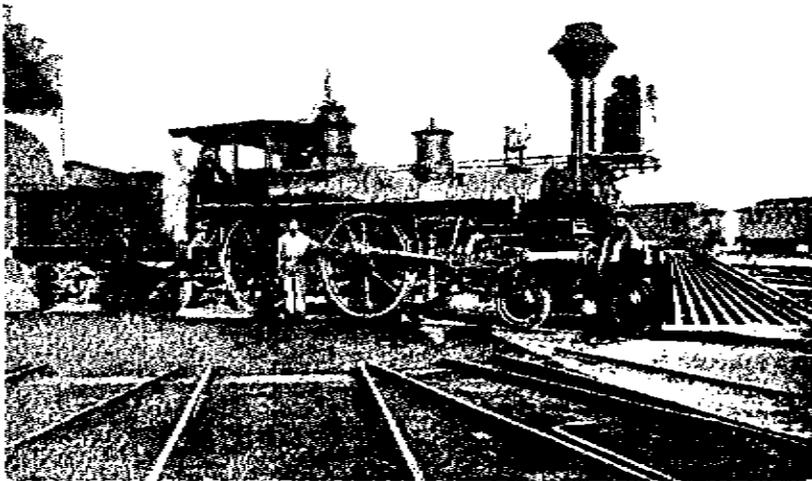
Illinois a direct east-west trade route to Chicago and to urban markets farther east. The St. Louis Chamber of Commerce could see its city being replaced by Chicago as the new "hub of the Midwest". The clash between these two powerful centers of commerce for control of the Midwest's commercial shipping occurred at Rock Island.

It was not by accident that the railroad came to Rock Island. In June 1845, Colonel George Davenport had hosted a meeting at his island estate to discuss bringing a railroad to Rock Island. Prominent citizens from the Rock Island area such as Antoine LeClaire and Judge James Grant attended the meeting. These enterprising men realized the commercial benefits which would result from railroad and bridge construction at Rock Island. Although Colonel Davenport was murdered two weeks after the meeting, others who attended continued to formulate plans to bring a railroad to Rock Island; on 27 February 1847, they succeeded. The Illinois General Assembly granted them a charter to construct a LaSalle-to-Rock Island railroad line.

LaSalle was the community at the end of the Illinois and (Lake) Michigan Canal from where Rock Island and LaSalle Railroad Company began and was initially managed by local tri-city investors. Judge James Grant of Davenport was elected president of the company. Among the directors of the new line were Napoleon B. Buford, Rock Island; Ebenezer Cook, Davenport; and Charles Atkinson, Moline. However, they lacked experience in railroad building so the Rock Island and LaSalle Line developed slowly.⁵⁰

Fortunately, Mr. Henry Farnam, an experienced railroad man and investor, took an interest in the project as an extension of his Michigan and Southern Railroad and got other railroad men to invest in the line. Interest in the line increased sharply after the directors followed Mr. Farnam's suggestion and extended the line east to Chicago. On 1 October 1851, under its new name, the Chicago and Rock Island Railroad Company, began to build westward from Chicago towards Rock Island. As the railroad advanced in the direction of Rock Island, it attracted additional investors. The prospect of linking Chicago and Lake Michigan

Right: Portrait of Henry Farnam, President and Chief Engineer of the Railroad Bridge Company, chartered in 1853. (AMCCOM-HO Archives). **Below:** The John A. Dix, Seventh Engine of the Mississippi and Missouri Railroad. It crossed the river on ice in the winter of 1855. (AMCCOM-HO Archives)



with the Mississippi River appealed to many investors. However, the additional prospect of Rock Island becoming the site for the first bridge to span the Mississippi River certainly sweetened the investment.

For years, Rock Island had been recognized as the best point at which to bridge the Mississippi River. Mr. A.C. Fulton, a noted civil engineer, among others, surveyed the river crossing at Rock Island and endorsed it as the best site for the first bridge. Engineers of the railroad company preferred Rock Island for numerous reasons. The Mississippi River was narrow at that point, and the shores were bedrock. However, the key attraction seemed to be the island of Rock Island. Using the island as a stepping stone to cross the river appealed to the engineers. The bridge's construction would be easier, therefore more economical. Rock Island's location, 180 miles directly west of Chicago, made it less expensive to build than, for instance, the Galena, Illinois area.

Ironically, an 1859 study, performed by a board of engineers after the construction of the first bridge, cited the location as a poor choice.

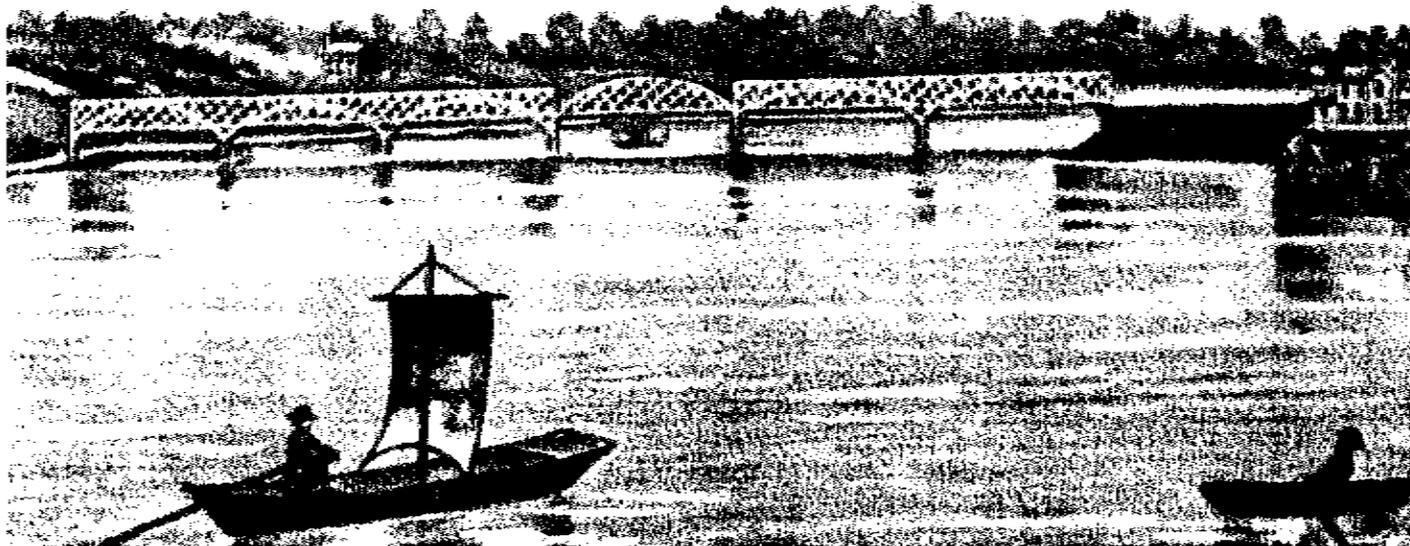
Notations on a map prepared by the engineers to accompany their report to the War Department had "Bad location for a bridge" written beside the original bridge. A better choice was further downstream, at the old ferry crossing from the city of Rock Island to the Davenport levee. Two main criticisms of the bridge's original site were that it was too near the rapids, and that its draw span did not line up with the current of the main channel.⁵¹

The M & M Bridge Company

Three corporations had to be formed in order to build a railroad that would span the Mississippi River at Rock Island. The Chicago & Rock Island (C&RI) Railroad Company's charter only applied to constructing a railroad within the boundaries of the state of Illinois. Several directors from the C & RI Railroad joined with a group of Iowa investors to organize the Mississippi and Missouri (M&M) Railroad Company.

The M&M Railroad Company's charter empowered them to construct a railroad from Davenport, Iowa, on the west banks of the

Below: *The original Rock Island to Davenport bridge had a Howe-Truss superstructure. This first railroad bridge across the Mississippi River was constructed of five wooden spans plus a draw span. The single tracked railroad bridge was painted with two coats of white paint. (AMCCOM-HO Archives)*



Mississippi River, to Council Bluffs, Iowa, situated on the east banks of the Missouri River.

The C&R Railroad and the M&M Railroad formed a subsidiary firm named the M&M Bridge Company. The bridge company had interlocking directors from the two railroad firms as officers. The officers of the two companies agreed to cooperate in building a bridge across the Mississippi River and to jointly finance the project. In January 1853, the M&M Bridge Company acquired a charter from the state of Illinois to construct a railroad bridge across the Mississippi River to the Iowa side. The two railroad lines that composed what was, in reality, one railroad were later allowed to merge. The Chicago & Rock Island track was completed in 1854. The Mississippi & Missouri Railroad, organized in 1853, finished its route from Davenport to Council Bluffs in 1869. By then the company had become the Chicago, Rock Island, and Pacific Railroad Company.

The bridging of the Mississippi River required three phases: first, the construction of a span across Sylvan Slough (southern channel) to

Rock Island; second, the laying of a railroad bed in a northeast direction across the island, past Colonel Davenport's property, to the north shore of the island; and third, constructing the bridge over the main or northern channel.

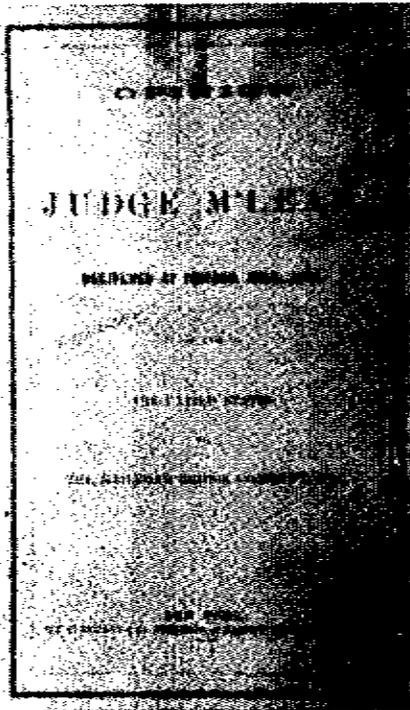
The Act of 1852 granted rights-of-way through public lands to railroads and road building companies, and the M&M Bridge Company directors assumed that Rock Island was public land and proceeded to survey the river and the island. The island's status, however, seemed uncertain at that time because of past announcements and rumors of its sale.

Description of the Bridge

The company went ahead and hired two private contractors to build the bridge at Rock Island. The John Warner Co., a local firm, received a contract to construct the piers and establish the grade for the railroad bed across the island. Stone & Boomer Co., of Chicago, constructed the superstructure of the bridge using specially fabricated Howe Truss-type spans.⁵²

Below: The cover of Judge John McLean's written opinion delivered July 1855, in the case of the United States, vs. the Railroad Bridge Company, et. al. (Augustana College Special Collections)

Right: Rock Island wagon bridge that provided access to the island from the city of Rock Island, across Sylvan Slough. (Moline Public Library Local History Collections)



Description of the Original Bridge

The original bridge had a Howe Truss-type superstructure with a single track. The superstructure was constructed of timber and consisted of five wooden spans, plus a draw span. Its draw span, the heaviest and largest of its time, was located in the middle of the river. The timber cords of the bridge were protected with two coats of white paint. The bridging of the Mississippi was a major technological achievement. Nothing of that size or status had yet been constructed in the area.

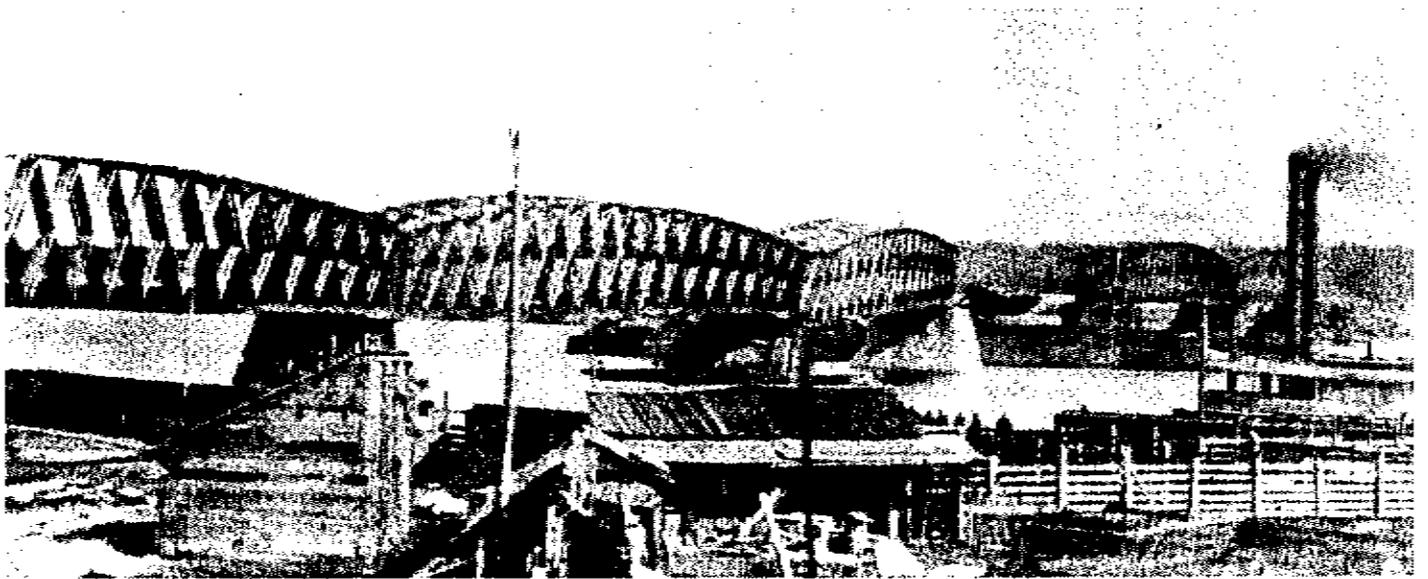
United States vs. Railroad Bridge Company, et al (and others)

By June 1854, the John Warner Company had the stone abutments in place on both sides of Rock Island, plus the stone piers in the south channel (Sylvan Slough) finished. At this point in the bridge's construction, an officer from Washington, accompanied by two U.S. marshals, appeared at Rock Island: On behalf of the Secretary of War, the officer notified the contractors that they were trespassing on federal

property. The officer then instructed the contractors to halt their work and remove all their buildings and other property from Rock Island within 15 days. Directors of the M & M Bridge Company decided to ignore the order. They ordered the contractors to continue their work on Rock Island. Construction work did continue but at a slow pace because of the uncertainty of the situation. Railroad and bridge interests considered Rock Island to be public land, since there was no military presence on the island. They hoped that the Act of 1852 would substantiate their claim to a right-of-way for construction of a railroad across the island.

After lengthy legal correspondence between the War Department and the railroad, Secretary of War Jefferson Davis ordered the U.S. District Attorney in northern Illinois to begin litigation against the M & M Bridge Company. The district attorney applied for a court injunction to prevent the construction of a railroad across the island and also to prevent building of bridges over the river. In its suit, the government charged the bridge company with trespassing on federal property and with obstructing river navigation.

Below: The second Rock Island to Davenport bridge, shown below, was damaged in the Spring of 1868 after ice moved a pier and wind blew the swing span into the water. (AMCCOM-HO Archives)



In July 1855, the case, titled "The United States vs. Railroad Bridge Company, et al., (and others)," came before the United States Circuit Court. Judge John McLean, an Associate Justice of the Supreme Court, presided over the case. After listening to testimony from both parties, Judge McLean ruled against granting an injunction sought by the War Department. The judge cited the Congressional Act of 1852 as part of his reasons for refusing to grant the United States Government its application.

Influx of Squatters on Rock Island

Judge John McLean's decision to reject the government's request for an injunction to halt bridge and railroad construction on Rock Island had an impact on another issue, that being whether or not Rock Island would be open to civilian settlement, or reserved for a future military purpose. Settlers interpreted the judge's ruling to mean the island would soon be offered for public sale.

For years a cloud of uncertainty in regard to Rock Island's future hung over the island. The Secretary of War's Office had argued with

Congress and squatters alike over the future of Rock Island. Finally, in 1848, Secretary of War, William March offered the island property for sale at public auction. He succumbed to pressures applied by persistent squatters and influential land speculators. Curiously, no announcements of the auction date appeared in the local Rock Island area. Only after someone "spotted" an advertisement announcing 5 January 1850 as the day of the auction did area citizens become aware of the plan. Local residents feared the sale was a scheme, whereby St. Louis and New York land speculators could acquire title to the land they held on Rock Island.

Not all area residents favored civilian development of Rock Island. Many local people supported the building of a national armory on Rock Island. These local citizens immediately wrote their congressmen and sent a spokesman to Washington, D.C., to protect the sale and promote their cause. The hostile mood of some of the local citizens prevented the sale. Squatters, who occupied land on Rock Island without legal title, posted warning that any bidding by outsiders on their claims would be at

Below: Abraham Lincoln during his days as an attorney in Illinois. (Illinois State Historical Society).



their own peril. After being alerted to the potentially volatile situation at Rock Island, officials in Washington telegraphed the auctioneer to postpone the sale. Private parties who had an interest in the private commercial development of Rock Island organized and hired several attorneys to present their case in court. Abraham Lincoln was one of those attorneys who unsuccessfully attempted to win title claims for some of the squatters.

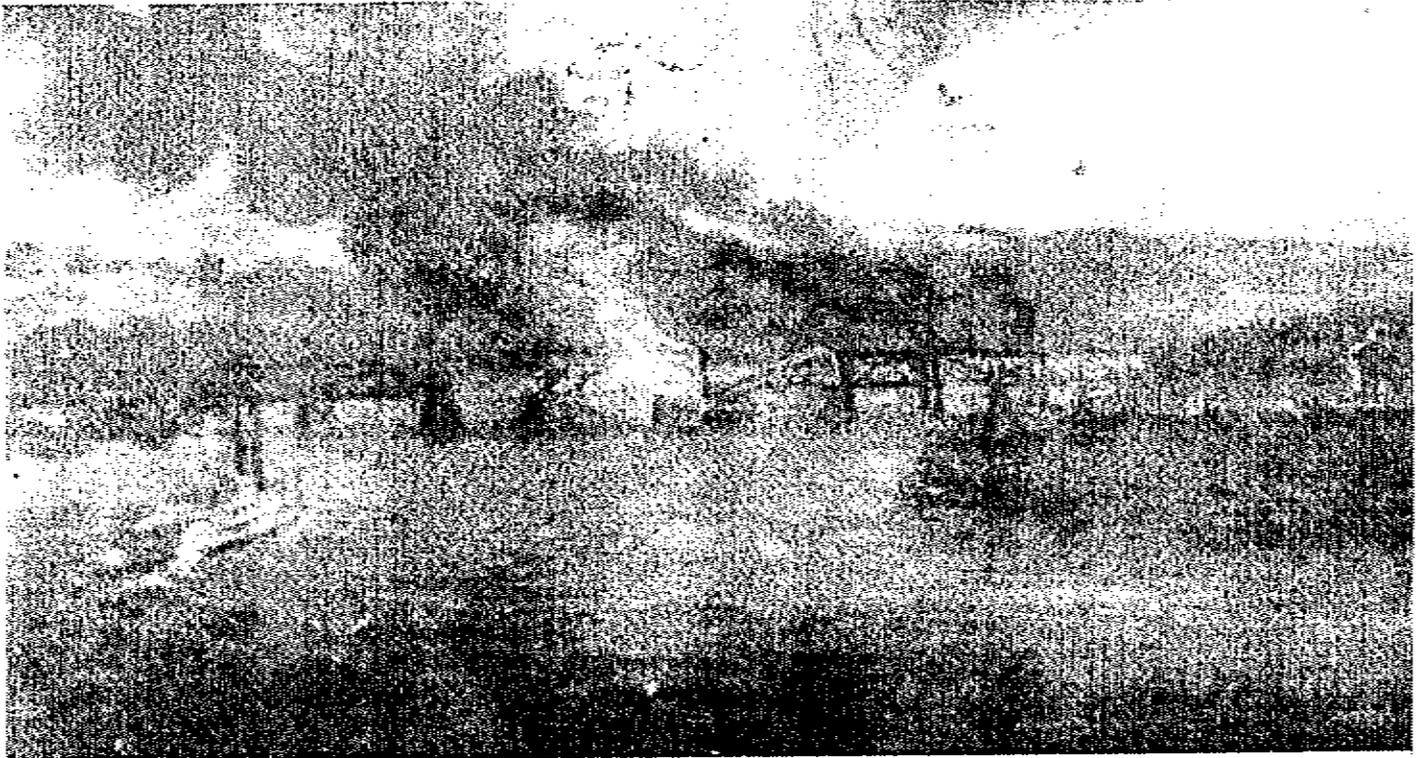
With this past history in mind, and with news of Judge McLeans's decision allowing the railroad and the bridge to be constructed across and on Rock Island, squatters converged on the island. The number of applications for preemption to Rock Island property filed with the Register of the General Land Office in Springfield rose sharply after McLean's decision was announced. Squatters literally flocked to Rock Island and staked out their claims. Quarrels developed over which party was occupying which quartersection. Major D.W. Flagler stated in his work, *History of the Rock Island Arsenal*, that "one man, Mr. Shaub of Davenport, who had a

house near the present site of the commanding officers quarters, had his house torn down, loaded on a raft, set on fire, and sent downstream."⁵³

From the late 1850s until the beginning of the Civil War in 1861, squatters on Rock Island continued to seek legal confirmation of their preemption claims to land on the island. However, when the Civil War began, the attentions of the squatters and the nation turned to the more urgent issue of preserving the Union. A majority of the private parties who had occupied land on Rock Island relinquished their preemption claims when Congress passed an act establishing a national arsenal on Rock Island. Others agreed to vacate the island once the Federal Government actually began occupying the island. Eventually, the Federal Government established a commission to hear and settle monetary claims filed by certain squatters.

However, prior to the establishment of an arsenal at Rock Island, The Rock Island Bridge Company was involved in yet another landmark court case. The railroad bridge at Rock Island

Below: Effie Afton incident (Artist unknown). On 6 May 1856, the steamer Effie Afton crashed into the recently constructed railroad bridge at Rock Island, setting it afire. (Rock Island County Historical Society)



enhanced the island's attractiveness to Congress as a potential site for a national arsenal. First, the bridge company had to survive a court battle waged by commercial steamboat interests.

Effie Afton Incident

The railroad arrived on the eastern bank of the Mississippi River in the midst of the steamboat's golden era. Transportation of the upper Mississippi River Valley was controlled exclusively by St. Louis steamboat interests until the railroad's arrival. Steamboat owners watched developments at the bridge and waited anxiously for an opportunity to confront the railroad and bridge builders in court. They considered the bridge at Rock Island to be a threat to their packet and ferry business, which operated on the upper Mississippi River.

On 22 April 1856, the first locomotive to span the Mississippi River crossed the railroad bridge at Rock Island. Two weeks later, the incident that the steamboat owners had hoped for occurred. On 6 May 1856, the steamboat *Effie Afton* departed the town of Rock Island bound for St. Paul, Minnesota. As the steamer entered

the main channel of the river, she collided with a ferryboat. Receiving only slight damage, the *Effie Afton* proceeded through the bridge's drawspan. Once the vessel had cleared the span her side paddle stopped churning. The swift current of the upper rapids carried the ill-fated *Effie Afton* crashing back against the railroad bridge. Shortly after the crash, nearby boats rescued the passengers, some luggage, and the boat's crew. While the *Effie Afton* laid against the bridge, a fire ignited the boat and spread onto the bridge, burning portions of the bridge's wooden superstructure. Newspaper articles of the incident stated that the steamboats along the shore blew their whistles, some as a warning to other boats traveling the river, and others as an act of celebration.

Mr. James Hurd and Associates, owners of the *Effie Afton*, filed a lawsuit against the bridge company for damages. Steamboat owners hoped that this test case would hinder other bridge building ventures along the Mississippi River Valley. They believed a favorable verdict would discourage investors from financing future bridge building on the Mississippi River.

Below: In 1865, the railroad bridge at Rock Island was completely rebuilt using heavier timber. This second superstructure was replaced by an iron double deck bridge, when the location of the bridge was changed to its present site in 1872. (AMCCOM-HO Archives)



Officially, the case was titled "Hurd et al., (and others) vs. the Railroad Bridge Company", but it became popularly known as the "Effie Afton Case". The Hurd lawsuit came to trial in Chicago before the federal district for northern Illinois. The presiding officer was Judge John McLean, who had earlier ruled against the Federal Government's request for an injunction to halt railroad and bridge building operations across Rock Island. The M & M Bridge Company obtained Abraham Lincoln who argued the case. The plaintiffs, Mr. Hurd and Associates, solicited two prominent midwest lawyers, H.M. Wead and T.D. Lincoln, to argue their cases. The two Lincolns, however, were not related. Abe Lincoln, then a young, rising Springfield attorney, had been generally credited with winning the case. However, court records show the trial actually ended in a hung jury; nine jurors stood in favor of the bridge, and three members of the jury opposed the structure. Legally, the case was subject to retrial, but the steamboat interests decided to submit another case to a different federal court.

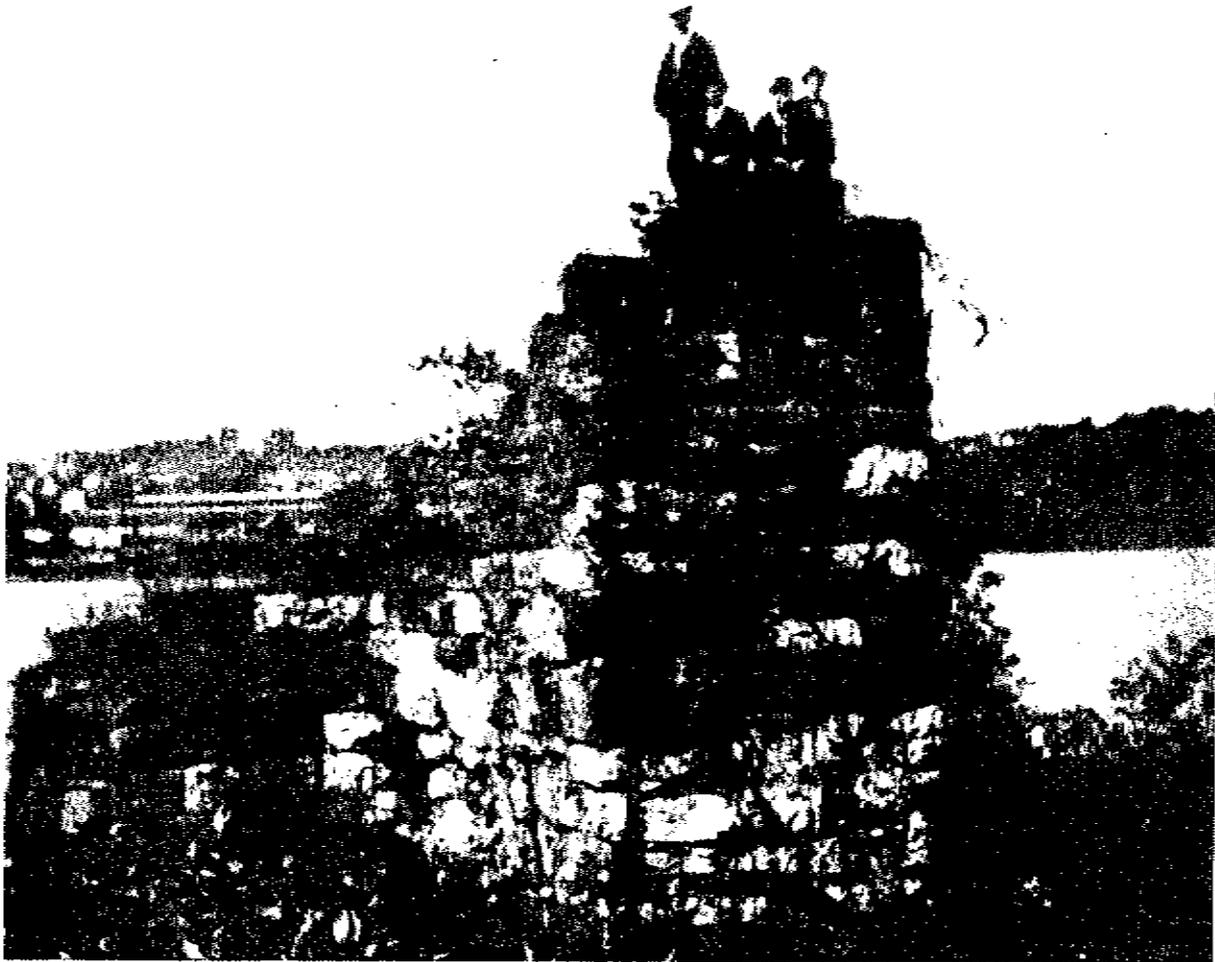
On 7 May 1859, the steamboat attorneys filed

a suit against the M & M Bridge Company in the U.S. District Court in southeast Iowa. The objective of this suit was to have the federal court declare the bridge at Rock Island to be a public nuisance and to receive a court order for its removal. Judge John M. Love ruled in favor of James Ward, a St. Louis steamboat owner. Judge Love declared the bridge a nuisance and ordered those portions of the bridge which extended into Iowa be removed. The M & M Bridge Company promptly appealed the decision to the U.S. Supreme Court. In December 1862, the highest court in the land set aside the lower court decision and nullified the order.

Still, steamboat owners continued to harass the bridge builders with law suits until the U.S. Congress passed a law declaring a similar type of bridge at Clinton, Iowa, to be a legal structure. After this congressional decision, the judge dismissed law suits that were still pending against the bridge.⁵⁴

Both Chicago and St. Louis newspapers, as well as the respective Chambers of Commerce, actively supported their cities' interests during

Below: Pier of the original bridge at Rock Island. (AMCCOM-HO Archives)



the trials. The St. Louis Chamber of Commerce took an especially active interest in the trials. St. Louis businessmen actively raised money for lawyers' fees and court costs to battle the bridge. In addition, the St. Louis Chamber of Commerce dispatched its own committee to Chicago to present its arguments to the public during the *Effie Afton* trial.

The St. Louis Chamber of Commerce's strong commitment to removing the bridge at Rock Island may have led some of its members to use criminal means in accomplishing this objective. Two men were arrested at Rock Island and charged with attempted arson of the railroad bridge at Rock Island. Although the two were not convicted, it was generally believed by tricity residents that they had been recruited by the St. Louis Chamber of Commerce to set the bridge on fire.⁵⁵

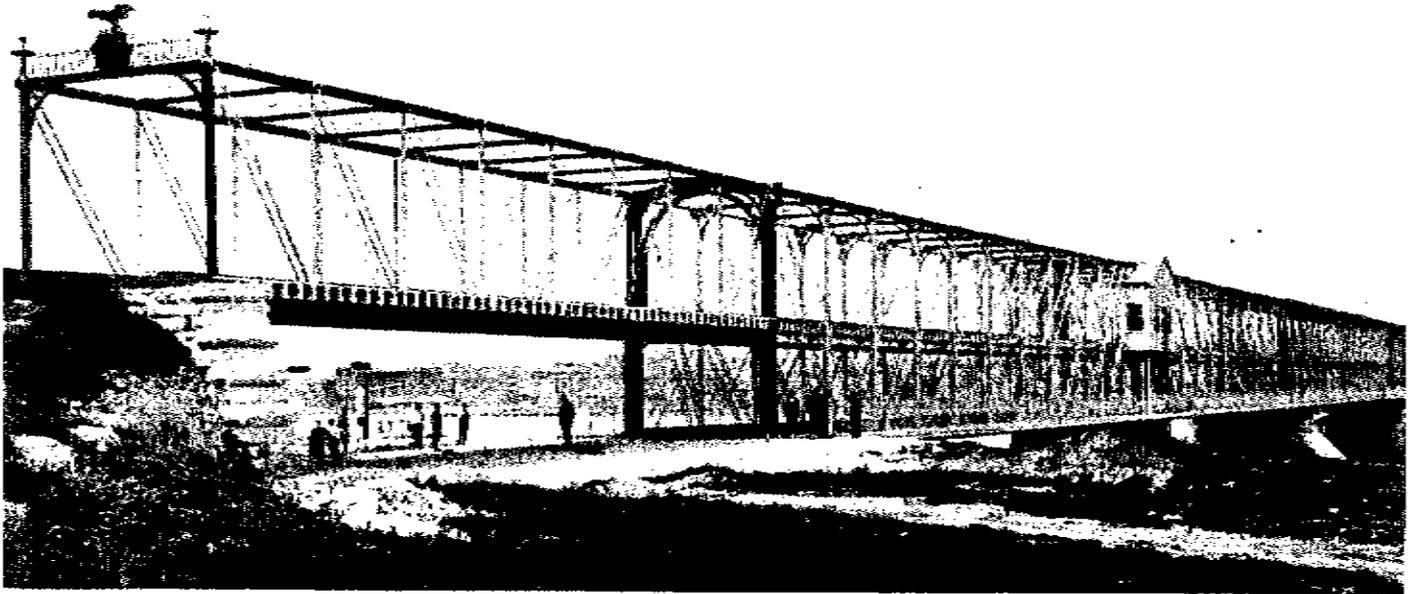
Despite these efforts to remove the bridge, the

structure endured. The first bridge superstructure lasted for nearly ten years. During the 1850s, portions of its timbers were destroyed by fire and damaged by ice jams and windstorms. After only three years, the bridge's wooden spans needed strengthening due to the volume of trains and vehicles that used the bridge. More powerful, heavier, stronger spans were needed to support this additional weight.

Eventually, in 1865, the bridge company completely rebuilt the bridge using heavier timber. The new span was constructed over and around the old chords, then the original timbers were removed. This procedure allowed the bridge to remain open during the building of the new span.

A stone memorial commemorating the site of the original railroad bridge across the Mississippi River is presently situated near the

Below: *The Government Bridge of 1872 was made of iron with a rail deck above the wagon deck. It was situated in the present location of the Government Bridge to Davenport, Iowa. (AMCCOM-HO Archives)*



Colonel Davenport House, along the northwest shore of the island.

In 1866, the Federal Government proposed to the M & M Bridge Company that the location of the bridge be changed to its present site. The government offered to share the expense of building the new bridge. Brigadier General Thomas J. Rodman, the second Commanding Officer of the Rock Island Arsenal, drafted the plan which satisfied the requirements of both the railroad company and the United States Government. The railroad company agreed to give up its old right-of-way across Rock Island and remove its track and bridges in exchange for a new bridge, which would be built at the extreme west end of the island. The railroad tracks across the island were relocated to allow the arsenal to fully develop the interior of Rock Island. Also, the tracks were connected to an arsenal trackage. The bridge was finally completed and turned over to the Rock Island Arsenal in February 1873. General Rodman's commitment to the relocation of the rail tracks and the construction of a new bridge at the northwest end of the island was a key to the success of the project. In 1869, General Rodman

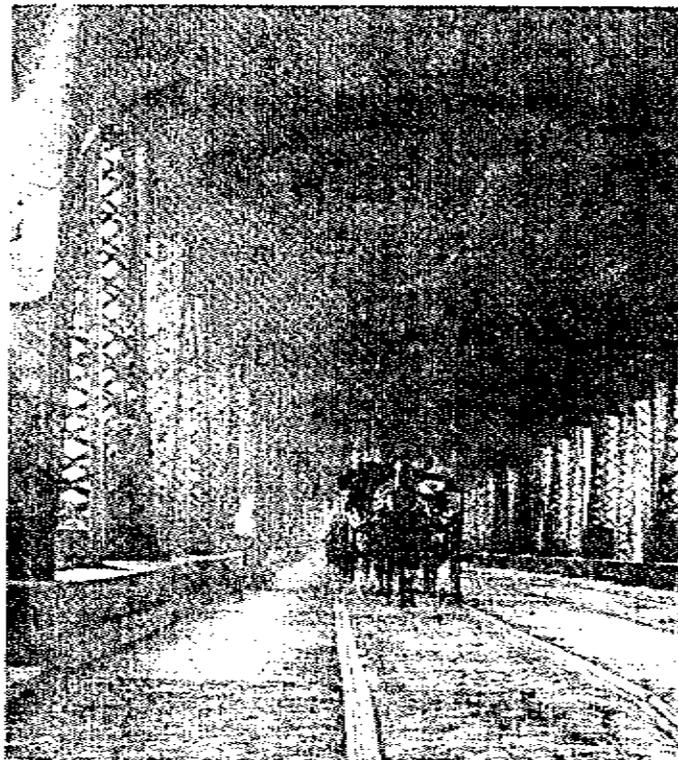
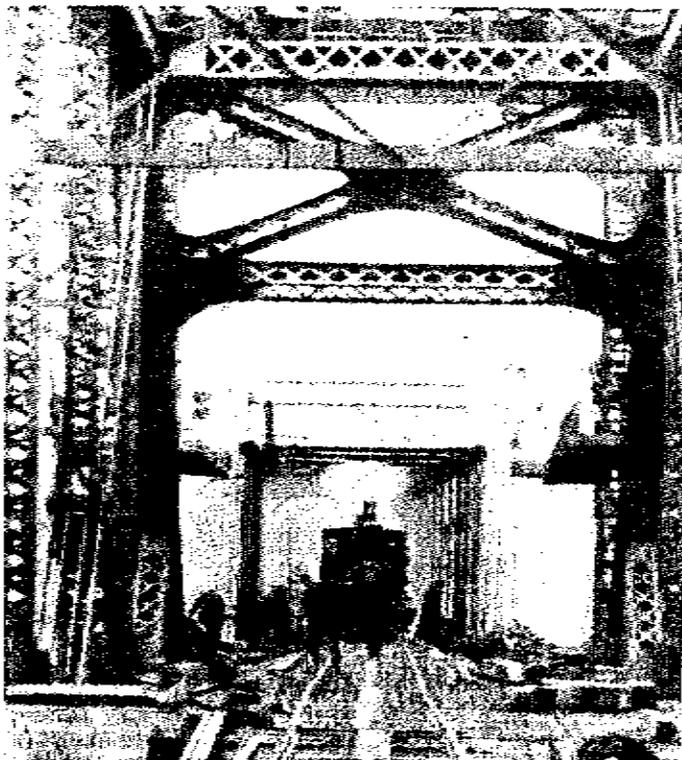
ordered surveys of the Mississippi riverbed and measurements of the river current velocity at various stages. He then determined the sites for the bridge abutments and piers. Letters written by General Rodman to his superiors reveal the energy and thought he had put into the bridge project.

Initially, the bridge was to be a double track bridge with an extra deck for wagons. However, estimated costs for such a bridge exceeded congressional appropriations. General Rodman carried on a lengthy correspondence with the Chief of Ordnance and the Secretary of War seeking the additional funds necessary to build the bridge. Unfortunately his persistence led to the transfer of the bridge construction to the Engineering Department. Major Daniel Flügler, his successor as Commanding Officer of the Rock Island Arsenal, stated: "General Rodman was deeply interested, and took great pride in his work, and its (bridge construction) transfer to other offices was a serious blow to him."

General Rodman remained interested in the bridge after its transfer to the engineers. Periodically, he recommended changes in its construction. His suggestions included such

Below: The 1896 U.S. Government Bridge's upper (railroad) deck. (AMCCOM-HO Archives)

Right: The lower (wagon) deck of the 1896 bridge; note the street car tracks used by horse carriages. (AMCCOM-HO Archives)



basic revisions as the placing of the wagon road deck under the railroad tracks, rather than above it, as initially planned.⁵⁶

Description of the 1872 Bridge

The 1872 iron bridge which connected Arsenal Island to Davenport measured slightly over 1,500 feet in length.⁵⁷ The bridge had five spans 220 to 260 feet long, plus a draw span of 368 feet in length. The superstructure of the bridge was a double Whipple truss with two decks. The bridge stood 37 feet and 2 inches tall from the top of the piers to the top bracing. The width of the structure was a narrow 16 feet, considering it was for two way wagon traffic. The posts and the top chords of the bridge were wrought iron and the ties were flat iron bars. The Baltimore Bridge Company erected the superstructure, and the Phoenix Company manufactured the iron work. Two vertical hydraulic jacks, operated by steam power, swung the 368 foot draw span. (For a more detailed description of the 1872 iron bridge consult Chapter V of Major Flagler's *A History of the Rock Island Arsenal*, published in 1877).

U.S. Government Bridge 1896

By the 1890s, locomotives and rail cars had become too large and heavy for the old 1872 iron bridge. A replacement was needed and, in 1895, construction began on a stronger bridge of steel structure, capable of supporting the increasingly heavier traffic. Ralph Modjeski, Chicago, Illinois, was the design engineer for the new bridge. Completed in 1896, the new bridge was constructed on the old piers. Eventually, it accommodated street cars, as well as railroad cars, vehicles, and foot traffic. Known as the Government Bridge, the 1896 bridge is still used today between Arsenal Island and Davenport, Iowa.⁵⁸

Citizen Support for an Arsenal at Rock Island

Area residents periodically campaigned for the establishment of the arsenal at Rock Island. In 1859, the Iowa State Legislature joined the cause by sending a memorial advocating such a plan to the U.S. Congress. A joint resolution of the Iowa State Senate and House of Representatives,

Below: Major H.C. Connelley toured the midwest promoting Rock Island as a site for a new arsenal. Mr. Connelley was a prominent Rock Island attorney. (Rock Island Arsenal Museum) **Right:** Bailey Davenport, as Mayor of Rock Island, actively promoted the island of Rock Island as a site for a national arsenal or armory. (Rock Island Arsenal Museum, Rock Island Arsenal)



approved in 1861, called for the congressional legislators from Iowa to work for the establishment of an arsenal on Rock Island.⁵⁹ During the same year, Governor Yates of Illinois, and other state officials, sent a letter to the Secretary of War encouraging him to support the location of an armory at Rock Island. The destruction of the federal armory at Harper's Ferry by Confederate troops in April 1861 dramatically demonstrated to Congress the need for a replacement site secure from enemy attack.⁶⁰

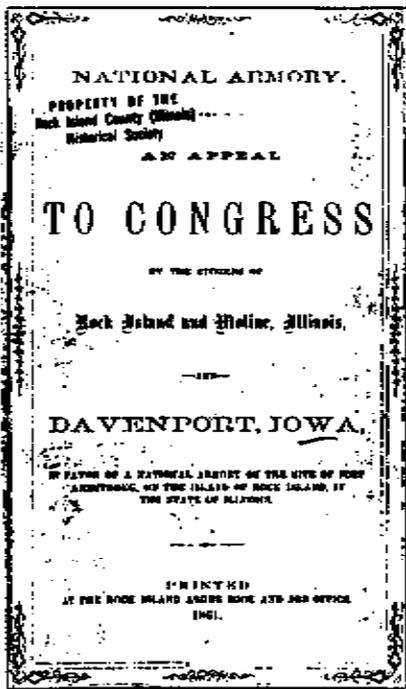
In 1861, Bailey Davenport, son of Colonel George Davenport and mayor of Rock Island, marshalled local support in a well-organized effort to attract congressional votes favoring Rock Island as the replacement site. Local newspapers contributed articles promoting the island as a site for a national arsenal. Mayor Davenport persuaded the Rock Island City Council to appropriate funds for the printing of a promotional pamphlet. The pamphlet stressed the potential waterpower and rich resources found in the upper Mississippi River Valley and nearby regions. It also emphasized Rock Island's strategic location, which made it

relatively impervious from invasion, and its excellent access to river and rail transportation. The pamphlet went on to cite the plentiful supply of inexpensive labor and food found in the Rock Island vicinity. Another argument noted the patriotism of the local citizens. A series of foldout maps of the area were also attached to the pamphlets. The pamphlet was freely distributed to congressmen.⁶¹

A committee of ten men, led by Bailey Davenport, served as the executive committee for the campaign. The committee members came from the tri-cities, with half the representatives from Rock Island, and the remaining five from Davenport, Iowa, and Moline, Illinois. Major H.C. Connelley, a prominent Rock Island attorney, conducted a tour through the Midwest to promote the case in other communities. Committee members also traveled to Washington, D.C., to lobby for the adoption of Senate Bill No. 352, which called for the creation of an arsenal on Rock Island and which had been sponsored by one of the Iowa Senators. James W. Grimes, Illinois Senator, however, favored other locations elsewhere in Illinois, such as Chicago. An amendment to the

Below: A promotional memorial to Congress from interested citizens of the Tri-Cities appealing for the establishment of a national armory at Rock Island. An armory is generally limited to the manufacturing of small arms, while an arsenal includes the production of heavier weapons and equipment.

Right: J.B. Danforth contributed to the cause by publishing pamphlets at the Rock Island Argus Book and Job Office in 1861. (Both photographs are from the Rock Island County Historical Society)



J.B. Danforth

bill reduced the arsenal to a repair and deposit arsenal, rather than a manufacturing arsenal.⁶² Also, the amendment increased the number of arsenal sites to three. These sites were Indianapolis, Indiana; Columbus, Ohio; and Rock Island. The amended bill passed both houses and became law on 11 June 1863.⁶³

The present day Rock Island Arsenal officially recognizes the year 1862 as the beginning date of the arsenal. Congressional approval of the Act of 11 June 1862 set off a chain of events that had considerable impact on the future of Rock Island. Within a year after the Congress had approved the Act of 1862, the U.S. Army had reestablished its military presence on Rock Island. The next year Congress approved the Act of 19 April 1864, which authorized the army to clear the island of all property claims made by private parties and by the local communities. A Board of Commissioners, appointed by the President of the United States, reviewed the more legitimate claims and settled them. By 1868, the U.S. Government had acquired a clear title to the island. These actions provided the necessary space needed for the establishment of a grand national arsenal for manufacturing.

Two separate army commands began constructing on the island that year. The

Ordnance Department broke ground for the first permanent arsenal building in September 1863. The Quartermaster Department, in turn, began erecting a prison barracks for captured Confederate soldiers in August of that same year.

The removal of settlers and squatters from the island and disputes with soldiers assigned to the prison barracks were two conflicts that confronted the first Arsenal Commander, Major C.P. Kingsbury. These and other topics will be examined in Part II of this history.

Present day Rock Island is the "Heart of the Quad Cities" area. Its bridges are the arteries which provide the flow of commerce and people through the local communities. The establishment of an arsenal at Rock Island, rather than the opening of the island to civilian development, has protected the historical landmarks of Arsenal Island from commercial exploitation and encroachment. Today local citizens visit such historic sites as the Colonel George Davenport House and the Confederate Cemetery in a "park like" setting. While operating as a vital manufacturing arsenal for our national defense, the Rock Island Arsenal has been able to maintain the island as a national historic site.

NOTES

¹ Black Hawk, directed to U.S. Interpreter Antoine LeClaire, *Life of MA-KA-TAI-ME-SHE-KIA-KIAK or Black Hawk* (Cincinnati, Ohio: No publisher listed, 1833), reprinted in *Black Hawk, an Autobiography*, Donald Jackson, ed., (University of Illinois Press: Urbana, Illinois, 1964), p. 42-43, hereafter cited as Black Hawk Autobiography.

² Harry Downer, *History of Davenport and Scott County* (S.J. Clarke Publisher, 1910), Vol. I, p. 69. Hereafter referred to as Downer; *The Journals of Zebulon Pike* (University of Oklahoma Press, Norman, Oklahoma, 1966) Volume I, p. 42, hereafter referred to as Pike Journal.

³ Jedediah Morse, *A Report to the Secretary of War of the United States on Indian Affairs* (New Haven, CN: S. Converse et. al., 1822), reprinted by (Scholarly Press, Incorporated, St. Clair Shores, Michigan, 1972), p. 126-127, hereafter cited as Morse Report.

⁴ Louis Phelps Kellogg, *The French Regime in Wisconsin and the Northwest*, (Madison, Wisconsin State Historical Society of Wisconsin, 1925) p. 314-341, hereafter referred to as Kellogg.

⁵ Henry R. Schoolcraft, *Summary Narrative of an Exploratory Expedition to the Sources of the Mississippi River, in 1820* (Philadelphia, PA: Lipincott, Grambo, and Company, 1855), reprinted by (Kraus Reprint Company, Milwood, New York, 1974), p. 174.

⁶ Cecil Eby, *"That Disgraceful Affair", The Black Hawk War* (New York: W.W. Norton and Company, 1973), p. 48-51.

⁷ This information is from Article 2 and 3 of a facsimile document of the 1804 Treaty, a treaty between the United States of America and the United Tribes of Sauk and Fox Indians. The facsimile document is part of the historical files of the U.S. Army Armament, Munitions and Chemical Command (AMCCOM) Historical Office, Rock Island Arsenal, Rock Island, Illinois.

⁸ Black Hawk Autobiography, p. 55-56; Roald Tweet, "Formed by a River", in *Joined By A River*, Frederick I. Anderson, ed., (Davenport, Iowa: Lee Enterprises, Incorporated, 1982) p. 18.

⁹ Franc B. Wilkie, *Davenport, Past and Present* (Davenport, Iowa: Publishing House of Luse, Lane and Company, 1858), p. 17.

¹⁰ Article 7 of facsimile document of the 1804 Treaty between the United States and Sac and Fox Indians.

¹¹ Ellen M. Whitney, ed., *The Black Hawk War, 1831-1832* (Springfield, Illinois: Illinois State Historical Library, 1973) p. 2:31, hereafter cited as Whitney.

¹² Pike Journal, p. 1:128.

¹³ Major Daniel W. Flagler, *A History Of The Rock Island Arsenal From Its Establishment In 1863 To December, 1876; Of The Island Of Rock Island, The Site Of The Arsenal, From 1804 To 1863* (Washington, D.C.: Government Printing Office, 1877) p. 10, hereafter referred to as Flagler.

¹⁴ *Ibid.*, Reproduction of letter: "Letter from Major Zachary Taylor to General Howard," Fort Madison, 6 September 1814, p. 10-12.

¹⁵ Black Hawk Autobiography, p. 42-43.

¹⁶ Emma Helen Blair, *The Indian Tribes Of The Upper Mississippi Valley Region Of The Great Lakes, As Described By Nicolas Perrot, French Commandant In The Northwest; Bacqueville du La Portheire, French Royal Commissioner To Canada; Morrell Marston, American Army Officer; and Thomas Forsyth, United States Agent at Fort Armstrong* (Cleveland, Ohio: The Arthur H. Clark Company, 1921), p. 42-45, hereafter cited as Indian Tribes.

¹⁷ Solon Justis Buck, *Illinois In 1818* (Chicago, Illinois: A.C. McClurg and Company, 1917), p. 13-17; Reuben G. Thwaites, ed. and annotator, "Letter-Book Of Thomas Forsyth," *Collection of the State Historical Society of Wisconsin*, Vol. XI (Madison, Wisconsin: Wisconsin Democrat Printing Company, 1888), p. 325-355.

¹⁸ Indian Tribes, p. 46.

¹⁹ Whitney, Vol. I, p. 150; Black Hawk, p. 76-107; Henry R. Schoolcraft, *Personal Memoirs Of A Residence Of Thirty Years With The Indian Tribes On The American Frontier, 1812-1842* (Philadelphia, Pennsylvania: Lippincott, Grambo and Company, 1851) p. 326.

²⁰ Morse, p. 126.

²¹ Francis Paul Prucha, *Military Posts of the United States, 1789-1895* (Madison, Wisconsin: State Historical Society of Wisconsin, 1964) p. 31-32, hereafter cited as Prucha, Military Posts.

- ²² Whitney, Vol. II, Part I, p. 31.
- ²³ Flagler, p. 126.
- ²⁴ Carolyn Gilman, Jane D. Holmquist, and Lucille M. Kane, eds., "Up the Mississippi River in a Six-Oared Skiff, The Journal of Stephen H. Long, 1817," *The Northern Expedition of Stephen H. Long* (St. Paul, Minnesota: Minnesota Historical Society Press, 1978) p. 98-102.
- ²⁵ Prucha, Military Posts, Appendix B.
- ²⁶ Francis Paul Prucha, *Army Life on the Western Frontier: Selections from the Official Reports Made Between 1826 and 1845 by Colonel George Croghan* (Norman, Oklahoma: University of Oklahoma Press, 1958), p. 109.
- ²⁷ George W. Wickstrom, *The Town Crier* (Rock Island, Illinois: J.W. Porter Company, 1948), p. 35, hereafter cited as the Wickstrom.
- ²⁸ Anthony F.C. Wallace, *Prelude to Disaster: The Course of Indian-White Relations Which Led To The Black Hawk War Of 1832* (Springfield, Illinois: Illinois State Historical Society, 1970), p. 33.
- ²⁹ Whitney, Vol. 2, p. 1183.
- ³⁰ *Ibid.*, p. 3, 11, 44-45.
- ³¹ Black Hawk Autobiography, p. 110-111.
- ³² Whitney, Vol. 2, p. 85-87.
- ³³ *Ibid.*, Vol. 2, p. 13.
- ³⁴ Black Hawk Autobiography, p. 113-114.
- ³⁵ Whitney, Vol. 2, p. 425-426.
- ³⁶ *Ibid.*, p. 415-416.
- ³⁷ Frank E. Stevens, *The Black Hawk War* (Chicago, Illinois: The Caxton Club, 1903), p. 183; Oda B. Johnson, *History of Fort Armstrong, 1816-1836*, unpublished masters thesis at University of Iowa, dated January 1940, in the AMCCOM Historical Office archives.

³⁸ Caleb Atwater, *Remarks Made On Tour To Prairie du Chien, Thence To Washington City In 1829* (Columbia, Ohio: no publisher cited) reprinted by (New York City, New York: Arno Press, A New York Times Company, 1975) p. 54-55.

³⁹ Black Hawk Autobiography, p. 16.

⁴⁰ Charles Winslow Elliot, *Winfield Scott, The Soldier And The Man* (New York: McMillan Company, 1937), p. 268.

⁴¹ Oda B. Johnson, "Fort Armstrong, 1816-1836", unpublished masters thesis at University of Iowa, dated January 1940, in the AMCCOM Historical Office archives.

⁴² Wickstrom, p. 36-37.

⁴³ U.S. Statutes at Large, Vol. 6., private acts of the 29th Congress, Chapter 9, p. 908.

⁴⁴ Wickstrom, p. 31-41; "Not Hanging Around Much Longer", *Quad City Times*, 13 July 1978, np; *Rock Island Argus*, 26 October 1977, np; The Rock Island *Mississippi* and *Republican* newspapers, "Execution of John Long, Aaron Long, and Granville Young," 30 October 1845.

⁴⁵ Flagler, p. 28.

⁴⁶ *Ibid.*, p. 30.

⁴⁷ *Ibid.*, p. 33-35.

⁴⁸ *Ibid.*, p. 36.

⁴⁹ George Wickstrom and Charles P. Ainsworth, "Always Lumber, The Story of Dimock, Gould and Company, 1852-1952" (Rock Island, Illinois: Augustana College Book Concern, 1952), p. 26.

⁵⁰ Frank J. Nevins, "Seventy Years of Service from Grant to Gorman," *The Rock Island Magazine*, October 1922, p. 5-7, hereafter referred to as Nevins.

⁵¹ Notes extracted from the Report of the Board of Inquiry to the War Department dated May 9th, 1859. The notes were found on the Map of the Rock Island Bridge and Its Vicinity which accompanies the report. The original is in the National Archives, Washington, D.C.

- ⁵² Nevins, p. 16.
- ⁵³ Flagler, p. 44-47, 64-65.
- ⁵⁴ Nevins, p. 17.
- ⁵⁵ Leonard C. Weston, "The Rock Island Bridge Episode," *The Iowan*, Fall issue, 1964, p. 21.
- ⁵⁶ Flagler, p. 176-177.
- ⁵⁷ B.F. Tillinghast, *Rock Island Arsenal in Peace and in War* (Chicago, Illinois: The Henry O. Shepard Company, 1898), p. 8-9.
- ⁵⁸ Ira O. Nothstein, "Rock Island Arsenal, Its History and Development" (Public Works Administration Project, 1937). A copy is available at AMCCOM Historical Office, Rock Island Arsenal, p. 156.
- ⁵⁹ U.S. Congress, House, Resolution of the Legislature of the State of Iowa asking for Establishment of an Armory and Arsenal at Rock Island (Washington, D.C.; Government Printing Office, 1859) p. 1; Thirty-seventh Congress, 1st Session, Misc. Doc 16, Series Set No. 115.
- ⁶⁰ Robert Bouilly, "Arsenal Island," F.I. Anderson, ed., *Joined By A River* (Davenport, Iowa: Lee Enterprises Incorporated, 1982), p. 120-122.
- ⁶¹ *National Armory: An Appeal to Congress by the Citizens of Rock Island and Moline, Illinois and Davenport, Iowa* (Rock Island, Illinois: Danforth and Jones, 1861), p. 4-10.
- ⁶² Bouilly, p. 120-122.
- ⁶³ Flagler, p. 97, 111.

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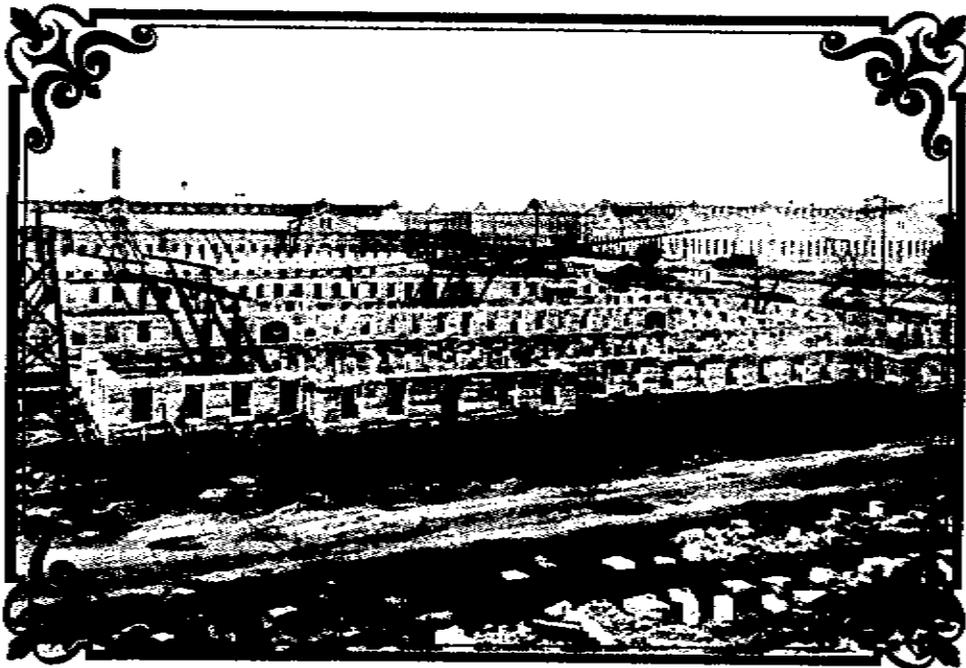
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An Illustrated History
Of The
Rock Island Arsenal
And
Arsenal Island

Part Two



National Historic Landmark

FOREWORD

On 11 July 1989 the Rock Island Arsenal commemorated its designation as a National Historic Landmark by the secretary of the interior. This auspicious occasion came about due in large measure to the efforts of the AMCCOM Historical Office, particularly Mr. Thomas J. Slattery, who spent many hours coordinating the efforts and actions necessary to bring the landmark status into fruition. Rock Island Arsenal Commander, Colonel David T. Morgan, Jr., was also instrumental in the implementation of the above ceremony by his interest, guidance, and support of Rock Island Arsenal's National Historic Landmark status.

Incidental to the National Historic Landmark commemoration, the AMCCOM Historical Office has published *An Illustrated History of Rock Island Arsenal and Arsenal Island, Part Two*. Mr. Thomas J. Slattery is the author of this history and has presented a very well-written and balanced study of the beginning of Rock Island Arsenal in 1862 through 1900, including the arsenal construction period, the arsenal's role in providing ordnance stores to the west, and its contributions during the Spanish-American War. This information was gathered from a number of primary and secondary sources including the author's own files, the AMCCOM Historical Office archives, and the Rock Island Arsenal Museum collection. Mr. Slattery would like to acknowledge the efforts of past and present historians who gathered and preserved historical sources maintained in the holdings of these two institutions. Mr. Slattery is especially appreciative of the contributions made in this area by his colleagues Mr. O. Bryan England, Mr. Ralph Krippner, and Dr. Robert Bouilly. Mr. Slattery would also like to thank Mr. Daniel Whiteman, Rock Island Arsenal Museum Director; and Mrs. Kris Leinecke, Rock Island Arsenal Museum Curator; for the use of the U.S. War Department's *War of Rebellion* series, a compilation of the official records of the Union and Confederate Armies; and the Rock Island Arsenal Commander's *Annual Report to the Chief of Ordnance* from 1871-1900.

Mr. Slattery's history illustrates well the importance of individuals such as Thomas J. Rodman and Daniel W. Flagler in the construction of the great stone buildings which still stand today and serve as a silent tribute to these arsenal commanders. The history also addresses problems experienced during the construction of the arsenal. The reader will hopefully be enriched and educated by having learned something about Rock Island Arsenal's illustrious past, and how the past has impacted upon the present arsenal as it continues to serve our nation.

Colonel David T. Morgan, Jr., is accorded special thanks for his support and enthusiasm. Special thanks are also extended to Mrs. Carol L. Secoy and Ms. Nancy Newton of the AMCCOM Historical Office for respectively providing exemplary editorial and administrative support for this history. In addition, gratitude is extended to the Field Printing Office for its professional assistance.

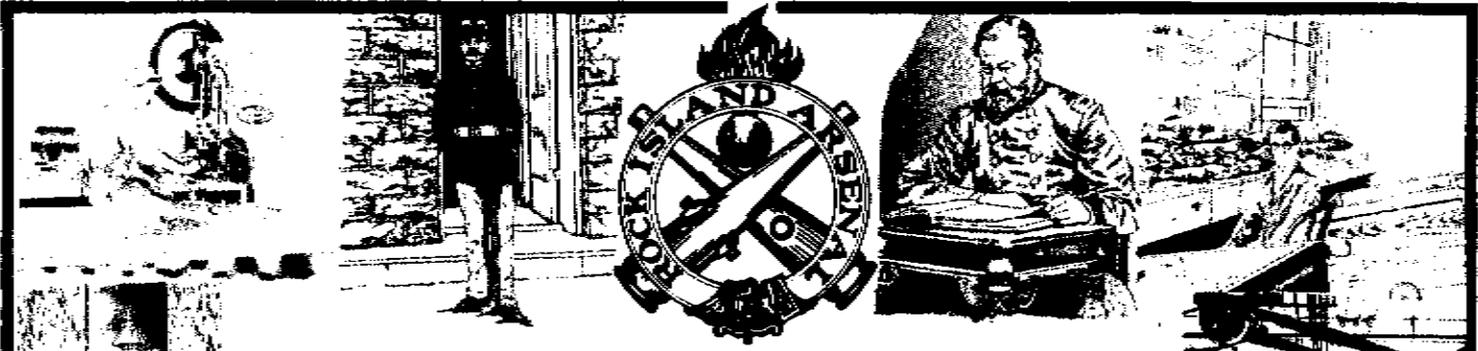
HERBERT P. LEPORE
Chief, Historical Office

**AN ILLUSTRATED HISTORY
OF THE
ROCK ISLAND ARSENAL AND ARSENAL ISLAND
PART TWO**

**By
Thomas J. Slattery**

**Historical Office
U.S. Army Armament,
Munitions and Chemical Command
Rock Island, Illinois 61299-6000**

1989

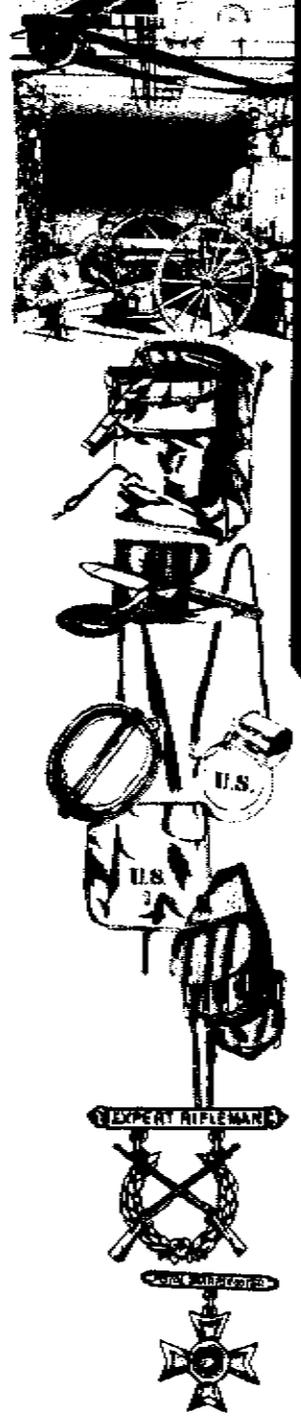
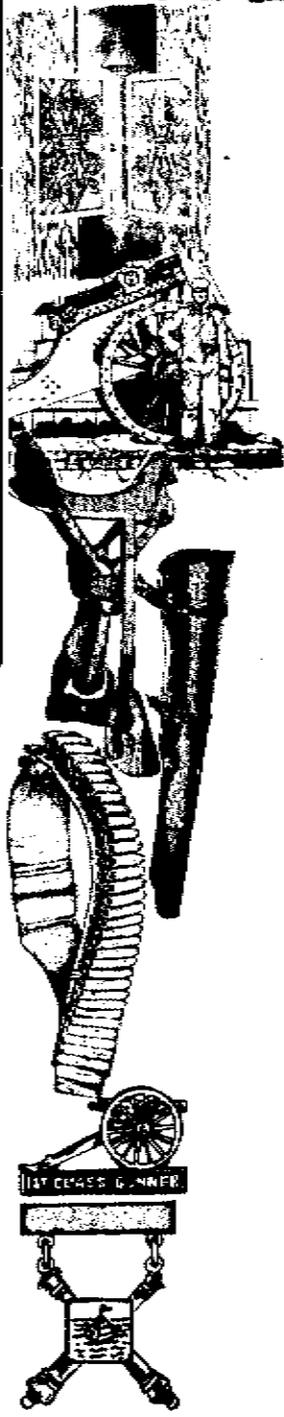


AN ILLUSTRATED HISTORY
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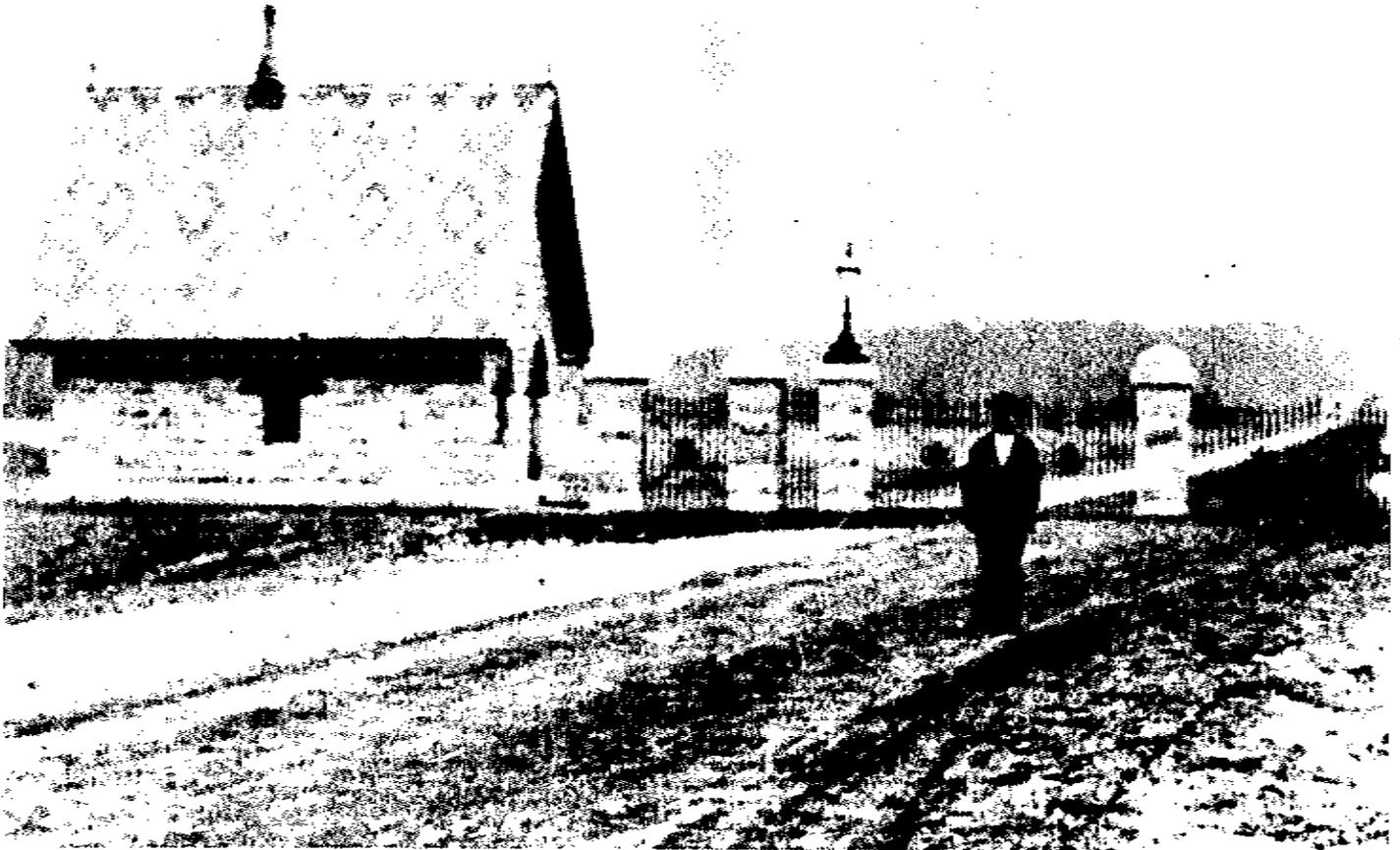
PART TWO

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Below: The western entrance to the Rock Island Arsenal via Main (Rodman) Avenue, the island's principal east-west thoroughfare. The limestone gate house, built in 1875 and portions of the cast iron gate and limestone pillars still grace the entrance to the arsenal. Note: the gate house has since been reroofed and the "gingerbread" trim removed.



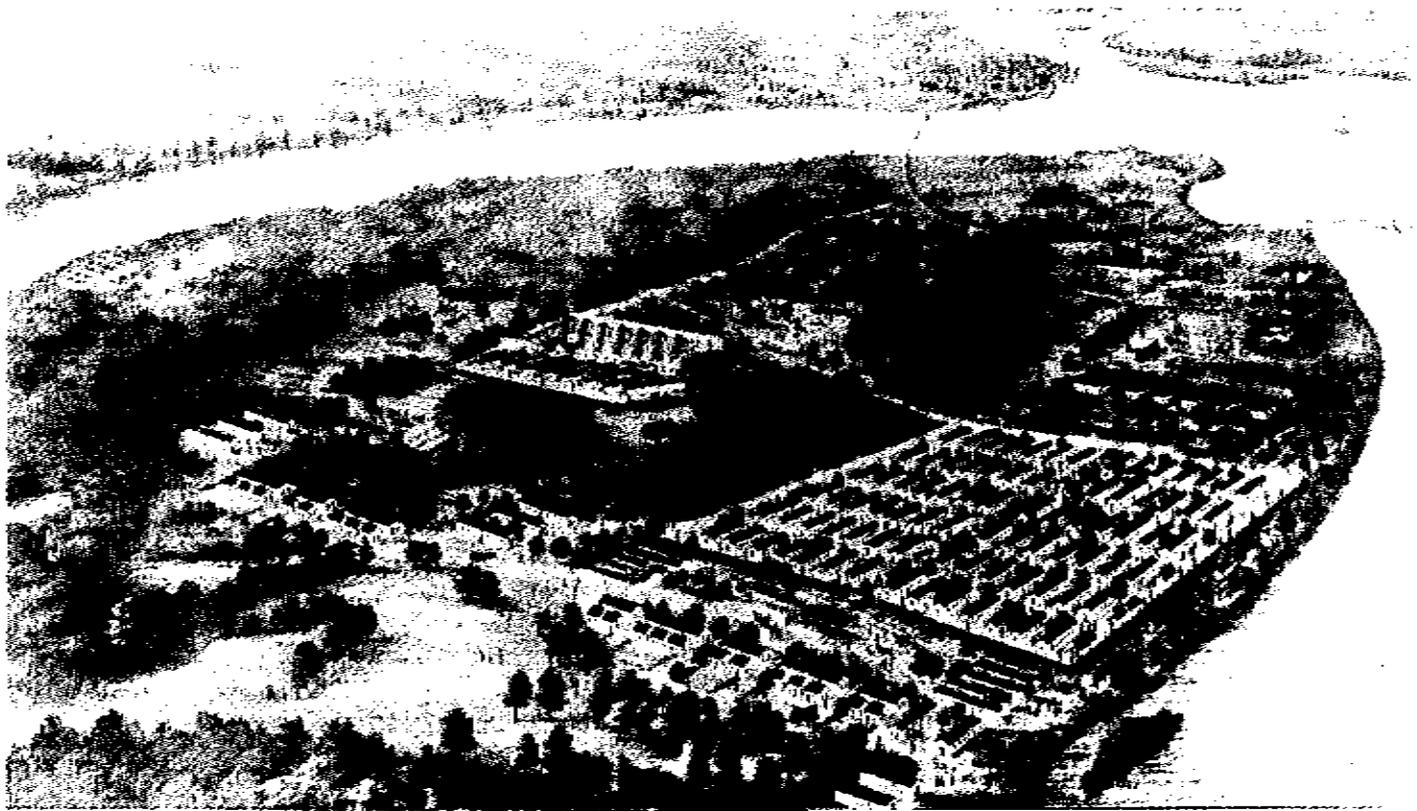
INTRODUCTION SOLDIERS RETURN TO ROCK ISLAND

The history of Arsenal Island is divided into two parts, or periods, of government occupancy. Part one focuses on the federal government's acquisition of the island; the reasons for this acquisition; the Fort Armstrong era; and the subsequent caretaker period which ended in 1863. The Black Hawk War, the last Indian uprising in the state of Illinois, resulted in hostile tribes being transferred to reservation camps west of the Mississippi River, thus ending the Indian threat in Illinois. Therefore, with the need for Fort Armstrong diminished, the federal government reduced the fort's status to that of a depot, eventually abandoning the post in 1845. From 1845 to 1863, a number of civil custodians

employed by the War Department managed the affairs of Rock Island.

During the American Civil War, 1861-1865, the United States Army returned to Rock Island. This was the beginning of the second, or arsenal, period which continues to the present day. It began on 11 July 1862, when the United States Congress passed an act which established an arsenal on Rock Island. In the following year, the U.S. Army Ordnance Department started construction of a storehouse on the western tip of the island, near the ruins of Fort Armstrong. This storehouse, completed in 1867, and known today as the Clock Tower Building, was the first permanent arsenal building erected.¹

Below: A total of 12,192 Confederate soldiers were confined at Rock Island during the Civil War years of 1863-1865. The camp, constructed on the north central shore of the island, consisted of 84 wooden barracks and a variety of ancillary buildings. However only the Confederate Cemetery remains as a reminder of the prison's existence.



CHAPTER ONE ROCK ISLAND PRISON BARRACKS

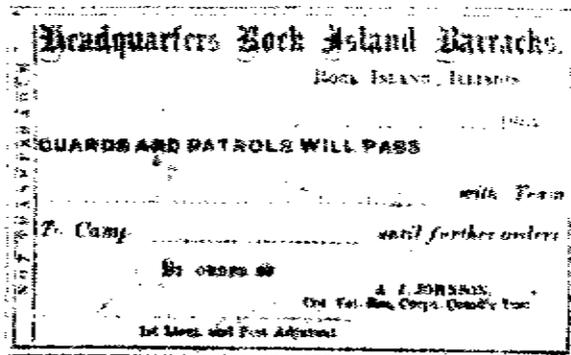
During the Civil War, however, the Union Army's Ordnance Department had company on the island. Two separate army units operated on Rock Island during the last two years of the Civil War. Several months prior to initial construction of the Clock Tower Building in 1863, the U.S. Army Quartermaster Department began to build a prisoner of war camp on the north central section of Rock Island. The Union Quartermaster General, Montgomery Meigs, ordered Captain Charles A. Reynolds to build a prison barracks large enough to accommodate 10,000 prisoners of war. In late August 1863, Captain Reynolds began construction of the prison barracks near the north central shore of the island.² General Meigs became aware of the island's advantages in 1837 when he assisted a young army lieutenant named Robert E. Lee in surveying the upper rapids of the Mississippi River at Rock Island.³

The prison, rectangular in shape, covered

approximately 12 acres of land. Eighty four wooden-framed barracks, 22 x 100 feet in size, arranged in six rows of fourteen barracks each, comprised the containment area. Each barracks had a kitchen, with a stove and a 40 gallon kettle for cooking, located at the west end of the building. Captain Reynolds built enough bunks in each barracks to accommodate 120 prisoners. A main avenue running east to west divided the camp and led to the two main gates. The barracks were enclosed by a 12 foot high rough board fence. A guard platform built 4 feet from the top of the stockade fence, on the exterior side, had a sentry box every 100 feet. Trenches maintained inside the fence served as a warning line. Sentries were ordered to fire at prisoners venturing beyond this point. The "dead line" supposedly deterred prisoners from tunneling under the stockade. In addition, the closeness of bedrock to the surface prevented tunneling near the southern side of the stockade.⁴

Below: Persons visiting the Rock Island Prison Barracks were required to obtain passes issued under the order of Colonel A. J. Johnson, prison commandant.

Right: Colonel Adolphus J. Johnson, commanding officer of the Rock Island Barracks for most of its operational period.



The barracks were numbered consecutively from 1-84, and each building had a prisoner who served as sergeant of the barracks. Wooden bunks in three tiers, one above the other, extended the length of each building on each side.

The commandant of the prison, for all but a few early days of its 20-month existence, was Colonel Adolphus J. Johnson. The government selected the Rock Island site for the prison for basically the same reasons it had chosen the island as the location for the new western arsenal—security, location, and space. In addition, government ownership made the island a prime choice for both a prison camp and an arsenal.⁵

By the time the Rock Island Prison Barracks received its first Confederate prisoners-of-war in December 1863, the Union Army had established 21 other prison sites. During the course of the war, some of these prisons closed, while new prisons opened.

Prior to the arrival of the first Confederate

prisoners, Colonel William Hoffman, the Union's commissary general of prisoners, inspected the Rock Island Prison Barracks in November 1863. A few days before Colonel Hoffman's visit, several barracks at the Camp Douglas prison near Chicago were destroyed by fire, thus necessitating the apparent relocation of some of the camp prisoners. It has been surmised that some of the Camp Douglas prisoners may have been sent to the Rock Island Prison Barracks. However, it is not certain whether this transfer actually took place.⁶

Construction of the Rock Island Prison Barracks was behind schedule from the start. In the rush to organize prison camps to handle the influx of southern prisoners, the Rock Island prison opened before it was completed. Some of the prison guards were quartered in tents, others in local communities, and still others in the cheap shanties built to house prisoners of war. Union Quartermaster General M. C. Meigs, in a letter dated 12 August 1863, instructed Captain

Below: Union Quartermaster General Montgomery C. Meigs.

Right: A roll call at the Rock Island Prison Barracks. The guards are standing in formation in the front while the prisoners are in the background standing in front of the barracks. Note: Wooden "Morgan Mule" in foreground used to discipline insubordinates.



C. A. Reynolds that: "The barracks for prisoners at Rock Island should be put up in the roughest and cheapest manner - mere shanties, with no fine work about them."⁷

The first 468 Confederate prisoners arrived at Rock Island by train on 3 December 1863. They had been captured in the Battle of Lookout Mountain in southeastern Tennessee. Hundreds of curious citizens gathered to watch the prisoners be unloaded on the far western edge of the island. In an effort to control the crowd, local police officers and their deputies confined the spectators to a roped-off area. The prisoners were marched past the crowd a mile or so inland to the prison.⁸

Within a few weeks the prison population rose from the original 468 to over 5,000 prisoners. Eventually, the prison population grew to 8,594 prisoners, the largest number of prisoners held at any one time at the Rock Island Prison Barracks.⁹

Though the prisoners' existence at the Rock Island Prison Barracks was harsh, especially by present day standards, living conditions were relatively typical of prison camps in the north. Most southern prisoners had difficulty adjusting to the cold winter of the north and, unfortunately, the first prisoners arrived during a severe cold spell with temperatures plummeting to 30 degrees below zero Fahrenheit. Not long after the prison had opened, the supply of winter clothing and blankets for the prisoners became depleted; however, nearby coalfields provided each barracks with sufficient heating coal to burn in the barracks' stoves.

Diaries kept by Confederate prisoners and recollections written after the war were two valuable sources of material regarding prison conditions at Rock Island. One prisoner at the Rock Island Prison Barracks, Lafayette Rogan, recorded in his diary these comments in regard to the winter he experienced at Rock Island:

Below: An illustrated view of the Rock Island Prison Barracks depicting sentinels, gate, barracks, and prisoners. The first Confederate prisoners arrived by prison train on 3 December 1863 during a particularly bitter cold spell. Ill-clothed for severe winter weather and carrying small pox disease among them, many of these prisoners died at Rock Island during their confinement.



1 January 1864 - The coldest day I have ever felt. Thermometer 30 (degrees) below zero

3 January 1864 - I suffer greatly for blankets. Many fellows have no blankets yet and are very thinly clad. Such men suffer terrible. We sleep by reliefs (to man the fires in the barracks) and fill each bunk heads and tails fashion. I fear that disease and death will be the result of all this suffering. Deaths have already occurred from freezing.¹⁰

In addition to surviving the bitter winter cold of the north, Confederate prisoners had to endure exposure to a deadly smallpox epidemic, among other contagious diseases. Within days of opening, the prison was hit by the smallpox epidemic. In a hurry to complete the camp's construction, the Quartermaster Corps had

failed to erect a prison hospital. Without a hospital; adequate medicine; or a well-equipped medical staff, hundreds of prisoners and prison cadre became infected. Initially, prison doctors diagnosed 94 cases of smallpox among the first prisoners. Unfortunately, they did not detect all the cases, and those that processed into the camp undetected exposed the entire camp to the dreaded disease.¹¹ Colonel Johnson, the prison commandant, arrived only a short time after the prison was constructed and had little time to address and ameliorate logistical problems relative to the well being of the prisoners.

Conditions did not improve at the Rock Island Prison Barracks until Ambrose M. Clark, assistant surgeon general, arrived in February 1864 to inspect the island camp. He immediately instituted corrective measures such as establishing a temporary hospital isolation ward in fenced-off barracks and ordering a half dozen pest houses be built on the southern shore of

Right: Colonel William Hoffman, federal commissary-general of prisoners standing on the steps to his office in Washington, D.C. Upon retiring from the military, Hoffman resided in the tri-cities. His grave site is in Chipplannock Cemetery, Rock Island, Illinois.



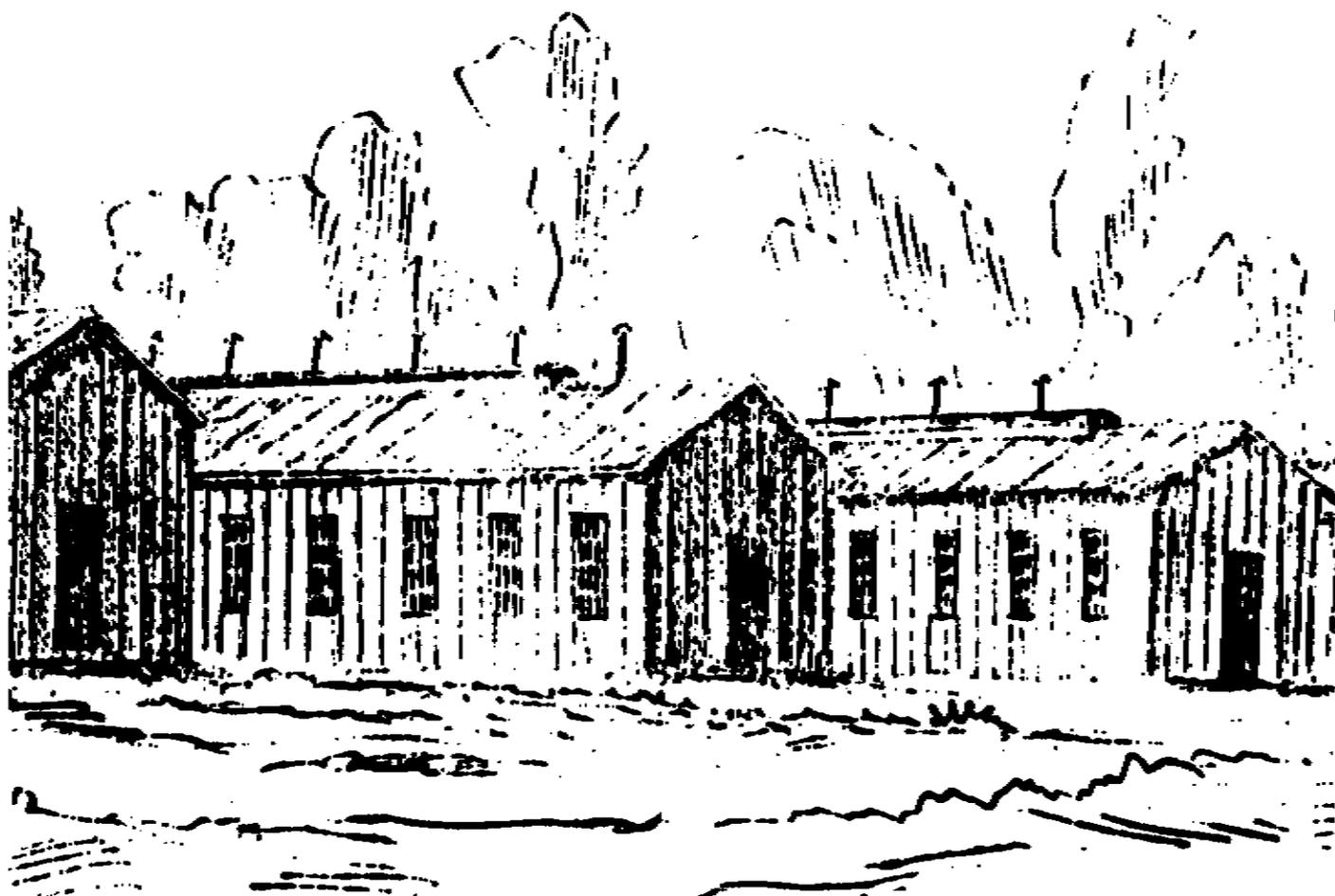
Rock Island, away from the prison. During his stay at Rock Island, from 10 February to 4 March 1864, Surgeon Clark had plans drawn up for an adequate hospital, sufficient to care for the noncontagious disease cases. His report to Colonel Hoffman stated, "The most urgent necessity exists for the speedy completion of this (prison hospital) building. For in the great rush to open the prison, not only was the building of barracks for the cadre not completed but the construction of a prison hospital was overlooked."¹² Clark also noted the conditions which enhanced the spread of smallpox, such as the faulty drainage system of the prison compound. The prison was situated in a low land area of the island, causing water to drain in, rather than out, of the camp. Therefore, during the spring of 1864, the camp ground was constantly wet and muddy. Clark also noted that a marsh located near the southeast corner of the prison would have to be drained before summer.

Approximately two months later, in April 1864, Clark returned to inspect the Rock Island Prison Barracks and filed his report to Colonel Hoffman on 8 April 1864. In his report Clark described the prisoners' living conditions at Rock Island as having somewhat improved. He found the prison barracks well-heated, ventilated, and sufficiently stocked with food and blankets. However, Clark reported that the corn bread tasted rancid to the prisoners and made them ill; the condition of the prison grounds and its water supply were still poor; and several unsanitary conditions and practices still continued at the prison. The latter

included prisoners tossing their kitchen refuse and wash water on the ground near their barracks. The wash water contributed to the standing water and muddy conditions of the grounds within the stockade. Collectively, the garbage, standing water, and muddy grounds severely hindered the prison's already inadequate drainage system. Prisoners also emptied and washed barrels from their privies in the river twice a day. Only makeshift laundry facilities were available to the prisoners, and according to Clark, not heavily used.

Clark further noted in his April report to Colonel Hoffman that improved sanitary conditions and new clothing for convalescents

Below: Early sketch of the Rock Island Prison Barracks pest houses erected on the island to quarantine those afflicted with contagious diseases, such as small pox, from others at the camp.



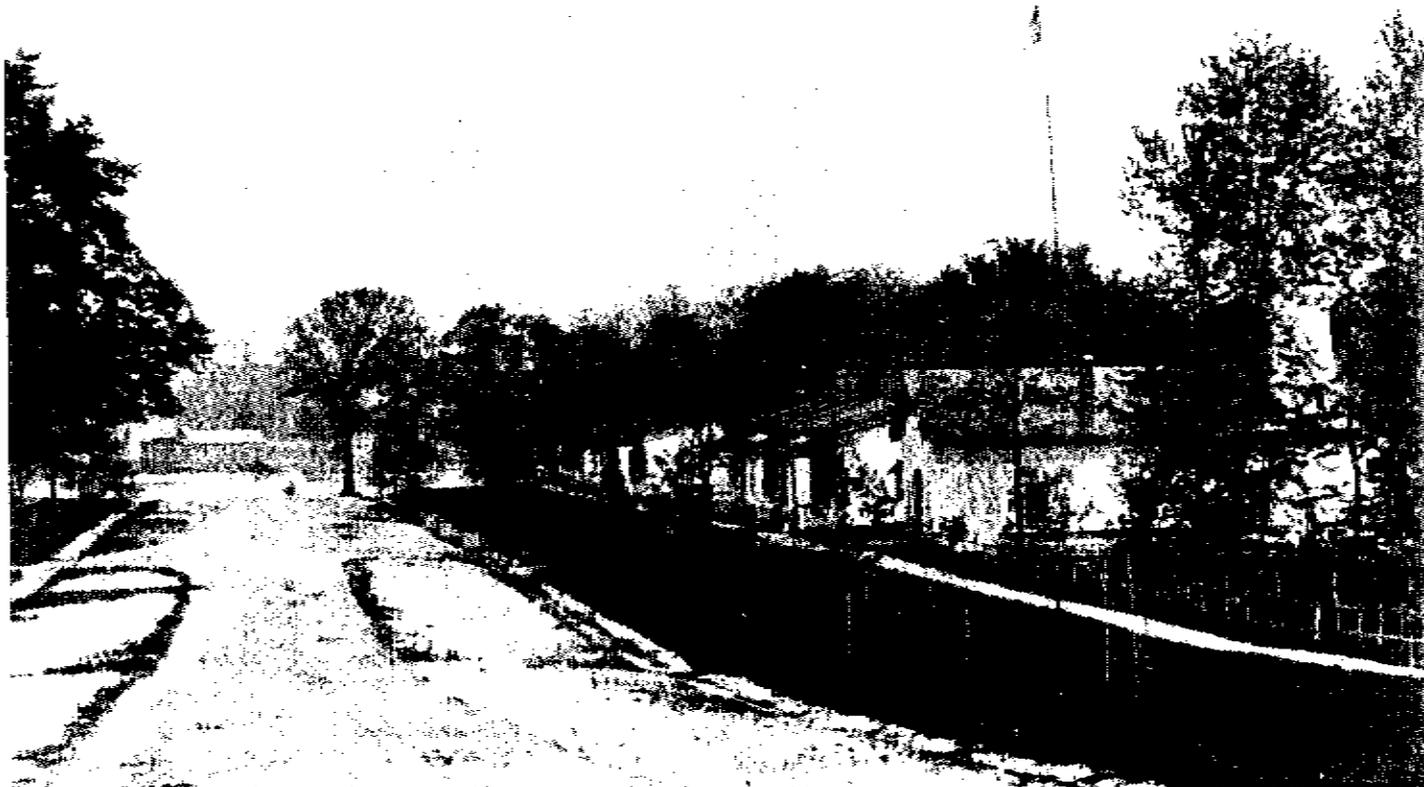
were necessary to stem the camp's smallpox epidemic. The surgeon general attempted to purify and disinfect the prisoners' clothing by thoroughly boiling the clothes; then subjecting them to the fumes of burning sulphur; and finally, a second boiling. This method seemed to effectively destroy the infection since no new cases were traced to the use of the boiled clothing. Later, however, Clark commented that he did not trust this procedure and thought new clothing should be furnished to all prisoners who had been released from the hospital and returned to their quarters.¹³

Under Surgeon Clark's instructions, all soldiers and prisoners infected with smallpox were quarantined in the newly erected pest house on the south shore of the island. Other corrective measures were undertaken by Clark, such as the construction of a sewage system to improve drainage and sanitation conditions, and the development of a sufficient water supply system in the prison.

The post surgeon's morning report of sickness for 4 March 1864 provided some insight of the epidemic faced by the medical staff of the Rock Island Prison Barracks. Surgeon William Watson, U. S. Volunteers, listed 350 prisoners sick in quarters and 714 in the temporary barracks hospital. Of those in the hospital, 420 were smallpox cases.¹⁴

As previously mentioned, the death toll from disease increased steadily among prisoners and guards after the camp opened in December 1863. Smallpox claimed 98 prisoners and 3 guards in December 1863; 231 prisoners and 4 guards in January 1864; and 350 prisoners and 10 guards in February 1864. The War Department, alarmed by these statistics, reversed an earlier directive issued by Colonel Hoffman which had halted construction of the Rock Island Prison Hospital. After pest houses and laundry facilities were constructed, as recommended by Assistant Surgeon General Clark, a gradual decline in smallpox cases and deaths occurred.¹⁵

Below: The Rock Island Prison administrative buildings, possibly after the Rock Island Arsenal assumed control of them following the Civil War. Since, traditionally, post flagpoles were planted near a headquarters building it could be assumed that these structures were temporary administrative buildings for the arsenal.



Clark also ordered the relocation of the original Rock Island Confederate Cemetery, which had been adjacent to the prison compound, to its present site.¹⁶ During the 20 months that the prison was in operation, more than 1,964 Confederate prisoners died while confined at the Rock Island Prison Barracks. Smallpox, combined with pneumonia and diarrhea, accounted for the majority of these deaths. In the same time frame, 171 Union guards died of diseases or exposure to the elements while serving guard duty. The bodies of dead Union soldiers not claimed by their families were reinterred in the current Rock Island National Cemetery on Arsenal Island.¹⁷

Because of the smallpox epidemic at the prison, the government issued the following instructions through the Rock Island *Argus* newspaper:

Visitors to these stations, out of mere curiosity, will in no case be permitted. Persons having business with the

Commanding Officer, or Quartermaster, may, with the permission of the Commanding Officer, enter the camp to remain only long enough to transact their business. When prisoners are seriously ill, their nearest relatives, parents, wives, brothers or sisters, if they are loyal people, may be permitted to make short visits; but under no other circumstances . . . (will) visitors be allowed to see them without the approval of the Commissary General of Prisoners.¹⁸

The prison commandant, Colonel Johnson, initially permitted the southern prisoners to receive clothing and food packages from sympathetic local citizens, friends, and relatives. Colonel Johnson also allowed the prisoners to correspond with their relatives and friends, but their unsealed letters were censored at the prison by Captain A. D. Collins, post quartermaster, and Colonel Hoffman. Letters

Below: Clam-shell trinkets carved by Confederate prisoners at the Rock Island Prison Barracks. The prisoners used them to barter and to sell to guards and visitors.

Right: Confederate soldiers making trinkets out of clam-shells from the Mississippi River.



could not exceed one page and had to relate solely to personal matters.¹⁹

Books provided a temporary escape from the monotonous routine of a prisoner's life. Other diversions undertaken by prisoners included attending church services, organizing skits, forming singing groups, gambling, and debating the many issues of the war. Tobacco, blankets, clothing, books, and personal items, acquired in several different manners by the prisoners, made their incarceration bearable. Some of the prisoners volunteered their labor on prison construction projects, such as the building of the prison sewer system; and each prisoner that worked, depending upon his skill, received a credit of 5-10 cents a day on his account at the prison sutler store. Enterprising prisoners also used their craft skills to fashion rings and trinkets from available material such as gutta percha (a hardened tree sap or resin) and mussel shells. These ornaments were inlaid, cut out, and often

polished into the shapes of eagles, doves and fish. The trinkets were traded or sold to the guards for tobacco or peddled to local citizens.²⁰

By 1864 the North had become aware of the wretched conditions that Union soldiers had been enduring in southern prisons. The report of deplorable treatment of Union prisoners of war at Andersonville, Georgia, site of the infamous Confederate prison, caused bitter resentment in the north. In June 1864, Secretary of War Edwin Stanton ordered Union prisons to enforce stricter rules for Confederate soldiers.²¹

At the Rock Island Prison Barracks, Colonel Johnson zealously followed these instructions. He restricted the type of packages prisoners could receive from relatives and friends by no longer accepting food baskets addressed to individual prisoners. Instead, Colonel Johnson had these baskets delivered to the sick wards. Only clothing packages were to be received by individual prisoners. Further restrictions

Below: Confederate prisoners at Rock Island Barracks taking oath of allegiance to become "galvanized yankees".

Right: Confederate prisoners "riding Morgan's Mule" as punishment for their misconduct.



included prohibiting the sutler's wagon from entering the compound and doing business with the Confederate prisoners. Supposedly, in response to conditions at the Andersonville Prison, Colonel Johnson also ordered that prisoners' rations be reduced to 14 ounces of bread and 12 ounces of "fresh" beef. In addition, the prisoners were to receive a quart of hominy per man each day. The southerners made hominy soup and also boiled other food, serving it in sauce pans produced from canteens and burned-out stove pipes. The prisoners had a difficult time swallowing the course yellow corn bread provided by the prison and asked for flour to bake white bread, with varying degrees of success. At times slab bacon was added to the prisoners diet. Years after the Civil War former Confederate prisoners who had been incarcerated at Rock Island during the war wrote colorful accounts which depicted episodes of prisoners eating stray dogs and cooking rat stew.²²

Many southern prisoners suspected that harsher rules ordered by Colonel Johnson were part of a Union plan to reduce their allegiance to

the South, and entice them to join the Union Army. If so, the program enjoyed a measure of success. On 8 December 1863 President Abraham Lincoln had announced his Amnesty Proclamation to Confederate prisoners. Confederate prisoners who pledged their allegiance to the United States and who agreed to enlist in the Union military service would receive amnesty. These "galvanized yankees" were recruited to fight Indians on the western frontier and to man Union ships on the high seas. At the urging of General Ulysses S. Grant, Lincoln agreed not to employ former Confederate prisoners on the battlefield against their fellow southerners. In the heretofore mentioned *Diary of Lafayette Rogan 1863-1865*, Rogan, a prisoner-of-war clerk at the Rock Island Prison Barracks, recorded briefly in his 9 February 1864 entry, . . . "Navy Roll of 664, traitors to our country (was) completed to day."²³ On 1 September 1864 President Lincoln wrote the following to War Secretary Edwin Stanton:

. . . there are at Rock Island, Ill., as rebel prisoners of war many persons of northern or foreign birth, who are

Below: A. C. Dart, camp sutler, and his wagon from which Confederate Prisoners bartered or purchased personal items such as tobacco.



unwilling to be exchanged and be sent South, but who wish to take the oath of allegiance and enter the military service of the Union.²⁴

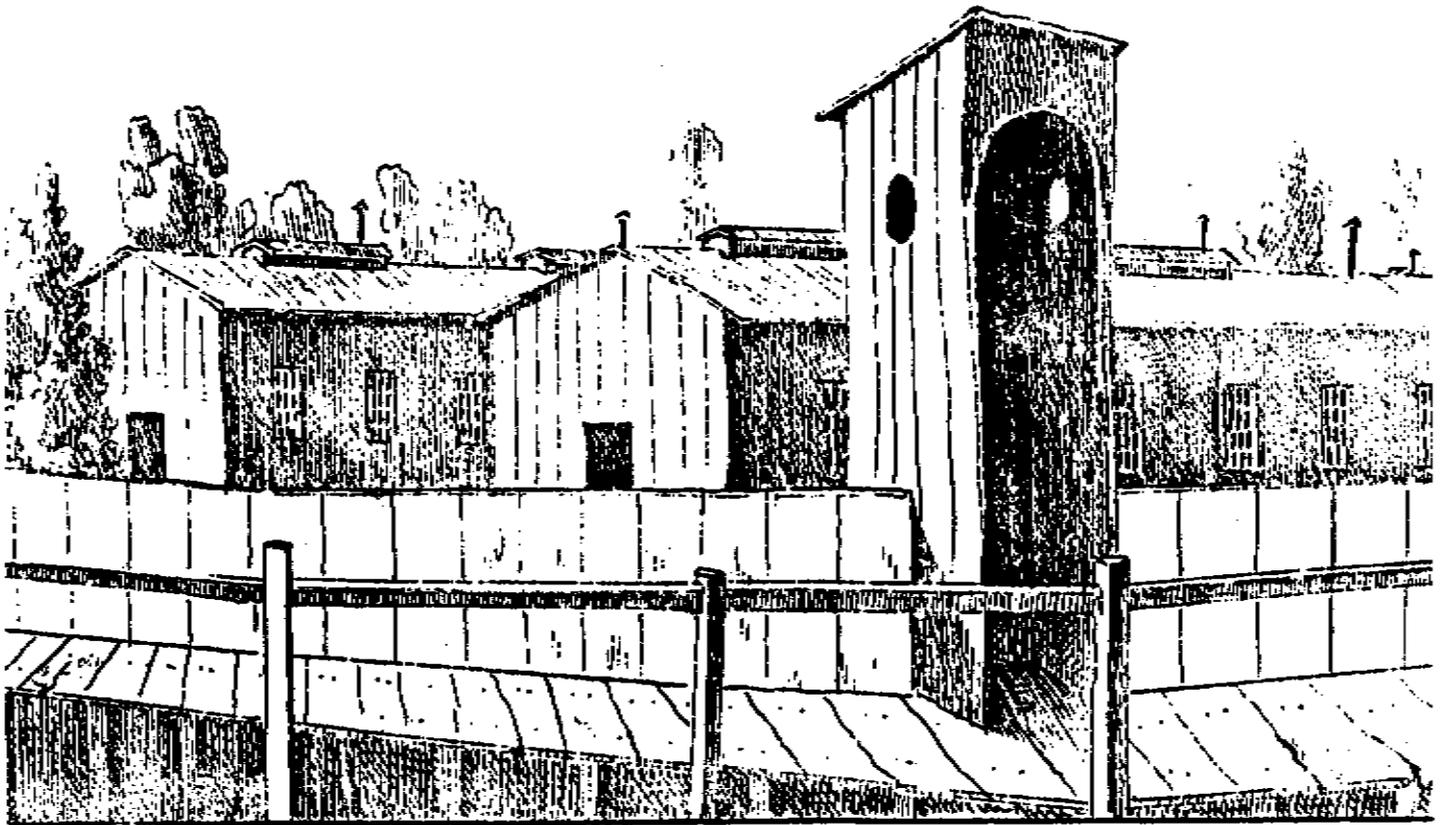
Within a few weeks after President Lincoln's proclamation, Rogan again wrote in his diary, "Yanks make a call for volunteers offering \$100 for (a) year as bounty and promise not (to) oppose them . . . (by returning to) the rebel Army." The next day Rogan's entry read: "The heart grows sick and the soul sinks within me when I see so many deserting our (South's) cause. From 1,500 to 2,000 of the prisoners here will enlist for frontier service."²⁵ Another Confederate prisoner, B. M. Hord, wrote an article in 1904 for *Confederate Veteran Magazine* titled, "Forty Hours in a Dungeon at Rock Island," in which he stated that those who took the oath and joined the Union Army or Navy were moved to a new pen for their protection. Twelve barracks in the southeast corner of the enclosure, near the main entrance to the prison, were cordoned off and the occupants transferred

to other barracks. No longer technically prisoners, these new Union recruits were furnished with the clothing and rations of a Union soldier. Southern soldiers who remained loyal to the South stayed in the main compound, which was called the Bull Pen. During the camp's existence, nearly 3,000 rebel prisoners "escaped" the confines of the Rock Island Prison Barracks by volunteering for frontier or sea duty with the Union Forces.²⁶

Prison records cited 41 successful escapes. Colonel Johnson reported the details of one such escape to Colonel Hoffman in a letter dated 25 June 1864:

COLONEL: I have the honor to report that on the night of the 14th instant ten prisoners of war made their escape from the prison inclosure by tunneling under barracks 42, their egress being made directly under the parapet. The last two were discovered by the sentinel, who gave the alarm, and all necessary measures taken for their

Below: A 12 foot high wooden fence with sentry walk (parapet) surrounded the entire Rock Island Barracks prisoner area. Sentry boxes were positioned every 100 feet along the walk.

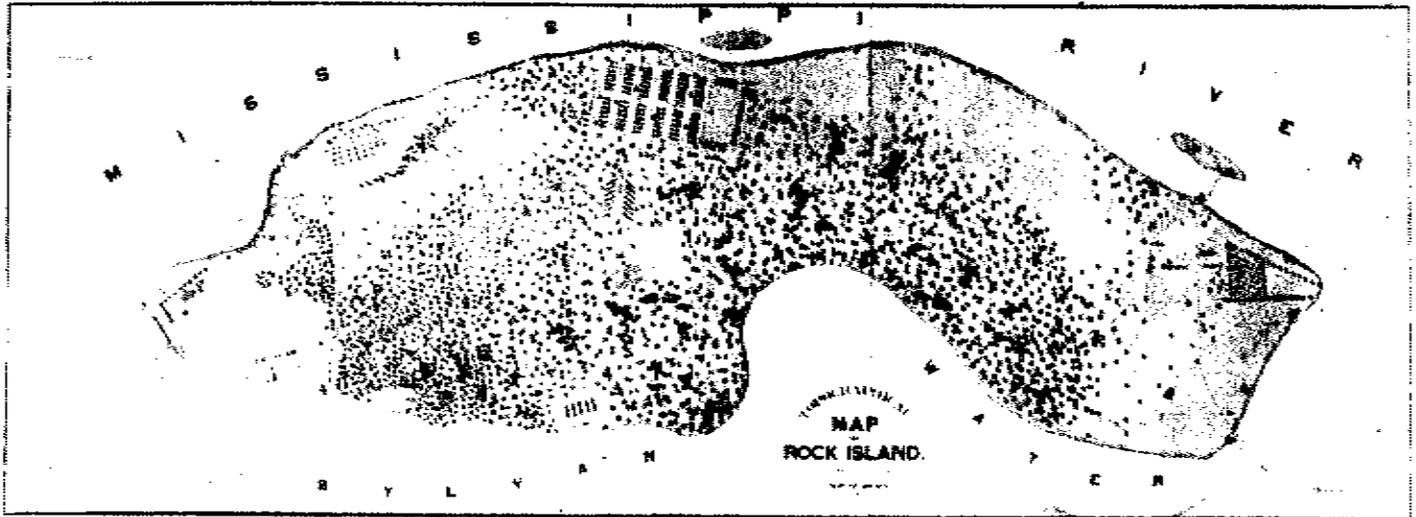


recapture, which has resulted in securing seven of them. Three were taken on the island, four near Rock River, about four miles distant, and one was drowned in attempting to cross the slough. Mounted patrols have been on the track of the remaining two until today, with the fair prospect of taking them. Barrack 42 was used for a variola ward during the prevalence of that disease and while the pest houses were being erected, and has been kept unoccupied since by request of the surgeon. The tunnel was made on the south side of the prison. Deep trenches had been made on the north, east, and west sides to prevent tunneling, it being deemed unnecessary to trench on the south side in consequence of the rock coming so near the surface. A trench has now been made down to the rock on that side also.²⁷

The Confederate prisoners were guarded by troops of the 4th Regiment of the Veterans Reserve Corps; the 37th Iowa Regiment; various "100 day" volunteer regiments; and the 108th U. S. Colored Infantry Regiment. The 4th Invalid Corps Regiment was a veteran reserve organization comprised of wounded soldiers who were no longer fit for regular military service. Under the command of Colonel Richard H. Rush, the 4th Invalid Corps were the guards at Rock Island prison when the camp received its first Confederate prisoners in December 1863. Shortly thereafter, Colonel Johnson arrived at Rock Island and assumed command of the prison barracks in January 1864. In the same month, the 37th Iowa Volunteers Regiment arrived to supplement the guard force.

The 37th Iowa Volunteers, known as the "gray beard" regiment, was comprised of men too old for conscription. George Washington Kincaid, an Iowa pioneer settler and member of the state's first constitutional convention, sought

Below: A topographical map drawn by the Rock Island Arsenal master draftsman, W. Otto Gronen, in 1870. The map depicts the prison barracks in the north central section of the island. During the 1870s the prison buildings were razed and the officer's quarters which now stand along Terrace Drive were constructed in their place. Note that the Rock Island Arsenal construction was limited to the far western tip of the island, west of the railroad tracks. The map actually depicts the island in 1867 before the arsenal began construction of manufacturing buildings on the high ground in the center of the island.



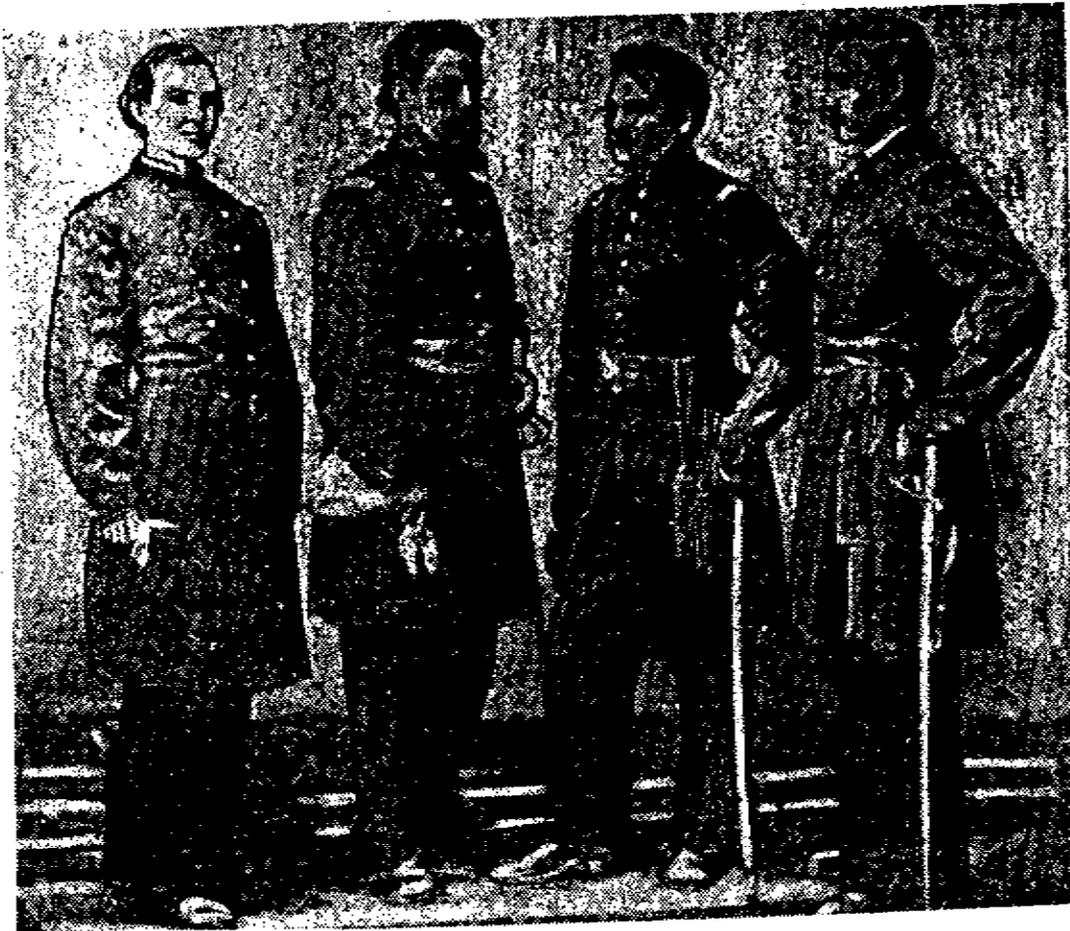
first federal, then state, permission to form a unique regiment of men too old to enlist in the Regular Army. Iowa Governor Samuel J. Kirkwood granted his approval and appointed Mr. Kincaid the commanding officer of the 37th Iowa Volunteers. The regiment of "gray beards" was exclusively composed of men 45 years of age or older. The regiment contained 428 men over the age of 50; 145 of which were in their 60s; and one man, Curtis King of Muscatine, Iowa, who was 80. Attractive as a public relations endeavor for the Union Army, the "gray beards" were to be exclusively used as garrison and guard troops. Used in this capacity, the 37th Iowa Volunteers relieved troops better fit for combat duty. The uniqueness of being the oldest regiment to serve in the U. S. Army initially earned the regiment celebrity status in the north. Among these troops were men who had prior military service dating back to the War of 1812. However, the novelty of federal service eventually wore off under the strain of everyday duty and the bone chilling winter winds that

whipped across Rock Island.²⁸

In October 1862, the 37th Iowa Volunteer Regiment was comprised of ten companies when it was mustered into the army at Camp Strong, near Muscatine, Iowa. The "gray beards" initially served provost and garrison duty in St. Louis, Missouri, and earned commendations and praises for their service at St. Louis, and at Alton, Illinois.²⁹ However, they did not receive accolades for their duty at Rock Island. In April 1864, Lieutenant Colonel John F. Marsh inspected the prison barracks for the Inspector General's Office. His written findings included this critical comment regarding the "gray beard" regiment. "(A) regiment of decrepit old men and the most unpromising subjects for soldiers I ever saw."³⁰ In another instance, Surgeon August M. Clark reported to Colonel Hoffman concerning his inspection of the Rock Island Prison Barracks:

Colonel Kincaid, Thirty-seventh Iowa Volunteers, (should) be under no

Below: Officers of the 108th Regiment, U.S. Colored Infantry, stationed at Rock Island during the Civil War. Left to right, Dr. Ellis, surgeon; Colonel John S. Bishop; Adjutant Morris T. Stafford; and Henry Clay Cleaveland, quartermaster.



circumstances placed in command of this post. He is altogether too slow and easy, and his officers and men appear to have no idea of the value of discipline.³¹

On 24 September 1864, the U. S. 108th Colored Infantry Regiment, commanded by Lieutenant Colonel John Bishop, a white officer, arrived by train to assume guard duty at the Rock Island Prison Barracks. The regiment's recruits, primarily from the slave population of north and west central Kentucky, enlisted for a three year term of service.³²

Confederate prisoners expressed first indignation, then anger, over the prospect of armed former slaves in uniform guarding over them. Lafayette Rogan expressed these emotions in his diary, writing, "A regt (regiment) of contrabands arrived at this post for garrison duty." His next day entry read: "The contrabands have not yet come of the parapet. We hate it but I suppose we must submit to this

indignity . . . (as) we have to others." Two days later, Rogan wrote: "8,000 Southern men today are guarded by the slaves who have been armed by the tyrant. One of our number was killed and two wounded last night in cold blood."³³ It was not long before black guards had earned a reputation for shooting prisoners. Prisoners accused the guards of firing without provocation into their barracks and shooting prisoners without cause. However, in at least one instance, the post commander, Colonel A. J. Johnson, appointed a commission of officers to investigate the shooting death of a prisoner; and after deliberating on the evidence, the commission acquitted Private John Cowherd of Company C, 108th U. S. Colored Infantry Regiment, of all blame in the shooting of John P. McClanahan, prisoner of war, assigned to barracks 8. The commission ruled that Private Cowherd acted in accordance with the spirit of his instructions, and discharged his duty as a good soldier and faithful sentinel.³⁴

Right: A formal photograph of Private Christopher Anderson, a member of the 108th U.S. Colored Infantry Regiment, who served as a prison guard at the Rock Island Prison Barracks during the Civil War. The photo is from a *carte de viste*, a small portrait photograph used as a substitute for a visiting card by soldiers. This is one of a set photographed by Gayford & Speidel, Photographers, Rock Island, Illinois.



Prisoners and guards who disobeyed orders were often assigned to "ride" a narrow wooden rail, known as "Morgan's Mule". The guilty party "rode" the rail for several hours with his feet dangling above the ground.

The 108th Colored Infantry Regiment remained at Rock Island until May 1865. On the eve of their departure to Mississippi, the Rock Island *Argus* commented, "the colored soldiers, as a general thing, have conducted themselves with great propriety, since they were stationed here."³⁵

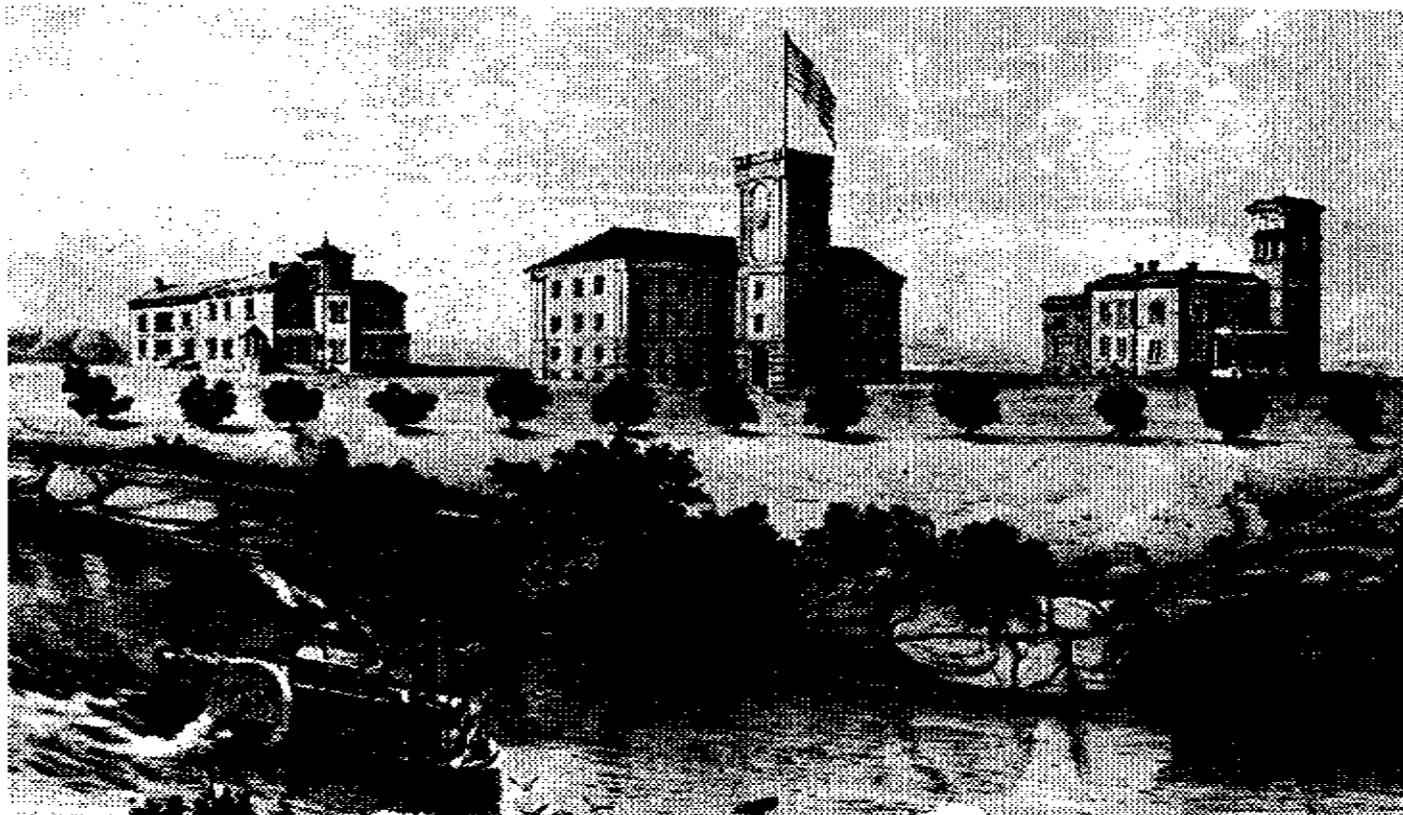
In a separate section of the national cemetery, at the far east end of the island, are 50 graves of the men of the 108th who died while serving at the Rock Island Prison Barracks. Also buried in this section were the 16 southern "galvanized yankees" who died prior to being assigned to the western frontier.³⁶

A total of 12,192 prisoners were confined to the

prison barracks during its existence. Of this number, 730 Confederate prisoners were transferred; 3,876 exchanged; and 5,581 released. The last two prisoners were released from the prison hospital in July 1865. After the prison was closed, the 207 buildings, including the prison barracks, hospital, and garrison building, were turned over to the arsenal. All of these structures have long since been razed. The last vestiges of the prison disappeared in 1909. Only the Confederate Cemetery remains as a permanent reminder of the existence of the Rock Island Prison Barracks.³⁷

The cemetery was relocated to its present site in February 1864. Between 1906 and 1912 a congressional commission responsible for marking the graves of Civil War dead provided the grave markers. Each year Memorial Day commemorative ceremonies are held at the cemetery.

Below: This copy of an old lithograph depicts the Army Ordnance Department's original plan to build a small arsenal comprising three structures for the repair and storage of ordnance weapons and equipment at the far western edge of the island. Note: Only the Clock Tower Building in the center was ever erected.



CHAPTER TWO BEGINNING OF THE ARSENAL

Prior to the Civil War, prominent army officers such as Brigadier General Thomas S. Jesup, quartermaster-general, expressed the importance of Rock Island. In 1852 General Jesup wrote:

The site of Fort Armstrong, Rock Island, is one of the most valuable in our western country for an armory. The whole water power of the Mississippi River is available. If a western armory is to be established, I would advise that it be placed there. The island is under the control of an agent, who resides on it, and who is under the order of, and reports to, the quartermaster of Saint Louis. The agent should protect the property from depredation. I would not advise that any part of it be rented or leased.³⁹

The legislation which authorized the building

of an arsenal at Rock Island in July 1862 envisioned only a small facility designed for the "deposit and repair" of ordnance and provided \$100,000 for the building of the arsenal. Besides Rock Island, Indianapolis, Indiana, and Columbus, Ohio, were designated as additional sites for the building of other small arsenals.³⁹ As a result of the destruction of Harper's Ferry Armory, in Virginia, Congress realized the necessity of federal arsenals being far from the Mason-Dixon Line. Rock Island, being situated in the upper Mississippi River, satisfied this criteria. None of the arsenal buildings, however, were completed at Rock Island during the Civil War.

Shortly after Congress had passed the act of 11 July 1862, establishing an arsenal at Rock Island, General C. P. Buckingham conducted a preliminary inspection of the island for the War Department. On 24 October 1862, he wrote to the secretary of war:

Right: *Edwin M. Stanton served as Secretary of War during the period in which plans for the Rock Island Arsenal were expanded and upgraded to include manufacturing operations.*



The island is, without a doubt, the best place for an arsenal. The only question connected with the location of an Arsenal at this point is, I conceive, whether it shall be at the upper or lower end of the island . . . I think the advantages of the lower end of the Island for the purpose of an arsenal are superior to those of the upper end.⁴⁰

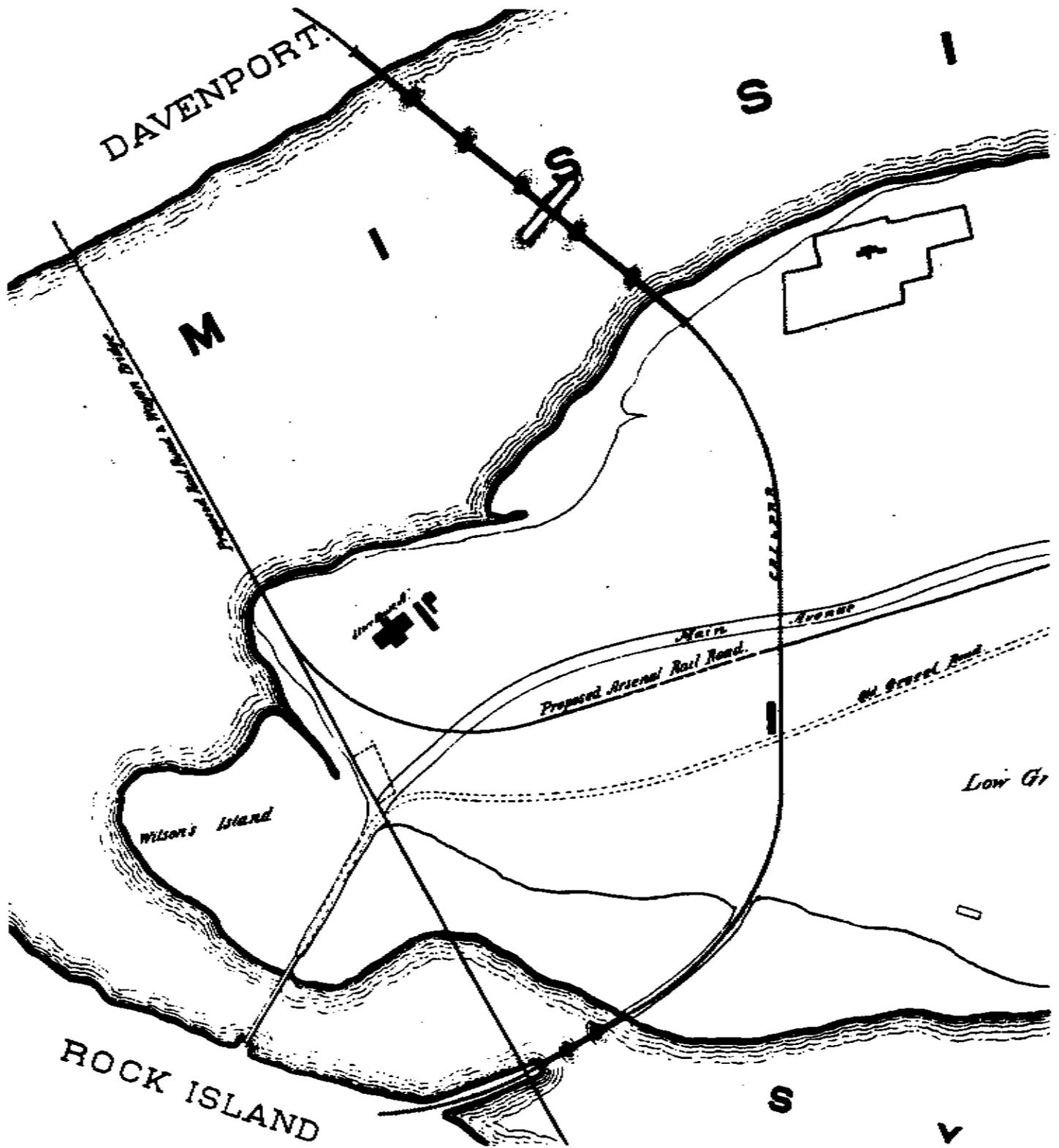
In 1862, the army appointed a board of officers to inspect the island and to recommend a construction site for the first buildings. The officers were to further report on the type of construction material to be used for the buildings. The board consisted of three ordnance officers: Major C. P. Kingsbury; Major F. D. Callendar; and Captain T. J. Treadwell. In their report to the chief of ordnance, the officers recommended the first arsenal building, designated "storehouse A" and today known as

the Clock Tower Building, be constructed on the western tip of the island. The officers also recommended limestone from LeClaire, Iowa, as the building material for the arsenal structures.⁴¹

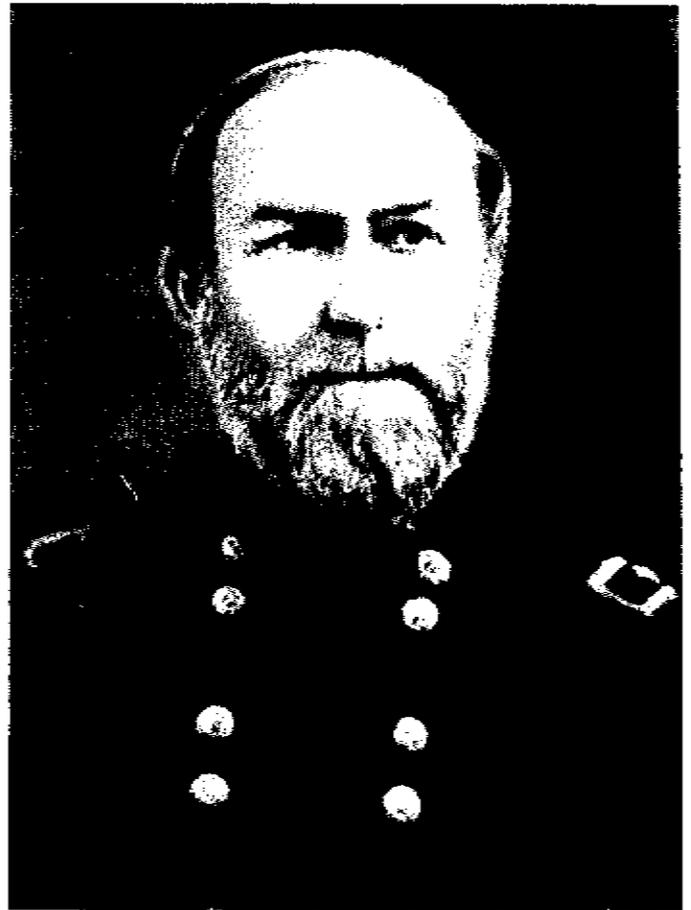
As views of prominent military leaders such as General George D. Ramsey, chief of ordnance, became known, sentiment in Washington began to develop for a larger arsenal than had originally been provided for in the act of 11 July 1862. General Ramsey, in a February 1864 letter to Edwin Stanton, secretary of war, expressed his views as to the advantages of having a manufacturing arsenal at Rock Island.

. . . After a careful study of this question of location, there is no position which, to my mind, affords so many advantages, and, at the same time, presents so few objections, as Rock Island, in the Mississippi River.

Below: The original location of the Chicago, Rock Island and Pacific railroad tracks across Arsenal Island and the site of the first railroad bridge from the island to Davenport, Iowa. Relocation of the tracks and bridge to the far western edge of the island in 1872 allowed the arsenal to use the entire island for expansion. Note: Storehouse A (Clock Tower Building) was situated east of the proposed bridge and track route.



Right: Major Charles P. Kingsbury was one of the three ordnance officers that selected the site of the first Rock Island Arsenal building. Afterwards, he became the arsenal's first commanding officer and supervised its construction from 3 August 1863 to 16 July 1865. In addition to his duties as commander, Major Kingsbury armed and equipped Iowa, Wisconsin, and Minnesota Volunteers during the Civil War.



In a military point of view it is perfectly secure from an enemy, advancing either by the lakes or the river. From it, supplies can be transported in any direction and at any season of the year. It is in the midst of a country teeming with coal and wood, and especially adapted to agriculture--an important element in cheapening labor. The site is elevated far above river floods, the climate and situation are health(y), and while the island is sufficiently isolated to secure it from sudden attacks, it is near enough to the cities of Rock Island and Davenport to afford ample accommodations for all necessary employees.⁴²

The board of ordnance officers submitted the following report to the Ordnance Office, dated May 18, 1863:

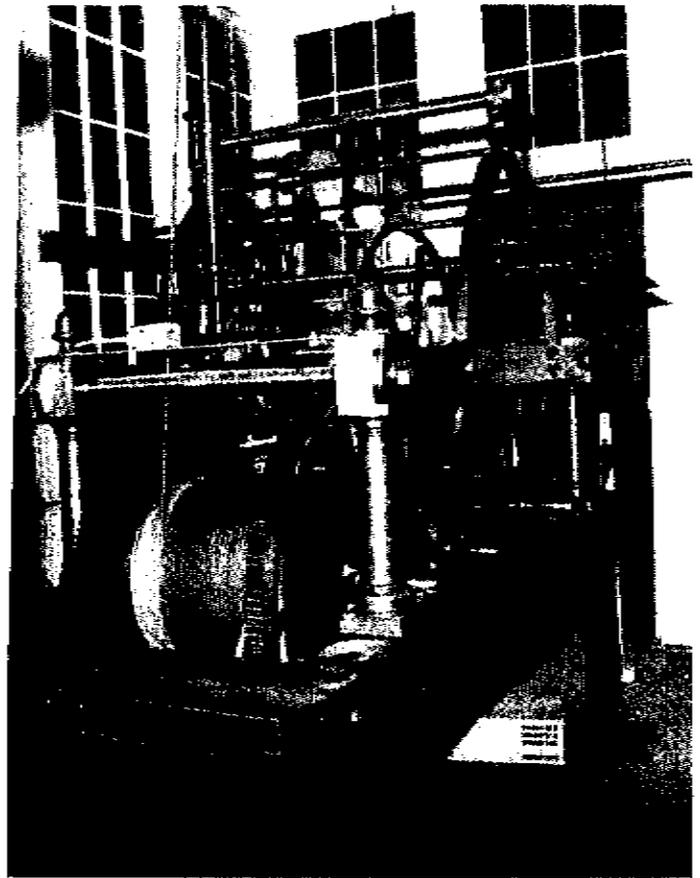
The undersigned, appointed a board under orders from the Ordnance Office, dated May 6, 1863, to select a site for certain buildings pertaining to the

proposed arsenal at Rock Island, respectfully report: That they have carefully examined the ground at the lower end of the Rock Island, selected by the War Department for a United States arsenal, and recommend that the front of the principal storehouse be on the prolongation of a line drawn from the southwest corner of a wooden building, now occupied by a tenant, (possibly the old General Winfield Scott headquarters or one of the old Fort Armstrong buildings) and that the southwest corner of said storehouse be placed at a point of this line 300 feet distant from said wooden building, the said line . . . (bearing) about south 40 degrees, west.⁴³

In addition, the board selected two possible sites for an ammunition magazine, also on the west end of the island. Once the officers' final report was approved, Major Charles P. Kingsbury was appointed to command the initial construction of the arsenal.⁴⁴

Left: An early etching of Storehouse A (Clock Tower Building), a stable, and a wooden house which served as General Winfield Scott's headquarters during the Black Hawk War of 1832.

Right: Colonel Rodman purchased the Tower Clock from A. S. Hotchkiss of New York City for \$5,000.00. The clockworks remain operating today as installed in 1868 on the sixth floor of the tower.



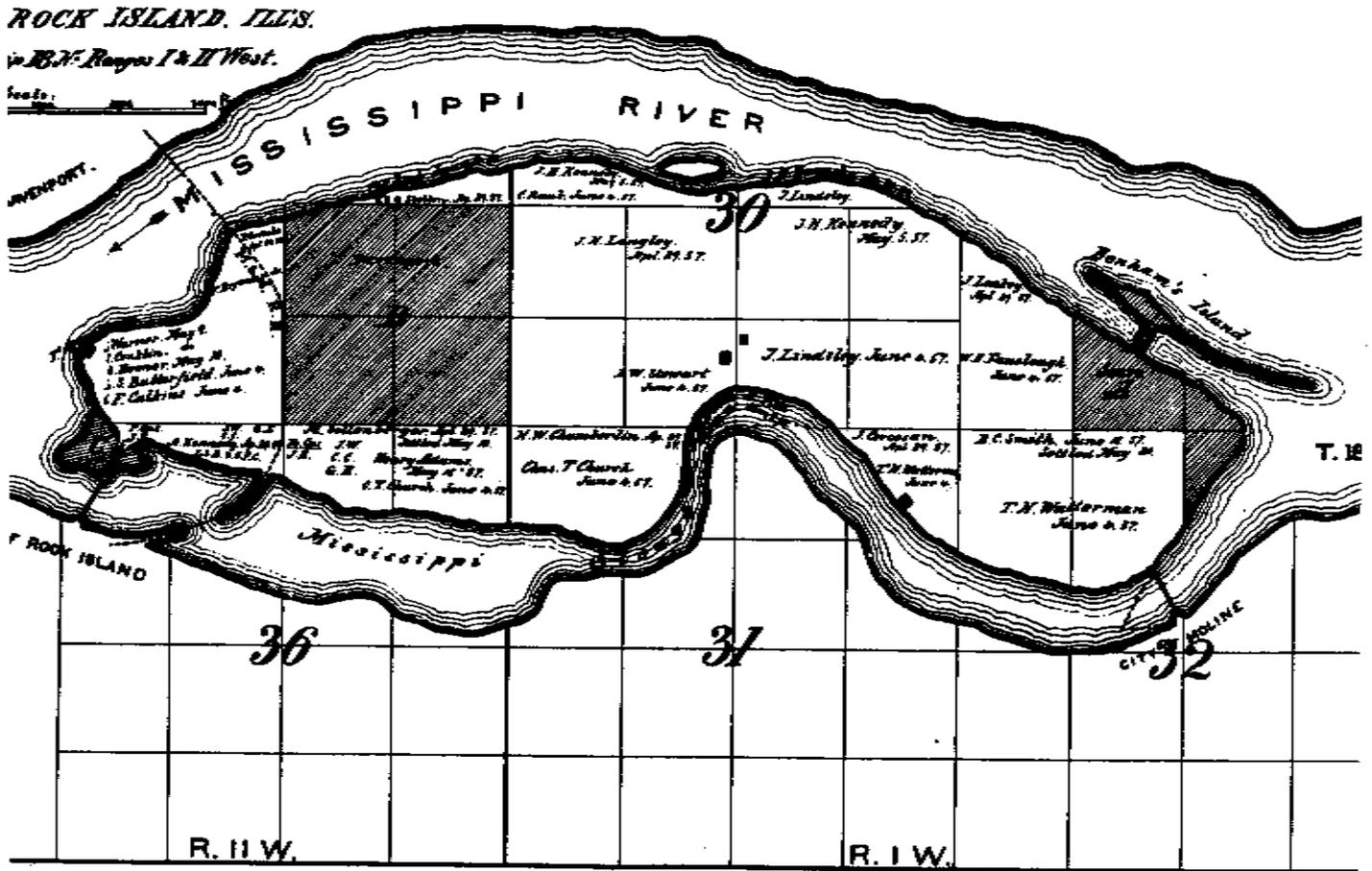
Ironically, in 1861 Major Kingsbury served as superintendent of the Harper's Ferry Armory in (West) Virginia for two days prior to the destruction of the armory's weapons and the abandonment of the installation in an effort to prevent Confederate sympathizers from seizing the supply when they arrived a few hours later to capture the armory.⁴⁵

Construction of the first building on the island began in 1863, and in April 1864, the cornerstone of the initial permanent building, storehouse A, was laid. Builders using LeClaire limestone erected a five story tower, nearly 120 feet in height, which housed a clock with dials facing in four directions. The clock's four dials were 12 feet in diameter, with a minute hand six feet long and an hour hand approximately 5 feet long. Kingsbury's successor, Brevet Brigadier General Thomas J. Rodman, purchased the clock from its manufacturer, A. S. Hotchkiss Company, New York, New York, in 1867. Considered to be one

of the finest in the country, the clock may be the only timepiece of its kind still operating with its original parts. The massive weights which operate the clock hang the length of three floors, and its clock bell weighs about 3,500 pounds. The clock was purchased for \$5,000.00. Begun during President Abraham Lincoln's administration, the Clock Tower was the only building erected from the original arsenal plans.⁴⁶

On 19 April 1864, Congress passed into law an act that authorized the army to reclaim the entire island and to settle all legal land claims held by others. This act, originally introduced as a bill on the floor of Congress by Illinois Representative Elihu B. Washburn, provided Major Kingsbury with the capability to build an arsenal equal to the Harper's Ferry Armory, and capable of manufacturing ordnance stores. Earlier legislation had only allowed the development of a depot.⁴⁷ General Ramsey's statements in his

Below: A map depicting the Rock Island land claims of Colonel Davenport, D. B. Sears, and others in 1857. Major Kingsbury sought the removal of these settlers and others from the island during his command.



letter to Secretary of War Stanton, confirmed the intention of the act of 19 April 1864. Ramsey wrote that the act authorized the secretary of war to take complete and permanent possession of the island on behalf of the United States. The act stipulated that the island was to be held as a military reserve by the War Department, and that an arsenal for the construction, deposit, and repair of arms and munitions be built and maintained on the island.⁴⁸

A prerequisite, however, to the creation of a large manufacturing arsenal was the removal of settlers and manufacturing establishments on the island. Between the two periods of military occupancy on Rock Island, portions of Rock Island had been settled by civilians. These individuals believed the government would eventually release the land for public sale. In the meantime, they had already staked-out or claimed the more valuable sites, such as those sections at the eastern end near the dam.

However, once the U. S. Congress approved the act of 11 July 1862, followed by the act of 19 April 1864, civilian domicile of the island was short lived. A board of commissioners appointed by the president of the United States reviewed and settled the more legitimate claims. In 1865, President Andrew Johnson appointed Major General J. M. Schofield, Mr. James Barnes of Springfield, Massachusetts, and Mr. Sheldon M. Church of Rockford, Illinois, to this board.⁴⁹

The commission conducted hearings in October of 1866, at which time witnesses testified and presented evidence as to the validity and value of their claims. The commission adjourned on 19 October 1866, and on 4 February 1867, submitted its final report to the Circuit Court of the Northern District of Illinois. Judge Drummond reviewed the compensation due each claimant and awarded the sum of \$237,429.00 as final payment to settle these claims.⁵⁰

Below: In 1868 a wooden bridge, built by the city of Rock Island, to the Arsenal Island was carried away by ice. The federal government had purchased the bridge and a sandbar known as Wilson's Island for \$18,600 in 1866. Colonel Rodman ordered a rope-ferry to operate between the city and the island until a new iron bridge was completed.



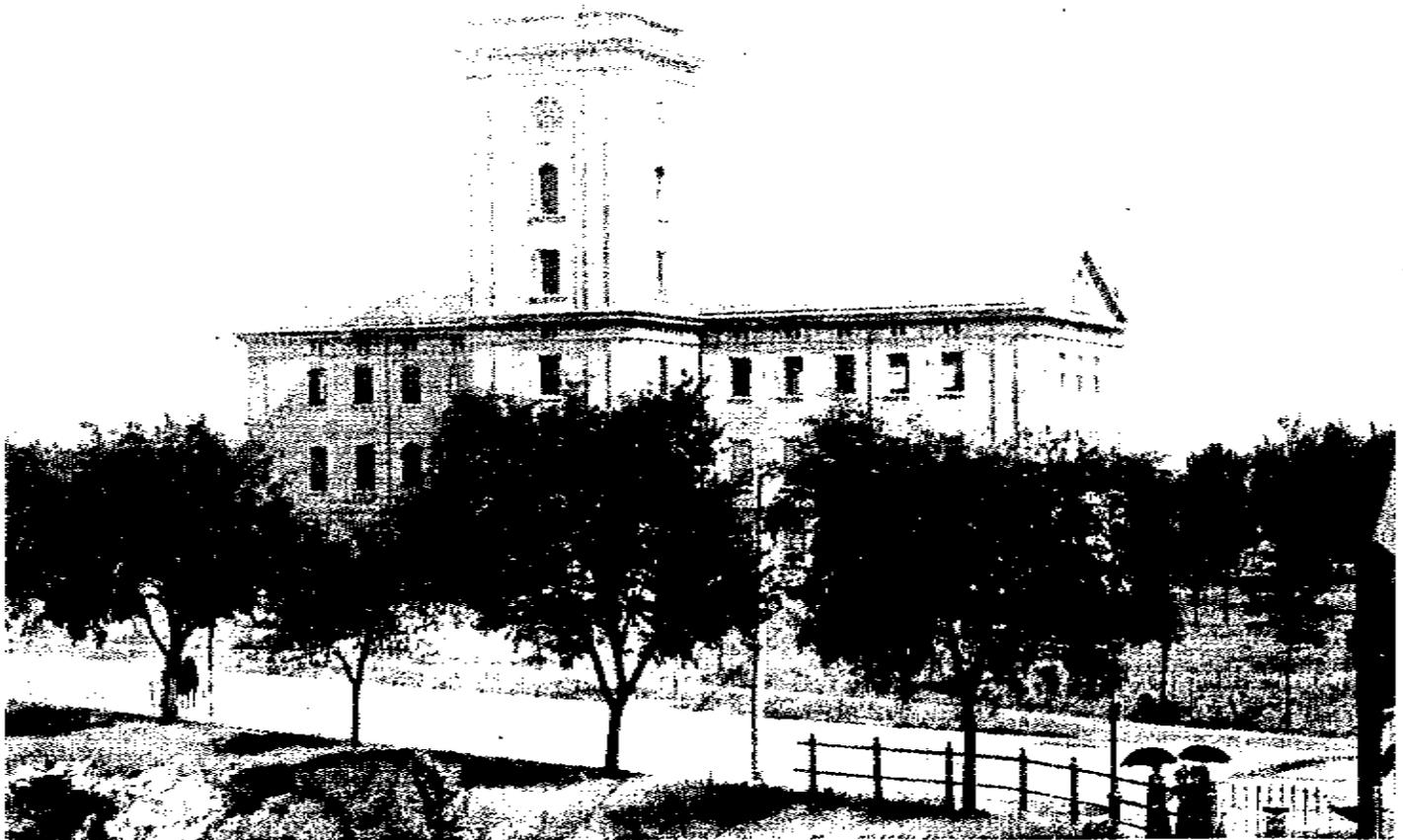
The congressional acts of 19 April 1864 and 22 June 1866 empowered the secretary of war to take complete and permanent possession of Rock Island, including the island's access bridges and water power. In doing so, the city of Rock Island received \$14,357.00 for its wooden wagon bridge and causeway over Wilson Island which connected the town with the island of Rock Island. The city of Rock Island had erected the bridge in 1863, but in 1868, a spring ice thaw destroyed it. Major Kingsbury, while commanding the construction of the Arsenal's Clock Tower Building, ordered a rope ferry installed as a substitute bridge until a new bridge could be constructed in its place in 1872.

The city of Moline, Illinois, received \$2,000.00 for its bridge and the roadway that connected Mill Street in Moline with the island. Mill owner and land developer, David B. Sears, received \$145,175.00 for 35.45 acres of land on Rock Island. His land was considered more valuable than others because it was developed and was located near water power from the wing dam at

the east end of the island. Sears had surveyed, plotted, and lotted his island property in the hopes of developing an island city. However, only a few lots were sold by the time the government had repurchased the property from Sears.

The government also awarded Colonel George Davenport's family \$40,740.00 for its 150 acre estate on Rock Island. The location of the Davenport property, which was near the original arsenal construction site, and the improvements made on the property, enhanced its monetary value and importance to the government. Government payments were especially generous considering both David B. Sears and Colonel Davenport had originally obtained their island properties for \$1.25 per acre. With the exception of the claims of George Stephens, Jonathan Huntoon, and Timothy Woods, the remaining six claims were small. The government settled these smaller claims for approximately \$1,000.00 each.⁵¹

Below: A latter 19th century view of the Rock Island Arsenal approach to the government bridge to Davenport, Iowa, and Clock Tower Building.



In letters to the chief of ordnance, Major Kingsbury approved the actions taken by the commission, however, he encountered difficulties with both the settlers on the island and with the soldiers who had been building the prison camp on Rock Island. Adding to these difficulties was the fact the city of Rock Island built a wagon bridge from that town to the island without Major Kingsbury's permission. To add insult to injury, the mayor of Rock Island, anxious to capitalize on business from the new prison barracks, now sought the major's permission to construct a road from the wagon bridge to the prison barracks on the north central portion of the island. Major Kingsbury ironically approved the request, but stipulated that the road be built away from his construction operations at the storehouse site near the ruins of Fort Armstrong. But once the road was completed, traffic between the prison camp and the town of Rock Island frequently left the road while taking a short-cut to the prison and encroached upon the arsenal building site.

These annoyances, and those created by wandering horses, cattle, and other livestock owned by the squatters on the island, hindered Major Kingsbury's construction operations.

Major Kingsbury also had to deal with delays in the shipment of limestone to Rock Island. The contractor, Joseph Parkins, claimed he could not continue to provide the stone at the contract price of \$7.50 a perch due to a sharp depreciation in the dollar in 1864. (A perch is a unit of measurement used in stone work, usually 16.5 feet (1 rod) by 1 foot by 1.5 feet, or 24.75 cubic feet.) Also, since the Mississippi River level had become so low, it was not possible to deliver the stone from the quarries by water.⁵²

In addition to these difficulties, Major Kingsbury was often called from his duty as arsenal commander to personally attend to the receipt and delivery of arms and supplies to volunteer troops in Iowa and Wisconsin, and frequently had to travel to Milwaukee, and Madison, Wisconsin and to Des Moines, and Keokuk, Iowa, to supervise the distribution of

Below: Sentry station, guard path and guard of probably the Civil War era. This photo was taken from a stereopticon card that depicted the north shore of the island of Rock Island between the pump station and sun dial. The location shown here was approximately at the northwest corner of the Rock Island Prison Barracks. Note the guard is armed with a long musket.



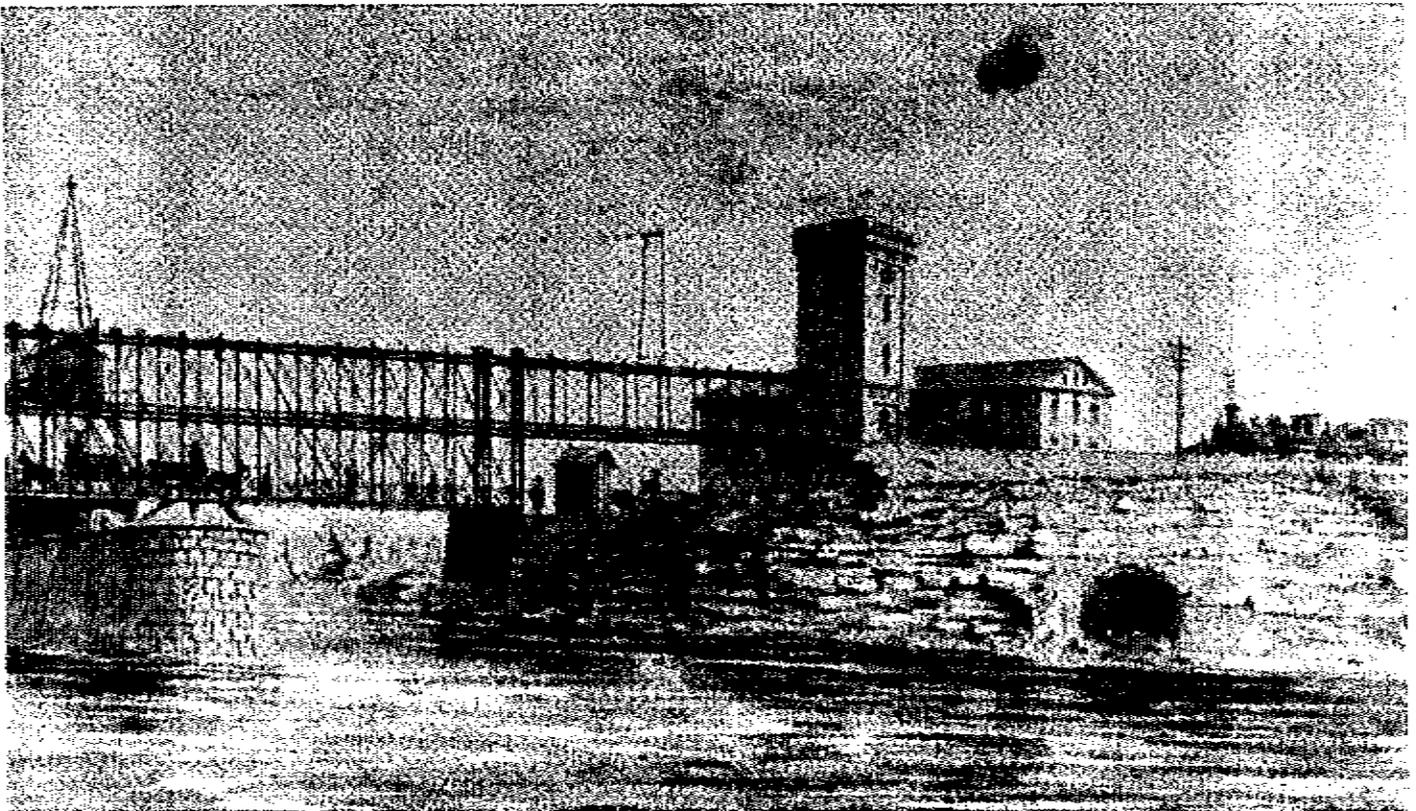
arms. A detachment of soldiers of the 4th Regiment, 186th Co., was assigned to guard arsenal property and construction sites on the island in April 1864. Conflicts between the prison guards and the construction workmen was an ongoing problem until the end of the Civil War.

Soldiers of the Quartermaster Department, who were building the prison on the interior of Rock Island, also routinely encroached upon Major Kingsbury's construction site; and their actions caused friction between the two commands. On 26 February 1864, Major Kingsbury wrote to the prison barracks commander, Colonel A. J. Johnson, to complain about teamsters hauling supplies and materials to the prison site and often leaving the road to trespass through arsenal grounds. Major Kingsbury notified the chief of army ordnance that Colonel Johnson's men also had chopped down an excessive amount of timber. Major Kingsbury reminded the chief of ordnance that the entire island would soon be permanently reserved for ordnance purposes by

congressional legislation, and that the prison barracks served only a temporary purpose and should have been placed on grounds which were already cleared.⁵³

In further correspondence dated 17 March 1864, Major Kingsbury again complained to the chief of army ordnance that the prison command had once more encroached on his building site. Colonel Johnson took control of the Colonel Davenport House after the government required the property. The arsenal commander requested that the chief of army ordnance immediately transfer possession of the Davenport House to the Ordnance Department. Major Kingsbury viewed Colonel Johnson's arbitrary action as another example of the prison's encroachment on arsenal grounds, and argued that it was imperative the Davenport House be retained by the arsenal as it would save the arsenal the expense of building an office and additional storage area. In accordance with instructions from the chief of ordnance, Colonel Johnson relinquished the house to the Ordnance Department.⁵⁴

Below: The relocation of the Chicago, Rock Island and Pacific Railroad tracks and bridge to the far western edge of the island was critical to the success of Rodman's plan for expansion of the arsenal over the entire island. Rodman encouraged the building of a new bridge, a double deck bridge with a wagon deck beneath the railroad deck. William Lamback's sketch of this new iron bridge with the Clock Tower Building in background is shown below.



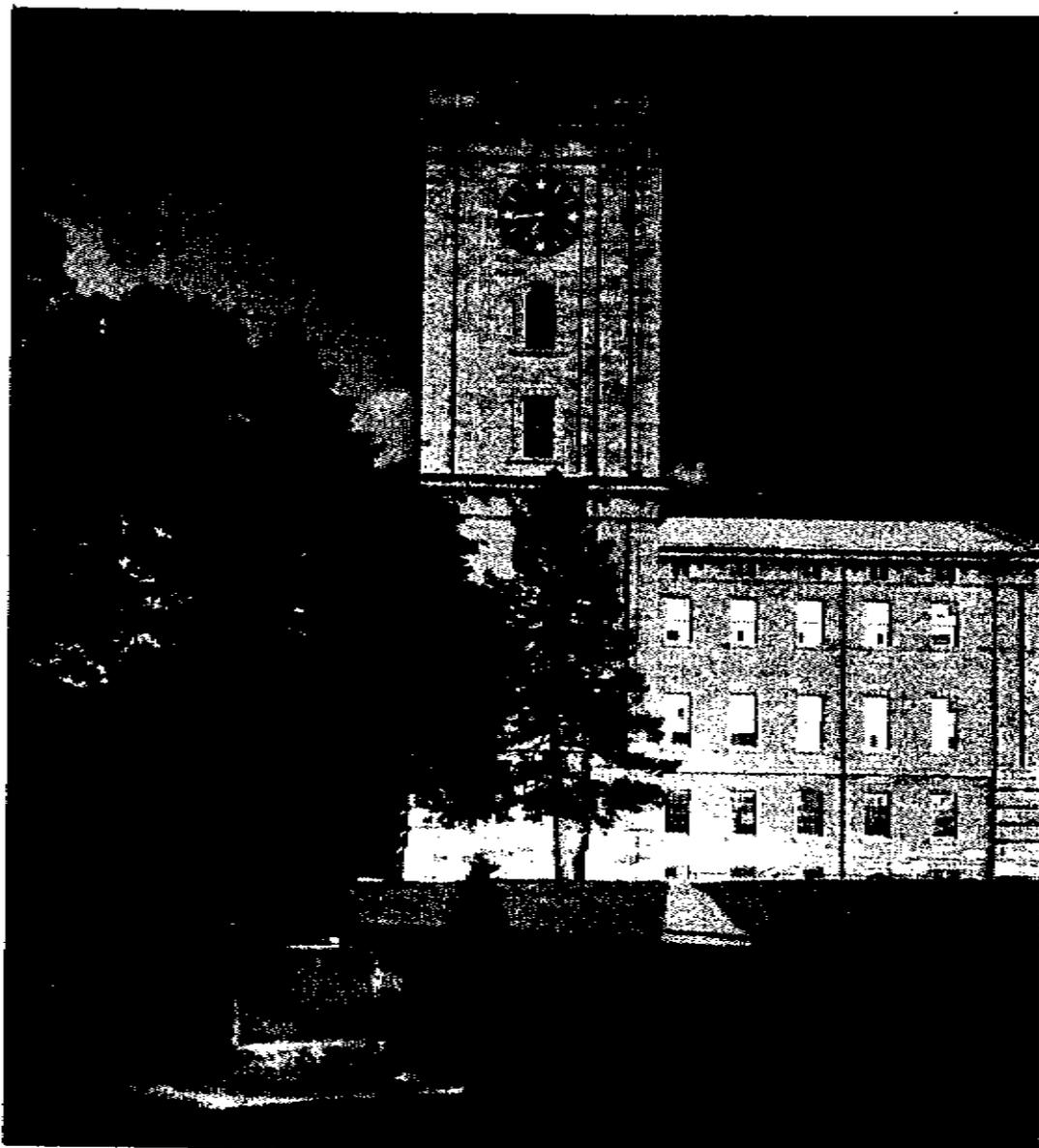
Conflict continued, however, between the two commands. On 10 June 1864 Major Kingsbury again wrote to Colonel Johnson regarding the activities and conduct of the commandant's men. He complained that men quarrying stone for the U. S. Government on the other side of the river were driven from their work by the musket fire of the prison guards, and that the quarry workers' lives were endangered by this practice.⁵⁵ Obstacles such as these, and the failure of the contractor, Joseph Parkins, to deliver the LeClaire limestone as scheduled, delayed the completion of the storehouse building.

These delays and difficulties frustrated and discouraged Major Kingsbury. He had already begun construction of "storehouse A" prior to congressional legislation which authorized the army to reclaim the entire island. Less than a dozen firms and individuals continued to use portions of Rock Island after the passage of this act. Reluctant to move, they persuaded Major Kingsbury and government authorities in Washington to allow them to remain as long as

their operations did not interfere with the arsenal's construction plans.

In May 1865, the new chief of ordnance, Alexander B. Dyer, visited Rock Island to inspect the construction site and to discuss several significant issues with Major Kingsbury which impacted on the future development of the arsenal. These issues were the removal of the squatters; future use of the prison barracks; plans for a greater arsenal; location of buildings; and water power development. Removal of the remaining private parties from Rock Island proved more difficult than imagined. Tired after two years of arguing with squatters, stone cutters, and local authorities, Major Kingsbury finally gave up. In June 1865 he requested and received a release from his command at Rock Island. Left unfinished was the partially constructed Clock Tower Building, "storehouse A". On 27 June 1866, a full year after Major Kingsbury's departure from Rock Island, the federal government acted upon the land claims.⁵⁶

Right: *The U.S. Army Corps of Engineers, Rock Island District, has occupied the Clock Tower Building since the building of the lock and dam at Rock Island in 1934. Note: the dial is approximately 12 feet in diameter, and the hour and minute hands are approximately five and six feet long.*

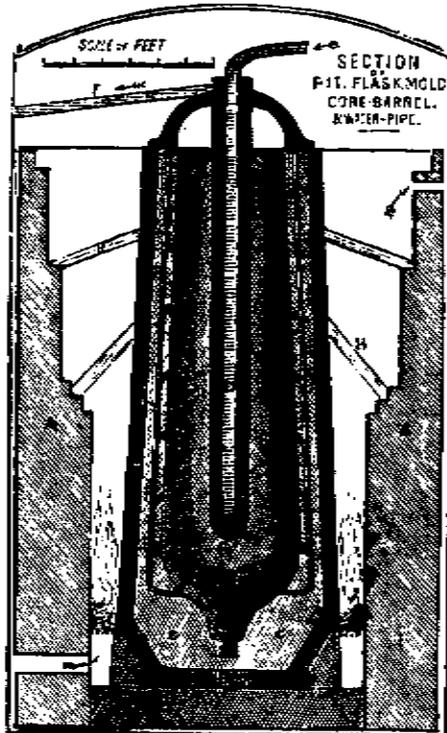


Edwin M. Stanton, secretary of war, acting upon Major Kingsbury's request for reassignment, switched the commanding officers of Rock Island Arsenal and Watertown Arsenal. Kingsbury's successor, General Thomas J. Rodman, obtained his superior's approval for design changes proposed in the Clock Tower Building, and in the overall plan for an arsenal at Rock Island. The two major changes approved were the placement of gables in the ends of the building with windows in each to light and ventilate the loft, and an increase in

the height of the clock tower by 20 feet to accommodate the change in the height of the roof. The clock tower, completed in 1867, served as a support for the main hoist which lifted supplies to the floors of the main building. General Rodman's alterations in the design increased the usefulness of the building and created a more imposing structure. Since its construction, the Clock Tower Building has become one of the most visible and recognizable landmarks of the Rock Island Arsenal and of the upper Mississippi River.⁵⁷

Right: Historians credited Rodman's method of casting gun tubes, which produced the Rodman Gun, as being one of the most significant advancement in ordnance technology of the Civil War period.

Below: Rodman's revolutionary casting method reversed all previous methods by having the inside of the gun tube cooled by flowing water while the exterior side of the flask mould was heated by the casting fire. His method cooled the gun from the inside so the iron next to the bore solidified first, thereby increasing the strength of the gun tube.



THE RODMAN GUN: Outline of Casting Process

- A. Side of pit dug in the earth.
- B. Flask holding in shape the earth mould.
- C. Mould, a mixture of earth and sand.
- D. Core barrel.
- E. Water.
- F. Escape flue.
- G. Gun.
- H. Braces for keeping flask upright.

CHAPTER THREE THE RODMAN YEARS AT RIA

The U. S. Army Ordnance Department decided to build a manufacturing arsenal at Rock Island and selected Brevet Brigadier General Thomas J. Rodman to command it in 1865. Rodman, a brilliant graduate of the U. S. Military Academy Class of 1841, had an impressive record of service prior to his assignment at Rock Island. He had investigated and developed new ordnance concepts in the field of metallurgy and propellants, and his rank of Brevet Brigadier General was bestowed on him for meritorious and distinguished service in the Ordnance Department during the Civil War. Rodman maintained this honorary commission until his death in 1871. However, his actual military rank

was Lieutenant Colonel. Since a lieutenant colonel was referred to as a colonel, Rodman's rank will be referred to as such from this point on.

The "Rodman Gun"

One of Colonel Rodman's greatest achievements was the development of the "Rodman Casting Process," which revolutionized the art of casting cannons. His casting method cooled an iron gun from the interior, while keeping the exterior in a fluid state. The inner walls of the gun solidified first causing successive layers of metal to shrink one upon another. The result was a stronger, safer

Right: *The Rodman Gun designed for seacoast protection was also used to arm the monitor-type Union vessels during the Civil War. Note: the notches at the rear of the tube were used to assist in elevating the weapon.*



cannon that was more reliable, and longer lasting than other guns of the era. The life of a gun was increased 11 to 20 times when cast by the Rodman process. The army adopted the water-cooled, hollow casting of cannons in the year 1859, 14 years after Rodman had conceived the process.⁵⁸

Colonel Rodman transformed the design of cannons into a science. He consolidated the ballistic knowledge of foreign military powers and applied the science of his day to cannon design. With the development of the steam engine, methods of calculating pressure were available to Colonel Rodman. Through his scientific research of internal ballistics, Rodman was able to determine the pressure curve for specific guns. Based on this information, he designed the Rodman Gun so that the gun tube was cast thickest at the point of greatest pressure and then narrowed as the pressure decreased. The new "coke bottle" shape and the new casting process made the Rodman gun a major technological improvement over past designs and placed the Rodman gun among the most significant weapons advancements of the Civil War. In fact, historians credit Colonel Rodman and his gun with discouraging European naval intervention in the American Civil War. Installed as coastal artillery, the Rodman gun was vastly superior to the European naval weapons, and, therefore, served as a deterrent to any European nation which contemplated naval action against the American continent.

Rodman Gunpowder

Colonel Rodman's later work on gunpowder also proved significant. He developed a new gunpowder formula which laid the groundwork for the modern pellet powder. By 1860, he had begun to develop powder to fit the caliber of the gun by devising a formula whereby gunpowder could be compressed into disks. These disks, referred to as perforated cake powder, were approximately one or two inches thick and pierced with holes. The perforated powder burned slower than ordinary cannon powder. Rodman's perforated cake powder also provided more thrust and a more uniform pressure along the gun's bore, thereby reducing the strain on the gun and increasing its firing distance.

Earlier experiments with different types of powder led Rodman to the development of "prismatic" powder. This prism-shaped powder maintained chamber pressure at a greater level than other gunpowder without increasing the

Right: Colonel Rodman earned the rank of Brevet Brigadier General for his distinguished work in the field of metallurgy and propellants during his command of Watertown Arsenal, in Massachusetts, during the Civil War.



pressure or strain on the gun tube. The muzzle velocity of the projectile was also increased without an additional strain on the tube. This concept increased the surface area of powder by perforation, and made angles on the outer surface of the gun thereby promoting rapid even burning. Rodman may well be called the Father of the Scientific Study of Internal Ballistics as the result of his achievements in the field of ballistics at Watertown Arsenal, Massachusetts, during the Civil War.⁵⁹

At the close of the Civil War, Colonel Rodman turned his engineering genius to the field of architecture and building construction at Rock Island Arsenal. As previously mentioned, in 1865, the secretary of war granted Major Kingsbury his request for reassignment by having Kingsbury and Rodman exchange commands. Under Major Kingsbury's command, arsenal improvements were confined to the small quarter section of Rock Island which extended west of the Chicago and Rock Island Railroad tracks. The remaining three-fourths of the island, east of the railroad tracks, was not

developed. The chief of ordnance instructed Rodman to examine the island thoroughly regarding future development of the arsenal. Upon his arrival in August 1865, Colonel Rodman inspected the island, and immediately wrote to Washington. In his letter, he expressed his belief that ongoing expansion of the facilities would be necessary, and that the entire island would have to be reserved for that purpose.

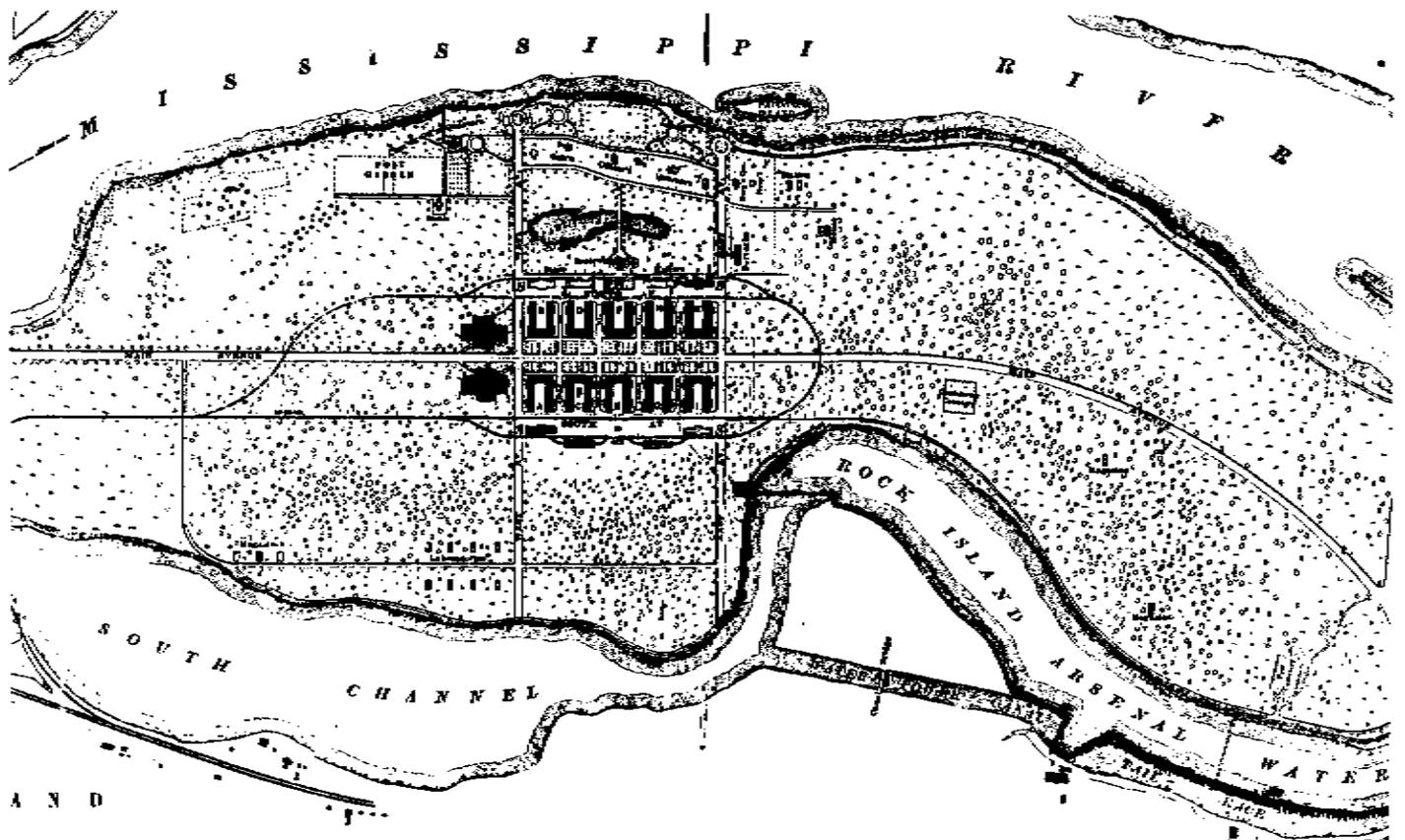
Rodman's Master Plan

Rodman welcomed the opportunity to build a well-designed, national arsenal at Rock Island. His plans called for the development of an arsenal larger in scale and scope than originally designed. The War Department endorsed Colonel Rodman's concept of a large national arsenal at Rock Island, which was centrally located and easily accessible by rail and river. Though not its first commanding officer, Colonel Thomas J. Rodman is today considered the "Father of the Rock Island Arsenal" because of the critical role he played in the design and expansion of the arsenal.

Below: Colonel Thomas J. Rodman, the second Rock Island Arsenal commander, has historically received credit for the conceptual design of the 19th century Rock Island Arsenal. Rodman relocated the site of the arsenal to the center of the island and initiated the relocation and improvement of access bridges to the island. While in the midst of supervising the building of the Rock Island Arsenal, Colonel Rodman died on 7 June 1871, and was buried adjacent to the National Cemetery on Arsenal Island.



Below: Diagram noting the location of the buildings which formed the 19th century Rock Island Arsenal. Note the bridge and artificial "lake" which served as a buffer between the arsenal manufacturing complex and the officers' residential zone.



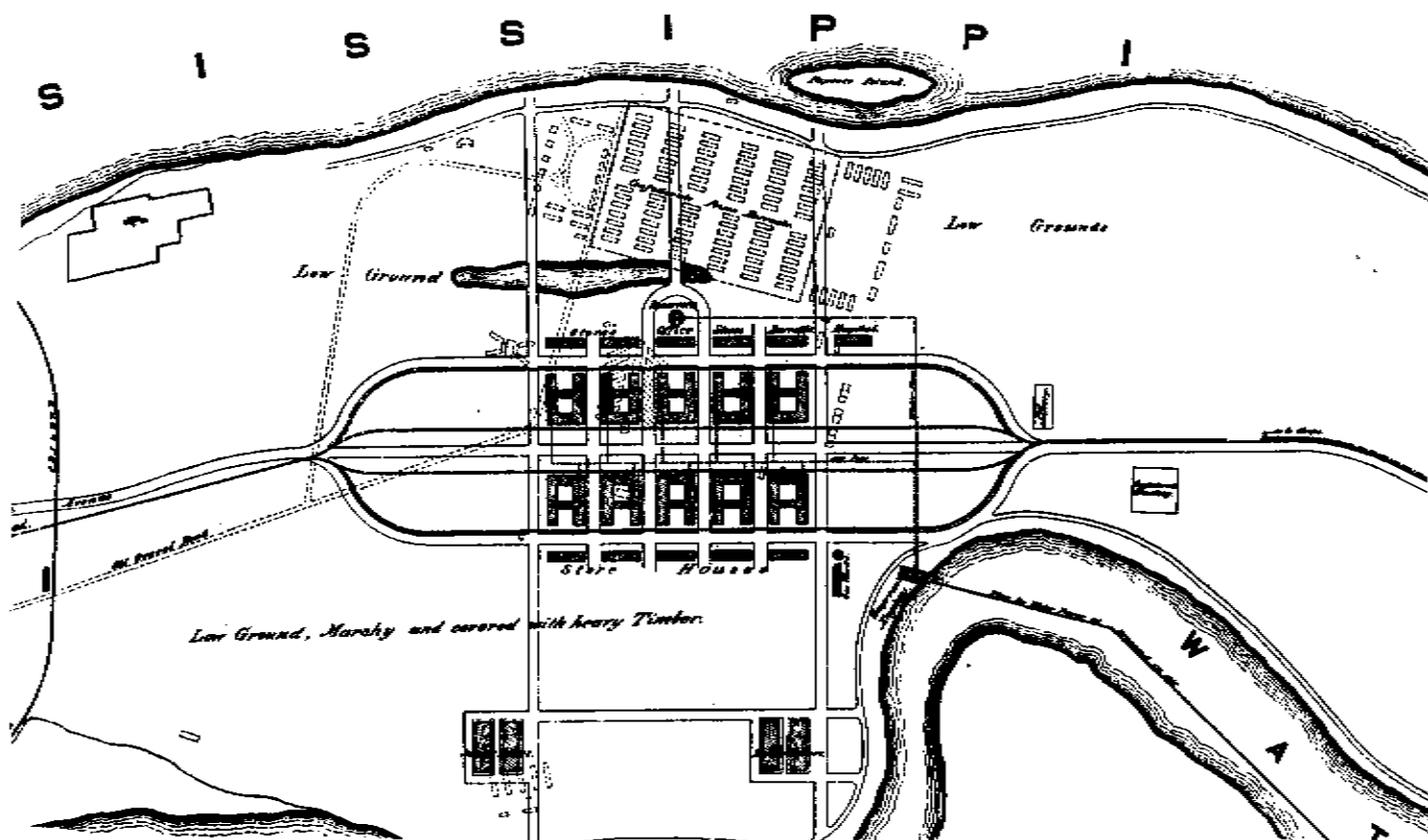
Two weeks after filing his report, Colonel Rodman met with Brigadier General Alexander R. Dyer, chief of ordnance, to discuss future plans for the Rock Island Arsenal. After careful scrutiny of Rodman's broad plans for the arsenal, General Dyer approved them. Rodman returned to RIA and from October 1865 until February 1866 developed more specific plans for the arsenal. His plans and drawings for the arsenal included designs for a manufacturing complex, and officer's residential zone, and water power plant. Rodman's grand plan called for the complete use of the island for building purposes. He moved the site of the arsenal's construction to the high ground in the center of the island to allow for future expansion, and to make better use of the potential waterpower of the Mississippi River.⁶⁰

Rodman's master plan included the construction of ten great stone shop buildings, divided equally into two facing rows along the main east-west thoroughfare, now designated Rodman Avenue. These stone shops formed the

core of the arsenal's 19th century manufacturing complex. Major ancillary buildings, such as the post headquarters, fire station, barracks building, and storehouse, bordered the manufacturing shops. North of the manufacturing complex Rodman placed the military residential zone which consisted of the RIA commanding officer's quarters and quarters for his subordinates. Rodman designed the commanding officer's quarters, known now as Quarters One, in an Italianate villa style. The assisting officer's quarters, built along Terrace Drive overlooking the Mississippi River, were constructed over the site of the Civil War Rock Island Arsenal Prison Barracks and were of more modest Italianate design than was Quarters One.

Colonel Rodman's plans also included the construction of an arsenal dam and powerhouse south of the manufacturing buildings on the southern channel of the Mississippi River, now known as Sylvan Slough. He conceived the use of the teledynamic system of cables and towers which mechanically transported power from the

Below: Note: The Old Map of Rock Island Arsenal included manufacturing buildings with enclosed court yards. Contrast this map with the finalized master plan on page 31. Also note the outline of the Rock Island prison camp which occupied the land primarily north of the manufacturing complex.



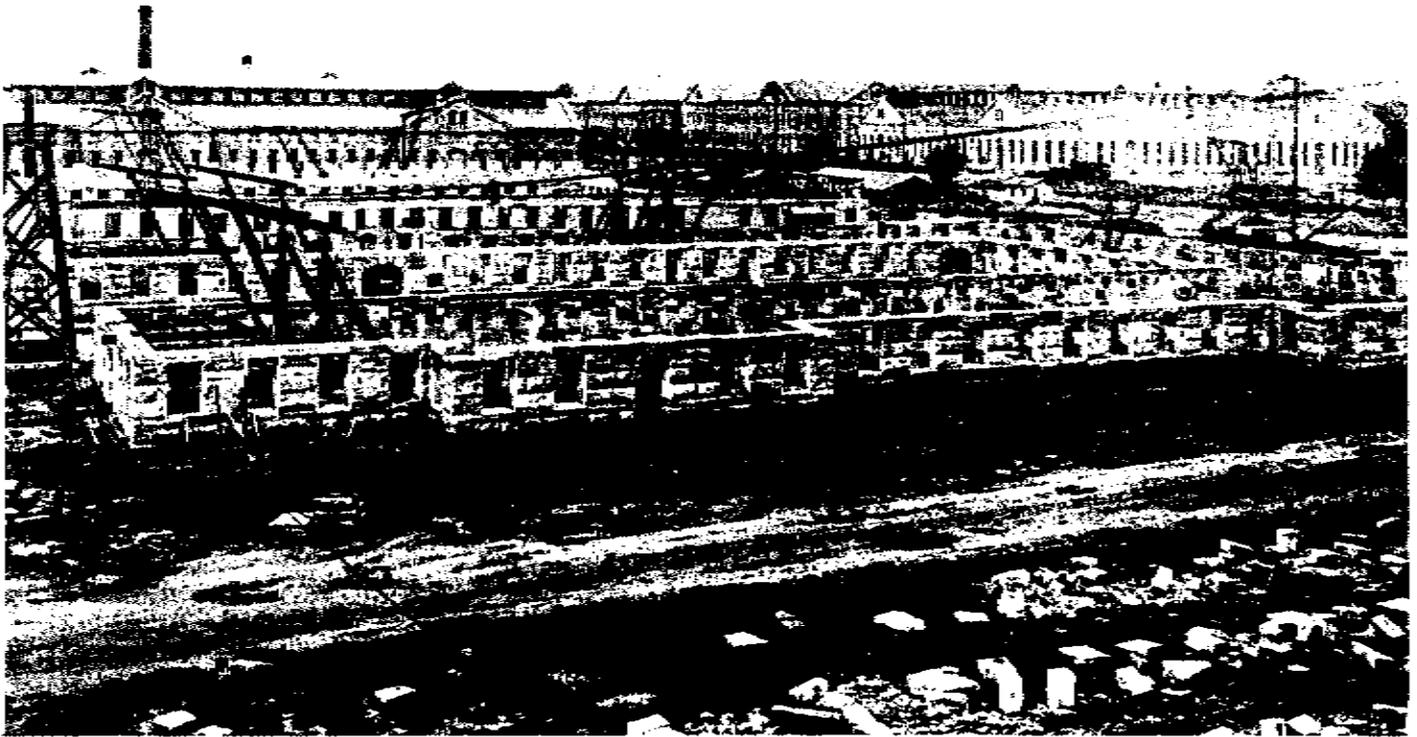
river to the southern row of shops along Rodman Avenue.

Rodman initially planned to construct manufacturing buildings with enclosed court yards. However, before finalizing his plans, he revised the drawings and opened the court yards to provide additional natural light. Natural lighting was a major consideration in architectural design prior to the advent of electricity. Rodman also added protruding portico entrances to the sides of the manufacturing buildings which improved their appearance and strengthened their walls. He inserted a foot bridge and small artificial lake into the plans to serve as a buffer between the residential and manufacturing zones, and to provide an attractive path by which the officers could pass to and from work.

Rodman's plans featured construction of a manufacturing complex which combined both arsenal and armory capabilities at one installation. The five shops built along the northern edge of Rodman Avenue, buildings 60, 62, 64, 66, and 68, formed the arsenal's small arms plant and were collectively known as

Armory Row. The buildings housed manufacturing shops B, D, F, H, and K, respectively. The five shops built along the southern edge of the avenue, buildings 102, 104, 106, 108, and 110, formed Arsenal Row. These shops were designated for general ordnance manufacturing and included shops A, C, E, G, and I. Each center shop was constructed of one story with a gabled monitor roof. The middle shop in Armory Row, building 64, functioned as a rolling mill and forge shop; the center shop in Arsenal Row, building 106, functioned as the arsenal's foundry and blacksmith shop. The other eight shop buildings were uniformly constructed with three stories. The ten manufacturing buildings all had the same "U"-shaped floor-plan with 300-foot wings extending back from a 210-foot by 60-foot base. Each of the eight three-story buildings covered slightly more than an acre of land, with a little more than three acres of floor space. The ten Rodman-planned, symmetrically-designed, stone shops still stand today along both sides of Rodman Avenue.

Below: An 1878 view of shops G and I (buildings 108 and 110) under construction. All the stone shops were built basically with identical floor plans. Note stone yard in the foreground and wire-cable towers to the rear of the buildings at extreme left.



A National Arsenal at Rock Island

Construction of the first manufacturing shop buildings began in 1866 and continued until the last stone shop, building 68, was completed in 1893.

Erected over a nearly 30-year period, the arsenal's stone buildings reflected the feeling of Manifest Destiny which swept Congress and the nation in the latter 19th century. This view was reflected in the comments of Brigadier General Stephen V. Benet, chief of army ordnance, in a letter to William W. Belknap, secretary of war,:

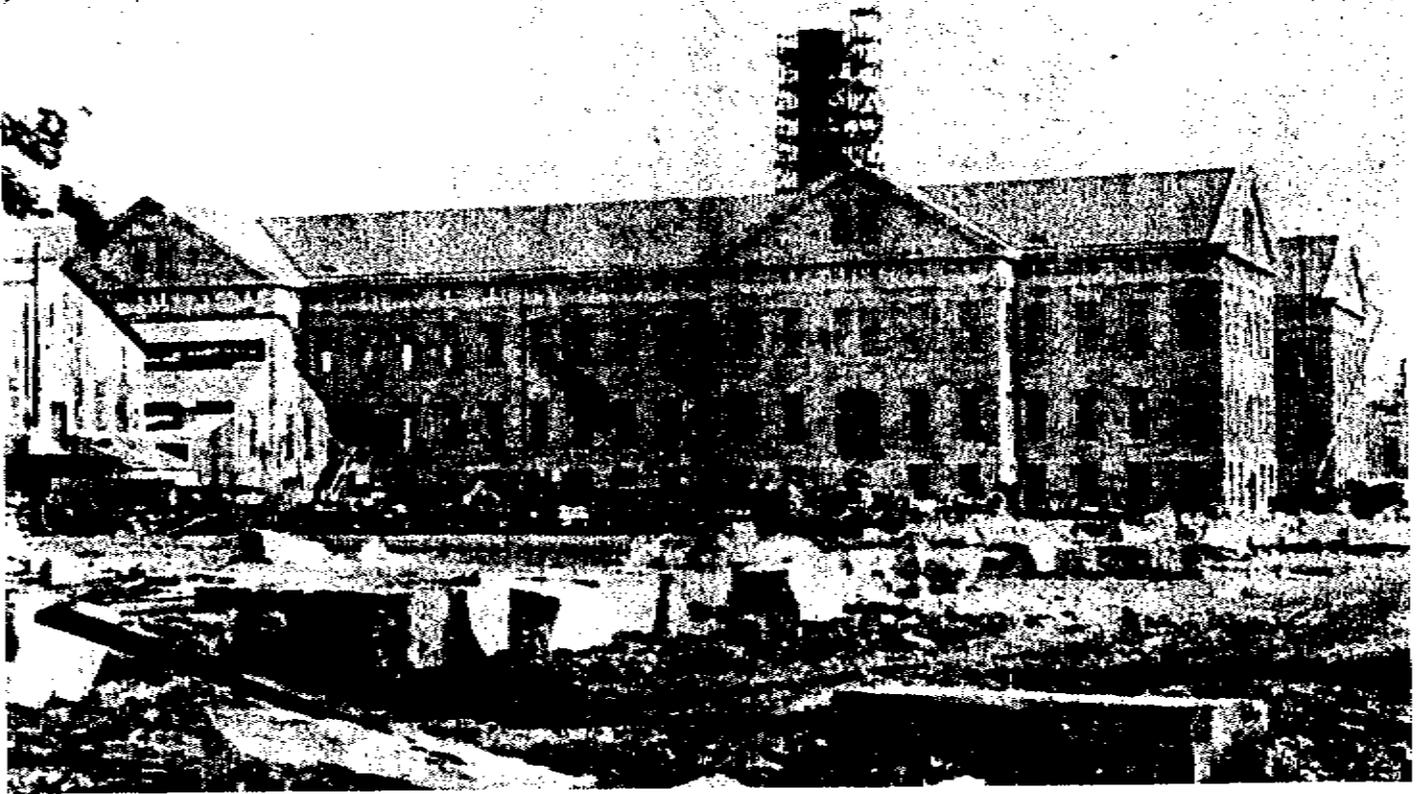
The Rock Island Arsenal in its present incompleated state, now supplies all the militia of most states and territories drained by the great river (Mississippi River) and its tributaries, many of the fortresses that guard the coast line of the Gulf of New Mexico, and more than one-half of our Army, now scattered from the Mississippi River to the Rocky

Mountains and beyond. When completed and fully equipped as a manufacturing arsenal, its capacity will equal the supplying of all the armies that may be organized in the Mississippi River Valley in any war of the greatest magnitude.⁶¹

Earlier, Brigadier General Alexander B. Dyer had written the secretary of war on 24 October 1871 that:

(Rock Island Arsenal) should be made the great arsenal of deposit and construction for the Mississippi Valley, and that it should possess the manufacturing capacities of the national armory at Springfield, Massachusetts, and of one of our largest arsenals of construction, and it was planned with that end in view, and has been so built.⁶²

Below: A rare 1872 view of shop C (building 104) near completion. Note the industrial tower under construction and the temporary factory buildings with monitored roofs to the left. The arsenal produced building hardware and ordnance stores for troops stationed in the American West from these temporary buildings. Once shop C (building 104) and shop E (building 106) were completed, the temporary shops were razed.



Built-of-Stone: The Construction of 19th Century RIA

The story of the construction of the Rock Island Arsenal shop buildings is one of the more fascinating tales in the history of Arsenal Island. The inception and growth of the arsenal stone buildings occurred during the commands of Major Charles P. Kingsbury (July 1863-July 1865), Brevet Brigadier General Thomas J. Rodman (August 1865-June 1871), and Brevet Lieutenant Colonel David W. Flagler (June 1871-April 1886). By the conclusion of Flagler's command in 1886, the arsenal's direction of development already was so firmly established that it continued on for an additional decade or so without significant change.

In 1866, Rodman ordered cheap temporary shops with gabled monitor roofs be constructed on the future site of shop A, building 102. He also temporarily converted prison barracks along Gillespie Avenue to serve as a make-shift headquarters and officer's quarters. From these

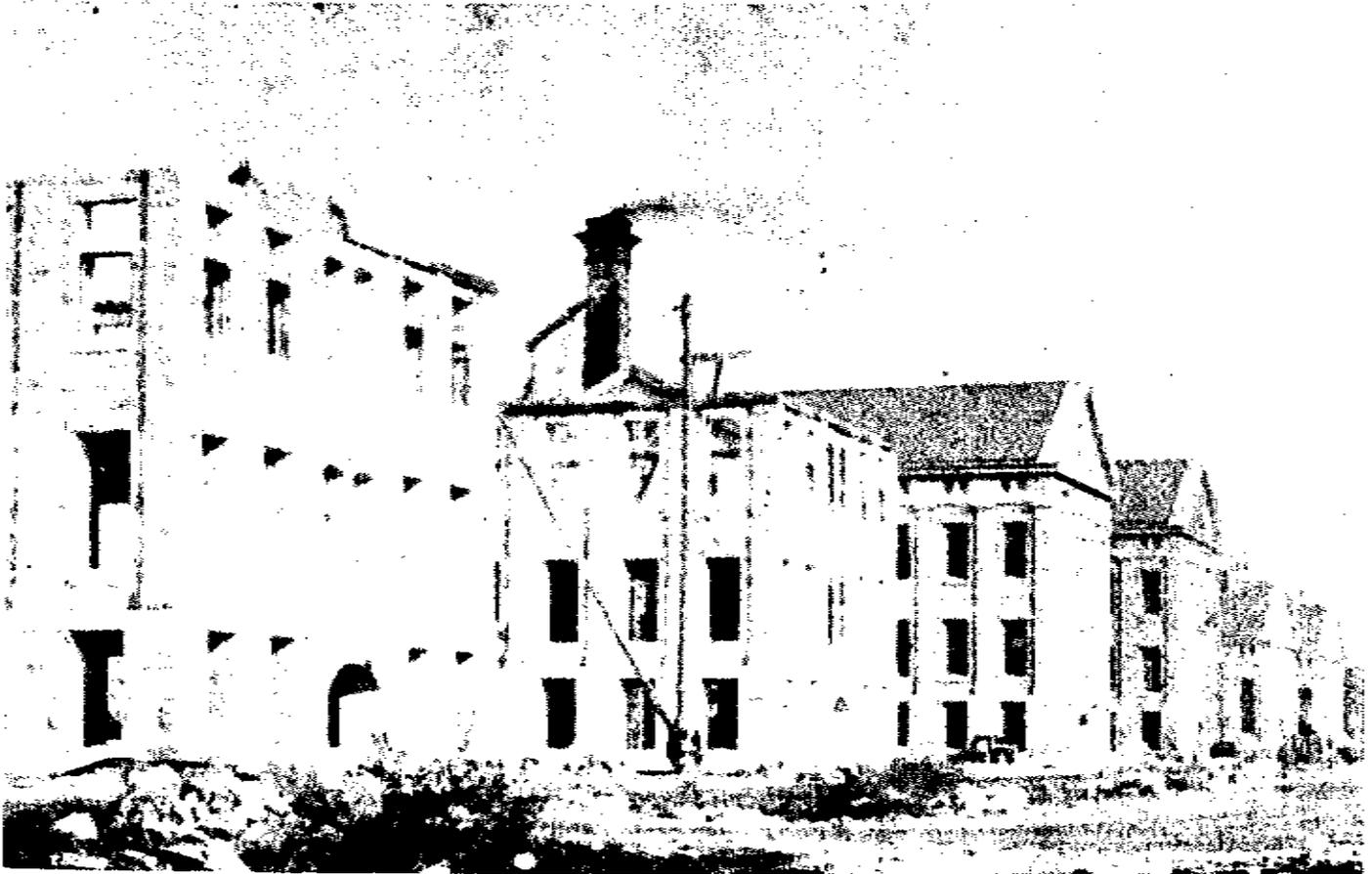
inexpensive, temporary, wooden buildings, the arsenal began initial construction work for the permanent stone buildings.

19th Century Greek Revival Architecture of the Arsenal Stone Shops

For nearly the first three decades, the arsenal primarily concentrated on the completion of Rodman's ambitious construction program. Shops B (building 60) and C (building 106) were the first of the ten stone shops under construction. The 19th century Greek Revival architectural style of these and the eight future buildings featured pillowed or rock-faced limestone accented by pilasters, architraves, and pedimented gable ends. The ten original shop buildings were built of massive rock-faced limestone.

Unlike his predecessor, Colonel Rodman did not procure stone quarried from LeClaire, Iowa; instead he acquired stone from Sangers and Steel of Joliet, Illinois.⁶³ The stone derived its name from the region in which it was quarried.

Below: A rear view of Arsenal Row with shop A (building 102) under construction in foreground. Shop A was built 1873-1876. The last building visible in the photograph is one-story and has small windows in entablature of structure which indicates the building is shop E (building 106), the Rock Island Arsenal foundry. Note the typical derrick or crane in the court yard of shop A.



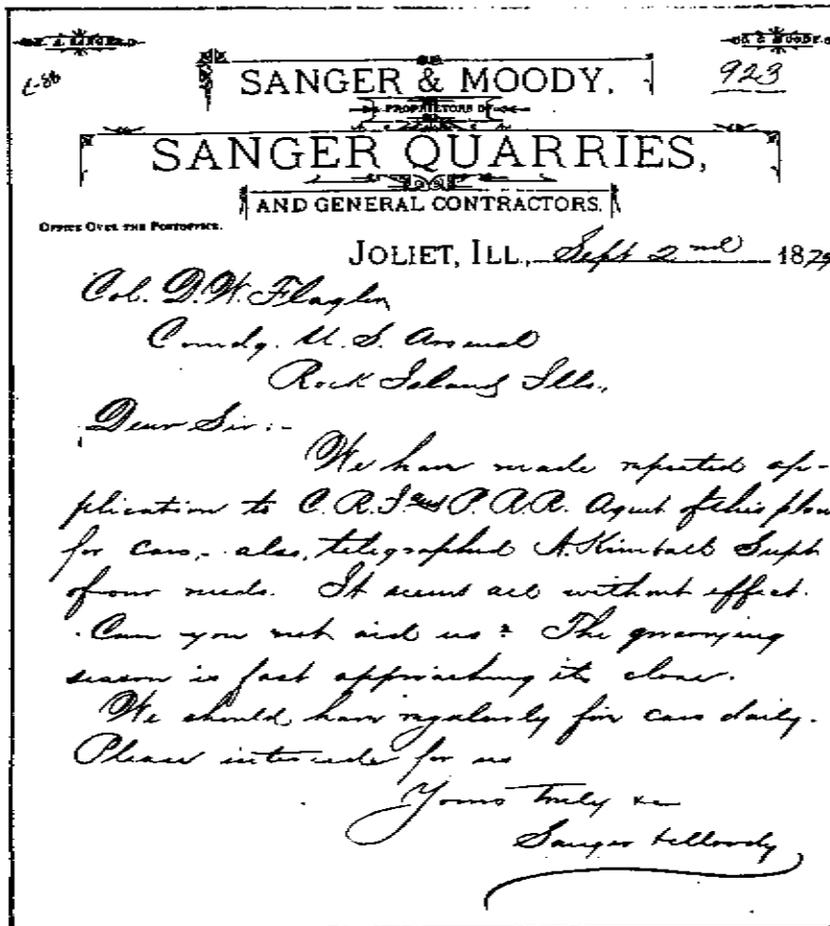
Therefore, shops B and C, and several of the other stone buildings, were said to be built of Joliet limestone.

An immense project such as this required enormous quantities of stone and the manufacture of considerable amounts of construction hardware. In the year 1869 alone, 2,925 railroad cars of stone were received for use in building the shops, dams, and bridge. Stone masons laid 5,510 cubic yards of stone in new shop buildings, while an additional 6,100 cubic yards of stone were laid in the dam wall project. The stone work required the repair of 92,321 stone cutter's tools during the year. The chief of ordnance, in 1869, approved the building plans for the commanding officer's quarters. Also during that year, workmen erected the first Rodman-planned arsenal building which was a circular limestone reservoir, that exists today only as a ruins.⁶⁴

Generally speaking, the limestone was

shipped by train to the Rock Island Arsenal from the various quarries. Early maps of the island showed a single railroad track that extended from the main line at the western tip of the island to the construction site of the manufacturing buildings. The stone was unloaded from rail cars and placed in a centrally located stone yard. Workmen used tramways and derricks to transport the stone from the yard to the actual building site. A tramway, an open box-shaped street car pulled by horses, operated on tracks in single units. Derricks also operated on tracks which ran the length of the construction site. These large cranes, consisting of movable booms equipped with cables and pulleys connected to an upright beam, hoisted and moved the heavy stones into place. The small circular marks made by the ice-prong-like clamps, which were embedded into the stone prior to it being hoisted into place, are still visible a century later.

Below: Letter from Sanger to RIA Commander Colonel D. W. Flagler requesting assistance in obtaining railroad cars for shipment of stone to the arsenal. Mr. Sanger, who earlier defaulted on delivery of stone to the Rock Island Arsenal, formed Sangers Quarries with a partner named Moody and again received the contract to provide stone for the arsenal.



Difficulties Procuring Stone

Delays in delivery of stone hindered the construction progress of the arsenal and, on occasions, resulted in stone-cutters and masons being laid off until the next shipment arrived. Rodman periodically stationed an officer at the quarries to oversee the government's interests.

These delays in particular affected the construction of shops B and C, and the building of the commanding officer's quarters. Discontented with their contract, Sangers and Steel sold stone originally quarried for the arsenal to customers willing to pay a premium price. The Joliet firm demanded an increase in government payments and refused to ship any more stone to the arsenal until its demands were met. Sangers and Steel halted its stone deliveries to the Rock Island Arsenal for the last time in August 1870. Colonel Rodman eventually purchased stone from Mr. Edwin Walker of Lamont, Illinois, at an average price of 38½ cents per cubic foot, which was 1½ cents less than the price demanded by Sangers and Steel. Sangers,

however, formed a partnership with a Mr. Moody, and again received contracts to provide limestone for the construction of the arsenal buildings. This stone was nearly identical in color, texture, and quality to the Joliet stone.⁶⁵

A local newspaper article of the period provided insight into the size of the labor force engaged in the construction. The Davenport *Daily Democrat* issue of November 10, 1870, noted the federal government employed about 1,000 men to work on various arsenal construction projects including shops B and C, and the commanding officer's quarters. The article further stated that the commanding officer of the Rock Island Arsenal was assisted by an efficient staff of officers and civilian supervisors. The newspaper article specifically cited Mr. A. T. Fleming, master armorer; Mr. William Channon, master carpenter; Mr. R. Lloyd, master mason; and Mr. George Downs, foreman; as holding these supervisory positions at the time the article was printed. In addition to

Below: One of the earliest group photographs of Rock Island Arsenal shop personnel dated 1873.



the workmen, a large number of horse and mule teams were engaged in the construction activities.⁶⁶

Labor Disputes

A labor force of this size did not operate without some problems, and on occasion labor disputes slowed construction of the arsenal. Events happening elsewhere also had an impact on Colonel Rodman's progress at Rock Island. For example, congressional legislation passed during the construction of shops B and C established an eight hour work day for all laborers, workmen, and mechanics employed by, or on behalf of, the government of the United States. The wages paid under the old and new work plan were:⁶⁷

	10-hour day	8-hour day
Laborers	\$1.80	\$1.44
Masons	\$4.50	\$3.60
Carpenters	\$3.00	\$2.40
Machinists	\$3.00	\$2.40
Teamsters	\$3.50	\$2.80

The daily wages of master workmen, which ranged from \$4.00 to \$6.00, were not affected by the new law. After being paid according to the new wage plan, many laborers refused to continue to work on the building projects. The island temporarily became nearly deserted. The *Rock Island Union* newspaper expressed the opinion that:

The government pays pretty liberal wages, and if the old employees refuse to work under the rulings of the Secretary of War, it is probable that their places will soon be supplied by others.⁶⁸

However, Colonel Rodman met with the stone-cutters and raised their wages so that they would be compatible to those offered stone-cutters for an 8-hour work day in Chicago, Illinois, and St. Louis, Missouri.⁶⁹

The rebuilding of Chicago after the great fire of 1871 drastically increased the demand for stone and stone craftsmen. The arsenal,

Below: Local contractors responded to advertisements requesting bids for various building materials such as stone, iron, wood, and slate. The letter by Charles G. Hipwell, slate roofer, addressed to RIA Commander Lt. Col. D. W. Flagler contained his bid to slate the roof of arsenal shop H. Note: The bid dated 6 July 1883 was accepted.



Office and Yard,
Corner 4th and LeClair Streets,
Post Office Box 192.

Office of
HUOT & HIPWELL,
Practical Slate Roofers.

DEALERS IN SLATE ROOF MATERIAL

Special Rank set on by Department

C. G. HIPWELL

Gavenport, Iowa, July 12th 1880

Col. D. W. Flagler
Commander Rock Island Arsenal
Rock Island, Ill.

Dear Sir,

In compliance with your
wishes to respectfully submit the following
Proposals "viz"

To furnish the best quality of
Northampton County Penn: black slate (broken)
size 10 x 20, & not less than 3/16 in thick.

Lay the same on the building now in course
of erection at Rock Island Arsenal & inches
to the weather using #4 Copied nails for
screw of pine 1/2" x 7/8" square. Labor
and material to be furnished by us. & Complete
the job in the best workmanlike manner.

We would add that we will furnish
Vermont Tugate or sea green slate under
the above specifications for the sum of

accept
for my name
July 19th 1880

therefore, was forced to increase its pay to skilled laborers due to the flight of arsenal workers to Chicago.

Procuring Building Materials from the East

Initially a large portion of the building materials for shops such as B and C was produced by private firms situated in the east. The New York firm of Cooper & Hewitt furnished most of the 15-inch iron "I" beams used in the construction of the first and second floors of shops B and C. Union Iron Mills of Pittsburgh, Pennsylvania, provided 11-inch "I" beams that were also used in the building of the first floors.

The Phoenix Iron Company of Philadelphia, Pennsylvania, furnished 9-inch and 11-inch beams, wrought iron columns, and cast iron columns. It also manufactured caps and bases for both shops, plus the wrought iron frames for their roofs. Contractors shipped these purchased columns in sections which were riveted together by arsenal workmen.⁷⁰

Local Tri-Cities Firms Awarded Contracts

Gradually, local and regional private contractors received an increasing number of arsenal contracts. The arsenal awarded James Clark & Sons, of Utica, Illinois, the cement

Right: *Charlie Hipwell arrived at Rock Island Arsenal in the early 1870s as a foreman of an east coast roofing firm. Recognizing the opportunity at the arsenal, Hipwell formed his own business in Davenport, Iowa, and prospered as a slate roofer and dealer.*

contract at \$1.55 per 300-pound barrel; W. B. Barnes, of Rock Island, Illinois, received the lime contract for 90 cents per 200-pound barrel delivered; F. Hass, also of Rock Island, provided copper material at \$13,000 per shop building; Atkinson & Murdock, Rock Island, Illinois, laid the fire-proof brick arches in shops B and C for \$15.50 per 1,000 bricks; and Mr. J. S. Keator, Moline, Illinois, supplied pine lumber for \$17.00 to \$22.00 per thousand board feet. In addition, several private firms, beginning with Sanger & Steel, provided limestone from the quarries near Joliet, Illinois, for the construction of the Rock Island Arsenal.⁷¹

Colonel Rodman, and his successor Major Flagler, also awarded contracts for building to private firms in Iowa. The firm of French & Davies, Davenport, Iowa, provided the oak flooring for shops B and C at \$41.00 per thousand board feet. Mr. Charles C. Hipwell, foreman of Aiken and Company, Pittsburgh, Pennsylvania, after supervising the slate work of these first two shop buildings, left that firm to establish his own business in Davenport, Iowa. His Davenport firm slated practically all the stone shop buildings and officers' quarters. Initially the slate contract was awarded to Lyman Bridges of Chicago, Illinois, but within a short time the roofing company of Knox, Kine, and Company of Pittsburgh, Pennsylvania, had replaced Bridges. Mr. Bridges had his contract with the arsenal canceled after he failed to comply with the terms of the agreement in regard to quality of material or timeliness.



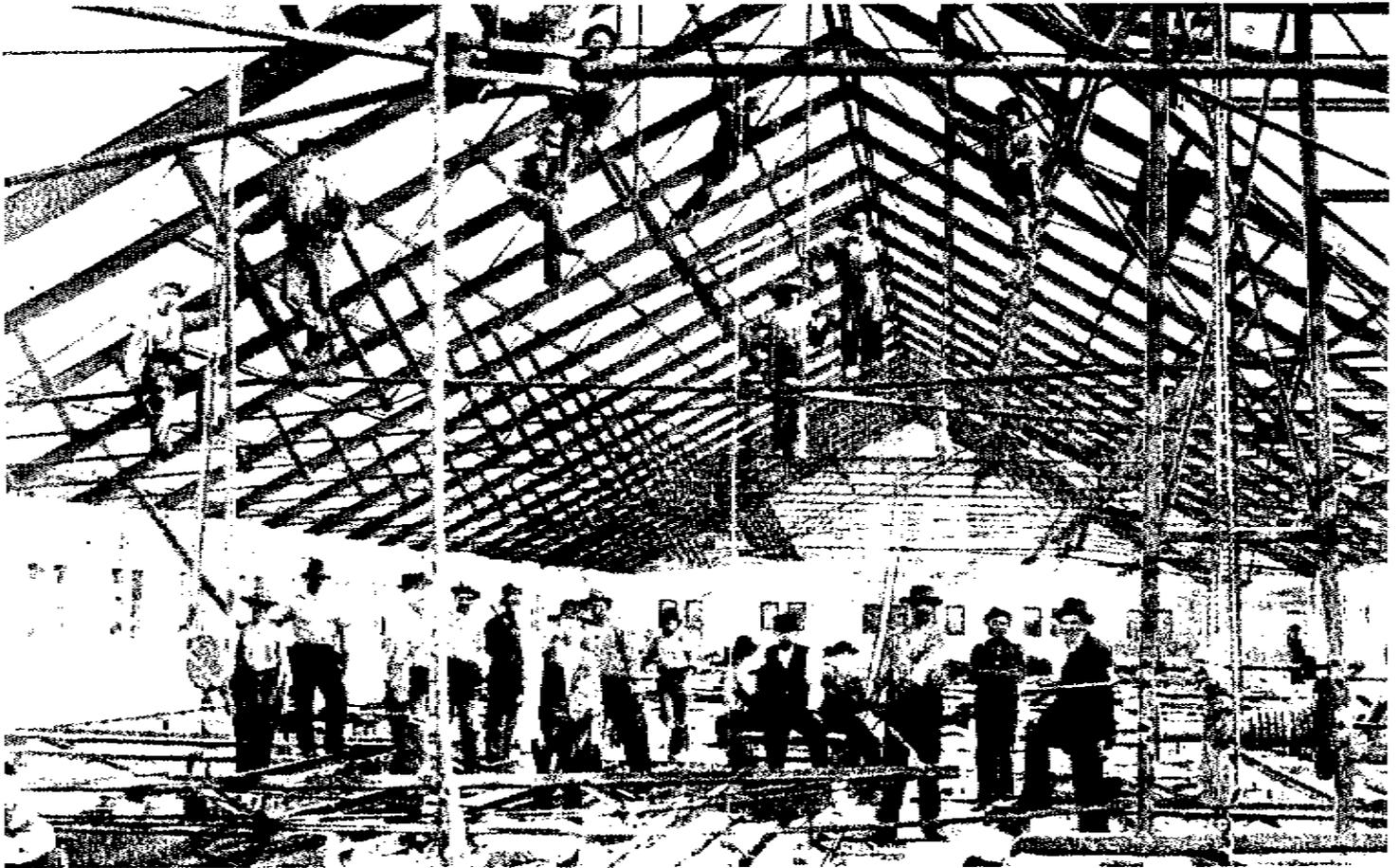
Aiken and Company eventually replaced Knox, Kine, and Company and completed the slate roofing of shops B and C for \$15.25 per square of slate. This represented a savings of \$5.75 per square over the canceled contract price. Mr. Hipwell received the remaining slate contracts with bids under \$10.00 per square.⁷²

The arsenal also purchased all the lumber required for building a particular structure in advance so that the wood could be stacked for seasoning before being used to make doors, door frames, window sashes, and window frames in the arsenal shops. The arsenal saved money and time by manufacturing these items and their accompanying hardware.

Rodman Tensile Test Machine

Acquisitioning quality building material to construct the arsenal was a concern of Colonel Rodman and his successor, Major Flagler. Colonel Rodman, determined to procure high grade iron for his arsenal, built a tensile test machine which he used to test iron samples of private contractors to determine if their samples met government specifications.

Below: A rare view of arsenal workmen constructing the roof of one of the 19th century stone buildings. Note the iron, Fink trusses being assembled which eliminated the need for columns as support and created an open bay-effect in the attic.



Iron, Copper, Slate, and Other Building Materials

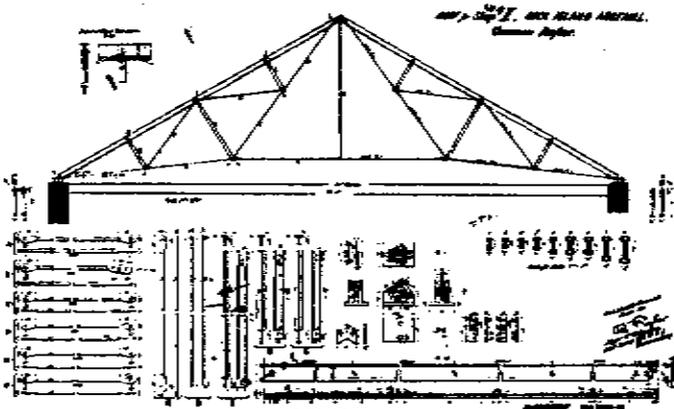
Besides limestone, arsenal builders used an enormous amount of other material in the construction of the stone buildings. For example, shop B (building 60) alone was built with more than 780 tons of wrought iron supplied by eastern mills. Roofers originally covered the building with a slate roof of 51,500 feet, with heavy sheet copper gutters and iron snow guards an inch thick. Stone-cutters formed the upper tier of the shop building, and then lined the gutters with copper. Shop B was furnished with more than 1,000 feet of such guttering. Wrought iron trusses were used to support the roof. Builders fastened the rafters of the shops securely on one end by mortising them into the stone, and dowelled the opposite end upon iron

ball bearings which rested in grooves carved into the stone. A corresponding groove in the foot of the rafters covered the ball bearing; this allowed for seasonal expansion and contraction caused by the heat of summer and the cold of winter without damaging the wall of the shops. Carpenters covered all but the third floor of the shops with 1½ inch thick oak. The third or attic flooring was covered with pine of the same thickness.⁷³

Workmen constructed the shop buildings of massive rock-faced limestone with approximately three-foot thick walls starting at the base of the building and tapering about six-inches with each additional story. This tapering created a step effect which provided a shelf or lip

Below: Drawing of rafters for shops G and I (buildings 108 and 110) signed by the RIA Commander Brevet Lieutenant Colonel D. W. Flagler and dated June 1881.

Right: Ornate cast-iron staircases were a product of the 19th century RIA foundry and are still in use in the stone shop buildings.



upon which iron beams rested. The exterior walls rested on a foundation built upon bed-rock. The 76 piers of masonry and cement anchored in the basement of the stone shops supported the columns and floors of the above stories. Each pier was partially imbedded beneath the surface flooring of the basement and rested on bed-rock. Brick layers constructed fire-proof brick, vaulted ceilings beneath each floor of the manufacturing shops, among the lattice of "I" beams. The brick arches were then covered with plaster. These fire-proof brick, vaulted or arched, ceilings were designed to prevent fire from spreading to the wood flooring of the next story. Beneath each ceiling lay the open bay of the machine shop.

The open bay interior of the shops provided light and space for manufacturing operations. The shop interior featured cast-iron, and a few wrought iron columns; and ornate cast-iron stairways which are still in use today.

Improvements During Rodman's Command

Colonel Rodman supervised the completion of the Clock Tower and had three of the large stone buildings near completion at the time of his death in 1871. These three structures were: shop B, known today as building 60; shop C, building 104; and the commanding officer's quarters, now known as Quarters One, building 301. The Greek revival architecture of shops B and C provided the style for subsequent industrial and administrative buildings constructed at the arsenal during the 19th century.

Other improvements during Colonel Rodman's tenure as commanding officer of the Rock Island Arsenal, 1865-1871, included the settlement of civil property claims on Rock Island and the approval of his plans for a combined armory and arsenal at the island. Colonel Rodman enhanced access to the island by having a wagon bridge to the city of Rock Island erected and by having the Chicago, Rock Island and Pacific Railroad tracks

Below: Monument marking Rodman's grave adjacent to the National Cemetery at the far eastern edge of the island. Note the two Rodman-type guns protecting the site.



relocated to the western edge of Arsenal Island. He initiated the construction of a double deck bridge from Rock Island to Davenport, which was completed a year after his death. He also contracted for water power; had the arsenal grounds cleared for new buildings; and laid a network of roads throughout the island.

Rodman's Funeral

Colonel Rodman's habit of working long hours as RIA commander took its toll on his health. Ignoring his doctor's warning, he continued his demanding daily routine which led to his death at the age of 56 on 7 June 1871. His funeral service was conducted inside the nearly completed commanding officer's quarters which he designed. Rodman was buried on Arsenal Island, as he requested. His gravesite is adjacent to the National Cemetery, which was once the

old post cemetery.

The respect bestowed upon Colonel Rodman by the arsenal and surrounding communities was reflected in the size of his funeral procession. The funeral was conducted in elaborate style. An army band led the funeral cortege, followed in succession by a military escort, the horse drawn carriage on which lay the coffin, a number of carriages containing the Rodman family, and more than 1,000 civilian mourners - many of whom had worked for Colonel Rodman. Before Rodman's death the army had assigned a young captain named Daniel W. Flagler as his assisting officer. Flagler succeeded Rodman as the arsenal's third commanding officer and proceeded with Rodman's plans for the construction of a grand arsenal.⁷⁴

Right: Lieutenant Colonel Daniel W. Flagler succeeded Rodman as Rock Island Arsenal commander and was largely responsible for implementing Rodman's conceptual plan of the arsenal. He served as arsenal commander from 1871 to 1886. During the Spanish-American War Flagler held the position of chief of ordnance.



CHAPTER FOUR THE FLAGLER YEARS AT RIA

The Commanding Officer's Quarters

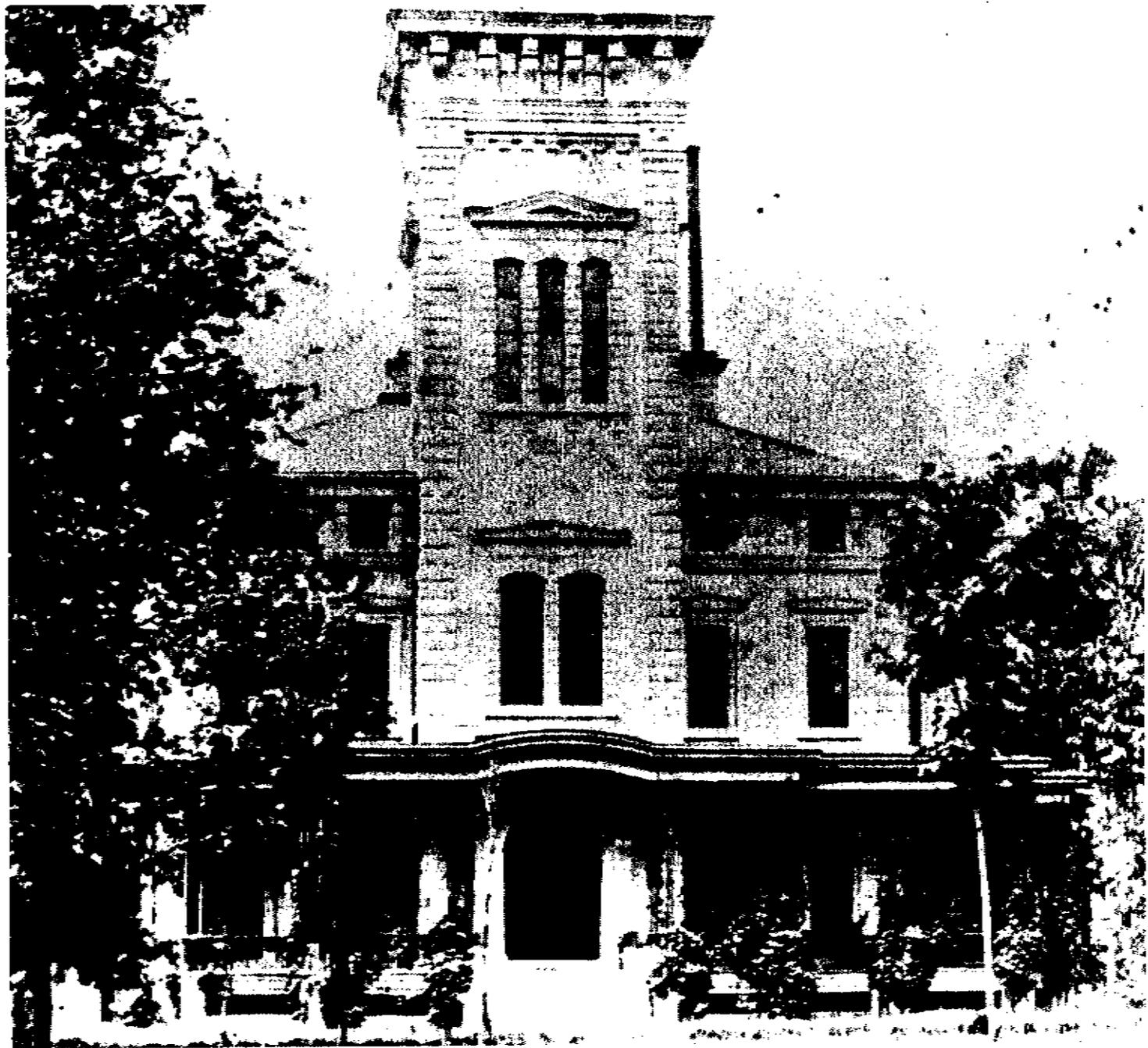
Among Flagler's first tasks as Rock Island Arsenal commander was the completion of the commanding officer's quarters begun by Rodman. Although begun in May 1870, the commanding officer's quarters was not completed until October 1871, nor was it landscaped until the Spring of 1872. Delays in procuring stone slowed work on the quarters during the summer months and forced work to be continued into the winter season. Fire, hot water, and salt were used to prepare the mortar. The building walls were finally completed in January 1871.⁷⁵

Day workers were hired to complete the remainder of the structure. Army Ordnance officers supervised these workmen who were hired primarily by the day, due to the shortage of building stone caused by delays in procurement and delivery of quarried stone from the

contractor. The officers also conducted the necessary engineering work which included tests, experiments, and calculations for the project.

Once completed, the commanding officer's quarters' features included a massive I-shaped main core, a west wing, and an observation tower above the east side of the main block. The building's foundation was constructed of two foot thick limestone masonry. Its exterior walls were built of Joliet limestone, and its interior loadbearing walls were made of plaster brick masonry. Large wrap-around piazzas, or porches, which stretched around the east and north sides of the building, featured girded iron grillwork forged at the Rock Island Arsenal. Also, most of the building's brass fixtures, including door knobs, hinges, and other metal hardware, were produced in the arsenal shops. The structure was covered with a hipped roof which contained skylights and a tall square observation tower. The nearly 20,000 square feet of floor space within quarters one was divided

Below: *The Rock Island Arsenal commanding officer's quarters, now designated quarters one, was completed in 1871. This structure, built of Joliet limestone approximately two feet thick, contains over 50 rooms and is today considered the largest family residence owned by the U.S. Army.*

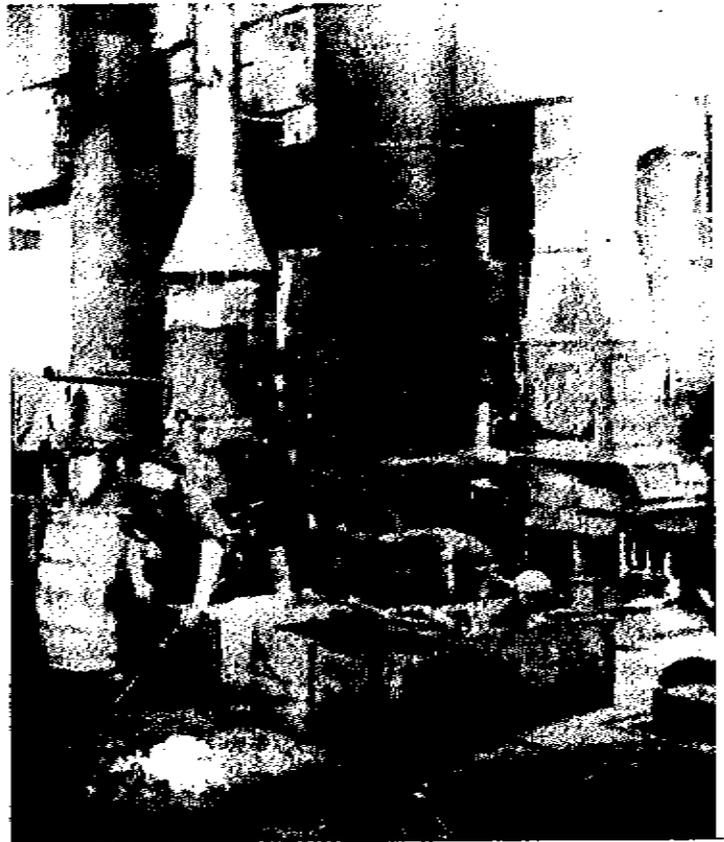
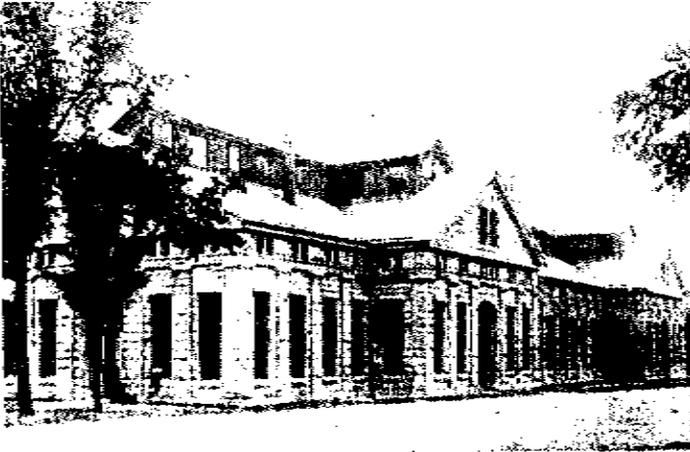


Below: *Quarters four, circa 1880s. Subaltern officer's quarters 2, 3, and 4 built 1872-1874, east of quarters one, along Terrace Drive overlooking the Mississippi River. These quarters were scaled-down Italianate villas modeled after the commanding officer's quarters.*



Below: The Rock Island Arsenal iron-melting furnaces situated in shop E (building 106) during the late 19th century. The foundry initially poured castings of hardware used in the construction of Rock Island Arsenal buildings.

Right: Constructed in 1874, shop E continuously functioned as the Rock Island Arsenal foundry until 1988, when the operations were relocated in the new Kingsbury Manufacturing Complex.



into over 50 rooms which explains why the quarters is today considered the largest government residence next to the White House. The commanding officer's quarters became the architectural model for the scaled-down Italianate design of the subaltern officer's quarters built east of quarters one. These subaltern officer's quarters consisted of quarters two, three, and four.⁷⁸

Workmen began erecting shop E (building 106) and the RIA blacksmith shop in 1871, and finished shortly after the completion of shops B and C in 1873. After the completion of shop E, workers transferred the machinery in the temporary structures to the recently finished shops C and E, and then razed the temporary structures. In 1871, Colonel Rodman ordered cupolas (cylindrical shaft type blast furnaces used for remelting metals such as iron before casting) for the foundry. These new furnaces allowed the arsenal to produce iron columns, angles, and other necessary parts for the

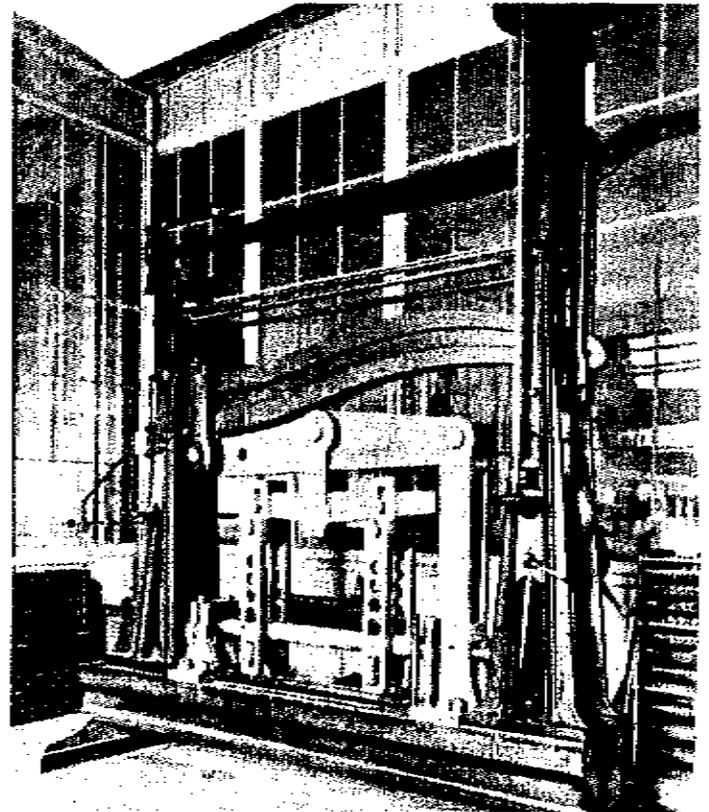
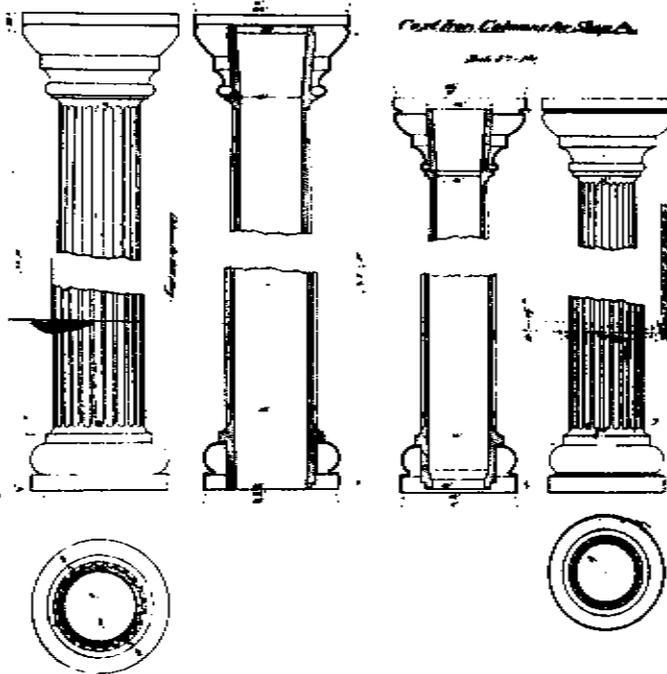
construction of buildings. From this time on, the arsenal foundry and blacksmith shop were actively engaged in the production of building materials or ordnance supplies.

The continued acquisition of commercially-produced iron which repeatedly failed to meet specifications of the contract frustrated Major Flagler. As a result, he instructed Lieutenant W. P. Butler to test iron samples sent to Rock Island by N. S. Bouton and Company of Chicago.

The tests proved the iron samples to be inferior in strength, weight, and character. The arsenal sent a record of the testing results to N. S. Bouton and Company. The Chicago firm proceeded to have its iron retested by another firm -- the American Bridge Company. Lieutenant Butler traveled to Chicago to inspect the testing procedures after the American Bridge Company had asserted that N. S. Bouton and Company's iron tested satisfactorily. He found their methods questionable and stated in his report that:

Below: Drawing of cast iron columns for shop A cast in RIA foundry. Columns such as these were made of iron recycled from Civil War era horseshoes, cannonballs, and gun tubes. The Doric columns which are visible in the old manufacturing shops were forged at the RIA. The riveted columns visible in buildings 60 and 104 were purchased from private eastern firms and shipped unassembled to Rock Island.

Right: Rodman tensile testing machine was still used at the RIA after 1900.



... On examination, the machine of the American Bridge Company was found to be a heavy hydraulic cylinder, using glycerine instead of water. The piston is 17 inches in diameter. The gauge is the ordinary mercury gauge, very carelessly used. No allowance was made for friction. Its results should not, therefore, shake confidence in the machine (Rodman's tensile testing machine) at Rock Island Arsenal. All measurements were made roughly, by an ordinary two foot rule, in the tests of the American Bridge Company while those at the Arsenal were to within 0.0001 inch.⁷⁷

The Rodman tensile test machine measured the capacity of a metal to resist force, whether tensile, transverse, torsional, or crushing. Internal force could also be applied by the machine to test strength of cylinders. The machine had a testing range of 50 to 100,000

pounds. In 1899, the Rodman tensile machine was still in operation, and was being set up in shop D, in anticipation of the establishment of an armory at Rock Island to manufacture rifles.⁷⁸

Scrapped Civil War Relics Recycled into Iron Columns

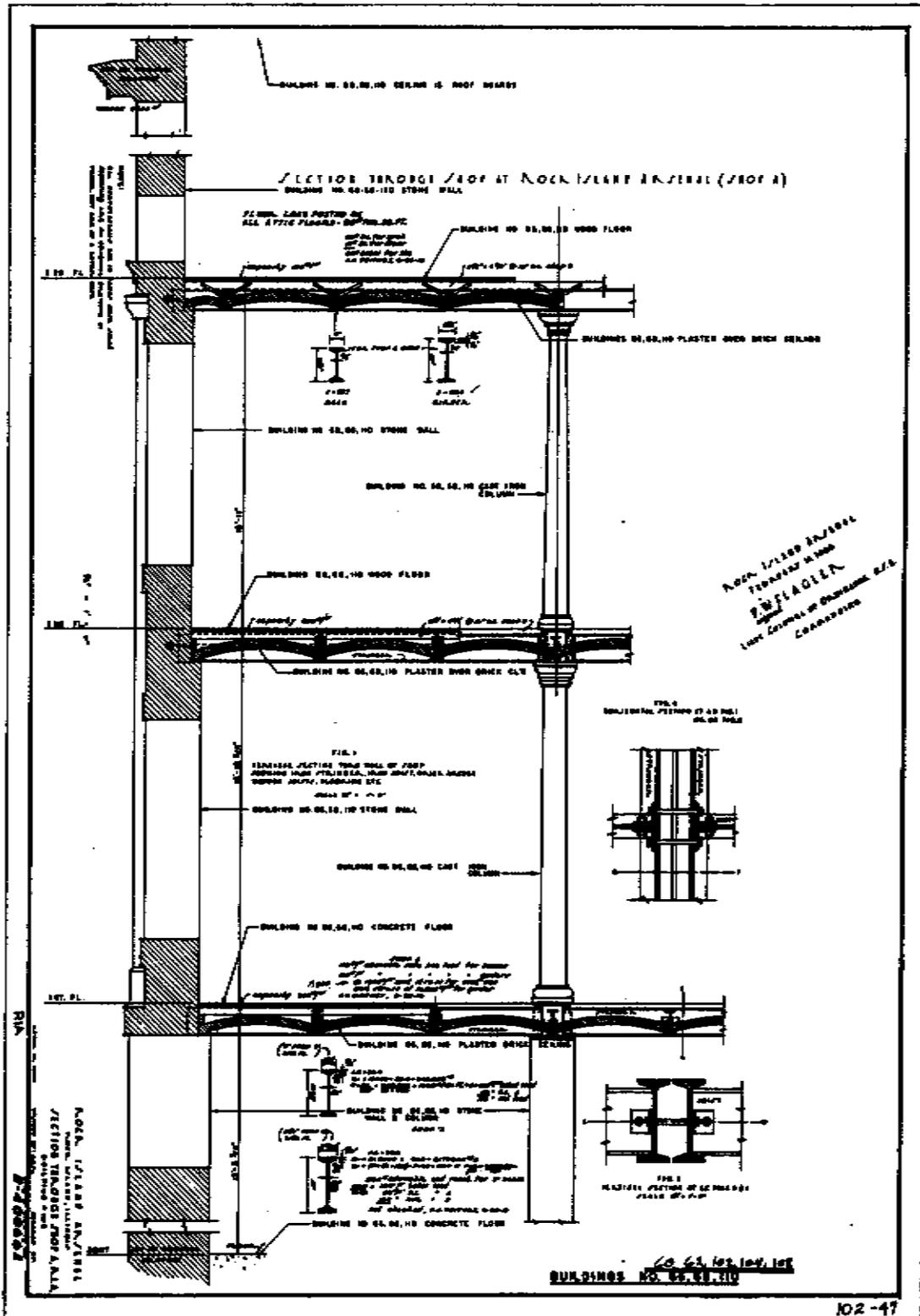
Major Flagler, anxious to reduce construction costs and eliminate delays caused by delinquent deliveries, decided the columns could be produced in the arsenal shops. He wrote the chief of ordnance for approval of his idea to convert tons of old horse shoes, cannons, and other accumulated Civil War scrapped metal into wrought iron bars. These bars could then be cast into the iron needed for construction of the stone shops. Previously, it was the government's policy to sell all scrap metal to dealers.

Once approved, the salvage operation proved successful. Flagler boasted that the metal produced by his arsenal's blacksmiths and foundry masters was of superior quality

Below: A late 19th century view of machinists at work in shop C (building 104). The commercially-made, riveted columns, and the machines being driven by a center source of power indicate that this is an interior view of shop C. Note: the fire-proof brick-vaulted ceilings typical of all the 19th century RIA shops.



Below: Cross section drawing of ceiling and floor construction of shop A, dated 1885, and traced in 1944. Note: Tapering of the exterior wall by six inches at each story furnished a lip or shelf upon which the beams rested. Also note the fire-proof brick vaulted ceilings which were plastered over, and the position of the columns placed directly above each other to support the ceiling and floor above.



Below: Arsenal gun yard #1, situated along Main (Rodman) Avenue, at the present site of the headquarters building (building 390). A collection of United States guns and foreign guns captured during the Mexican War, 1846-1848; the Civil War, 1861-1865; and the Spanish-American War, 1898 were placed on display in two arsenal gun yards.

Right: RIA shot yard. After the Civil War the U.S. Army closed several of its depots and transferred their ordnance stores to the Rock Island Arsenal.



compared with the metal available commercially.⁷⁹

The foundry only made castings, which resulted in savings that paid for the pattern forms, thereby contributing to the uniformity and symmetry of the original stone buildings. By recycling the island's supply of scrapped metal into iron columns, the arsenal saved the government approximately 50 percent or more of a private contractor's price. Iron pipes for sewers mains, fences, roof trusses, and various other fixtures were produced from this recycled metal. Arsenal workers also salvaged brass saved from artillery projectiles, along with other metals. Brass rotating bands from these projectiles were turned into hinges, locks and other hardware used in the building of the stone shops.⁸⁰

The *Moline Review* newspaper of 1 November 1879 printed a descriptive paragraph, about the work being accomplished at the Rock Island Arsenal during late 1879.

Col (Brevet) D. W. Flagler, the commandant of Rock Island Arsenal, is pushing his vast building operations with commendable energy. Acres of huge stones are scattered over the grounds and the click of the hammer and chisel is heard from hundreds of busy mechanics. In the foundries the serviceable shot and shell accumulated and captured during the war are being worked up into iron railings and stairways, bronze doorknobs, sash weights and pulleys and the hundreds of other metal appliances required in the erection of the immense shops. The closest economy is practiced and every available piece of metal is applied to some use. The machinery of the shops is all run by the water power and the longer it is used the more its usefulness is demonstrated.⁸¹

Below: Arsenal workmen removing scrapped canteens, cups, and other metal items from courtyard of shop C (building 104). The arsenal initially sold the scrap metal to salvage dealers until RIA Commander Flagler received permission to melt-down the metals and recast into building hardware.



Difficulty Securing Bed-rock For Shop D, 1871-1872

Shop D's (building 62) excavation in 1871-72 had uncovered a pocket or cavern beneath the surface of the building site. Lieutenant Charles Shaler, Jr., ordnance officer in charge of the excavation, submitted in his report a description of the character of the pocket and the method used to secure the foundation. He stated that the excavation began in early May 1871.

The foundation was laid with considerable difficulty and at great expense. According to Lieutenant Shaler, what had initially appeared to be solid rock often turned out to be a thin sheet of clay. A seam of clay ran through the north end of each wing which, when moist, was very loose, but when dry was so hard that a pick was required for its removal. The seam of clay was about 30 feet in width. As the excavation reached 34 feet beneath the surface, water poured into the excavation. Lieutenant Shaler wrote that:

A sewer, built to carry off water from the roof of shop B, burst one evening after a heavy rain and by morning had flooded the excavation. The water seeped into the ground and was carried off by a subterranean passage not apparent before the incident. Continuing rain halted work for that day, and by the next morning a large area of ground had sunk into the opening. Arsenal workmen cleared out the opening and used sheathing boards to support the walls against future collapse. Again, heavy rains interfered with work, making the clay too plastic-like causing large limestone boulders, some weighing over three tons, to slide toward the excavation, caving in the sheathing. It was necessary for the third time to remove the material, and the broken sheathing boards and beams which considerably slowed the operation.⁸²

Left: The post building (building 225) built in 1874 of Stone City limestone, quarried near Anamosa, Iowa, by convicts imprisoned at the Iowa State Penitentiary. The building still functions today as the RIA's police and fire stations.

Right: A copy of a stereoscopic photograph showing a typical 19th century quarry operation at Stone City, Iowa.



Lieutenant Shaler went on to report that this third attempt at excavating the site was successful down to the water level. Further excavation, however, revealed a wide cavern or pocket that passed through the center of the west wing across the foundation site in a southeasterly direction. The floor of the cavern was covered with sand, and according to Shaier, "ripple marks were found that showed it to have been a water course." To obtain a sound footing for the walls of shop D, a "core of beton," concrete mixture containing round pebbles, was laid in a convex arch of seven consecutive layers that abutted the side walls of solid rock. In this pocket alone, 270 cubic yards of stone were laid. Lieutenant Shaler also found it necessary to conduct arches of this type in five different places. The actual foundation for shop D was made of stone from a quarry on Arsenal Island located near the ferry boat landing.⁸³

1873, Iowa Convict Labor Quarry Stone for RIA

In 1873, the Rock Island Arsenal procured

stone for the construction of the post building (building 225), in addition to the subaltern officer's quarters (quarters 3), from quarries in Stone City, Iowa. Convicts from the Iowa State Penitentiary in Anamosa, Iowa, quarried the limestone. The price paid for the stone, which was delivered by railroad car to the arsenal, was \$8.00 per cubic yard. Martin Heisey and J. A. Green, both of Anamosa, Iowa, received contracts to provide rubble stone (irregular fragments or pieces of rock used in masonry); pilaster blocks of stone (used in rectangular columns with capital and base that were set into walls as an ornamental motif); and dimension stone priced at \$12.50 per cubic yard delivered on rail cars to the arsenal. On one occasion, the delivery of stone was slow due to the difficulty experienced by contractors in securing transportation. Railroad companies originally arranged to deliver the stone, but the agreement did not last. Trains from Anamosa ran only to the Duck Creek rail station on the west bank of the Mississippi River. Stone shipped by rail to the

Below: The old barracks building built in 1873, now designated building 90. The building was designed to quarter 200 soldiers and functioned as a barracks through World War I.



Duck Creek station was unloaded and transported by wagon teams over five miles to the arsenal.⁸⁴

Construction of Barracks Building

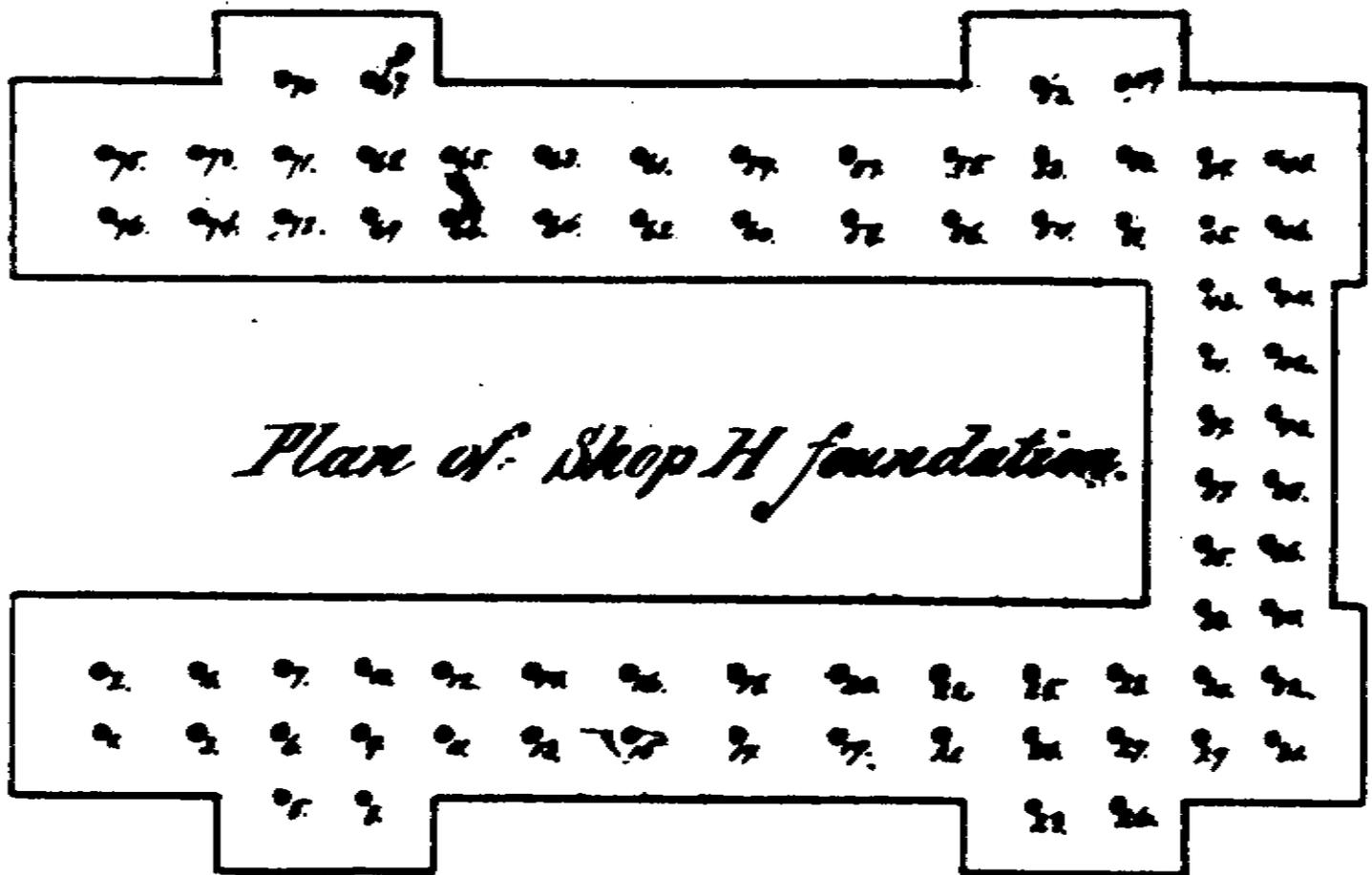
In addition to the shop buildings, plans called for the construction of ancillary structures such as the barracks building (building 90). Though originally designed similar to the architecture of the shops, design changes in the barracks were made to reduce construction costs. The walls were built of range rubble, without the tool marks characteristic of the heavy ashlar stone used in the construction of the shop buildings. Even with these alterations the cost of the building exceeded its original estimate. The labor situation at Rock Island Arsenal and the subsequent cost of construction was also greatly affected by the irregularities in the procurement of stone. Because of the unsettled labor picture, it became necessary to leave the third floor of the barracks building, designed to accommodate 200 soldiers, partially unfinished for a time. As

an aside, its floor plan included a kitchen, mess rooms, sewerage, water supply, heating, pantries, storerooms, and water closets in addition to sleeping bays. Nearby an additional mess, a bakery, and laundry buildings were constructed as auxiliary structures to the Barracks Building.⁸⁵

1879-1880, Difficulties in Finding Bed-Rock for Shop H

Other problems hindered and delayed construction of the Rock Island Arsenal. Major Flagler considered the excavation of building foundations among the most difficult work encountered in his tenure as arsenal commander. He cited the excavation of the foundation for shop H (building 66), which occurred in 1879-1880, as the most troublesome.⁸⁶ To support the immense weight of the stone buildings, each shop structure's foundation was constructed upon solid bed-rock. The foundation supported the stone walls preventing the building from sinking under such

Below: Each of the stone shop buildings were anchored by 76 piers partially embedded in the basement floor and resting on solid bed-rock to provide support for the upper floors and columns directly above.



tremendous weight. Furthermore, in each building, 76 stone piers were constructed to support the interior floors. The columns that secured the upper stories of the buildings were placed directly in line with the stone piers below.

The difficulties that had to be overcome in order to obtain a secure foundation for pier #26 of shop H were drastically more serious than any of the other similar cases. Workmen on pier #26 excavated to a depth of 74 feet while operating in a space only 10 by 12 feet wide.⁸⁷ This excavation was considerably deeper than those dug for other shop-buildings. A network of sheathing timbers, irregularly wedged into place to prevent the pit walls from collapsing, consumed even more space. The timbers had to be especially strong to resist pressure from loose sliding boulders. Steam pumps, pipes, and plank tubes further cluttered the floor of the excavation trench, and workmen had to hoist material through the plank tubes.⁸⁸

Major Flagler ordered that deep vertical

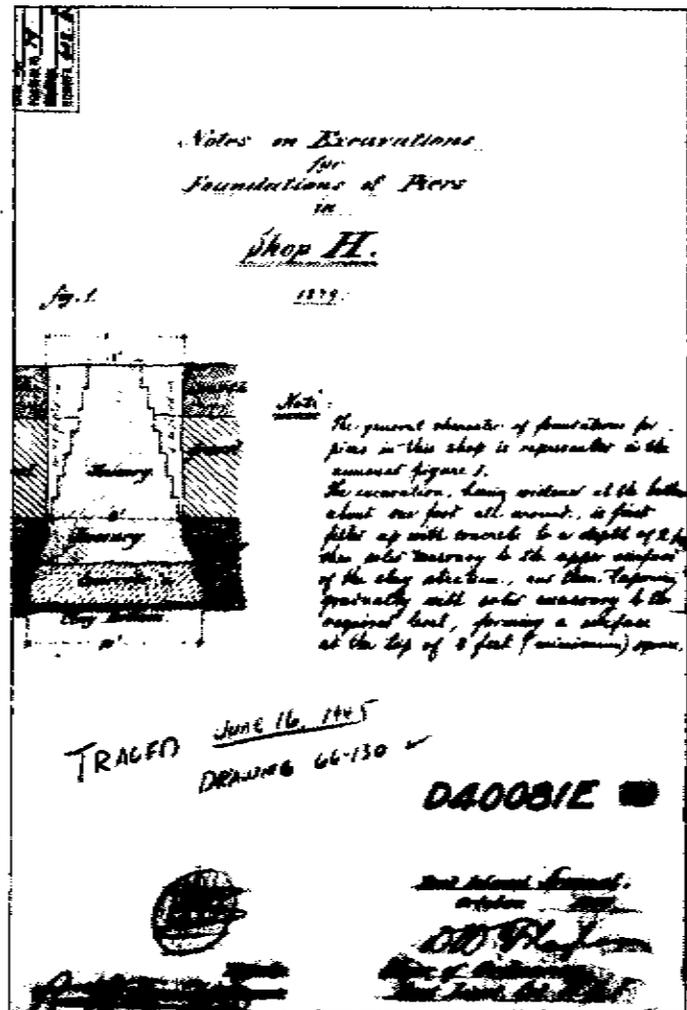
soundings be conducted from the bottom of pier #26's excavation pit. Workmen used sledgehammers to drive steel-pointed, jointed iron bars and drills into the floor of the excavation in search of solid rock. The drills passed through layers of soft clay that alternated with loose rock, sand, and gravel. According to Flagler, "the ooze or wash of the soft clay through the sheathing sometimes left vacant places behind the sheathing till caving in filled them up." The loosely-filled, clay mixed with stone was so soft in places that workers and tools were in danger of suddenly sinking out of sight. Sounding rods striking these isolated large boulders produced false soundings, thereby adversely affecting the trained ear of the workmen. In addition, the workers discovered irregularly-shaped crevices or pockets that had been formed by underground water pressure. It appeared a ravine, carved by an ancient waterway, ran diagonally in a southeast to northwest direction through the construction site of the shop buildings. This ravine affected the excavation of several shops, in particular,

Right: RIA Commander Colonel D. W. Flagler's notes on excavations for foundations of piers in shop H, dated October 1879.

two-thirds of shop i, nearly all of shop H, half of shop K, and a corner portion of shop D. However, it was during the excavation of shop H, specifically pier #26, that the builders had greatest difficulties due to the discovery of the largest of these crevices. In their search for good solid bed-rock to secure shop H's pier foundation, arsenal workers had excavated below the water level of the Mississippi River.⁸⁹ Steam pumps were used to pump out water by the galfons which had flowed into the excavation trench. The inflow of water made deeper excavation impractical, and further sounding attempts seemed useless. Flagler stated in his report to the chief of ordnance that:

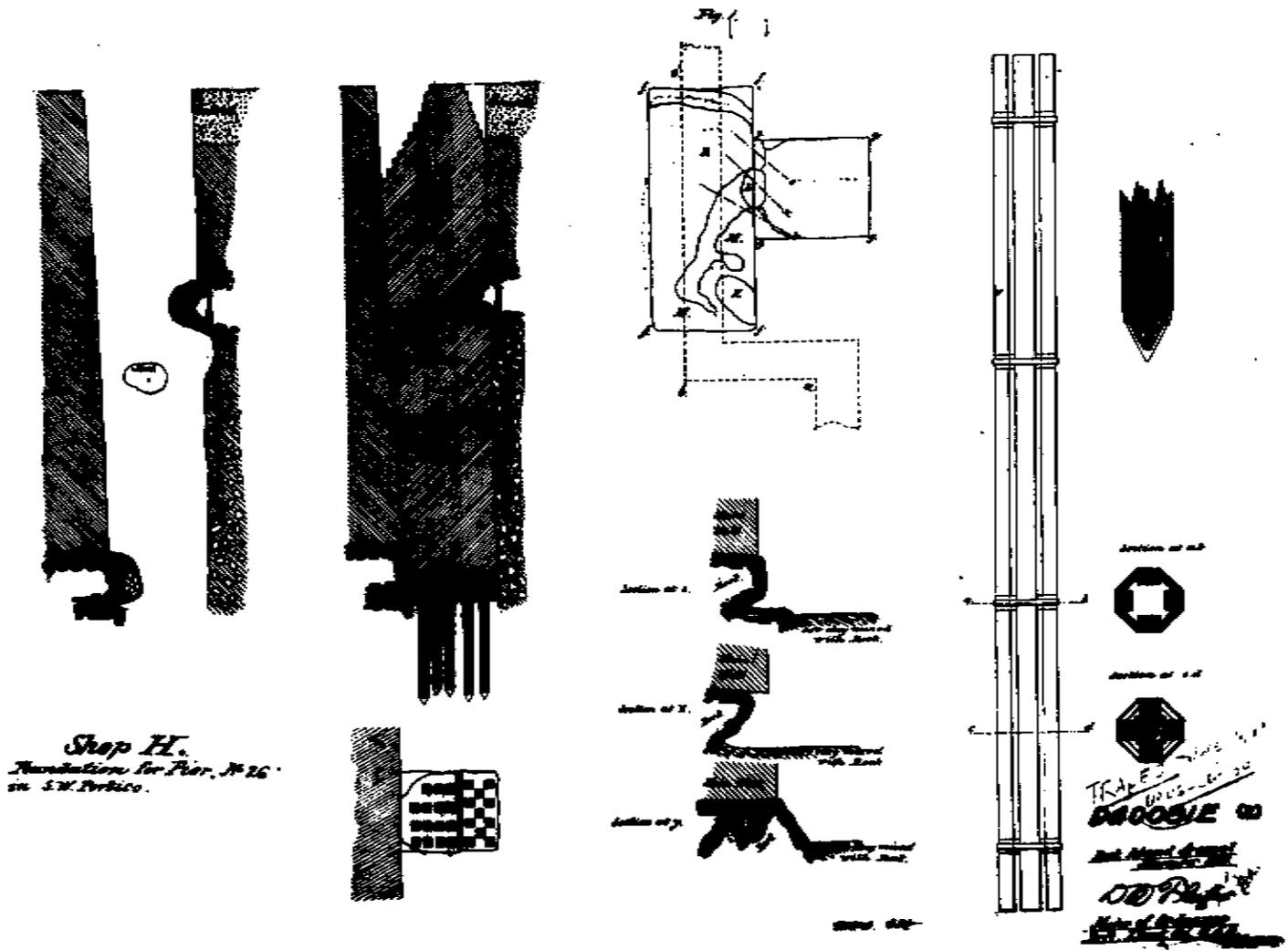
... I (Flagler) would then have filled up the hole, abandoned putting in a pier, and have substituted therefor(e) the iron column and truss described a few pages back, had not the careful soundings made at this point led me to fear that the foundations of the adjacent main wall of the building, put in the previous year, were not as secure as I had supposed.⁹⁰

Major Flagler realized that the foundation work done the previous year, in 1879, was not built upon solid bed-rock as he had earlier thought. Flagler decided to excavate as far as possible and do whatever was necessary to secure and strengthen the "old foundation". Unsuccessful in attempts to find solid rock to support the foundation of pier #26, Flagler ordered that heavy beams of timber, called piles, be driven into the earth as a substitute bed-rock for the



pier foundation. At the bottom of the excavation, piles were driven with the use of a timber tube which guided the drop-weight among the sheathing timbers, and prevented accidents to workmen. The drop operated within the 30-foot tube and protected the men working in the excavation trench from being struck by the drop-weight as it hammered down on the piles. The 900-pound drop-weight, powered by steam, continued to strike the pile until its drop of 27 feet could no longer move the pile. The loose, water-saturated clay was a poor material to sustain piles. The bottom end of the piles were shod with heavy sharp-pointed iron shoes to split, break, or push aside boulders embedded in the clay. Twenty-six twelve-inch square piles were driven to depths varying from 14 to 17 feet.⁹¹

Below: Rock Island Arsenal Commander D. W. Flagler's notes pertaining to the excavations of foundations and piers for shop H (building 66), dated October 1879. Note the cross-section view of excavation of Pier #26, showing the depth of the excavation to the left and the cross-section of the pier's foundation to the right. Also note the 26 pilings used to provide footing for the foundation at the bottom of the excavation. Published originally in the RIA Commander's Annual Report to the Chief of Ordnance for the years 1879-1880.

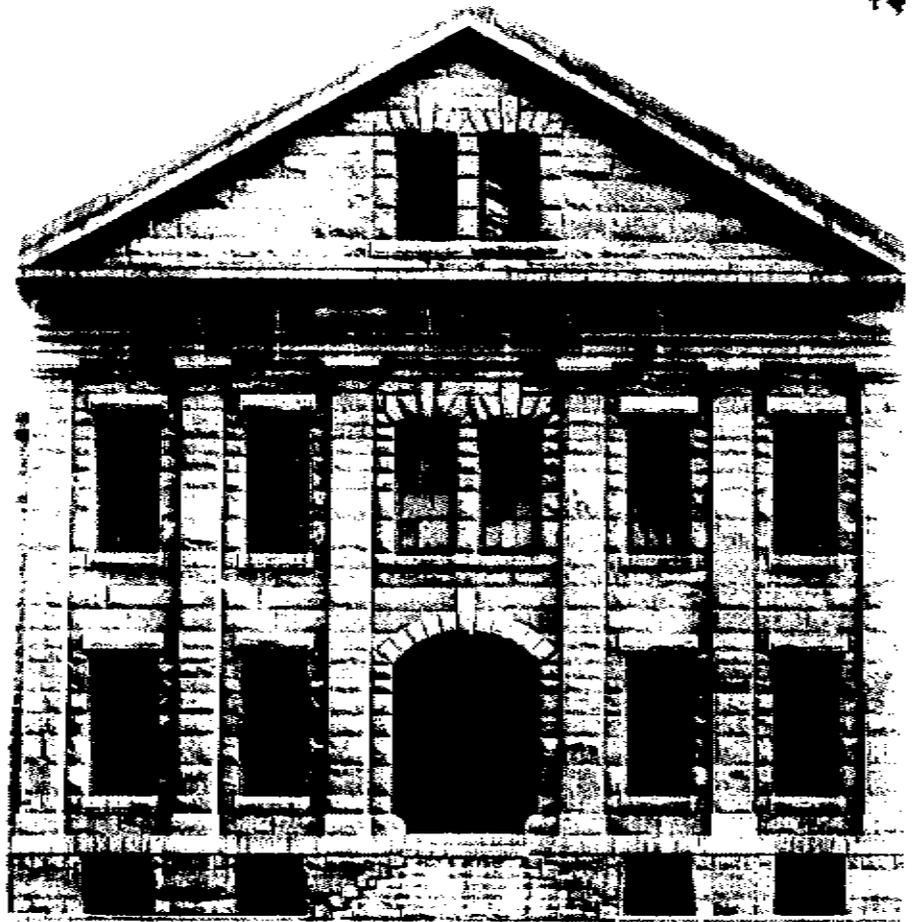


The flow of water into the trench increased the difficulties of finding a footing for the piers and created serious problems which hampered the excavation of the foundations for shop H. Steam pumps were placed at low places in the trench to drain and discharge water through pipes and troughs into sewers. Numerous hand pumps were used to reduce the cost of exclusively using steam pumps. The removal of water from so many pits over such a large area was a difficult

task. After excavating, it was necessary to operate the pumps until the masonry was raised above water level. The workmen doing the digging had to stand in one to two feet of water, especially after the excavation passed below the water level of the Mississippi River. A couple of small pumps operated around-the-clock discharging approximately 180 gallons of water per minute from the pits.⁹²

Major Flagler described the procedures

Right: *The facade of the entrance to shop H. Note the massive rock-faced limestone blocks accented by pilasters (columns partially embedded into the wall), keystone arches, and small windows encased in the entablature.*



followed by the workmen in securing the footing for the (old) foundation of shop H in his report to the chief of ordnance ending 30 June 1880. He stated that:

Arsenal workmen cleaned the loose rock and mud from the crevice which ran beneath the old foundation, before they drove in the piles. Workmen used long hoses and other devices to clear the space and to re-fill it with well-rammed concrete. A pump operated continuously, keeping the water low enough so that the piles could be driven with an inclination under the old foundation. Using this method, the bed of concrete and loose fragments of rock were jammed more firmly into the crevice.

Once the workmen finished driving the piles, they evenly sawed the tops off. The interstices or spaces between the piles were cleaned out to a depth of four feet and then refilled with

concrete, well-rammed with iron tamping bars. On top of the concrete, workmen placed footing stones, twelve feet thick. Upon the footing stones, laborers laid ordinary masonry with occasional courses of footing stones, till the surface of the ground was reached. The work continued until heavy frost set in. Hot water was used at times for mixing the mortar and keeping it warm till it could be lowered in the pit below the frost line. Workmen brought the masonry up to within seven feet of the surface. Then laborers filled the hole with clay till warm weather arrived. In the spring, workers removed the clay and completed the pier. The workmen commenced the excavation on August 1, and completed it on November 4, 1879. The arsenal finished the pile driving on November 16, and the masonry work on December 4 of that same year.⁹³

Right: The repair and replacement of cracked wall in East wing of shop H. The foundation was not secured on solid bed-rock which over a period of years caused the wall to sink under the tremendous weight of the massive stone wall. The wall was repaired and secured 35 years later at a cost of \$85,000.



Alternative layers of concrete and Joliet rubble-stone masonry were laid and held in place by large footing stones. Major Flagler cited in his report to the chief of ordnance that it took seven weeks to excavate and fill the crevice, during which time 402 cubic yards of masonry, including concrete and stone rubble, were used. Despite the use of pumps while putting in the masonry, much of the concrete had to be laid in water. Flagler reported that: "gangs of men" were employed at night and during the weekends a portion of the time. He credited Mr. W. A. P. Totten, foreman of laborers, in charge of the excavation and sheathing work, and Mr. Robert McFarlane, in charge of the masonry work, for their efforts in supervising the project.⁹⁴

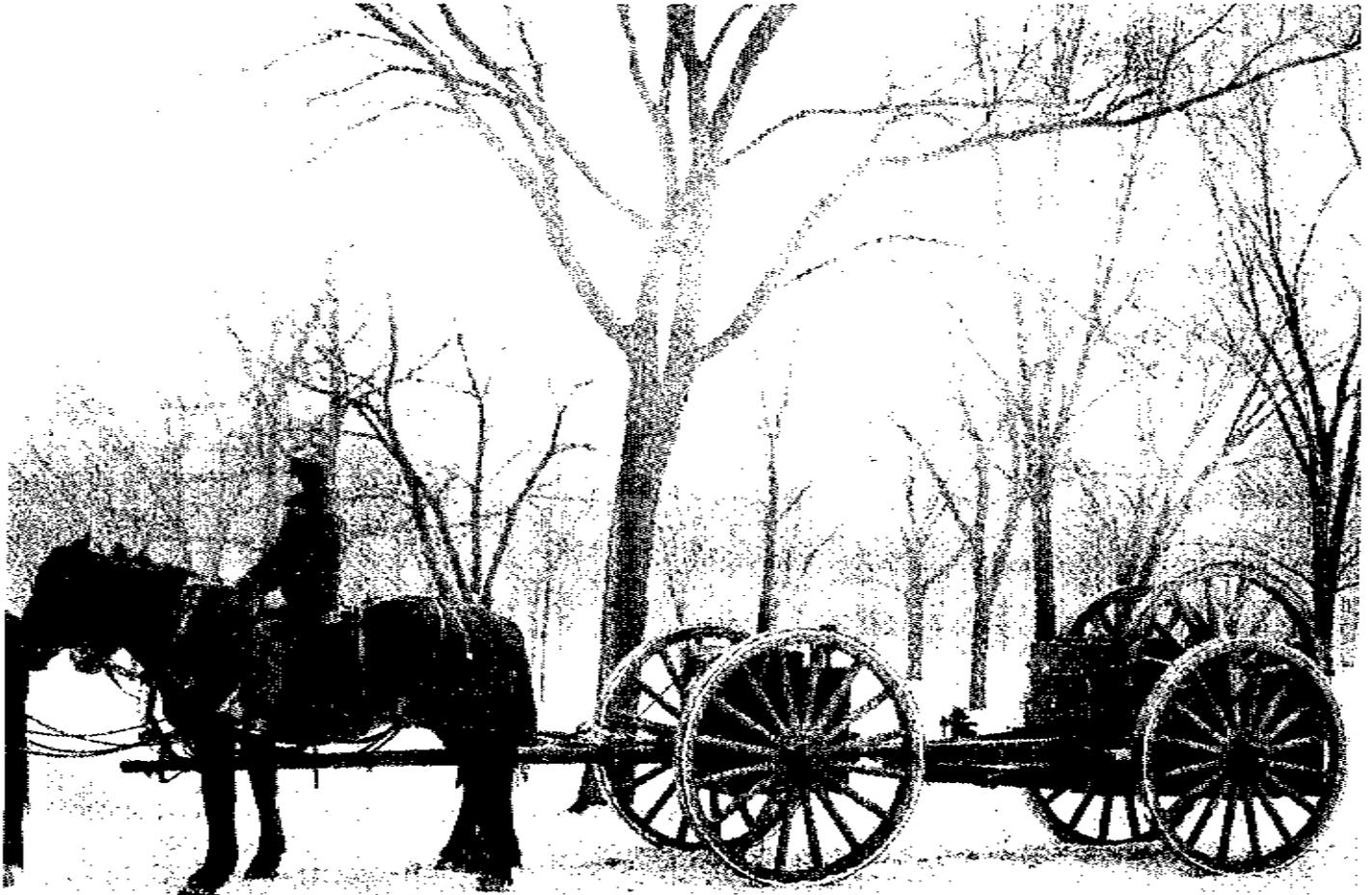
By the end of June 1800, a total of 4,292 cubic yards of masonry had been put into the foundations of shop H (building 66), followed by an additional 4,647 cubic yards used for the foundations of shop H the next fiscal year. The two year total amounted to 8,939 cubic yards which measured over a 1,000 more yards of

masonry than would be later used in the walls.⁹⁵

In 1880, Major Flagler wrote a final report to the chief of ordnance pertaining to the difficulties that his workmen had encountered in securing foundations for shop buildings, in particular, shop H. He concluded the report with his opinion as to the worst foreseeable scenario that could possibly happen in regard to these foundations. He stated that the foundation of shop H would settle only a little and would occur very slowly. He felt that since the foundations could not give way to endanger the structure the worst that could possibly happen would be sufficient settling of the wall foundation to cause serious cracks in the wall. If that occurred, Flagler believed the only remedy would be to disassemble and rebuild the wall.

Thirty-five years later, Major Flagler's prediction as to "the worst that could ever happen" occurred. By 1912 arsenal photographers had begun to document cracks in the wall of shop H. By 1915, the east wall of the east wing of shop H was dismantled and rebuilt.

Below: The Rock Island Arsenal manufactured artillery battery wagons from the early 1890s through 1918. In the photo below a turn-of-the-century battery wagon drawn by arsenal horses stands ready for road test during the midst of winter.



1880, Appropriation Law Changed

Another major hindrance to the building of the arsenal had nothing to do with procuring stone; maintaining skilled laborers; or finding bed-rock to build upon. Rather, it had to do with federal law which required that appropriations made in June of one year had to be used before June of the following year; in essence, the funds had to be used within the same fiscal year that they were appropriated. Any unspent balance had to be returned to the U.S. Treasury Department. This law caused extreme difficulties because it was hard to finish a building in one year. Little outside work could be accomplished during the long winter months; therefore, work was often suspended during cold weather, and was further delayed while waiting for new appropriations from Congress. Colonel

Rodman and Major Flagler both complained to their superiors regarding this method of funding. Not until 1880 did the government finally exempt buildings at Rock Island Arsenal from this legal restriction. Before this the arsenal lost several of the best working months of the year while waiting for congressional appropriations to be passed and made available on the first of July of each fiscal year.⁹⁶

1880, Announcement for Bids for Building Material

With the use of local newspapers, such as the *Moline Review*, announcements that the Rock Island Arsenal was accepting bids for building material was widely disseminated. On the following page is an announcement of this nature which ran on 16 July 1880.⁹⁷

Below: The Rock Island Arsenal Commander placed notices in local newspapers announcing that the arsenal was accepting bids for specific building materials. The Moline Review carried the announcement below on 16 July 1880.

Proposals for Wrought Iron I Beams.

Rock Island Arsenal, Ill., June 24, 1880.

SEALED PROPOSALS are invited to furnish, delivered on cars at this Arsenal, about -- 830 pounds 15 in. I Beams, 200 lbs. per yard.

430,000 pounds 12 in. I Beams, 200 lbs. per yard.

480,000 pounds 12 in. I Beams, 125 lbs. per yard.

480 pounds 12 in. I Beams, 125 lbs. per yard.

127,000 pounds 4 in. I Beams, 30 lbs. per yard.

90,000 pounds 7 in. Deck Beams, 58 lbs. per yard.

20,000 pounds Angle and T irons.

Full bills and specifications can be obtained from the undersigned. All the Iron must be delivered within five months after date of contract, but the contractor may deliver it as much sooner as he pleases.

The successful bidder will have to enter into contract, and give good and sufficient bonds.

The Government reserves the right to reject any or all bids, and if necessary, bidders must show that they are able to perform the contract.

Bids from irresponsible parties who are not members or agents of firms competent to perform the contract, will not be considered.

Bids will be opened at 10 a.m. July 14th, 1880, and bidders are invited to be present.

D. W. FLAGLER
Major of Ordnance
Commanding

Below: A late 1800s photograph of 7-inch siege howitzer and RIA-made carriage. Probably the artillery harness equipment on the horses was manufactured at the Rock Island Arsenal. Note the high water tower which once stood just south of the multiple-sided water reservoir. Possibly a road test on a newly completed carriage model documented by the photograph.



To further illustrate the difficulty the arsenal encountered in obtaining stone during its major construction period of the latter 19th century, the arsenal made announcements in local newspapers stating that it was again seeking to procure building stone. One such advertisement soliciting bidders appeared in the 15th August 1881 issue of the *Moline Review-Dispatch*. It explained the bidding procedure in the following manner:

PROPOSALS FOR STONE

Rock Island Arsenal Ill., Aug. 15, 1882. SEALED PROPOSALS are invited to enter into contract to furnish, delivered at this arsenal, about 1800 cubic yards of Dimension, Ashlar, Rubble and Footing Stone for the construction of one store-house.

The architecture of this building is to be similar to the barracks already built at this arsenal. Bidders should not make bids until after examining drawings and specifications, and obtaining full information at my office,

and should also examine the work of the building mentioned above.

Bidders must state the name and location of the quarries from which they will furnish stone; be prepared to show that they have such control over quarries as to insure their ability to furnish the stone, and the quarries must be opened sufficiently to show that the required amount of stone can be obtained from them, the stone must be of known good quality and endurance, and not differ greatly in appearance from that in the shops and adjoining buildings.

The successful bidder must give good and sufficient bonds for a faithful performance of his contract. The U.S. reserves the right to reject any or all bids. Proposals must be in triplicate, and will be opened Sept. 20, 1882. Bidders are invited to be present.

D. W. FLAGLER,
Lt. Col, of Ord, Comd.⁹⁸

Right: A U.S. Army corporal standing guard possibly at an entrance to post headquarters building (building 360). The belt and bayonet worn by the guard indicates the photograph was taken in the late 1800s. Chevron strips remained "V" shaped until 1902, when they were officially inverted.



innovations in Construction of Arsenal Buildings

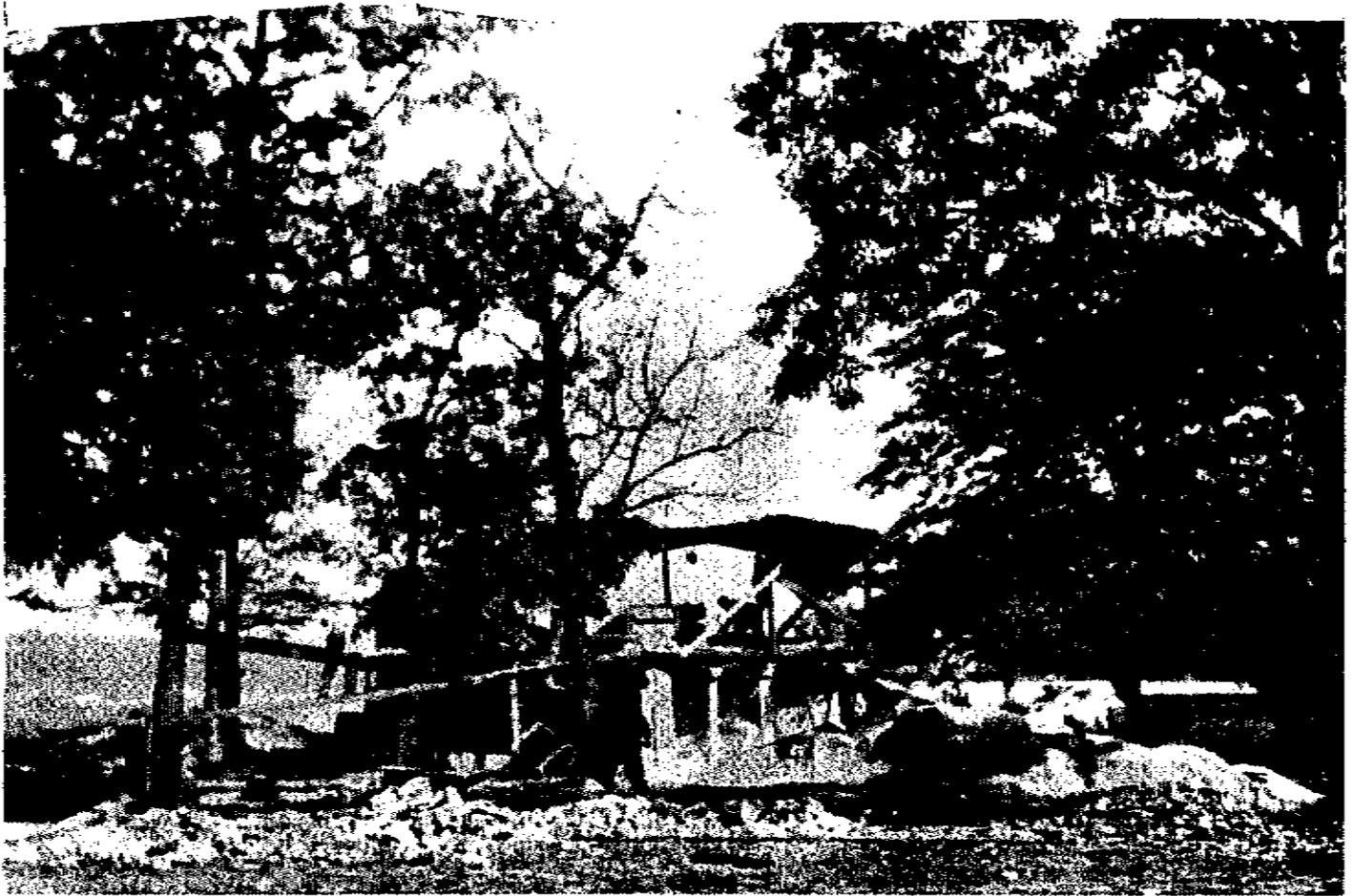
During the course of a building project that took 30 years to complete, some innovations appeared in the construction of the arsenal stone buildings. As early as 1872, Major Flagler had experimented with the use of concrete for paving and construction. He reasoned that if a mixed concrete with the proper toughness and hardness could be produced at the arsenal, it would be more economical and more durable than stone. Major Flagler's early tests, however, failed to produce a consistently hard concrete. To be noted is the fact that Flagler was promoted to the rank of Lieutenant Colonel in 1881.

It was not until 1883 that Flagler's investigations and experiments in producing a suitable concrete proved satisfactory. The successful concrete mixture was initially used in the construction of storehouse "A". Storehouse "A" was the first of a series of storehouses originally planned to be erected behind each of the manufacturing shop buildings. Storehouse "A", located to the rear of shop A (building 102), measured 254 feet by 60 feet, with two porticos 15 feet by 60 feet. The four-story building had a total area of 63,600 square feet. This storehouse was the first Rock Island Arsenal building built with an all-concrete foundation. From this time

on, all arsenal foundations, basement floors, and most sidewalks were constructed in concrete. The concrete replaced the more costly flagstones used in earlier construction.⁹⁹

Flagler's experiments with different types of cement led him to recommend the use of "South Bend" Portland cement produced in South Bend, Indiana. He found it superior to the best English cements available. Not only was the quality superior, but the cost of the South Bend cement was more economical at \$2.85 per barrel of 400 pounds delivered. Flagler, in describing the methods employed by his workmen, provided some insight into how the stone buildings were

Below: Rock crusher in operation on Arsenal Island pulverizing stone possibly for mixing with cement and paving roads.



constructed. He reported that:

... The arsenal obtained sand, of good quality, from local contractors for 63 cents per cubic yard delivered by wagons at the work site. The rock, a very hard limestone containing large quantities of flint, which had been excavated from the water power canal project in the south channel of the Mississippi river, was hauled across the river on ice during the winter. The limestone cost, delivered at the work site, .50 cents per cubic yard. Workmen used a Totten crusher to pulverize the stone. For foundation work, the crusher was placed at the edge of the basement excavation and the rock was poured from the crusher onto a plank at the edge of the basement, a drop of seven and a half feet. A sprinkler kept the pile of broken

rock thoroughly wet. Workmen then shoveled the rock into barrows and dump boxes for thorough mixing with sand and cement. Eventually the workmen became expert enough to measure the ingredients with their shovels.

Wheelbarrows were used to transport concrete to foundation work nearby. When transporting the concrete over distance, workmen pushed it in dump boxes of one cubic yard capacity, on tramway cars. These cars were afterwards used for delivering stone and mortar to the derricks for building walls of the stone shops. Workmen did not wet the concrete until it arrived at the place of use, and just prior to dumping it, water was added. A layer of concrete was thoroughly rammed and tamped until its surface was just covered with water.¹⁰⁰

Below: Water sprinkler (appears to be in back of shop A, building 102) used to water down the road to keep the dust down.



CONSTRUCTION COSTS

Flagler included the following breakdown of material and cost in his report so that in the future, the Army Ordnance Department would use it as a guideline in determining construction costs.¹⁰¹

INGREDIENTS AND COST

1 cu. yd. crushed rock-cost before crushing \$0.50

1 cu. yd. sand at 63 cents \$0.21

1 cu. yd. cement (1 barrel) 400 lbs. \$2.85

Cost of material per yd. \$3.56

Capacity of crusher 33 yds. per day.

Labor to lay 33 cu. yds. of concrete: 2 men at crusher; 2 mixing sand/cement and bringing to crusher; 2 mixers; 2 wheelbarrow men; 2 tampers 10 men in all, at \$1.50 per day each \$15.00

Cost of running crusher \$2.75

1 mason superintending \$2.75

Miscellaneous expenses \$2.00

Total for 33 yds. \$22.50

Labor for 1 yd. \$0.68

Material for 1 yd. \$3.56

Cost per yd. \$4.24

Below: Three different Arsenal commanders closed out the 19th century following Flagler's departure in 1886.

Left: Colonel Thomas G. Baylor, RIA commander, 1886-1888.

Middle: Colonel James M. Whittemore, RIA commander, 1888-1891.

Right: Colonel Adelbert R. Buffington, RIA commander, 1892-1897.



Improvements During Flagler's Command

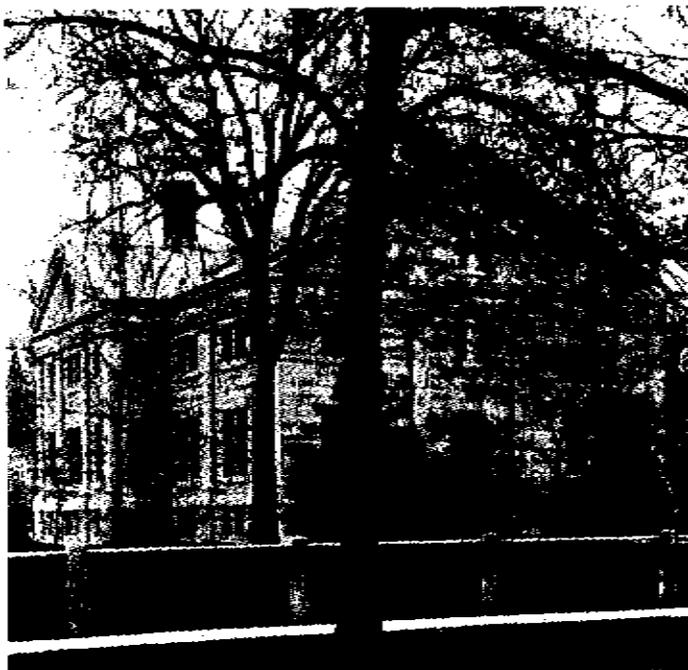
Following Rodman's master plan, Flagler supervised completion of the commanding officer's quarters in 1871, shop C in 1872, and shop B in 1873. Between 1874 and 1886, Flagler built seven stone buildings on Main Avenue: shops A, B, E, F, G, H, and I. Also, Flagler added to the manufacturing core several ancillary buildings, including a magazine, barracks, fire station, lumber shed, storehouse for shop A, gate house, and officer's quarters 2, 3, and 4 during his command of the Rock Island Arsenal. After Flagler's departure in April 1886, Colonel Thomas G. Baylor, (1886-1888); Colonel James M. Whittemore, (1888-1891); and Colonel Adelbert R. Buffington, (1892-1897) commanded the Rock Island Arsenal. The arsenal's last stone buildings were completed during the tenure of these three arsenal commanders.

Construction After Flagler Departs RIA

The close of Lieutenant Colonel Daniel W. Flagler's term as commanding officer in 1886 virtually brought to an end the first great construction period of the Rock Island Arsenal. Flagler had basically completed the original plan of General Rodman. Few important construction projects were concluded at the arsenal after his departure and before the turn-of-the-century. However, the following projects from the late 19th century do merit recognition.

Following Flagler's term as commander, the construction of the final Rodman-plan buildings, shop K (building 68) and storehouse K (building 56) lagged and continued to drag on slowly through the commands of Colonels Baylor, Whittemore, and Buffington. Arsenal workmen had completed the storehouse for shop K in 1893, seven years after its foundation had been laid. In that same year, skilled laborers applied the finishing touches to shop K, a good 12 years after its initial construction.

Below: *The Rock Island Arsenal Commander's office and desk situated in the old post headquarters (building 360). This 1898 view of Colonel Stanhope Blunt's office reveals an assortment of RIA-made ordnance stores such as saddles, saddlebags, haversacks, tin cups, ammunition belts, horse curry brushes, and fencing mask displayed in front of, on, and around the commander's desk.*



Building 360, The Old Post Headquarters 1889-1922

In 1888, Congress appropriated funds for the construction of a new headquarters building, later designated building 360. The Rock Island Arsenal maintained its headquarters in this building until after World War One. In 1922, arsenal operations were reduced and consolidated into fewer buildings. As part of this return to peace-time status, the arsenal headquarters was transferred to shop B (building 60).¹⁰² Though not an arsenal structure, the rebuilding of the government bridge from Davenport in 1895-1896 should be included as a major construction project of the late 1800s because of its impact on arsenal transportation. One project that Rock Island Arsenal commanders repeatedly requested appropriations for, during the last decade and a half of the

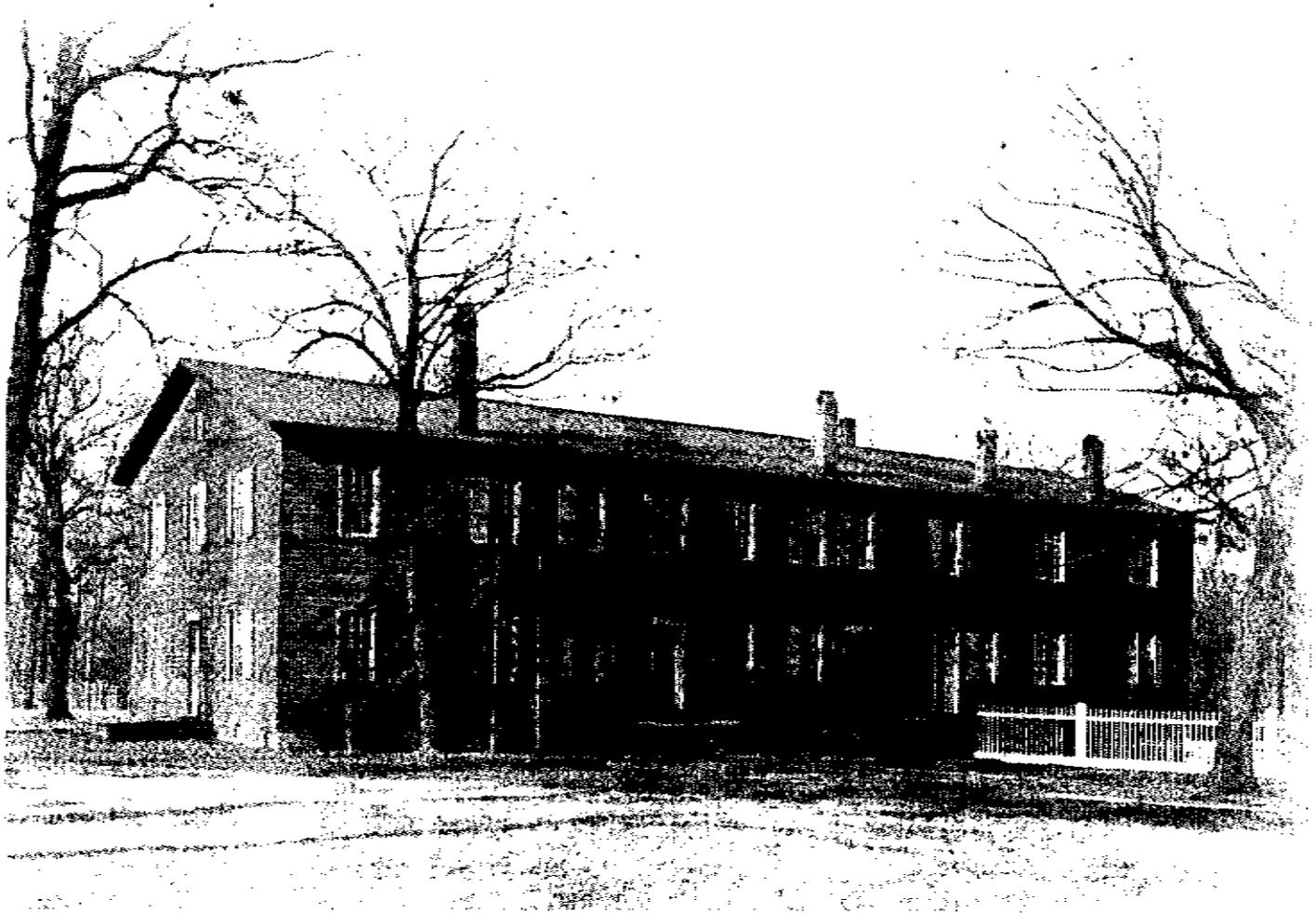
19th century, was the building of a new post hospital.

Quarters 34, The Old Post Hospital

The building then used as a hospital was a drafty old frame confederate prison building. Colonel Buffington expressed his frustration and defended the necessity of replacing the arsenal's old hospital building in his report to the chief of ordnance dated 1896. He argued that:

... Previous reports have been made as to the inadequacy of the post hospital. It is an old frame structure, erected during the Civil War, about thirty-five years ago (for prison purposes). It is drafty and leaky, and the timbers are decayed. Patients placed in this building for treatment must have blankets hung around their beds in cold

Below: *The old Post Hospital, a drafty old wood frame Rock Island Prison barracks building functioned as the Rock Island Arsenal Hospital through the close of the century. Congress finally approved a request for a replacement building in 1907.*



weather to keep off the draft, and the beds must be moved from place to place in wet weather to avoid the rain. The Inspector General had reported that this building is utterly unfit for hospital purposes and not worth repairing. Estimates have been repeatedly submitted, and are again included this year. It is really a cruelty to place a sick man in this structure.¹⁰³

Unfortunately this project did not receive congressional approval until after the turn-of-the-century. In 1907, a brick building was constructed as the new hospital. Today this building functions as officer's quarters (building B1) for the Rock Island Arsenal.

The RIA's First Great Period of Constructions Comes to a Close

A decline in appropriations for construction at Rock Island coincided earlier with Flagler's departure from the arsenal. Basically the arsenal's building phase had been completed, and the conclusion of Colonel Rodman's original plan was in sight. Congressional priorities turned to providing appropriations that would furnish shop machinery; provide adequate sources of power to the shops; maintain arsenal roads and grounds; and improve the access bridge from Davenport, Iowa. The first great construction period of the Rock Island Arsenal was brought to a close in the decade and a half prior to the turn-of-the-century.

Below: The first dam built on Mississippi River in 1841; it stretched from Moline across the south channel of the Mississippi River to Arsenal Island.



CHAPTER FIVE WATER POWER AT ROCK ISLAND

The Mississippi River's potential water power at Rock Island and the island's access to water and rail routes made Rock Island a choice western site for an armory or arsenal for manufacturing of supplies. These natural attributes also made Rock Island an attractive plum for commercial development.

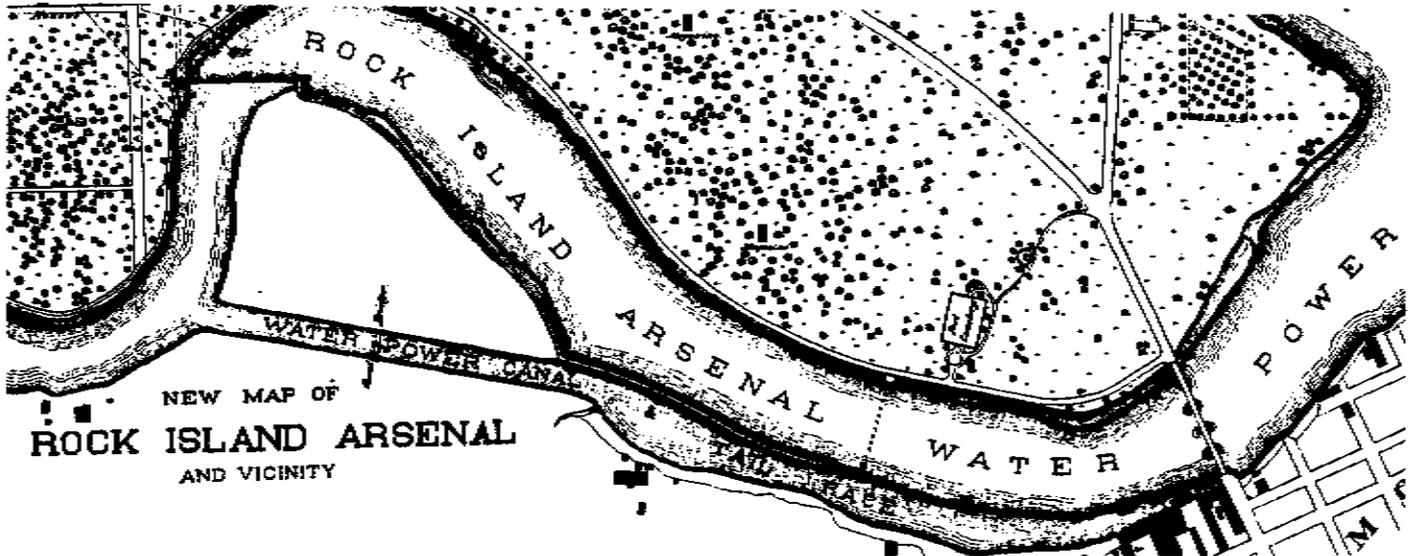
In the late 1830s, long before the construction of the arsenal, private enterprise began developing water power in the south channel of the Mississippi River, now known as Sylvan Slough. In February 1837, the legislature of Illinois granted to David B. Sears and John W. Spencer a charter to build a dam across the south channel of the Mississippi River near the head of Rock Island, across from Moline, Illinois. Mr. Sears and associates controlled the water power for several years. In 1851, the firm of Pitts, Gilbert, and Pitts of New York acquired the dam

and remained in control of its water power until 1859. After a scheme to raise money for improvements and repairs through the sale of bonds failed, the entire property was turned over to the stockholders. Horace K. White and his New York associates then purchased bonds for improvements and repair of the dam, which eventually led to White's acquisition of the property on 25 April 1864.

As previously mentioned, on 19 April 1864, Congress approved an act which authorized the Rock Island Arsenal commander to clear the island of all property claims made by private parties and local communities. This act provided for establishment of a board of commissioners, appointed by the president of the United States. The board reviewed the legitimate claims and made recommendations as to their settlement.

In February 1865, Charles Atkinson and associates obtained a charter from the state of Illinois for the Moline Water Power Company, and by December of that same year they

Below: Portion of Rock Island Arsenal map which shows the plans and development of water power at Rock Island, signed by Brevet Lieutenant Colonel D. W. Flagler, RIA commander.



purchased the water power franchise at Rock Island.¹⁰⁴

Rock Island Arsenal's water power history spanned more than 50 years, from 1865 to after the-turn-of-the-century, and during those years at least eight major water power-related projects were completed by the Rock Island Arsenal. The eight projects included: construction of a stone lateral dam wall in the south channel of the Mississippi River; excavation of a tail race canal through solid rock; building of a stone dike along Syivan Island; construction of the arsenal dam; building of an arsenal power house; digging of tunnels and erecting of towers to transmit the power to the shops by wire cable; building a stone dike at the edge of the island's shore to the head of the island along the south channel; and extending a wing dam off the main channel of the Mississippi River from Benham's Island. Flagler wrote in his *History of the Rock Island Arsenal* that:

Work on the upper (dam) wall, the

island earth dike, the stone dike, the canal, and wing dam were carried on simultaneously and although an account of expenditures on the water power was carefully kept, the cost of the different parts of the work was not kept separately.¹⁰⁵

Colonel Rodman initially planned to use condensed air to power the machines in his arsenal shops. His plan called for transmitting condensed air from Benham's Island dam on the north channel and from the old Moline dam on the south channel of the Mississippi River to the arsenal shops. He quickly abandoned this idea, and developed a new plan to mechanically transfer power from a dam on the south channel of the Mississippi River, which was nearer the construction site of the arsenal manufacturing buildings.

As early as 1865, Colonel Rodman proposed using water power derived from the Moline Water Power Company to drive the machinery in his

Right: Charles Atkinson,
president of Moline Water Power
Company.



arsenal shops. He suggested building a masonry dam and allowing Moline Water Power Company to use its water at the east end of the dam, while the Rock Island Arsenal used its water downstream at the west end of the dam.

As earlier stated, Congress passed another act on 22 June 1866, which further empowered the arsenal commander to take complete and permanent possession of Rock Island, including the island's access bridges and water power. On 27 June 1866, Congress appropriated \$100,000 to secure water power at Rock Island.¹⁰⁶

Authorized by the above congressional legislation, Colonel Rodman notified the Moline Water Power Company to vacate by 1 September 1866 all portions of the south channel that separated Rock Island from the Illinois shore. After lengthy negotiations, Charles Atkinson, president of the Moline Water Power Company, agreed to relinquish to the federal government his company's rights to the water power and property, north of the south channel's mid-line. This included sandbars (deposits of sand), stone, or other materials adjacent to Rock Island. In exchange, the government agreed to provide in perpetuity, free of cost, one-fourth of the water power derived from existing or subsequent plants to the Moline Water Power Company. In addition to the above agreement, the Moline Water Power Company reserved the privilege of renting to customers any surplus power not needed by the arsenal. On 22 September 1866, the Moline Water Power Company received authority from the chief of ordnance to collect

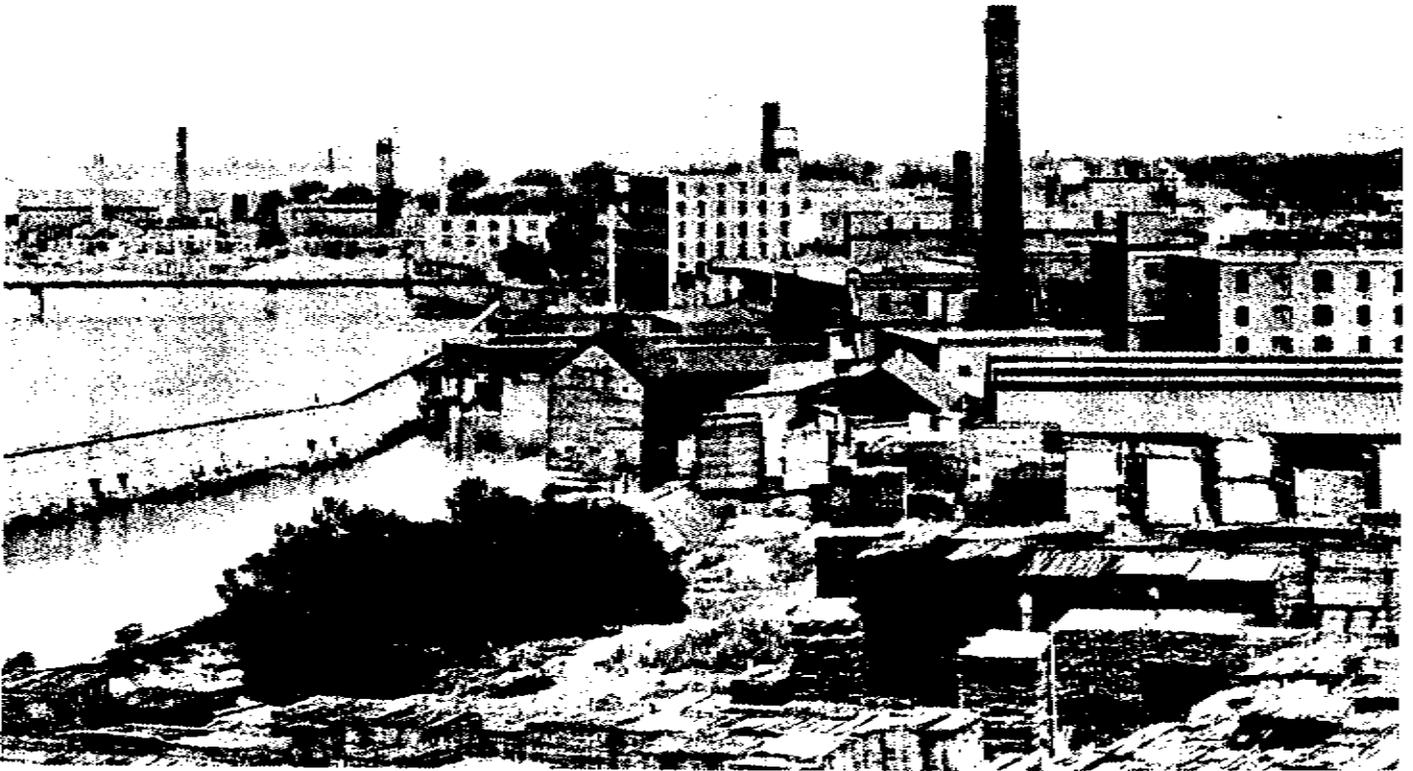
rent or fees from nearby factories using their water power.¹⁰⁷

Flagler reflected in his *History of Rock Island Arsenal*, that the one-fourth agreement, in exchange for the arsenal's use of three-fourths of the water power was the key to the government's difficulties with the Moline Water Power Company. Flagler wrote:

... It is presumable that the right of the company could have been purchased for less sum than this (\$500,000) and the United States would have been left sole owners of all the power, and would have been free from a troublesome, 'entangling alliance' with a private corporation.¹⁰⁸

Congress passed a joint resolution empowering the secretary of war to administer the recommendations of the 1864 and 1866

Below: Moline lateral dam and water power pool, looking northeast. The development of waterpower by the Rock Island Arsenal attracted businesses to the area. John Deere and others relocated their businesses in Moline, Illinois.



commissions to adjust claims stemming from actions taken by the government to regain complete possession of the island.

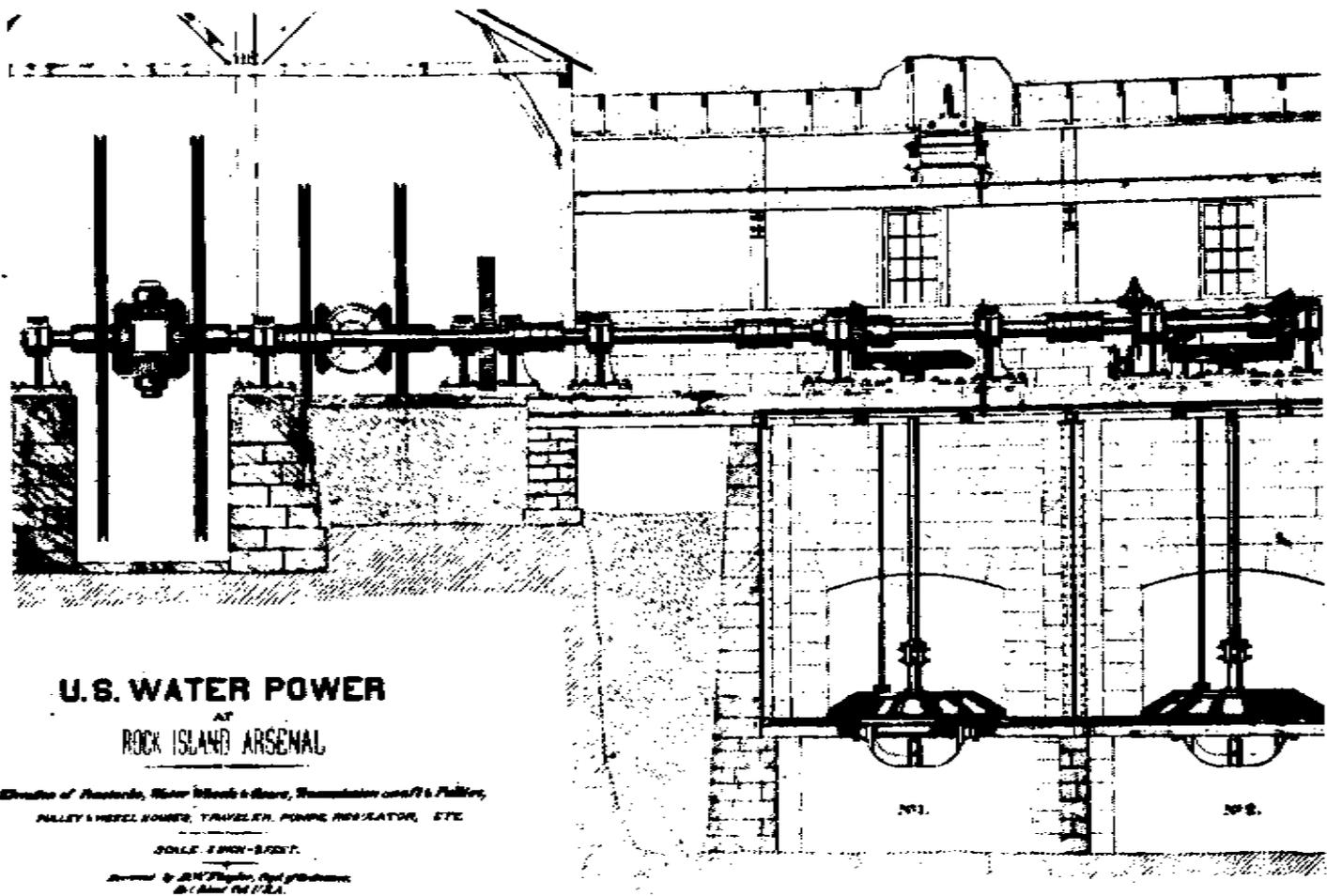
The joint resolution enabled the acting Secretary of War General Ulysses S. Grant to enter into an agreement regarding water power for the arsenal at Rock Island. In accordance with this resolution, the United States and the Moline Water Power Company signed a contract, dated 18 June and 20 August 1867. The contract, which included the recommendations of the commissioners, became the basic agreement between the federal government and the Moline Water Power Company.¹⁰⁹ The Moline Water Power Company later, however, filed several complaints against the United States Government for not fulfilling the terms of this contract. In 1869, the plan for water power development at Rock Island was modified to include the construction of two dams: the Moline (lateral) dam; and the Rock Island Arsenal dam.¹¹⁰

The lateral dam stretched from the Moline shore, at the point where the buildings of the Moline Water Power Company were situated, downstream approximately one mile to a portion of the Moline mainland which jutted out into the slough. Colonel Rodman selected the narrowest point in the slough for construction of the arsenal dam across the south channel.

Before the use of electricity, power had not been transmitted over a great distance very successfully. The crude technology of the 1860s and 1870s precluded the long distance use of electricity. Only those buildings and factories situated in the immediate vicinity received adequate power. For this reason two dams were necessary, the lateral dam at Rock Island was constructed parallel to the Moline shore so that private factories along the shore with river frontage to the slough could directly receive water power.

Likewise, the Rock Island Arsenal needed its dam constructed nearer to the arsenal shops.

Below: A rear sectional view of the complete power assembly with power-house as designed by RIA Commander Lieutenant Colonel D. W. Flagler. Note the two water wheels at the bottom right of photograph. When the gates were opened, water rotated the vertical shaft from the wheel to power-house which, through the use of gears, rotated the horizontal main drive shaft which turned the large 15-foot drive wheel. A series of pulley-like cables operating on towers mechanically transferred the power from the station to the southern row of shops on Rodman Avenue.



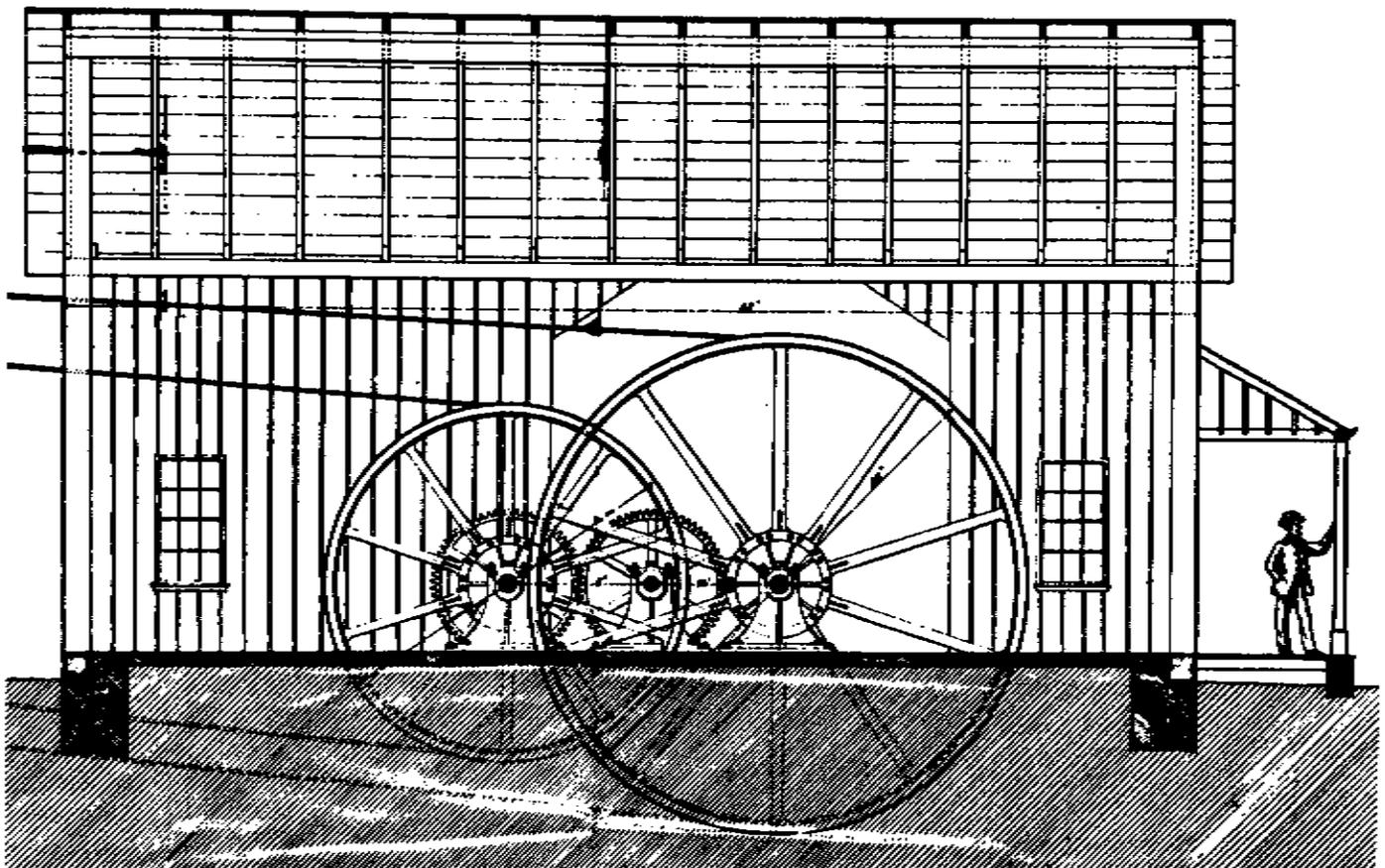
The Moline and Benham's Island dam sites were too far from where the arsenal shops were being built to be considered adequate sources of power for these shops.

John Deere, DeWitt Dimock, John Gould, and Charles Atkinson were among the investors that had an interest in the development of Moline's river front property. The government's drive to regain possession of the entire island of Rock Island included the accesses and water power to the island which forced several private firms operating on Rock Island to relocate. Dimock & Gould, and Company, a woodenware and lumber firm, moved its business from the island and reestablished it along the Moline shore to take advantage of the water power under development.

The Spring flood of 1868 partially washed away the old Moline dam. The Moline Water Power Company urged the Rock Island Arsenal to remove the damaged dam and to construct the proposed lateral dam. The remaining portion of the old Moline dam accumulated dirt, timber, rock, brush, garbage, and silt deposited around the dam.

In addition to developing water power, another objective of the parties involved was to control the flood waters of the Mississippi River. Besides carrying away portions of the old Sears dam, the flood of 1868 also washed away the old wooden bridges which connected Moline to the island, and connected the city of Rock Island to the island.¹¹ Moline investors viewed the results of the flood as an opportunity to replace the

Below: Sketch of powerhouse and drive wheels of the power assembly as designed by Brevet Lieutenant Colonel D. W. Flagler.



crudely constructed old Moline dam with a new federally built one, which would increase the value of Moline's river front property.

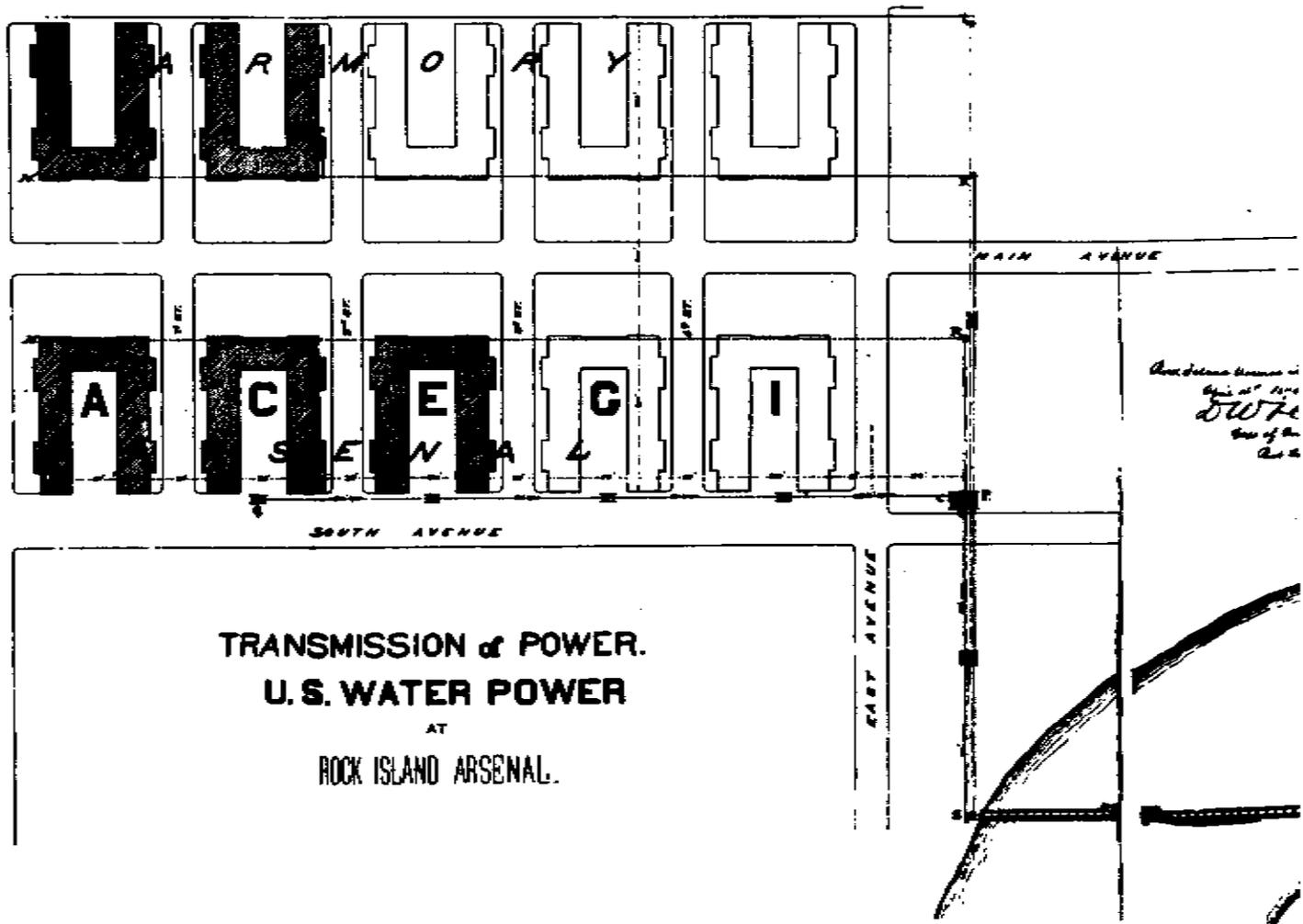
After the Spring flood of 1868, the work of removing the old dam and building the new Moline (lateral) dam was done simultaneously. Unfortunately, flood waters struck again in the fall of 1869 and carried away portions of the coffer dam walls being erected. Moline Water Power Company, anxious to have the water power project advanced to the point where it could begin using the power, offered to share in the repair of the dam. Colonel Rodman, representing the government, reached an agreement with the Moline Water Power Company on 28 October 1869. Under the terms of the agreement Moline Water Power Company replaced the coffer dam walls, and the arsenal agreed to remove the old Moline dam and begin work on the new lateral dam wall. In order for these projects to proceed, portions of the slough were drained of water at the work sites. Cofferdams made this work possible by creating a

temporary watertight enclosure. The enclosed area then was pumped dry exposing the river channel bottom so that the work could proceed at the old and the new dam sites. Mr. S. W. Wheelock, Moline Water Power Company, supervised the Moline firm's part of the project, and Captain Morris Shaff of the Rock Island Arsenal was in charge of the government's work at that time.

The dam wall was completed in December 1869, with the exception of 100 or so feet at the wall's lower end, which was not built until 1871-1872. The coffer dams were removed in the spring of 1870, and Moline Water Power Company began using the water power in August 1870.¹¹²

Moline's lateral dam contained a series of flume openings or chutes, each with its own gate house. Each gate house contained an individual turbine or wheel which transmitted power mechanically by turning a shaft or cable that led directly to the factory. In a sense, each factory had its "own miniature" water power plant.

Below: The 1874 plan of the Telodynamic Power System at Rock Island Arsenal. Lines "MR" in front of each row of shops depict proposed underground shafts whereas lines designated "QPS" represented the reduced system which was eventually installed. Under this plan lines of wire rope were used to transmit 300 horse power to the



TRANSMISSION of POWER.
U. S. WATER POWER
 AT
 ROCK ISLAND ARSENAL.

Unfortunately for Moline, the south channel was lower towards the Moline shore than towards the Arsenal Island's side of the channel, and this low water area behind the lateral dam became a stagnant collection point for debris and dead animals which caused sanitation hazards.¹¹³

In 1869, the original plan was revised to include the excavation of a tail race canal constructed by the Rock Island Arsenal to carry-off the stagnant water and debris that had collected behind the dam wall. Under this agreement, the government was required to dig a canal through that portion of Moline which jutted into the slough. In addition to the canal, the government had to construct dikes along the Moline shore to protect against high water. The digging of the canal turned out to be a major undertaking for arsenal commanders, Rodman and Flagler. In June 1871, Colonel Rodman died,

and his successor, Major Daniel W. Flagler, inherited the unfinished water power project. The project included blasting a canal 2,000 feet long and 200 feet wide through solid rock to the depth of the river bed. Once completed, that portion of the land cut off from the canal formed an island known as Sylvan Island. Major Flagler later wrote that: "Rock was found generally two feet under ground, and nearly the whole excavation (of the canal) was through limestone containing flint, and difficult to work."¹¹⁴ Flagler provided the following details pertaining to the work performed in the slough. He recalled that:

... The rock taken from the canal and not used in the dike was deposited in large mounds or "dumps" on the Moline Company's land near the canal, and has been used very considerably

Right: Telodynamic tower and wheels used to transmit power over wire cables to the rear of shops on south side of Rodman Avenue. This tower was situated east of East Avenue and south of Rodman Avenue.

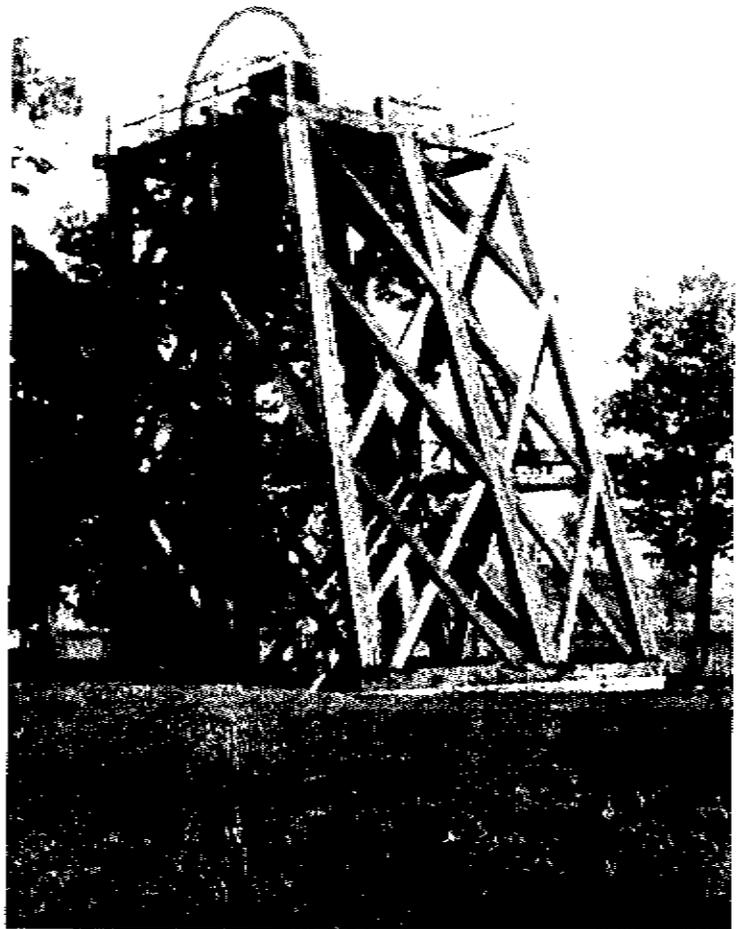
since in building roads, foundations etc., for the arsenal. Large quantities of it have also been used in the same way in (cities of) Moline and Rock Island.

The rock had to be blasted throughout, and was hauled in wagons both to the "dumps" and the dike. A good deal of expense was incurred in maintaining roads for hauling over the rough deposited rock on the dike, movable plank ramps were required to enable the teams to get down off the dike and another road along the foot of the dike was required for returning teams.¹¹⁵

Captains Morris Schaff and A. Mordecai were in charge of the excavation and dike work. They were assisted by Captain M. L. Poland, Lieutenant Charles Shaler, and Lieutenant Wright.

The federal government undertook the expense of excavating a canal and building dikes in such a manner as to meet the terms of its agreement with the Moline Water Power Company. The cost of building the 4,000 feet long dam wall and excavating the 2,000 feet long canal was nearly \$500,000 in 1872. The workforce building the dam and dikes, and excavating the canal increased to 900 workmen and 75 teams during the fiscal year ending 30 June 1872.¹¹⁶

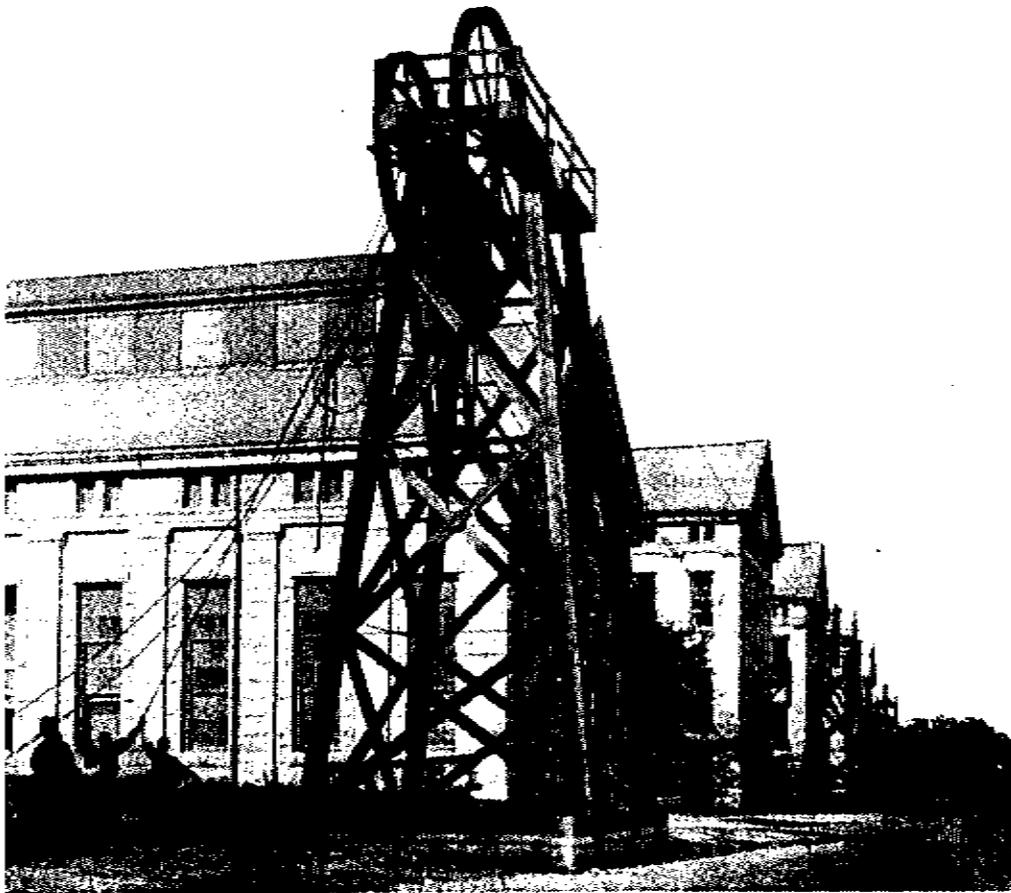
Work on deepening the canal continued into the latter months of 1871. Heavy rains and cold



weather delayed the progress of the arsenal workmen. On 23 December 1871, high water broke the coffer dam, and a few days later the temperature plunged to 16 degrees below zero fahrenheit. The pumps stopped operating due to the cold weather and work was abandoned until the next spring.¹¹⁷

The canal was finally completed in the Fall of 1872, but not without strained relations. Mill owners whose businesses were interrupted by the loss of power caused by the closing of their chute openings during the excavation of the canal challenged the arsenal commander's authority to close the gates. Taking matters in their own hands, several mill owners reopened the gates without the arsenal commander's permission and discharged water through the canal. As incoming water forced Major Flagler's workmen to suspend their work and as the water threatened to collapse the coffer dams, the

Below: Arsenal workmen installing cable to towers which stood behind the south row of shops, known as Arsenal Row. The Rock Island Arsenal initially used this method of cables and towers, known as the telodynamic system, to mechanically transfer power from the powerhouse adjacent to the arsenal dam to these shops, particularly shops C (building 104), and E (building 106).



situation became volatile. Mill owners threatened to shoot anyone who tried to close the gates. In turn, Major Flagler resorted to using soldiers to secure the gates. Considering the expense and difficulties encountered by the arsenal in its efforts to meet the terms of the agreement, it might have been more economical for the government to have purchased the complete rights of the Moline Water Power Company, than to have entered into a joint enterprise with them.¹¹⁶

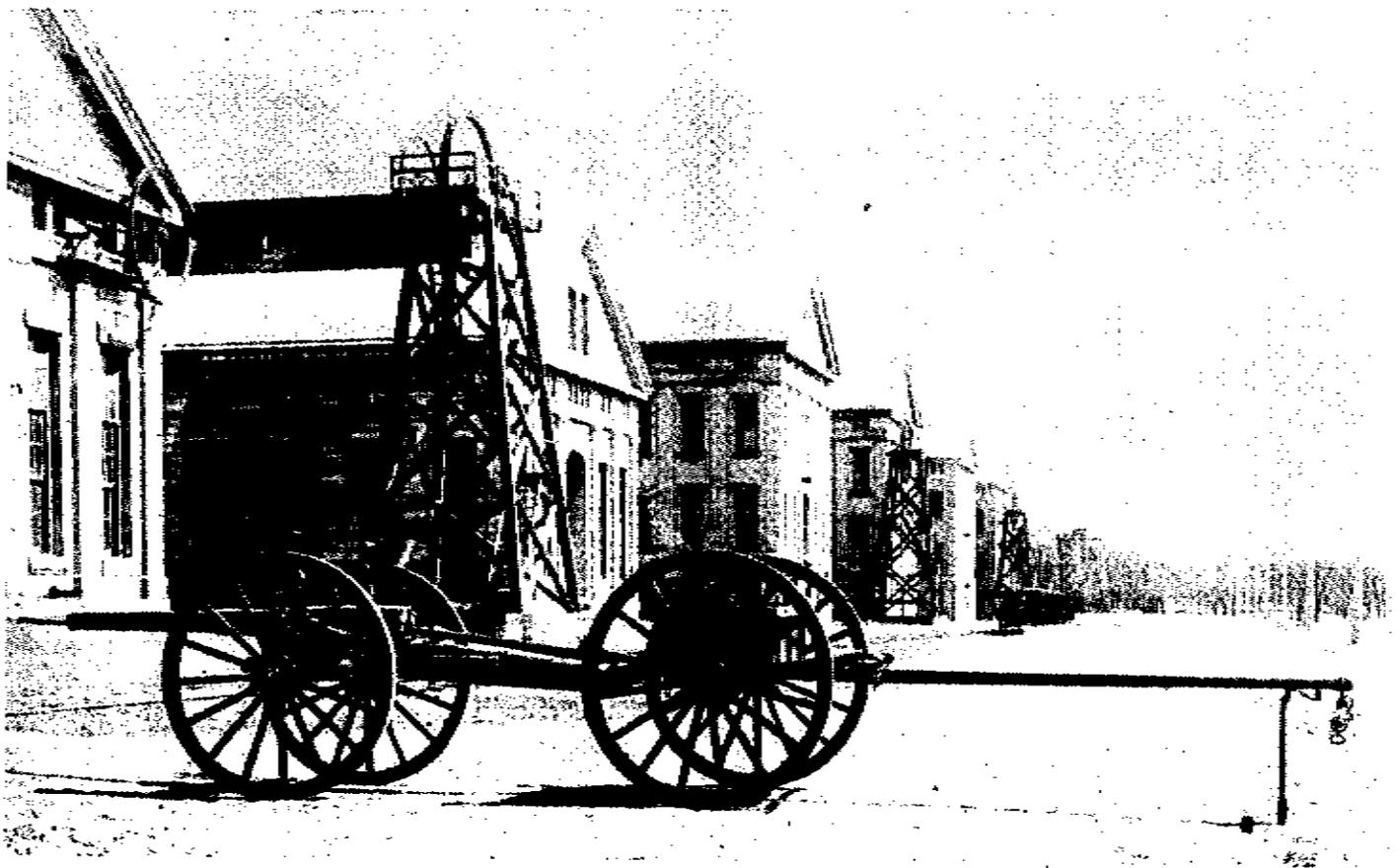
Arsenal Dam and Power Systems

In July 1872, the secretary of war approved construction drawings of an arsenal dam between Rock Island and Sylvan Island. A board consisting of three ordnance officers, appointed by the chief of ordnance, visited the Rock Island Arsenal to examine plans for the arsenal dam and water power system. A major obstacle in

devising a transmission system was the distance between the source of power and the buildings where the power was to be used. Electrical power was not yet feasible and steam was too expensive to use on such a large scale. The arsenal, therefore, devised a system by which power could be transmitted mechanically from the dam to the arsenal shops.

Initially, four methods of transmitting power to the arsenal manufacturing buildings were considered: Compressed or condensed air; a rigid covered shaft system using tunnels to connect to the shops; a telodynamic or wire-rope (cable) system; and a combination wire-cable and shaft arrangement. After four days of review, the board of officers approved combining the telodynamic wire-cable system with the shaft method. By combining the two systems, the Rock Island Arsenal could temporarily set up a wire-rope or telodynamic system that would be

Below: Rear view of Arsenal Row, showing the telodynamic system. Shop E (building 106) had a cable stretched from the tower to a large wheel attached to the rear of the building. Note small RIA produced 3.2-inch gun carriage in foreground.



economical to install and would allow time to further develop the more complicated rigid shaft system.¹¹⁹

Using the telodynamic system to transmit power over a great distance had yet to be tried in America. Major Flagler corresponded with several European firms that had manufactured wire-rope and had built telodynamic systems in Germany and other European countries.

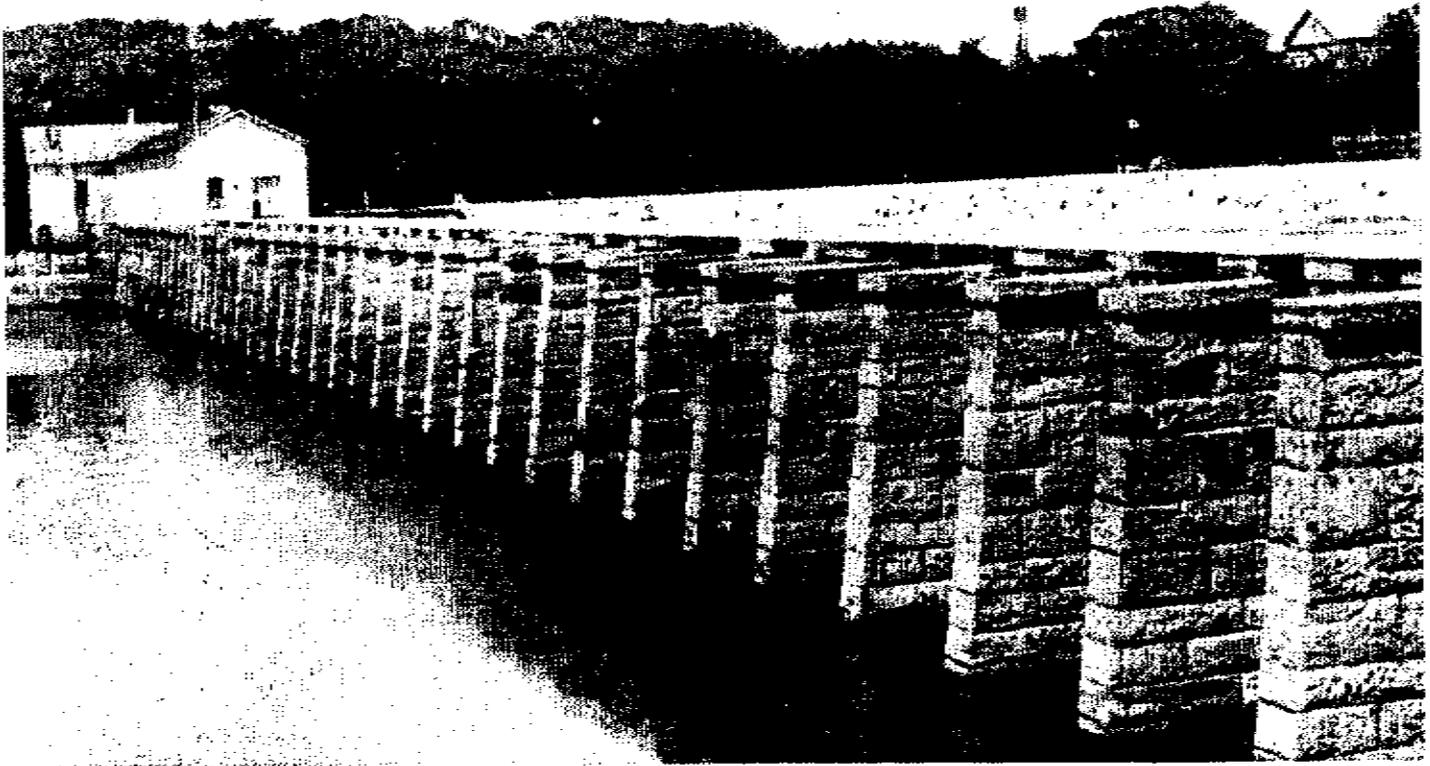
The telodynamic system mechanically transmitted power to the arsenal shops by using water, which passed through openings at the dam, to rotate turbines. The rotation of the turbines was transferred through gears which, in turn, rotated a large drive wheel. This wheel, 15 feet in diameter, functioned as a large drive pulley from its location inside a powerhouse adjacent to the dam. An endless cable loop extended from this ground station northward along First Avenue to a pulley at the top of a tower. From there, wire-cables, one-inch in diameter, formed loops which turned additional elevated wheels at the rear of the shop buildings

situated south of Rodman Avenue. Long main drive shafts ran just below the ceilings of each shop area, constantly rotating when the telodynamic system was activated. Individual machines were powered by engaging a clutch drive belt connected to the overhead shaft.¹²⁰

Beginning in 1874, Major Flagler had all gear work and shafting for the power system manufactured at Rock Island Arsenal's foundry and shops, and in conjunction with the power system, Major Flagler ordered metal to produce the castings needed for the power system.

In the mid 1870s another controversy between the federal government and Moline Water Power Company occurred. Brigadier General Stephen V. Benet, chief of ordnance, visited Rock Island Arsenal in May 1875, and made a complete inspection of the water power projects at Rock Island. The following February, Major Flagler traveled to Washington, DC, to participate in discussions with officials of the Moline Water Power Company, their attorneys, the secretary of war, and the army's chief of ordnance. No

Below: Rock Island Arsenal dam, circa 1879. Note location of shops in background to dam.



solutions to the conflicts between the government and the Moline Water Power Company were arrived at as a result of these discussions. The Moline Water Power Company was anxious about the completion of a variety of water power-related improvement projects.

During Major Flagler's term of command the following water power related projects were completed:

1. A stone dam wall 2,307 feet long, 18½ feet high above the river bed; 8 feet thick at the bottom, 3¾ feet at the top, strengthened by buttresses 3 feet wide and 3 feet thick at the bottom and placed 13 feet apart. The wall had at least 37 openings or chutes for use by the Moline Water Power Company.
2. A tail race canal carved through solid limestone 2,000 feet long and 200 feet wide.
3. A stone dam dike along Sylvan Island which connected the lateral dam wall with the government dam.
4. A masonry dam wall, laid with

dressed stone, extending from the end of the dike to the shore of the island of Rock Island, near the shops. This dam wall had 40 openings for water wheels.

5. A power house and line of towers to transmit the power from the dam to the shops by means of wire-cable.

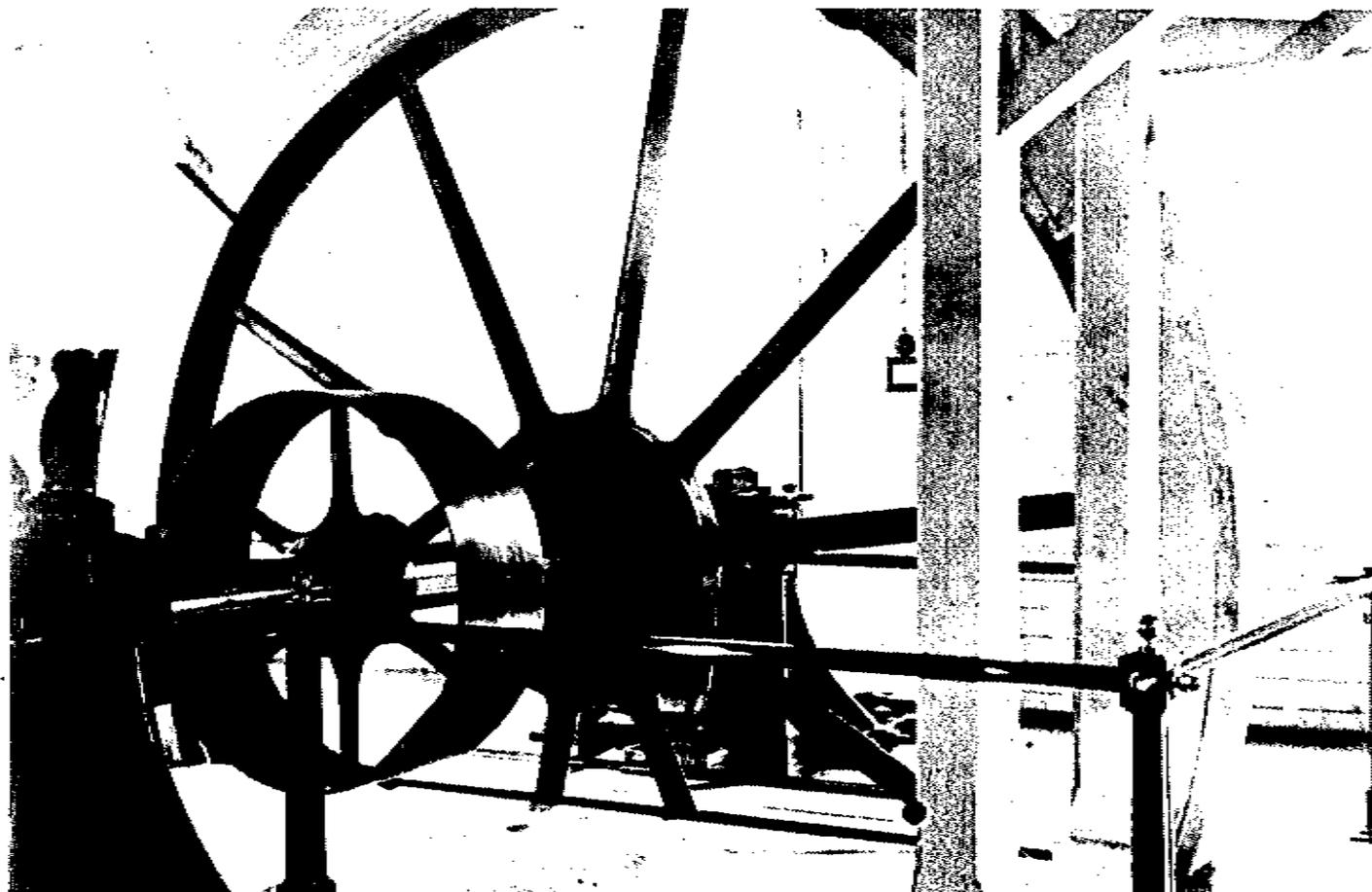
6. A stone dike about one-and-a-half miles long, edging the shore of the island to its head to protect against flooding in low places.

7. A wing dam extending up the Mississippi River approximately 2,000 feet.¹²¹

However, Major Flagler's achievements did not escape criticism from the Moline Water Power Company. Throughout Major Flagler's and his predecessor, Colonel Rodman's terms as commanding officers of the Rock Island Arsenal, the Moline Water Power Company contended that the government had not fulfilled its contractual obligations.

In an effort to resolve these differences, Congress passed a resolution on 3 March 1877

Below: A close-up view of the 15-foot high drive wheel inside the Rock Island Arsenal powerhouse.



that formed yet another commission. This commission reviewed all contracts entered into between the United States Government and the Moline Water Power Company. George W. McCravey, secretary of war, appointed three officers to the commission: Brigadier General A. A. Humphries, chief of engineering, U.S. Army; Lieutenant Colonel H. G. Wright, U.S. Army, Corps of Engineers; and Major Henry L. Abbot, U.S. Army, Corps of Engineers. They were appointed by Special Order No. 72, dated 5 April 1877. After concluding its study, the commission submitted its report to Congress in June 1877. The report essentially stated that the allegation by the Moline Water Power Company that the United States Government had not complied with the terms of its agreement of 1867, could not be supported.¹²² The Moline Water Power Company countered the decision of the commission by filing a lawsuit in the U.S. Court of Claims against the United States Government. The case was eventually dropped by the court due to lack of prosecution on behalf of the

Moline Water Power Company. The telodynamic system was installed in 1878, and the first use of arsenal water power in the shops occurred in February 1879. All the shops that comprised Arsenal Row on the south side of Rodman (Main) Avenue, with the exception of shop A, had access to the power carried by the telodynamic system. However, only shops C and E actually received power from the wire-cable and tower arrangement. Of the two, shop C consumed the greater amount of the power since the arsenal's early manufacturing operations took place in that building. Shop E, being the foundry, did not require as much power. The U.S. Government and the Moline Water Power Company negotiated a new contract which was signed by the president of the water power company and the secretary of war on 28 August 1882. The new agreement listed work yet to be performed by the government and the funds necessary for those projects. The work included improving the water power pool; deepening the canal; placing six new openings or chutes for water wheels in the

Below: A view of the Rock Island Arsenal water power dam under construction, dated 19 October 1889. Note: The crew in the right foreground operated in teams of three while "double jacking" or driving the iron spike into the bed-rock. One workman held the spike and rotated it as the other two drove it in the rock with sledge hammers. Also note the arsenal stone shops and power tower visible among the trees in the background.



wall or dike; and reserving any unused balance of funds for future development and maintenance of the water power system. According to the Moline Water Power Company, once this was accomplished, the company would fully discharge the United States Government of any further obligations to develop water power.¹²³

Water Power Related Projects Provided Jobs for Tri-Cities

Practically on an annual basis, from 1867 to well past the turn-of-the-century, Congress appropriated funds for the construction of water power related projects at Rock Island. The tri-cities communities which then surrounded Arsenal Island benefited economically from the federally-financed projects. For over a 40-year period, Congress had appropriated more than a million dollars for development of water related improvement projects at Rock Island. A large share of that sum went to local tri-cities firms and laborers hired as day workers or contracted for

longer periods of time on these projects. At times, close to a thousand workmen were employed by the Rock Island Arsenal to work on the various improvement projects being completed in the south channel of the Mississippi River and above Benham's Island in the Main Channel.

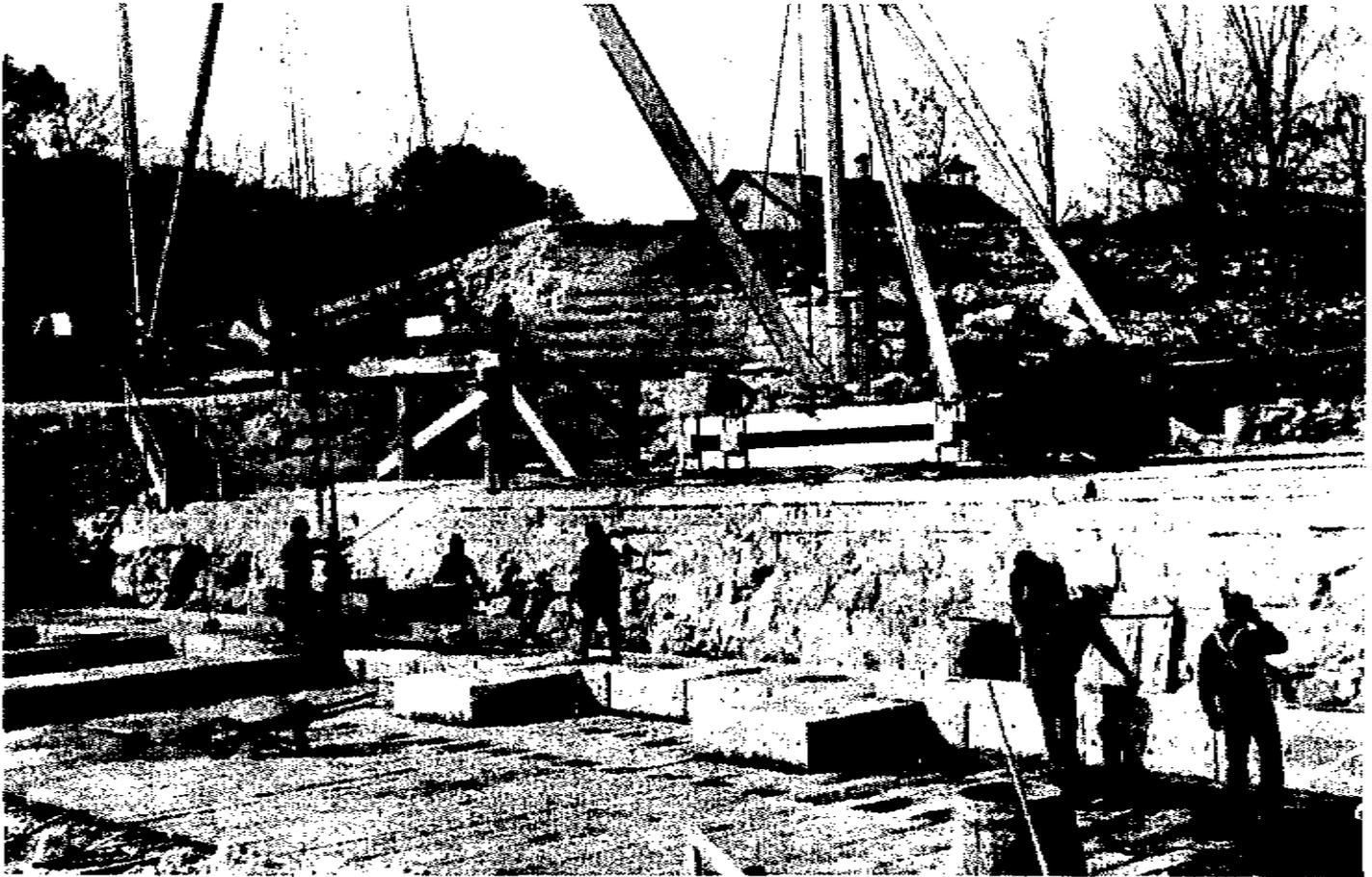
Advertisements soliciting sealed bids for a variety of labor appeared routinely in local newspapers. As an example, the Moline *Review-Dispatch* printed the following announcement inviting bids for blasting and hauling rock from the water power pool at the Rock Island Arsenal.¹²⁴

PROPOSALS FOR BLASTING AND HAULING ROCK

ROCK ISLAND ARSENAL, IL, May 14, 1881

Sealed proposals are invited for blasting and hauling in wagons, about 20,000 cubic yards of rock, from the water power pool at this Arsenal,

Below: Workmen laying first course of stone at the east end of construction for the arsenal dam, dated 28 October 1889. Note the roof of the main pulley house in background.



between August and November 1881.

Plans and drawings can be seen and specifications and forms for bids can be obtained at this office.

The successful bidder will be required to give good and sufficient bonds for a faithful performance of the work.

The United States reserves the right to reject any and all bids. Bids will be opened at 10 A.M., May 31, 1881, and bidders are invited to be present.

D. W. Flagler,
Major of Ordnance
Commanding

By 1890, the combination of wire-cable and rigid shafting to generate power was inefficient and obsolete. The arsenal's makeshift arrangement, at best, provided only limited power to a portion of the arsenal shops. Frequently power failures occurred due to friction which jammed the shafts; and at times,

due to cables which snapped or developed too much slack.

Also by 1890, technology in the transmission of power had advanced to such a degree that it became feasible to update the Rock Island power system. Arsenal Commander Colonel James Whittemore in 1890 recommended to the chief of ordnance that the arsenal's telodynamic and shaft system be abandoned in favor of electricity. His recommendation did not receive immediate action by the chief of ordnance other than ordering additional studies be done of the arsenal's water power system. The arsenal's wire-cable and rigid shaft system had at that time provided enough energy for the relative light arsenal workload being done in shops C and E. Despite improvement to the dam and construction of a frame powerhouse in 1892, it became apparent the arsenal's water power was no longer adequate. In 1899, a fire destroyed the arsenal's wooden frame powerhouse, thereby placing the installation's power plant out of commission. The army, not wishing to expand

Right: A copy of a photograph included in the Annual Report of Chief of Ordnance, 1892, depicting workmen operating electric drills to break up the solid rock portions of the river bed and deepen the water power pool.

Left: Workmen building coffer dam during winter of 1891. Coffers dams were used to hold back the water so that construction of the dam and deepening of the water power pool could be accomplished.



an inadequate, obsolete power system, decided instead to modernize the Rock Island Arsenal's entire power system by switching to hydroelectricity.

Additional Water Power Related Projects

In 1896, a new concrete dam was constructed for the Moline Water Power Company between Sylvan Island and the Moline mainland. The old Moline dam tail race, no longer needed, was filled in and was used as a railroad bed. All that remains today of the Moline's lateral dam are a couple of gate houses. The extension of the wing dam up river nearly two miles to the Duck Creek chain of rapids in the Mississippi River's main channel was completed in 1899.¹²⁵

At times, the annual appropriation for water power-related projects was greater than that appropriated for the construction of the arsenal itself. Congress passed the following acts for the development of water power at Rock Island Arsenal:¹²⁶

ACT	APPROPRIATION
Act of June 27, 1866	\$100,000
Act of June 8, 1868	80,000
Act of March 3, 1869	150,000
Act of July 15, 1870	20,000
Act of March 3, 1871	20,000
Act of June 10, 1872	110,000
Act of March 3, 1873	18,000
Act of June 23, 1874	5,400

Below: In 1892, the coffer dam collapsed under the pressure of high water caused by an ice gorge; repairs delayed the completion of the water development project.



CONTINUED:

ACT	APPROPRIATION
Act of March 3, 1881	50,000
Act of August 7, 1882	100,000
Act of March 3, 1883	20,000
Act of July 7, 1884	18,500
Act of October 2, 1888	275,000
Act of August 30, 1890	101,000
Act of July 1, 1898	45,000
Act of March 3, 1899	21,350
Act of March 3, 1901	130,000
Total	\$1,624,750

Extraordinary repairs to the Rock Island Arsenal water power were provided by the following appropriations:¹²⁷

ACT	APPROPRIATION
Act of October 2, 1888	\$25,000
Act of August 18, 1894	30,000
Act of March 2, 1895	37,500
Act of June 4, 1897	28,150
Act of June 6, 1900	97,000
Act of May 27, 1908	28,500
Total	\$246,150

Right: The Rock Island Arsenal provided ordnance stores to troops stationed along the western frontier. From the Battle of the Little Big-Horn in 1876 through the Battle of Wounded Knee in 1891, the RIA manufactured and supplied weapons and equipment used by frontier soldiers, such as those pictured guarding captured hostile Sioux Indians who had participated in the massacre of Custer and a portion of his 7th Cavalry at the Little Big-Horn, in Montana.

Left: A late 19th century view of RIA gun yard, probably taken on a Sunday afternoon outing on Arsenal Island.



CHAPTER SIX 19th Century RIA Operations

During its first decades from 1863 to 1893, Rock Island Arsenal's activities consisted primarily of building construction; water power development; and organization of a storage depot. However, as early as 1869, with barely more than the Clock Tower Building completed, Colonel Rodman had arsenal workmen cleaning, repairing, and packing breech-loading rifles, infantry accouterments, and artillery equipment. In his report to the chief of ordnance for fiscal year 1869, Rodman alluded to the fact that Rock Island Arsenal workmen cleaned and repaired 55,361 pieces of infantry equipment and 503 sets of artillery harnesses. Practically all of this work was completed by hand.¹²⁶

Noteworthy was the fact that Rock Island Arsenal depot operations developed earlier than the arsenal's manufacturing operations. The

Union Army began storing military equipment on Rock Island at the end of the Civil War, and its depot activities expanded into the 1870s. After the Civil War, the army reorganized and closed several storage depots in different states. The Army's Ordnance Department then transferred the holdings of those closed depots to Rock Island. Because of its strategic location, the arsenal served as a repository for ordnance stores which, in turn, could easily be shipped by river or train to western military posts during times of Indian hostilities. After 1875, the Rock Island Arsenal supplied practically all the ordnance stores required by the army in the west.

While depot activities expanded during the 1870s, construction of the Rock Island Arsenal continued. By 1875, manufacturing shops B (building 60), C (building 104), D (building 62), and E (building 106) had been completed. In addition, shop A (building 102) and shop F (building 64) were under construction. In May

Right: A still life of the leather accouterments produced by the RIA Harness and Accouterments Shop. The Rock Island Arsenal manufactured harness and cavalry leather equipment from 1875 to 1921 when the mission was transferred to Jefferson Depot in Indiana.



1875, Brigadier General Stephen V. Benet, chief of ordnance, arrived at Rock Island to inspect the construction at the island and was impressed with the progress. He then instructed Major Flagler, the arsenal commander, to begin manufacturing operations.¹²⁹

At first, items such as waist-belt plates were produced at the arsenal in limited quantities. Eventually, orders for other military equipment increased in volume and in importance. New missions or functions were also awarded to the Rock Island Arsenal and some of the arsenal's current functions were expanded.

In November 1875, General Benet sent the Rock Island Arsenal commander an order for 3,000 sets of infantry equipment and 3,000 saddles.¹³⁰ On 7 December 1875, an article appeared in the Rock Island *Argus* newspaper announcing that:

... Some 50 to 60 men are employed at Rock Island Arsenal manufacturing infantry equipment, covering saddles

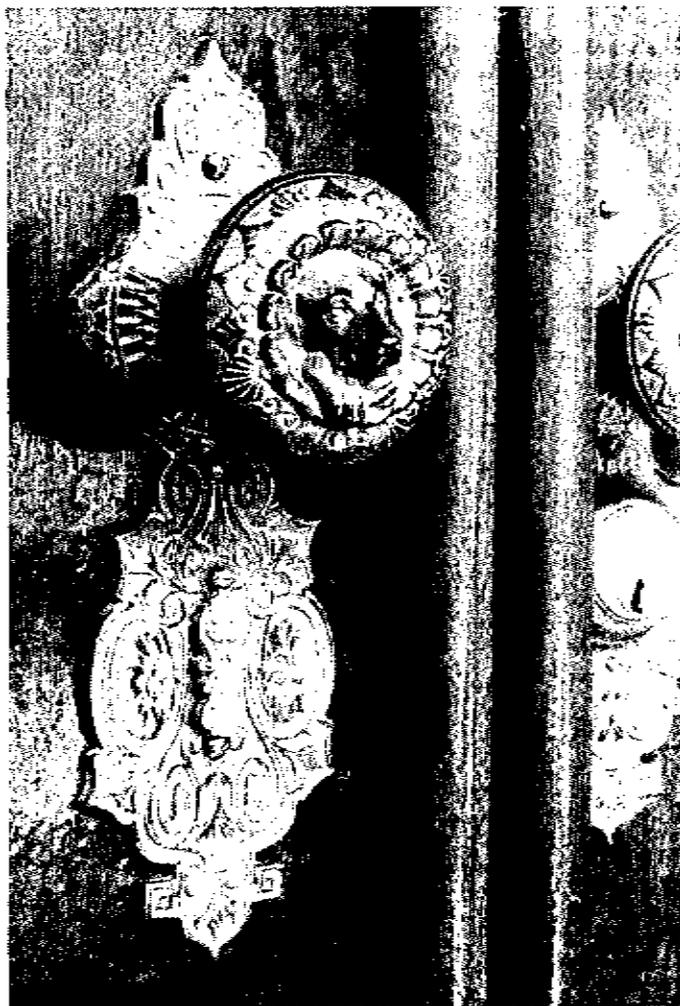
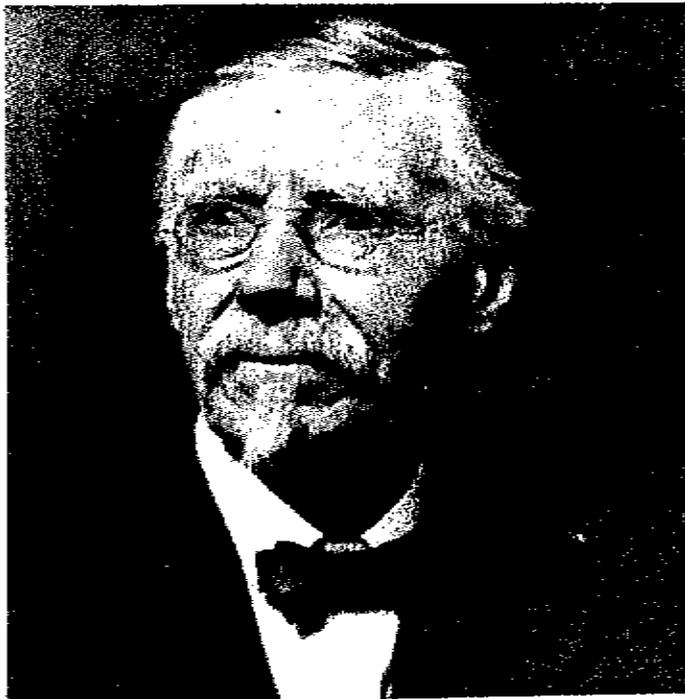
and doing miscellaneous leather work for the cavalry arm of the service. This is the first manufacturing ever done in the way of equipments for the Army at this Arsenal.¹³¹

In 1875, Brigadier General Montgomery Meigs, quartermaster general, directed a board of officers to develop army standards for heating buildings, and at the same time established general specifications for size and construction of army stoves. In November 1875, officers completed their design of army-issue stoves which included cast iron and wrought iron wood and coal heaters and cooking ranges.

On 28 August 1876, the Quartermaster Department solicited bids for the production of 160 heating stoves and 40 cooking ranges. The Ordnance Department submitted the low bid on the cast iron heaters, and received a contract to produce 100 stoves at the Rock Island Arsenal. The arsenal also received production orders for 60 wood and 40 coal heaters. In addition to the

Right: Ornate brass door hinges and knob sets cast by the RIA foundry still accent the Commanding Officer's Quarters. Note the key hole cover below the knob in the photo.

Left: Mr. David C. Thompson was the Rock Island Arsenal's first foundry foreman. He started supervising the shop in 1871, and retired at the age of 81 in 1910. He had a fine reputation as a molder.



Rock Island Arsenal, two private contractors were awarded contracts to manufacture stoves to army specifications.

In 1878, the Rock Island Arsenal produced 201 heating stoves and became the army's primary producer of stoves. Two years later, in 1880, the arsenal delivered 256 stoves for army-issue and subsequently received an additional order for the production of 276 stoves to be completed in 1881. By the mid-1880s, many army barracks were heated by general issue stoves manufactured at the Rock Island Arsenal.¹³²

Earlier, in 1875, the Rock Island Arsenal's manufacturing operations included a harness shop, a carpenter's woodworking shop, a cloth and canvas shop, and an equipment shop. The arsenal also had a machine shop, blacksmith shop, foundry, and polishing and plating departments. Prior to the Spanish-American War, Rock Island Arsenal manufacturing focused primarily on the construction of arsenal buildings. The arsenal's carpenter shop produced doors and window frames for the

buildings under construction. Arsenal carpenters also made furniture for the officers' quarters and desks for the offices.

The Rock Island Arsenal foundry fabricated construction material and shop equipment during the latter part of the 1880s. Castings of brass hardware, such as hinges, roof straps, and pulleys, had been initially produced in the old temporary wooden forge shop during the late 1860s. Once building 106 (shop E) was completed in 1873, the casting of iron trusses, columns, beams, and staircases were also produced at the island. From 1873 to 1988, building 106 was in continuous operation as the Rock Island Arsenal's blacksmith shop and foundry.

Harnesses were produced at the arsenal from 1875 until the harness department was transferred to Jeffersonville, Indiana in 1921.¹³³ In addition to harnesses, Rock Island Arsenal leather workers covered wooden saddle trees and hooded stirrups with leather. Arsenal workmen also manufactured army leather gun

Below: An oldtimer engaged in the die-cutting of leather used in saddle construction. The worker positioned the leather so that the best possible cut could be made. One of two safety handles which the worker must lower to operate the drop press is visible just to the right of machine.



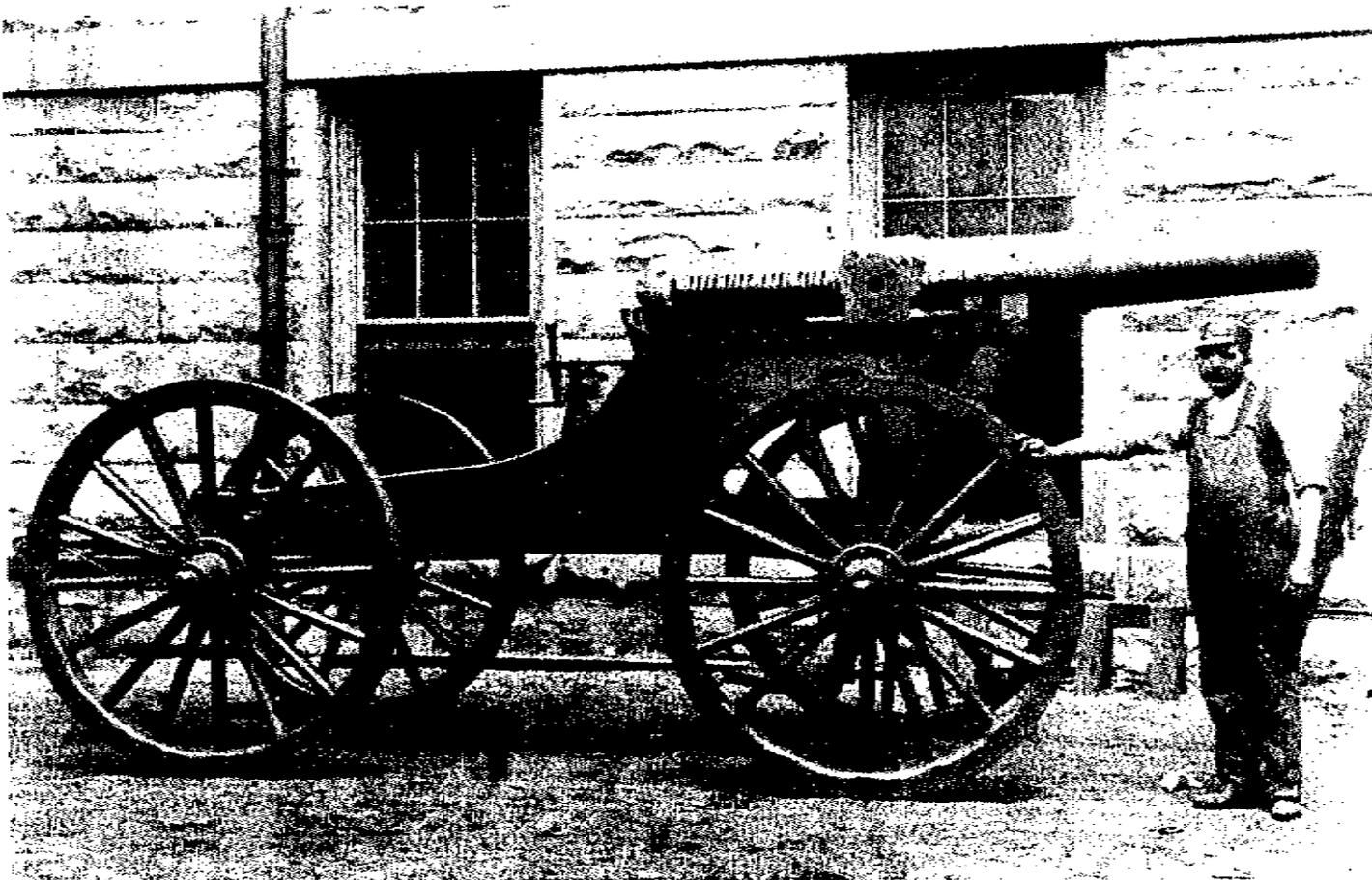
belts, straps, cartridge pouches, saddle bags, gun slings, rifle scabbards, and revolver holsters. The number of harness makers employed at the Rock Island Arsenal prior to the Spanish-American War fluctuated from 12 to 40 with the size of orders received by the arsenal commander. However, the work force of the arsenal harness shop rose to slightly over 1,000 employees during the arsenal's peak manufacturing period of the Spanish-American War.¹³⁴

Because of the demand for harness hardware and repaired rifles, a metal polishing and plating department was established at the Rock Island Arsenal. Workmen in this department polished all sizes of buckles, hooks, buttons, hinges, bites, handles, and scabbards. In addition, rifle barrels, swords, and bayonets were plated and polished by workers in the department. By 1876, arsenal workmen had begun to fabricate and repair haversacks and other canvas cloth-made accouterments for army-issue. During the late 19th century, the woodworking shop

produced wooden saddle trees and arms chests. Besides parts for harness and saddlery repairs, arsenal workmen made buttons for McKeever cartridge boxes, and casts for an order of 1,000 spurs in 1881.¹³⁵ In 1882, a power press for manufacturing metal meat-can handles was installed in the tin shop. As early as 1882, the arsenal was engaged in experimental research and development. The arsenal commander's report to the chief of ordnance for that year included details of an experimental entrenching tool (a spade) manufactured at the Rock Island Arsenal.¹³⁶

In 1885, a jewelry department was added to the equipment shop. Arsenal jewelers produced pins, badges, trophies, and insignias for saddle gear. A total of 5,000 silver marksmen's pins, and 2,000 sharpshooter's badges were manufactured by the jewelry department in 1885.¹³⁷ Also in 1885, the first electroplating at the Rock Island Arsenal was performed in shop C. The shop had a small electroplating machine with a wash tub and pumice stone tray, plus stone jars for

Below: A view of a 7" siege howitzer and metal carriage assembled at the Rock Island Arsenal. The all-metal carriages for this weapon and the extra strength artillery carriage wheels were manufactured at the arsenal.



cleaning and dipping metal. In this shop, officer saber scabbards and metal parts to sabers belts were repaired and replated. Other manufacturing worthy of mentioning during the 1880s included the production of metal skirmish targets and the fabrication of gun carriages. By 1884, steam hammers, heavy punch presses, and shear forging and machine shop equipment for heavier manufacturing were being produced in shop C. In 1886, the arsenal produced harness pack outfits for the Hotchkiss mountain gun carriage.¹³⁸

During 1886, the infantry equipment, cavalry accouterments, horse equipment, material for target practice, artillery harness, field and siege carriages, caissons, battery wagons and forges, and many other articles required by the army, were manufactured at this arsenal.

In the 1890s, the Rock Island Arsenal received additional responsibilities as a result of a reorganization in the army's manufacturing program. The reorganization was spurred by technology developed during the Civil War. In

the 1880s, the Army Ordnance Department designated Watervliet Arsenal near Albany, New York, as the site of the army's new gun tube factory for heavy-caliber seacoast defense cannons. Watertown Arsenal near Boston, Massachusetts, did not have the capacity to produce the heavy carriages for the new seacoast guns and maintain its old production schedules. To expedite work on the heavy carriages, the army selected Rock Island Arsenal to manufacture a portion of the carriages formerly produced at Watertown Arsenal. The RIA began to manufacture field and siege artillery carriages in 1892. In 1893, the RIA completed the last Rodman planned stone shop, shop K, building 68. By 1894, the RIA was producing machine gun carriages; limbers, caissons, battery wagons, and carriages for siege guns. Initially, RIA's machine shop and field gun carriage shop were established in shop C, building 104. However, this peacetime arrangement of equipment and operations were inadequate for the sudden demand caused by

Below: *The Rock Island Arsenal machine shop crew, in 1896. Note the "old world" appearance of several of the workmen. The number of employees in the machine shop totaled only a few hundred prior to 1898. During the Spanish-American War RIA employment reached a pre-WWI peak of nearly 3,000.*



Below: A gathering of Rock Island Arsenal day foremen a few of which, like George Patterson (first on the right, front row) transferred from Springfield Armory and helped establish the RIA's small arms plant after the Spanish-American War.



the Spanish-American War. To accommodate the increased quantity of production orders for leather, tin, cloth accouterments, and gun carriages, the arsenal's machine and field gun carriage shops were moved to shop G, building 108. Mr. George Patterson, master machinist, was credited with organizing the gun carriage operation once it was moved to building 108. Colonel Stanhope Blunt, RIA commander, requested that Mr. Patterson be transferred to RIA from Watervliet Arsenal for precisely that mission. The production of artillery carriages remains one of the RIA's primary areas of specialization to the present time.

The Spanish-American War's impact on the RIA

On 15 February 1898, the U.S. battleship *Maine* blew up in the harbor of Havana, Cuba. Many Americans believed that Spain, to whom Cuba belonged, blew up the *Maine*. Congress on 19 April 1898 passed a resolution declaring that the people of Cuba should be free and independent from Spanish rule. It also authorized the

president to use military force to carry out the resolution. On 24 April 1898, Spain retaliated by declaring war on the United States: 24 hours later the United States Congress reciprocated with its declaration of war against Spain.

Demand for War Materials and Supplies

Subsequent to the sinking of the *Maine*, the army discovered it did not have sufficient carriages and harnesses for the field guns it had on hand. Moreover, production of field and siege guns, along with their carriages, needed to be drastically increased. On 9 March 1898, the chief of ordnance sent an urgent message to RIA. The telegram read, "work (should) be pushed (at RIA) on all existing orders as rapidly as possible, and extra shifts of workmen (should) be employed."¹⁴⁰ As the job orders increased, so did the arsenal's employment, and by the end of March 1898 the arsenal's manpower increased to 608 employees. In early Spring of 1898, the RIA commander hosted a conference attended by the commanding officers of Alleghany, Indianapolis,

Below: *The Rock Island Arsenal tin shop, circa 1898. One of the arsenal's earlier missions was the manufacturing of metal accouterments such as tin cups, meat cans, and eating utensils for use by the army.*



and Columbia Arsenals. The purpose of the meeting was to organize the war effort, and as the result of this conference, each arsenal was assigned parts to manufacture. Many of these parts were then shipped to RIA for assembly.

On 26 March 1898, RIA received orders to produce 25,000 complete units of infantry equipment. Within two weeks after receiving this order the RIA commander was sent a directive to "press work on all field gun and siege gun carriages as rapidly as possible, employing extra shifts of men as far as economical."¹⁴¹

On 21 April 1898, four days before the United States declared war against Spain, RIA received instructions to increase its output of infantry equipment to 75,000 units and to begin producing 10,000 sets of horse equipment. The next day, the RIA equipment department began working day and night on two ten-hour shifts. On 5 May 1898, the chief of ordnance ordered an additional 54,000 units of infantry equipment;

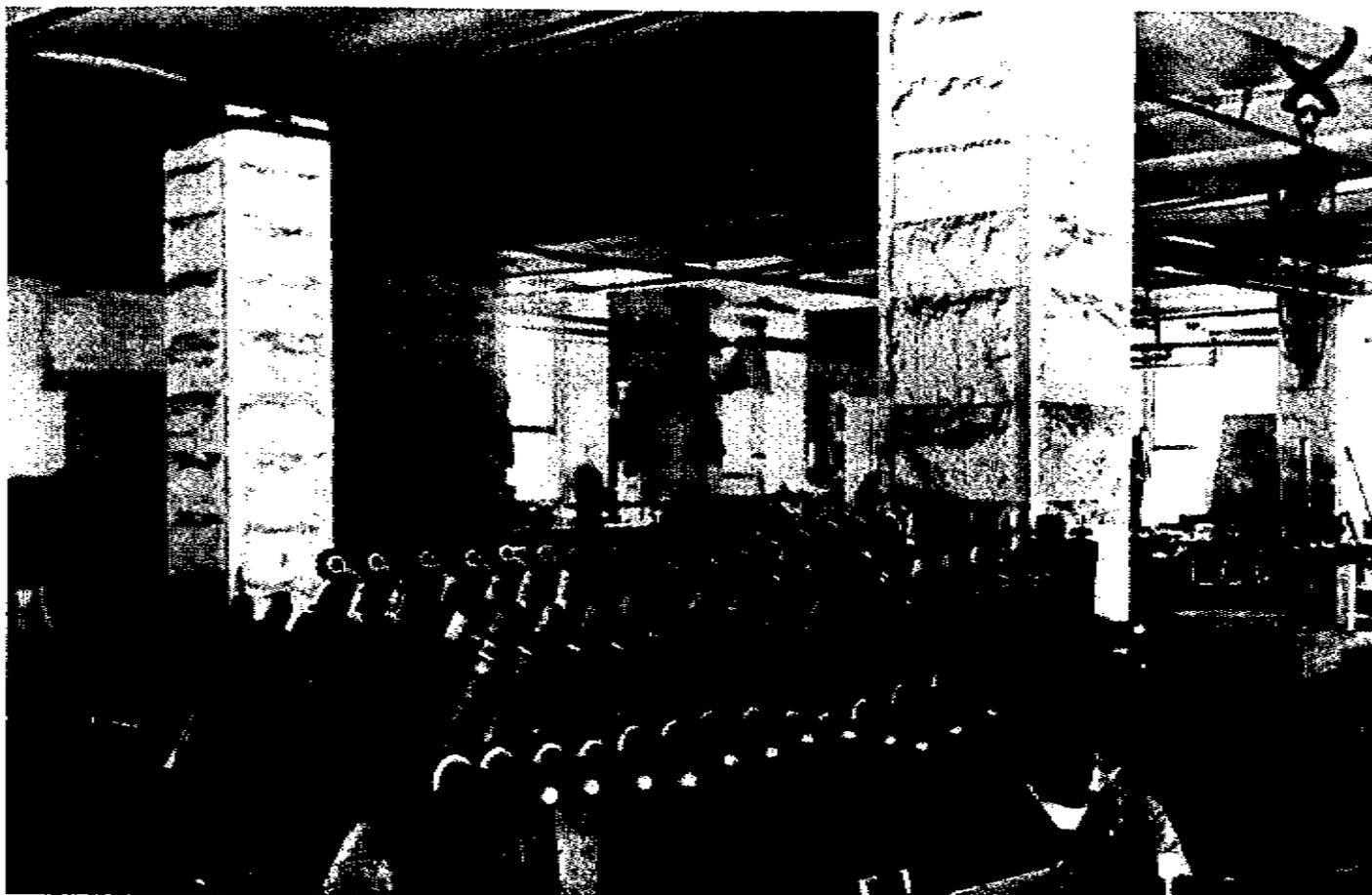
5,000 units of cavalry accouterments; and 5,000 units of horse equipment. Thereafter, the RIA continued to receive orders, practically on a weekly basis. Some were for major items of production such as the 9 May order for the manufacture of 102 field carriages and limbers; 150 caissons and limbers; 17 battery wagons and forges; in addition to the production of 48 carriages for siege guns.¹⁴²

By 16 June 1898, the demand for equipment became so critical that the army had to order RIA to procure from private contractors, an additional 10,000 complete outfits of cavalry and horse equipment. As the demand for orders grew, so did the number of items procured from private firms. By July 1898, 46 private contractors were delivering finished ordnance products to RIA during the Spanish-American War. A total of 131 private contractors delivered the following principal stores to the RIA: 351,400 yards of dyed duck material for covering

Below: Rock Island Arsenal tin shop, showing a workman making metal meat-can handles during the 1898 Spanish-American War period. Accouterments such as meat cans, forks, knives, and canteens were produced by the arsenal during the war with Spain and later during World War I.



Below: Artillery carriage assembly during the late 19th century in possibly the basement of shop C (building 104) or shop G (108). Note the stone piers, fire-proof brick vaulted ceilings, and hoist to lift and move heavy objects, visible in top right corner, and workers' lockers in background.



canteens; 1,008,000 yards of cotton webbing for haversacks, blanket bags, etc.; 654,000 pounds of tin plate for meat cans, canteens and tin cups; 79,900 pounds of brass wire for buckles, rings, hooks, etc.; 89,500 pounds of sheet brass for buckles, rings, hooks, etc.; 954,000 feet of linen rope for lariats; 205,300 pounds of harness-leather backs; 1,262,000 square feet of leather for collars, bridles, bars, and straps, saddles, carbine scabbards, saddlebags, etc.; 1,161,900 pounds of steel and iron for gun carriages; 133,000 feet of basswood and ash for saddletrees; and 690,000 feet of additional lumber for ammunition chests, packing boxes, work benches, etc.¹⁴³

Production at RIA during Spanish-American War

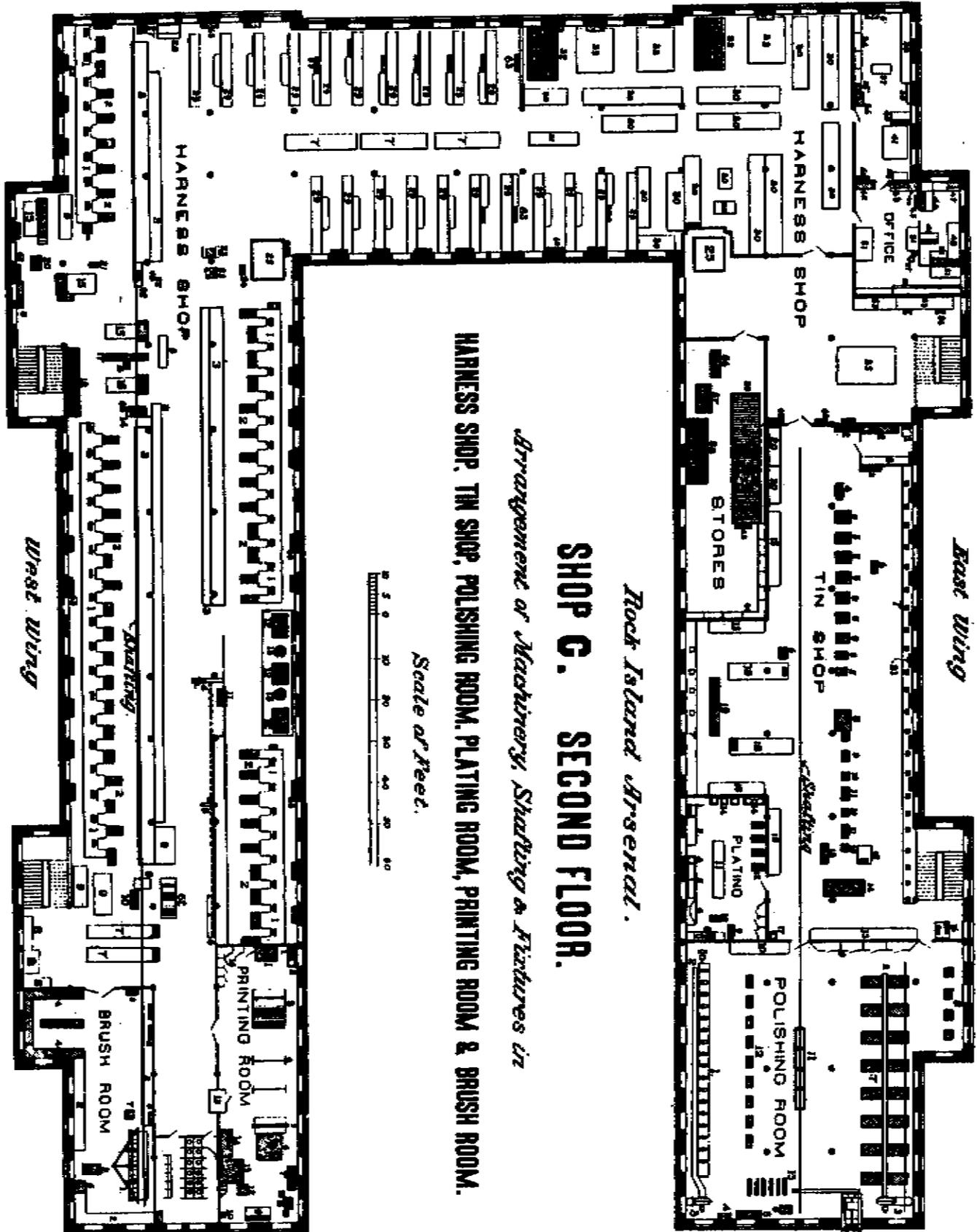
The United States Army was not prepared for war in 1898. It operated primarily with Civil War era technology and supplies, and was undermanned. A small workforce of approximately 500 men and boys were employed

in the Rock Island Arsenal shops at the beginning of the Spanish-American War, many of whom were temporary employees. They were hired only for the period it took to complete a particular order. Nevertheless, by the time the war ended, the arsenal's manpower had increased to six times its prewar figure. At its peak employment of 2,900 in August 1898, the RIA turned out 6,000 complete outfits of infantry equipment every day.¹⁴⁴

The Spanish-American War was the RIA's first major test of its capabilities to meet emergency wartime production. The arsenal performed well, although the production potential was barely tapped. Only the equivalent of one and a half of the ten stone industrial shops contained machines for manufacturing. Practically all of the RIA's production by machine was performed in shops C and E, now designated as buildings 104 and 106.

The RIA used the vast floor space in many of the vacant buildings for a variety of projects

Below: During the Spanish-American War practically all the RIA manufacturing occurred in shop C (building 104). Work that did not require machines and could be performed by hand was conducted in other buildings. Although the 1898 war with Spain was the RIA's first major test, only shop C and E (building 106) were heavily engaged in manufacturing. Not until World War I would all the ten stone shop buildings be used in production of ordnance stores.



Below: Arsenal workmen and boys covered canteens with felt and sewed duck cloth covers over them. When dipped in water, the felt would absorb water and keep the contents inside the canteen cool. The canteens piled on the table in the foreground have already been covered with felt.

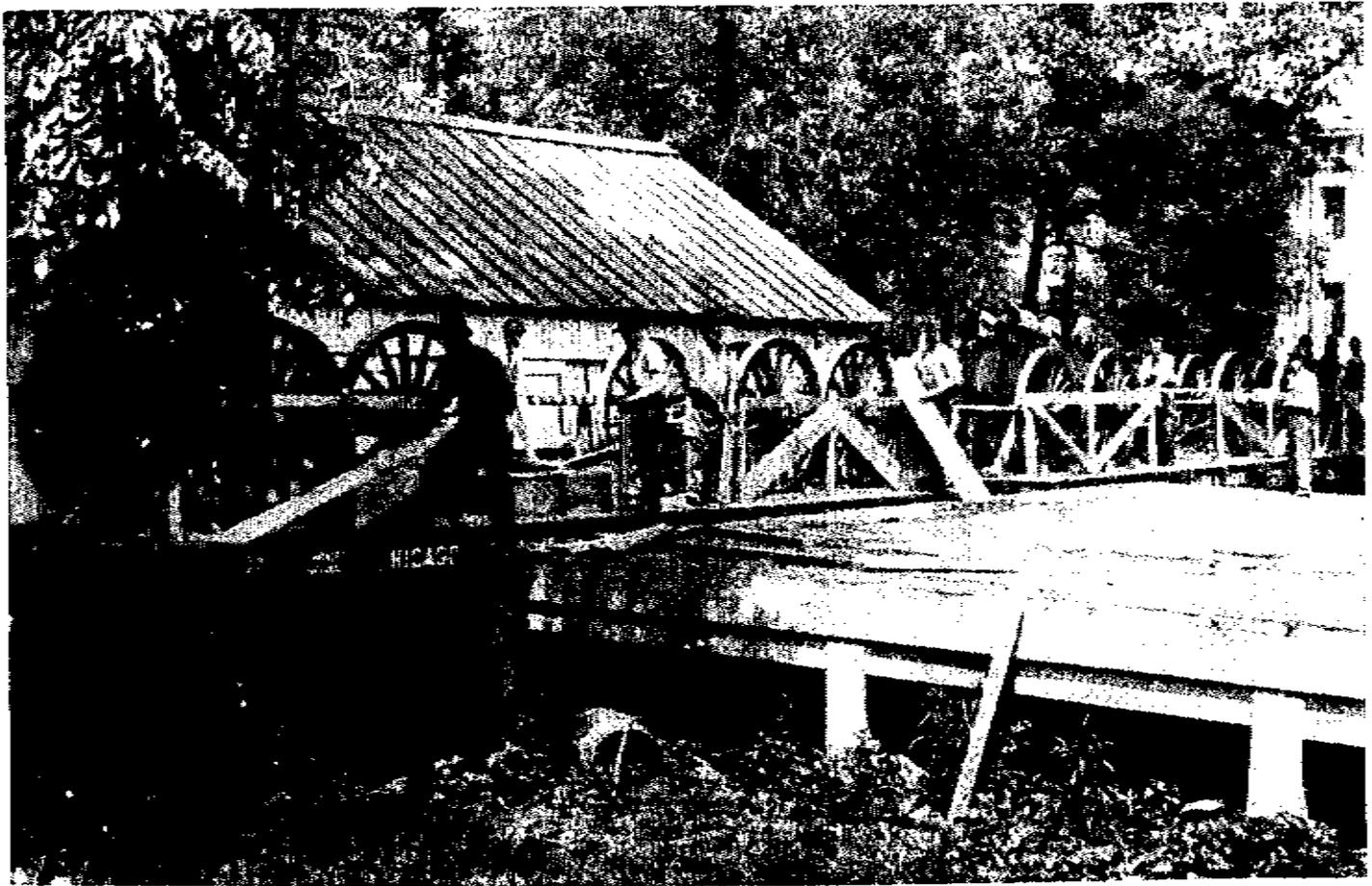


which could be performed by hand labor. The first floor of shop A, building 102, became the receiving and issuing center for masses of raw material shipped to the RIA. In the east wing of shop A, carpenters built only the portions of ammunition chests which required no machine operations. Unserviceable stores, items needing repair, were mostly stored and repaired in shop B, building 60. In September 1898, the repair and cleaning of Springfield rifles initially took place in the east wing of shop C, but as the work increased, the operation was transferred to the first floor of shop D, building 62. A 40 horsepower engine and boiler placed in the court of the shop furnished the steam power which operated a line of shafting with 20 polishing wheels and two lathes with wire brushes used to repair or refurbish parts of the rifles. In July 1898, 85 men and boys cleaned and repaired approximately 600 rifles per day. At the conclusion of this project, arsenal workers completed work on nearly 50,000 rifles and

carbines with a cost for this maintenance work of 68 cents per weapon. The rifles received from the field were in bad condition, and most were very rusty with numerous broken parts. At peak output, the crew also completed approximately 7,000 bayonet scabbards per day. Harness makers occupied the second floor of shop G, where nearly 700 men and boys made leather equipment and sewed felt and duck covers over canteens. Shop G was used for these activities because it had water and restroom facilities which the north row or armory row shops did not. In shop H, building 66, workers painted gun carriages, limbers, and caissons. However, not until World War I would all ten of the arsenal 19th century-built stone shops be equipped with machinery and used as industrial buildings.¹⁴⁵

During the Spanish-American War, Rock Island Arsenal Commander Colonel Stanhope Blunt placed his subordinate officers directly in charge of specific operations. Captain O. B. Mitcham was responsible for the repair of

Below: *RIA employees loading artillery carriages, 1898, shop A, (building 102) in background, looking northeast. The carriages final destination was Cuba to be used in support of U.S. troops engaged in the Spanish-American War.*



unservicable stores, including the Springfield rifles. He also served as the installation's quartermaster and paymaster. Captain W. S. Peirce was in charge of the blacksmith shop and foundry, plus all gun carriage and equipment work performed in the machine shop. Lieutenant O. C. Horney was the officer in charge of tin, polishing, carpentry, and harness shops. He also supervised the expansion of shop operations from shop C to other shops.¹⁴⁶

The RIA literally equipped the American soldiers who fought in the Spanish-American War. Blanket bags manufactured by RIA were used by soldiers as a type of duffel bag in which to carry personal belongings. Other items produced at the arsenal for the soldiers' personal use were haversacks for carrying rations; canteens fashioned from sheet tin and covered with felt and a heavy thick duck cover; meat cans used by soldiers as frying pans; and plates, tin cups, eating utensils, and bayonet scabbards.

The arsenal also produced a variety of cavalry

and horse equipment. These included items such as wooden saddle frames or saddle trees, an assortment of rings, hooks, straps, and other paraphernalia used for carrying or holding cavalry articles. Other leather items included carbine scabbards, saddlebags, saddles, surcingles (a girth that binds a saddle, pack, or blanket to the body of the horse), bridles, halters, straps, and artillery harnesses. The RIA produced in large numbers other horse equipment such as picket pins, nose bags, horse brushes, curry combs; and pistol holsters, spurs, and saber belts.

In addition, the arsenal functioned as a depot during the Spanish-American War. Much of the ammunition and small arms made elsewhere, along with articles produced by RIA, were held in reserve on the island before delivery to troops in the field. During the Spanish-American War the arsenal's labor force operated two ten-hour shifts, six-seven days a week. Earlier, during the Indian uprisings of the 1880s and early 1890s, the

Below: *The RIA commander ordered the construction of a special route for bicycles, to reduce the rising number of accidents between horses and bicycles in 1899.*



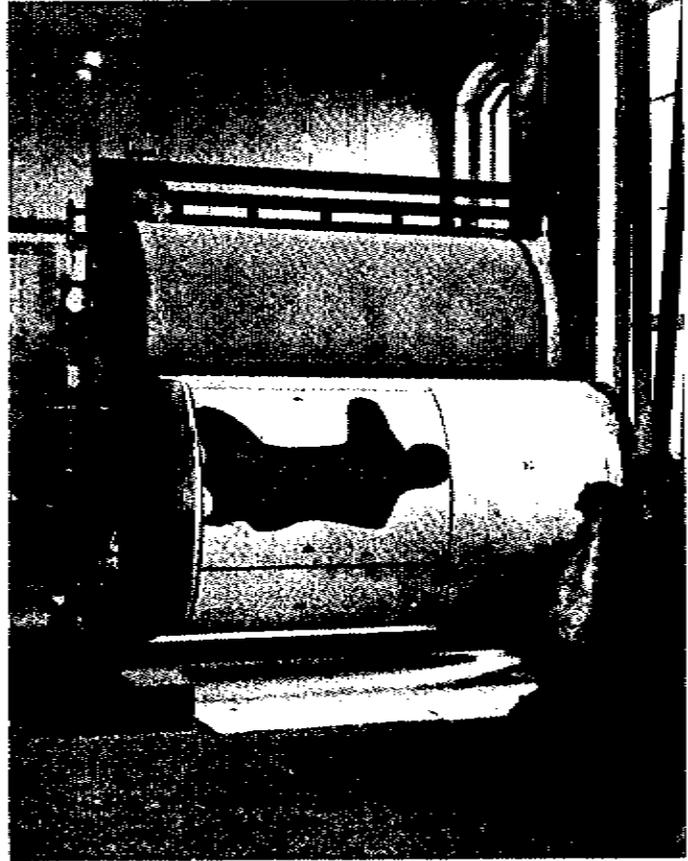
RIA met urgent production demands for ordnance stores by running portions of the shop operations at night. Because the shops were not equipped for night work, arsenal workmen functioned under inadequate, temporary lighting provided by candles and lamps. During the Spanish-American War, the RIA received a small appropriation for extension of the electric lighting beyond the limited lighting already available in one office and a shop. However, this lighting was not sufficient to provide direct lighting for the workers. Candles and lamps were still used as supplementary lighting for most night operations. The arsenal commander stated in his annual reports to the chief of ordnance during the war that it was essential to extend the electric lighting to other shops, some other buildings, and to the principal roads of the arsenal.¹⁴⁷

Although the RIA devoted its energy toward the war effort, the arsenal continued to maintain the island's grounds and roads. In 1898, over 200

young trees were planted along Main Avenue, now designated Rodman Avenue, and along the side of shop K, building 68. Arsenal roads, especially Main Avenue from the manufacturing shops at the flagstaff to the principal western entrance, were damaged during the war due to the heavy increase of vehicular traffic. Bicycles and wagon teams transporting employees to and from the arsenal by way of Main Avenue not only damaged the arsenal's main thoroughfare but also accounted for the increase in accidents on the island. To lessen the traffic on Main Avenue, the RIA commander ordered the construction of a special route for bicycles just south of and parallel to Main Avenue. Arsenal employees signed a petition for an extension of a single track of the Tri-City Railway Company onto the island to a point just south of the RIA shops. Recognizing that the track would alleviate the arsenal's traffic problems, Colonel Blunt sought and received approval from the secretary of war for a revocable license granted to the company

Below: Rock Island Arsenal workmen cleaning and overhauling the standard army issue Krag-Jorgensen rifle used by U.S. troops during the Spanish-American War. In 1899 the RIA received appropriations to establish a small arms plant for the fabrication of rifles.

Right: The RIA built the target printing press pictured below in 1881.



as long as it met specific arsenal conditions. Also because of the heavy traffic, the RIA commander recommended to the chief of ordnance that Fort Armstrong Avenue, located at the west end of the island and connecting the bridges leading from the island to the cities of Rock Island, Illinois and Davenport, Iowa, be covered with granite pavement rather than macadam.¹⁴⁸

Impact of Spanish-American War on RIA

The Spanish-American War led to the permanent expansion of workforce operations and facilities at the RIA. During the war, the arsenal rearranged its machinery and began to install automatic machines to improve production. After the war, the RIA constructed a brick water power plant which replaced the old small powerhouse destroyed by fire. In 1901, the first electrical power generators used at the arsenal were installed. Electric wires replaced the telodynamic system of towers and brought

electrical power to the shops through underground passages.¹⁴⁹

Additional lights were installed in the shops and offices to provide a safer work environment for the arsenal's second work shift. Arsenal grounds and buildings were also improved during the war; and additional roads, bicycle paths, and trolleys were added to improve transportation.

RIA Begins to Make Rifles

As a result of the Spanish-American War, the Rock Island Arsenal performed valuable production work by manufacturing personal soldier accouterments; infantry, cavalry, and horse equipment; and field and siege artillery carriages. This experience provided the basis for technological achievements accomplished at the arsenal in later years.

Largely due to its outstanding production record during the Spanish-American War, the arsenal acquired a new mission which was to

Right: Lieutenant Colonel Stanhope E. Blunt, Rock Island Arsenal commander from 1897-1907. Blunt commanded the arsenal during the Spanish-American War.

Left: In 1899, the United States Congress appropriated \$500,000 for the establishment of a small arms plant at Rock Island Arsenal. A few years later machines such as these Pratt-Whitney lathes were installed in shop B (building 60). These machines were eventually used to produce the U.S. Army standard issue rifle, the Springfield 1903.



manufacture a new rifle. In the Spanish-American War, the U.S. Army became dissatisfied with its standard-issue Krag-Jorgensen Rifle. The weapon was obsolete and slow to reload. The army began a search for a replacement, one which could be clip or magazine loaded. To expedite the production of a new weapon, Congress, in 1899, appropriated funds to equip the nearly empty armory shops at Rock Island with small arms machinery. However, due to the army's delay in selecting a new rifle, it was not until December 1904 that the Rock Island Arsenal's small arms plant began producing the new standard-issue model Springfield 1903 Rifle.¹⁵⁰

In 1897, Brigadier General Daniel W. Flagler, chief of ordnance, himself a former commanding officer of the Rock Island Arsenal, selected Major Stanhope Blunt to command the arsenal at Rock Island and to direct the development of its new armory. General Flagler was well acquainted with the physical plant at Rock Island Arsenal

and was aware of the original plan to combine armory and arsenal facilities at the Rock Island installation. In fact, as the third Rock Island Arsenal commander, General Flagler had earlier supervised the construction of the majority of the arsenal's stone manufacturing buildings that formed the arsenal's industrial core. When the need for an additional armory surfaced, he quickly persuaded Congress to appropriate funds to equip the empty buildings at Rock Island Arsenal's armory row.

The 19th century came to a close with the Rock Island Arsenal finally realizing the plan of Colonel Rodman, the first arsenal commander to propose a combined arsenal and armory at Rock Island. During the early 1900s, the United States Army's transformation from horse to auto drawn artillery occurred at the Rock Island Arsenal. Part three of *An Illustrated History of the Rock Island Arsenal and Arsenal Island*, will chronicle that transformation and other key events.

Below: Saddles made, tin cups formed, and gun carriages assembled; 19th century arsenal employees board horse-drawn taxis during an evening rush hour before the turn-of-the-century.



Below: Main west entrance gate and gate house to Rock Island Arsenal. The gate house, built in 1876, was used as a place of temporary confinement for persons arrested for infractions of government regulations on the bridges. Circa, 1898.



NOTES

¹ Daniel W. Flagler, Major, *A History of the Rock Island Arsenal from its Establishment in 1862 to December 1876 and the Island of Rock Island, the Site of the Arsenal, 1804 to 1863*, (Washington: Government Printing Office, 1877) pp. 97-98. This is also known as Ordnance Memorandum #20. It is hereafter referred to as Flagler.

² The War Department comp., *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies* (Washington: Government Printing Office, 1880-1901), Series II, Vol. VI, p. 115.

³ Russell F. Weigley, *Quartermaster General of the Union Army: a biography of M. C. Meigs*, (New York: Columbia University Press, 1959), pp. 32-33.

⁴ T. R. Walker, "Rock Island Prison Barracks" in William B. Hesseltine, *Civil War Prisons* (Kent, Ohio: Kent State University Press, 1962), p. 48. It is hereafter referred to as Walker.

⁵ O. Bryan England, *A Short History of the Rock Island Prison Barracks*, (Rock Island: Historical Office, U.S. Army Armament, Munitions and Chemical Command, 1985), pp. 3, 27. It is hereafter referred to as England. See also Walker, pp. 48-49.

⁶ Walker, p. 49.

⁷ *War of Rebellion*, Series II, Vol. VI, p. 196.

⁸ Kate R. Perry-Mosher, "History of Rock Island, III., 1863," *Confederate Veterans*, Jan 1906, p. 28; England, p. 5.

⁹ England, p. 42.

¹⁰ Lafayette Rogan, *Diary of Lafayette Rogan*, typescript in Historical Office, U.S. Army Armament, Munitions and Chemical Command (AMCCOM), p. 1. It is hereafter referred to as Rogan.

¹¹ *War of Rebellion*, Series II, Vol. VII, p. 12-14.

¹² *Ibid.*, p. 949.

¹³ *Ibid.*, pp. 23-24.

¹⁴ *Ibid.*, p. 26.

- ¹⁵ Ibid., p. 12.
- ¹⁶ England, p. 42.
- ¹⁷ Ibid.
- ¹⁸ *Rock Island Argus*, 14 Dec 1863, p. 3, Col. 1-3.
- ¹⁹ Ibid.
- ²⁰ J. W. Minnich, "Comment on Rock Island Prison," *Confederate Veteran Magazine*, Aug 1908, pp. 394-395; J. W. Minnich, *Inside of Rock Island Prison* (Nashville, Tennessee: Publishing House of M. E. Church, South, Smith and Lamar, Aug 1908), pp. 30-31.
- ²¹ *War of Rebellion*, Series II, Vol. VII, p. 38; War Department Circular No. 2, 1 Jun 1864.
- ²² Ibid., pp. 17, 39; J. W. Minnich, *Inside of Rock Island Prison*, pp. 5-11; T. R. Walker, pp. 55-57.
- ²³ Rogan, p. 7.
- ²⁴ *War of Rebellion*, Series III, Vol. IV, p. 680; England, pp. 22-23.
- ²⁵ Rogan, p. 50.
- ²⁶ B. M. Hord, "Forty Hours in a Dungeon at Rock Island," *Confederate Veteran*, August 1904, pp. 2-3; England, pp. 22-24.
- ²⁷ *War of Rebellion*, Series II, Vol. VII, p. 415.
- ²⁸ George F. Skock, "The Golden Age Regiment Iowa's Graybeards," *Civil War Times Illustrated*, Vol. XX (No. 2), May 1981, pp. 32-46.
- ²⁹ Ibid.; "The Graybeards," *Alton Telegraph Newspaper*, 3 Feb 1864; Walt Shotwell, "Remembering the Graybeards," *The Des Moines Register*, 26 May 1986, Section T.
- ³⁰ *War of Rebellion*, Series II, Vol. VII, p. 65.
- ³¹ *War of Rebellion*, Series II, Vol. III, p. 1002.

³² England, p. 35.

³³ Rogan, p. 52.

³⁴ *War of Rebellion*, Series II, Vol. VII, p. 1037-1040.

³⁵ England, p. 36.

³⁶ Cemetery Records of the Rock Island National Cemetery, located in the Historical Office, AMCCOM, Rock Island, Illinois.

³⁷ England, Camp Statistics, p. 42.

³⁸ Flagler, p. 36.

³⁹ Flagler, p. 97; Appendix to Chapter II, copy of an act for the establishment of certain national arsenals, p. 111.

⁴⁰ Ira O. Nothstein, "Rock Island Arsenal, Its History and Development," National Archives and the Works Progress Administration Project, 1937, unpublished manuscript, p. 79.

⁴¹ Flagler, pp. 97-98.

⁴² Flagler, p. 38.

⁴³ Nothstein, p. 81.

⁴⁴ Flagler, p. 98.

⁴⁵ Brevet Major General George W. Cullen, *Biographical Register of the Officers and Graduates of the U.S. Military Academy at West Point, NY* third edition, Vol. II, (Boston and New York: Houghton, Mifflin and Company, the Riverside Press, Cambridge, 1891) pp. 25-26; *Eleventh Annual Reunion of the Association of the Graduates of the U.S. Military Academia, at West Point, New York, June 17, 1880*, (East Saginaw, Michigan: E. W. Lyon, publisher) pp. 80-88.

⁴⁶ Ltr., Bvt. LTC D. W. Flagler to Baily Davenport, 13 Oct 1875. This copy is included in the AMCCOM Historical Office's files pertaining to the Clock Tower Building.

⁴⁷ Robert H. Bouilly, "Arsenal Island," *Joined by a River: Quad Cities*, Fredrick I. Anderson, ed., (n. pl. Lee Enterprises Incorporated, 1982) pp. 125-126.

⁴⁸ Flagler, p. 36.

⁴⁹ *Ibid.*, p. 127.

⁵⁰ *Ibid.*, p. 148.

⁵¹ *Ibid.*, the claim of David B. Sears, p. 132-133; the Davenport claim pp. 134-135.

⁵² Flagler, pp. 106-107; Roald Tweet, *The Rock Island Clock Tower, From Ordnance to Engineers*, (n. pl., Rock Island District U. S. Army Corps of Engineers, May 1977), p. 11. Hereafter known as Tweet.

⁵³ Ltr., RIA CO Major Charles P. Kingsbury to R.I. Prison Barracks Commandant Colonel A. J. Johnson, 26 Feb 1864, AMCCOM Historical Office Archives.

⁵⁴ Ltr., RIA CO Major C. P. Kingsbury to the Chief of Army Ordnance BG George D. Ramsey, 17 Mar 1864, AMCCOM Historical Office Archives; *War of Rebellion*, Series II, Vol. VII, p. 23.

⁵⁵ Ltr., RIA CO Major C. P. Kingsbury to R.I. Prison Barracks Commandant Colonel A. J. Johnson, 10 Jun 1864. AMCCOM Historical Office Archives.

⁵⁶ Nothstein, p. 94-104.

⁵⁷ Tweet, pp. 15-17.

⁵⁸ Albert Manucy, *Artillery Through The Ages; A Short Illustrated History of Cannon, Emphasizing Types Used in America*, (Washington: GPO, 1949) p. 17. Hereafter known as Manucy.

⁵⁹ Manucy, pp. 27-28. Interview with Mr. Ralph Krippner, Historian, AMCCOM Historical Office, 7 Apr 1987; Flagler, p. 265.

⁶⁰ Flagler, p. 117.

⁶¹ U.S. Army, Ordnance Department, Letter from BG S. V. Benet, Chief of Army Ordnance to the Honorable William Belk, Secretary of War, dated 9 Oct 1875, *Annual Report of the Chief of Ordnance to the Secretary of War for the Fiscal Year Ended 30 June 1876* (Washington: GPO, 1876), p. 7. This series of reports appeared from 1866 through 1922. Hereafter referred to the *Report of the Chief of Ordnance*.

⁶² U.S. Army Ordnance, "Letter from BG Alexander B. Dyer to Secretary of War," 24 Oct 1871, *Report of the Chief of Ordnance*, for the fiscal year ending 30 Jun 1871, p. 246.

⁶³ Flagler, pp. 106, 256.

⁶⁴ *Report of Chief of Ordnance* for the fiscal year ending 30 Jun 1869, p. 18.

⁶⁵ Flagler, p. 256.

⁶⁶ D. N. Richardson, "Island of Rock Island - What General Rodman Has Accomplished in Four Years," *Davenport Daily Democrat*, 10 Nov 1870, p. 2.

⁶⁷ "The Eight Hour Law - Trouble on the Island," *Rock Island Union*, 4 Aug 1868, p. 4.

⁶⁸ *Ibid.*

⁶⁹ "Meeting of Stone Cutters," *Rock Island Union*, 6 Aug 1868, p. 2.

⁷⁰ Flagler, p. 256-257.

⁷¹ *Ibid.*, p. 257.

⁷² *Ibid.*

⁷³ D. N. Richardson, *Davenport Daily Democrat*, 10 Nov 1870, p. 2, cols. 1-6.

⁷⁴ "General Rodman's Funeral," *Rock Island Argus*, 10 Jun 1871, p. 2.

⁷⁵ *Report of the Chief of Ordnance* for the fiscal year ending 30 Jun 1869, p. 259.

⁷⁶ MacDonald and Mack Partnership, *Historic Properties Report, Rock Island Arsenal, Final Report, 1985*, p. 91. This document was prepared by the MacDonald and Mack Partnership, Minneapolis, Minnesota, under contract CX-001-2-0033 between Building Technology Incorporated, Silver Springs, Maryland, and the Historic American Buildings Survey/Historic American Engineering Record, National Park Service, U.S. Department of Interior. Hereafter, it is referred to as MacDonald and Mack.

⁷⁷ Flagler, pp. 290-291.

⁷⁸ *Report of the Chief of Ordnance* for the fiscal year ending 30 Jun 1899, p. 77.

⁷⁹ Ibid., p. 306-307.

⁸⁰ Ibid., p. 336-337.

⁸¹ "The Arsenal," *Moline Review*, 1 Nov 1879, np.

⁸² Flagler, p. 319-320.

⁸³ Ibid.

⁸⁴ *Report of the Chief of Ordnance* for the fiscal year ending 30 Jun 1879, p. 202; Flagler, p. 283.

⁸⁵ Flagler, pp. 326, 358-359.

⁸⁶ *Report of the Chief of Ordnance*, Appendix 10, at Rock Island Arsenal for the FY ending 30 Jun 1880, p. 253.

⁸⁷ *Report of the Chief of Ordnance*, Appendix K, for the FY ending 30 Jun 1879, p. 204.

⁸⁸ *Report of the Chief of Ordnance*, Appendix 10, for the FY ending 30 Jun 1880, p. 256.

⁸⁹ *Report of the Chief of Ordnance*, Appendix K, for the FY ending 30 Jun 1879, p. 204-205.

⁹⁰ *Report of the Chief of Ordnance*, Appendix 10, for the FY ending 30 Jun 1879, p. 255.

⁹¹ Ibid., pp. 256-257.

⁹² *Report of the Chief of Ordnance*, Appendix K, for the FY ending 30 Jun 1879, p. 204.

⁹³ *Report of the Chief of Ordnance*, Appendix 10, for the FY ending 30 Jun 1880, pp. 256-257.

⁹⁴ *Report of the Chief of Ordnance*, Appendix K, for the FY ending 30 Jun 1879, p. 204.

⁹⁵ *Report of the Chief of Ordnance*, Appendix 10, for the FY ending 30 Jun 1880, p. 253.

- ⁹⁶ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1877, p. xvi.
- ⁹⁷ "Proposals for Wrought Iron "I" Beams," *Moline Review*, 16 Jul 1880, p. 5.
- ⁹⁸ "Proposals for Stone," *Moline Review-Dispatch*, 25 Aug 1879, p. 6.
- ⁹⁹ Nothstein, p. 142.
- ¹⁰⁰ *Report of the Chief of Ordnance*, Appendix 38, for the FY ending 30 Jun 1883, p. 414-415.
- ¹⁰¹ *Ibid.*, p. 415.
- ¹⁰² Nothstein, p. 146.
- ¹⁰³ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1896, np.
- ¹⁰⁴ District Engineer, U.S. Army Corps of Engineers, Rock Island District, *The United States Water Power at Moline, Illinois - Mississippi River*, p. 3. It is hereafter referred to as *History of Water Power*.
- ¹⁰⁵ Flagler, p. 208.
- ¹⁰⁶ *Ibid.*, pp. 162-163, 197.
- ¹⁰⁷ *Ibid.*, pp. 155-156, 196.
- ¹⁰⁸ *Ibid.*, pp. 185-186.
- ¹⁰⁹ *History of Water Power*, pp. 4-5.
- ¹¹⁰ Flagler, pp. 119-120.
- ¹¹¹ *Ibid.*, p. 204.
- ¹¹² *Ibid.*, p. 228.
- ¹¹³ *Ibid.*, pp. 197-198.
- ¹¹⁴ *Ibid.*, p. 240.
- ¹¹⁵ *Ibid.*, pp. 240-241, 465.

- ¹¹⁶ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1872, np.
- ¹¹⁷ Flagler, pp. 454-455.
- ¹¹⁸ Nothstein, p. 128; Flagler, pp. 323-324.
- ¹¹⁹ No author, "History of Rock Island Arsenal, 1862-1913," unpublished manuscript called for by O. O., 253010-D-195, AMCCOM Historical Office files, pp. 54-55. Hereafter referred to as History of the RIA 1862-1913.
- ¹²⁰ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1874, p. 251; Leonard Weston, "Telodynamic Power System," *The Military Engineer*, Nov-Dec 1966, Vol. 58, No. 386, pp. 418-434.
- ¹²¹ *Report of the Chief of Ordnance* for the FY ending 1903, p. 38.
- ¹²² Nothstein, p. 148.
- ¹²³ History of the RIA 1862-1913, pp. 54-55.
- ¹²⁴ Nothstein, p. 149.
- ¹²⁵ Flagler, p. 474.
- ¹²⁶ No author, *War's Greatest Workshop Rock Island Arsenal*, (Tri-Cities: Arsenal Publishing Company, 1922,) p. 88. Hereafter referred to as *War's Greatest Workshop*.
- ¹²⁷ *War's Greatest Workshop*, pp. 91-92.
- ¹²⁸ *Report to the Chief of Ordnance* for the FY ending 30 Jun 1869, p. 312.
- ¹²⁹ History of the RIA 1862-1913, p. 26.
- ¹³⁰ Ibid.
- ¹³¹ "The Arsenal," *Rock Island Argus*, 7 Dec 1875, np.
- ¹³² David A. Clary, *These Relics of Barbarism: A History of Furniture in Barracks and Guardhouses of the United States Army, 1800-1880*, (U.S. Department of the Interior, National Park Service, Harpers Ferry Center, West Virginia) pp. 583-589.
- ¹³³ "History of RIA, 1919-1939," RIOG, Section I, p. 17.

- ¹³⁴ Nothstein, p. 198.
- ¹³⁵ "History of the RIA, 1862-1913," p. 28. *Report of the Chief of Ordnance*, Appendix 27, for the FY ending 30 Jun 1881, pp. 271-273.
- ¹³⁶ History of the RIA, 1862-1913, p. 8
- ¹³⁷ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1882, p. 365.
- ¹³⁸ History of the RIA, 1861-1913, p. 39.
- ¹³⁹ *Ibid.*, pp. 15-16, 28.
- ¹⁴⁰ Nothstein, p. 150, 161; *Report of the Chief of Ordnance for the FY ending 30 Jun 1898*, p. 69.
- ¹⁴¹ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1898, p. 70.
- ¹⁴² *Ibid.*, p. 69; Nothstein, p. 161.
- ¹⁴³ Nothstein, p. 162; *Report of the Chief of Ordnance* for the FY ending 30 Jun 1898, p. 70.
- ¹⁴⁴ *Ibid.*
- ¹⁴⁵ War's Greatest Workshop, p. 63; *Report of the Chief of Ordnance* for the FY ending 30 Jun 1898, p. 71; Nothstein, p. 163.
- ¹⁴⁶ Nothstein, p. 163; *Report of the Chief of Ordnance* for the FY ending 30 Jun 1898, p. 29.
- ¹⁴⁷ *Report of the Chief of Ordnance* for the FY ending 30 Jun 1898, p. 28-29.
- ¹⁴⁸ *Ibid.*, p. 76.
- ¹⁴⁹ *Report of the Chief of Ordnance* for the FYs ending 1897, 1898, and pp. 5, 70, and 31, respectively.
- ¹⁵⁰ *Report of the Chief of Ordnance* for the FY ending 1898, p. 29.

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Below: *Arsenal employees enjoying a noon-hour baseball game during the late 1800s. The building in the background to the left is storehouse K (building 56), behind shop K (building 68).*



.....*"The charming island of Rock Island, three miles long and a half a mile wide, belongs to the United States, and the government has turned it into a wonderful park, enhancing its natural attractions by art, and threading its fine forests with many miles of drives. Near the center of the island one catches glimpses, through the trees, of the vast stone four-story buildings, each of which covers an acre of ground. These are the government workshops; for the Rock Island establishment is a national armory and arsenal."*

*Mark Twain (Samuel L. Clemens)
Life On The Mississippi River
First Published 1874*