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### About the Cover:

Cushing's Battery A, 4th United States Artillery monument is flanked by four 3-inch Ordnance rifles. This battery is located at The Angle in front of the High Water Mark on the Gettysburg Battlefield. Lieut. Alonzo Cushing was finally awarded the Medal of Honor in 2014 "for acts of bravery above and beyond the call of duty." This battery had six 3-inch Ordnance rifles during the battle.  
(Jack Melton)

# A WITHERING HAIL OF IRON

## *Grape and Canister in the Civil War*

BY DAVID GOTTER

**M**y first interest in the Civil War came in the early 1960's with the 100th Anniversary. At the time, I was in my early teens and unaware of collectors or collecting opportunities in my part of Ohio, so I read everything I could get my hands on. After college, I moved back to Ohio, to the Ashland/Mansfield area, and in 1977 I learned about the Ohio Civil War show. I missed the first one and missed another one 4 or 5 years later. I haven't missed one since.

My initial shell collection ranged from 6-pdr. cannonballs to 100-pdr. Parrott shells and about anything in between. Around 30 years ago, I purchased a 2.6-inch Wiard canister at a show adding it to my collection. It's difficult to imagine how many pieces a shell might burst into, but it's not hard at all to imagine what's going to happen when the artillery starts firing canister.

I started with a few of the basic rounds; 6-pdr., 12-pdr., and a few of the common rifle rounds; then I wanted more. At first I knew what calibers I didn't have, which ones I wanted next, and began filling that list.

After I found most of the basic examples, the oddball ones usually weren't available ready to buy and display. There were few reliable shell books, and even fewer with canister information in them, so I was pretty much on my own. I found a lot of parts in the "anything for a dollar" boxes on dealer tables, began buying parts, and learning what shot went with what plates. In those days, dealers and diggers were after shells, and canister parts were "scrap." It has taken me 30 plus years to acquire 65 or so different canister specimens.

In the early 2010s, I decided to add grape to my collection. I had pretty well exhausted canister as

a pursuit; adding grape shows the difference between grape and canister. Army grape can be found from time to time, but quilted grape is almost impossible to find. I have two original quilted grape stands, a 6.4-inch and a 7-inch. The larger sizes are almost non-existent; the 15-inch, as far as I can learn, does not exist anywhere. I found the specifications and built one so that my collection was complete. With the addition of 14 stands of grape to the display, I have a total of 80 specimens, weighing around 1,500 pounds.

This is probably the most complete collection of its type in existence, and at this time in the world of collecting, probably could never be duplicated. This collection is parts of all of us, and I owe a huge Thank You to all the collectors, dealers, diggers, and friends who supplied me with complete stands, parts, and assistance throughout the years.



David Gotter standing with his impressive display of canister and stands of grape shot.



David Gotter's display "A Withering Hail of Iron" Grape and Canister in the Civil War won Best of Show at Mike Kent's Franklin Civil War Show, Dec. 1-2, 2018.

## Canister

A canister round was a thin-walled metal cylinder packed with musket balls, or large lead or iron balls, and sawdust. Depending on bore diameter, typical Civil War canister shot was as small as .65 inch and as large as 2 inches. Some canister rounds have been found that were packed with nails, pieces of hinges, and other scrap metal.

A round wooden block, or "sabot," was attached to the bottom of the canister. The sabot helped to keep the round centered in the bore and also prevented the propellant gases from shooting out around the sides of the canister. Attached to the bottom of the sabot was the cloth bag that contained the powder that propelled the round. When the powder ignited, the force of the explosion would burst the can and the shot would spray out of the muzzle of the cannon with a murderous effect.

"The enemy fell like grass before the mower." "It seemed as if whole companies were wiped out of existence." These quotes from Civil War soldiers are typical descriptions of the effect of canister. Canister was the artilleryman's most lethal load and probably killed more Civil War soldiers than all other types of artillery rounds combined. Canister was only effective at short ranges, 400 yards or less, but like a blast from a giant sawed-off shotgun, the mass of slugs from the round would spread out and decimate everything downrange. When the enemy was within 150 yards, soldiers would load the guns with two or even three rounds of canister and fire them all at once.

## Grape

Army grape typically consisted of 2 iron plates, 9 iron shot, a center bolt and 2 iron rings. The shot were

## Rate of fire depended on the type of weapon.

Field guns could be discharged, with careful aim, twice a minute, and when pressed, a good crew firing canister could double that rate.

*When we ran out of canister, we resorted to the novel practice of leaving the fuses out of shells so that they burst at the muzzle.*

(Union artillery at Seven Pines)

*There was nothing we dreaded more than charging into Yankee artillery, hub to hub, double shot-  
ted with canister.*

(diary excerpt, Confederate infantryman)

*The enemy advanced against our guns, heads bowed and hands raised protectively in front of them, as if they could ward off the biting sleet of iron pellets.*

(diary excerpt, Union artilleryman)

arranged in 3 layers, with the bolt and rings holding the layers of shot together. The diameter of the shot varied with the bore diameter of the cannon.

Quilted grape was generally used in the naval service, fired from ship to ship, and intended to 'sweep the decks', and damage masts and rigging. The shot in the stand was large enough to cause physical damage to the ship as well as members of the crew.

Quilted grape was constructed with a base plate and an attached center post. The shot were stacked in layers around the post and a canvas bag stitched around the shot to hold them in place and keep its round shape. Most stands of quilted grape used 3 layers with 5 or 6 shot per layer. Depending on bore diameter, typical Civil War grape shot was as small as 2 inches and as large as 4.5 inches.

## GRAPESHOT



### ARMY

GUN	SHOT QTY	SHOT DIA.
12 pdr	9 pcs	2.05"
18 pdr	9 pcs	2.40"
24 pdr	9 pcs	2.62"
32 pdr	9 pcs	2.90"
42 pdr	9 pcs	3.15"
8 inch	9 pcs	3.55"
10 inch	9 pcs	4.55"

### QUILTED

GUN	SHOT QTY	SHOT DIA.
6.4"	12 pcs	2.50"
7.0"	15 pcs	2.30"
8.0"	18 pcs	2.50"
9.0"	18 pcs	2.80"
10"	15 pcs	3.35"
11"	15 pcs	3.55"
15"	18 pcs	4.55"

## RIFLE CANISTER

- 1.7" CANISTER - 24 PCS .65" LEAD SHOT
- 2.0" WOODRUFF - 41 PCS .65" LEAD SHOT
- 2.25" CS MOUNTAIN RIFLE - 27 PCS .70" LEAD SHOT
- 2.6" WIARD - 84 PCS .65" LEAD SHOT
- 2.6" WIARD - 27 PCS .85" IRON SHOT
- 2.6" WIARD - 27 PCS .85" LEAD SHOT
- 3.0" ABSTERDAM - MISC SCRAP STEEL
- 3.0" DYER - 80 PCS .65" X .750" LEAD SLUGS
- 3.0" DYER - 91 PCS .65" LEAD SHOT
- 3.0" DYER - LONG PATTERN - 156 PCS .65" LEAD SHOT
- 3.0" HOTCHKISS - 156 PCS .65" LEAD SHOT
- 3.0" HOTCHKISS - 110 PCS .80" IRON SHOT
- 3.0" HOTCHKISS - 55 PCS .95" IRON SHOT
- 3.0" HOTCHKISS - 28 PCS 1.15" IRON SHOT
- 3.0" SAWYER RIGID WALL-156 PCS .65" IRON SHOT
- 3.0" US/CS - 48 PCS .95" IRON SHOT
- 3.3" CS RIFLE - 27 PCS 1.05" IRON SHOT
- 3.4" SAWYER - 34 PCS 1.0" LEAD SHOT
- 3.5" BLAKELY - 27 PCS 1.1" IRON SHOT
- 3.6" HOTCHKISS - 55 PCS 1.15" IRON SHOT
- 3.6" SAWYER RIGID WALL - 41 PCS 1.0" LEAD SHOT
- 3.6" SAWYER ACCELERATING - 34 PCS 1.0" LEAD SHOT
- 3.6" US/CS - 48 PCS 1.15" IRON SHOT
- 3.6" WIARD - 27 PCS 1.1" LEAD SHOT, LEAD CAN
- 3.8" JAMES, DYER PATTERN - 27 PCS 1.2" LEAD SHOT
- 3.8" JAMES - 27 PCS 1.2" IRON SHOT
- 3.8" WIARD - JAMES RIFLE - 48 PCS .85" LEAD SHOT
- 4.0" DAHLGREN HOWITZER - 48 PCS .95" IRON SHOT
- 4.2" US/CS - 48 PCS 1.3" IRON SHOT
- 4.5" US RIFLE (30 PDR) - 27 PCS 1.4" IRON SHOT
- 5.3" US RIFLE (60 PDR) - 48 PCS 1.65" IRON SHOT
- 6.4" US RIFLE (100 PDR) - 48 PCS 2.0" IRON SHOT
- 7.0" CS BROOKE RIFLE - 114 PCS 1.3" IRON SHOT

Data compiled by David Gotter.

# SMOOTHBORE CANISTER

- 4 PDR GUN-QUILTED GRAPE-20 PCS 1.2" IRON SHOT
- 4 PDR GUN - US/CS - 27 PCS 1.0" IRON SHOT
- 6 PDR GUN - US/CS - 27 PCS 1.15" IRON SHOT
- 6 PDR GUN - CS - 23 PCS 1.25" IRON SHOT
- 9 PDR GUN - 27 PCS 1.3" IRON SHOT
- 12 PDR MTN HOWITZER - 148 PCS .65" LEAD SHOT
- 12 PDR HOWITZER - 48 PCS 1.05" IRON SHOT
- 12 PDR CS HOWITZER - 40 PCS 1.2" IRON SHOT
- 12 PDR GUN - 27 PCS 1.5" IRON SHOT
- 12 PDR CS LANGRAGE - MISC NUTS & BOLTS
- 18 PDR GUN - 27 PCS 1.65" IRON SHOT
- 24 PDR GUN - 27 PCS 1.85" IRON SHOT
- 24 PDR HOWITZER - 48 PCS 1.3" IRON SHOT
- 24 PDR CS HOWITZER - 80 PCS 1.05" IRON SHOT
- 24 PDR CS HOWITZER - 38 PCS 1.5" IRON SHOT
- 32 PDR GUN - 27 PCS 2.0" IRON SHOT
- 32 PDR HOWITZER - 48 PCS 1.5" IRON SHOT
- 32 PDR CS LANGRAGE - MISC NUTS & BOLTS
- 42 PDR GUN - 114 PCS 1.3" IRON SHOT
- 42 PDR GUN - 27 PCS 2.25" IRON SHOT
- 42 PDR GUN - QUILTED - 108 PCS 1.3" IRON SHOT
- 8" HOWITZER - 48 PCS 1.85" IRON SHOT
- 9" GUN - 230 PCS 1.3" IRON SHOT
- 10" GUN - 290 PCS 1.3" IRON SHOT
- 10" GUN - CS - 72 PCS 2.0" IRON SHOT
- 11" GUN - 315 PCS 1.3" IRON SHOT
- 15" GUN - 600 PCS 1.3" IRON SHOT

# RECOMMENDED ADDITIONAL RESOURCES

*Grape and Canister*  
by L. Van Loan Naisawald

*Artillery and Ammunition of the Civil War* by  
Warren Ripley

*Civil War Artillery Projectiles - The Half  
Shell Book*  
by Jack W. Melton Jr.

*Field Artillery Projectiles  
of the American Civil War*  
by Thomas Dickey & Peter George

*Field Artillery Ordnance 1861-1865*  
by Jack W. Melton Jr. & Lawrence E. Pawl

*Civil War Heavy Explosive Ordnance*  
by Jack Bell

*Encyclopedia of Black Powder  
Artillery Projectiles Found in North America  
1759-1865, Vol. 1 - Vol. 5*  
by Col. John F. Biemeck, U.S. Army (ret.)

ALL SHOT DIAMETERS ARE 'NOMINAL'  
+/- .01"/.03" ARE ENCOUNTERED

