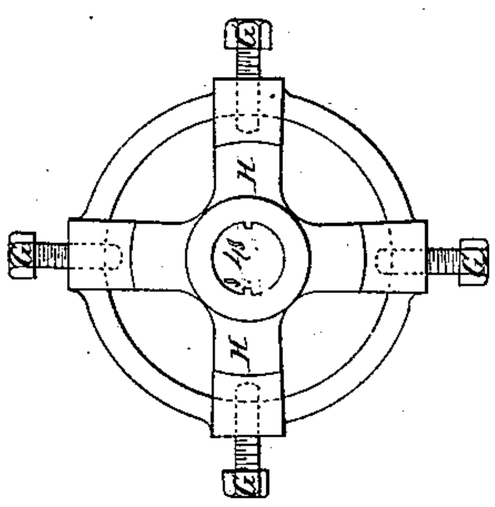
W. H. Gwynne.

Rifling Guns,

No. 33,884. Patented Dec. 10, 1861.



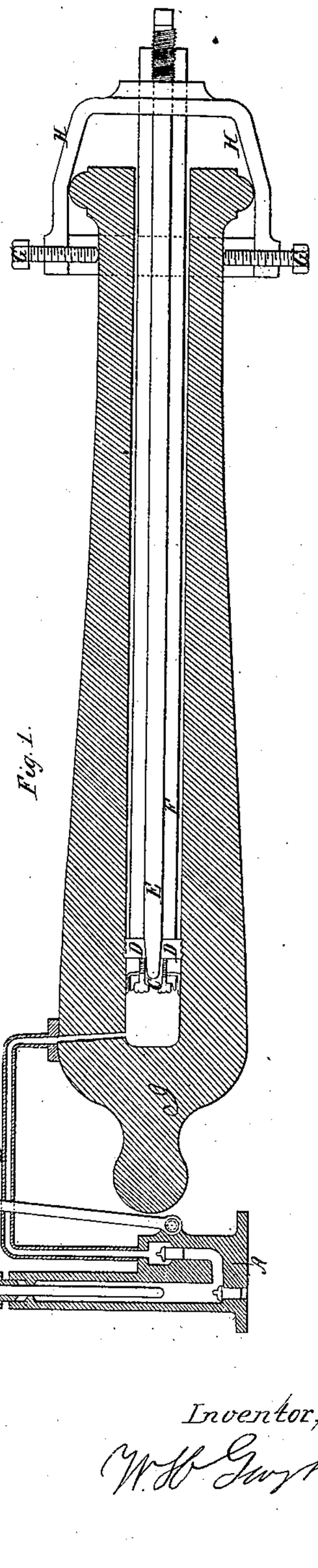


Fig. 1.

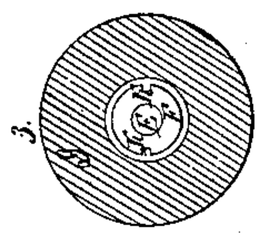


Fig. 3.

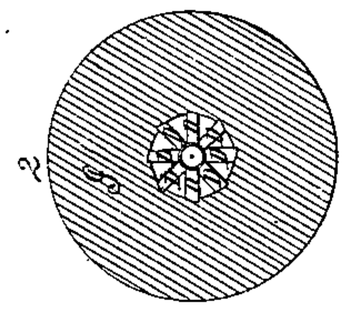


Fig. 2.

Witnesses;
W. W. Culver
James N. Culver

Inventor;
W. H. Gwynne

UNITED STATES PATENT OFFICE.

W. H. GWYNNE, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF, C. A. BUNNER, AND H. G. NORTON, OF SAME PLACE.

IMPROVEMENT IN MACHINERY FOR RIFLING GUNS.

Specification forming part of Letters Patent No. **33,884**, dated December 10, 1861.

To all whom it may concern:

Be it known that I, W. H. GWYNNE, of the city of Brooklyn, county of Kings, State of New York, have invented a new and useful Machine for Rifling Guns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of a longitudinal section of my machine placed in a gun to be rifled, and Fig. 2 shows a transverse section of the same. Fig. 3 is a transverse section showing plainly the spiral slots or grooves K K in the shaft F. Fig. 4 shows a front view of the guide H, which is fastened to the gun I by the set-screws G G.

To enable others skilled in the art to make and use my invention, I will proceed to give a description of its construction and operation.

The machine consists of a hydraulic pump A, of any suitable pattern, a pipe B, piston C, cutters D D D, expanding-rod E, hollow rifling-shaft F, and guide H, with its set-screws G G.

The pump A is a small hydraulic pump, to be driven by hand-power or any other suitable motor. The pipe B is connected to the gun by screws or other suitable device. Piston C is made of iron and covered with an outside covering of leather or any suitable material to render it water-tight, and is fastened firmly to the shaft F. The cutters D D D are made of steel or any suitable material and are fitted into recesses of proper size in hollow shaft F. It is obvious that the cutters can be made of any desired shape or size. The expanding-rod E is made of iron, steel, or other suitable material, and it has one end made conical, and the other end has on it a male thread fitting into a corresponding female thread or screw in the end of hollow shaft F. The ends of cutters D D D rest against rod E, which, turned to the right, causes the conical end to drive out the cutters D D against the inside of the gun to any desired distance. The same rod E being turned to the left, the cutters D D will return in their chambers flush with the surface of the shaft F. The hollow rifling-shaft is made of iron, steel, or other suitable material, and has the outer end of the bore slightly contracted, on which there is a female thread or screw cut to receive the male thread of rod E. On the outside of shaft F are cut spiral grooves or slots K K, made with whatever degree of twist it is necessary to have the rifle-grooves of the gun, so that when moved back or forth the rod takes a rotary motion from the feathers or pins I I in the guide H H. The guide H H is made of iron or other suitable material, with iron or other metal set-screws G G, by which it can be fastened to the gun to be rifled. It is bored to correspond with shaft F, and is also provided with pins or feathers fitting into slots K K in shaft F, the whole operating substantially as shown and described.

To operate my machine, the pump A is connected to the gun to be rifled by the pipe B, and the shaft F with its piston C. The cutters D D and expanding-rod E are then placed in the gun. The guide H, with its pins I I, is then slipped over shaft F and firmly fastened to the gun by set-screws G G. The rod E must be turned to the right hand as much as it is required to set out the cutters D D. The pump A must then be started and water forced into the gun behind the piston C. The entering water will drive the rifling-shaft F forward with its cutters and attachments, thereby cutting grooves in the gun to whatever depth the cutters D D may be set by rod E. If the grooves in the gun are not perfect at one cut, the rifling-shaft F can be forced back into the gun by slacking the cutters D D D. By turning expanding-rod E to the left hand a fresh supply of water can then be forced into the gun and the shaft and cutters driven forward through the gun, which operation may be repeated until the grooves are perfect, thus forming the rifle-grooves in guns in a cheap, simple, and perfect manner without moving the gun from its place in field or fortification, thus avoiding all expense of transportation of guns to distant machine-shops, which has been the custom and practice heretofore.

Now, having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The direct application of hydraulic pressure for the purpose of rifling guns.

2. The combination of the hollow shaft F, expanding-rod E, cutters D D, and piston C, the whole operating substantially as described and shown.

W. H. GWYNNE.

Witnesses:
W. W. CULVER,
JAMES N. CULVER.