4 Sheets—Sheet 1.

J. H. HEDRICK.

REPEATING CANNON.

No. 110,233. Patented Dec. 20, 1870.

Fig. 1.

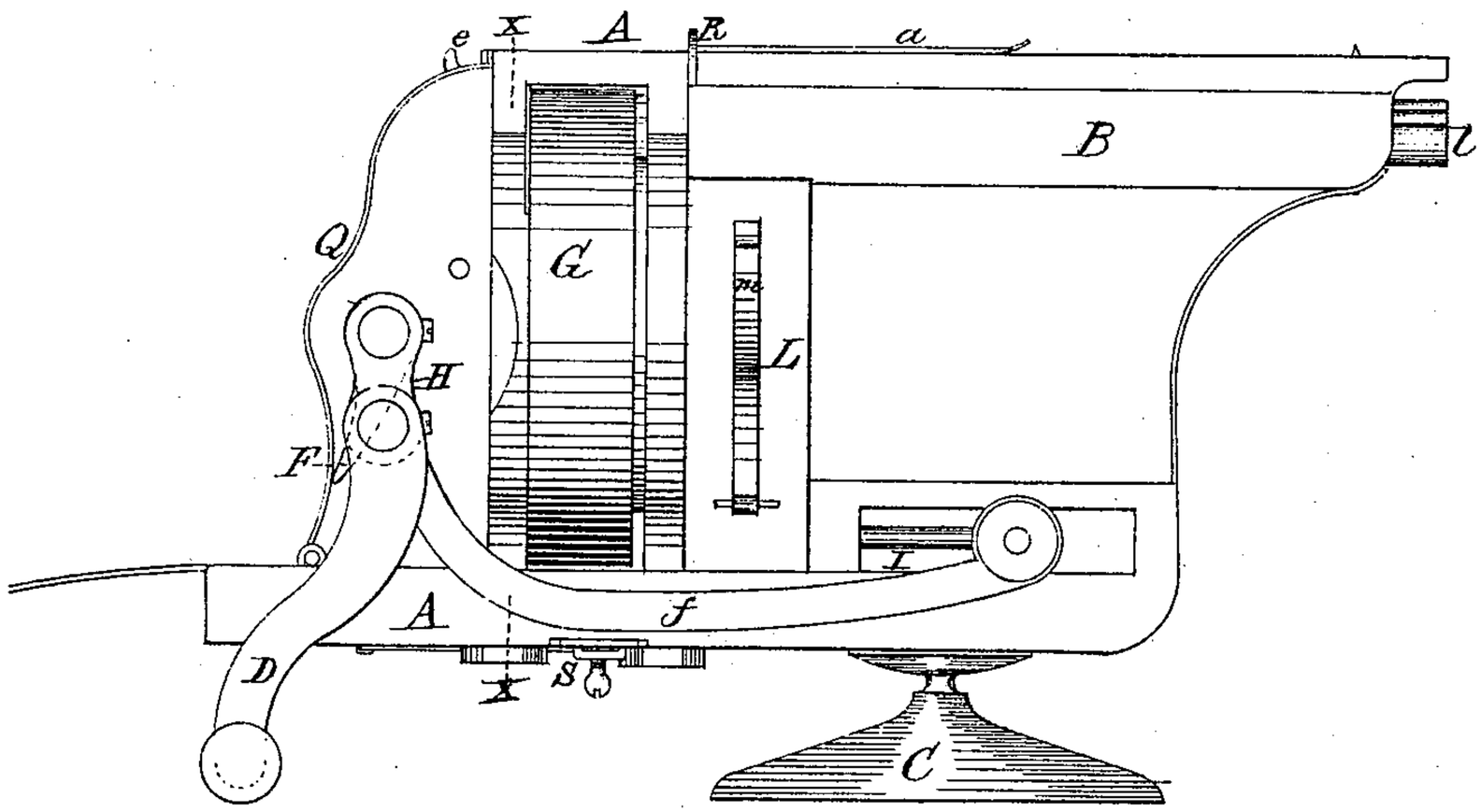
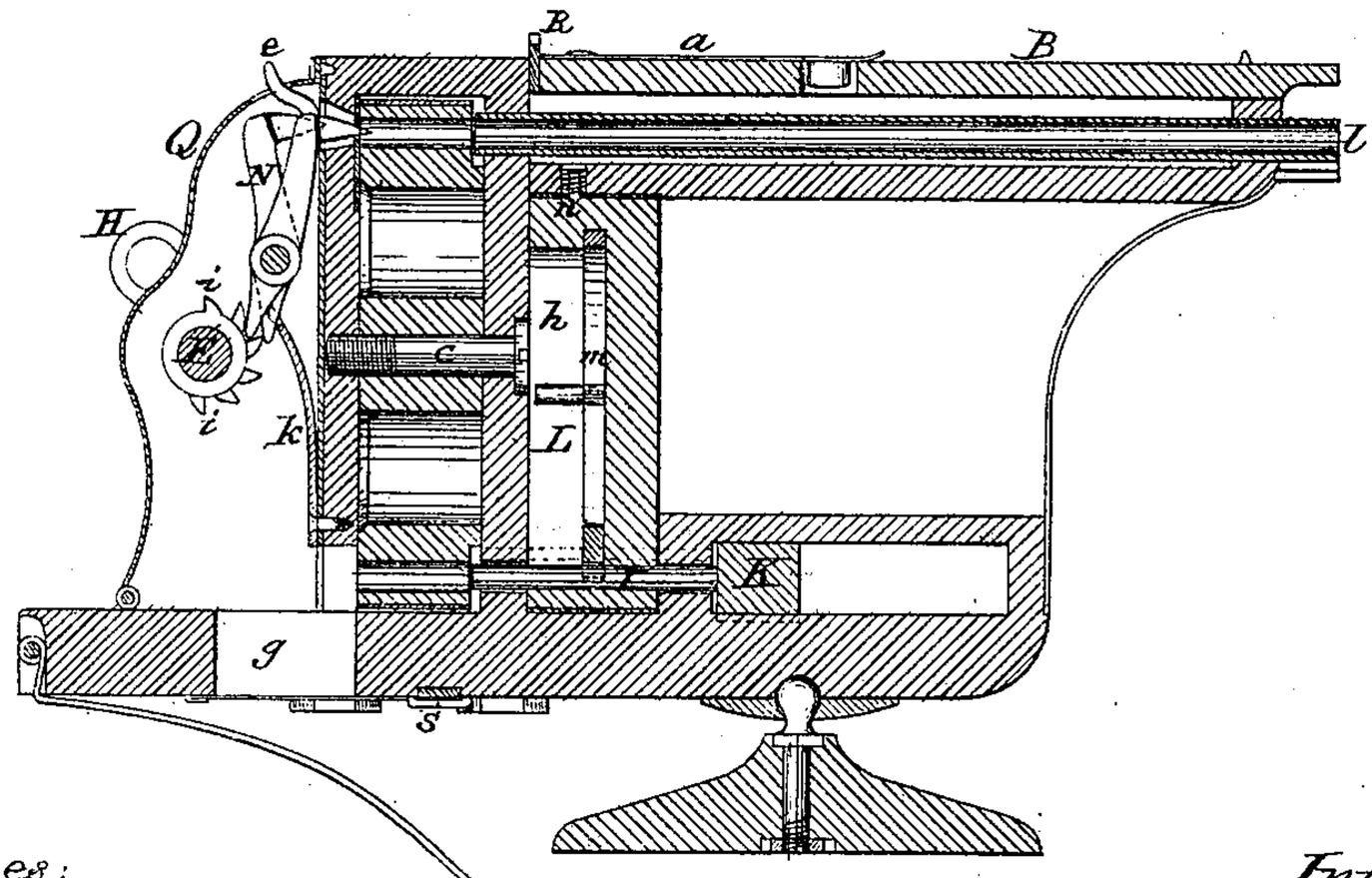


Fig. 2.



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Inventor:

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Fig. 3.

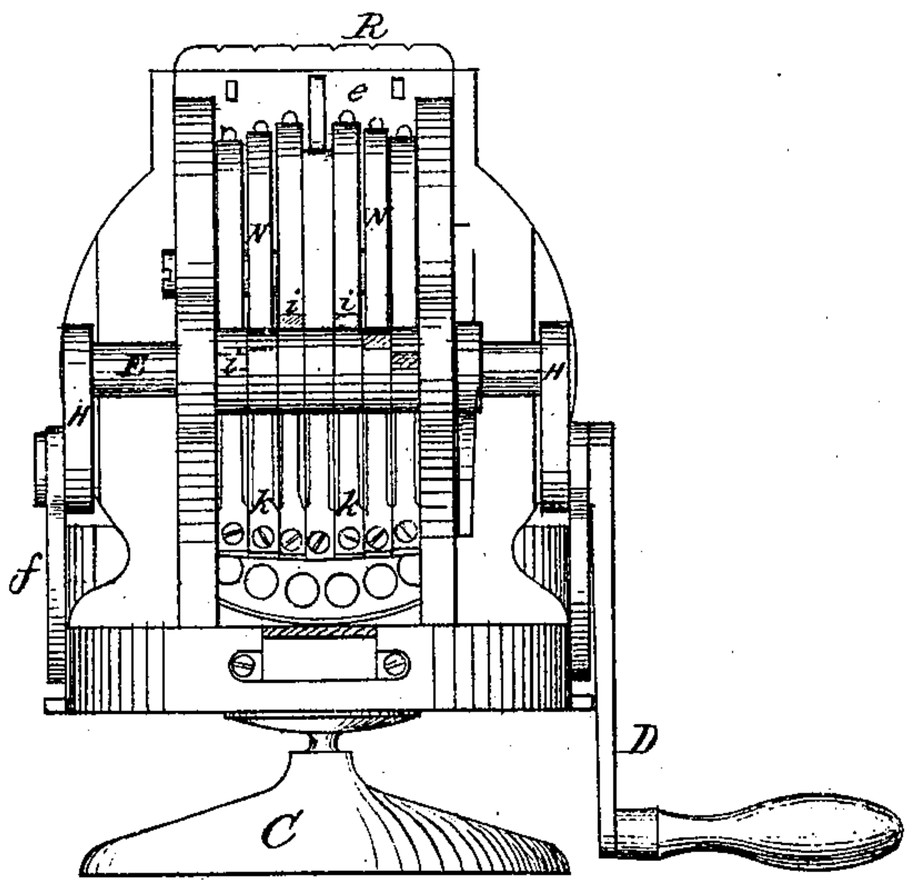
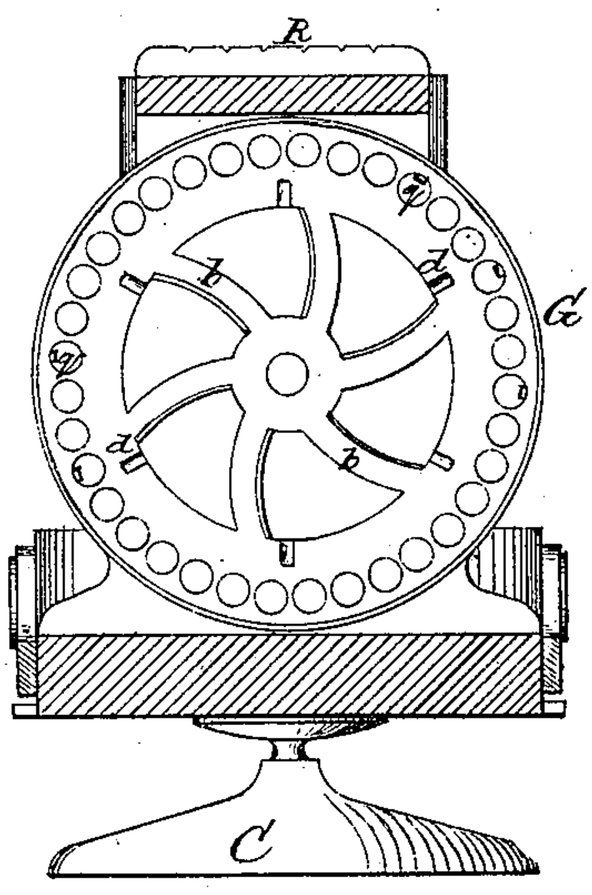


Fig. 4.



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4 Sheets—Sheet 3.

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Fig. 5.

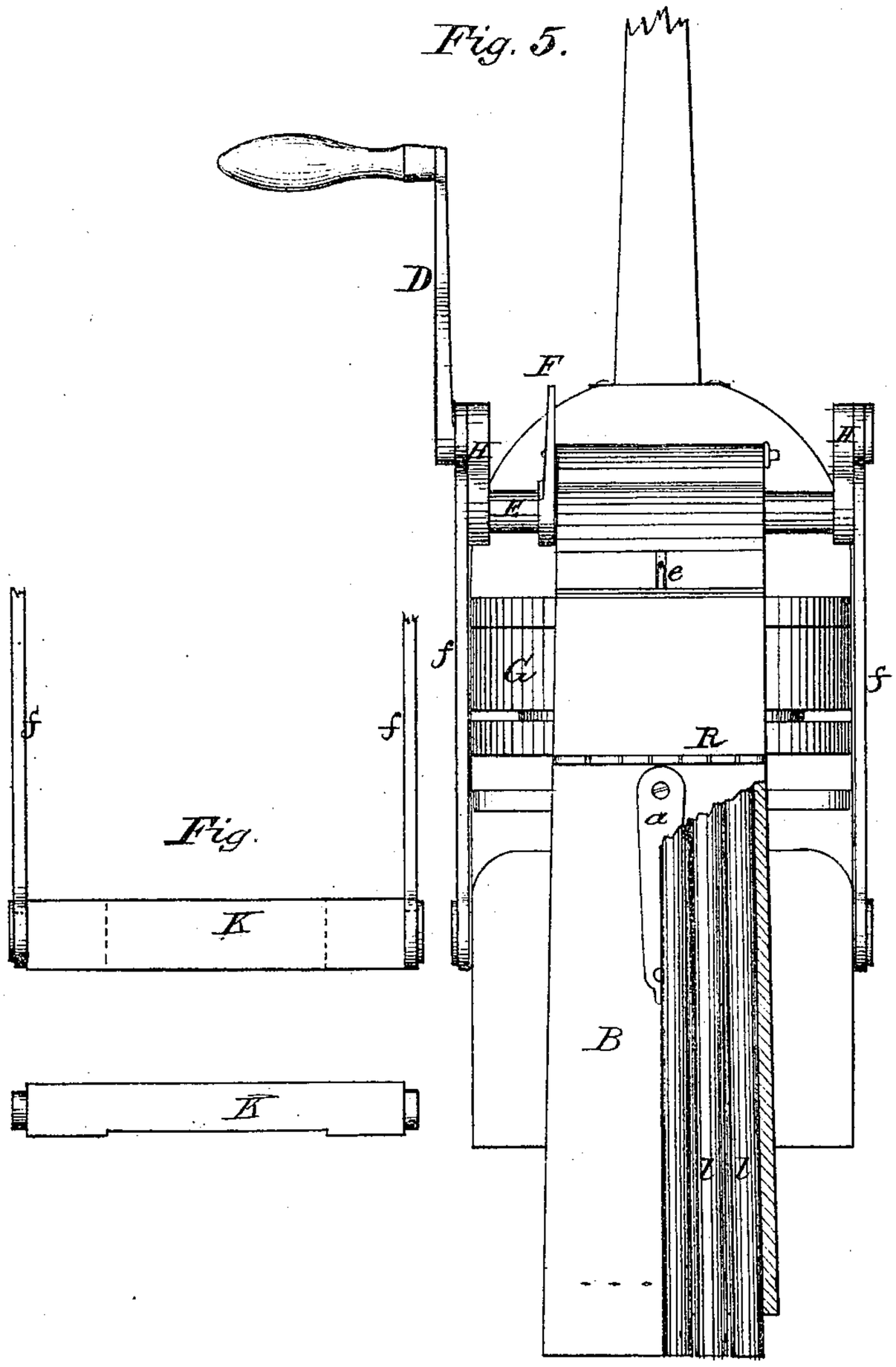


Fig.

Fig. 9.

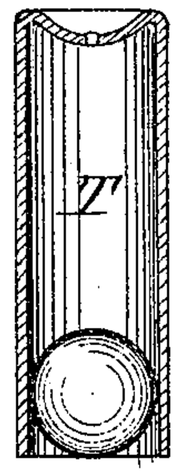
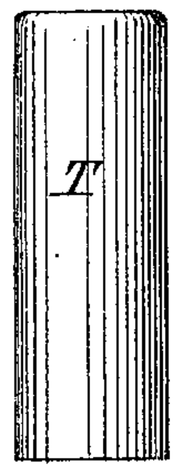


Fig. 10.



Witnesses:

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4 Sheets—Sheet 4.

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REPEATING CANNON.

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Fig. 6

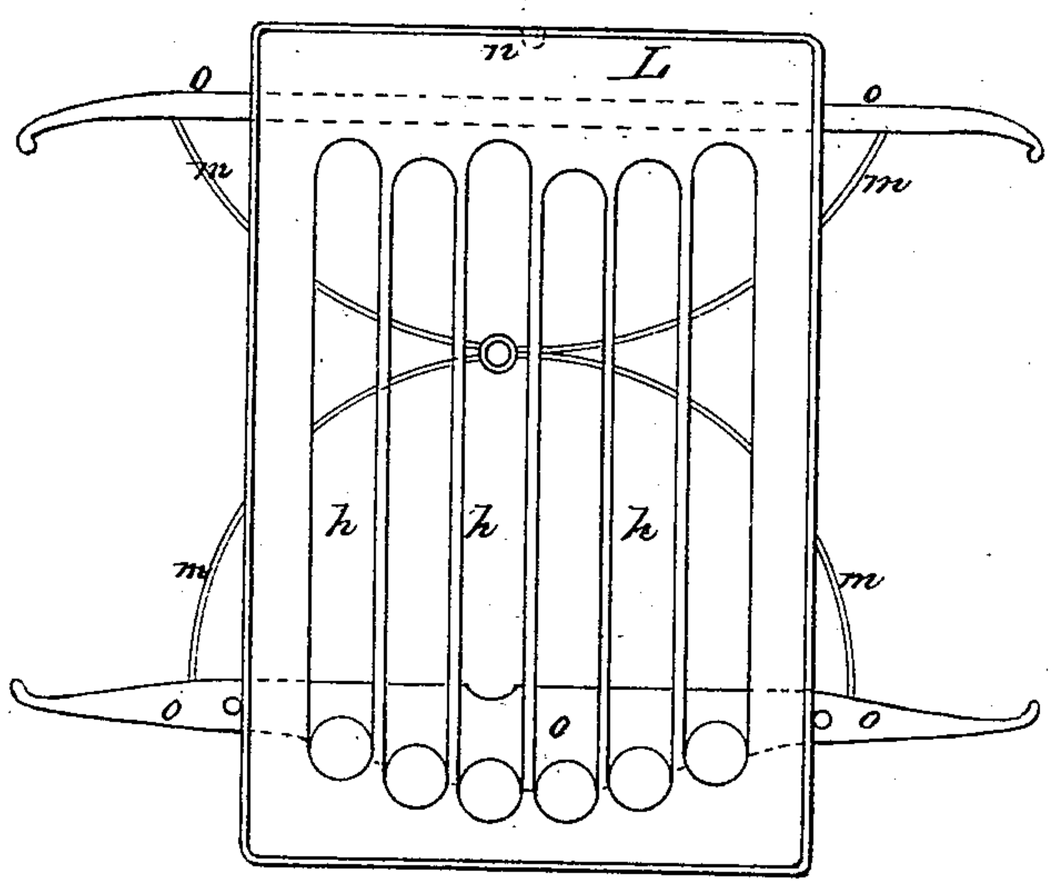


Fig. 7.

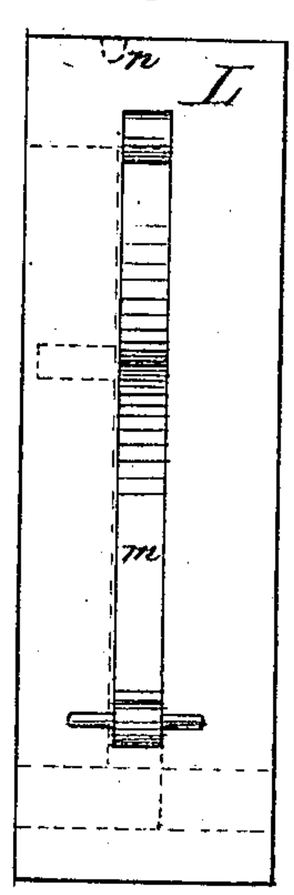
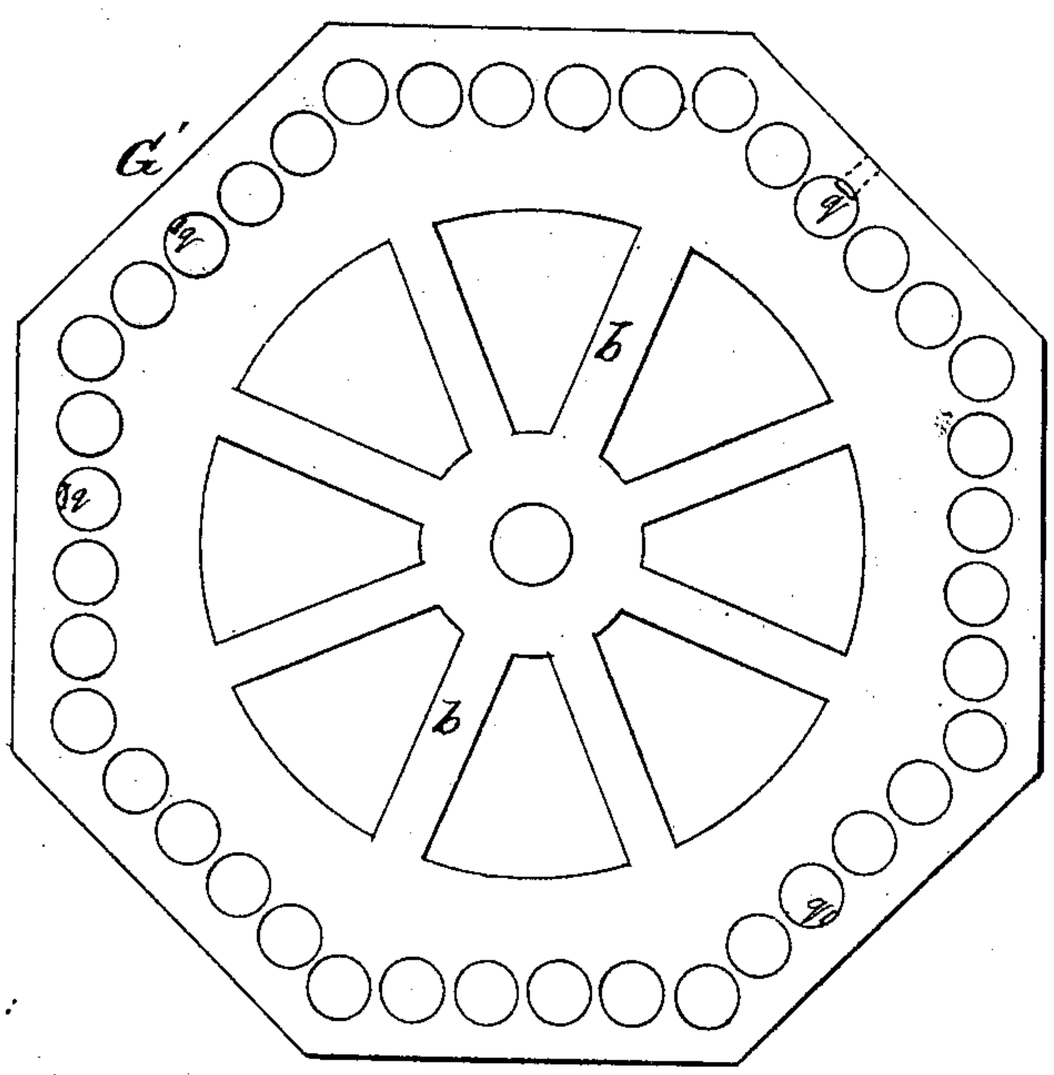


Fig. 8.



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Inventor:

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United States Patent Office.

JAMES H. HEDRICK, OF WYTHE COUNTY, VIRGINIA, ASSIGNOR OF ONE-THIRD HIS RIGHT TO J. B. BARRETT, OF SAME PLACE.

Letters Patent No. 110,233, dated December 20, 1870.

IMPROVEMENT IN REPEATING CANNONS.

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

I, JAMES H. HEDRICK, of the county of Wythe and State of Virginia, have invented an improvement in Fire-Arms, of which the following is a specification.

Nature and Object of the Invention.

My invention consists of a strong and compact frame, made of iron or other metal, within which a cylinder revolves containing chambers for cartridges, in front of which are ranged a number of barrels incased in water-tight inclosures, or made to be moved and replaced with other barrels, at the will of the gunner, in case of excessive heat occasioned by long continued and rapid firing, together with locks placed opposite each band, operated by cams on main shaft; also, a magazine with grooves, capable of holding many cartridges, with rammers to force the cartridges into the chambers of the cylinder. Said rammers are worked by crank and connecting-rod, propelled by the main shaft, it being a combination of powers and principles to load and discharge continuously a great number of balls with precision and effect, with very great velocity, from three hundred to five hundred per minute, springs *q*, figs. 4 and 8 are placed in the cylinder for holding the cartridges in position.

Description of the Accompanying Drawing.

Figure 1 represents a side elevation of my gun.
Figure 2 is a longitudinal section.
Figure 3 is an end view with the cover removed.
Figure 4 is a cross-section on line *x x*.
Figure 5 is a plan view, partly in section.
Figures 6 and 7 represent the cartridge-box or magazine.
Figure 8 is cylinder of another form.
Figures 9 and 10 represent the cartridge.

General Description.

A, the frame of the gun, which frame should be substantially constructed to resist the operation of vibrating parts and concussion during firing.

B, case inclosing the barrels, being made water-tight, upon the top of which is a spring to be used as a safety-valve.

C, a stand with a pivot in the center, working in the socket fastened to the frame, by which the range of the gun may be changed to any direction at the will of the gunner, without changing the position of the carriage upon which the gun is placed. In constructing very large guns, it is contemplated to use the screw now in use to elevate and lower the gun.

D, main crank, which is hung to the main shaft E of the machine, from which latter shaft motion is communicated to all of the operating parts.

F, cam or ratchet, hung to the shaft, by means of which cylinder G is moved. The cam operates by striking the arms *b b* of the cylinder.

G, cylinder, revolving on an axle or screw *a;* the cylinder containing thirty-six chambers, more or less, as may be desired, moved by cam F striking the arm *b*, as before stated; six notches, *d*, fig. 4, in rear or back end of cylinder, to receive check *e*, for the purpose of holding it in position or stationary while it is being fired and loaded, which is done simultaneously.

H, cranks upon end of shaft E, for moving connecting-rods or links *f*, which carry the rammers I backward and forward for the purpose of ramming cartridge from the magazine to chambers in the cylinder G.

I, rammers, attached to bar *k*, which is moved backward and forward by the action of the connecting-rods *f* and cranks H, before described, and ram the cartridge into the chambers of the cylinder G at the same time, by same operation, removing the spent cartridge from the chambers of the cylinder.

The rammers pass through the magazine or cartridge-box, and through the front plate of the frame of the gun, in loading, and drops the spent cartridge through the opening *g*, into a box or drawer.

L, magazine or cartridge-box, a box containing grooves, *h*, in which numbers of cartridges are placed in position ready to be forced into the chambers of the cylinder by the rammers I.

Cartridges are kept in their proper position in the grooves *h* by springs *m* pressing bar *o*, which holds the cartridges securely. It is designed to keep a number of the cartridge-magazines filled, to supply the gun as fast as they are exhausted, which can be done very rapidly, each magazine to contain about one hundred loads or cartridges.

N, hammers or cocks, moved by cams or tappets *i*, on the shaft E, fig. 2, and fire cartridges one after the other, successively. Also, to fire two or more at the same time, if desirable.

E, check and spring, which is designed to hold cylinder in place while firing and reloading, all of which are done at the same time.

K are the main-springs, which work the hammers, throwing the hammers against the cartridge, firing the same.

Q, cap or cover for protecting locks, springs, and cams or tappets from dust and moisture.

R, sights.

S, bolt or lock to hold crank D securely, when gun is not in service.

Figs. 9 and 10, T, cartridge, so constructed as to receive the entire ball, rounded and countersunk in the center, at the rear end, to prevent explosion while ramming it into the chamber of the cylinder, the fulminate to be placed in the center in the inside, at

the rear end, to be ignited by the force of the hammer.

B, box through which the barrels pass, may be filled with water or other material, to prevent heating excessively.

The barrels, *l*, may also be arranged in section or sections, and removed and replaced by other barrels, in case of long continued and rapid firing.

l, the barrels, are ranged divergent at the front, for the purpose of spreading the range or fire of the gun. The barrels may also be arranged in straight line, as shown in fig. 8, and the cylinder may be made octagonal, hexagonal, or any desirable form.

Claims.

Having described my invention,

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

1. The combination of the cylinder G, having a light circular, hexagonal or many-sided rim, with curved arms and a central eye, and between each arm, one or more rows of six or more perforations, or a less number, for the reception of cartridges, with springs to hold cartridge in place, when all constructed and arranged as shown, for the purposes specified.

2. The magazine L, provided with the springs *m* and grooves *h*, and bar *o*, for the purpose herein described.

3. The combination of shaft E, provided with the cams or tappets *i*, with the hammers N and springs K, when arranged substantially as shown.

4. The combination of the cam F, upon shaft E, with the cylinder G, when operating as shown, for the purpose set forth.

5. The arrangement of the shaft E, cranks H, connecting-rods or links *f*, cross-bar *k*, and rammers I, substantially as shown, for the purpose set forth.

6. The combination and arrangement of the frame A, box B, barrels *l*, cylinder G, and magazine L, with the hammers N, cams *i*, shaft E, connecting-rod F, cross-bar *k*, and rammers I, all constructed and operating substantially as shown and described, for the purpose set forth.

Witnesses: JAMES H. HEDRICK.

CHARLES HERZOG,

CHAS. C. WILSON.