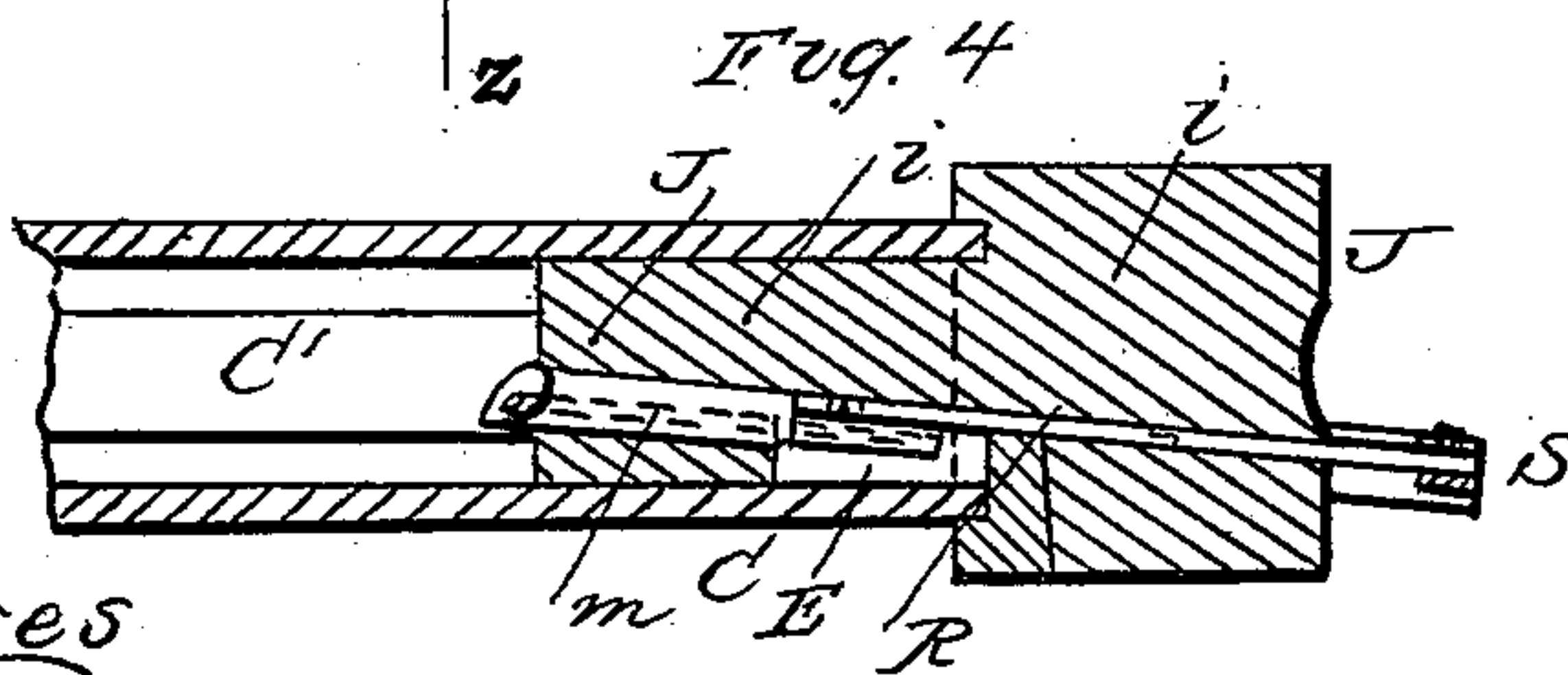
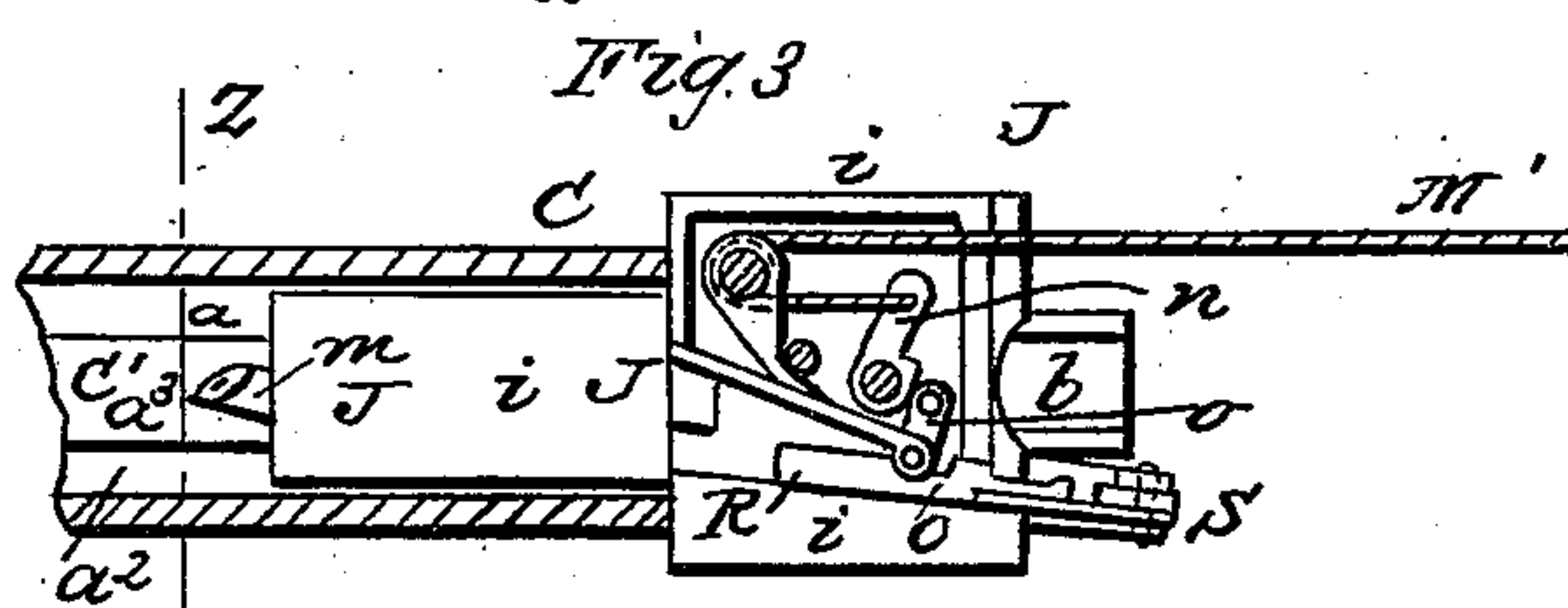
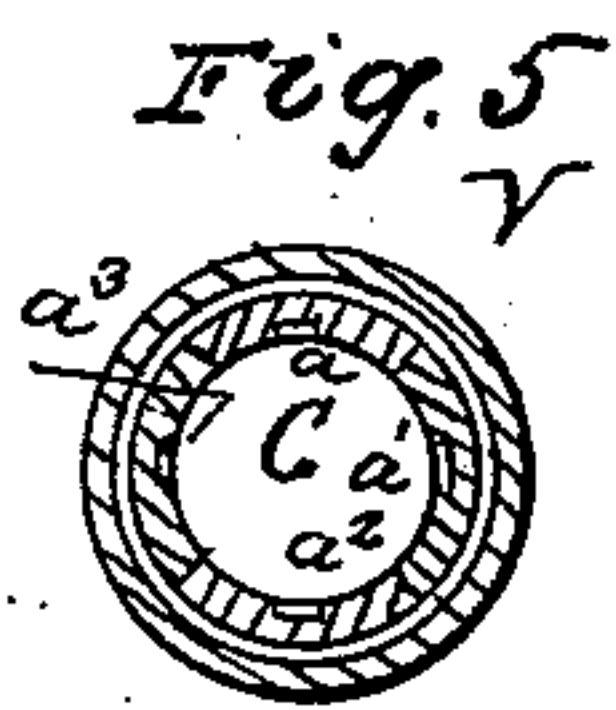
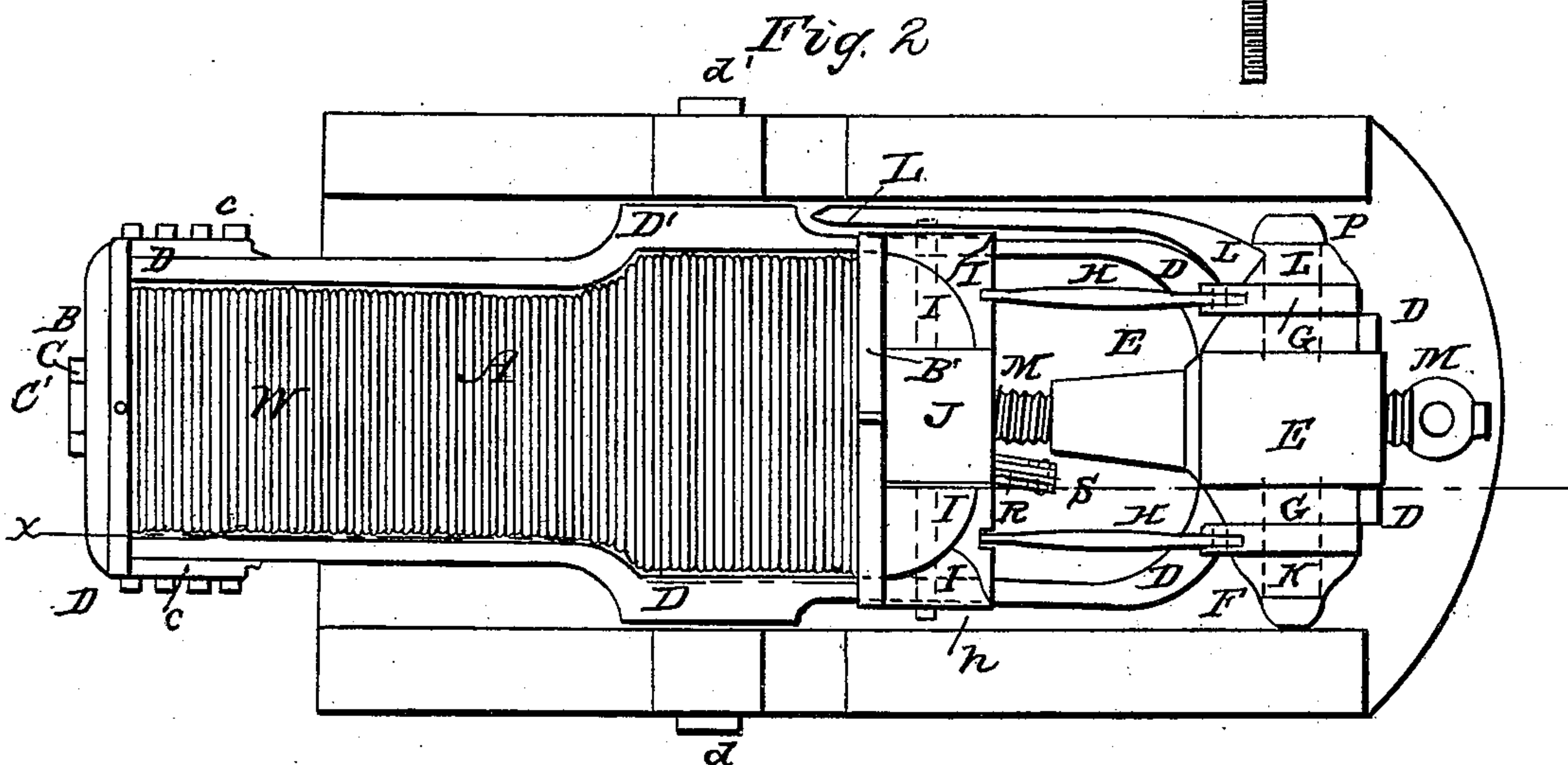
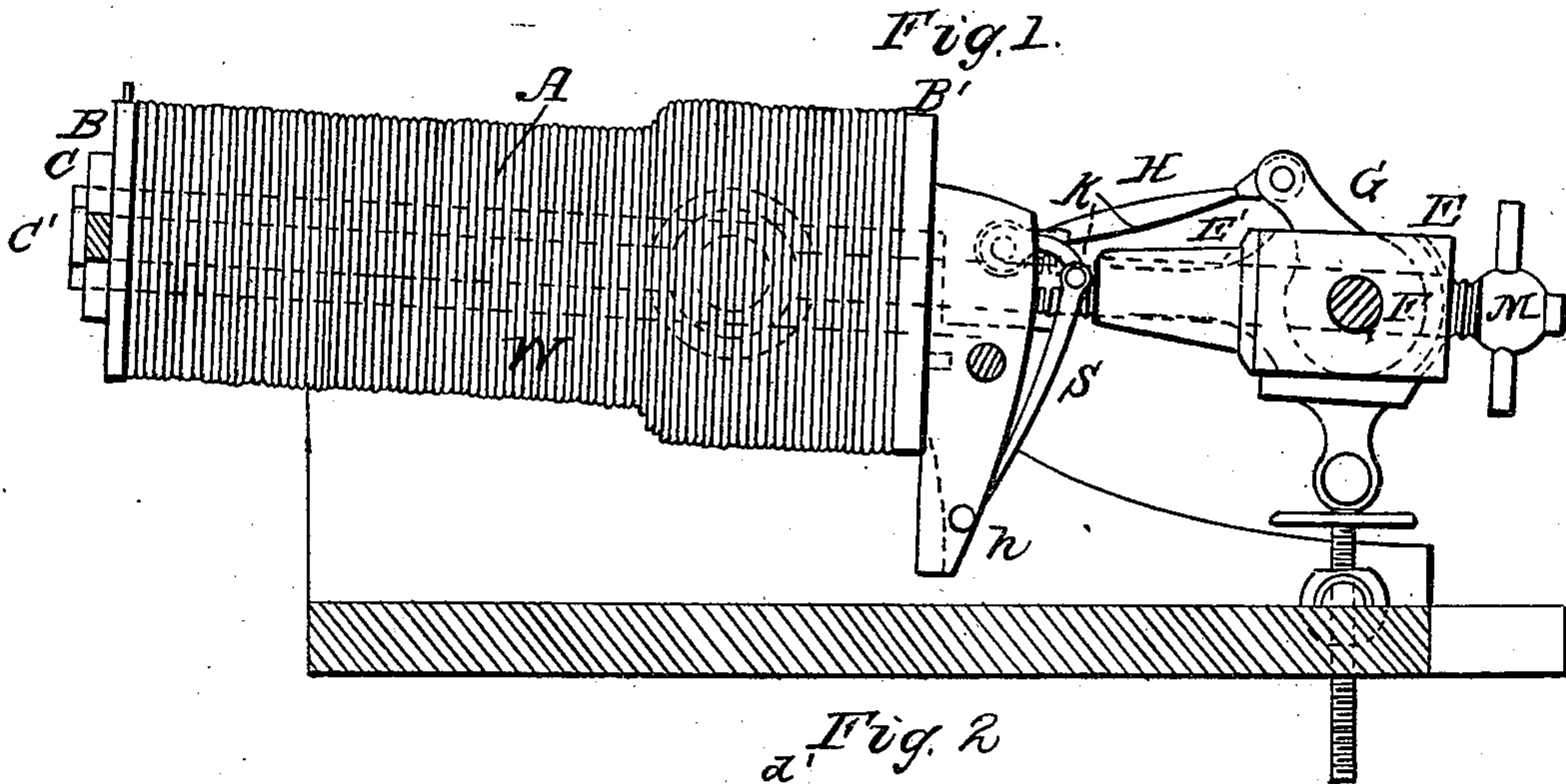


W. BACON.

Breech-Loading Ordnance.

No. 89,965.

Patented May 11, 1869.



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WILLIAM BACON, OF MONTICELLO, KANSAS.

Letters Patent No. 89,965, dated May 11, 1869.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM BACON, of Monticello, in the county of Johnson, and State of Kansas, have invented a new and improved Breech-Loading Ordnance; 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section, through line xx of fig. 2.

Figure 2 is a plan.

Figures 3 and 4 are longitudinal vertical sections, showing the lock-apparatus.

Figure 5 is a transverse vertical section of the barrel, taken through the line zz of fig. 3.

The object of this invention is to so improve the construction of breech-loading ordnance, that the breech can be opened and closed more easily and effectually than heretofore; while the lock or firing-apparatus is so improved as to make it more simple, convenient, and certain in operation. The barrel, also, is constructed in a novel manner, whereby its strength is increased, and its cost diminished.

In the drawings—

A indicates the barrel, it being constructed of a central core, consisting of four longitudinal sections, a a' a'' a''' , arranged, as shown, and wound, on their outside, with wire, as seen at W W , figs. 1 and 2, the breech being wound with a larger number of coils than the rest of the barrel, so as properly to increase its strength.

The parts a a' a'' a''' may be made of the same kind of metal, brass, steel, wrought or cast-iron, or copper, or some of said parts may be made of one metal, and some of another, as represented by the different colors in fig. 5.

To prevent the wires from spreading, add to the strength and finish of the piece, and provide means for supporting it upon its carriage, two stout disks, B B' , are attached to the barrel, one at the muzzle, the other at the breech, being fitted and shrunk on, or otherwise properly attached. The core projects slightly through each disk.

A stout wrought-iron, brass, or copper strap, C , having an opening, of the proper size and shape, to receive the end of the core, is also fitted over the core, at the muzzle of the gun.

Two strong metallic beams, D D' , having trunnions, d d' , affixed to them at the proper point, and being otherwise adapted to their position and office, are fitted to the sides of the gun, their forward ends lapping past the rear arms c c' of the strap C , and being fastened firmly thereto, and their rear ends extending to the proper distance beyond the breech of the core, and being adapted to support, at that extremity, a block, E , pivoted to them, and between them, upon a shaft, F , or trunnions, to which it is firmly fixed, so, that by

rocking the shaft or trunnions, the block will rock also upon its pivot.

The side beams D D' may be properly fastened to the disks B B' . Perhaps the simplest and best method of thus fastening it, will be to elongate the disks at the side of the gun, cut a notch or gain in the elongated part, and pass the beam or strap D D' through such notch, bolting it to the edge of the disk at that point.

Firmly fixed to the shaft F , outside of the beams D D' , on each side of the block E , is a stout arm or crank, G , connected, by a rod or pitman, H , to a sliding block, I , which travels upon and is held in place, and guided by the beam D or D' , as the case may be, behind the rear disk or plate B' .

On one or both ends of the shaft there may also be affixed a stout hand-lever, L , by which to rock the shaft, and thus to move the blocks I I up against, or withdraw them from the breech of the gun.

Nuts, collars, washers, &c., as at K , may be employed when necessary.

Pivoted between and to the blocks I I , is a breech-block, J , consisting of two parts, i i' , the former a block, fitting tightly against the rear end of the barrel, the disk B' being considered a part of the barrel, and the latter a cylindrical projection, from the centre of the block, which, when the latter is moved forward against the barrel, enters the cavity of the breech, accurately fitting and filling the bore.

Around the cylinder i' , a groove is cut in the block i , to fit the projecting end of the core.

The block J extends considerably below the pivots or trunnion, upon which it hangs, and, near its lower end, is provided with a handle, h , by which it can be swung on its pivot when drawn back from the breech, so as to bring the cylindrical part in line with the bore, or throw it up out of the way, and leave the breech open to receive the load.

A projecting arm may extend back from the lower edge of the core, its upper surface in line with the bore, to serve as a rest or stop, upon which the cylindrical part, i' , will repose when ready to enter the breech, as above described. In such case, an opening must be provided in the block i , to accommodate the projecting arm when the block is moved forward.

The block J , constructed and operating as thus described, is the part that closes the breech when the gun is to be fired.

It is evident, that if some device were not employed to prevent it, the force of the explosion would at once throw the breech-block out of place, and perhaps destroy the whole apparatus. Accordingly, I provide, for the purpose, a stout screw-bolt, M , screwing through the block E , against the rear side of the block J , and forcing the latter firmly against the barrel.

Any explosive force sufficient to blow the block J away from the breech, when thus held in position, must be sufficient, first, to overcome the tensile

strength of both straps or beams D D', and snap them asunder.

It is evident that they can be made (and should be made) strong enough to resist any force that may thus be brought to bear upon them.

In operating the parts, to open the breech, the bolt M must first be partially unscrewed, (a turn or two will be sufficient,) in order to allow its forward end to clear itself from the block J when thrown up. Then, by a movement of the lever L, its forward end is raised out of the way, while simultaneously, and by the same movement, the breech-block is withdrawn from the barrel.

The cylindrical part of the latter may then be thrown up out of the way, by means of the lever h, as above explained.

The block E may be elongated, as shown at E', in order to hold the screw-bolt more firmly, and the block J may have a rest affixed to its rear side, for the purpose of supporting the end of the screw M in the same manner that the projection b, (see fig. 3,) on the rear end of the core, stops and guides the cylinder i'.

This being the general construction and operation of the breech-loading apparatus, it now remains only to describe the nature of the firing-device.

The cylinder i' is provided with a chamber, in which is fixed a small tube or barrel, m, that receives a common pin-fire, needle-fire, or percussion-cartridge, adapted to be fired by the forward motion of a rod, R, operated by a spring, S, attached to the rear side of the block J.

The rod R is jointed at r, in order that it may not "bind" in the chamber or passage in which it works.

The end of tube m is made oblique and pointed, in order, that when it is forced into the barrel with the cylinder i', it may cut through the envelope of the gun-cartridge, and come directly in contact with the powder.

The principle upon which I operate the gun, is, to place a small cartridge in the tube m, and, by means of the rod R and spring S, to explode it, and discharge it into the gun-cartridge, thereby firing the cannon.

The remainder of the apparatus is simply for cocking and firing.

A notch, o, is made in the side of rod R, into which sets a stop, o', held in contact with the rod by a spring, p.

A lever, n, is so constructed, and, by means of a link o'', connected to the stop, that when the upper arm of the lever is pulled forward, by means of a cord,

M', it lifts the stop out of the notch o, and allows the spring S to retract the rod and discharge the gun.

It requires but a very slight cavity in the block J to accommodate all the parts of the firing-apparatus, and the existence of such cavity has no appreciable effect to diminish the strength of the breech-block.

An adit, e, can be made through the side of the cylinder, to the rear end of the small tube m, as shown in fig. 4, in order that the small cartridge may be readily inserted, or its shell removed.

Having thus described my invention,

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

1. The gun, constructed of the central core C, the wire w, the two disks B B', the front strap O, and the side straps D D', having the trunnions, upon which the gun is supported in its carriage, all said parts being constructed and arranged substantially as and for the purposes specified.

2. The combination of the block E, pivoted between the parts D D', the arms G G, the rods H H, and the blocks I I, guided by the parts D D', and carrying the breech-block J, all said parts being constructed to operate as and for the purpose described.

3. In combination with the parts E, F, G, H, I, and J, the screw-bolt M, operating as and for the purpose set forth.

4. In combination with the main barrel of the gun, the small barrel or tube m, adapted to tear and penetrate the gun-cartridge, and to discharge into it a small cartridge, as herein described.

5. In combination with the pivoted breech-block J, the small tube m, rod R, and spring S, arranged (all except the spring) within the block J, and operating substantially as described.

6. The arrangement of the rod R, stop o', link o'', spring p, lever n, spring S, and cord M', in connection with each other, substantially as and for the purpose set forth.

7. The adit e, when arranged in connection with the breech-block J, and the parts contained therein, substantially as and for the purpose specified.

To the above specification of my improvement, I have set my hand, this 20th day of January, 1869.

WILLIAM BACON.

Witnesses:

NATHAN K. ELLSWORTH,
CHARLES A. PETTIT.