(No Model.) 4 Sheets—Sheet 1.

J. J. SPEED.

MAGAZINE GUN.

No. 407,552. Patented July 23, 1889.

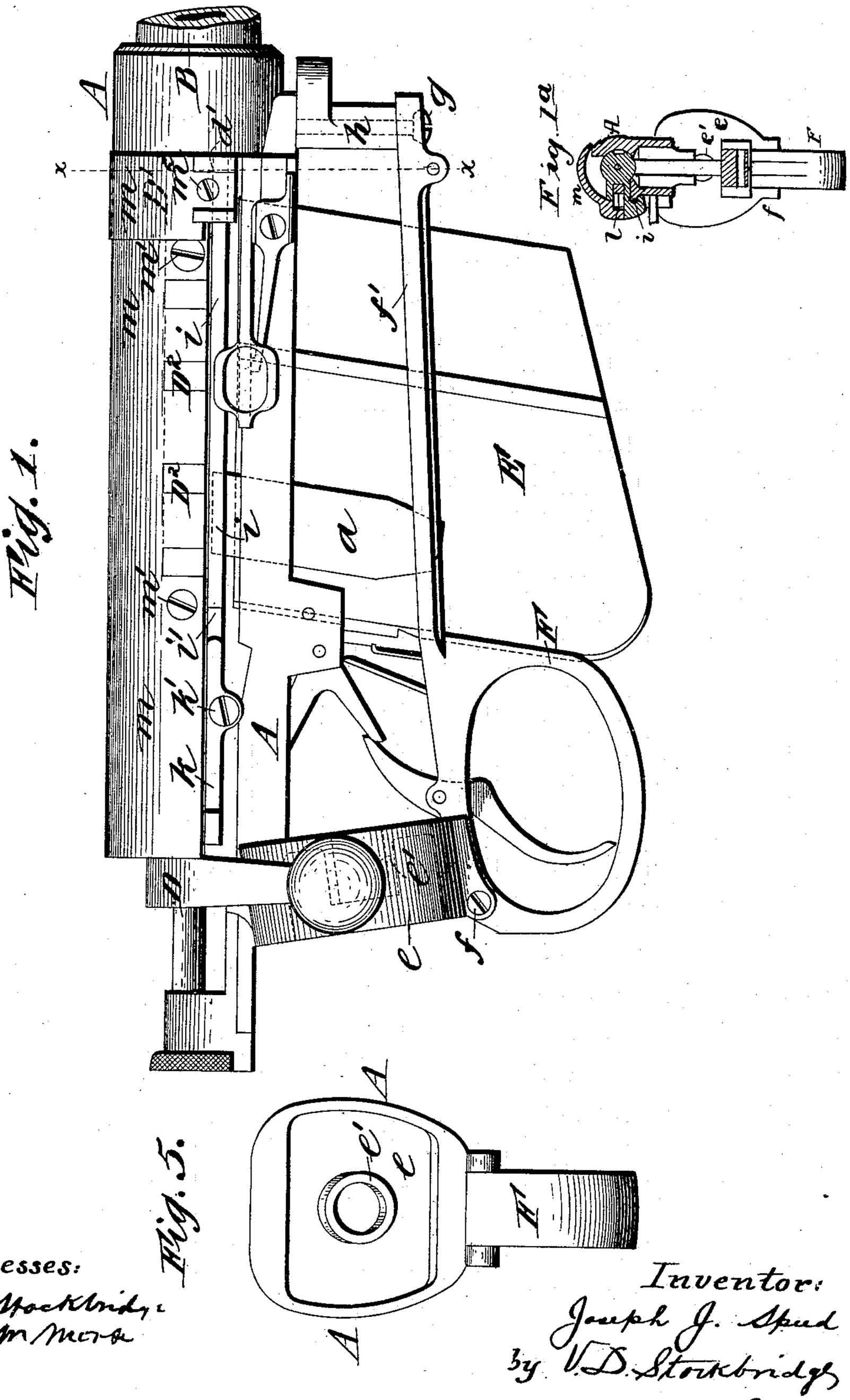

Fig. 1.

Fig. 1a.

Fig. 5.

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Inventor:
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(No Model.)

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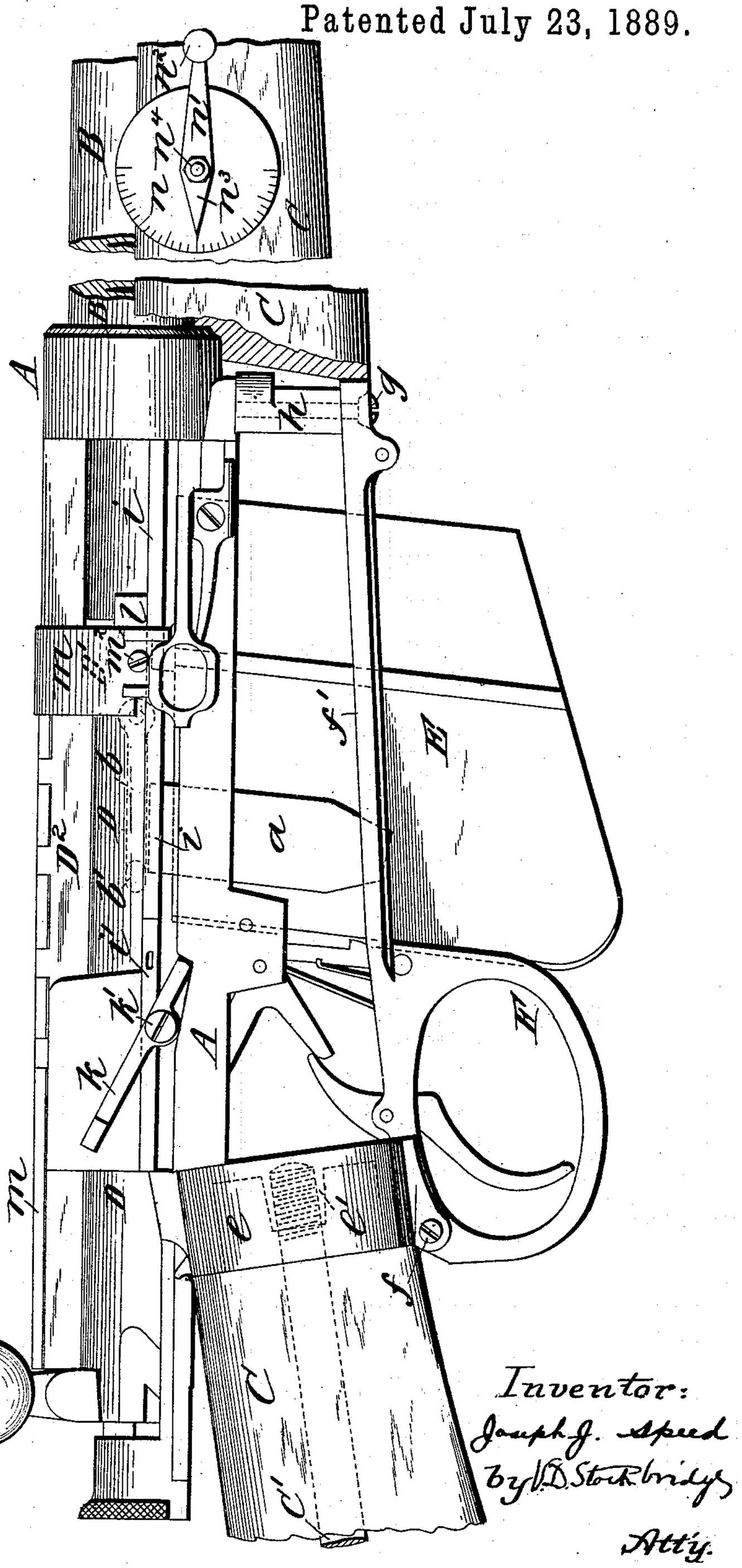

Fig. 2.

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J. J. SPEED.

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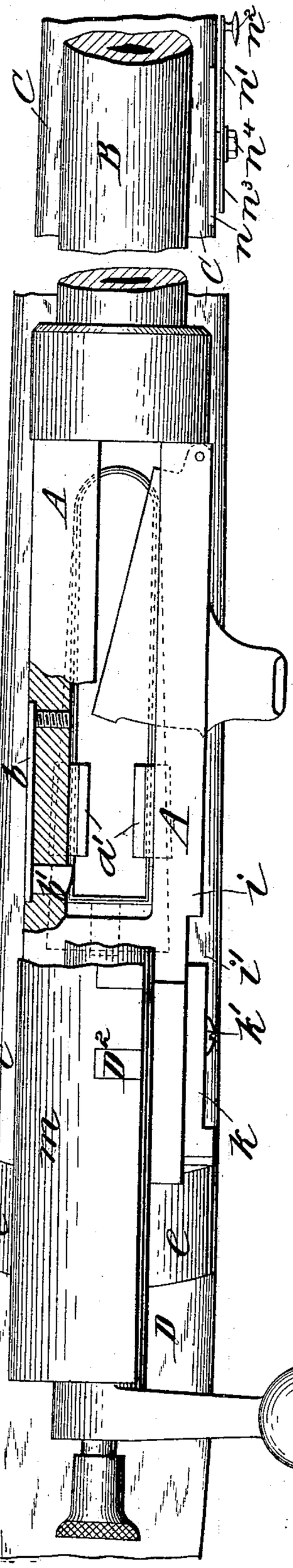

Fig. 3.

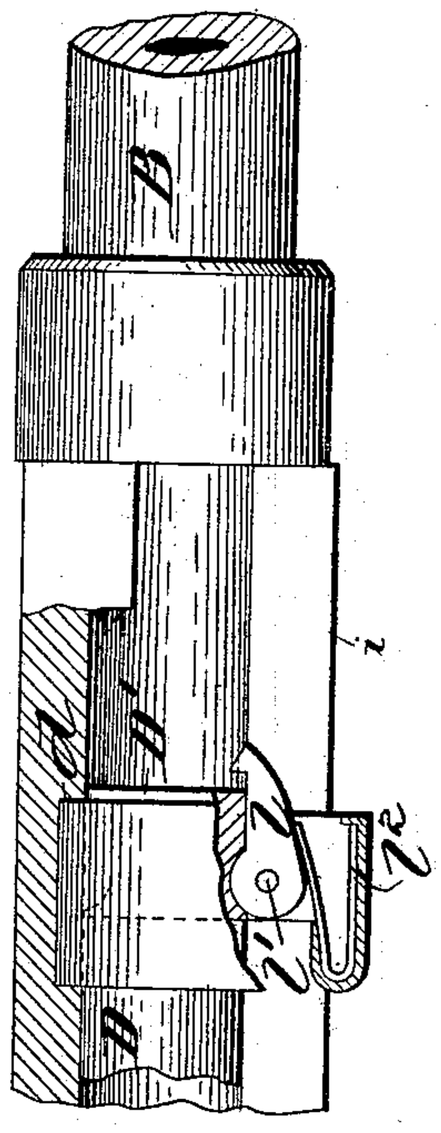

Fig. 4.

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Fig. 6.

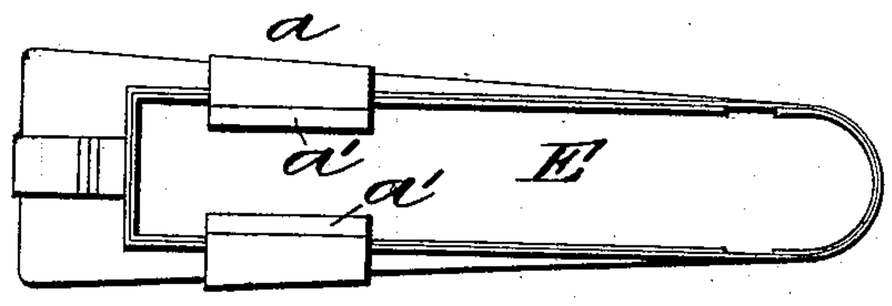


Fig. 8.

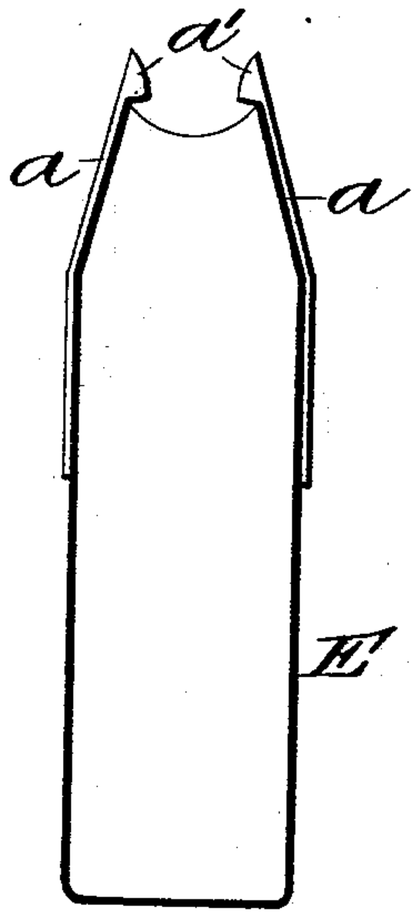
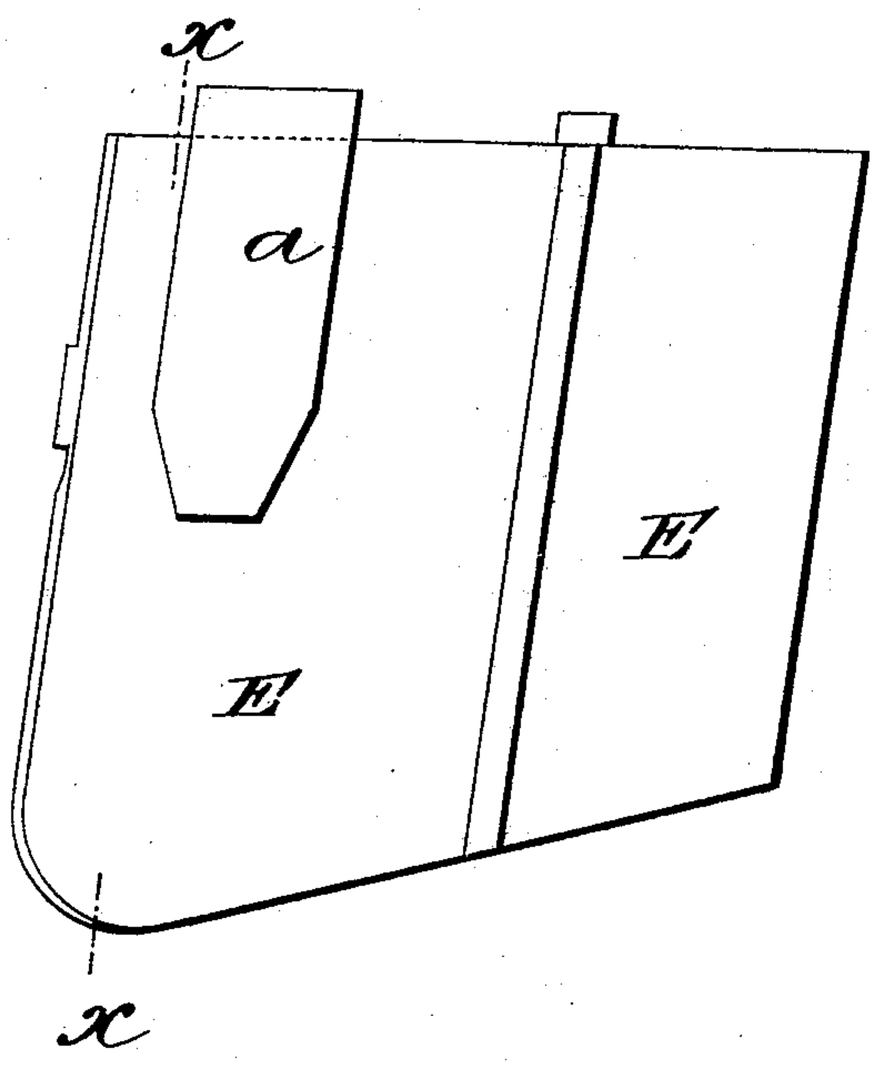


Fig. 7.



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Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH JAMES SPEED, OF WALTHAM CROSS, ENGLAND.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 407,552, dated July 23, 1889.

Application filed January 5, 1888. Serial No. 259,866. (No model.) Patented in England October 1, 1887, No. 13,335.

To all whom it may concern:

Be it known that I, JOSEPH JAMES SPEED, mechanical engineer, a subject of the Queen of Great Britain, and a resident of Waltham Cross, England, have invented new and useful Improvements in and relating to Magazine-Rifles and other Fire-Arms, (for which I have obtained a patent in Great Britain, No. 13,335, dated October 1, 1887,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to magazine-rifles and other fire-arms, and comprises various improvements, hereinafter set forth.

The main object of my said invention is to improve the construction and increase the efficiency of the "Lee" magazine-rifle. Certain of my improvements are, however, applicable to other fire-arms.

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

Figure 1 is a side elevation of a Lee magazine-rifle, showing the parts in the positions which they occupy when the rifle is ready for firing, the stock being removed. Fig. 1ª is a section on the line *x x* of Fig. 1, the figure being on a reduced scale. Fig. 2 is a similar view with the breech open, showing also part of the stock and a fore-sight, hereinafter described. Fig. 3 is a plan, partly in horizontal section, some of the parts being removed. Fig. 4 is also a plan, partly in horizontal section, showing the extractor and other parts. Fig. 5 is a rear elevation of part of the shoe or body of the rifle, showing also the trigger-guard. Fig. 6 is a plan, and Fig. 7 a side elevation, of the magazine detached. Fig. 8 is a transverse section of the magazine on the line *x x*, Fig. 7.

Like letters indicate corresponding parts throughout the drawings.

A is the shoe or body of the rifle.

B is the barrel.

C is the stock.

D is the breech-bolt, and D′ the head of the said bolt.

E is the magazine, which is designed to be inserted in the under side of the shoe or body A, as in the Lee gun as heretofore constructed.

An important feature of my said invention is the construction of the magazine in such a manner that it can be used either as a fixed or a detachable magazine—that is to say, so that it can be loaded either while in place in the rifle or before its insertion therein. For this purpose I employ two springs *a*, which are attached to the magazine on either side thereof, near its rear end, and which are formed with projections *a′*, extending over the mouth of the magazine. The cartridges are to be introduced into the magazine by pressing them forcibly downward between the projections *a′* of the said springs *a*, which must be of such strength that they will hold down the cartridges in the magazine against the force of the magazine-spring. These springs serve to lock the magazine with the shoe or body, as well as hold the cartridges in said magazine. The breech-bolt will slide between the said springs when the magazine is in position in the gun, and in its forward movement will engage with the flange of the uppermost cartridge in the magazine and push the said cartridge into the chamber of the gun. If desired, one spring can be employed for the purpose above specified instead of two springs, as shown.

The above-described arrangement permits the rifle to be used on the principle of either a fixed or a detachable magazine, as may be desired, without the necessity for any alteration in the construction of the gun or magazine. This feature of my invention is obviously applicable to other fire-arms in which the magazine is inserted in the under side of the shoe or body. The magazine shown in Figs. 6, 7, and 8 is made of such width that the cartridges contained therein, instead of being situated one directly above another, will be situated alternately on either side of the center of the magazine.

My said invention, moreover, comprises an improved automatic ejector, which is so constructed and arranged that I am enabled to dispense with the long groove which is usually formed in the breech-bolt in guns wherein the ejector consists of a pin or stud projecting from the interior of the shoe or body of the gun. My improved ejector consists of a spring *b*, attached to the side of the shoe or body A, and having formed or fixed thereon a cam-faced pin or stud *b′*, which protrudes through a suitable aperture in the said shoe

or body A into the path of the breech-bolt, as shown in Fig. 3. The said ejector is forced outward by the body of the bolt in the forward motion thereof, but will return to the position shown, when the bolt is drawn back, in time to come in contact with the empty cartridge-case, a short groove *d*, Fig. 4, being cut in the head D′ of the said bolt for this purpose.

The shoe or body A is so constructed as to permit the use of a divided rifle-stock, the rear part of which will be of the same length as the "Martini-Henry" butt-stocks, instead of a stock made in a single piece, as in the Lee gun as heretofore constructed, and at the same time to increase the strength of the rifle and to permit the attachment of the trigger-guard F to the shoe or body A, instead of to the stock, as heretofore, thus greatly increasing its rigidity. The shoe or body A is forged with a socket *e* at its rear end, of the full size and contour of the gun at that part, into which the forward end of the rear part of the stock is to be fitted, as shown in Fig. 2, and against which the fore stock abuts, as shown in Fig. 3. This part of the stock is to be securely fastened in position by means of a screw-bolt C′, passed through the same and screwed into the part *e′* of the shoe or body A. The rear end of the trigger-guard F is fitted into a slot or groove in the under side of the socket *e*, and is secured thereto by means of a screw *f*. It is, moreover, formed with an extension *f′*, the forward end of which is firmly secured to the shoe or body A by means of a screw *g*, passing through a metal distance-piece *h* and screwed into the said shoe or body. The rear end of the forward portion of the stock C is to be forked and the shoe or body A fitted into it, so that the said stock will bear against the forward end of the socket *e* on each side of the said shoe or body. The said socket *e* is so made that its outer surface will be flush with the outer surface of the stock, as shown in Fig. 3.

It will be seen that by the above-described construction of the shoe or body A and trigger-guard F, I am enabled to rigidly connect the same before the stock is applied thereto, and that the trigger-guard is not dependent for its rigidity upon the stock.

Another feature of my said invention consists in the provision of means for permitting the withdrawal of the breech-bolt from the gun without removing the head therefrom. For this purpose I form a rib *i* on the shoe or body A and a groove at *d′* in the head D′ of the breech-bolt D and arrange the said head to slide to and fro upon the said rib. A clearance-way is cut in the said rib at *i′*, and a locking spring or lever *k* is fitted to turn upon a pivot *k′*. This locking spring or lever when in its normal position, as shown in Fig. 1, forms a continuation of the said rib. By turning the said locking spring or lever into the position shown in Fig. 2 the head of the bolt can be turned upon its axis when the said bolt is drawn back, thus permitting the withdrawal of the said bolt from the gun.

The extractor *l*, Fig. 4, is pivoted at *l′* to the head D′ of the breech-bolt, and is acted upon by a V-shaped spring *l²*, inserted in a recess in the said head, as shown. By this arrangement the spring can be very readily inserted in its place, and will be retained therein without the use of screws or other fastening devices, and will exert its force centrally upon the extractor.

To provide for protecting the action of the rifle against injury through exposure to dust or rain, I employ a curved shield or cover *m*, arranged to slide to and fro with the breech-bolt. In the rifle shown in the drawings this cover is formed in two parts. The rear part thereof is dovetailed to the rib D² of the breech-bolt, and is secured thereto by means of screws *m′*. The inner surface of the rear part of the said shield or cover is of the same or approximately the same radius as the outside of the shoe or body A. When the body of the bolt D is turned into or out of its locking position, the rear part of the said shield or cover will turn therewith. The forward part of the said shield or cover is attached to the head of the bolt by means of a screw *m²*. The said shield or cover is, in some instances, so connected with the breech-bolt that it will remain stationary while the said bolt is turned upon its axis. For instance, it is formed with an internal groove extending partially around it, and a pin or stud is formed or fixed on the said bolt and extends into the said groove.

Although I have hereinbefore described my improvements more particularly in connection with the Lee magazine-rifle, it is obvious that certain of the said improvements are applicable to other fire-arms. Moreover, the construction of the parts may be somewhat modified without departing from the nature of my said invention.

What I claim is—

1. In a breech-loading fire-arm, the combination of a shoe or body provided with socket for rear stock, having slot, groove, or notch at the lower side thereof, and a trigger-guard seated in said slot, and having a forward extension which engages the forward part of the breech-frame, substantially as described.

2. The combination of a shoe or body for breech-loading fire-arms, provided with socket for the rear stock, a slot or groove for the trigger-guard, which engages the stock and the front of the breech-frame; and abutting shoulders for the fore-end stock of a rear stock fitting in the socket and a fore-end stock embracing the body of the shoe, substantially as described.

3. The combination, in a breech-loading fire-arm, of a breech-bolt provided with a groove in the side of its head, a shoe or body provided with a rib which works in the groove,

and a locking device which, when in locking position, is in line with and forms a continuation of said rib, substantially as described.

4. In a breech-loading gun, the combination, with the shoe or body thereof, having a socket *e* and a groove in the under side of said socket, of a trigger-guard provided with a forward extension, and a bolt or screw for locking the extension and the shoe together, a distance-piece interposed between the shoe and the extension, substantially as described.

5. The combination, with the breech-bolt of a fire-arm, of a two-part shield or cover, one part connected with the body of the bolt, to reciprocate and rotate therewith, and the other part connected with the head of the breech-bolt, substantially as described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH JAMES SPEED.

Witnesses:

WM. ROBT. LAKE,

DAVID YOUNG.