

Gun Carriage Castings



For Museums and Collectors

Museum and Collector Specialties Company
38 E. Elm Ave
Monroe MI, 48162

Original 19th century field gun carriages are rare. A current inventory of historic gun tubes in the United States records over 5000 surviving cannon. We estimate the number of surviving gun carriages for them at much less than 10% of that number. Most all of the historic carriages owe their survival to the fact that they were owned by States or small municipalities or were purchased very early by collectors. Our cover photo demonstrates the systematic destruction of these assets, by our national government.



The photo above is reported to be a pile of gun carriages prepared for burning at the US Arsenal, Watervliet, in Troy NY. The date is probably about 1900. This practice may have been common at ordnance depots around the United States.

Our little company is dedicated to assist those who are now inspired to recreate these lost items.

Background

I built my first cannon carriage in 1960, using a line drawing of a field carriage from an old Bannerman catalog. After I discovered an original carriage in a nearby town, I was amazed at the difference. Later I became familiar with the engineering lithographed plans published in 1849 by Capt. Alfred Mordeci. They document the best known American carriage system of the 19th century. About the same time I began making several trips a year to Bannerman's Island, collecting anything I could recognize as a gun carriage part.

Study of US nineteenth century field gun carriages has continued to be a major activity for me. I have collected a number of original carriages and documented many others. These carriages were well engineered for the purpose intended and I feel reproductions of them must be equal or better in materials, strength, texture and weight. For this reason the forged iron parts are reproduced here as steel investment castings. Bronze and cast iron are only used where called for originally.

This is a part-time, one person business serving individuals, institutions, and other small businesses that build gun carriages. Orders are filled as quickly as possible, but it is not possible to keep everything in inventory at all times for instant shipment. Plan ahead.

In most all cases we are reproducing parts directly from original samples. Some provision can be made to compensate for normal shrinkage but for the most part these steel pieces will be .025 inches per inch smaller than the original parts. For most gun carriages made before the 1880's this shrinkage is no more than normal variation found on the original carriages, from one arsenal or contractor or another. Since I normally base everything on an existing part in, preference to a drawing, some of the wear patterns on the original part is translated into the copy. In some cases where original parts are very pitted, they are restored somewhat with temporary fillers before mold impressions are lifted. Virtually all parts will require some further removal of casting gates, mold parting lines, and other finishing.

Sales Policy

CASH with order.

We do not accept Credit Cards, but we are able to handle funds through PayPal.

Orders using PayPal, must be submitted for quotation and confirmation of inventory availability. We will return an electronic or written invoice which must then be paid in full through PayPal procedures before shipment will be made. If possible, please use the order blank in the back of this catalog.

All prices are Customer-Direct; no wholesale or dealer pricing is available.

Prices are subject to change without notice.

Phone Calls: Our land line phone is: 734-243-6347. If you need to leave a recorded message, please speak S L O W L Y, especially when leaving a phone number for a return call.

Availability

Most of the items in this catalog were created to meet a personal need in my restoration work. All are from tooling which is in service. I try to keep a reasonable supply of everything on hand which will vary from a single casting to enough for several carriages of the same model. Foundry deliveries on additional parts can vary from one month to half a year depending on the economy. All our parts are made in the USA.

Shipping

Minimum shipping on books is \$3, on castings \$6 for orders under \$50.

On larger orders:

Eastern Time Zone, add 7% of the total order on metal parts

Central Time Zone, add 8% of the total order on metal parts

Mountain Time Zone, add 9% of the total order on metal parts

Pacific Time Zone, add 11% of the total order on metal parts.

For wood products such as spokes and rammer staves, increase the shipping factor by one-half, due to the higher cost of shipping, relative to the value of the product.

International shipments are handled on an individual basis.

Returns

I do not usually paint parts so what you see is what you get.

You may return any unaltered casting for full refund, less my shipping cost, within 6 weeks of receipt.

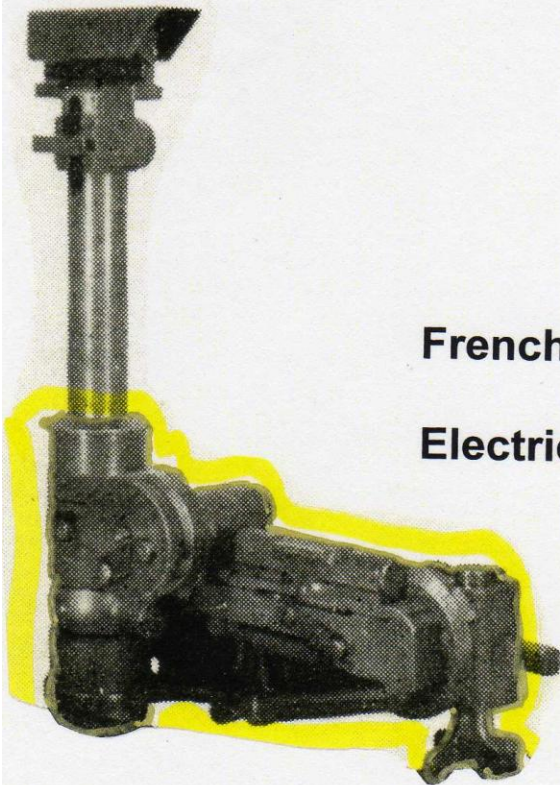
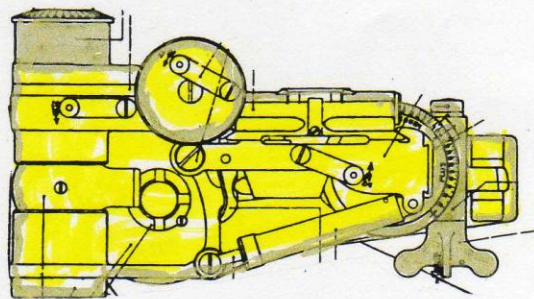
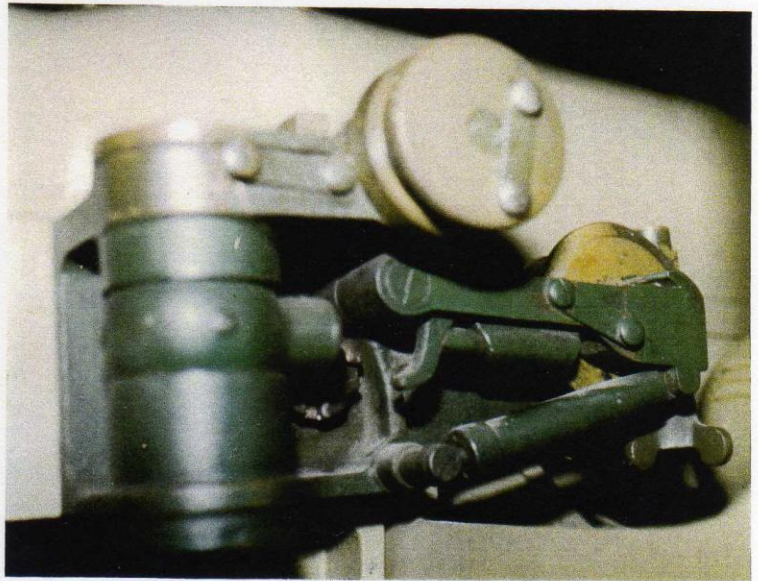
Plans and Drawings

We do not have plans or drawings. We recommend: Antique Ordnance Publishers, Box 434, Port Huron, MI 48060

Wanted:

**M1901 (French)
75mm Sight**

**(Especially the lower
Mechanism)**



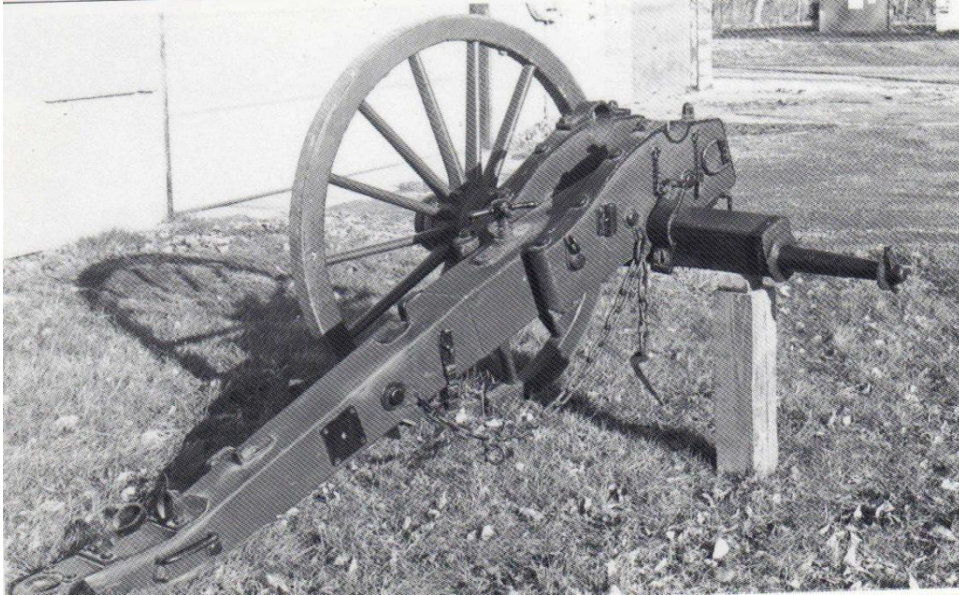
French manufacture or by

Electric Auto-Lite Corp., Toledo Ohio

**Contact:
Matt Switlik
38 E. Elm Ave
Monroe, MI 48162
U.S.A.**

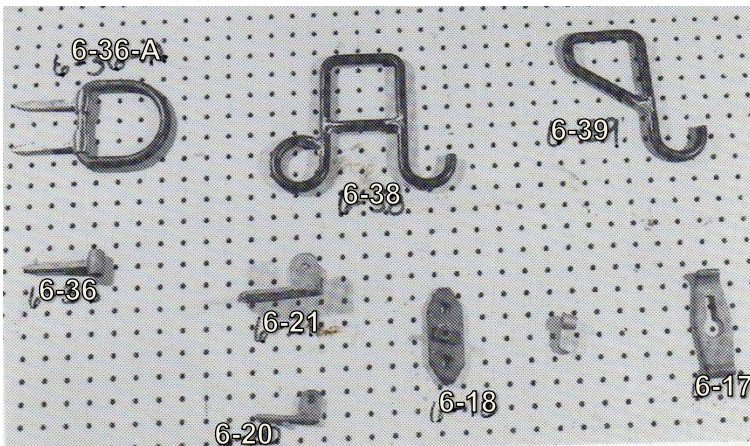
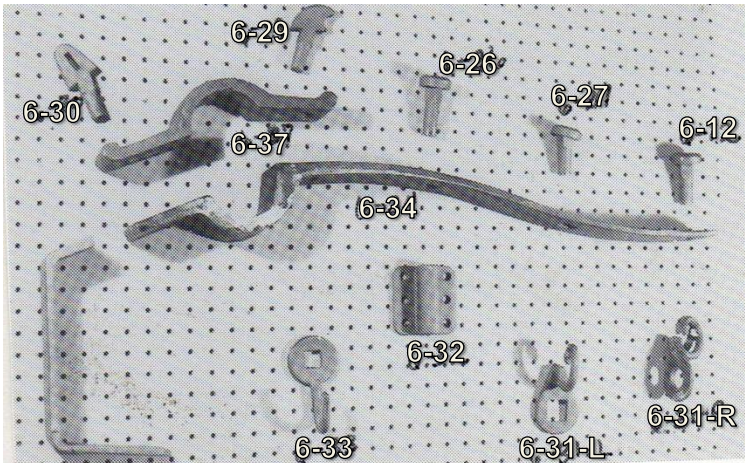
**Email:
museumandcollector@gmail.com**

US No. 1 Field Gun Carriage, 1841 Pattern



This carriage was developed by the US from a French pattern (1827), and became standard after 1841. It fit a variety of gun tubes. It is recorded in the 1849 lithograph edition of *Artillery for the Land Service of the United States*. Castings are made from an original carriage made at Watervliet Arsenal, dated 1848.

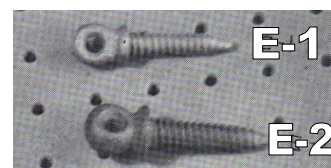
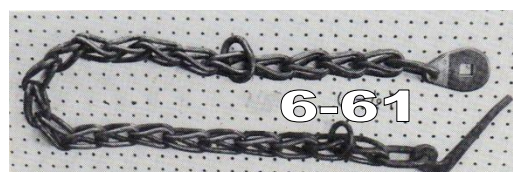
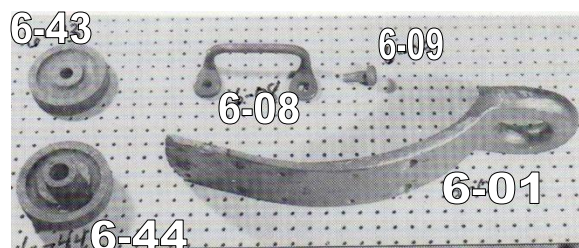
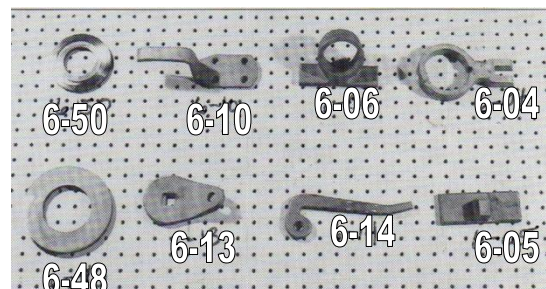
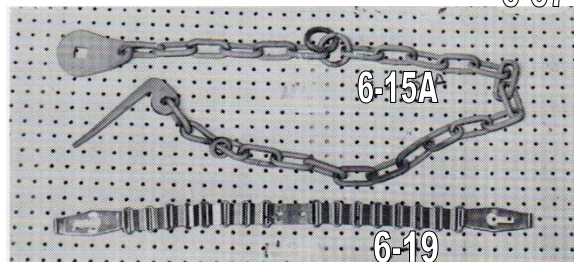
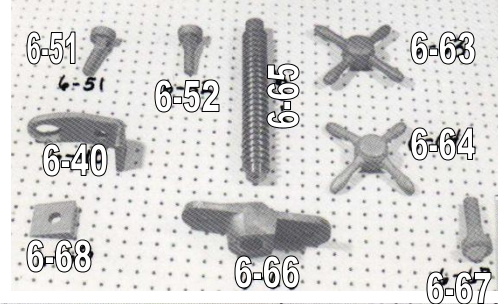
1841, No.1 Carriage



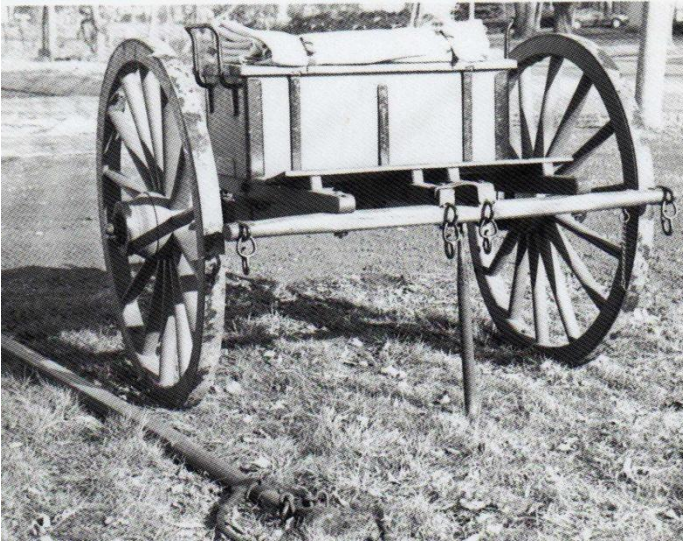
Part #	Description	Cost (\$)
601	Lunette	\$225.00
604	Folding Point Ring	\$60.00
605	Folding Ring Base	\$30.00
606	Upper Point Ring	\$60.00
608	Trail Handle	\$45.00
609	Tr. Handle Bolt Head	\$18.00
610	Prolonge Hook	\$40.00
611	Wheel Guard Plate	\$20.00
612	Bolt Head (3/4)	\$19.00
613	Lock Chain Earplate (only)	\$32.00
614	Lock Chain Handle (only)	\$32.00
615a	Lock Chain Assy	\$120.00
616	Sponge & Rammer Stop	\$16.00
617	Sponge Chain Hasp	\$20.00
618	Sponge Chain Earplate	\$22.50
618a	SP Chain Assy	\$42.50
619	Sponge Chain Assy	\$90.00
620	Worm Key	\$13.00
621	Worm Earplate	\$25.00
622	SP Ch Brass Turnkey (only)	\$12.50
625	Sq Nut 3/4 x 2"	\$12.00
	Strip of 5 nut blanks Not	
625S	Threaded	\$35.00
626	Bolt Head, 3/4", Slight Angle	\$20.00
627	Bolt Head, 3/4", Middle	\$20.00
629	Chin Bolt Head	\$20.00
630	Eye Bolt Head	\$18.00

1841, No.1 Carriage Cont.

Part #	Description	Cost (\$)
631R	H.S. Washer Hook (RD)	\$30.00
631L	H.S. Washer Hook (SQ)	\$30.00
632	Linstock Socket	\$28.00
633	Lockchain Washer Hook	\$30.00
634b	Trunnion Plate Assy, W' Cap SQ. Bored to Match	\$375.00
636	D-Ring Nail (only)	\$18.00
636a	D-Ring Assy, w' 2 Nails	\$55.00
637	Cap Square	\$75.00
638	Impl. Hook (DBL)	\$30.00
639	Impl. Hook (single)	\$25.00
640	Ctr. Strap, Partial Castng	\$31.00
640a	Center Strap Complete	\$100.00
651	Ctr. Strap, Forwd Bolt HD	\$20.00
652	Ctr Strap, Rear Bolt HD	\$18.00
643	Rondell 3/4" Hole	\$21.00
644	Rondell, 1" Hole	\$60.00
648	Shoulder Washer Blank	\$22.00
649f	Axle Spindle, Machined	\$190.00
650	Linch Washer	\$25.00
1848	Linch Pin, Early, Plain	\$30.00
CWLP	Linch Pin, CW Style	\$45.00
661	1861 Style Lockchain	\$525.00
662	Spoke, Wood Set of 28	\$300.00
663	el Screw Crosshead, M48	\$75.00
664	el Screw Crosshd, M61	\$75.00
665	el Scr Shaft, Orig. Thread	\$165.00
666	el Screw Bronze Nut	\$112.00
667	1" Bolt Head	\$25.00
668	Wedge Washer	\$18.00
E-1	Eyepin	\$9.50
E-2	Eyepin	\$10.50
669	Nave Box for #1, Cast Iron Ours are copied from a battlefield fragment and do not have the long spline on each side. Easier to install.	\$90.00 ea.
670	Late style impl hook	\$30.00
671	late style worm holder	\$34.00



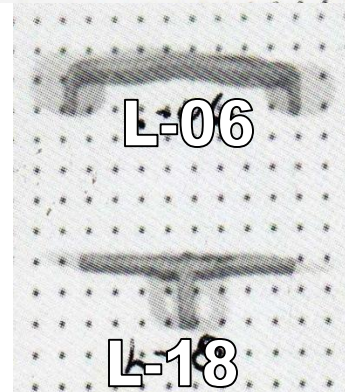
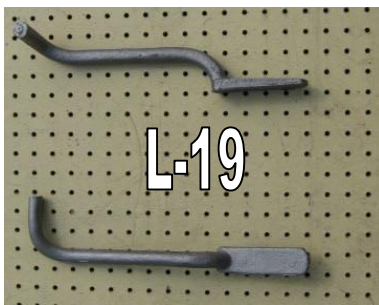
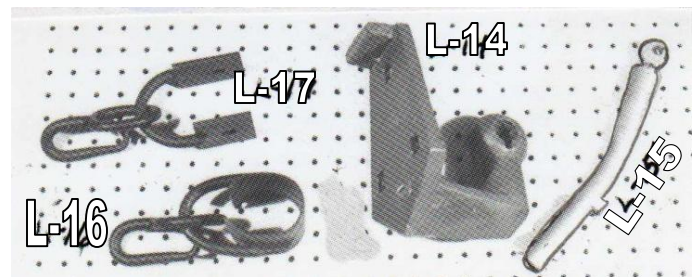
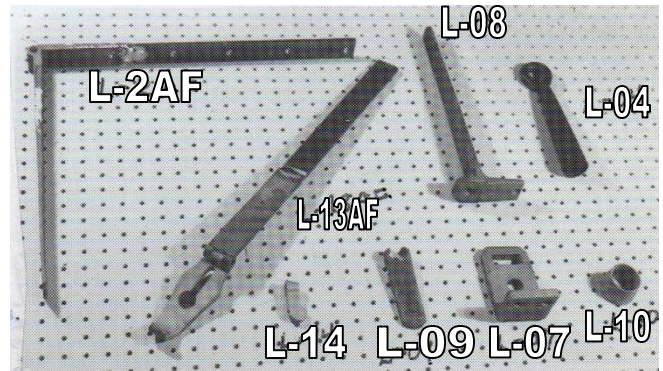
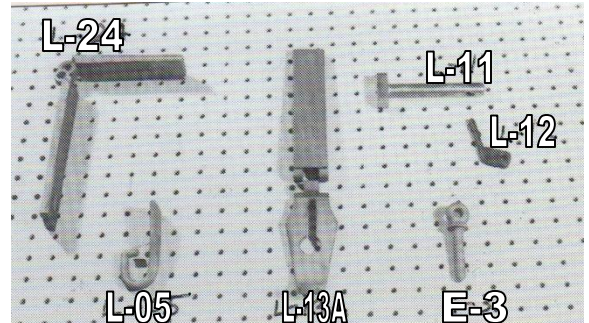
US Filed Gun Limber, M 1841 (Standard)



This limber was standardized about 1840 and served with all full size field artillery guns, caissons, battery wagons and forges of the 1841 system as long as they remained in use. For the forge, a slightly different chest was used as a lockable tool box; it did not have a center divider like the ammunition chests

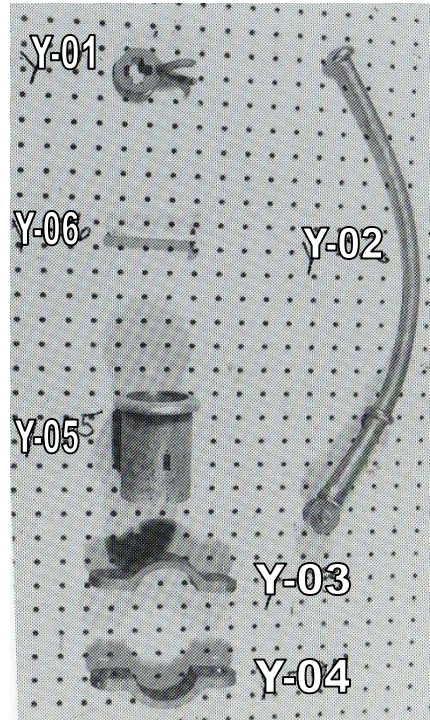
1841 Field Limber (standard)

Part #	Description	Cost (\$)
L-2a	Hinge Assy, partial	\$55.00
L-2af	Hinge Assy, Full Length	\$55.00
L-04	Pole Prop Socket	\$70.00
L-05	Tar Bucket Hook	\$22.00
L-06	Fork Strap	\$44.00
L-07	Toe Plate	\$40.00
L-08	Chest Stay Plate	\$57.00
L-09	Chest Handle Plate	out
L-10	Pole Prop Ferule	\$25.00
L-11	Limber Chest Stay Pin	\$35.00
L-12	Stay Pin Key	\$13.00
L-19	Hasp Key, Bronze	\$13.00
L-13a	Hasp Assy, Short	\$55.00
L-13af	Hasp Assy, Long	\$80.00
E-3	Eyepin No. 3	\$14.00
L-14	Pintle Hook, Steel	\$225.00
L-15	Pintly Key, Steel	\$60.00
L-16	Spl. Bar Outer Band&Hook	\$95.00
L-17	Spl. Bar Inner Band&Hook	\$80.00
L-18	Pole Prop Plate & Eye	\$50.00
L-19	CW Limber Chest Handle castings,	
	req. assembly 2 pcs.	\$100.00

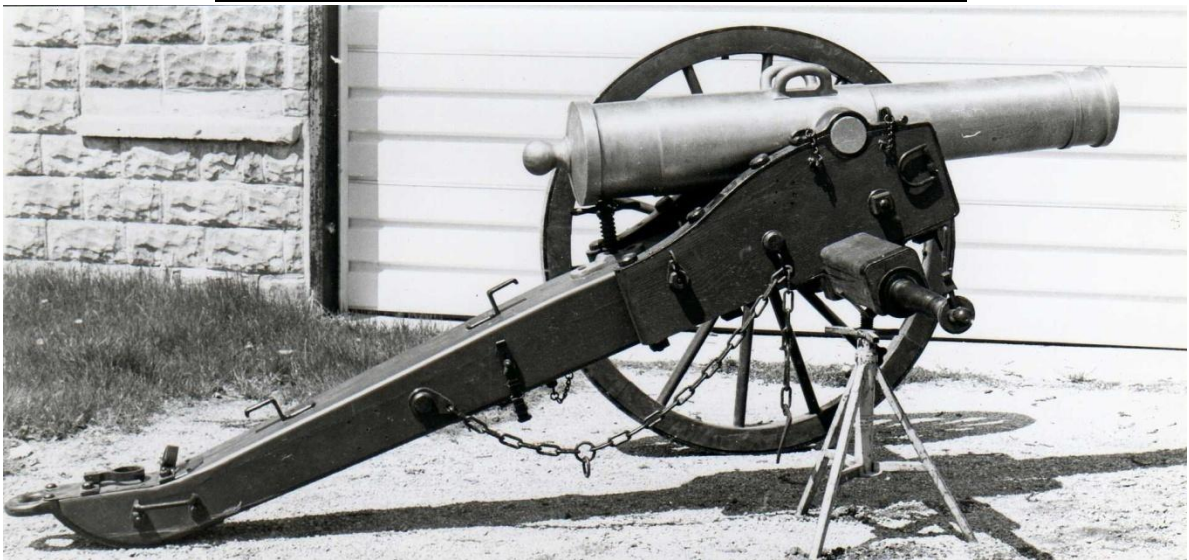


Limber Pole Folding Yoke:

Part #	Description	Cost (\$)
Y-01	Slider chain washer	\$28.00
Y-02	Branch	\$105.00
Y-03	Split Collar, Upper	\$35.00
Y-04	Split Collar, Lower	\$32.00
Y-05	Muff	\$35.00
Y-06	Key	\$18.00
Y-08A	Yoke Assembly, Complete	\$375.00
Y-09	Pole End Front Band (CW)	\$42.00
Y-10	Strap Links (CW)	\$22.00

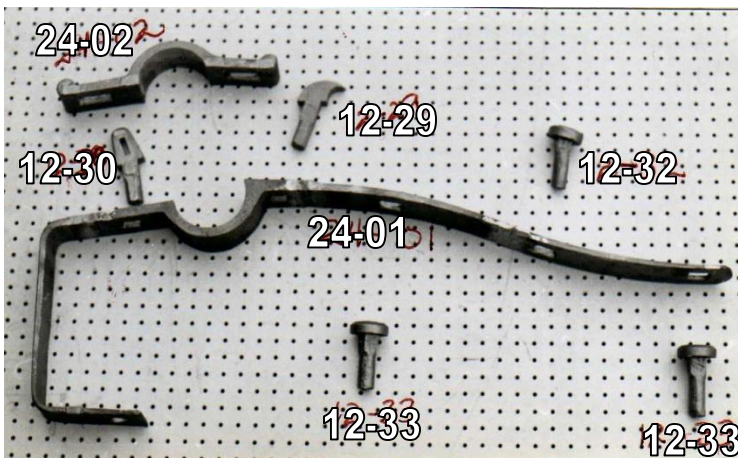


U.S. No. 2 Field Gun Carriage, M1841/57



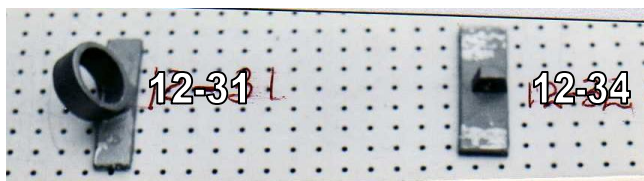
As originally designed, the No. 2 carriage was for the 24pdr Field howitzer and a bronze 9pdr field gun which was not adopted by the Federal Government, but was used by the State of New York (ca 1837). It has a trunnion hole diameter of 4.2 inches. The carriage was standardized after 1841. With the adoption of the light 12pdr field gun (Napoleon) in 1857, the No. 2 carriage was utilized in great numbers, with only the slight notification of moving the elevating screw forward. The carriage shown here has the elevating screw located for the Napoleon. The 24pdr field howitzer still fits, but the breach overhangs.

U.S. No. 2 carriage,
1841/57

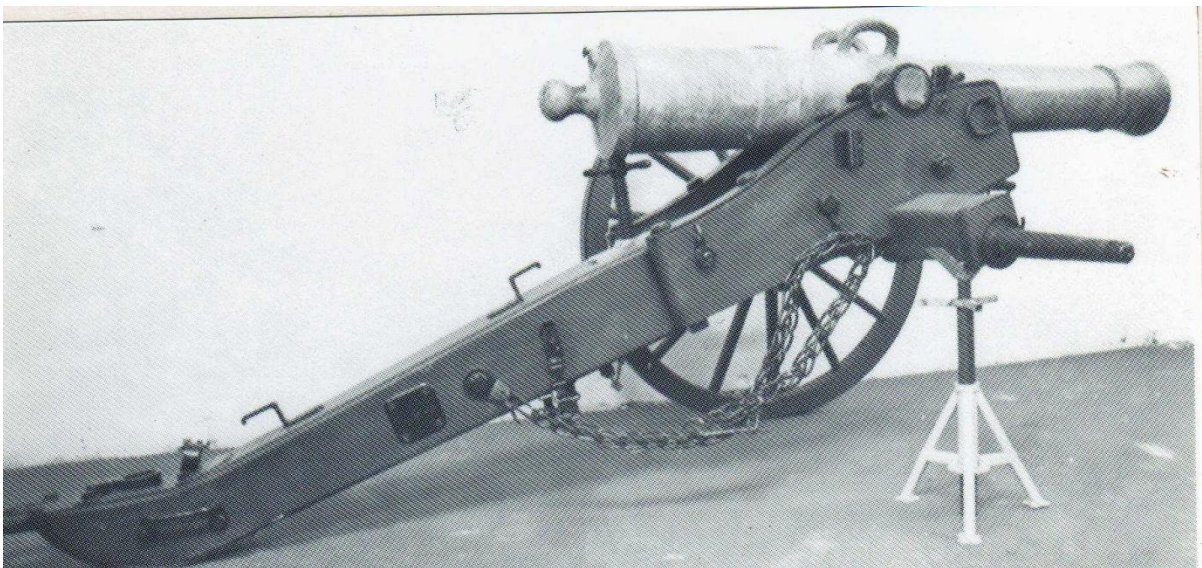


Part #	Description	Cost (\$)
24-01	Trunnion Plate, w/Cap SQ	\$475.00
24-02	Cap Square, Only	\$100.00
24-03	Lunette, 6.0" Wide	\$310.00
24-03X	Lunette, Cast In 2 pcs, requires welding	\$250.00
1229	Chin Bolt HD	\$35.00
1230	Eye Bolt HD	\$35.00
1231	Upper Pointing Ring	\$75.00
1234	Lower Point Ring Base	\$52.00
1232	Cheek Bolt Head	\$20.00

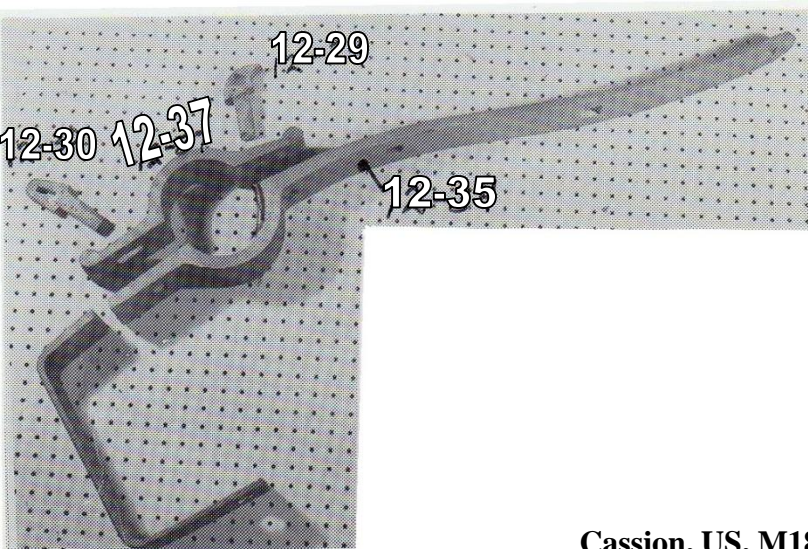
Parts not listed above are primarily the same as for the No. 1 carriage. The pointing ring bases must be cut down slightly from the No. 3 dimensions to the No. 2 dimensions



US No. 3 Carriage (Heavy 12pdr)



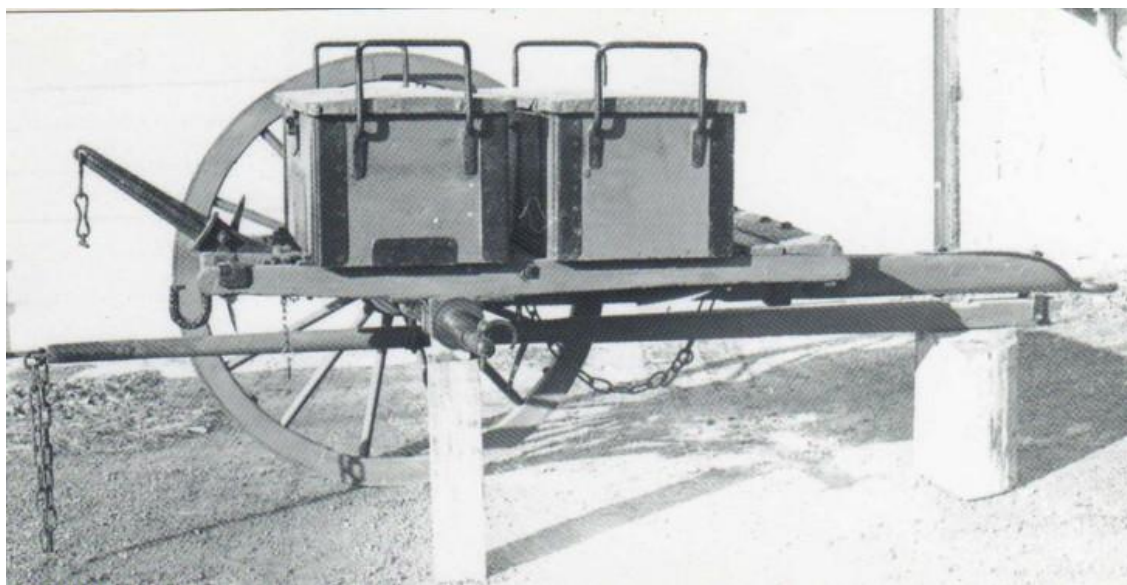
This carriage was designed for the US M1841 12pdr Field Gun. The heavy bronze M1841 tubes (over 1700 lbs) were not popular during the Civil War and remained in static defenses or with state units at home. Only a few saw field service. The carriage also fit the 32pdr Bronze Field Howitzer and the 20pdr Parrott. The latter saw considerable field use in spite of its weight.



US No. 3 Carriage

Part #	Description	Cost (\$)
1234c	Trunnion Plate Assy W/ Cap SQ, Bored	\$650.00
1237	Cap Square	\$125.00
1229	Chin Bolt Head	\$35.00
1230	Eye Bolt Head	\$35.00
1231	Upper Point Ring	\$75.00
1232	Lower Point, Base	\$52.00
1233	Cheek Bolthead Forward	\$21.00
1235	Trunnion Plate Assy	\$550.00

Cassion, US, M1841

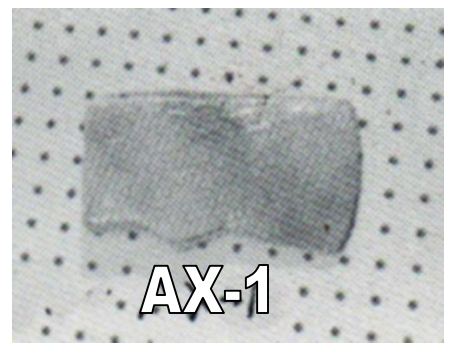
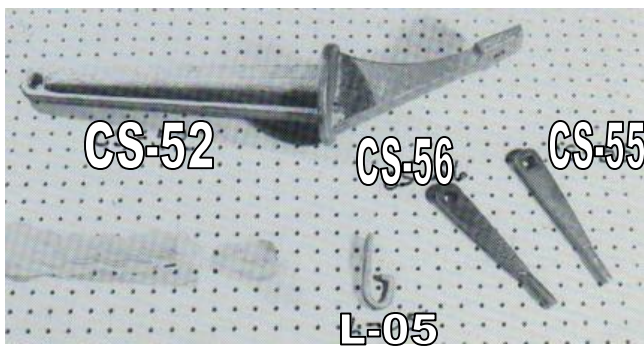


The cassion was in integral part of all field batteries. It was the preferred source for ammunition since the gun's limber ammunition was reserved for emergencies. It was attached to a limber in use. It provided tools and replacement wheels and poles in emergencies. It is very useful for living history camps since it provides extra space to store anachronisms. Some enterprising individuals have built insulated coolers which pass for ammunition chests on the cassion

Cassion, US M1841

Part #	Description	Cost (\$)
CAS-52	Spare Wheel Post	\$280.00
CAS-55	Bolt Blank, RD Hole	\$42.00
CAS-56	Bolt Blank, SQ Hole	\$42.00
CAS-57	Carriage Hook	\$150.00
L-05	Tar Bucket Hook	\$22.00
CAS-58	Lunette	\$400.00
CAS-58X	Lunette 3 pcs, Not Assy	\$325.00
AX-1	Axe Head	\$70.00

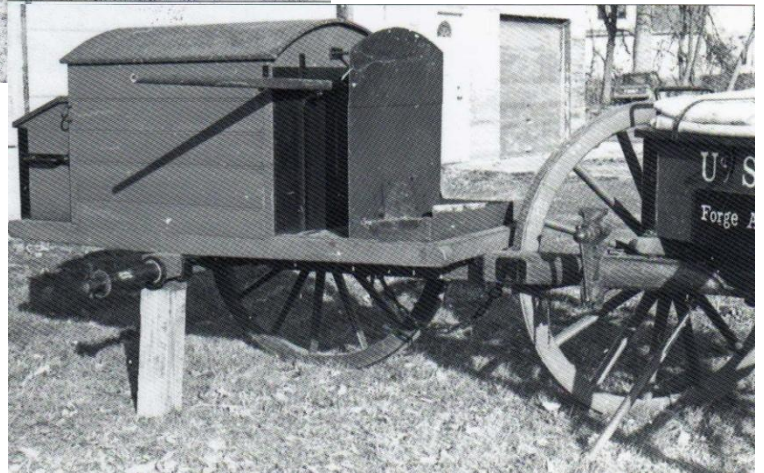




Traveling Forge, M 1841 (Tenative)



We have decided not to reproduce the vice since the same size civilian blacksmith vice can often be located in antique shops and adapted by cutting off the long prop and fabricating the stock attachment.

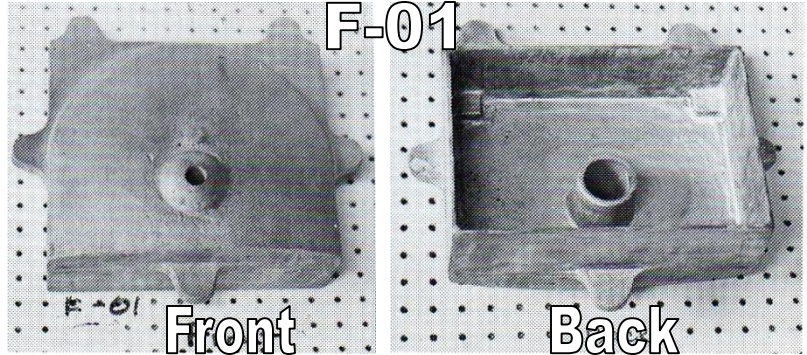


The traveling forge was issued, one or more per battery or cavalry troop. They are great camp accessories since they can be used for blacksmith demonstrations, or heat coffee at events that don't allow ground fires. They are great work stations for repairing camp gear at events. The forge pictured here is about 25% original, the balance duplicated from the Mordecai drawings. We believe the forge may represent one of the first major ordnance items designed in the UD, since it is completely different from both French and British designs of the 18th or 19th centuries. Documents suggest these were being made at Watervliet arsenal as early as 1839.

Building an authentic forge is a major task, about as much work as three or four gun carriages. Plan to dedicate a limber to your forge at all times. The lunette preponderance is much greater than on a field gun and it is very unstable on the prop, for safety it must be securely hooked to a limber while in use and at all other times, or be placed on a very secure section of tree stump.

Traveling Forge, M1841

Part #	Description	Cost (\$)
F-01	Air Back	\$180.00
CAS-58	Lunette	\$400.00
CAS-58X	Lunette 3 pcs, Not Assy	\$325.00
F-02	Bail, For Wood Bucket	out
F04-5	Coal Box Hinge, 2pcs, Not Assm.	\$115.00
F06-7	Coal Box Handle (2pcs.)	\$160.00



US Battery Wagon, M1841



Ken Baumann Collection

The Battery Wagon is a unique support vehicle for field artillery batteries. It is a compact traveling warehouse for spare parts, tools, and equipment needed to keep a battery in the field. Its designed permitted it to go places a regular supply wagon might not fit and kept its contents secure but readily available. Although many hundreds of them were once in service, only one original example is presently known. Several have been reproduced using our parts.



Ken Baumann Collection

US Battery Wagon per. 1848

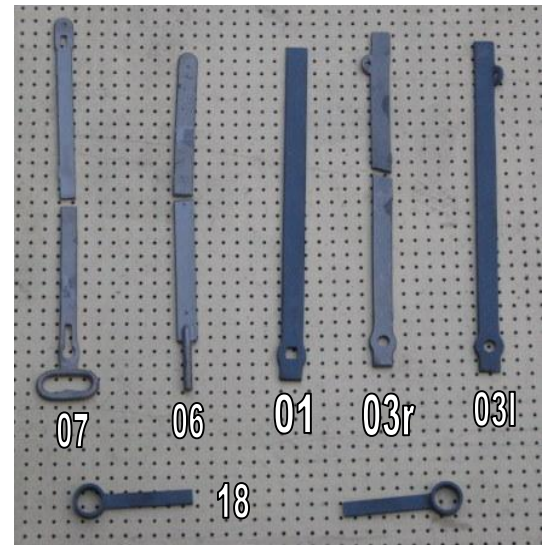
Arty In The Land Service.

Ref: Mordeci, Field Carriages Part2

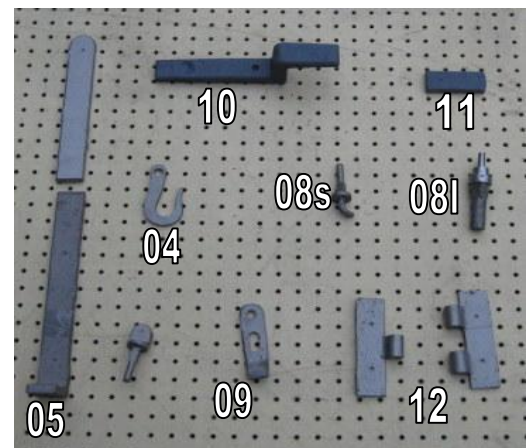
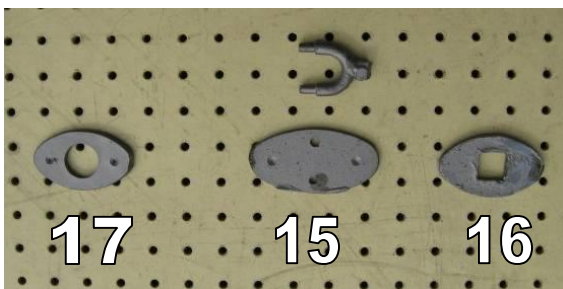
Plate XXIV

Part #	Description	Cost (\$)
BW01	Side Studs, front & middle	\$80.00
BW03	Side Studs, rear	\$88.00
BW04	Hook, atch to BW03	\$30.00
BW05	End Stud, front	\$70.00
BW06	End Stud, rear	\$75.00
BW07	Cover Prop	\$90.00
BW08L	Cover Prop bolt blank, lg for turnkey	\$65.00
BW08S	Cover Prop bolt blank, hook end	\$25.00
BW09	Bolt and Hasp (2pcs)	\$38.00
BW10	Spare Stock hook	\$55.00
BW11	Spare Stock Button	\$20.00
BW12	Hinge, 2 pcs not assy	\$60.00
BW15	Staple plate, oval base and staple	\$24.00
BW16	Side rail washer plate, sq. hole	\$18.00
BW17	Washer Plate, forage rack, 1"rd. hole	\$19.00
BW18	Side stays, cast ends welded to bar	\$95.00
CAS-58	Lunette	\$400.00
CAS-58X	Lunette, 3pcs not assy	\$325.00

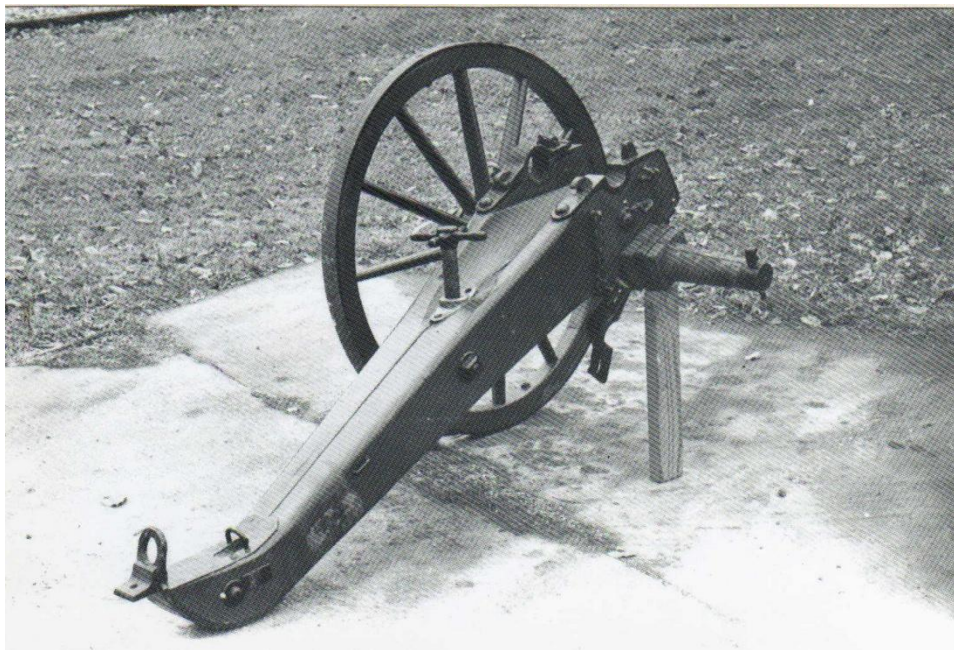
Parts below are all prefix BW-



Parts BW01 through BW 07 & BW18 are cast in two pieces and require welding, which can compensate for some shrinkage.



Mountain Howitzer, M1841, Pack Carriage

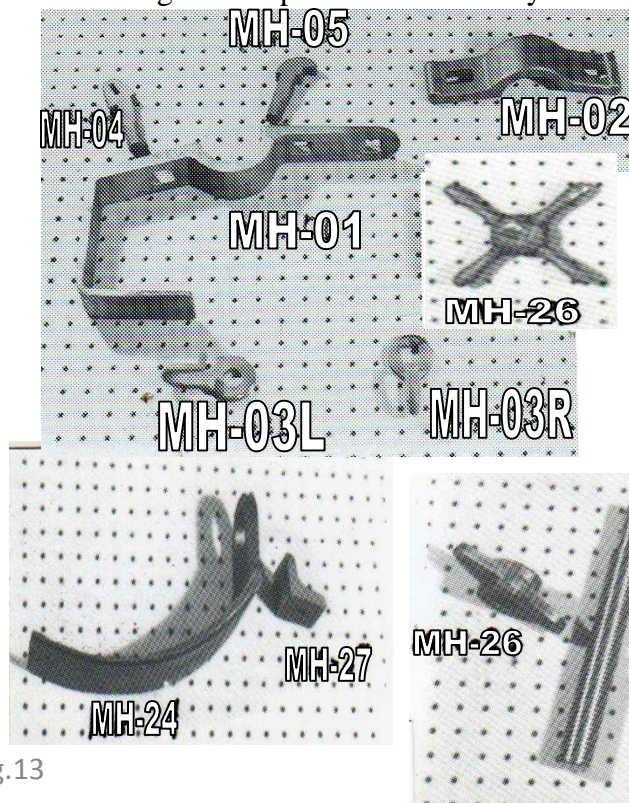


This carriage was adopted and modified from a French design of 1827, for the 12pdr Mountain Howitzer, also of French origin. The US began manufacturing of these howitzers and carriages in 1836, but for some reason they later became known as the “Model 1841”. The drawings for this carriage are well known since they were included in Alfred Mordeci’s publication of lithographed plates in 1849; the compact size of the carriage is attractive and many have been reproduced. The carriage illustrated above is an original made at Watervliet Arsenal in 1861 and has serial number 91. Congressional records indicate that only 25 carriages of this model were purchased during 1861-65 so we suspect the total production was in the area of 100 carriages during the forty years it remained in service. The carriage in the photo is one of only two original carriages we know about at the present time.

Mtn. Howitzer, M1835

Pack Carriage

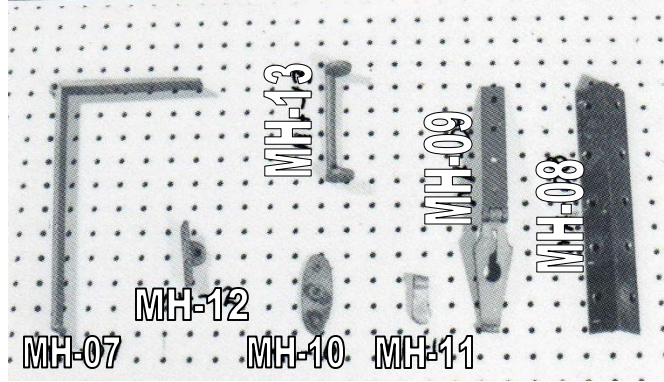
Part #	Description	Cost (\$)
MH-01a	Trunnion Plate Assy W/ Cap SQ, Bored	\$285.00
MH-02	Cap Square, Only	\$75.00
MH-04	Eyebolt HD	\$25.00
MH-05	Chinbolt	\$26.00
MH03L	Rope Hook	\$35.00
MH03R	Rope Hook	\$35.00
MH23	Elevating Scr Crosshd	\$65.00
MH25	El. Scr. Th. Rod	\$70.00
MH26	El. Scr. Nut, Bronze	\$85.00
MH24	Lunette	\$145.00
MH27	Lunette Bracket	\$35.00
E-1	Eyepin	\$9.50



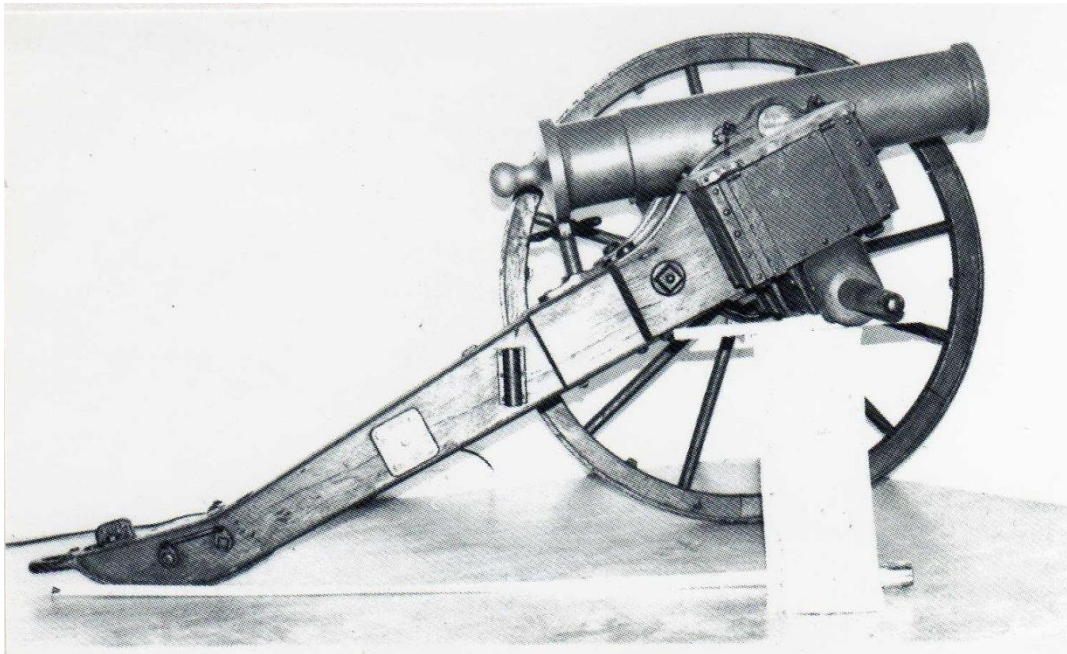


Ammo Chest to Mtn. Howitzer:

Part #	Description	Cost (\$)
MH07	Hinge Assy, Partial	\$45.00
MH07f	Hinge Assy, Long	\$67.00
MH08	Corner Plate	\$10.00
MH09	Hasp Assy	\$44.00
MH10	Hasp Key Plate	\$27.00
MH11	Bronze Key	\$12.00
MH11a	Hasp Key Assy	\$44.00
MH12	Chain Retainer Plate	\$16.00
MH13	Brace	\$27.00



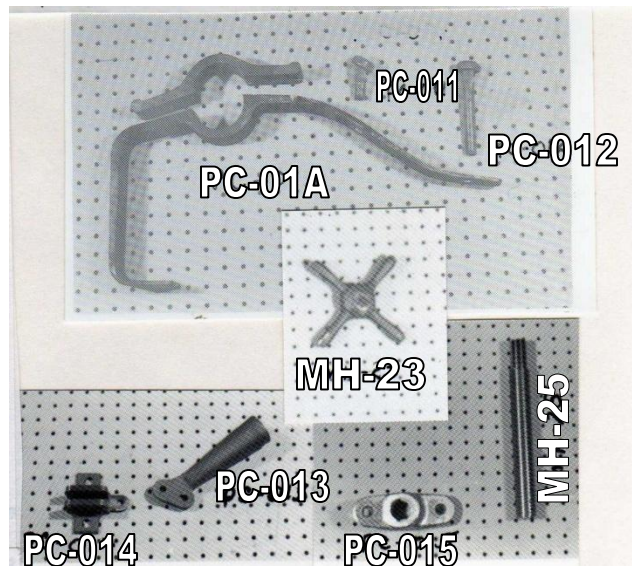
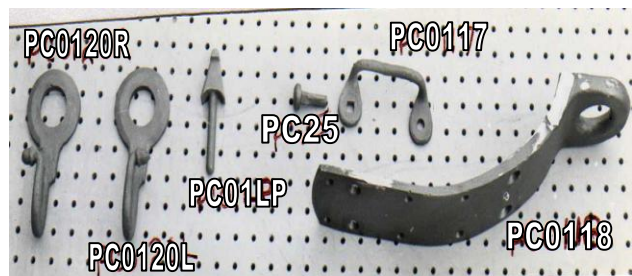
US Prairie carriage, Ca. 1851 (Formerly: Type I)



From the Ordnance Manual and from the dates on surviving prairie carriages, it appears that a new prairie carriage was put into service about 1851. The early examples are like the photo above. They have folding handspikes and wood lined iron plated locker boxes on the axles. These two features suggest a design influence from British tradition-unusual for the US at the time. Civil War era photos suggest that the axle storage lockers were not generally used by that time. Some photos show carriages which have a different axle body which would not have mounted lockers. Tests at Ft. Leavenworth in 1855 recommend eliminating the locker boxes to prevent gun crew members from using them as seats and overloading the carriage.

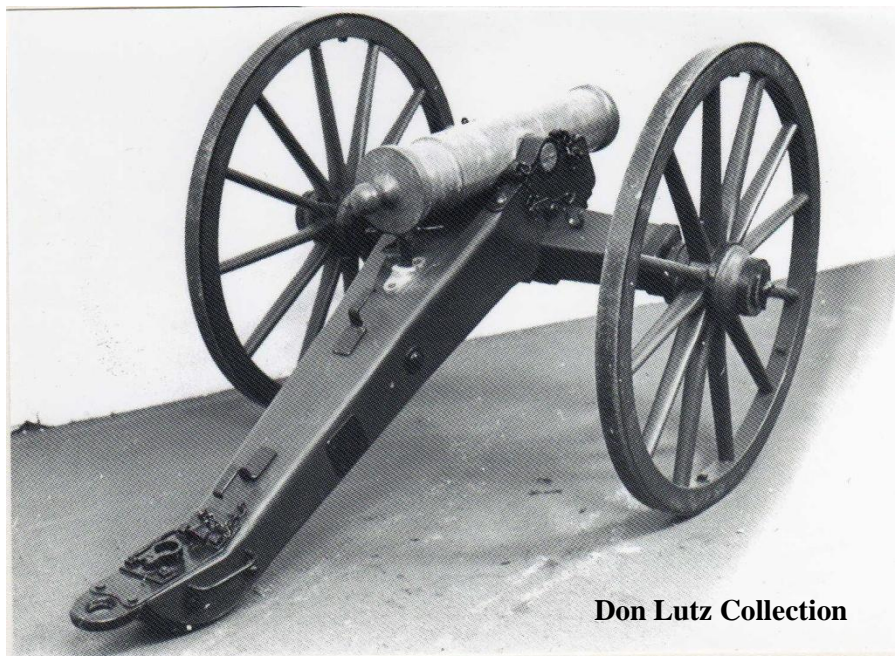
US 1851 Prairie Carriage

Part #	Description	Cost (\$)
PC01A	Trunnion Plate W/Cap Square, Bored	\$350.00
PC011	Bolt Head, Steep	\$27.00
PC012	Bolt Head, Slight	\$26.00
MH3R	Rope Hook Sq. Hole	\$35.00
MH3L	Rope Hook Rd. Hole	\$35.00
MH04	Eyebolt HD	\$25.00
MH05	Chin Bolt Head	\$26.00
PC10	Wheel Guard Plate	\$26.00
PC013	Folding Handspike Socket	\$78.00
PC014	Folding Socket Base	\$42.00
PC0117	Trail Handle	\$38.00
PC25	Bolt Head 1/2"	\$14.00
PC0118	Lunette	\$145.00
PC21	Bronze Nave Box Casting	\$90.00
PC21f	Bronze Nave Box, Mach.	\$125.00
PC22f	Axle Spindle	\$100.00
MH23	El. Scr. Crosshead	\$65.00
MH25	El. Scr. Thread Bar	\$70.00
PC0145	El. Scr. Box, (bronze)	\$90.00
PC48	Shoulder washer	\$20.00
PC52	Spoke	out
PC0120R	Linch Washer w/Bricole Hook right	\$80.00
PC0120L	Linch Washer w/Bricole Hook left	\$80.00
PC01LP	Linch Pin	\$30.00



US Prairie carriage, Ca.1861, (Formerly: Type II)

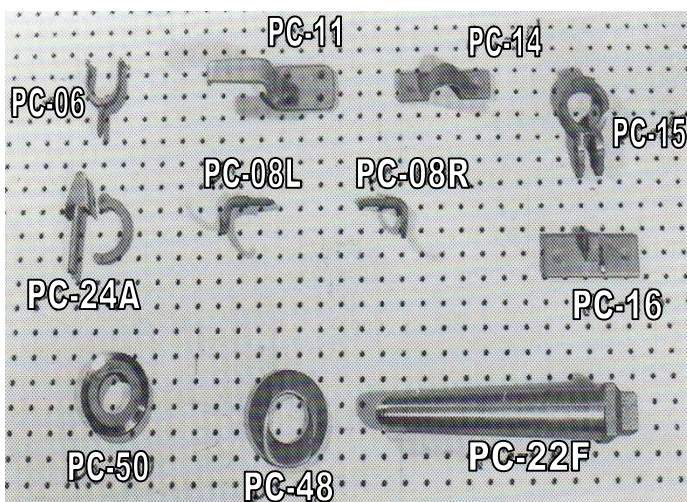
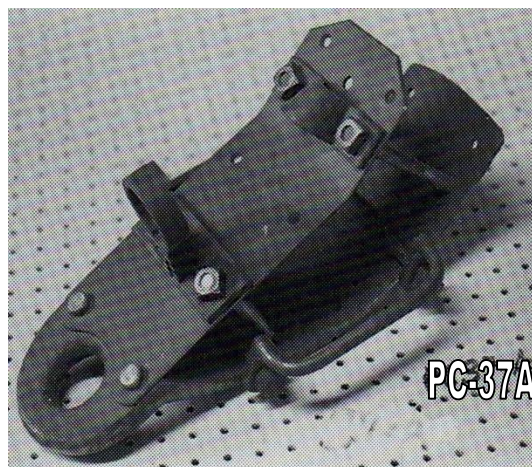
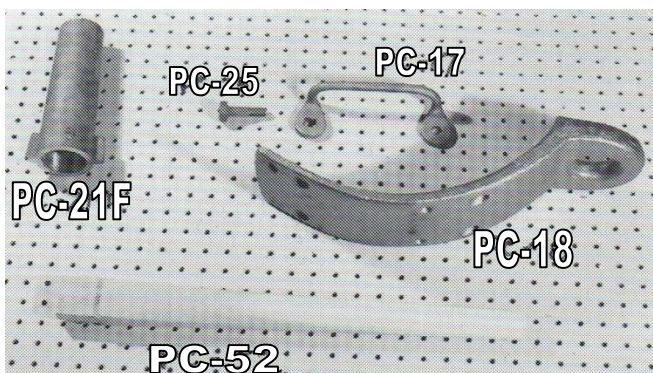
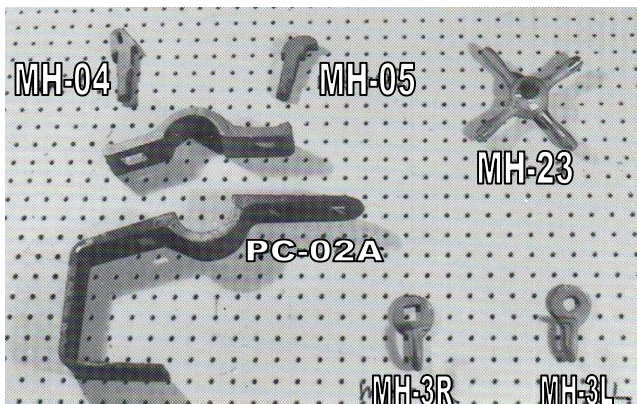
For reason which have not been fully understood, perhaps due to failure in the field and in test trials, the first model of the Prairie Carriage was superseded about 1861 by a modified version of the Pack Carriage. The second model prairie carriage was longer than the pack carriage and mounted the towing style lunette ring, prolonged hooks and detachable handspike, among many other changes. Records indicate that 400 carriages, presumably of this model, were purchased during the Civil War years.



Don Lutz Collection

US Prairie Carriage, 1861

Part #	Description	Cost (\$)
PC02a	Trunnion Plate w/Cap Square, Bored	\$330.00
MH3R	Rope Hook, SQ.	\$35.00
MH3L	Rope Hook, RD.	\$35.00
MH-04	Eyebolt HD	\$25.00
MH-05	Chin Bolt Head	\$26.00
PC-06	Rammer Stave Clip	\$22.00
PC-07	Axle Band	\$30.00
PC08L	Impl. Hook	\$28.00
PC08R	Impl. Hook	\$27.00
PC-10	Wheel Guard Plate	\$21.00
PC-11	Prolonge Hook	\$47.00
PC-13	Trail Plate	\$40.00
PC-14	Upper Pointing Strap	\$30.00
PC-15	Pointing Ring	\$35.00
PC-16	Point. Ring Base	\$29.00
PC-17	Trail Handle	\$35.00
PC18	Lunette	\$220.00
PC21	Brz. Nave Box Machined	\$125.00
PC22	Axle Spindle, Machined	\$100.00
MH23	El. Screw Crosshead	\$65.00
MH25	El. Screw, Th Bar	\$70.00
MH26	El. Screw Nut, Bronze	\$85.00
PC25	Bolt Head, 1/2	\$14.00
PC24	Linch Pin, W/Clip&Rivet	\$40.00
PC37A	Avail as Loose Castings only	
PC48	Shoulder Washer	\$20.00
PC50	Linch Washer	\$21.00
PC52	Spoke, Wood	out



Prairie Carriage Limber, Ca. 1851



The early version of the Prairie Limber used two ammo chests which carried eight rounds of 12pdr shells, each with a leather carry strap on the chest with shells arranged in pairs, side by side.

US ca 1851 Prairie Limber

Part #	Description	Cost (\$)
PCL51	Limber Chest Hasp, Steel 2 pcs Not Finished	\$45.00
PCL52	Limber Chest Hasp Key(bronze) & Steel Plate 2pcs. (These are for the 8 rd. chest, 2 rows, 4 rds ea)	\$37.00
PCL53	Limber Chest Stay Bracket	\$27.00
	Many other hardware items from the 1861 Prairie Limber can be adapted to the early pattern.	
PCL54	Hasp Key Plate	\$26.00



Prairie Carriage Limber, Ca. 1861

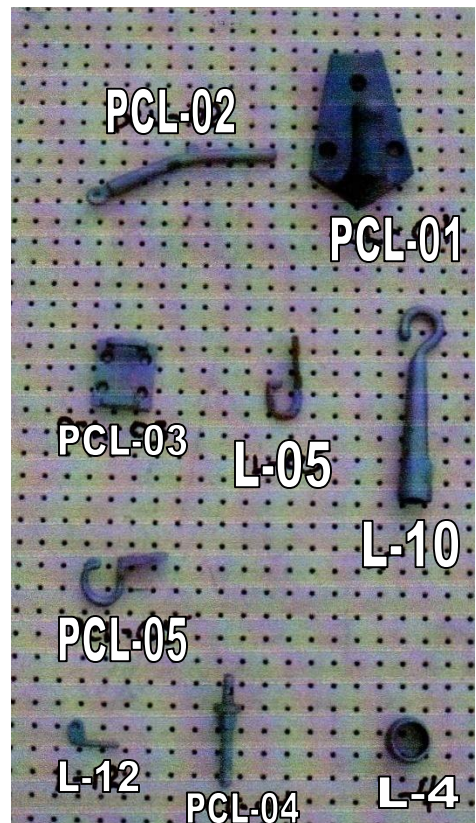


The limber for the Second Pattern prairie carriage used two “thin style” ammo chests, nearly identical to the original Pack Carriage chests, but with iron handles replacing the rope handles and stay plates added for attachment to the limber frame. The pack saddle hanger chains were retained so the new chest could be used with either Prairie or Pack Systems. The hardware and wood work on the Second Pattern limber is slightly heavier and thicker than on the 1851 limber.

Prairie Carriage Limber

1861

Part #	Description	Cost (\$)
PCL01	Pintle Hook	\$145.00
PCL02	Pintle Key	\$36.00
PCL03	Toe Plate	\$40.00
PCL04	Chest Stay Bolt	\$28.00
PCL05	Bucket Hook	\$29.00
L-05	Tar Bucket Hook	\$22.00
PCL07	Splinter Bar Assy, Outer	\$80.00
PCL08	Splinter Bar Assy, Inner	\$75.00
L04	Pole Prop Socket	\$50.00
L-10	Pole Prop Ferrule	\$70.00
L-12	Limber Chest Stay Key	\$13.00
E-1	Eyepin, for Stay Keys	\$9.50
E-2	Eyepin, for Pintle Keys	\$10.50

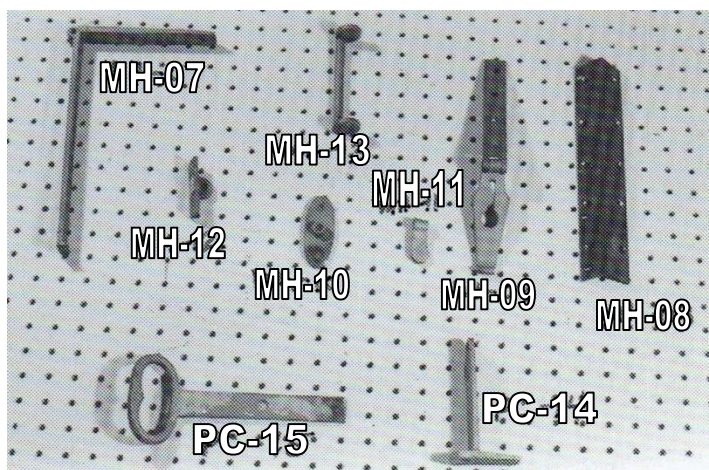




This original Ca. 1861 style mountain howitzer limber chest carries a stencil marking on its canvas top: "Maj. L. Crispin, N.Y. Arsenal"

1861 Ammunition Chest:

Part #	Description	Cost (\$)
PC14	Stay Plate	\$29.00
PC15	Steel Handle, Partial	\$45.00
PC15f	Steel Handle, W/ Ext.	\$55.00
MH07	Hinge Assy, Partial	\$45.00
MH07f	Hinge Assy, Long	\$67.00
MH08	Corner Plate	\$10.00
MH09	Hasp Assy	\$44.00
MH10	Hasp Key Plate Casting	\$27.00
MH11	Hasp Key, Bronze	\$12.00
MH11a	Hasp Key Plate Assembly	\$44.00
MH12	Chain Retainer Plate	\$16.00
MH13	Brace	\$27.00



2.2 Inch CSA Mountain Rifle

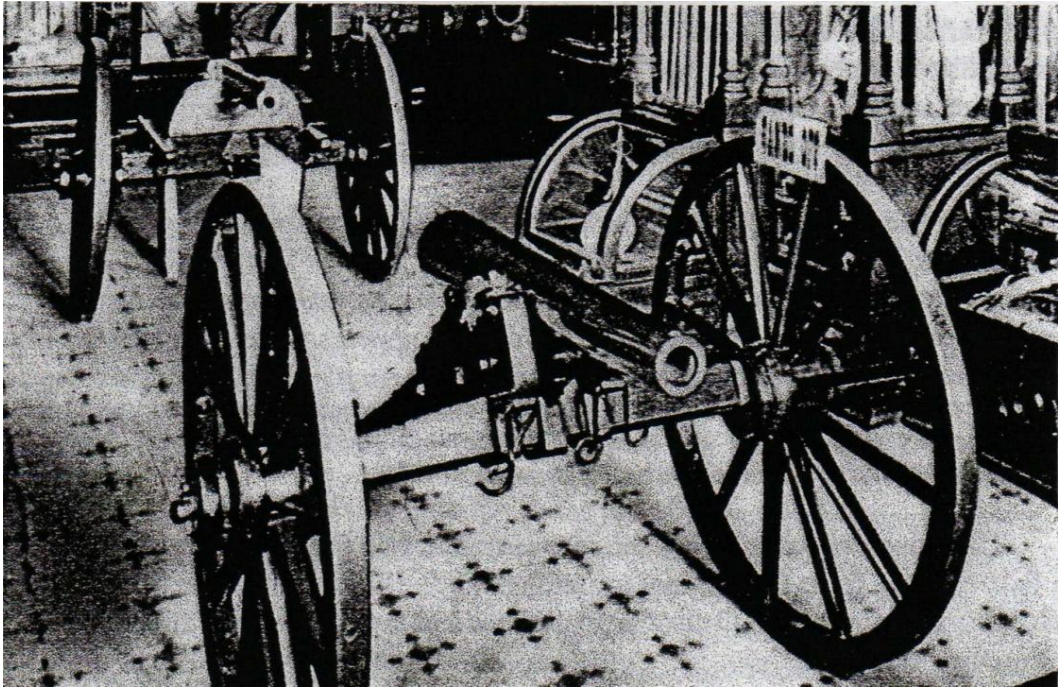
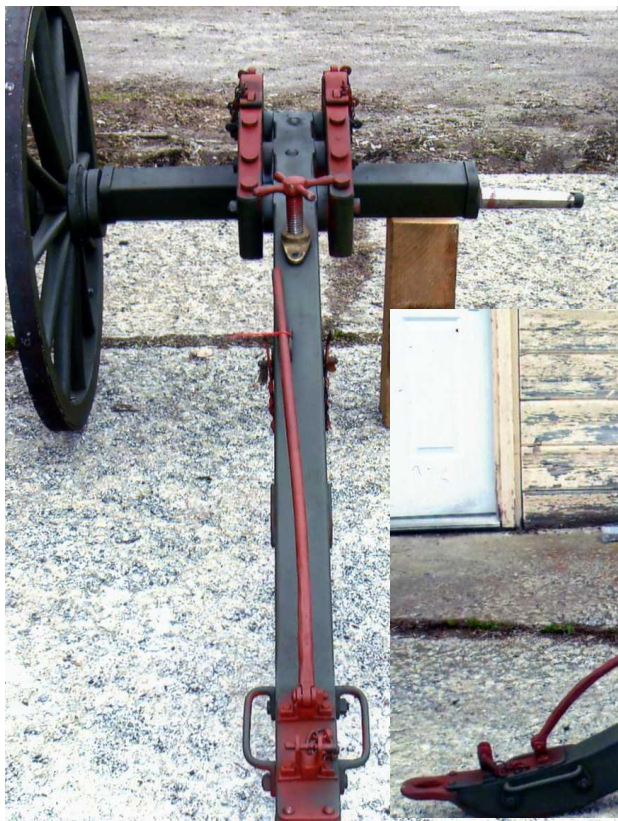


Photo from a postcard dated Ca. 1906

The Confederate 2.2 Inch Mountain Rifles was a unique confederate field gun with nothing quite like it on the Union side. Its modest, yet full scale, size had made it very popular with individuals who want a rifled cannon which is easy to move about and economical to shoot and yet historically correct in its size.

While several original 2.2 Inch bronze gun have survived, their carriages and limbers have been less fortunate. We believe the parts we offer here are copied from the best documented original surviving carriage. The gun with its carriage and limber were captured in 1865 and brought North as trophies. They were prominently featured in a Grand Army of the Republic exhibit from the 1890s' to about 1920's. For the exhibit, the limber was "converted" to a small gun carriages to display a different captured CS bronze breech loading piece which had no carriage. By the 1920's they were displayed outdoors; the carriage rotted and was locally rebuilt with wagon wheels. In 1944 the gun went into a scrap drive; the carriage and remains of the limber survived but continued to deteriorate. In the early 1960's the carriage hardware was rescued and has been in private ownership since then, most of that time owned by D.E. Lutz of Port Huron, MI.

We are grateful to Mr. Lutz for the opportunity to reproduce the original hardware which is offered here. Carriage drawing are available from Antique Ordnance Publishers, P.O. Box 434, Port Huron, MI 48060. The drawings are based on the original hardware and a few surviving photographs.

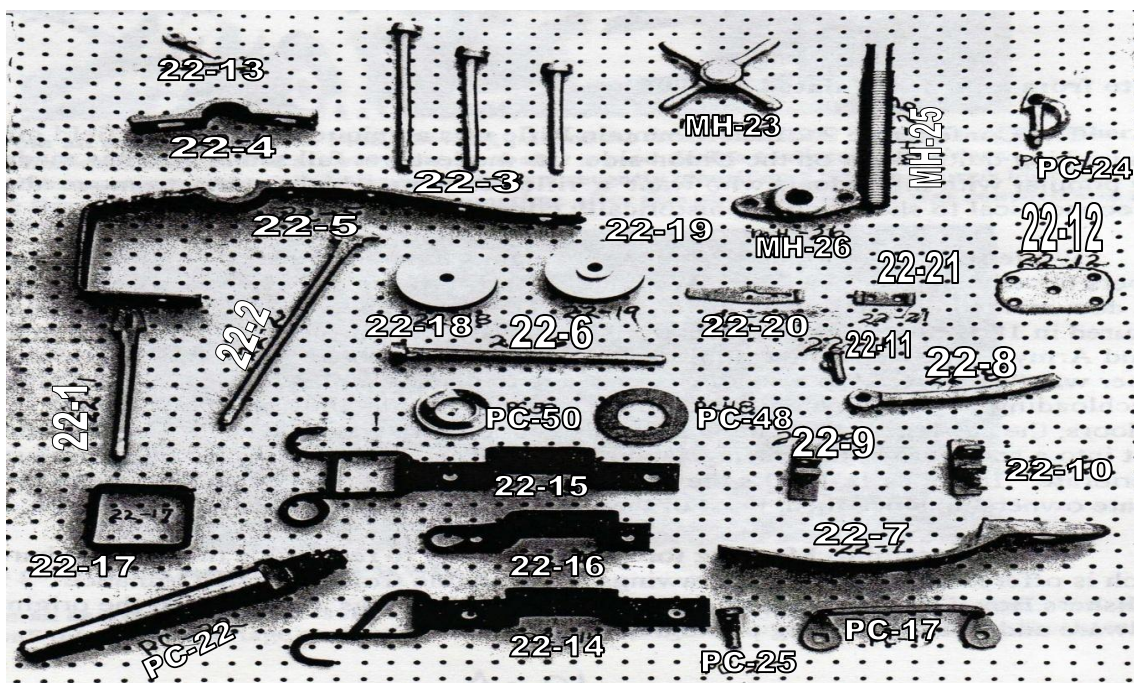


John Hoffman Collection

Tredgar Iron Works records mention the manufacture of 2.2" carriages and this carriage probably was made by them, even though the April 1, 1862 entry we have seen refers to the carriages , "with shafts", suggesting some mountain rifles were equipped like the pack carriages with detachable thill shafts. This carriage follows most of the usual conventions of American carriage design, and its overall quality suggests manufacture at a competent arsenal. Only a few short cuts are seen, such as simplified vertical cheek bolts which omit the square shank to the trunnion plate.

From the photographs and the surviving axle trees it appears the gun and limber used 12 spoke, 42" standard prairie carriage wheels, beyond that, most other parts to the carriage are unique with the apparent exception of the elevating gear. While the elevating screw did not survive, the bronze nut did and appears to be a copy of the US mountain howitzer. (an elevating screw of sorts was found with the carriage, but it did not have correct matching thread; it was either from a wine press or perhaps from an earlier 18th century style elevating gear once attached to a moving transom, It does not appear t be with the carriage at the time of the earliest surviving photo, about 1890.

The trunnion plates have been reproduced in two parts and assembled by welding on a fixture made from the original trunnion plate. The original cap squares did not survive; ours was made to fit the original plates and styled as a typical piece. Trunnion holes are bored to 2.015".



2.2 Inch CSA Mountain Rifle

Part #	Description	Cost (\$)
22-01	Eye Bolt, short, req. weld on	\$25.00
22-02	Chin Bolt etc.	\$27.00
22-03	Vertical cheek bolts, short, req weld on	\$75.00
22-04	Cap Square	\$45.00
22-05	Trunnion plate, assembled and bored with matching trunnion cap	\$365.00
22-06	Horizontal cheek bolts, not threaded, set of 3	\$110.00
22-07	Lunette, casting shows hard use from original	\$150.00
22-08	Hinged handspike, short piece, requires weld on extension	\$40.00
22-09	Forward hand spike hinge base	\$30.00

2.2 Inch CSA Mountain Rifle

(contin.)

Part #	Description	Cost (\$)
22-10	Rear handspike yoke	\$32.00
22-11	Bolt blank for 22-09 not threaded	\$13.00
22-12	Wheel guard plate, cast shows character	\$35.00
22-13	Eye pin nail	\$11.00
PC22f	Axle spindle, fully machined, ready to install in 2x2x1/4 wall tube	\$100.00
MH23	Elevating screw crosshead	\$65.00
MH25	Elevating screw threaded rod, original specs	\$70.00
MH26	Elevating screw bronze nut	\$85.00
PC48	Shoulder washer	\$20.00
PC50	Linch washer	\$21.00
22-14	Under Strap, w/single hook, blacksmith made from original	\$80.00
22-15	Under Strap, w/hook & worm, Blacksmithed	\$82.00
22-16	Center Strap, blacksmith mfg.	\$60.00
22-17	Axle end band, Blacksmithed mfg, per orig.	\$30.00

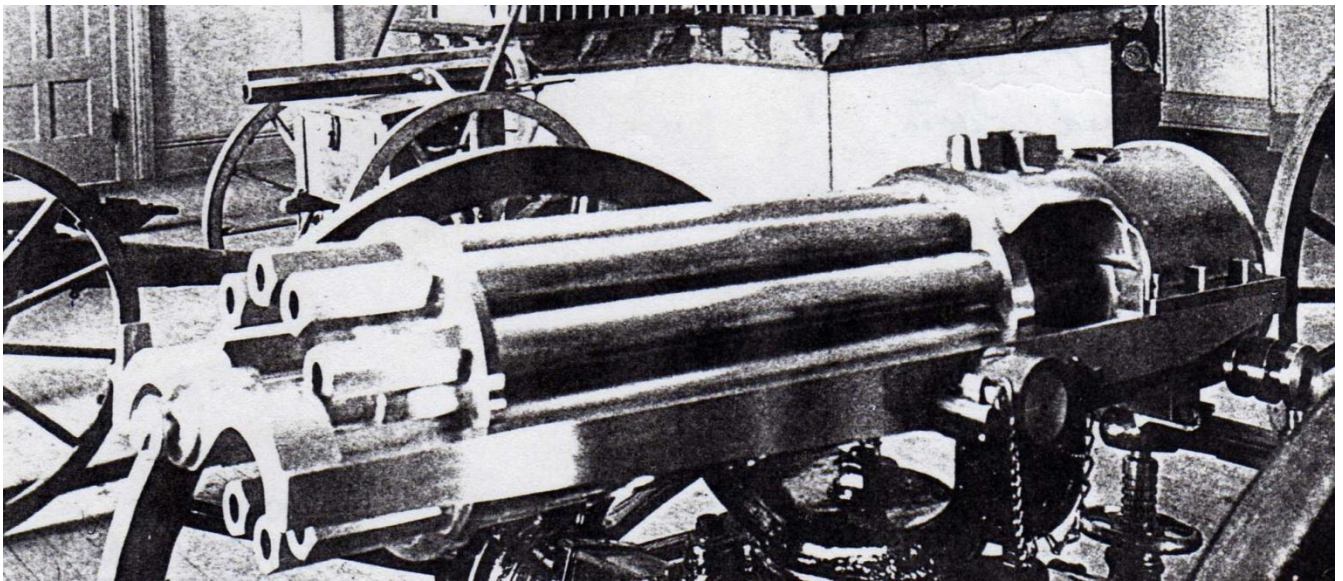
We no longer plan to cast the bolts in full length as seen in photo. When present stock is exhausted we will only cast the head sections for welding on the thread stock.

One of the most interesting features of this carriage is its folding iron bar handspike. The original was broken at the point where it fit the lower yoke; we have added several inches to the stub of the original to avoid a weld splice at this stress point.

No trail handles were found with the carriage and the surviving photos do not confirm or deny their existence. While we would expect to see them on a carriage like this, other light carriages such as the 1841 Pack Howitzer carriage, also did not use them. If used at all, we would recommend our copy of the 1860 Prairie Carriage trail handle. It is larger and more comfortable than the 1850 Prairie Carriage handle.

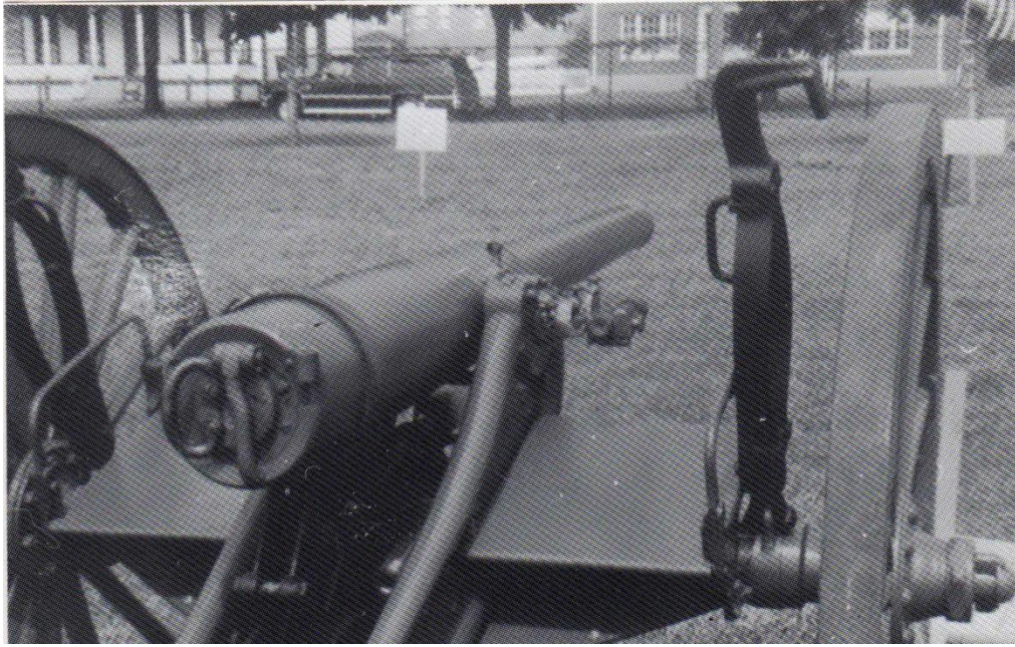
On close inspection , the original parts tell an interesting story. Character of original workmanship still comes through in most of our second generation parts. Many of the originals show hard use; forging flaws and stress cracks from the originals can still be seen on the surface of the new parts. However this is surface finish only; the new parts are homogenous steel castings.

An eye-mail for attaching accessory chains was found with these carriage parts. It is uncertain if this was a CSA feature or if it was from an earlier, possibly 18th century carriage and was recycled into the 2.2 CS carriage during a 20th century rebuild effort.



Detail from an armory photo ca 1880, showing part of the Mountain Rifle carriage and its limber. Note the limber chest handles are very low, probably a good design to discourage riders. The small bronze gun on the top of the limber chest is a recently identified CS bronze breechloader, called buy the maker a “Stockton gun”. Sometime after this photo the limber was converted to a “farb” carriage for the Stockton Gun.

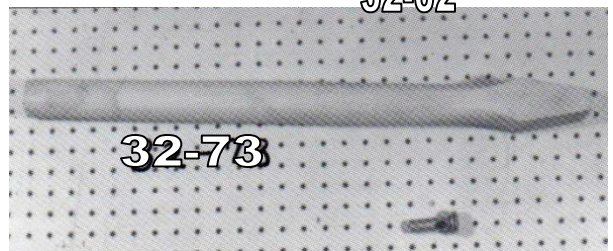
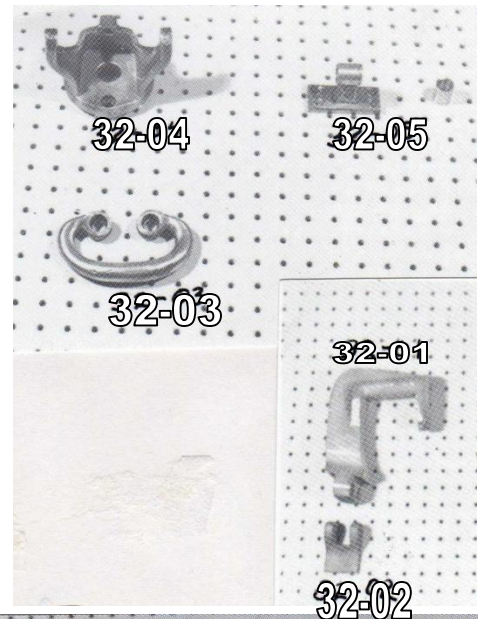
US M1885-97 3.2" Field Gun



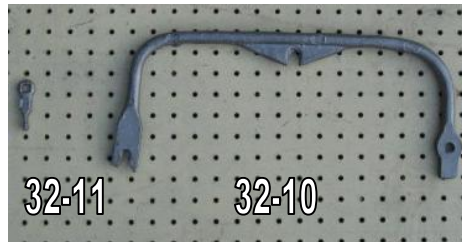
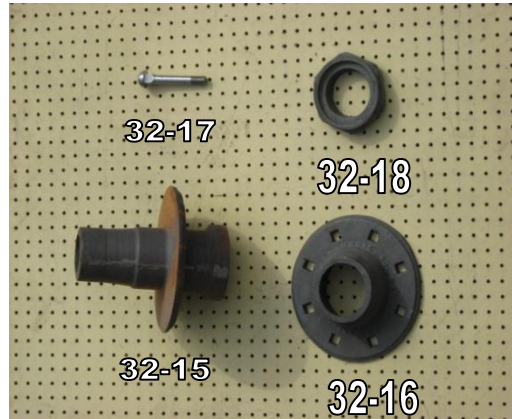
The US 3.2" Field Gun was developed in the mid 1880's but not produced in large numbers until the Spanish American War. They were used in Cuba and the Philippines. After 1897 the older guns of this model were modified to reduce the chamber volume drastically for an early variety of smokeless powder; most of the surviving guns date from the "Model of 1897", although they were antiquated by that time based on world wide trends in artillery. Carriages were made of steel, with unique brakes which also serve to dampen recoil and provide counter-recoil.

US M1885-97" Field Gun

Part #	Description	Cost (\$)
32-01	Brake Shoe Casting	\$100.00
32-02	Spring, Full Length	\$120.00
32-73	Spoke Wood	out
32-03	Breechblock Handle	\$65.00
32-04	Telescope Mount, Bronze	\$150.00
32-05	Front Sight	out
32-06	Folding Handspike Socket	\$165.00
32-07	Brake Handle, 2pcs	\$165.00
32-08	Brake Shackle	\$150.00
32-09	Brake Shackle Slider	\$140.00
32-10	Seat Handle (Right Only)	\$125.00
32-11	Seat Handle Latch	\$32.00
32-12	Crg. Data Plate, Brass	\$50.00
32-XX	Breech Block assm. Complete M1897	Call
32-13	Breech Block Folding Handle , Steel	\$75.00
32-14	Obturator Pads, Synthetic Rubber	call
	M1897 ONLY	
32-15	Hub Spindle,finished machining & threaded	\$400.00
32-16	Hub Flange	\$150.00
32-17	Hub Bolt	\$12.00
32-18	Hub Nut Blank, threaded	\$70.00



US M1885-97 3.2" Field Gun

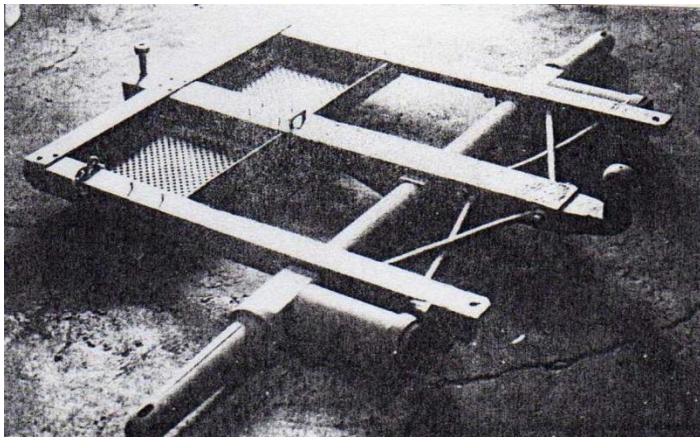
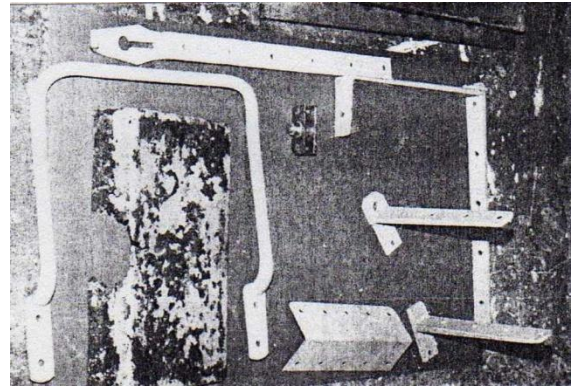
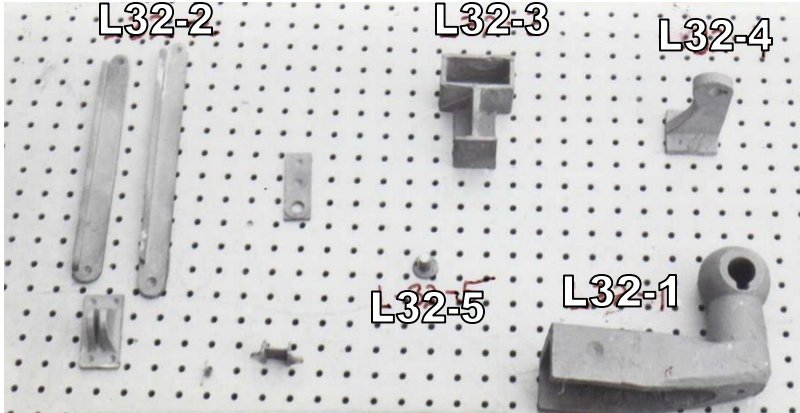


US 3.2" Gun Limber



The gun limber shown here is a very rare vehicle. Several variations are known but this model with an iron frame and wood chest seems to have the most common, on surviving photos. Unfortunately they are extremely rare now, probably due to a conversion program in 1908 when they were totally rebuilt for use with the M1902-05 3inch Field Gun. Fortunately we were able to follow the restoration of the limber featured here and have made some castings of critical parts. Field notes and photos provide enough data to permit reproduction and will be shared with customers. The ammunition chest is the only visually similar to a Civil War chest. The hardware for this chest can be modified from CW hardware. This chest will probably be more than twice the work involved in a CW limber chest, due to complicated partitions made from wood and bronze.

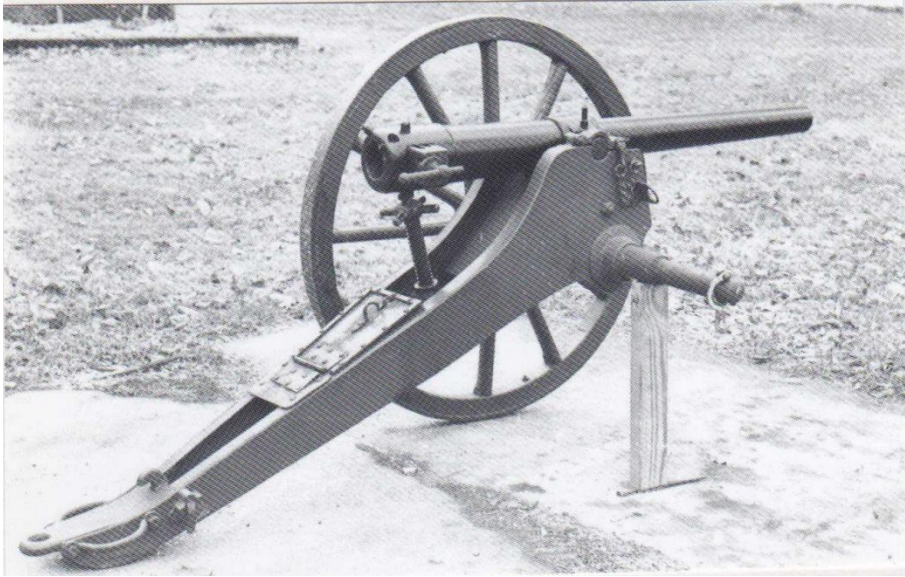
US 3.2" Gun Limber



US 3.2" Gun Limber

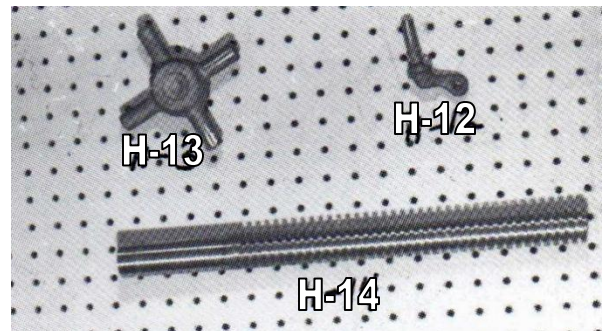
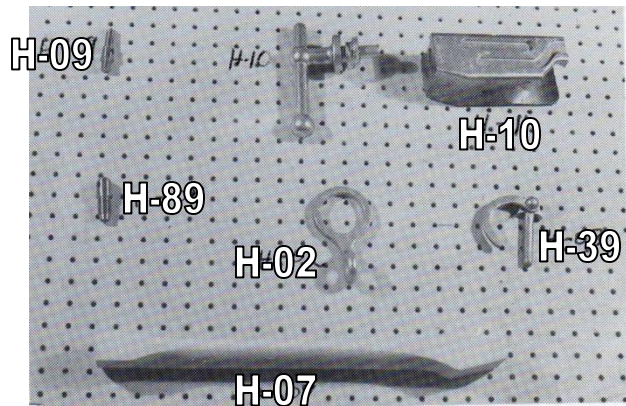
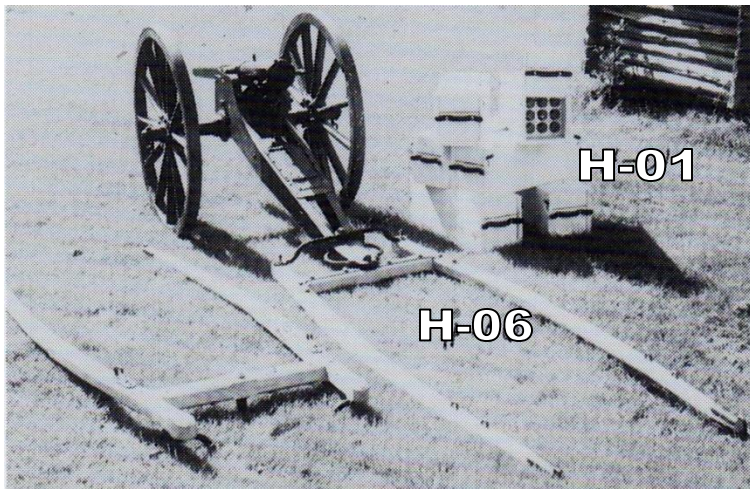
Part #	Description	Cost (\$)
L32-1	Pintle Hook	\$170.00
L-15	Pintle Key	L32-8
L32-2	Chest Lid Prop, Bronze	\$165.00
L32-3	Tool Bracket A, Bronze	\$100.00
L32-4	Tool Bracket B, Bronze	\$100.00
L32-5	Chest, Wedge Brackets	\$14.00
L32-6	Pole Key	\$38.00
L32-7	Bronze primer box lid, not threaded	\$82.00
L32-8	Pintle Key, correct "fat body" model	\$75.00
L32-9	Bronze Plates, rt&left, fit between limber frame and primer boxes	\$75.00
	Limber pole bracket for folding prop, male	\$70.00
L32-10	Folding prop Hinge, female	\$55.00
L32-12	Tool box bottom, perf. Cast bronze Limber Chest handle castings (2) req. out	
L32-13	assy	\$100.00

Hotchkiss M1876 2 pdr Mountain Rifle



The mountain rifle pictured here is believed to be one of many imported to the US during the 1950's and sold to collectors. It is identical to those with known US Army uses, except possibly for the presence of a trail locker and trail dandles. The handles are arsenal original, the trail locker lid is a field modification, but one commonly observed on such pieces. Both features are very user-friendly.

The Hotchkiss 2 pdr. Was designed by an American but manufactured in Paris beginning in 1876. The US Army purchased 6 guns for trial in 1877 and found them excellent for operations in the West where the short range of the 12 pdr. Mountain howitzer was a handicap. They were purchased in Paris until the late 1890s when they were manufactured here by American Ordnance Company. Before the mid-1890's they were friction primed, after that many US piece were converted to center fire. They were used to as later as the Philippine Insurrection of 1902. In the 1950's many of these were brought into the US from South America nu arms surplus dealers and are often found in older gun collections



Hotchkiss M1876 2pdr.

Part #	Description	Cost (\$)
H-01	Ammo Chest, 18 rd.	out
H-02	Extractor	\$50.00
H-03	Linch Washer	\$32.00
H-04	Linch Pin, W/Clip	\$42.00
H-05	Rifled Liner	call
H-06	Towing Thill Set	call
H-07	Spoke	call
H-08	Breechblock Stop Screw	\$31.25
H-09	Front Sight, machined	\$33.75
H-10	Friction Block Handle	\$200.00
H-12	Cap Square Key	\$20.00
H-13	El. Screw Crosshead	\$65.00
H-14	El. Screw, Metric	out
H-15	Bronze cartridge case head	\$13.00
H-16	Rammer & brush stop	\$42.00
H-17	Trunnion Cap (Right)	\$45.00
H-18	Trunnion Cap (Left)	\$45.00
H-19	Trunnion Plate (Right)	\$75.00
H-20	Trunnion Plate (Left)	\$75.00
H-21	Lunette, one piece	\$175.00
H-22	Axle Fitting, Right, Bronze	\$125.00
H-23	Axle Fitting, Left, Bronze	\$125.00
H-24	Data Plate, French, Bronze	\$35.00



H-24

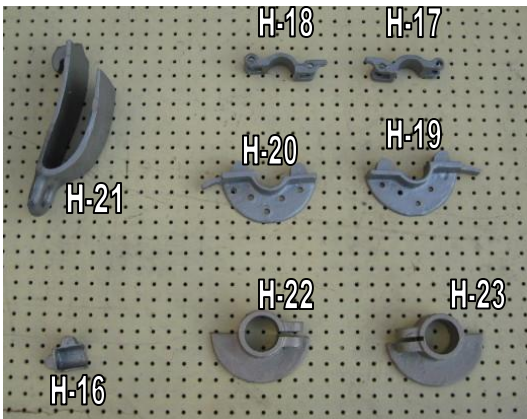


H-15

H-15 can be machined for friction or CF primer. Roll of sheet brass swages inside before fire forming.



H-02



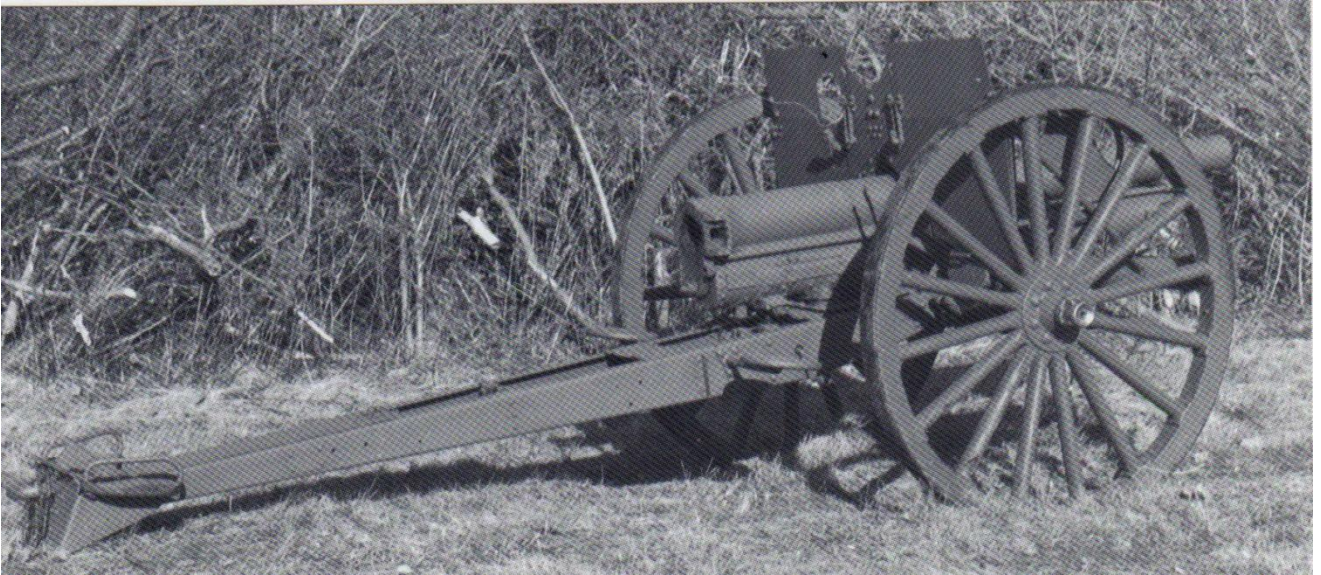
Parts for Am Ord, c.f. block--call



New Friction primed block, machined from 4140 steel



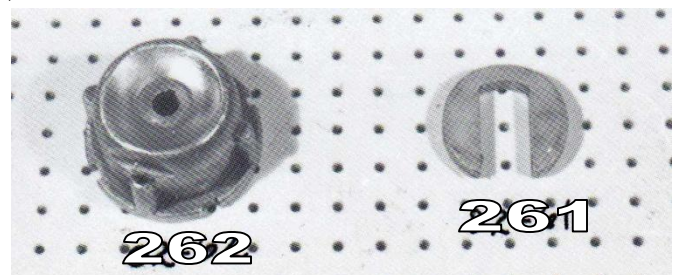
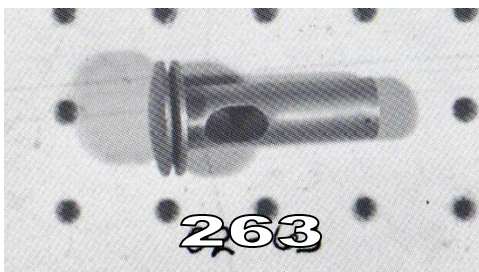
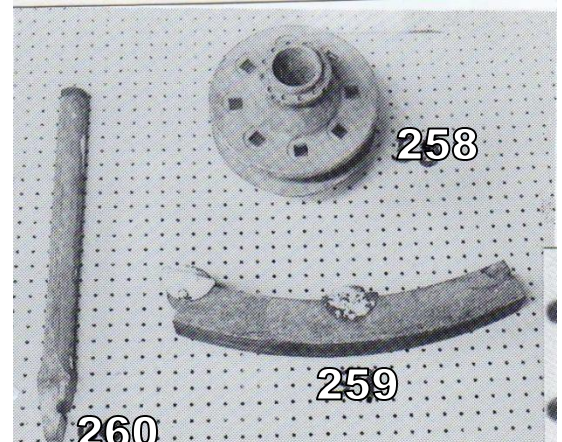
US M 1902-05 3Inch Field Gun



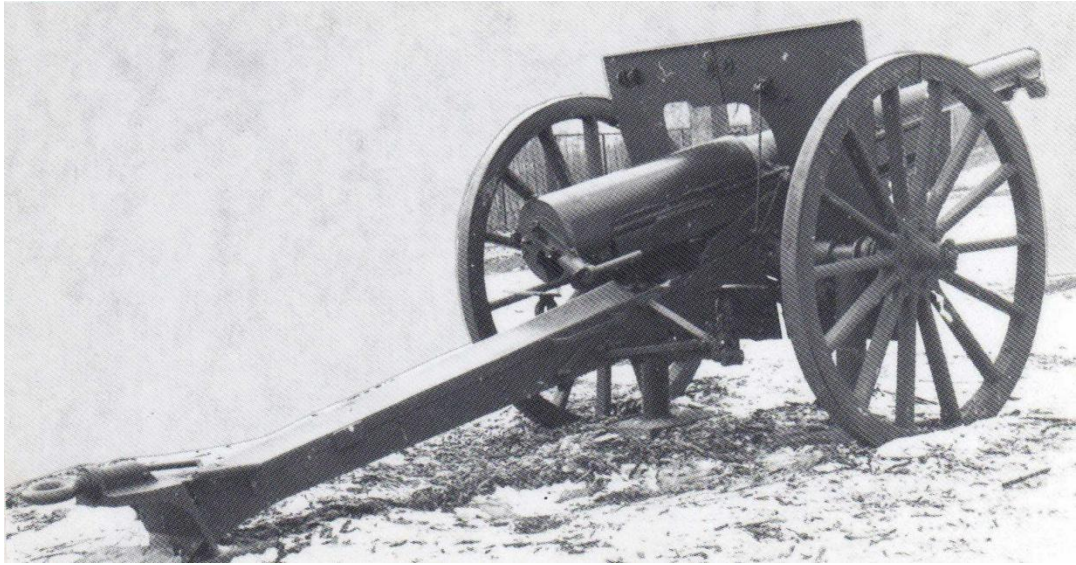
The US M-1902 Field Gun was the first American field gun to use a recoil absorbing carriage in the modern sense, it had a hydraulic buffer with a coil spring for counter recoil. The carriage remained the same throughout its production years (until 1916), the gun tube changed slightly in 1904 and 1905. Most specimens that have survived are m905's. They were used in the Pancho Villa Expedition, but not fired in action. They were kept in the US for training during WWI and not sent overseas. They continued in limited use for training until the 1930's, to use up old ammunition stocks. Most were converted to salute guns by cutting a groove in the chamber and fitting a choke ring which will only accept a short blank cartridge. As salute guns they remained in use until after WWII, some until the 1950's.

US M1902-05 3 Inch Field Gun

Part #	Description	Cost (\$)
258	Wheel Hub, Original	call
260	Spoke	\$14.00
265	Wheel, Complete	call
261	Linch Pin, Bronze	\$39.00
263	Hubcap, Bronze (not threaded)	\$125.00
264	Oiler for Hubcap	\$40.00
265	Hubcap, fully assy	\$250.00
266	Steel Spoke Shoes, new	\$20.00
267	Bent wood felloes, inleted for steel shoes	\$40.00

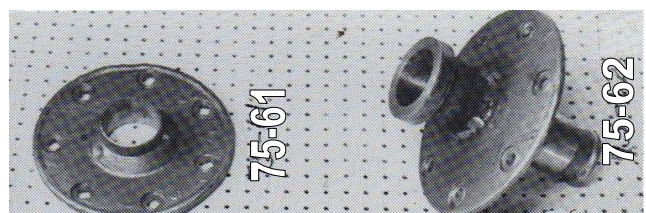
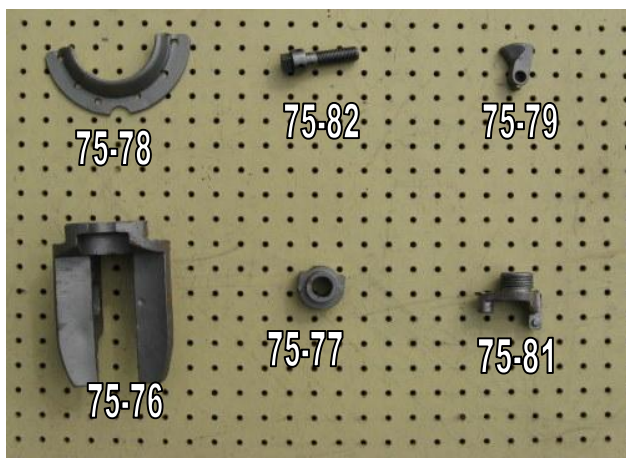
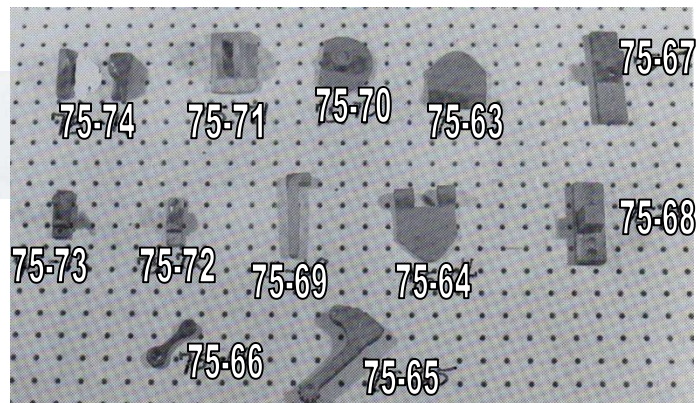


US French 75mm Field Gun, Model of 1897



The US M1897, 75mm Field Gun was adopted in 1917 for use by American Forces in France. Its date designation relates to the original French model year when it was put in service as the most advanced field gun of its time. It was the first to use a hydro-pneumatic recuperator which remains much the same today. It was the standard divisional artillery piece in the US Army until replaced by the 105mm howitzer at the outbreak of WWII. During the 1930's various carriage modifications adapted it to rubber tires and provided high angle fire. The vast majority of French 75's were modified for WWII use, including mounting on half tracks and submarines.

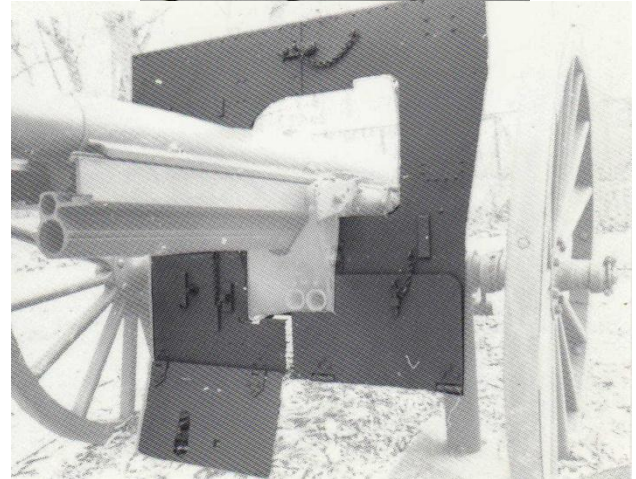
Only a few French 75's have survived on their original horse drawn carriages. The majority of these were converted to salute guns, which usually included removal of the splinter shield, in addition to the chamber alteration and removal of all recuperator moving parts. The gun tube is welded to the recuperator forging to keep it in place.



US French 75mm Field Gun

M1897

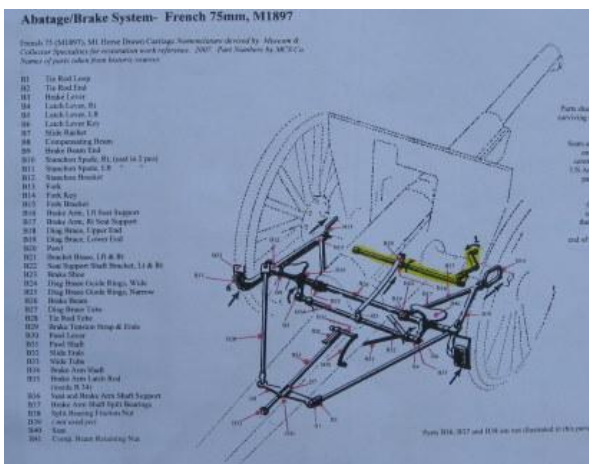
Part #	Description	Cost (\$)
7561	Wheel Hub Flange	\$200.00
7562	Wheel Hub, W/O Bearing	\$425.00
7563	Male Hinge, Lower Shield	\$35.00
7564	Female Hinge, Lower Shield	\$34.00
7565	Firing Lock Hammer	\$75.00
7566	Firing Lock Link	\$20.00
7567	Retaining Block, Upper Shield	\$52.00
7568	Retaining Block, Lower Shield	\$53.00
7569	Split Key, all positions	\$27.00
7570	Upper Shield ret. Washer	\$35.00
7571	Stabilizer Bracket for Shield	\$62.00
7572	Quadrant Box Hook, upper	\$27.00
7573	Quad. Box, Lower	\$28.00
7574	Sight Box Ret. Ears (pair)	\$55.00
7575	Wood Spoke	\$15.00
	Complete Splinter Shield assy	\$1,950.00
75-76	Coupler for recuperator rod	\$150.00
75-77	Coupler nut blank	\$45.00
75-78	Cover plate rear recuperator	\$30.00
75-79	Ejector Cam	\$40.00
75-80	Brake Parts Kit with Drawings	\$2,950.00
75-81	Safety Piece	\$50.00
75-82	Wiper Plate Bolt	\$45.00
75-83	Spoke Shoe, French style	\$23.00
75-84	Range Rack	\$200.00



75-76 Splinter Shield Assembly, steel, high quality replication, complete to 1918 configuration (American four piece shield) but not heat treated or otherwise warranted for ballistic performance.



Kit of parts above will build an Abatage Brake assembly for the M1 Horse Drawn Carriage. Kit will also include drawings and recommendations for assembly using stick steel tubing and materials.

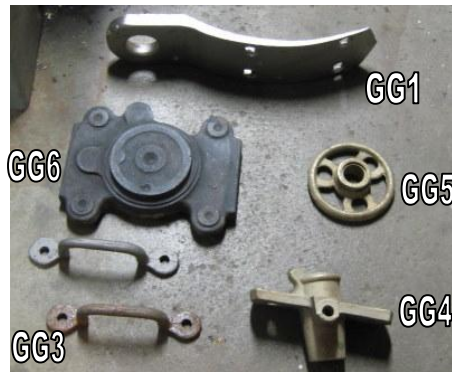


1874-79 Colt Gatling Carriage

US Colt Gatling Carriage 1874-79 (44.5" wheels)



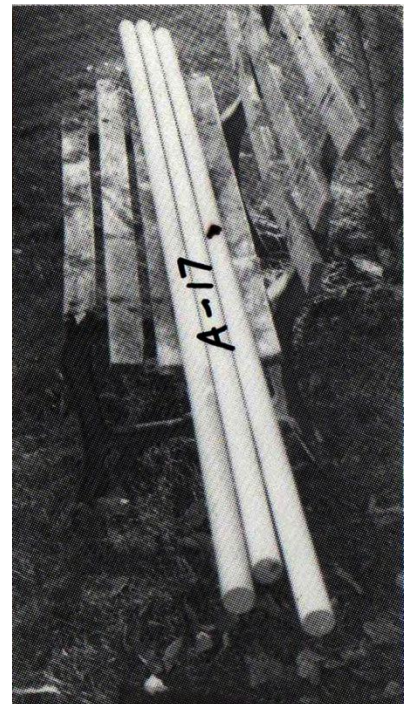
Part #	Description	Cost (\$)
GG1	Lunette	\$175.00
GG2	Pointing Ring	\$65.00
GG3	Trail Handle	\$64.00
GG4	Bronze Elevating gearbox	\$185.00
GG5	Bronze Elevating handwheel not threaded	\$200.00
GG6	Yoke Bed Plate, (cast iron)	\$200.00



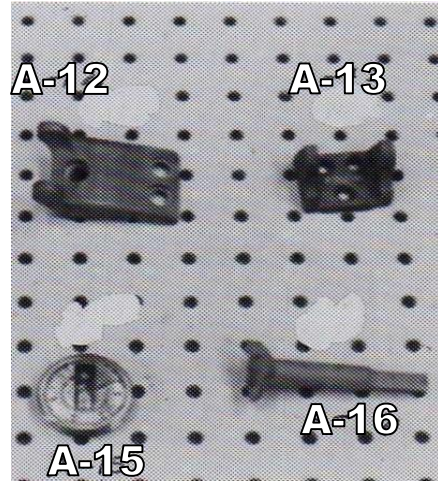
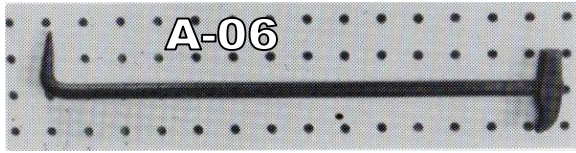
The US Army generally favored larger Gatling carriages with 55" wheels. Colt Firearms, makers of the guns, marketed a smaller and lighter carriage for the long barrel guns of the 1874-1879 models. They proved to be very popular with other customers with their 44.5" wheels and wheel track. Eventually even the US Arsenal at Watervliet began making some copies of the Colt carriage. The smaller carriage is popular with collectors. It takes up less room but still makes the 400 pound gun assemblies easy to handle. We have produced drawings of this carriage from the original specimen in the photo. They are available to customers who purchase a full set of parts

Assorted Artillery Items

Part #	Description	Cost (\$)
A06	Tow Hook	\$30.00
A07	3 In. Hausse Bracket	\$37.00
A12	6 pdr. Hausse Bracket	\$29.00
A13	Bronze Hausse Bracket	\$32.00
A13b	Replica Boreman Fuze	\$9.00
A15	Boreman Fuse Wrench	\$25.00
A16	1.5" Ash Dowels, 7ft	\$39.00
A17	Pkg. of 3 Dowels	\$99.00



Assorted Artillery Items



WWI German Field Gun Hubcaps

Two styles available, cast steel

\$80.00

Write us.



7.7cm German Hubs

77-3	Hub Flange with Brake Drum	\$260.00
	Hub Flange, to weld on Spindle	
77-4	Cylinder	\$200.00

Spanish Bronze Rifled Howitzer Carriage Ca. 1860-1890



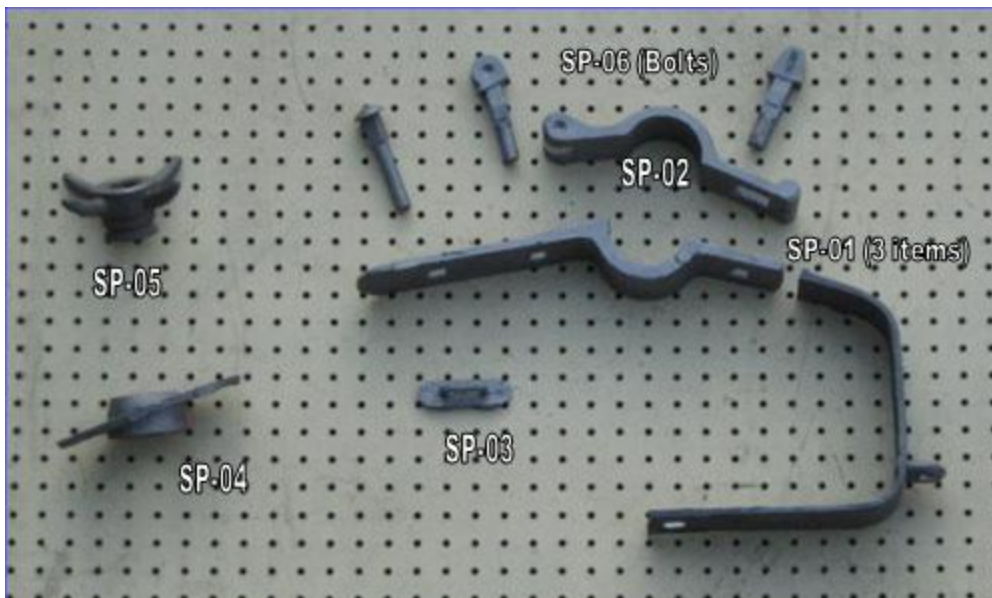
Spanish Bronze Rifled Howitzer Carriage Ca. 1860-1890



A large number of Spanish bronze muzzle loading rifled howitzers, similar in size to our 12pdr Mountain Howitzer, were taken as trophies during the Spanish-American War. A carriage pictured here is an original belonging to the Detroit Historical Museum. It had been in pieces in storage for many years and we repaired and re-assembled it, in turn for the opportunity to make tooling for replication. The gun tubes occasionally are found with carriages missing. Nearly identical old bronze cannon tubes have been recently imported from Nepal, usually without carriages. To those who purchase a set of hardware, we will provide full size shop tracings and other data to assist in building a replica carriage.

Spanish Howitzer Ca. 1860-1890

SP-01	Trunnion Plate, cast 2pcs assm. With Cap Square	\$365.00
SP-02	Cap Square Only	\$70.00
SP-03	Strap Fitting	\$22.00
SP-04	El. Screw Box	\$78.00
SP-05	El. Screw Handle	\$88.00
SP-06	Set of 3 bolt heads, cap sq & plate	\$70.00



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Resale No.

(For office use only)
Check Ref.

Prev. Acct. Bal.

Cash Rec.

[illegible]

Shipping, on metal parts:

Eastern Time Zone add
Central " " "
Mountain " " "
Pacific " " "

7	%
8	%
9	%
11	%

For wood products, increase above
by one-half.

Balance carried from back side of order form

Total of products:

Sales Tax, (Michigan only) + 6%

Shipping

Total Amount Enclosed.

METHOD OF PAYMENT:

CHECK OR MONEY ORDER

[illegible]