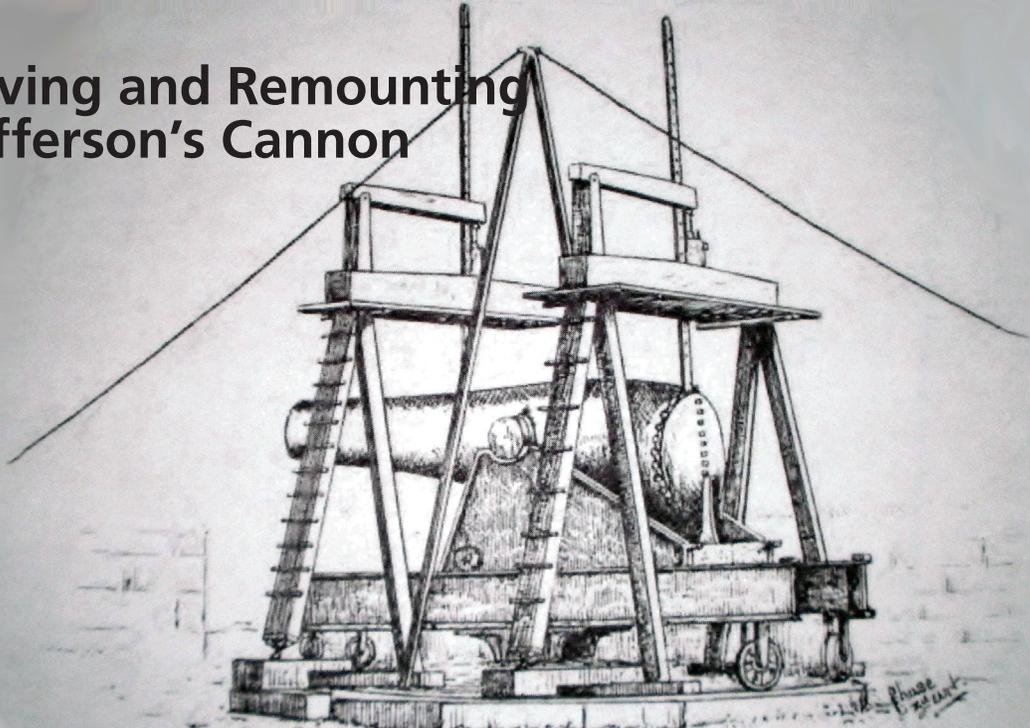




Conserving and Remounting Fort Jefferson's Cannon



Fort Jefferson was armed with many different types of cannons throughout its history. Some of the largest were the Parrott and Rodman Cannons. Parrott rifled cannons weigh 26,780 lbs and were designed to fire 300 lb projectiles a range of over 5 miles. The 15-inch Rodman weighs over 50,000 lbs and could fire a 440-pound shell over 3 1/2 miles.

Parrott History

The term “Parrott gun” refers to a series of American Civil War-era rifled cannons designed by Captain Robert P. Parrott (1804-1877). Parrott resigned from the US Army in 1836, becoming superintendent of the West Point Iron and Cannon Foundry in Cold Spring, New York.

In 1860 he invented the Parrott rifled gun, which was manufactured with a combination of cast and wrought iron. The cast iron made for an accurate gun, but was brittle enough to suffer fractures. Hence, a large wrought iron reinforcing band was overlaid on the breech to give it additional strength. There were prior cannons designed this way, but the method of securing this band was the innovation that allowed the Parrott to overcome the deficiencies of these earlier models. The band was

applied to the gun red-hot and then the gun was turned while pouring water down the muzzle, allowing the band to attach uniformly.

These rifled guns were designed to fire projectiles and were manufactured in a large range of sizes, from smaller 10-pounder field artillery up to the rare 300-pounder guns. The larger, heavier guns were intended to be mounted in seacoast fortifications and for use on naval ships. Although accurate, cheaper and easier to make, the Parrott guns had a poor reputation for safety. It was the big 300-pounder Parrott, however, which was brought to bear against the fortified walls of Fort Sumter. The 300-pounder Parrott was also used against Fort Pulaski, in an assault which ultimately breached that fort's walls.

Rodman History

The term “Rodman gun” refers to a series of American Civil War-era columbiads designed by Union artilleryman Thomas Jackson Rodman. These smoothbore guns were designed to fire both shot and shell. These heavy guns were intended to be mounted in seacoast fortifications. They were built in 8-inch, 10-inch, 13-inch, 15-inch, and 20-inch bore. Other than size, the guns were all nearly identical in design, with a curving soda bottle shape and a large flat back with ratchets or sockets for the elevating mechanism.

Rodman guns differed from all previous artillery because they were hollow cast, a new technology that Rodman developed which resulted in cast iron guns that were much stronger than their predecessors. The 15-inch model of the Rodman gun was manufactured between 1861 and 1871. Three hundred and twenty-three Rodmans of this size were produced by Cyrus Alger & Company, the Scott

Foundry, and the Fort Pitt Foundry. There are 25 known survivors; the six at Fort Jefferson represent almost 1/4 of the surviving examples. In addition, cast in 1871, the Fort Jefferson cannons were some of the last Rodmans to be produced.

The first mention of 15-inch Rodmans for Fort Jefferson occurs in 1862. The Armament Board decided to substitute 15-inch Rodman for the 10-inch columbiads scheduled to be mounted on top of the bastions. Plans were made to install the Rodman cannon at Fort Jefferson in 1872, when increased international tensions led to a program to quickly modernize the weaponry at Fort Jefferson. Problems with timber for the carriage platforms and other issues meant that the Rodman guns were not mounted at Fort Jefferson until 1873. The six 15-inch guns were mounted on iron, center-pintle carriages, one at each of the fort's six bastions.

Sale of Cannons for Scrap

In 1900, the Ordnance Department auctioned ordnance stores from Fort Jefferson. The sale price was \$14,054.20 and included ninety 10-inch Rodman cannon, over 19,000 cannon shot, shells, carriages

The 10 big guns remained at Fort Jefferson probably because they were difficult to move and quite literally more trouble than they were worth.

Conservation Efforts

The first stage of treatment was to remove delaminating and heavy oxidation using hand-held hammers and pneumatic chisels, then all surfaces were then blasted with media to bring the cannon back to white metal. The cleaned surfaces were then primed immediately after blasting with a zinc rich epoxy primer.

A glossy black silaxine paint was chosen as a top coat based on historic photographs and



Parrott Rifle Pretreatment

military manuals, both of which suggest that the historic lacquer applied to the guns would have left a shiny appearance.

The bore was cleaned and then treated with a corrosion inhibitor. Then it was filled with bags of silica gel, a desiccant, and then sealed with a pair of deckplates to create a microclimate, reducing the chances of corrosion.



Parrott Rifled Posttreatment

Raising and Remounting the Cannon

Volunteer services of the 482nd Civil Engineer Squadron of the U.S. Air Reserve Base in Homestead, FL were used to start raising the cannon in 1982.

The cannon lay in place since 1873 and the long-term effects of ground contact were visible in the form of severe corrosion, exfoliation, and even loss of some of the markings on the cannon.

The replica carriages are fabricated from steel and received a hot dipped galvanized coating. It will also receive the same paint system as the cannon and (engineered silaxine) which will provide durability and consistency for maintenance.

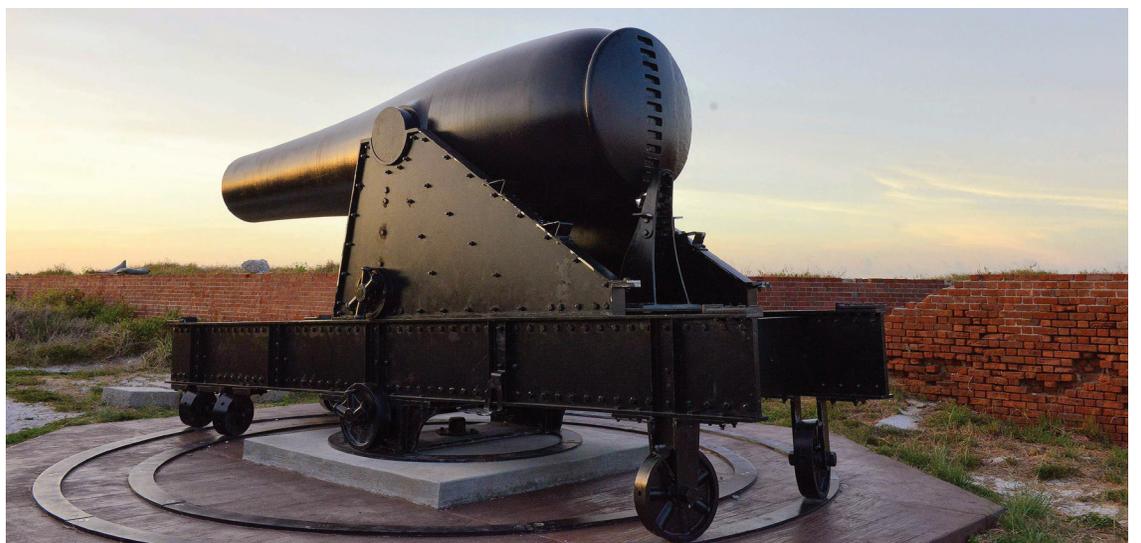
In order to move such a heavy cannon, a modern interpretation of the Laidley Gun Lift will be used. The Laidley Gun Lift raises the cannon using two hydraulic jacks acting upon levers which lift straps attached to the gun. When the upper limits of the jack is reached, the weight is supported by a pin passed through one of the lower holds in the strap.

This is the same technique that the military employed to first mount the cannon here at Fort Jefferson.

The task of remounting these historic features was awarded to Tuckerbrook Conservation LLC, headquartered out of Lincolnville, Maine. They hold a 5 year cooperative agreement with the National Park Service.



Modern Version of Laidley Gun Lift



15 inch Rodman on Reproduction Carriage

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