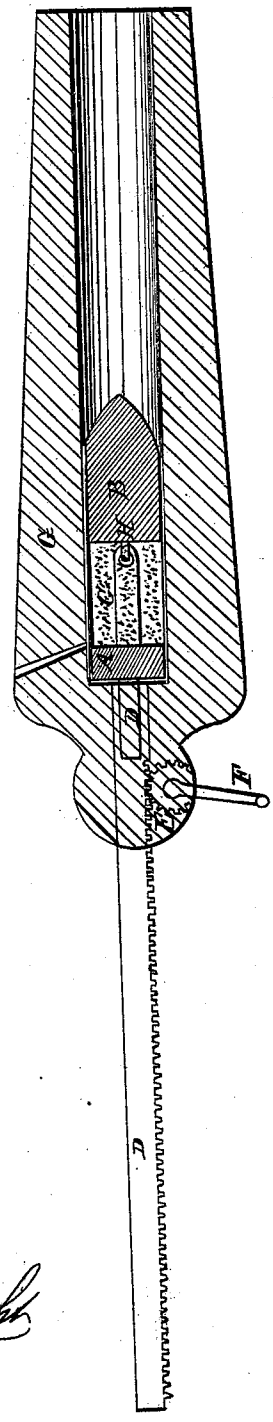
D. E. RICE.

Ordnance.

No. 43,339. Patented June 28, 1864.



Witnesses
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UNITED STATES PATENT OFFICE.

DELOS E. RICE, OF DETROIT, MICHIGAN.

IMPROVEMENT IN LOADING ORDNANCE.

Specification forming part of Letters Patent No. **43,339**, dated June 28, 1864.

To all whom it may concern:

Be it known that I, DELOS E. RICE, of the city of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Device for Loading and Unloading Cannon; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, the figure being a longitudinal sectional view.

G is a cannon of the usual kind in common use, with a hole through the breech, into which is fitted a hollow piston-rod, D, said rod having teeth cut in it from the outside end to where it intersects with the pinion E, when the said rod is drawn out its full length, as shown in the drawing. The teeth on the pinion E fit into the teeth in the piston-rod D. The pinion is inserted in a chamber or recess made in the breech of the gun, which also holds the shaft that goes through the pinion. Attached to the shaft is a crank, F.

A is a piston which is attached to the piston-rod D a short distance from the inside end. This piston should fit the bore of the cannon.

C is a cartridge of powder, with a hole through its center to slip onto the end of the piston-rod, the short end of the piston-rod being made solid, with an eye in the end to hook on the ball B, the ball also having a hook in the end for that purpose.

I do not confine myself to the use of a hollow piston-rod, as it may be made solid, if preferred.

The operation of loading and unloading cannon with this arrangement is as follows: On turning the pinion E with the crank F, the piston-rod with piston is moved out to the muzzle end of the cannon. On the short end of the piston-rod which sticks out beyond the piston is placed the hollow cartridge of powder. The ball is then hooked into the eye of the piston-rod close up to the powder. Then, on giving the crank a backward motion, the powder and ball would be drawn into the breech of the cannon, and ready to fire in the usual way. The hook in the ball should be considerably weaker than the eye in the piston-rod, so that it will break easily when the gun is fired. The piston, fitting the bore of the cannon closely, would almost draw in the charge by atmospheric pressure alone.

The advantage which I claim that this arrangement of loading and unloading cannon has over the method now in use is, that it will not require so many men, and that it can be done in less time. It would always be safe to load, as a premature discharge could not well take place, from the fact that when the piston was run out to the muzzle of the gun to receive the charge it would push out all the fire that remained in the gun after each discharge, and no stopping of the vent would be necessary when loading.

To unload the gun, turn the crank and push out the charge with the piston, instead of firing off the charge and losing both powder and ball.

When the gun is not in use, the piston should be moved out toward the muzzle, either when loaded or not, so as to have the piston-rod out of the way.

The piston-rod made hollow is for the purpose of making it light and strong.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the cogged piston-rod D, pinion E, crank F, tight piston A A, annular cartridge C, and hook-and-eye attachment H, all constructed, arranged, and operating as set forth.

DELOS E. RICE.

Witnesses:
O. F. MONFORT,
WILLIAM EVERED.