

(No Model.)

3 Sheets—Sheet 1

L. L. HEPBURN.  
MAGAZINE FIREARM.

No. 561,226.

Patented June 2, 1896.

Fig. 1.

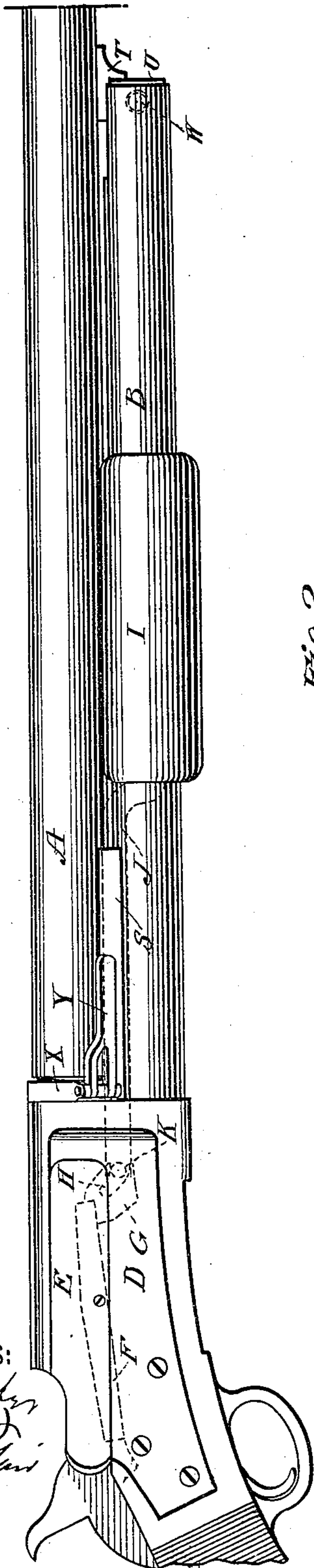
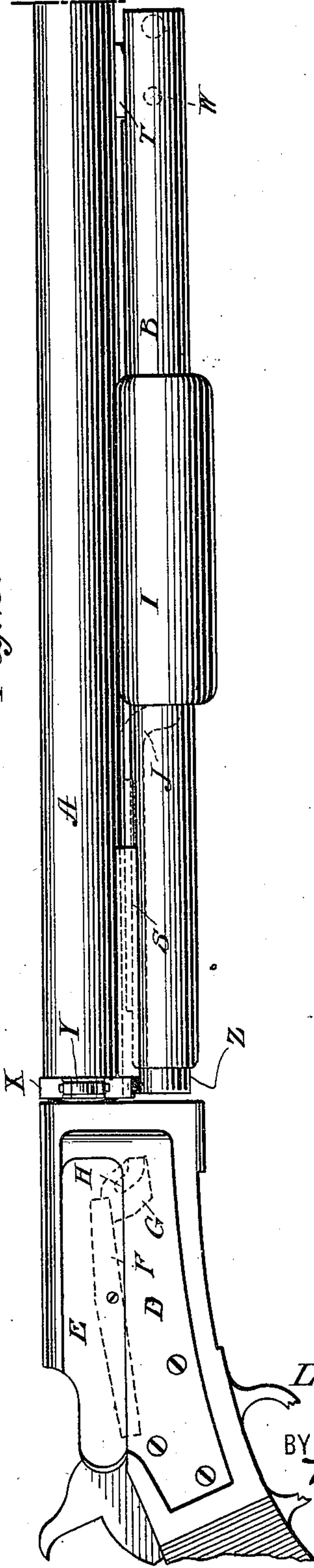


Fig. 2.



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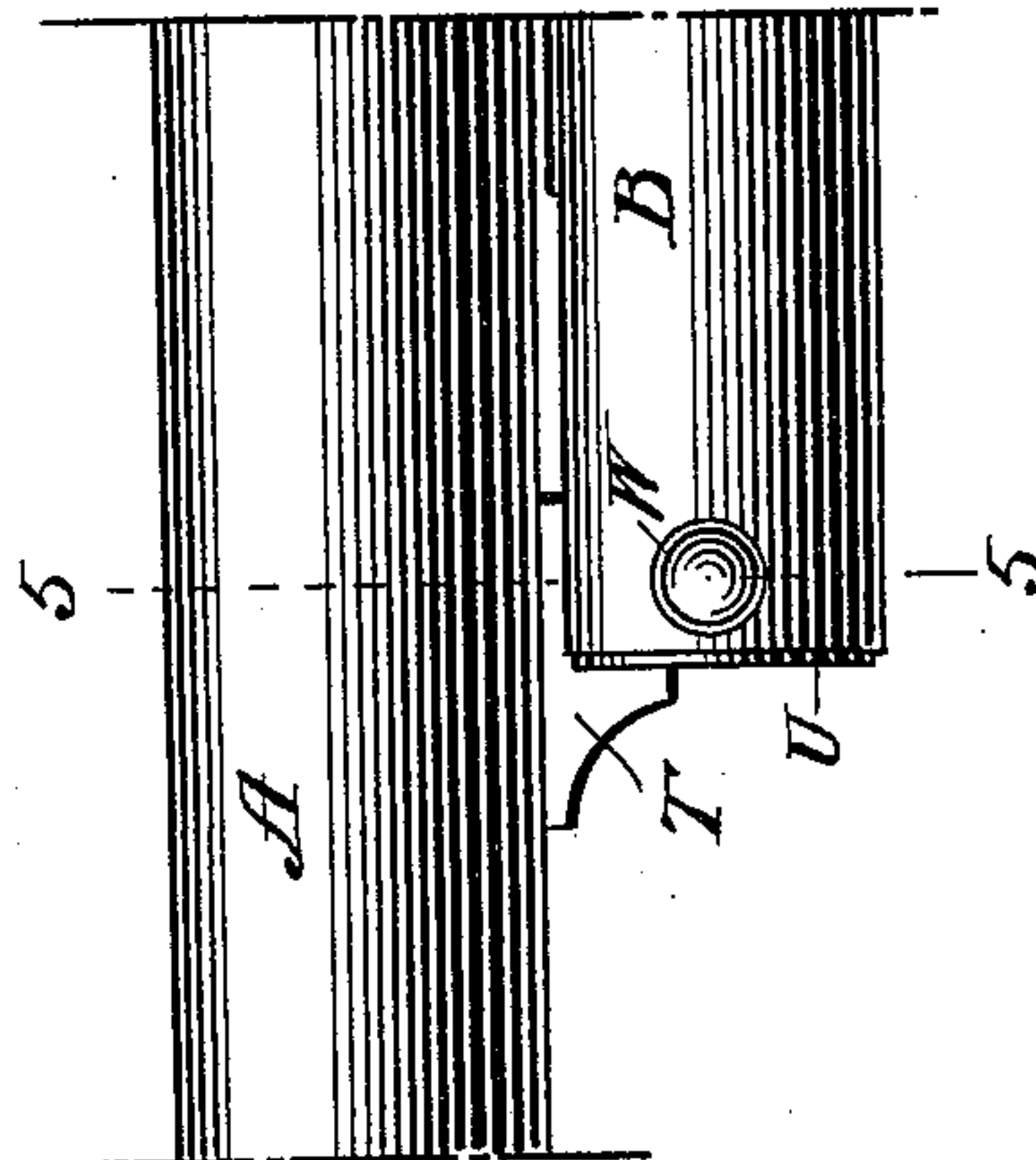
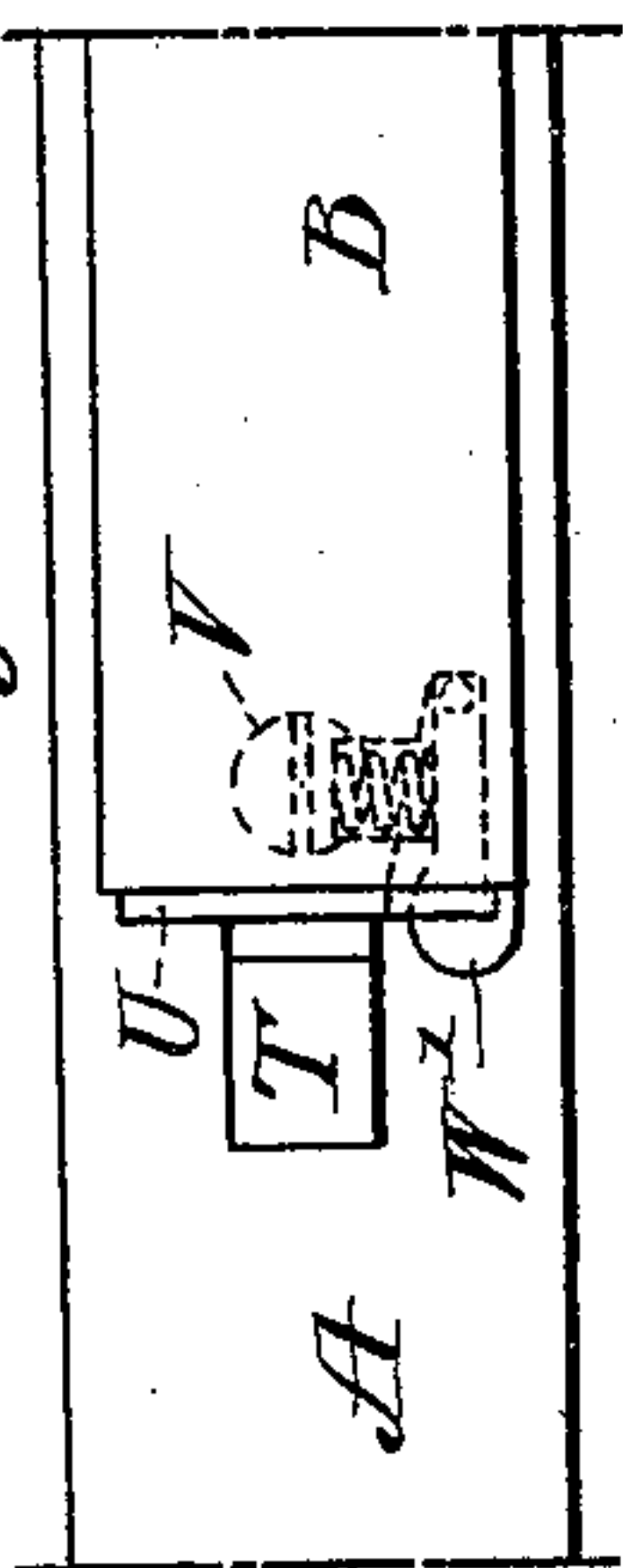
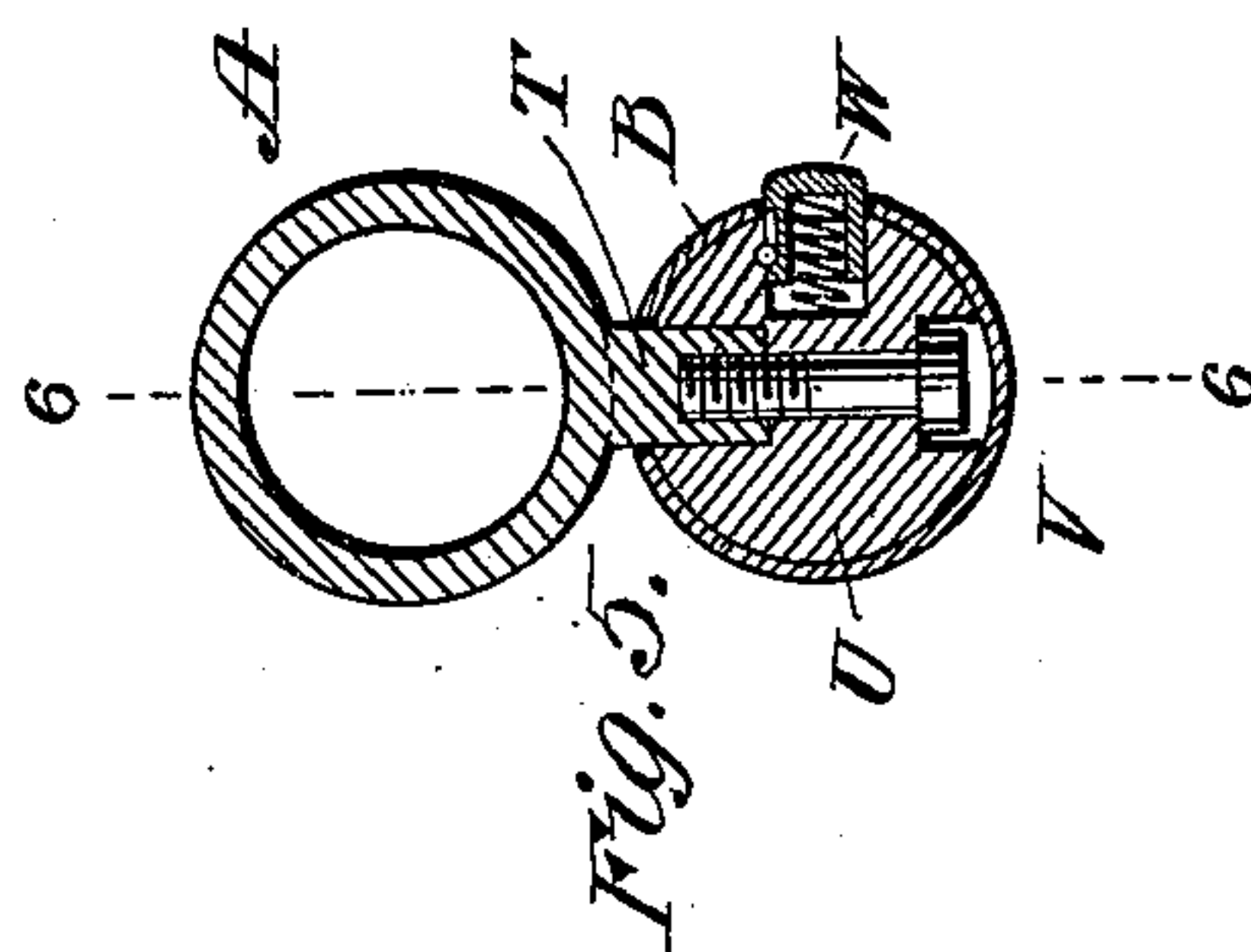
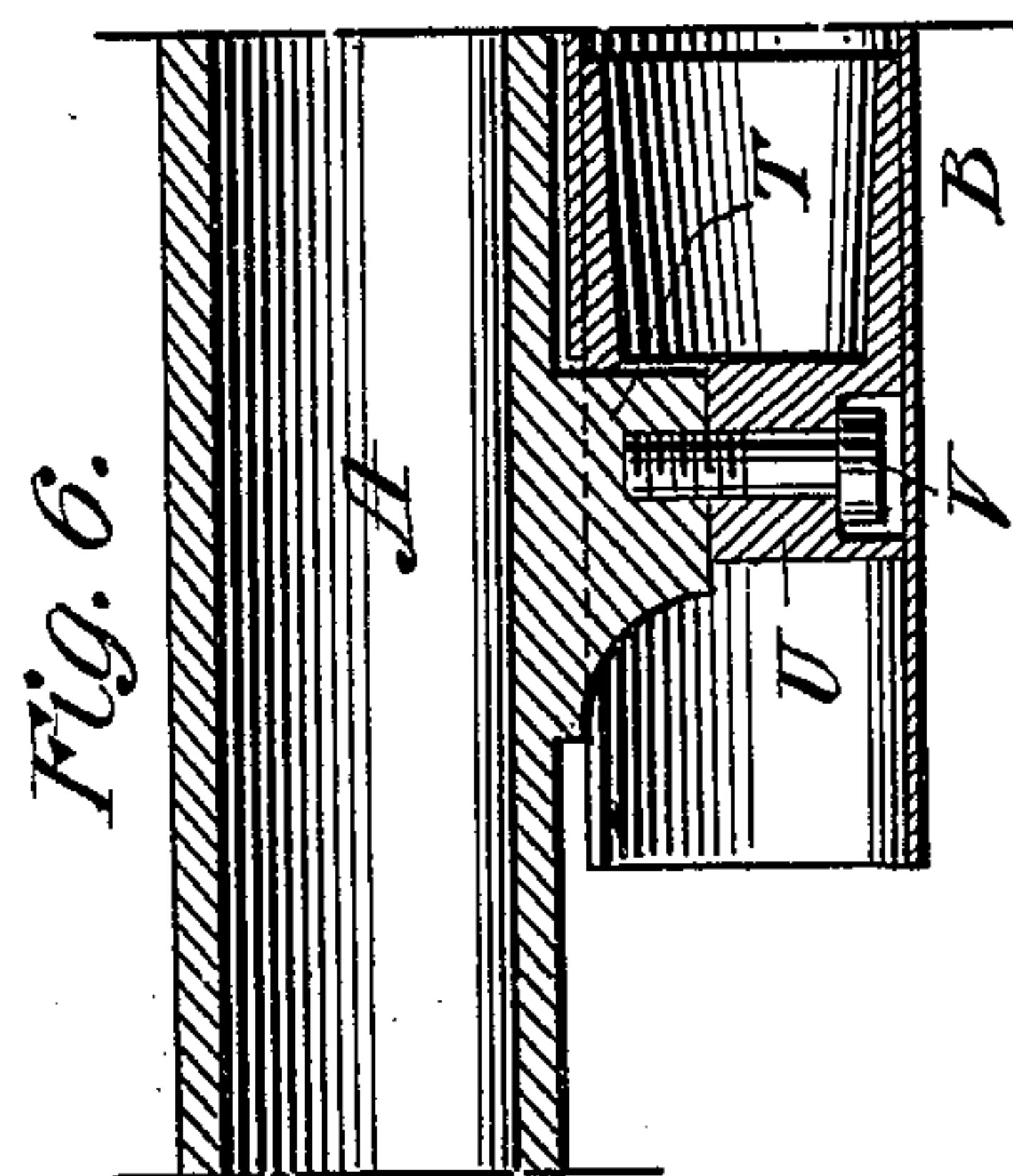
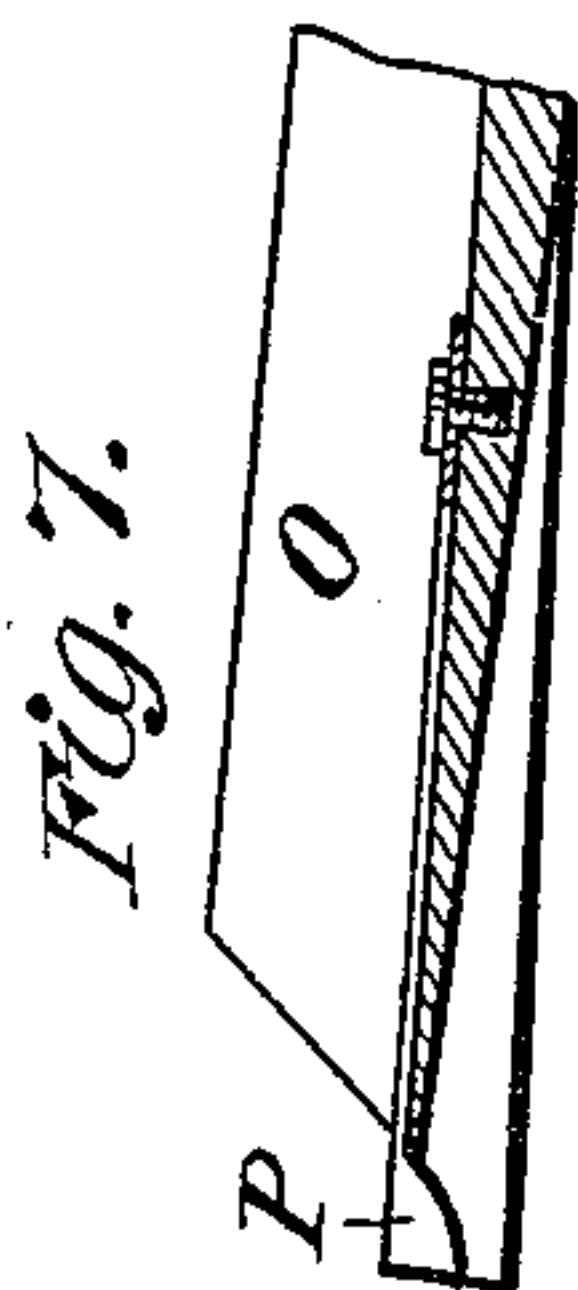
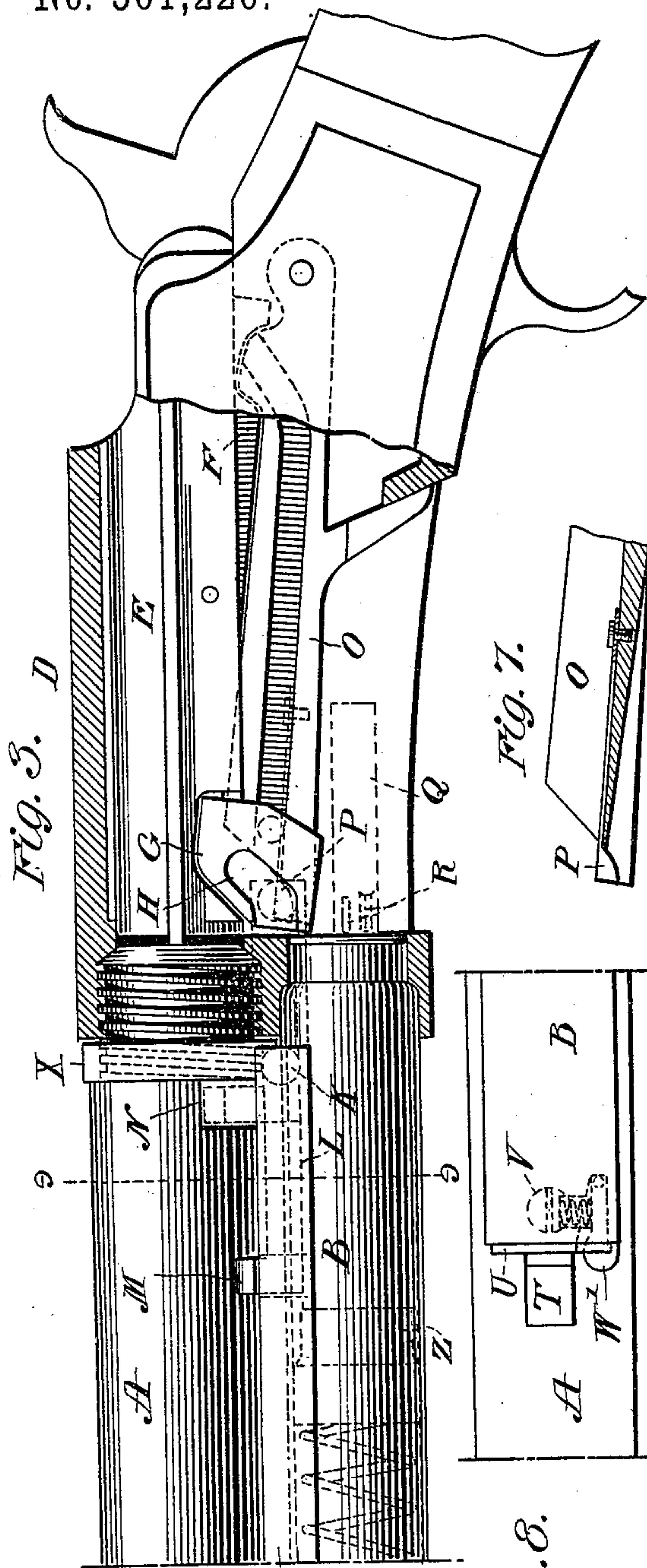
(No. Model.)

**3 Sheets—Sheet 2.**

L. L. HEPBURN.  
MAGAZINE FIREARM.

No. 561,226.

Patented June 2, 1896.



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(No Model.)

3 Sheets—Sheet 3.

L. L. HEPBURN.  
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Fig. 10.

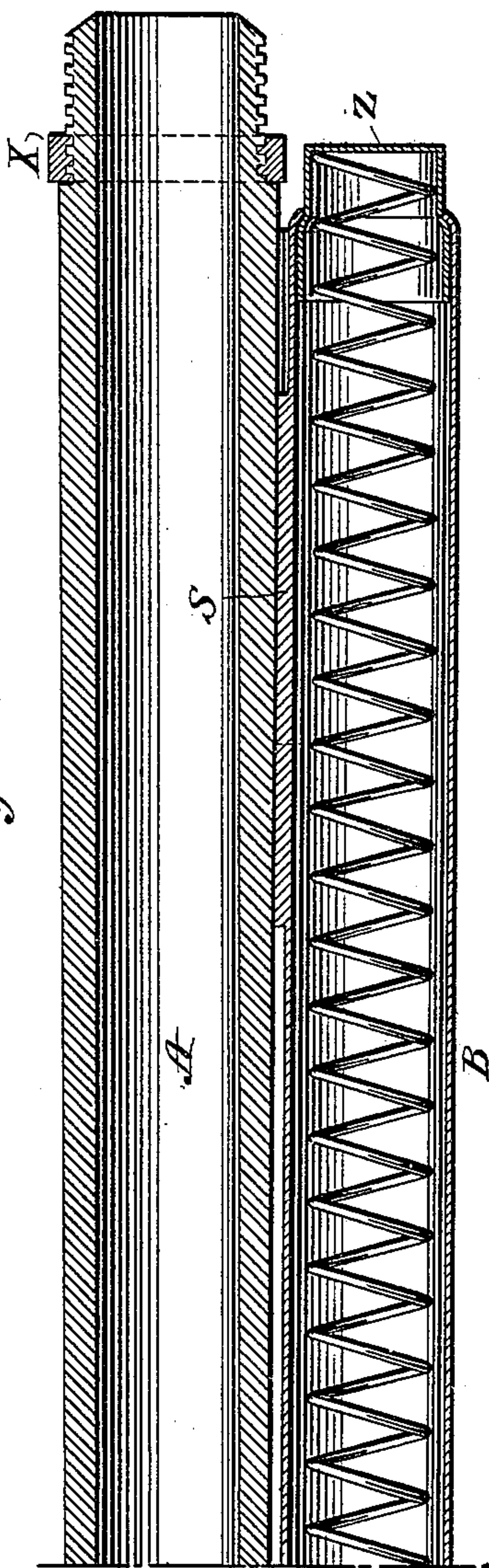


Fig. 11.

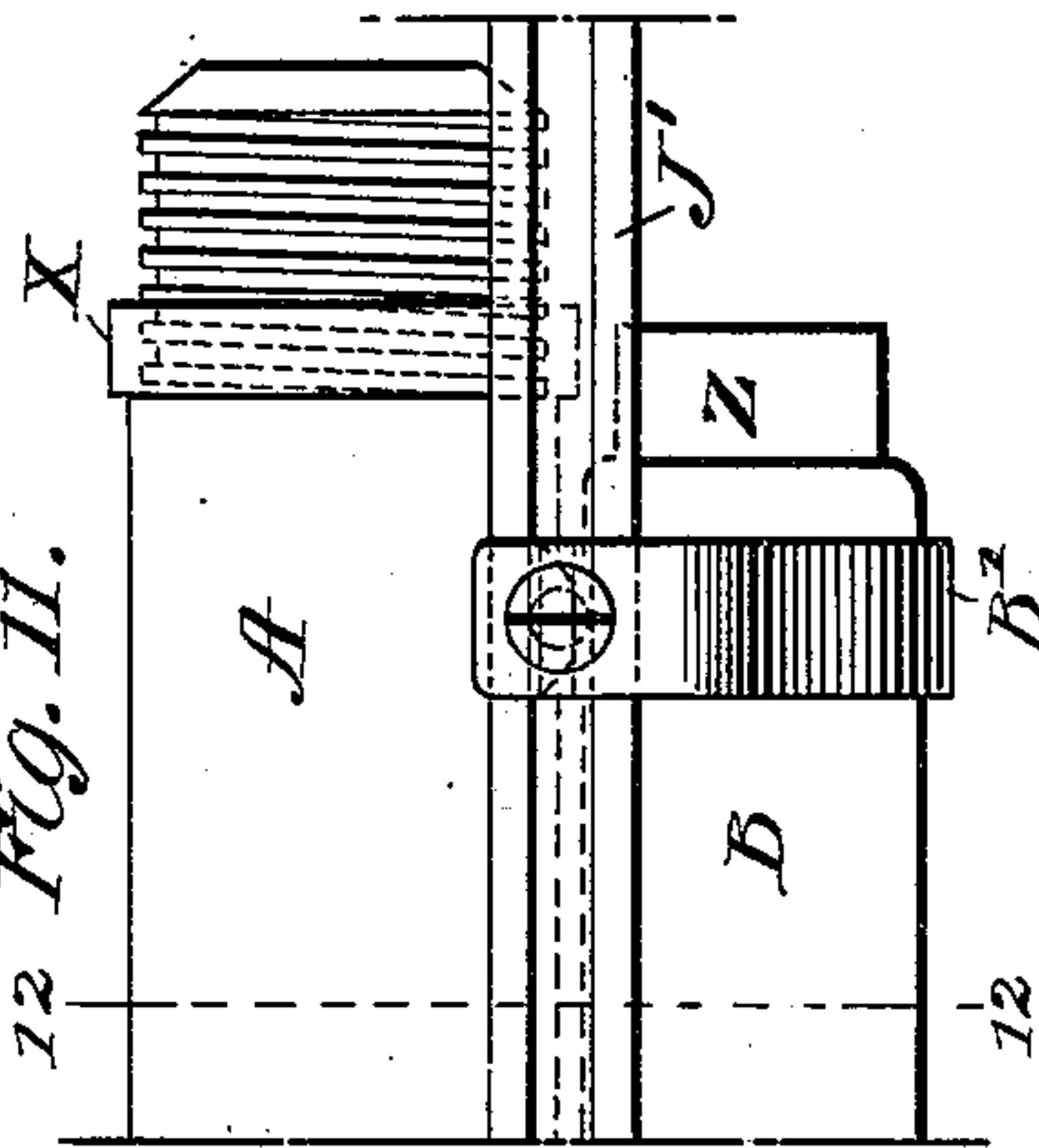


Fig. 14.

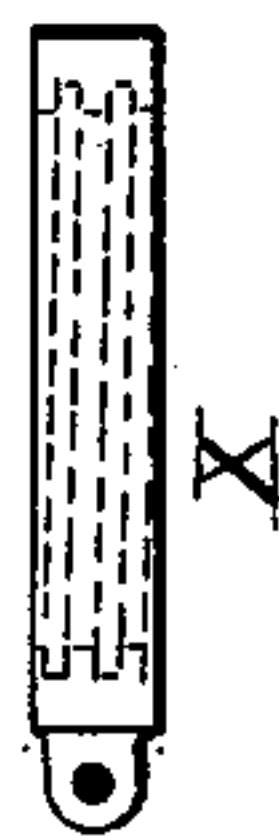


Fig. 12.

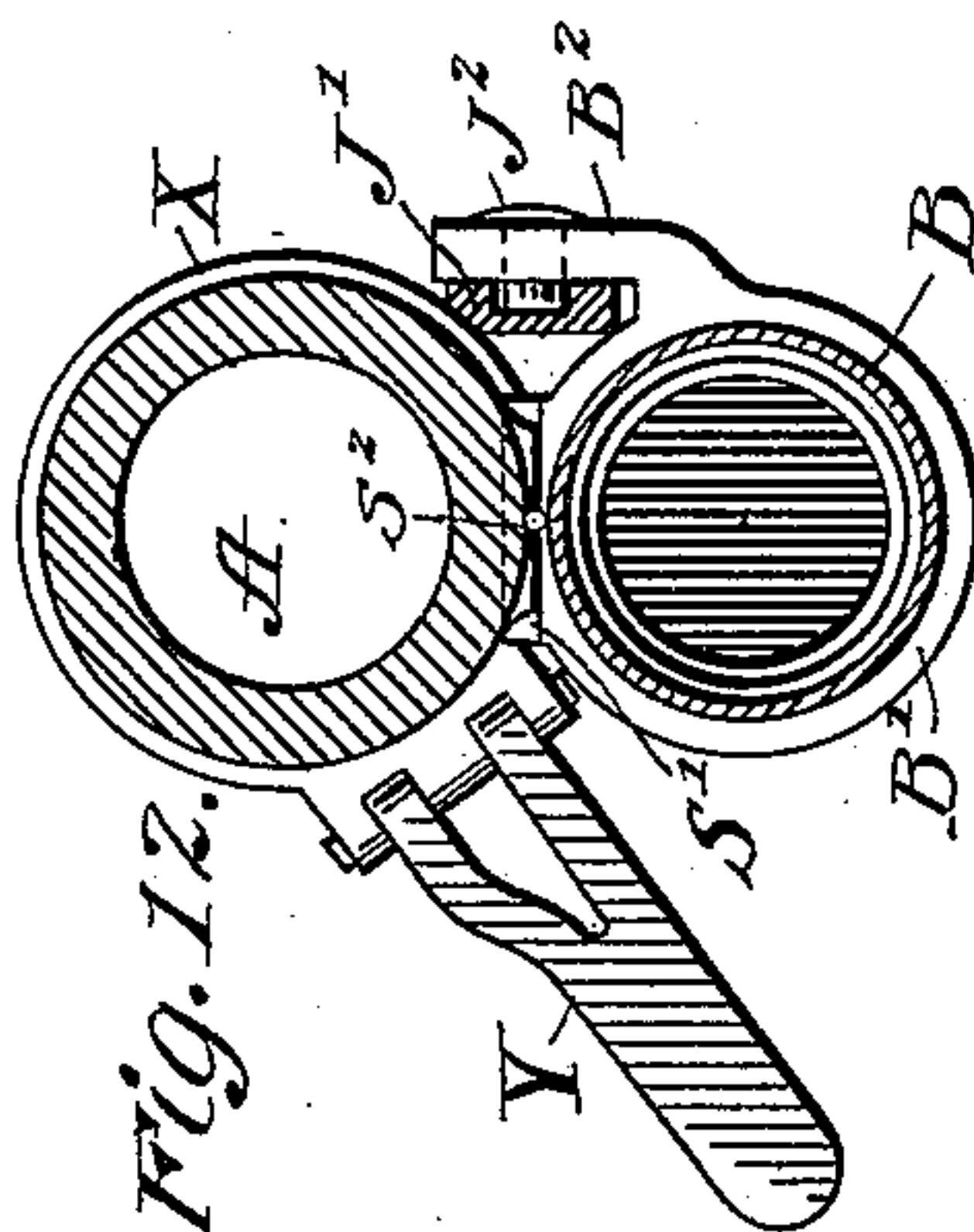


Fig. 13.

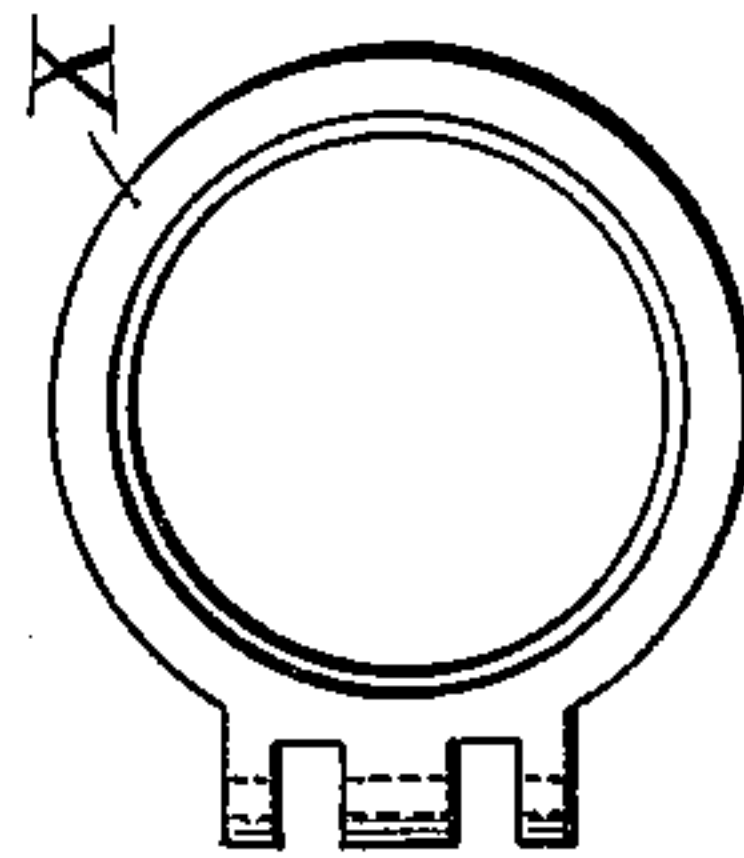
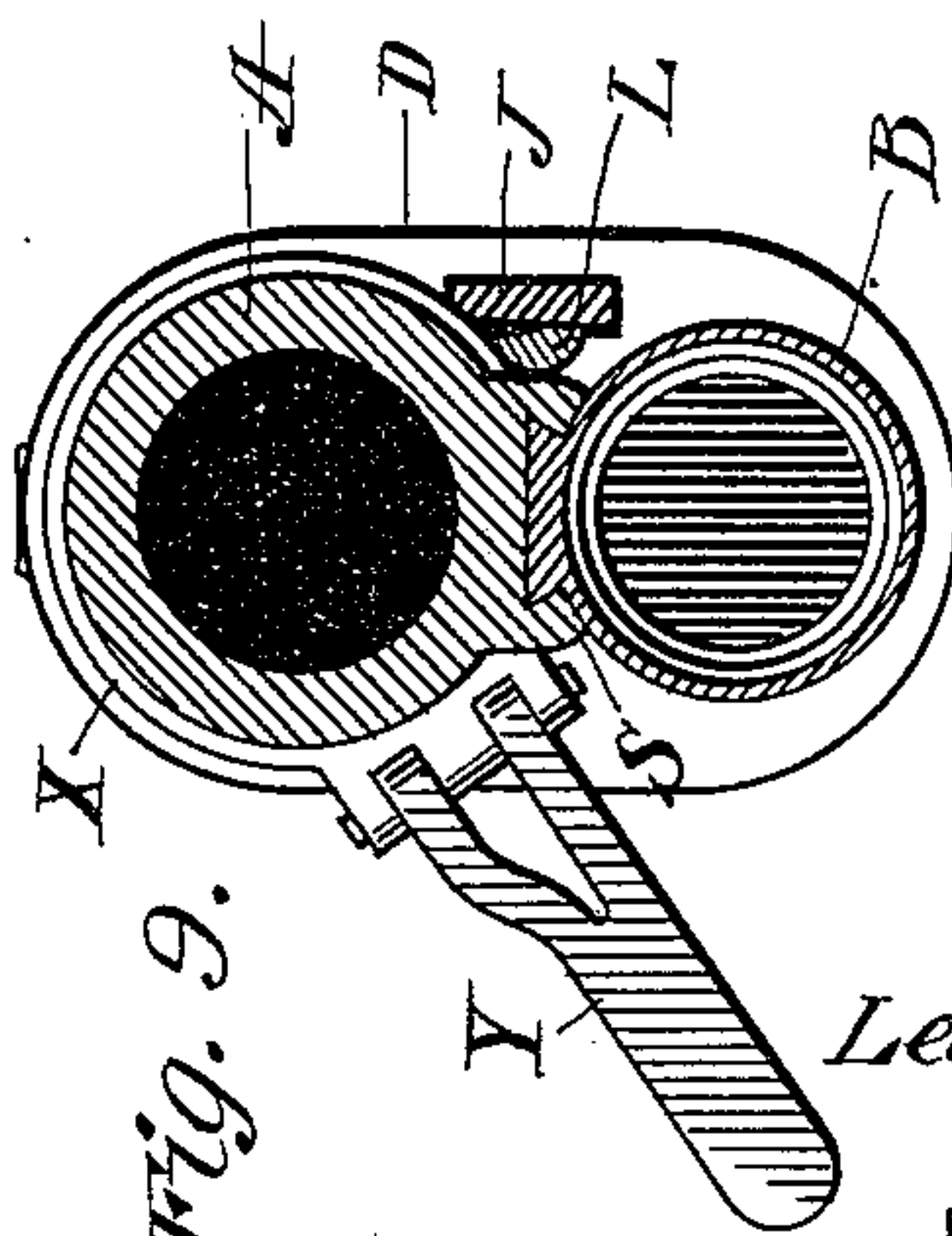


Fig. 9.



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# UNITED STATES PATENT OFFICE.

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## MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 561,226, dated June 2, 1896.

Application filed December 21, 1895. Serial No. 572,839. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS L. HEPBURN, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Magazine-Firearms, of which the following is a full, clear, and exact specification.

My invention relates to an improvement in magazine-firearms of the class in which the breech mechanism is longitudinally reciprocated by means of a handle adapted to travel parallel to the magazine and forward of the receiver; and it consists, primarily, in the novel construction of the mechanical connections between the receiver portion of the firearm, the detachable barrel portion, and the magazine portion.

The object of my invention is to provide a simple and effective means whereby the barrel and magazine portion of a firearm may be easily and quickly detached from the receiver portion to facilitate packing and transportation, said means also affording a positive locking device between said detachable parts when the same are united ready for use. A firearm to which this improved mechanical construction may be applied and in connection with which I shall proceed to describe the improvements herein claimed is illustrated and described in my previous patent, numbered 528,905, of November 6, 1894.

My invention is illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of a firearm containing my invention, the parts being assembled and ready for use, the stock and the forward extremity of the barrel of the firearm being broken away. Fig. 2 is a similar view showing the parts in position to permit the barrel and magazine portion to be detached from the receiver portion. Fig. 3 is an enlarged side elevation, partly in section, of my invention, the view being taken from the opposite side of that illustrated in Fig. 1. Fig. 4 is an enlarged side elevation of one of the details of my invention. Fig. 5 is a cross-section of the parts shown in Fig. 4, taken on the section-line 5 5. Fig. 6 is a longitudinal section of the parts shown in Figs. 4 and 5, said section being taken on the line 6 6, Fig.

5. Fig. 7 is a side elevation, partly in section, of a detail of construction. Fig. 8 is a view of the lower side of the magazine and barrel portion, illustrating a modification of one of the details of the invention. Fig. 9 is a cross-section of the barrel and magazine portion, taken on section-line 9 9, Fig. 3, looking toward the receiver. Fig. 10 is a longitudinal section through the center of the barrel and magazine portion, said parts being detached from the receiver. Fig. 11 is a side elevation of the rear end of the barrel and magazine portion, illustrating a modified construction. Fig. 12 is a cross-section of the parts shown in Fig. 11, taken on the section-line 12 12. Fig. 13 is a plan view of one of the details of my invention, and Fig. 14 is a side elevation of the detail illustrated in Fig. 13.

Similar letters refer to similar parts in all figures.

A is the barrel detachably secured to the forward end of the receiver portion of the arm by preference by rotation.

B is the magazine located parallel to the barrel and supported thereby in the manner hereinafter described, so that said magazine may have longitudinal movement.

D is the receiver carrying a reciprocating breech-bolt E, which carries the tilting locking-bar F, said locking-bar carrying toward its forward end a depending plate G, said plate being provided with an inclined slot H, the forward end of said inclined slot being open.

I is a handle supported by the magazine and moving longitudinally thereon.

J is a rod connected to said handle I and leading back and passing through the perforation in the forward end of the receiver into the interior thereof.

K is a stud toward the free end of said rod J, adapted to enter the open-ended slot H in the depending plate G.

L is an independent retaining-piece located between the barrel and the magazine and to the rear of the rod J. (See Fig. 9.)

M is an arm projecting from said retaining-piece at substantially right angles thereto.

N is a recess in the side of the barrel toward its rear end adapted to receive the arm M.



A recess of a width corresponding substantially to the width of the arm M is formed in the inner side of the rod J, substantially as in my previously-referred-to patent, and by means of the retaining-piece L and the recesses in said barrel and rod the stud K, toward the end of said rod J, is held in place in the open-ended inclined slot H so long as it is desired to have the parts assembled ready for use.

O is a carrier-block adapted to intermittently raise and lower by action of the reciprocating parts to lift the cartridges from the magazine into position to be introduced into the barrel by means of the breech-bolt E as the latter is advanced.

P is a spring-stop carried by said carrier-block O, the forward end of said stop projecting slightly into the path of the cartridges contained within the magazine when the carrier-block is in the position indicated in Fig. 3. By this means the cartridges in the magazine are prevented from escaping until the said carrier O is lowered so that its forward end is below the lower edge of the cartridge-head. The stop P does not alone perform the function of the spring-check Q, located within the frame of the receiver and to one side of the magazine-orifice, but rather supplements it. It aids particularly when charging the magazine. When this is being performed, the carrier is in the position indicated in Fig. 3, the forward end of the cartridge is pushed into the orifice leading to the magazine, and as the head of the cartridge is passed into the same it is necessary for the stop P to spring upward slightly in order to permit the said head to pass. As soon as it has passed, however, it resumes its normal position, (indicated in Figs. 3 and 7,) in which position it stands slightly in the path of the cartridge, thus preventing it from being expelled until the proper time. The spring-check Q, as in my previously-referred-to patent, is provided with suitable projections R, which stand slightly into the path of the cartridges in the magazine when the parts are in the position indicated in Fig. 3. As the carrier-block is dropped these projections R are depressed, thus permitting the cartridge to be forced back until it rests against the forward end of the carrier-block, which is slightly to the rear of the forward end of the said projections R. In this position the edge of the cartridge rests upon the face rather than against the ends of said projections R, thus preventing the check Q from resuming its normal position until the carrier-block O has been dropped to a point below said cartridge, when by action of the spring-pressed follower Z within the magazine the cartridge is forced into the receiver above said carrier-block. The check Q then springs back to its normal position and engages the next following cartridge in the magazine.

The magazine is supported by the barrel, preferably by means of a dovetail or equivalent connection S therewith. (See Fig. 9.)

By this means the magazine may be susceptible of longitudinal displacement for the purpose hereinafter described. This dovetail connection S is provided toward the rear end and by preference does not extend the entire length of the magazine. The forward end of the magazine is by preference supported by a different means, described as follows:

T is a downward projection from the barrel A.

U is a guide of substantially cylindrical formation, and around which the magazine-tube is adapted to slide.

V is a screw passing through said guide U and into a threaded recess in the under side of the projection T. By means of this screw V the said guide is rigidly secured to said projection. In the side of the magazine-tube there is a perforation which stands, when the parts are all assembled and the gun is ready for use, directly adjacent to a spring-stud W, carried by the guide U. This stud W when the parts are assembled as above referred to springs outward slightly into said perforation in the magazine-tube, thus preventing longitudinal movement of said tube until said stud W has been depressed so that its upper surface is below the plane of said tube, thus permitting the latter to be slid over the stud.

X is a check-nut working on the screw-threaded rear extremity of the barrel A.

Y is a lever hinged to said check-nut at a point closely adjacent to the barrel and adapted, when all the parts are assembled, as shown in Fig. 1, to lie in the space between the barrel and the magazine.

In describing the operation of my invention reference should be had principally to Figs. 1, 2, and 3.

The first step in assembling the parts of the firearm is shown in Fig. 2, which illustrates the position of the parts during said step. In said figure the barrel A has been screwed into the receiver, the magazine is in its forward position, the handle I, carrying the rod J, is advanced so that its rear end will not project to the rear of the check-nut X, and the check-nut X is in the advanced position—that is, its rear surface does not abut against the adjacent end of the receiver. When the parts are in this position, to securely set the parts together ready for use the magazine-tube is retracted so that its rear end enters the corresponding recess in the forward end of the receiver, (see Fig. 1,) in which position it is retained by the spring-stud W, previously described. The nut X is then turned into position, so that its rear surface abuts tightly against the receiver, jamming the same so as to take up on all sides equally any slight play that there may be in the screw-thread connection. The lever Y on said set-nut is then turned into the position indicated in Fig. 1, between the barrel and magazine portion, in which position it is entirely out of the way. The next step



consists in connecting the rear extremity of the rod J to the breech mechanism within the receiver. This end is accomplished by retracting the handle I, causing the rear end of rod J to pass through a perforation in the forward end of the receiver in line with said rod. The rod J carries with it the previously-described retaining-piece L, the arm M on said retaining-piece being in engagement with the slot on the inner surface of the rod V. When the said rod has been retracted into the position indicated by the dotted lines in Fig. 3, in which position the stud K rests within the inclined slot II in the breech mechanism, the arm M is tilted into the recess N in the side of the barrel, thus freeing the rod J and permitting its further retraction for the purpose of operating the breech mechanism. Inasmuch as the rear end of the retaining-piece L abuts against the forward edge of the stud K when the parts are in the position shown in Fig. 1, (indicated in the dotted lines in Fig. 3,) it is obvious that the stud K cannot be withdrawn from the inclined open-ended slot II until the arm M has been tilted out of the recess N, freeing the retaining-piece and permitting it to partake of longitudinal movement.

Fig. 8 illustrates a modification of the mechanism by which the magazine-tube B is prevented from being advanced out of engagement with the breech mechanism and the receiver, which means consists in a spring-pressed hook W', said hook engaging the forward end of said magazine when the latter is in its rearward position. By depressing the said hook the magazine-tube may be advanced, so that its inner surface will engage with the bill of the hook, thus holding the hook W' in its retracted position until the parts are again assembled.

By means of the connection above described the band or strap commonly used in connection with magazine-guns toward the rear end of the barrel and magazine is dispensed with. Another modification of a means whereby the barrel may be supported without the necessity of using the said band is illustrated in Figs. 11 and 12, in which B' is a collar adapted to loosely encircle the magazine-tube. S' is a dovetail connection between said collar and the under side of the barrel, said dovetail connection extending transversely with respect to the barrel. S<sup>2</sup> is a pin to prevent the lateral displacement of either of the parts. By this means the same end may be accomplished as by the means illustrated in Fig. 9. In the modification, however, the magazine slides through the ring instead of moving in the dovetail connection. In the modification a projection B<sup>2</sup> may be formed on the collar B', its purpose being to afford an additional means of support for the rod J', which rod may be slotted in the side adjacent to said projection. J<sup>2</sup> is a screw passing through said projection B<sup>2</sup>, the forward extremity of said screw extending into the slot in the rod J'.

It is apparent that in carrying out the above-described invention some changes in the particular construction shown and described may be made, and I therefore desire to have it understood that I do not limit myself to any specific form, but hold myself at liberty to make such changes as are fairly within the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a magazine-firearm of a receiver, a recess in the forward end of said receiver in line with said magazine, a barrel detachably secured to the receiver, a magazine located below said barrel and loosely connected thereto by suitable dovetail connections and free for longitudinal movement, to enter the said recess in the receiver, with a support depending from the barrel, a guide mounted upon said support adapted to enter and carry the forward end of the magazine-tube, and with a spring-pressed stop or latch carried by said guide and adapted to detachably engage with the magazine-tube when the latter is in its rearward position.

2. The combination in a magazine-firearm of a magazine located below the barrel, a carrier located in the receiver and adapted to be raised sufficiently high to permit cartridges to be loaded into the rear end of said magazine, with a spring-stop secured to and carried by said carrier, the forward end of said spring-stop projecting downward slightly through a recess in the forward end of the carrier into the path of the cartridges in the magazine when the carrier is in its raised position.

3. A magazine-firearm comprising a receiver, a barrel detachably secured thereto, a magazine located below said barrel and supported thereby and free for longitudinal movement, a substantially dovetailed connection toward the rear end of the magazine and barrel portion, and a support T depending from the barrel, a guide U mounted on said support adapted to carry the forward end of the magazine-tube, a spring-pressed stop supported in one side of said guide, a recess or perforation in the magazine-tube into which said stop is adapted to be projected when the parts are assembled for the purpose of preventing longitudinal movement of the magazine-tube, substantially as described.

4. A magazine-firearm comprising a receiver, a barrel detachably connected thereto, a longitudinally-movable magazine located below said barrel, a collar loosely supporting said magazine and rigidly connected to said barrel, a projection B<sup>2</sup> from said collar, a screw J<sup>2</sup> held by said collar and serving as a guide for the rod J', the end of said screw J<sup>2</sup> projecting into a slot therein.

5. The combination in a magazine-firearm having a barrel and magazine portion detachably secured to the receiver by rotation, of a barrel the rear extremity of which is screw-



threaded and adapted to enter a perforation  
in the forward end of the receiver internally  
threaded, with a collar having corresponding  
internal screw-threads and located between  
5 said receiver and a shoulder on the barrel ad-  
jacent to the screw-threaded rear extremity,  
and means for rotating said collar to lock the  
barrel and receiver in operative position.

6. The combination in a magazine-firearm  
10 of a magazine susceptible of longitudinal dis-  
placement, said magazine being loosely con-  
nected at or near its rear end to the side of

the barrel by a loose dovetailed connection,  
with a guide in line with said dovetailed con-  
nection and rigidly supported by the barrel, 15  
with a latch detachably engaging said parts  
in operative position for supporting the for-  
ward end of the magazine, substantially as  
described.

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Witnesses:

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