

Curator's Choice

Cannons, Cannons, and More Cannons

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We see many cannons in the Conservation Department at the Maryland Archaeological Conservation Laboratory (MAC Lab). Most of these cannons are made of cast iron, but we recently had the opportunity to treat a bronze cannon belonging to the Jamestown-Yorktown Foundation (JYF). The earliest cannons were cast in bronze before metallurgical technology advanced to the point when iron cannons could be efficiently produced. However, iron cannons are much heavier and larger than bronze cannons able to fire the same weight of projectile. Iron cannons are also more susceptible to corrosion which can cause failure during firing, and where bronze cannon rupture, iron cannons explode and fragment violently. So even though bronze cannons are lighter, stronger, and safer, they fell out of use during the 18th century as iron cannons were significantly less expensive to produce. The value of bronze is also part of the reason these cannons are less common today. Many bronze cannons were melted down and their metal put to other uses, including commemorative medallions [Powers:2012].

Another significant feature of the JYF cannon is its style. Muzzle loaded cannons are familiar, but this gun is breech loaded. This cannons would have been loaded with a mug-shaped chamber containing the gunpowder and projectile. This style of breech loading cannons fell out of favor as larger sized projectiles became too unwieldy, and the breech closure was not strong enough to withstand large charges of powder [Hogg: 1987].

The JYF cannon is currently being treated at the MAC Lab to address active corrosion issues. Metal artifacts can acquire harmful salts from their burial environments, which cause localized electrochemical cells that form corrosion. This object will undergo desalination as part of its conservation treatment to passivate the current corrosion and prevent future deterioration.



Fig 1: JYF cannon Before Treatment. Photo by Arianna Johnston.



Fig 2: 18th-century French bronze cannon with loading chamber. Photo by icollector.com.



Fig 3: During a 1894 convention of Union veterans, a bronze cannon is on parade before being melted into commemorative badges. Photo Courtesy of the National Archives.

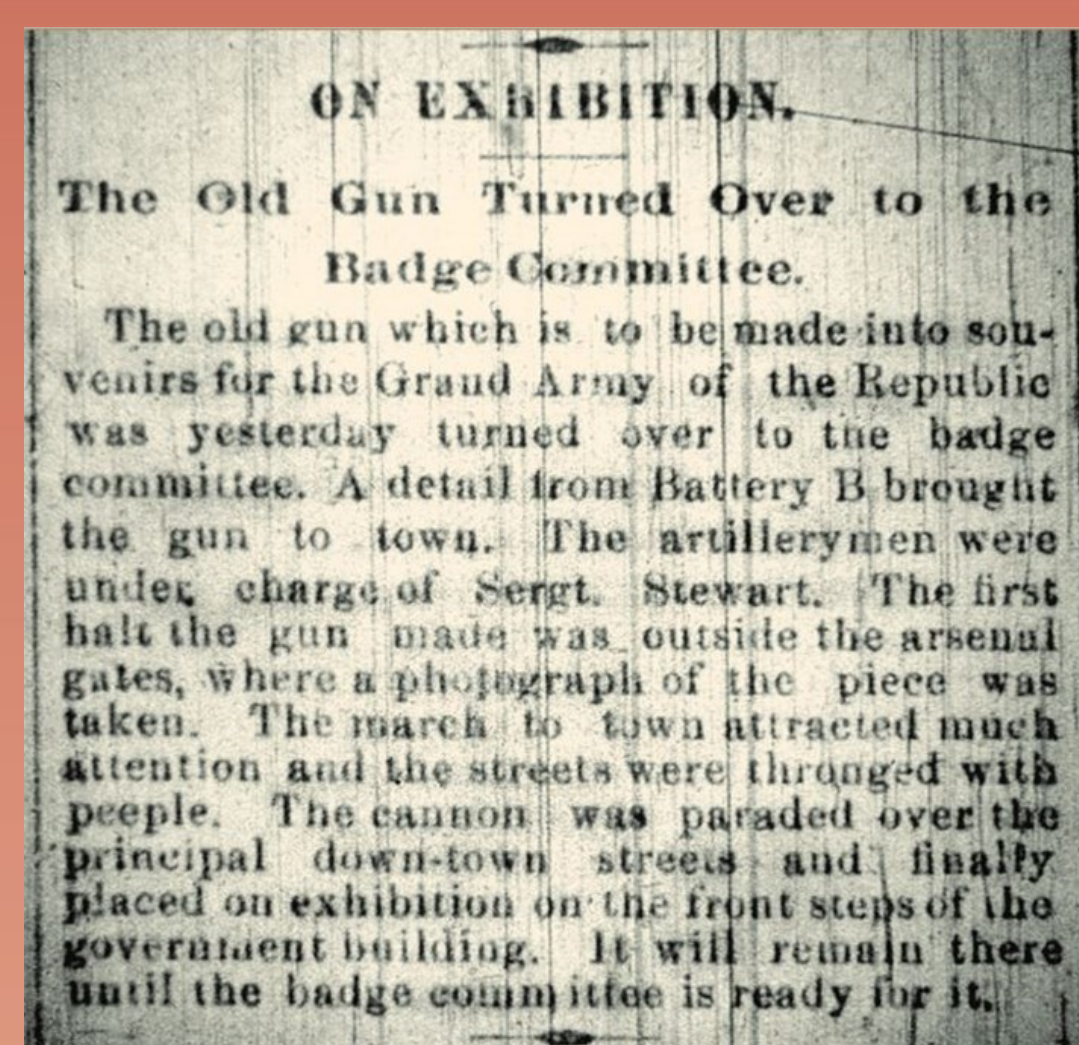


Fig 4: February 23, 1894, Pittsburgh Commercial Gazette. Photo by Tom Powers.



Fig 5: JYF cannon in desalination. The blue tint in the solution is a result of the copper chlorides being drawn away from the metal. Photo by Nichole Doub.

References Cited

- Hogg, Ian V.
1987 *The Illustrated Encyclopedia of Artillery*. London: Stanley Paul.
Powers, Tom
2012 The Mystery of the Allegheny Arsenal Cannon Photo. *Western Pennsylvania History*, Spring, pgs.38-42.
<https://journals.psu.edu/wph/article/view/58862/58587>



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Jefferson Patterson Park and Museum is part of the Maryland Historical Trust, an agency of the Maryland Department of Planning, Baltimore.

