



Civil War Heavy Artillery Barrels: How to Recognise & Read Them.

Every cannon has a story

Clive Hollick

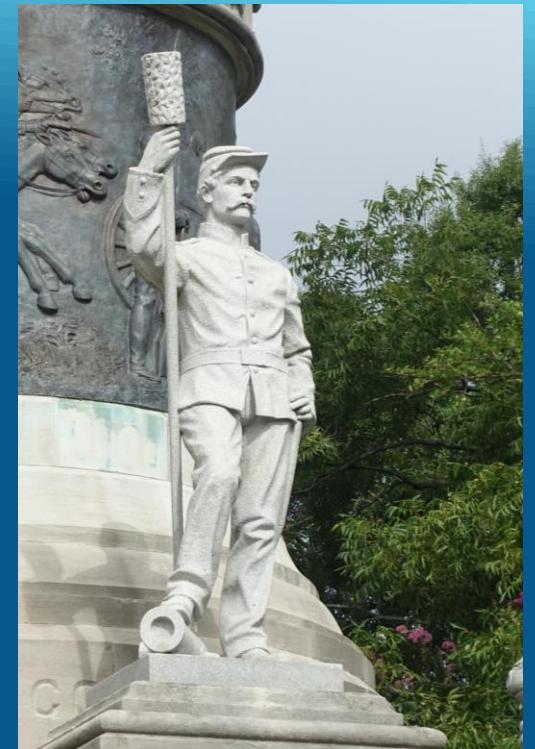
Date: Jan 23, 2025

Clive's Definition of American Civil War Heavy Artillery Barrels

- Army and Navy artillery barrel capable of firing a projectile of 20lb plus and manufactured 1816 – 1865 and used during the Civil War

Caveats and Restrictions

- Some gun details are missing/lost
- Mortars, gun carriages and ammunition are excluded – almost!
- Cannons presented have generally been chosen because I have physically seen and photographed them!
- The artillery pieces are presented in approximate date order
- The number of survivors is always changing!

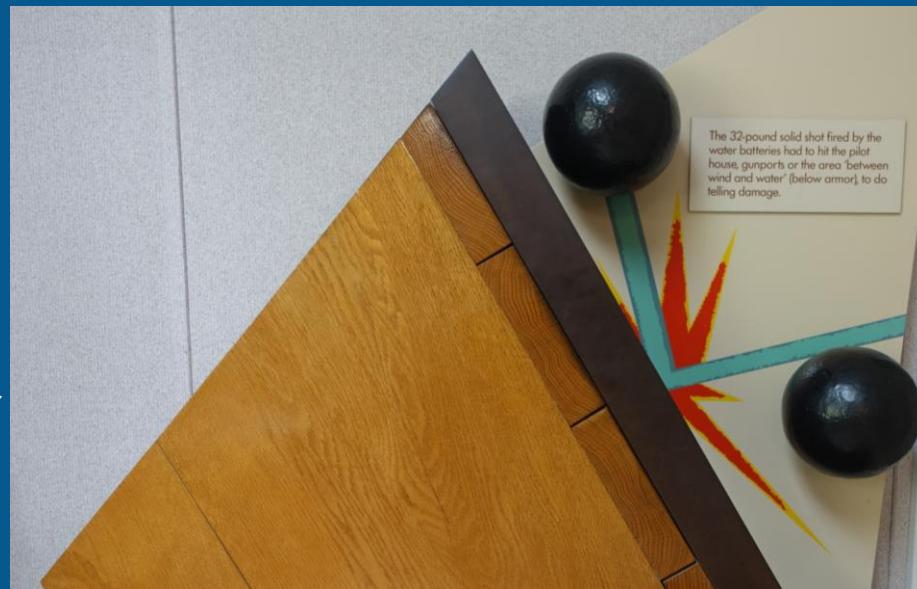


So what?

Threat = Intent x Capability x Opportunity

"The fact is, our boats [City class armored gunboats], are proof against ordinary shot, even as large as a sixty-four[lb]; but this trial [14 Feb 62] has demonstrated the fact that rifled thirty-pounders, even, will penetrate our iron sides, while one hundred and twenty pounders nearly laughed at the obstruction."

Federal comment on their naval assault on Fort Donelson, Cumberland River, TN.



City Class armor
resistance to
32lb shot (Fort
Donelson)

Contemporary
image.
10"/128pdr
Smooth Bore
Confederate
Columbiad



PART I

Smoothbore Artillery

A smoothbore weapon is one that has a barrel without rifling.

Wikipedia

6.41"/32pdr Smoothbore (SB) Gradual Increase (GI) Navy Gun

- Over 600 were cast 1817 – 1827 by Bellona, Columbia and West Point foundries (19 survivors, 7 of which are upright)
- 234 x 42pdr versions cast by the same foundries (4 survivors, 2 of which are bollards)
- Example – Fort McAllister, GA. Gun No. 114, cast by Bellona Foundry, 1821



Pattern / Name	Identity			Projectile & Charge			Weights & Measures					Features					Imprint			Performance		Production & Materials										
	Referred to as	Nationality	Calibre ["]	Artillery Type	Chamber red?	Bore Type	Wt of Shot [lb]	Wt of Powder Charge [lb]	Prepond erance	Trunnion diameter	Weight Ratio	Weight of Tube [lb]	Tube Length ["]	Bore length ["]	Cascabel	Base Ring	Banded (Single/Dou ble/Trip)	1st Reinforce astragel & fillets	Sight Boss	Chase band	Muzzle Swell	Base Ring Inscrip.	Tube Inscription	Rt Trunnion Inscrip.	Lt Trunnion Inscrip.	Muzzle inscription	Range (yds) 5 deg. (velocit.)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
Gradual Increase Navy	32pdr	US	6.41	Gun	N	SB	32	6-8	NK	6.41	210	6,720	122.2	102.56 (16)	Ringknob	Y	N	Y	Y	Y	Y	No.	U	Yr	PW	Bk	1,922	Bel, Col, WPF	1817-27	> 600	9	Cast iron
Gradual Increase Navy	42pdr	US	7.018	Gun	N	SB	42	10.5	NK	7.02	187	7,840	122.2	101.06 (14.4)	Ringknob	Y	N	Y	Y	Y	Y	U	U	U	U	U	1,955	Bel, Col, WPF	1819-26	234	4	Cast iron

6.41"/32pdr SB Gradual Increase Navy Gun - Key Recognition Features



Sight boss



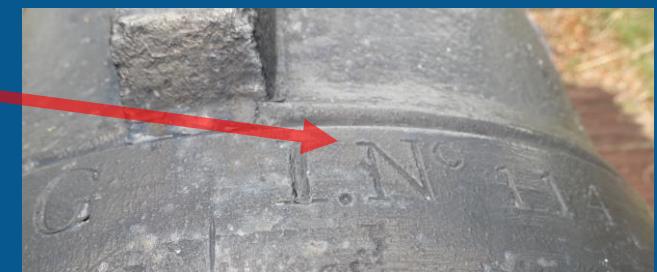
Dia. 6.41". No inscription on either trunnion face noted but see below



First reinforce
astragal & fillets



Inscription on base ring:
'G I. No 114'



Vent field
of 8.8"

Pattern / Name	Identity			Projectile & Charge			Weights & Measures			Features			Imprint			Performance			Production & Materials													
	Referred to as	Nationality	Calibre ["]	Artillery Type	Chambered?	Bore Type	Wt of Shot [lb]	Wt of Powder Charge [lb]	Prepond erance	Trunnion diameter	Weight Ratio	Weight of Tube [lb]	Tube Length ["]	Bore length ["]	Cascabel	Base Ring	Banded (Single/Dou ble/Trip)	1st Reinforce astragal & fillets	Sight Boss	Chase band	Muzzle Swell	Base Ring Inscrip.	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds)	5 deg. (velocit y)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
Gradual Increase Navy	32pdr	US	6.41	Gun	N	SB	32	6-8	NK	6.41	210	6,720	122.2	102.56 (16)	Ringknob	Y	N	Y	Y	Y	Y	No.	U	Yr PW	Bk	1,922	Bel, Col, WPF	1817-27	> 600	9	Cast iron	
Gradual Increase Navy	42pdr	US	7.018	Gun	N	SB	42	10.5	NK	7.02	187	7,840	122.2	101.06 (14.4)	Ringknob	Y	N	Y	Y	Y	Y	U	U	U	U	1,955	Bel, Col, WPF	1819-26	234	4	Cast iron	

6.41"/32pdr SB Gradual Increase (GI) Navy Gun - Key Recognition Features

- Example – Fort Donelson, TN. Gun No. 171, cast by West Point Foundry, 1820? Recovered from USS Congress by CSA
- Example – Original to the fort - upright



Muzzle swell & chase band

Dia. 6.41". No inscription on trunnion face

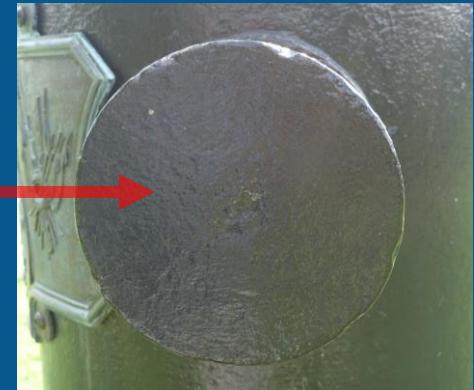
First reinforce astragal & fillets

Base ring: 'G I. No' lost.



Sight boss

No inscription on trunnion face



Pattern / Name	Referred to as	Identity		Projectile & Charge				Weights & Measures				Features				Imprint			Performance		Production & Materials											
		Nationality	Calibre (")	Artillery Type	Chamber Type	Bore Type	Wt of Shot (lb)	Wt of Powder Charge (	Prepond erance	Trunnion diameter	Weight	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Banded (Single/Dou ble/Trip)	1st Reinforce astragal & fillets	Sight Boss	Chase band	Muzzle Swell	Base Ring Inscrip	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
Gradual Increase Navy	32pdr	US	6.41	Gun	N	SB	32	6-8	NK	6.41	210	6,720	122.2	102.56 (16)	Ringknob	Y	N	Y	Y	Y	Y	No.	U	Yr	PW	Bk	1,922	Bel, Col, WPF	1817-27	>600	9	Cast iron
Gradual Increase Navy	42pdr	US	7.018	Gun	N	SB	42	10.5	NK	7.02	187	7,840	122.2	101.06 (14.4)	Ringknob	Y	N	Y	Y	Y	Y	U	U	U	U	U	1,955	Bel, Col, WPF	1819-26	234	4	Cast iron

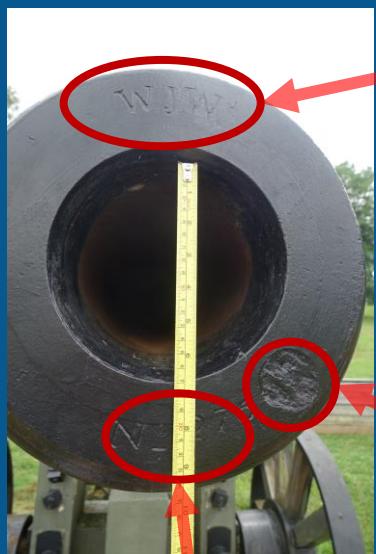
6.4"/32pdr SB Seacoast M.1829

- 1,222 cast 1828 – 1840 by Bellona, Columbia, West Point and Fort Pitt Foundries (49 survivors)
- Example – Fort Donelson, TN – Gun position 5 (not original to the fort). Weighs 7,541 lbs
- Example - Cast by Bellona Foundry, 1833 and inspected by William Jenkins Worth – 1832-37



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials										
	Referred to as	Nation ality	Mod. Or Ori.	Calibre (")	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge (	Trunnion diameter	Weight of Tube (lb)	Weight of Tube (lb)	Length (")	Bore length (")	Cascabel	Base Ring	1st Reinforce astragel & fillets	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds)	Range (yds) 10 deg.	Range (yds) 15 deg.	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
M.1829 Seacoast	32pdr	US	Orig	6.41	Gun	N	SB	32	6-8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	U	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron

6.4"/32pdr SB Seacoast M.1829 – Key Recognition Features



Inscription 'WJW' =
William Jenkins
Worth

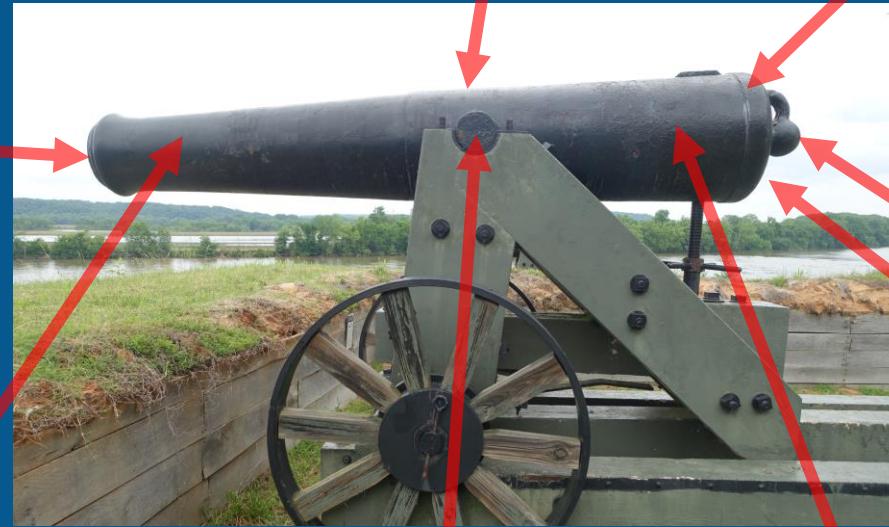
Louis Walbach 'test scar' [applied to
most pre-1840
cannon by 1847 &
proved hot blast
iron inferior to cold]



'N°. 275'
Muzzle swell
but no chase
band



Left
trunnion:
'1833'

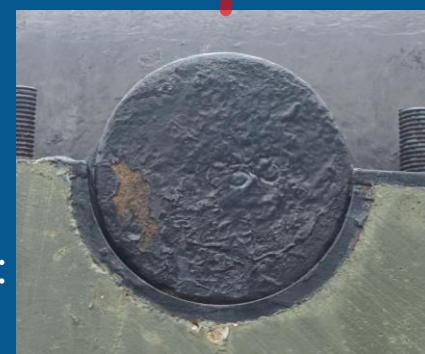


No sight boss, but
'US' inscription ?
Base ring

Ringknob

Weight?

Walbach
'Test scar'
result '2'



No first
reinforce
astragal & fillets

Right trunnion:
'JC' = John Clarke
'BF' = Bellona
Foundry



Pattern / Name	Referred to as	Identity				Projectile & Charge			Weights & Measures				Features						Imprint				Performance				Production & Materials								
		Nation ality	Mod. Or Ori	Calibre	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length	Bore length	Cascabel	Base Ring	1st Reinforce astragal & fillets	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds) 5 deg. (velocit	Range (yds) 10 deg.	Range (yds) 15 deg.	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
M.1829 Seacoast	32pdr	US	Origi	6.41	Gun	N	SB	32	6-8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	U	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron

6.4"/32pdr Smoothbore, Seacoast M.1829 – Key Recognition Features

- Example – Fort Morgan, AL. Cast by Fort Pitt Foundry, 1833 and inspected by William Jenkins Worth – 1832-37)



Louis Walbach 'test scar'

Muzzle swell, but no chase band.
Inscription 'WJW' = William Jenkins Worth & should read 'No.116'

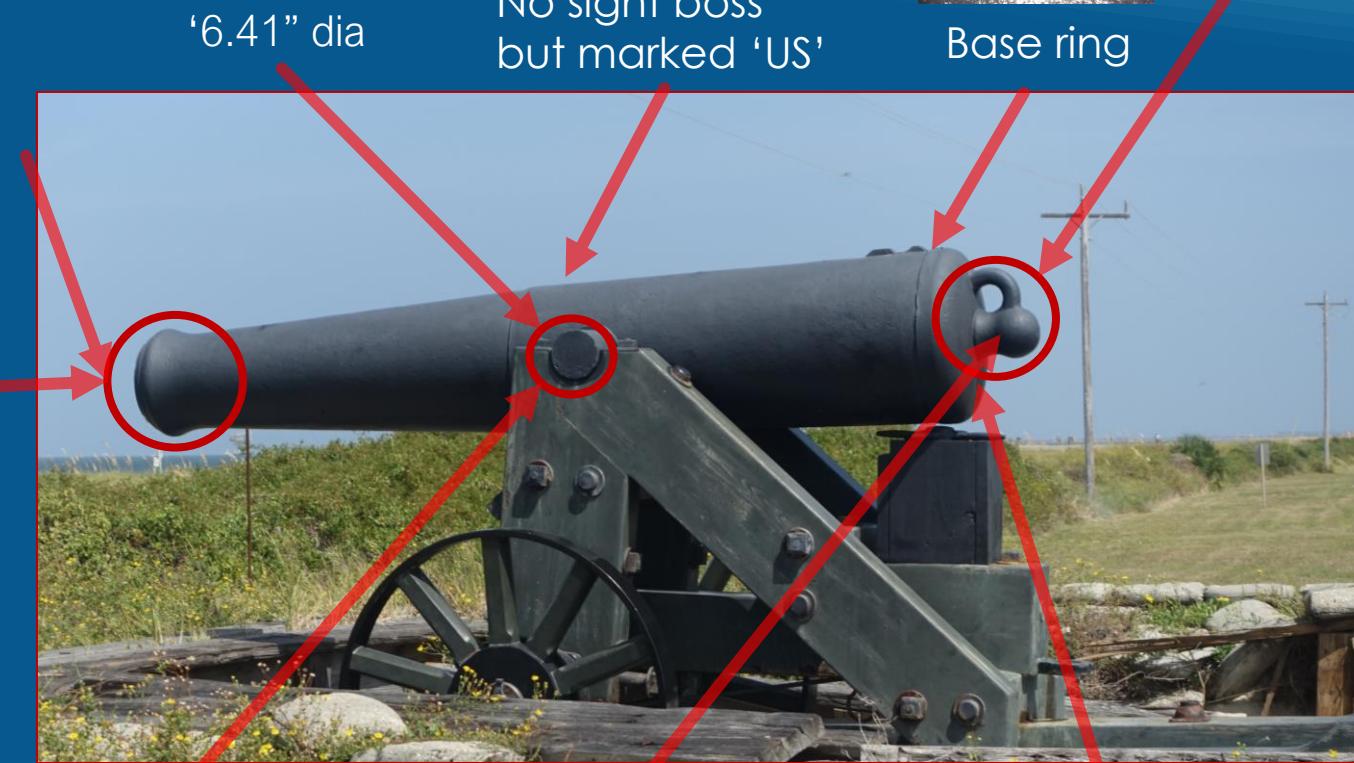


Smoothbore

Right trunnion:
'McC.W. & Co' = McClurg,
Wade & Co.
[early name for FPF]
'F.P.F.' = Fort Pitt Foundry



Left
trunnion:
'1833'



No
Walbach
number
discernible

'7478'
[lbs]



Pattern / Name	Referred to as	Identity				Projectile & Charge			Weights & Measures				Features				Imprint				Performance				Production & Materials											
		Nation	Mod. Or Orig.	Calibre	Artillery Type	Chamber red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Length (")	Bore length (")	Cascabel	Base Ring	1st Reinforce astragel & fillets	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel Ring	Base Inscri	Tube Inscri	Lt Trunnion Inscri	Muzzle Inscri	Range (yds) 5 deg. (velocity)	Range (yds) 10 deg.	Range (yds) 15 deg.	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube		
M.1829 Seacoast	32pdr	US	Orig	6.41	Gun	N	SB	32	6-8	6.41	234	7,383 - 7,630	125.2	107.69	Ringknob	Y	N	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	U	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron

6.4"/32pdr Smoothbore Seacoast M.1829 – Recognition Features

- Example - Cast by Bellona Foundry, 1830 & inspected by James Bankhead – 1826-32



Louis Walbach 'test scar'



Muzzle swell, SB but no chase band.
Inscription 'JB' = James Bankhead & 'No. 141'



'US' on upper surface



Right trunnion: '1830'



Left trunnion: 3"
Walbach 'test scar' & 'BF'
Bellona Foundry

No sight boss
Base ring
Ringknob



Walbach 'test scar' result '2'

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials										
	Referred to as	Nationality	Mod. Or Orig.	Calibre	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge (lb)	Trunnion diameter	Weight of Tube (lb)	Tube Length	Bore length	Cascabel	Base Ring	1st Reinforce astragel & fillets	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds) 5 deg	Range (yds) 10 deg	Range (yds) 15 deg	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube	
M.1829 Seacoast	32pdr	US	Orig	6.41	Gun	N	SB	32	6 - 8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	U	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron

6.4"/'32pdr Smooth Bore' Seacoast M.1829 - Modified to Muzzle Loading Rifle

- Modified to 6.4"/[46-64pdr] Muzzle Loading Rifle
- Example – Fort Gaines, AL (cast by Fort Pitt Foundry in 1832)
- This gun & others at Fort Gaines were rifled with 5 or 10 grooves & provided with new ammunition



Left trunnion:
face with year
of casting

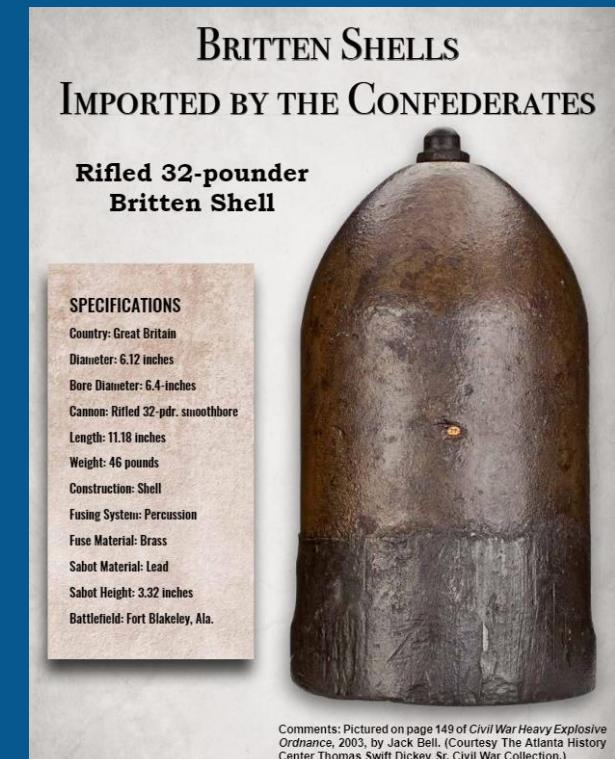
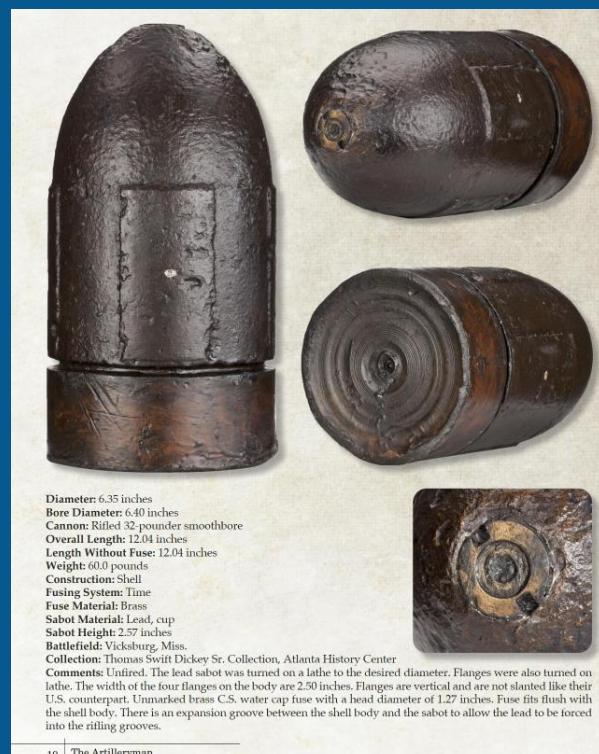


Rifling (from another 32pdr)

Identity		Projectile & Charge			Weights & Measures				Features			Imprint			Performance		Production & Materials																
Pattern / Name	Referred to as	Nation	Mod. Or Orig.	Calibre	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length	Bore length	Cascabel	Base Ring	1st Reinforce astragel & fillets	Chase band	Rifling Groves	Muzzle Swell	Breach Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds)	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
M.1829 Seacoast	32pdr	US	Orig	6.41	Gun	N	SB	32	6-8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron
M.1829 Seacoast-Modified	32pdr	CS	Mod	6.41	Gun	N	MLR	46+	6	6.41	NK	7,479	125.2	107.69 (16.8)	Ringknob	Y	N	N	5-10	Y	U	U	US	Yr	Yr	N	NK	NK	Bel, Col, WP F, FPF	1828-40	0 (Mod. NK)	7	Cast iron

6.4"/'32pdr' Smooth Bore Seacoast M.1829 - Modified to Muzzle Loading Rifle

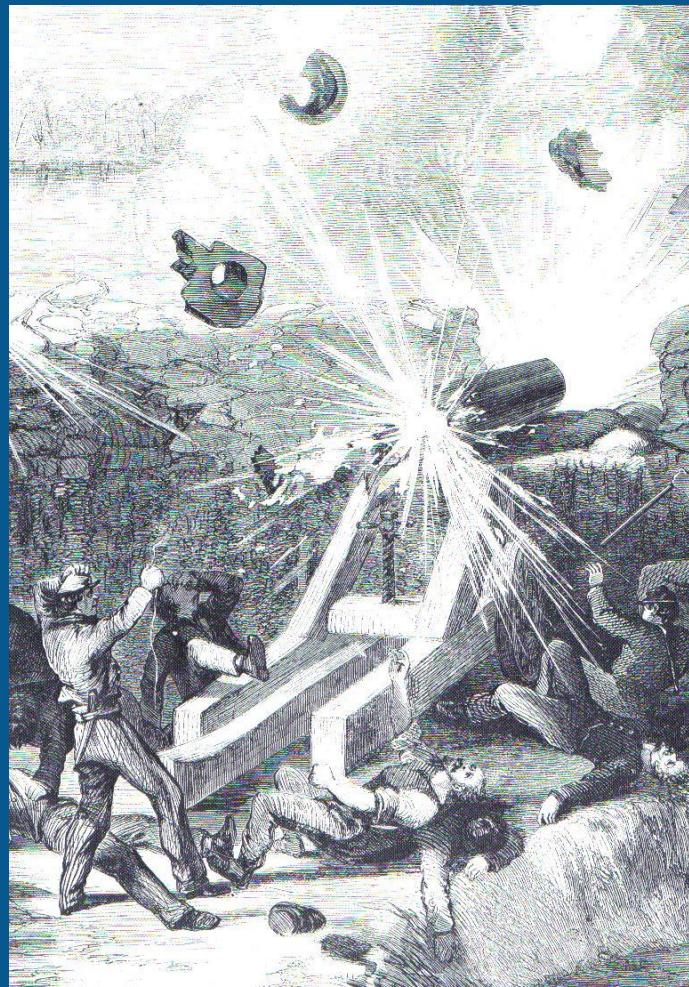
- Rifling resulted in a change of projectile from 32lb to at least 46lb possibly 60lb plus
- The gun was not reinforced (banded) when modified
- Firing such a heavy projectile engaged into the rifling would substantially increase the pressure within the tube for which the gun had not been designed or reinforced.



Artilleryman Magazine

Pattern / Name	Referred to as	Identity			Projectile & Charge			Weights & Measures				Features			Imprint			Performance		Production & Materials													
		Nation	Mod.	Or Ori	Calibre	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Tube (lb)	Tube Length	Bore length	Cascabel	Base Ring	1st Reinforce astragel & fillets	Chase band	Rifling Groves	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Range (yds)	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Survivors (USA)
M.1829 Seacoast	32pdr	US	Orig	6.41	Gun	N	SB	32	6-8	6.41	234	7,383 - 7,630	125.2	107.69	Ringknob	Y	N	N	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	1,922	Bel, Col, WP F, FPF	1828-40	1,222	49	Cast iron
M.1829 Seacoast - Modified	32pdr	CS	Mod	6.41	Gun	N	MLR	46+	6	6.41	NK	7,479	125.2	107.69	Ringknob	Y	N	N	5-10	Y	U	U	US	Yr	Yr	N	NK	NK	Bel, Col, WP F, FPF	1828-40	0 (Mod. NK)	7	Cast iron

6.4"/'32pdr Smooth Bore' Seacoast M.1829 ? – Modified to Muzzle Loading Rifle



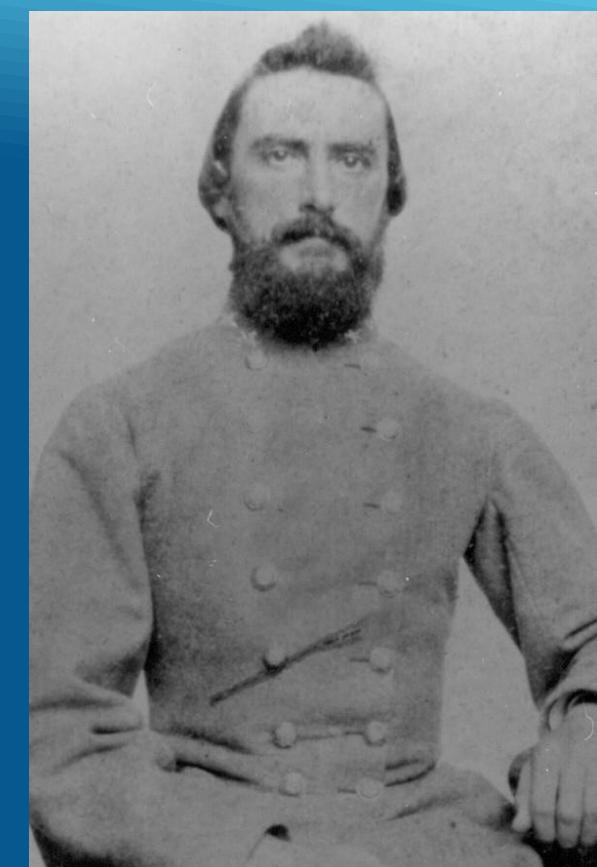
FATAL EXPLOSION.—A gun exploded at Fort Morgan, on the 30th ult., killing Lieut. Col. Stewart and wounding Sergeant Holcombe, Corporal Higgins, Privates Adams, Dunn, McIlwane and another, all of Company D, 1st Alabama Battalion. The gun is supposed to have been double loaded.

Lt. – Col. Stewart (21st AL Regt) and five of his men died in an accidental explosion caused by a rifled 32-pounder cannon. The fort had several of these old, previously smooth-bore cannon that had been modified to act as rifles but the process was faulty and the cannon were unreliable. This was made evident when the lanyard was pulled and the ensuing explosion sent a nearly 200lb chunk of iron towards Stewart, killing him instantly (Fort Morgan, AL. Apr 30, 1863)

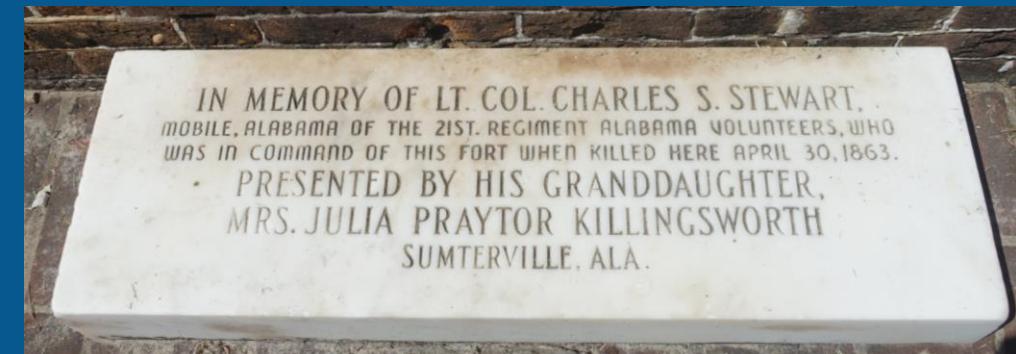
FATAL ACCIDENT AT FORT MORGAN.—During the artillery practice at Fort Morgan yesterday afternoon, a rifled 32-pounder gun burst, instantly killing Lieut. Col. Stewart of the 21st Alabama Regiment, and wounding seven others, two of them mortally. The cause of the explosion was that the gun, which was habitually kept loaded, and already had the customary charge of powder and shell, was inadvertently loaded with an additional charge and a solid shot.

Lieut. Col. Stewart's head was blown off, leaving only the under jaw. Some gentlemen who were standing near him were not injured.—The gun carriage was completely demolished and a large fragment of the gun was thrown entirely over the citadel, but fell without doing any damage.

Lieut. Col. Stewart's body was brought up on the evening boat under the escort of the Guards, and was received by the Witherspoon Guards and the Washington Light Infantry. It will be carried to Sumterville for interment.—*Mobile Reg. & Adv., May 1st.*



Lt.-Col. Stewart



6.4"/'32pdr Smooth Bore' Seacoast M.1829 ? - Modified

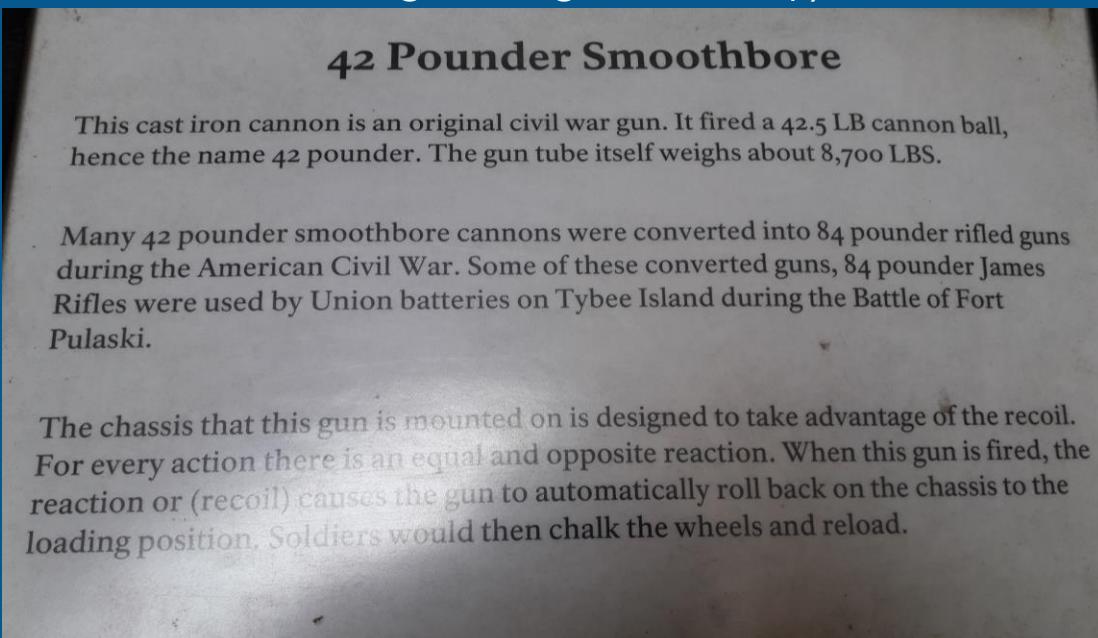


The fragment of breech section that killed Lt. Col. Stewart was estimated by eyewitnesses as weighing about 200 pounds. This breech fragment, of an unbanded rifled 32-pounder seacoast gun, found at Fort Morgan weighs about the same.

Seacoast M.1829

7.018"/42pdr SB Seacoast M.1831

- 167 cast over the period 1831 – 1840 Bellona, Columbia & West Point Foundries (8 survivors 2 of which modified with rifling)
- Example – Fort Pulaski, GA. Reg #19 (cast by Columbia Foundry, 1836 and proofed by W.M. = William Maynadier for 'G.D.R'. = George Douglas Ramsay)



Identity		Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials									
Pattern / Name	Referred to as	Calibre	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Powder	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length	Bore length	Cascabel	Base Ring	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube	Rt Trunnion	Lt Trunnion	Muzzle inscription	Max Range (yds)	Penetration	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
M.1831 Seacoast	42pdr	7.018	Gun	N	SB	42.01 or 42.5	10.5	7.018	206.8	8,687 - 8,700	129.4	109.48 (15.6)	Ringknob	Y	N	Y	U	N	U	Insp, Fdry	Yr	U	NK	U	Bel,Col, WPF	1831-40	167	8	Cast iron
M.1829 Seacoast	32pdr	6.41	Gun	N	SB	32	6 - 8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	Bel,Col, WPF, FPF	1828-40	1,222	49	Cast iron

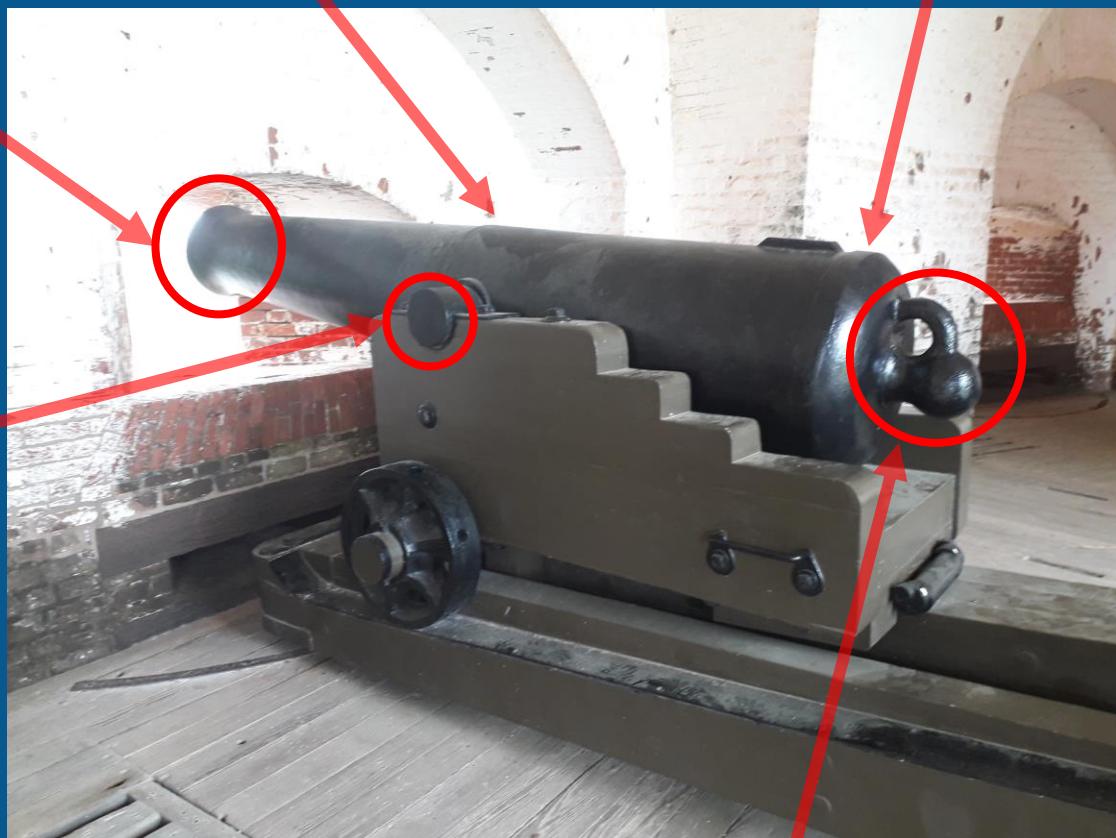
7.018"/42pdr Smoothbore Seacoast Model 1831 - Key Recognition Features

Muzzle swell,
SB & no chase
band, no
inscription

Trunnion face
dia. 7.018"

No sight boss

Base ring



Right trunnion
face with 'J.M.'
and 'C.F.'
John Mason,
Columbia
Foundry (1830s)



Left trunnion
face with year
of casting:
'1836'



Identity		Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials									
Pattern / Name	Referred to as	Calibre (")	Artillery Type	Chamber red?	Bore Type	Wt of Shot (lb)	Wt of Powder Charge (lb)	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
M.1831 Seacoast	42pdr	7.018	Gun	N	SB	42.01 or 42.5	10.5	7.018	206.8	8,687 - 8,700	129.4	109.48 (15.6)	Ringknob	Y	N	Y	U	N	U	Insp, Fdry	Yr	U	NK	U	Bel,Col, WPF	1831-40	167	8	Cast iron
M.1829 Seacoast	32pdr	6.41	Gun	N	SB	32	6 - 8	6.41	234	7,383 - 7,630	125.2	107.69 (16.8)	Ringknob	Y	N	Y	Wt	N	US	Fdry or Yr	Fdry or Yr	Insp, No	1,922	U	Bel,Col, WPF, FPF	1828-40	1,222	49	Cast iron

6.4"/32pdr Smoothbore Seacoast M.1845

- 182 cast 1844-52 by Cyrus Alger, West Point, Tredegar and Fort Pitt Foundries (19 survivors)
- Example – Fort Donelson, TN – Gun position 7 but gun not original to the fort). Weighs 7,185 lbs
- Example - Cast by Tredegar Foundry, 1846, Reg No. 21 and inspected by Alfred Mordecai -1846,1853



Pattern / Name	Referred to as	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials											
		Nation	Calibre	Artillery Type	Chamber red?	Bore Type	Wt of Shot (lb.)	Wt of Shell (lb.)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb.)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Breech base	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (US)	Finish	Casting Years	Total Cast	Survivors (USA)	Casting Method	Metal Tube
M.1845 Seacoast	32pdr	US	6.4	Gun	N	SB	32	32	6~	6.4	226.9	7,251	125.2	107.69 (16.8)	Knob	Y	N	N	Y	Y	Wt	Bk	US	Fdry/Fdr	Yr	No/Insp	NK	NK	CA,FPF,TIW ,WPF	U	1844-52	182	19	U	Cast iron
M.1840 Seacoast	32pdr	US	6.4	Gun	N	SB	32	32	6~	6.4	217.7	6,967	125.2	107.69 (16.8)	Knob	Y	N	N	Y	Y	U	U	U	U	U	U	U	U	Bel, Col, WPF	U	1841-43	50	0	U	Cast iron

6.4"/32pdr Smoothbore Seacoast M.1845

Muzzle swell & chase band

Gun No. '26'



Imprint 'AM' = Alfred Mordecai

Imprint 'US'



Left trunnion;
'JRA' = Joseph
Reid Anderson.
'TF' = Tredegar
Foundry



Left
trunnion,
'1846'



Imprint '7159' lbs

Knob



Pattern / Name	Referred to as	Identity			Projectile & Charge			Weights & Measures			Features			Imprint			Performance		Production & Materials																
		Nation	Calibre	Artillery Type	Chamber red?	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunnion diameter	Weight	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Breech base	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (US)	Finish	Casting Years	Total Cast	Survivors (USA)	Casting Method	Metal Tube
M.1845 Seacoast	32pdr	US	6.4	Gun	N	SB	32	32	6~	6.4	226.9	7,251	125.2	107.69 (16.8)	Knob	Y	N	N	Y	Y	Wt	Bk	US	Fdry/Fdr	Yr	No/Insp	NK	NK	CA, FPF, TIW, WPF	U	1844-52	182	19	U	Cast iron
M.1840 Seacoast	32pdr	US	6.4	Gun	N	SB	32	32	6~	6.4	217.7	6,967	125.2	107.69 (16.8)	Knob	Y	N	N	Y	Y	U	U	U	U	U	U	U	U	Bel, Col, WPF	U	1841-43	50	0	U	Cast iron

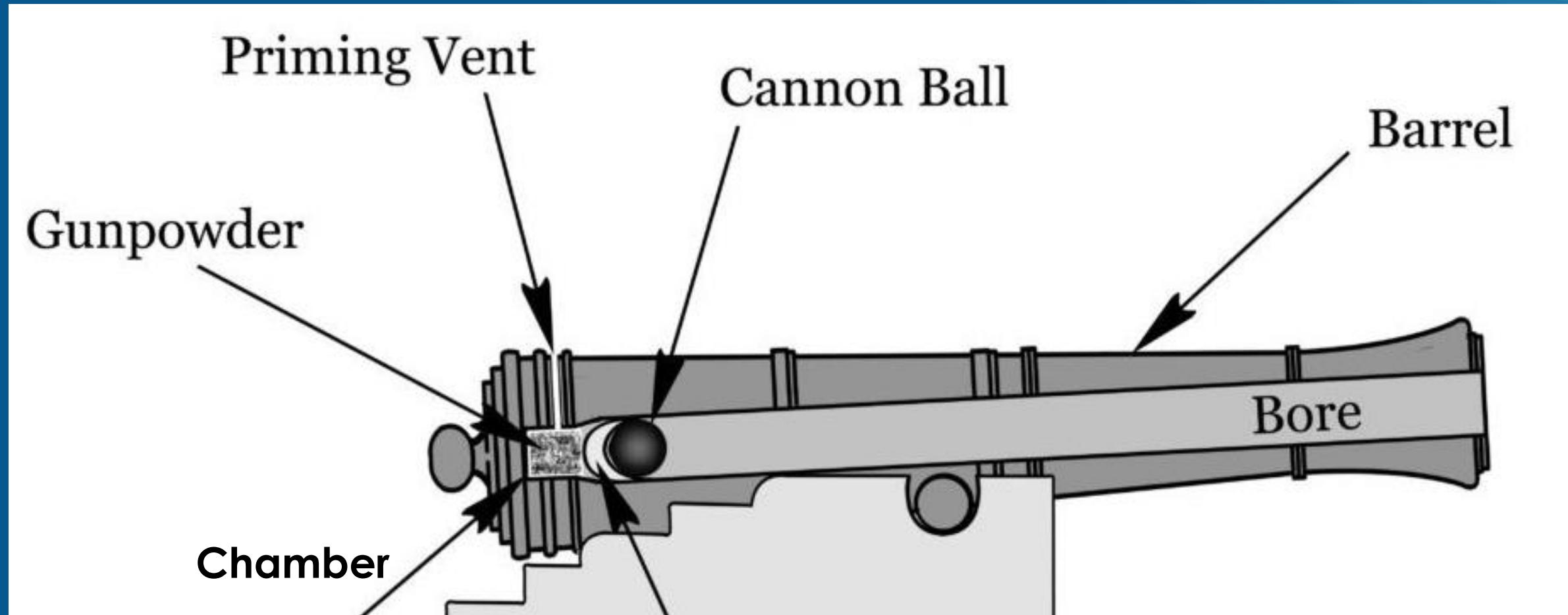
6.41 - 6.75"/32pdr SB Chambered Cannon 41 Hundredweight, 2nd Pattern - Modified

- 24 2nd pattern cast by Cyrus Alger & Co. for the sloop USS Saratoga in 1842 (3 survivors)
- Example – National Civil War Naval Museum, GA * **Muzzle swell removed** *
- Example - Captured by CSA in 1861, VA. 2 of this type (but pattern NK) placed on CSS *Chattahoochee*



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Production & Materials											
	Referred to as	Nationality	Mod. Or Ori	Calibre ("")	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (	Preponde rance	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length ("")	Bore length ("")	Cascabel	Base Ring	Chase band	Muzzle Swell	Breach/ Cascabel Ring	Base Inscrip	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube	Metal Band
32pdr Chambered Cannon 41 cwt - Second pattern	32pdr	US	Mod	6.41 - 6.75	Gun	Y	SB	32	U	6-7	U	6.41	143.5	4,592	91.97	76.67 (11.98)	Gusset Jaws	Y	Y	N	N	Wt & Fdry	U	P & Yr	Bk or Yr	N	CA	1842	0 (Mod Nk)	3	Cast iron	N

6.41 - 6.75"/32pdr SB Chambered Cannon 41 Hundredweight, 2nd Pattern - Modified



[Cannon Experiment \(U.S. National Park Service\) \(nps.gov\)](http://Cannon Experiment (U.S. National Park Service) (nps.gov))

More bang for your buck!

6.41 - 6.75"/32pdr SB Chambered Cannon 41 cwt, 2nd Pattern – Modified - Key Recognition Features



Muzzle: 6.75",
swell removed,
but chase
band remains



Base ring: '41-1-05'
41 x Cwt (112lbs)
1 x Quarter (28lbs)
05 x lbs
TOTAL = 4,625 lbs

Wt. method circa
1850

Gusset jaws



Base ring: '41-1-05'
Base ring: Cyrus
Alger & Co.



Right trunnion:
'P. 1842'



Left trunnion:
Blank?



Pattern / Name	Identity				Projectile & Charge						Weights & Measures				Features				Imprint				Production & Materials									
	Referred to as	Nationality	Mod. Or Ori	Calibre (")	Artillery Type	Chamfered?	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Preponderance	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Chase band	Muzzle Swell	Breach/Cascabel	Base Ring Inscrip	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube	Metal Band
32pdr Chambered Cannon 41 cwt - Second pattern	32pdr	US	Mod	6.41 - 6.75	Gun	Y	SB	32	U	6-7	U	6.41	143.5	4,592	91.97	76.67 (11.98)	Gusset Jaws	Y	Y	N	N	Wt & Fdry	U	P & Yr	Bk or Yr	N	CA	1842	0 (Mod Nk)	3	Cast iron	N

9"/72.5pdr SB – Dahlgren Shell Gun (Naval) of 9,200lb

- Dubbed 'soda water bottles'
- 1,201 cast 1855 – 64 by Cyrus Alger & Co., Bellona, Seyfert, McManus, Columbia, Tredegar Ironworks, Fort Pitt, & West Point Foundries (49 survivors – No. 852 below not included!)
- Example – National Civil War Naval Museum (cast by in Cyrus Alger & Co., 1864)
- Example - Inspected by T.A.H. = Timothy A. Hunt



Identity												Projectile & Charge												Weights & Measures												Features												Imprint												Production & Materials											
Pattern / Name	Nation ality	Mod. Or Ori	Calibre (")	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	2 + Vents	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube																																									
Dahlgren Shell gun	US	Orig	9	Gun	U	SB	70	72.5	10-13	7.2	100	9,200 - 9,240	131.975	98.325 (11.9)/ 107	Dahlgren breeching jaws	Y	Y	N	Y	N	N	Fdry, No, Wt, 'Anchor'	Cal/Yr	P, Insp	N	CA, WPF, TI, W, Bel, FPF, SM	1855-64	1201 or 1,185	50+	Cast iron																																									

9"/72.5pdr SB – Dahlgren Shell Gun (Naval) of 9,200lb - Key Recognition Features

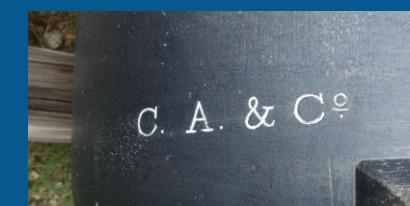
Muzzle swell,
smoothbore but
no chase band
or inscription



No base ring Trunnion dia. 7.2"



'P' = Proofed:
'T.A.H.' = Timothy
A. Hunt



Cyrus Alger & Co

No. 852 Sight boss



2 x Vents

Anchor



Calibre: 'IX'
Year: '1864'



Weight

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Production & Materials									
	Nation ality	Mod. Or Ori	Calibre (")	Artillery Type	Chambe red?	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length ()	Bore length ()	Cascabel	2 + Vents	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle Inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Metal Tube
Dahlgren Shell gun	US	Orig	9	Gun	U	SB	70	72.5	10-13	7.2	100	9,200 - 9,240	131.975	98.325 (11.9) / 107	Dahlgren breeching jaws	Y	Y	N	Y	N	N	Fdry, No, Wt, 'Anchor'	Cal/Yr	P, Insp	N	CA, WP, TI, W, Bel, FPF, SM	1855-64	1201 or 1,185	50+	Cast iron

9"/72.5pdr Smoothbore – Dahlgren Shell Gun of 9,200lb – Contemporary Image



PART II

Columbiads

"The columbiads are a species of [U.S.] sea-coast cannon, which combine certain qualities of the gun, howitzer, and mortar; in other words, they are long chambered pieces, capable of projecting solid shot and shells, with heavy charges of powder at high angles of elevation ...

The columbiad was invented by the late Colonel Bomford, and used in the war of 1812 for firing solid shot"

Ordnance and Gunnery, 1862

10"/128pdr Smoothbore (SB) Confederate Columbiad

- 136+ cast & bored as SBs by Tredegar Ironworks – (17 survivors) Dahlgren influence!
- Example – Fort Donelson, TN – cast 13 January 1863
- Not original to Fort Donelson
- Can be bored out as rifles - 4+ cast as 6.4MLRs & 2+ cast as 8" MLRs



Pattern / Name	Identity			Projectile & Charge						Weights & Measures				Features				Imprint				Production & Materials								
	Referred to as	Nationality	Calibre (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Breech base	Sight Boss	Chase band	Muzzle Swell	Breach/Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Casting Method	Metal Tube
Confederate Columbiad	128pdr	CS	10	Columbiad	SB	128	100	15-20	10	105.5	13,500	123.5	108 (10.8)	Mushroom Knob	Y	N	N	N	N	N	N	Fdry	Bk or Yr	N	NA	1862-64	136+	17	Solid	Cast iron

10"/128pdr Smooth Bore (SB) Confederate Columbiad - Key Recognition Features

- As – cast finish

No muzzle swell, chase band, or inscription & SB



No sight boss



Left trunnion blank

Right trunnion
T.F. = 'Tredegar Foundry'.



8 x Breech base sockets & rachets



Trunnion width

Trunnion face dia. 10"

Pattern / Name	Identity				Projectile & Charge					Weights & Measures					Features					Imprint					Production & Materials					
	Referred to as	Nationality	Calibre (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Breech base	Sight Boss	Chase band	Muzzle Swell	Breach/ Cascabel	Base Ring	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Foundry (US)	Casting Years	Total Cast	Survivors (USA)	Casting Method	Metal Tube
Confederate Columbiad	128pdr	CS	10	Columbiad	SB	128	100	15-20	10	105.5	13,500	123.5	108 (10.8)	Mushroom Knob	Y	N	N	N	N	N	N	Fdry	Bk or Yr	N	NA	1862-64	136+	17	Solid	Cast iron

6.4" MLR / 10" SB Confederate Columbiad Comparison



Spot the difference?



6.4" MLR / 10" SB Confederate Columbiad



10-inch Columbiad smoothbore cannon located in Confederate Fort Johnson, Charleston, S.C. This cannon was most likely manufactured by Tredegar Iron Works in Richmond, Virginia. Note the ax marks that disabled the wooden carriage. Wartime photograph by George N. Barnard. Courtesy Library of Congress.

8"/64pdr Smoothbore (SB) Confederate New Columbiad M.1861

- Not known number cast by Tredegar Ironworks (1 survivor)
- Original to Fort Pulaski
- Example – Fort Pulaski, GA (cast in 1861)

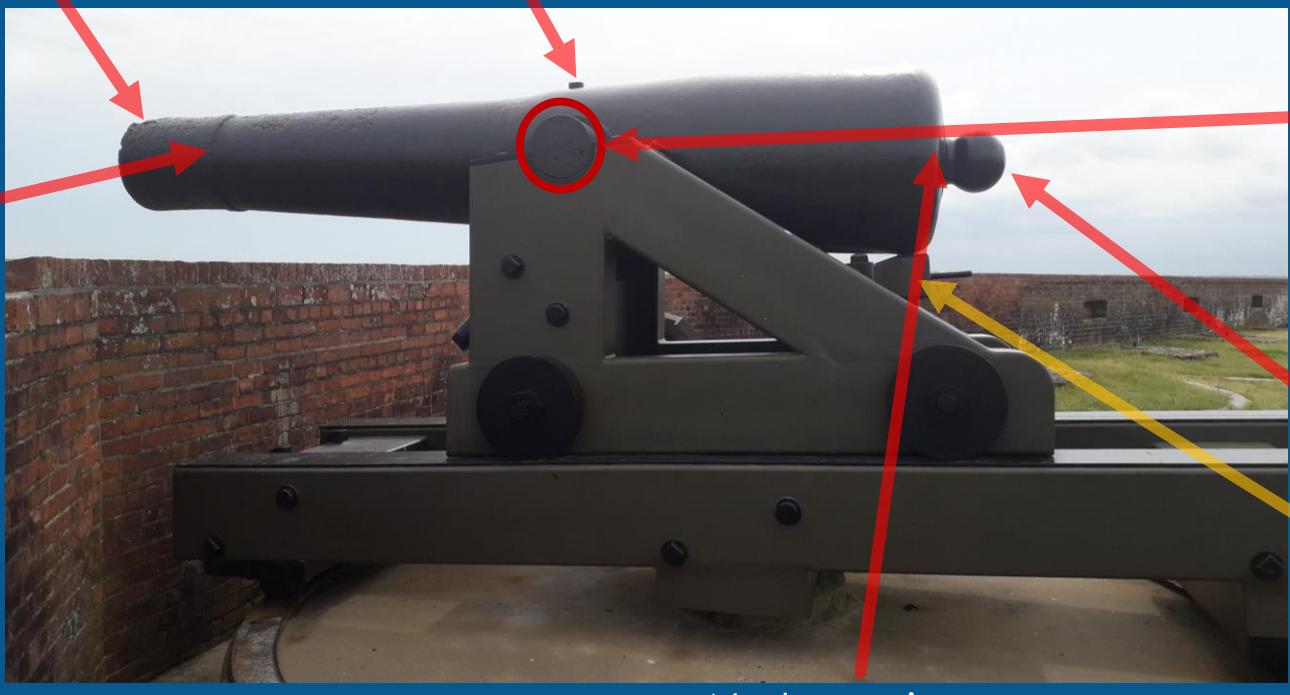


Pattern / Name	Identity		Projectile & Charge			Weights & Measures					Features					Imprint			Performance		Production & Materials												
	Natio nalitu e	Calibr e (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunni on diam ()	Weight Ratio	Weight (lb)	Tube Length ()	Bore lenot h (")	Cascabel	Breech base	Sigh t	Chase band	Muzz le/Cas ing	Breac h/Cas ing	Base Ring	Tube Inscripti on	Rt Trunni on	Lt Trunni on	Muzzle Inscripti on	Range deg	Max Range (yds)	Foundry (US)	Foundr y (CS)	Finish	Casting Years	Total Cast	Surviv ors (USA)	Castin g Meth	Metal Tube
M.1861 New Columbiad	CS	8	Columbiad	SB	68	U	10-15	8	136.7	9,460	120.5	U	Knob	N	Y	Y	Y	U	N	U	Fdry	Yr	U	2,665	2,665	N	TIW	U	1861-?	1?	1	U	Cast Iron

8"/64pdr SB Confederate New Columbiad M.1861 - Key Recognition Features

'Modest' muzzle swell, SB

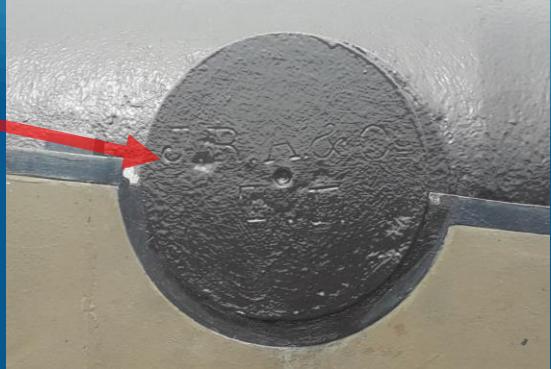
Sight boss



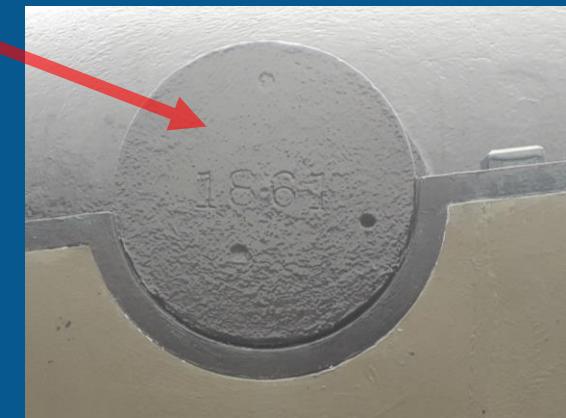
No base ring



Right Trunnion:
'J.R.A.&Co T.F.'
Joseph Reid
Anderson &
Co., Tredegar
Foundry



Left Trunnion:
'1861'.
Dia. 8"



Knob
Quoin

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials								
	Natio nality	Calibr e (C)	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charg	Trunni on diam	Weight Ratio	Weight (lb)	Tube Length	Bore lenat	Cascabel	Breech base	Sigh t Ba	Chase band	Muzz le Sw	Breac h/Cas cab	Base Ring	Tube Inscripti on	Rt Trunnion	Lt Trunnion	Muzzle Inscripti on	Range (yds)	Max Range (yds)	Foundry (US)	Foundr y (CSI)	Finish	Casting Years	Total Cast	Surviv ors (USA)	Castin g Meth	Metal Tube
M.1861New Columbiad	CS	8	New Columbiad	SB	68	U	10-15	8	136.7	9,460	120.5	U	Knob	N	Y	Y	Y	U	N	U	Fdry	Yr	U	2,665	2,665	N	TLW	U	1861-?	1?	1	U	Cast Iron

10"/128pdr SB Rodman Columbiad M.1861

- 1,291- 1,301 cast by Fort Pitt, Seyfert, McManus & Co. West Point and Cyrus Alger & Co. 1861 - 67 (99 survivors)
- 'freeze cast iron from the inside' – 'hollow casting'
- Example – Fort Clinch, FL



Identity												Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials			
Pattern / Name	Referr ed to as	Natio nalitu	Mod. Or. Ori	Calibr e (")	Artillery Type	Cham bered	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunni on diam	Weight Ratio of Tube (lb)	Weight (lb)	Tube Length (")	Bore lenot h (")	Cascabel	Breach base Rach	Sight Boss	Breach /Casca bel	Base Ring	Tube Inscripti on	Rt Trunnion	Lt Trunnion	Muzzle inscripti on	Range deg	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Surviv ors (USA)	Castin g Met	Metal Tube			
Rodman M.1861	128pdr	US	Orig	10	Columbiad	N	SB	128	102	15	10	117.6	15,509 or 15,050	136.66	112.5 (12)	Mushroom Knob	Y	Y	N	N	U	Bk	U	U	4,836	FPP, SF, WPF, C	1861-67	1291OR 1,301	99	Rodman	Cast Iron hollow				

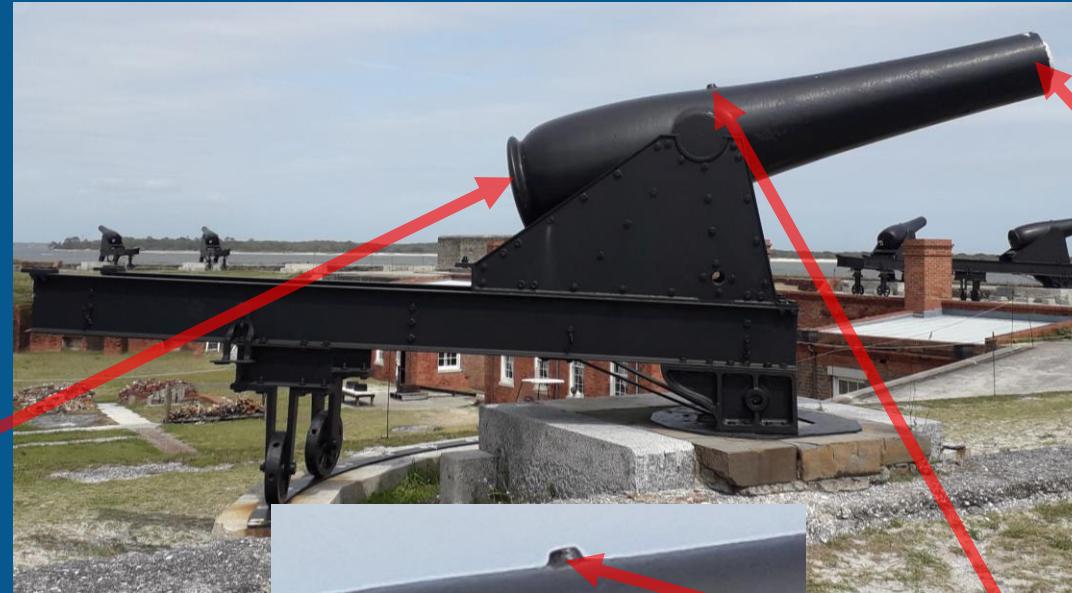
10"/128pdr Smoothbore (SB) Rodman Columbiad M.1861 - Key Recognition Features



Left: Mushroom knob, 8 x breech base sockets & rachets
No base ring



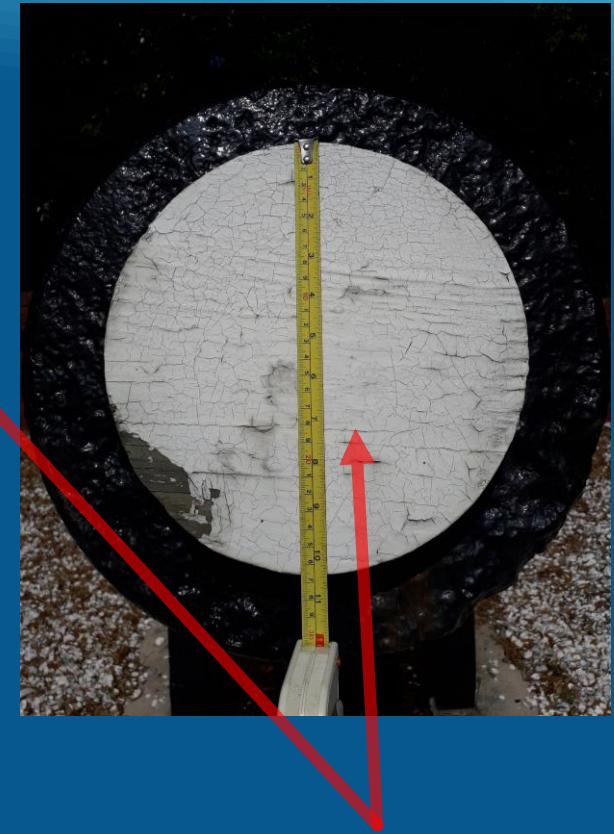
Mushroom knob & 9 x breech base sockets & rachets.
No base ring



Right Trunnion:
No inscription,
dia. 10"



Sight boss



Muzzle:
No markings discernible,
dia. 10"
No muzzle swell or chase
band [different gun]

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials						
	Referr ed to as	Natio nalit y	Mod. Or. Ori	Calibr e (")	Artillery Type	Cham bered Type	Bore Type	Wt of Shot (lb)	Wt of Shell (lb)	Wt of Powder Charge	Trunn ion Ratio	Weight (lb)	Tube Length (")	Bore Length (")	Cascabel	Breech base Rach	Sight Boss (Casca bel)	Breach Ring	Base Inscripti on	Tube Inscripti on	Rt Trunn ion Inscripti on	Lt Trunn ion Inscripti on	Muzzle Inscripti on	Range (yds) 15 deg	Max Range (yds)	Foundry (US)	Casting Years	Total Cast	Surviv ors (USA)	Castin g Meth	Metal Tube
Rodman M.1861	128pdr	US	Orig	10	Columbiad	N	SB	128	102	15	10	117.6	15,509 or 15,050	136.66	112.5 (12)	Mushroom Knob	Y	Y	N	N	U	Bk	U	U	4,836	PPF, SF, WPF, C	1861-67	1291OR, 1,301	99	Rodman	Cast Iron hollow

10"/128pdr Smooth Bore (SB) Rodman Columbiad M.1861 – Modified post Civil War

- Example Government St., Mobile AL
- Sleeved to 8" MLR 1876 - 1887



<https://www.apr.org/news/2022-06-17/mobiles-cannon-of-many-colors-and-pride-month>

<https://www.flickr.com/photos/fancyhorse/408127358/>

Civil War cannon on Government Street in Mobile Alabama | Carmen K. Sisson | Photographer (photoshelter.com)

A Civil War cannon stands on Government Street, in Mobile, AL. The cannon, which weighs more than 16,000 pounds, was used at Fort Morgan during the Civil War. The cannon has been at the intersection of Government Street and Houston Street since 1953 and is a local landmark.

PART III

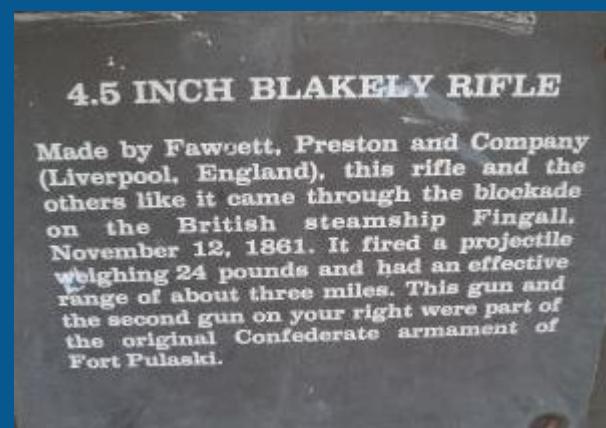
Rifled Artillery

A cannon “which has certain spiral grooves cut into the surface of its bore, for the purpose of communicating a rotary motion to a projectile around an axis coincident with its flight.”

Ordnance and Gunnery, 1862 p167-168

4.5"/24pdr Muzzle Loading Rifle (MLR) Blakely Siege

- British but never used by UK armed forces
- Not known number cast (3 survivors in USA)
- Example – Fort Pulaski, GA (cast by Fawcett Preston & Co. Liverpool, England, 1861) – original to the fort



[4.5 Inch Blakely Rifle Historical Marker \(hmdb.org\)](https://www.hmdb.org)

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials								
	Referred to as	Nationality	Mod. or Ori.	Caliber (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shc	Wt of Shell (lb)	Wt of Canister	Wt of Powder Charge	Trunnion diam	Weight of Tube (lb)	Tube Length (")	Cascabel	Banded (Single or Double)	Sight Boss	Rifling Grooves	Breach / Cascabel	Base Ring	Tube Inscripti on	Rt Trunnion Inscripti on	Lt Trunnion Inscripti on	Muzzle Inscripti on	Range (yds) 15 deg	Max Range (yds)	Foundry (CSU)	Casting Years	Survivors (USA)	Metal Tube	Metal Band
Blakely	24pdr	UK	Orig	4.5	Gun	MLR	24	23	NK	U	NK	4.75	4,700	96" + Cascabel	Square Ring	Double	N	7/8t	U	U	U	Bk	Bk or Yr	N	U	about 3 miles'	FP&Co	?-1861-?	3	Cast Iron	Wrought iron or steel

4.5"/24pdr Blakely Siege MLR - Key Recognition Features

No muzzle swell or chase
band or inscription but rifling



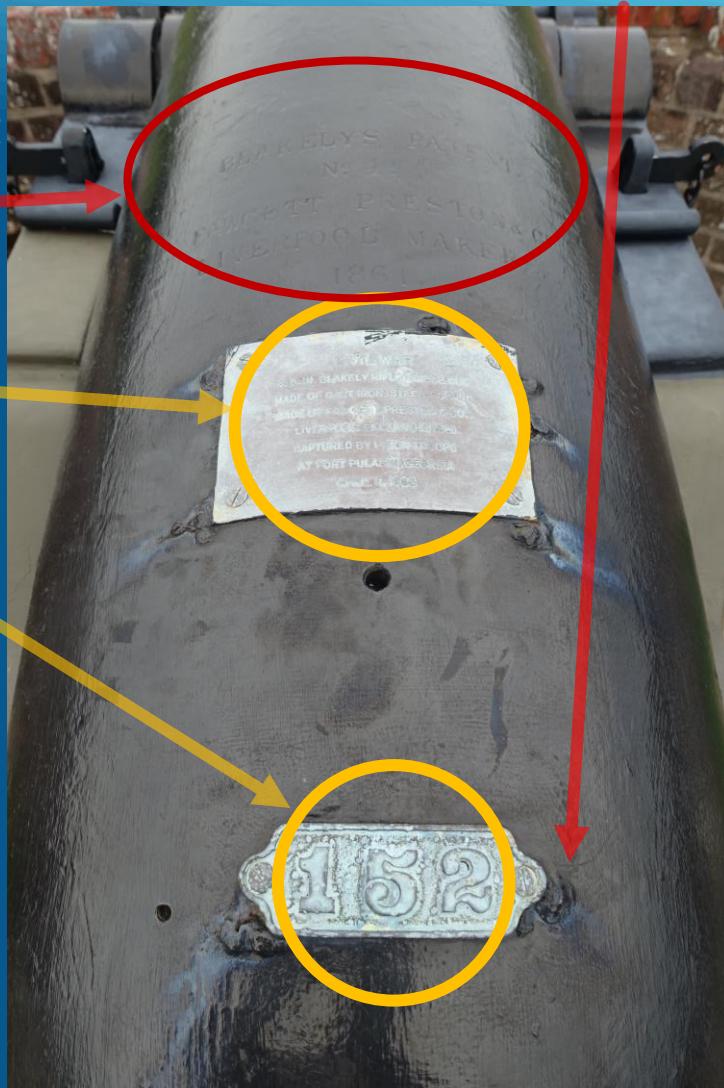
Double banded



No sight
boss

'BLAKELY'S PATENT
/ No 43 / FAWCETT
PRESTON & Co /
LIVERPOOL.MAKER
S / 1861'

No base ring



Trunnions: 4.75" dia.
Left: Blank. Right: '86'

169

Pattern / Name	Referred to as	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials							
		Nationality	Mod. Or Ori	Caliber (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shc	Wt of Shell (lb)	Wt of Canister	Wt of Powder Charge	Trunnion diam	Weight of Tube (lb)	Tube Length (")	Cascabel	Banded (Single or Double)	Sight Boss	Rifling Groove	Breach/Cascabel	Base Ring Inscrip	Tube Inscription	Rt Trunnion Inscrip	Lt Trunnion	Muzzle inscription	Range (yds) 15 deg	Max Range (yd)	Foundry (CSIL)	Casting Years	Survivors (USA)	Metal Tube	Metal Band
Blakely	24pdr	UK	Orig	4.5	Gun	MLR	24	23	NK	U	NK	4.75	4,700	96" + Cascabel	Square Ring	Double	N	7/8t	U	U	U	Bk	Bk or Yr	N	U	about 3 miles*	FP&Co	?-1861-?	3	Cast Iron	Wrought iron or steel

4.2"/30pdr MLR Army Parrott (2nd Pattern)

- 391 cast by West Point Foundry and accepted by the Army 1861 – 66 (198 survivors)
- Example – Grant's HQ Savannah, TN
- Inspected by RMH – Richard Mason Hill



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials								
	Referr ed to as	Natio nalitu y	Mod Or igin	Calibr e (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shd	Wt of Shell (lb)	Wt of Powder Charg	Trunni on diam	Weight Ratio of Tube (lb)	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Banded (Single Doubl	Sight Boss	Chase band	Riflin g Gro	Tube Inscripti on	Rt Trunnion	Lt Trunnio	Muzzle Inscripti on	Range (yds) 15 deg	Max Range (yds)	Penetrati on	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band
Parrott (Army) 2nd pattern	30pdr	US	Orig	4.2	Gun	MLR	29 or 29.2	29	25 or 26.5	3-3.5	5.3	140	4,200	131.5	120 (28.6)	Drilled Knob	N	Single	N	N	Gain twist 5/Rt	US	Fdry Owner	Proj. Wt.	Wt/No/yr/ Fdry/Call ns	4,800	6,700	18" of masonry with shot.	WPF	1862-66	198 both patterns	Cast iron	Wrought iron

4.2"/30pdr Army Parrott MLR (2nd Pattern) - Key Recognition Features



Single banded



Rear sight
threading

Drilled
knob



The face of the left trunnion confirms the weight of the projectile



The face of the right trunnion has the initials 'RPP' - Robert Parker Parrott. Dia 5.3"

The muzzle showing the rifling but no swell or chase band.
Muzzle inscription:
'4205' = Barrel weight in lbs
'No 328' = Army Registry No.
'1864' = Year of Manufacture
'W.P.F.' = West Point Foundry
'4.2' = Calibre in inches
'RMH' = Richard Mason Hill

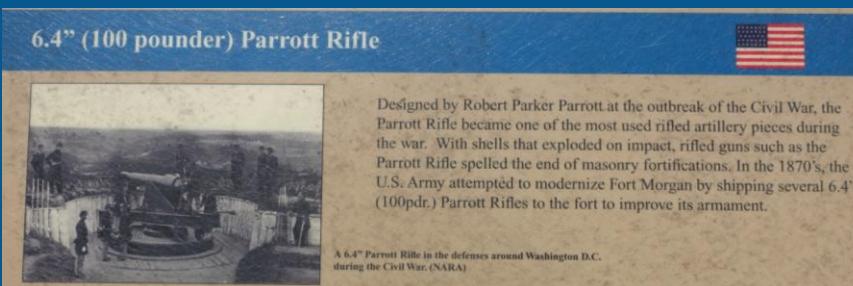


The right trunnion with the fore sight thread, '328'.

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials								
	Referr ed to as	Natio nalitu y	Mod. Or igin	Calibr e (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shd	Wt of Shell (lb)	Wt of Powder Charg	Trunni on diam	Weight Ratio of Tube (lb)	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Ring	Banded (Single or Doub l)	Sight Boss	Chase band	Riflin g Gro	Tube Inscripti on	Rt Trunnion Inscripti on	Lt Trunnion Inscripti on	Muzzle inscripti on	Range (yds)	Max Range deg	Penetrati on	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band
Parrott (Army) 2nd pattern	30pdr	US	Orig	4.2	Gun	MLR	29 or 29.2	29	25 or 26.5	3-3.5	5.3	140	4,200	131.5	120 (28.6)	Drilled Knob	N	Single	N	N	Gain twist 5/Rt	US	Fdry Owner	Proj. Wt.	Wt/No/yr/ Fdry/Call ns	4,800	6,700	18" of masonry with shot.	WPF	1862-66	188 both patterns	Cast iron	Wrought iron

6.4"/100pdr Army Parrott MLR

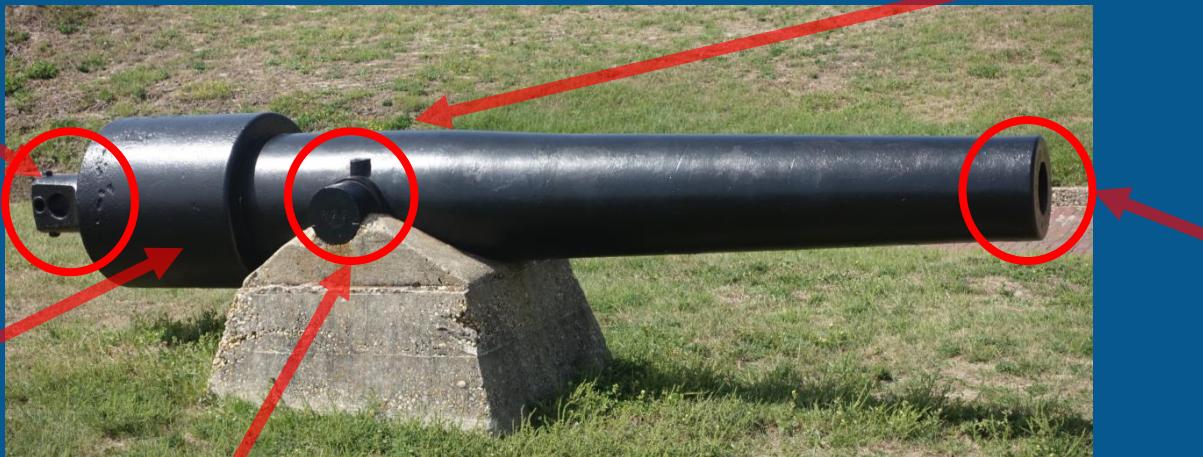
- 233 cast by West Point Foundry and accepted by the US Army 1861 – 1865 (53 survivors)
- Example - Fort Morgan, AL (cast by West Point Foundry, Jan 17, 1863)



Pattern / Name	Referr ed to as	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials											
		Natio nalit y	Mod. Or	Calibr e (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shc	Wt of shell (lb)	Wt of Powder Charg	Trunni on diam	Weight (lb)	Weight of tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Rina	Banded (Single, Doub)	Sight Boss	Chase band	Riflin g Gro	Muzzl e Sw	Breac h Cascab el	Base Ring	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range (yds) 15 deg	Max Range (yds)	Penetration	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band
Parrott - Army	100pdr	US	Orig	6.4	Gun	MLR	NA	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	N	N	N	US	Fdry Owner	Proj Wt.	Wt/No/ Yr/ Fdry/ Calib ns	U	8,453	NK	WPF, FPF?	1861-65	53/54	Cast iron	Wrough iron
Parrott - Navy	100pdr	US	Orig	6.4	Gun	MLR	NA	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	N	N	N	Own/N o/ Wt	Yr/Proj Wt	P	N	U	8,453	U	WPF	1861-65	31/32	Cast iron	Wrough iron

6.4"/100pdr Army Parrott MLR - Key Recognition Features

Breeching jaws with enclosed pinned block



Single Banded (Wrought iron)



Right trunnion:
engraved 'R.P.P.' =
Robert Parker Parrott
and sight boss above.

Left trunnion:
engraved
'100 PDR'



'US' on barrel



No Muzzle swell or chase band but rifling.

'9,827' = Barrel weigh in lbs

'Nº 90' = Army Registry No.

'1863' = Year cast

'W.P.F.' = West Point Foundry

'6.4' = Calibre in inches

'AM' = Alfred Mordecai

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance				Production & Materials											
	Referr ed to as	Natio nality	Mod el	Calibr e (")	Artillery Type	Bore Type	Wt of Shot (lb)	Wt of cored shc	Wt of Shell (lb)	Wt of Powder Charge	Trunn ion diam	Ratio of Tube length (")	Bore length (")	Cascabel	Base Ring	Banded (Single/ Doubl e)	Sight	Riflin g	Muzzl e /Casca bel	Breach Ring	Base	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range (yds)	Max Range (yds)	Penetration	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band		
Parrott - Army	100pdr	US	Orig	6.4	Gun	MLR	NA	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	N	N	US	Fdry Owner	Proj Wt.	Wt/No/yr Fdry/Call ins	U	8,453	NK	WPF, FPF?	1861-65	53/54	Cast iron	Wrough iron
Parrott - Navy	100pdr	US	Orig	6.4	Gun	MLR	NA	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	N	N	Own/IN o/wt	Yr/Proj Wt.	P	N	U	8,453	U	WPF	1861-65	31/32	Cast iron	Wrough iron

6.4"/100pdr MLR 'Navy' Parrott MLR

- 352 cast by West Point Foundry and accepted 1861 – 1865 (31 or 32 survivors)
- Example – Reg# 17 Navy markings but data agrees with US Army records!
- Example - Fort Gaines (cast in 1862)



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features								Imprint			Performance			Production & Materials						
	Referr ed to as	Natio nalitu	Mod. Or Ori	Calibr e (")	Artillery Type	Bore Type	Wt of cored shc	Wt of Shell (lb)	Wt of Powder Charge	Trunni on diam	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length ("	Cascabel	Base Rino	Banded (Single or Doubl	Sight Boss	Chase band	Riflin g Gro	Muzzl e Sw	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range (yds) 15 deg	Max Range (yds)	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band
Parrott - Navy	100pdr	US	Orig	6.4	Gun	MLR	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	Own/N o/wt	N	Yr/Proj Wt	P	N	U	8,453	WPF	1861-65	31/32	Cast iron	Wrought iron
Parrott - Army	100pdr	US	Orig	6.4	Gun	MLR	71 or 84 or 100	80-90	10	8	98	9,800	154.25	130 (20.3)	breeching jaws with enclosed pinned	N	Single	Y	N	Gain twist 9/Rt	N	N	US	Fdry Owner	Proj Wt.	Wt/No/Yr/ Fdry/Call ns	U	8,453	WPF, FPF?	1861-65	53/54	Cast iron	Wrought iron

6.4"/100pdr 'Navy' Parrott MLR - Key Recognition Features

Banded



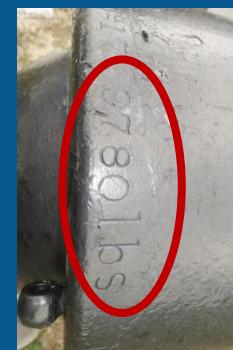
Breeching jaws
with enclosed
pinned block



'R.P.P N° 17'
Robert Parker
Parrott



'9780 lbs'



The muzzle (no
swell or chase
band) showing
the rifling but
no inscription



Right trunnion: Sight boss.
Inscription '1862' &
'100PDR'



Left trunnion: Inscription
'P' = Proofed



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features							Imprint			Performance			Production & Materials			
	Referred to as	Nationality	Model	Caliber (")	Artillery Type	Bore Type	Wt of cored shell	Wt of Shell (lb)	Wt of Powder Charge	Trunnion diam	Base Rinn.	Banded (Single or Double)	Sight Boss	Chase band	Rifling	Muzzl e	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range 15 deg	Max Range (yds)	Foundry (US)	Casting Years	Survivors (USA)	Metal Tube	Metal Band	
Parrott - Navy	100pdr	US	Orig	6.4	Gun	MLR	71 or 84 or 100	80-90	10	8	N	Single	Y	N	Gain twist 9/Rt	N	Own/N col/wt	N	YrlProj Wt	P	N	U	8,453	WPF	1861-65	31/32	Cast iron	Wrought iron	
Parrott - Army	100pdr	US	Orig	6.4	Gun	MLR	71 or 84 or 100	80-90	10	8	N	Single	Y	N	Gain twist 9/Rt	N	N	US	Fdry Owner	Proj Wt.	Wt/No/Yrl Fdry/Call ns	U	8,453	WPF, FPF?	1861-65	53/54	Cast iron	Wrought iron	

8"/200pdr - Army Parrott MLR, M.1861

- 91 cast by West Point Foundry and accepted by the Army 1862 – 65 (8 survivors)
- Example - Fort Gaines, No. 50 (cast Jun 1864)
- Example - Inspected by Richard Mason Hill



Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance			Production & Materials									
	Referr ed to as	Natio nality	Mod. Or. Ori.	Calibr e (")	Artillery Type	Bore Type	Wt of cored shc	Wt of Shell (lb)	Wt of Powder Charg	Trunni on diam	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Base Rinn	Banded (Single Doub)	Sight Boss	Chase band	Riflin g Gro	Muzzl e Sw	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range (yds)	Max Range deg	Foundry (US)	Casting Years	Surviv ors (USA)	Metal Tube	Metal Band
Parrott (Army)	200pdr	US	Orig	8	Gun	MLR	NK	200	16	10	82.5	16,500	162	136	Breeching jaws with enclosed pinned	N	Single	Y	N	11/RH Gain twist	N	U	US	Own	Bk	Wt/No/Yr/ Fdry/Calif/ ns	U	8,000	WPF	1862-1865	8	Cast iron	Wrought iron
Parrott (Navy)	150pdr	US	Orig	8	Gun	MLR	NK	150	16	10	110	16,500	162	136	Breeching jaws with enclosed pinned block	N	Single	Y	N	11/RH Gain twist	N	U	U	U	U	U	U	8,000	WPF	1861-?	0	Cast iron	Wrought iron

8"/200pdr - Army Parrott MLR, M.1861 - Key Recognition Features



Breeching jaws
with enclosed
pinned block

Single banded

'US' on barrel



Sight boss
Right trunnion:
Inscribed 'RPP' =
Robert Parker
Parrott.



Left trunnion:
Blank?



The muzzle showing
'16482' = Barrel weight in lbs
'No 50' = Army Registry No.
'1864' = Year of Manufacture
'W.P.F.' = West Point Foundry
'8' = Calibre in inches
'RMH' = Richard Mason Hill

No muzzle
swell, or chase
band

Pattern / Name	Identity				Projectile & Charge				Weights & Measures				Features				Imprint				Performance			Production & Materials									
	Refered to as	Nationality	Mod. Or. Ori.	Calibr e (")	Artillery Type	Bore Type	Wt of cored shc	Wt of Shell (lb)	Wt of Powder Charge	Trunnion diam	Weight Ratio	Weight (lb)	Tube Length (")	Bore length (")	Cascabel	Base Rinn	Banded (Single or Doubt)	Sight Boss	Chase band	Riflin g Gro	Muzzl e Sw	Band	Tube	Rt Trunnion	Lt Trunnion	Muzzle	Range (yds) 15 deg	Max Range (yds)	Foundry (US)	Casting Years	Survivors (USA)	Metal Tube	Metal Band
Parrott (Army)	200pdr	US	Orig	8	Gun	MLR	NK	200	16	10	82.5	16,500	162	136	Breeching jaws with enclosed pinned block	N	Single	Y	N	11/RH Gain twist	N	U	US	Own	Bk	Wt/No/Yrl Fdry/Califns	U	8,000	WPF	1862-1865	8	Cast iron	Wrought iron
Parrott (Navy)	150pdr	US	Orig	8	Gun	MLR	NK	150	16	10	110	16,500	162	136	Breeching jaws with enclosed pinned block	N	Single	Y	N	11/RH Gain twist	N	U	U	U	U	U	U	8,000	WPF	1861-?	0	Cast iron	Wrought iron



Wartime photographer Samuel A. Cooley captured the gun crew of this 8-inch, 200-pounder Parrott rifle in Fort Chatfield on Morris Island. (Library of Congress)



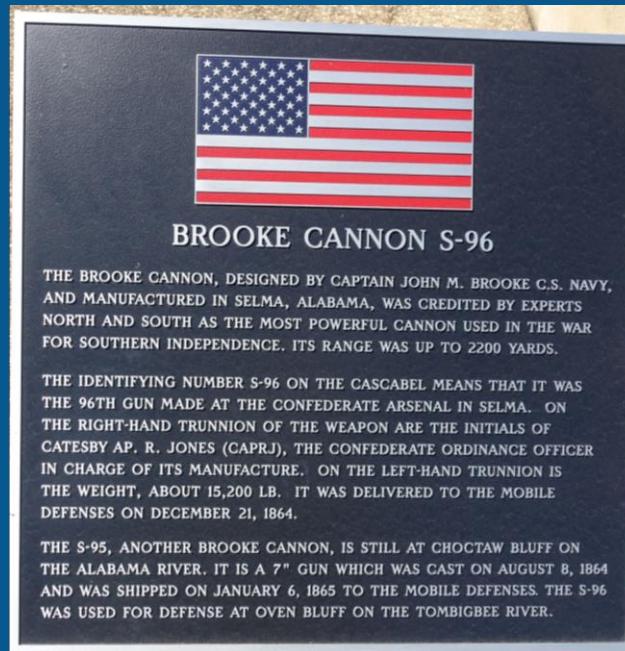
7"/100pdr Brooke Double Banded MLR – ‘Cut away’

Double
banded



6.4"/80pdr Brooke Double Banded MLR

- At least 38 double banded cast by Tredegar Ironworks and Selma Naval Gun Foundry and accepted 1862 – 1863 (9 survivors)
- Single Banded at least 11 cast and accepted 1861 – 1862 (2 survivors, both from the CSS Atlanta)*
- Example – Jackson, AL. S-96, cast in Selma Aug 9, 1864 and shipped to Mobile Dec 21, 1864
- Designed by Confederate John Mercer Brooke



Pattern / Name	Referred to as	Identity			Projectile & Charge				Weights & Measures						Features				Imprint				Performance			Production & Materials						
		Nation ality	Calibre (")	Artillery Type	Bore Type	Wt of cored shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (lb)	Preponde rance	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel	Banded (Single/Double)	Sight Boss	Rifling Groves	Breach/ Cascabel	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (CS/UK)	Finish	Casting Years	Total Cast	Survivors (USA)	Metal Tube	Metal Band
Brooke	80pdr	CS	6.4	Gun	MLR	80	64	8 - 10	NK	7.2	137	10,600 - 10,799	141.85	118.5 (18.5)	Rectangle Breching Jaws with reovable block	Double	Y	7/Rt	U	U	Cal/Insp	Wt/No	No	7,900	8" iron plate	TIW, SNGF	U	1862-64	38 +	9	Cast iron	Wrought iron
Brooke	80pdr	CS	6.4	Gun	MLR	80	64	8 - 10	NK	7.2	118	9,110 - 9,120	141.85	118.5 (18.5)	Rectangle Breching Jaws with reovable block	Single	Y	7/Rt	U	U	U	U	U	7,900	8" iron plate	TIW	U	1861-62	11 +	2	Cast iron	Wrought iron

6.4"/80pdr Brooke Double Banded Rifle - Key Recognition Features



Left trunnion
inscribed 'VI^{4IN}',
'10800'[lbs] & 's 96'



IN CHARGE OF ITS MANUFACTURE. ON THE LEFT-HAND TRUNNION IS
THE WEIGHT. ABOUT 15.200 LB. IT WAS DELIVERED TO THE MOBILE

Sight boss



Rectangular
breeching
jaws with
removable
block marked
'S 96'

Double
banded

Right trunnion
inscribed 'VI^{4IN}' and
'C.ap R.J' = Catesby
ap Roger Jones'



No muzzle swell or
chase band. 'S96'
inscription & rifled

Pattern / Name	Referred to as	Identity			Projectile & Charge					Weights & Measures				Features			Imprint			Performance		Production & Materials										
		Nation ality	Calibre (")	Artillery Type	Bore Type	Wt of cored shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (lb)	Preponde rance	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length (")	Bore length (")	Cascabel (Single/Double)	Banded (Single/Do uble)	Sight Boss	Rifling Groves	Breach/ Cascabel	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (CS/UK)	Finish	Casting Years	Total Cast	Survivors (USA)	Metal Tube	Metal Band
Brooke	80pdr	CS	6.4	Gun	MLR	80	64	8 - 10	NK	7.2	137	10,600 - 10,799	141.85	118.5 (18.5)	Rectangle Breaching Jaws with removable block	Double	Y	7/Rt	U	U	Cal/Insp	Wt/No	No	7,900	8" iron plate	TIW, SNGF	U	1862-64	38 +	9	Cast iron	Wrought iron
Brooke	80pdr	CS	6.4	Gun	MLR	80	64	8 - 10	NK	7.2	118	9,110 - 9,120	141.85	118.5 (18.5)	Rectangle Breaching Jaws with removable block	Single	Y	7/Rt	U	U	U	U	U	7,900	8" iron plate	TIW	U	1861-62	11 +	2	Cast iron	Wrought iron

6.4"/80pdr Brooke Double Banded MLR - Modified to 8"/64pdr SB - Key Recognition Features

- Example – Gainesville, AL. S-96, cast in Selma Aug 9, 1864 and shipped to Mobile Dec 21, 1864



Smoothbore

Left trunnion
inscribed '64[pdr]
10370'[lbs] and 's 96'



Sight boss

Right trunnion
inscribed
'VI⁴IN' [1864]



Double
banded

7"/100pdr Brooke Double Banded MLR

- 72 cast by Tredegar Ironworks and Selma Naval Gun Foundry and accepted 1862 – 1865 (8 survivors)
- Example - Fort Morgan, AL (cast by Selma Naval Ordnance Works in 1864) – Reg No S89
- On average took 6 – 7 weeks to complete at Selma, AL



7" Brooke Rifle

At the beginning of the Civil War, Confederate authorities were faced with the challenge of designing and manufacturing weapons comparable to those of the U.S. Government's. The Brooke Rifle, designed by John Mercer Brooke, was the solution to the U.S. Government's Parrott Rifle. Fort Morgan was armed with two 7" Double Banded Brooke Rifles at the time of the siege in 1864.

The Brooke Rifle on display, number "S89", was cast at the Confederate Naval Works in Selma, Alabama after the surrender of Fort Morgan. Mounted in a fortification north of Mobile, it was dumped into the river at the conclusion of the war.

Pattern / Name	Referred to as	Identity		Projectile & Charge				Weights & Measures					Features				Imprint			Performance		Production & Materials										
		Nation ality	Calibre ("")	Artillery Type	Bore Type	Wt of cored shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (lb)	Preponde rance	Trunnion diameter	Weight Ratio	Weight of Tube (lb)	Tube Length ("")	Bore length ("")	Cascabel	Banded (Single/Double)	Sight Boss	Rifling Groves	Breach/ Cascabel	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (CS/UK)	Finish	Casting Years	Total Cast	Survivors	Metal (USA)	Metal Tube	Metal Band
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	15	NK	8.2	127	14,500 - 15,300	146.15 or 147.4	121 (17.3)	Rectangle Breching Jaws with	Double	Y	7/Rt		U	U	U	U	> 4.5 miles	8" iron plate	TIW, SNGF	U	1861-65	72	8	Cast iron	Wrought iron
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	10-12	NK	8.2	127	15,000	146.05	119.9 (17.1)	Rectangle Breching Jaws with	Single	Y	7/Rt	U	U	U	U	NK	NK	TIW	U	1861-63	19	3	Cast iron	Wrought iron	
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	10-12	NK	7.5	127	20,827	151.2	136 (19.4)	NK	Triple	N	7/Rt	U	U	U	U	7,920	NK	TIW	U	1862	3	1	Cast iron	Wrought iron	

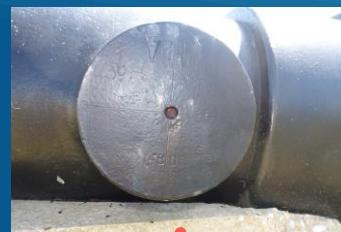
7"/100pdr Brooke Double Banded MLR - Key Recognition Features



Double banded
Rectangular breeching jaws with removable block



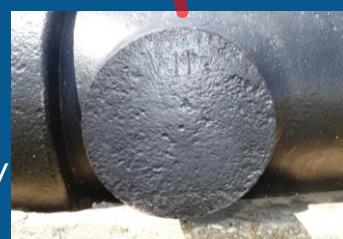
Left trunnion inscribed 'VIIIN', '14800 LDS ?' & 'S89'



Sight boss



No muzzle swell or chase band. Rifled with inscription 'S89'



Right trunnion inscribed 'VIIIN' and 'C.ap R.J' = Catesby ap Roger Jones'

Pattern / Name	Referred to as	Identity		Projectile & Charge				Weights & Measures				Features				Imprint				Performance		Production & Materials										
		Nationality	Calibre ("")	Artillery Type	Bore Type	Wt of cored shot (lb)	Wt of Shell (lb)	Wt of Powder Charge (lb)	Preponderance	Trunnion diameter	Weight of Tube (lb)	Tube Length ("")	Bore length ("")	Cascabel	Banded (Single/Double/Triple)	Sight Boss	Rifling Grooves	Breach/Cascabel	Tube Inscription	Rt Trunnion Inscription	Lt Trunnion Inscription	Muzzle inscription	Max Range (yds)	Penetration	Foundry (CS/UK)	Finish	Casting Years	Total Cast	Survivors (USA)	Metal Tube	Metal Band	
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	15	NK	8.2	127	14,500 - 15,300	146.15 or 147.4	121 (17.3)	Rectangle Breaching Jaws with	Double	Y	7/Rt		U	U	U	U	> 4.5 miles	8" iron plate	TIW, SNGF	U	1861-65	72	8	Cast iron	Wrought iron
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	10-12	NK	8.2	127	15,000	146.05	119.9 (17.1)	Rectangle Breaching Jaws with	Single	Y	7/Rt	U	U	U	U	U	NK	NK	TIW	U	1861-63	19	3	Cast iron	Wrought iron
Brooke	100pdr	CS	7	Gun	MLR	100	92-97	10-12	NK	7.5	127	20,827	151.2	136 (19.4)	NK	Triple	N	7/Rt	U	U	U	U	U	7,920	NK	TIW	U	1862	3	1	Cast iron	Wrought iron



Brooke Works, Selma, AL



Brooke lathe, Auburn University, AL



Clive's Spreadsheet

Currently (Jan 04, 2025) 168 heavy cannon types plus 24 heavy mortars listed

CONCLUSION



Clive Hollick



clivehollick@yahoo.co.uk



Bee Where?

Don't look down or reach in cannon barrels. They may be loaded—with bees, wasps, or black widow spiders. Climbing or sitting on guns in the park is strictly forbidden, and dangerous. Under the Mississippi sun, cannon can get hot enough to burn exposed skin.

Identifying Artillery: Selected Sources

Internet

[Tim Kent's Civil War tales: Sudden Death: Charles S. Stewart \(trrcobb.blogspot.com\)](http://trrcobb.blogspot.com)
[On this day Thursday April 30,... - Fort Morgan State Historic Site | Facebook](http://www.fortmorgan.org)
[Fort Gaines Historic Site | American Battlefield Trust \(battlefields.org\)](http://battlefields.org)
[Fort Gaines - Big Gun! \(youtube.com\)](http://www.youtube.com)

Books, Magazines, Leaflets

The Big Guns (Museum Restoration Service, 1997)
The Artilleryman Magazine.com
The River Batteries at Fort Donelson (2021)
Ordnance and Gunnery (1862)
Fort Pulaski National Monument – Artillery Map
A Field Guide to The Artillery of Vicksburg National Mil. Pk., MS

Visits

Fort McAllister, Fort Pulaski, GA
National Civil War Naval Museum, GA
Fort Clinch, FL
Fort Gaines, Fort Morgan, Mobile History Museum, AL
Selma, Gainesville, Jackson, AL
Savannah, Fort Donelson, Shiloh National Military Park, TN
New Orleans, LA
Vicksburg National Military Battlefield Park, MS

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