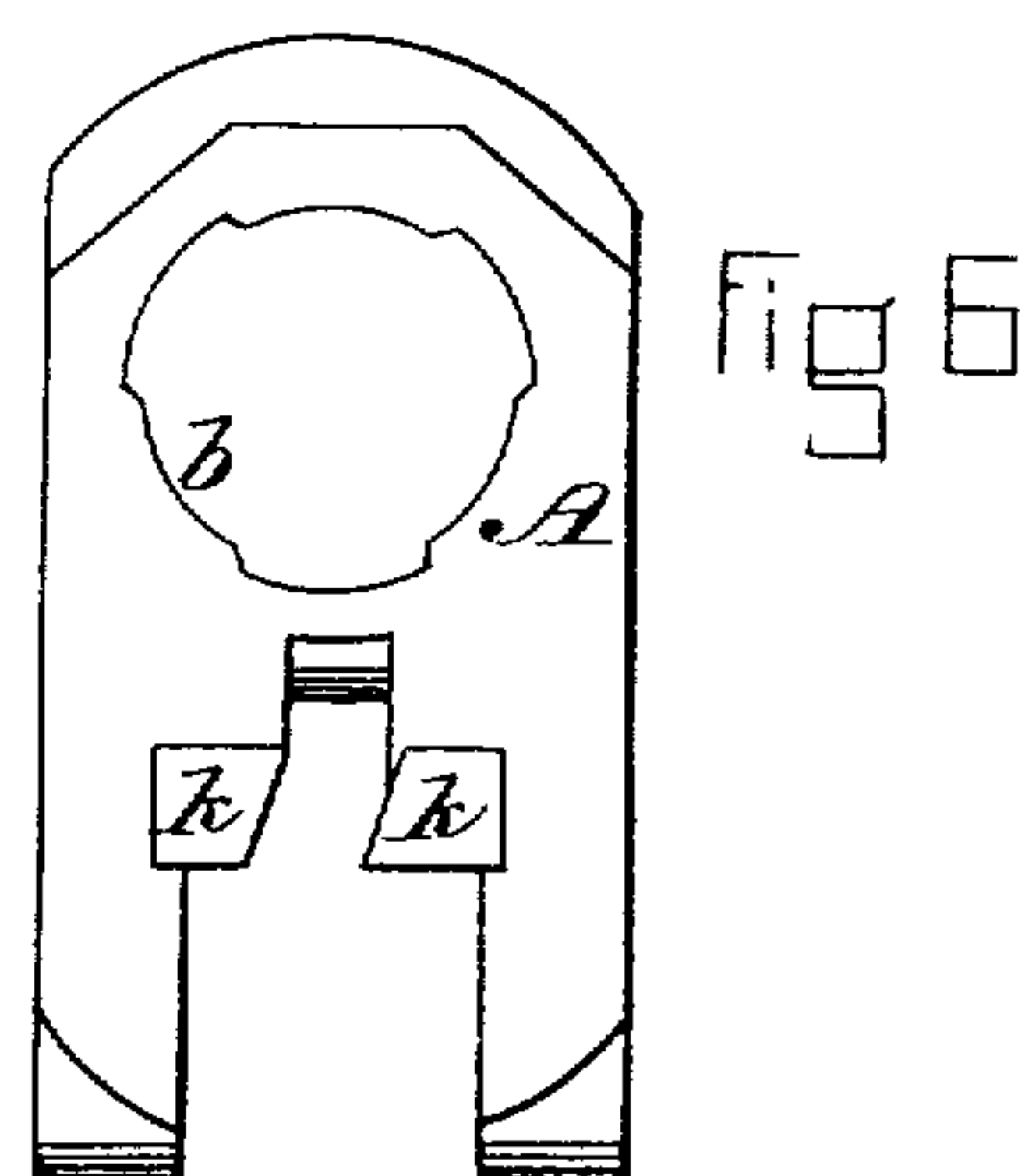
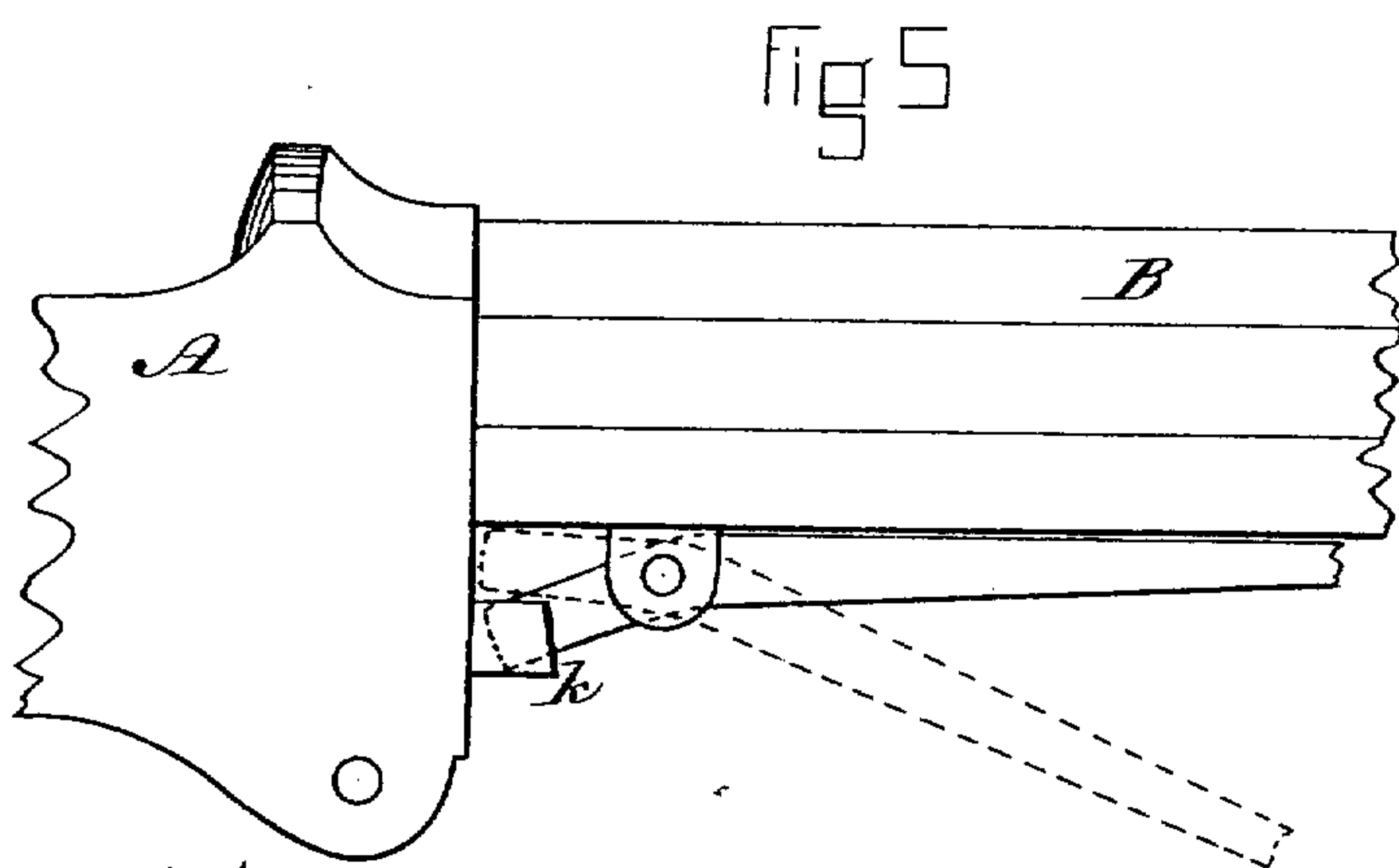
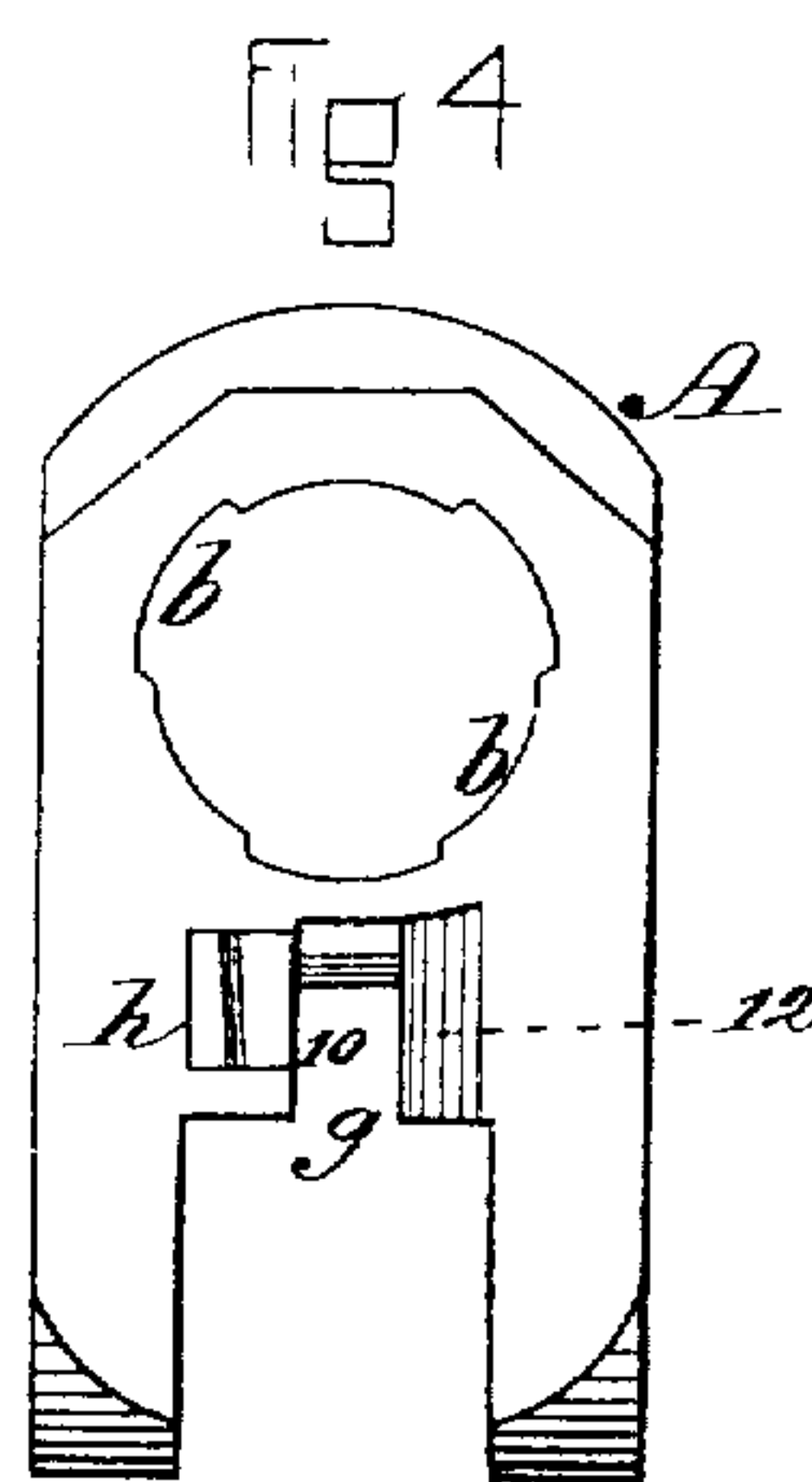
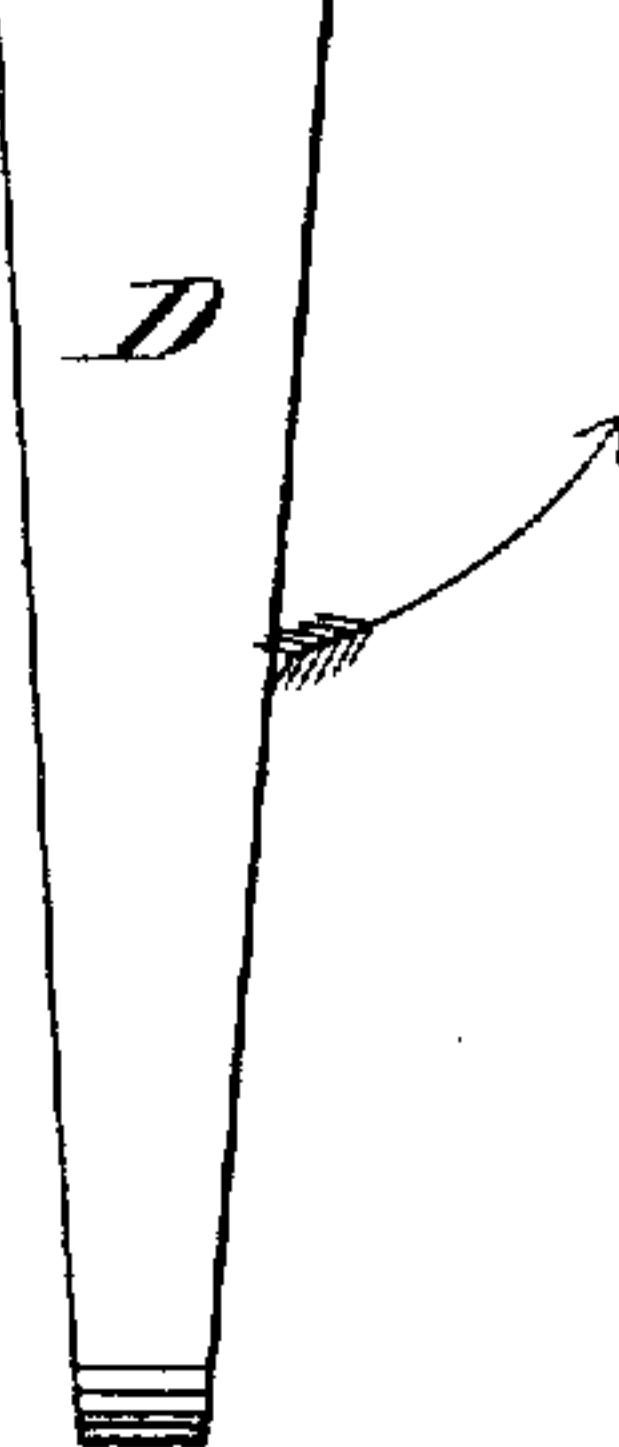
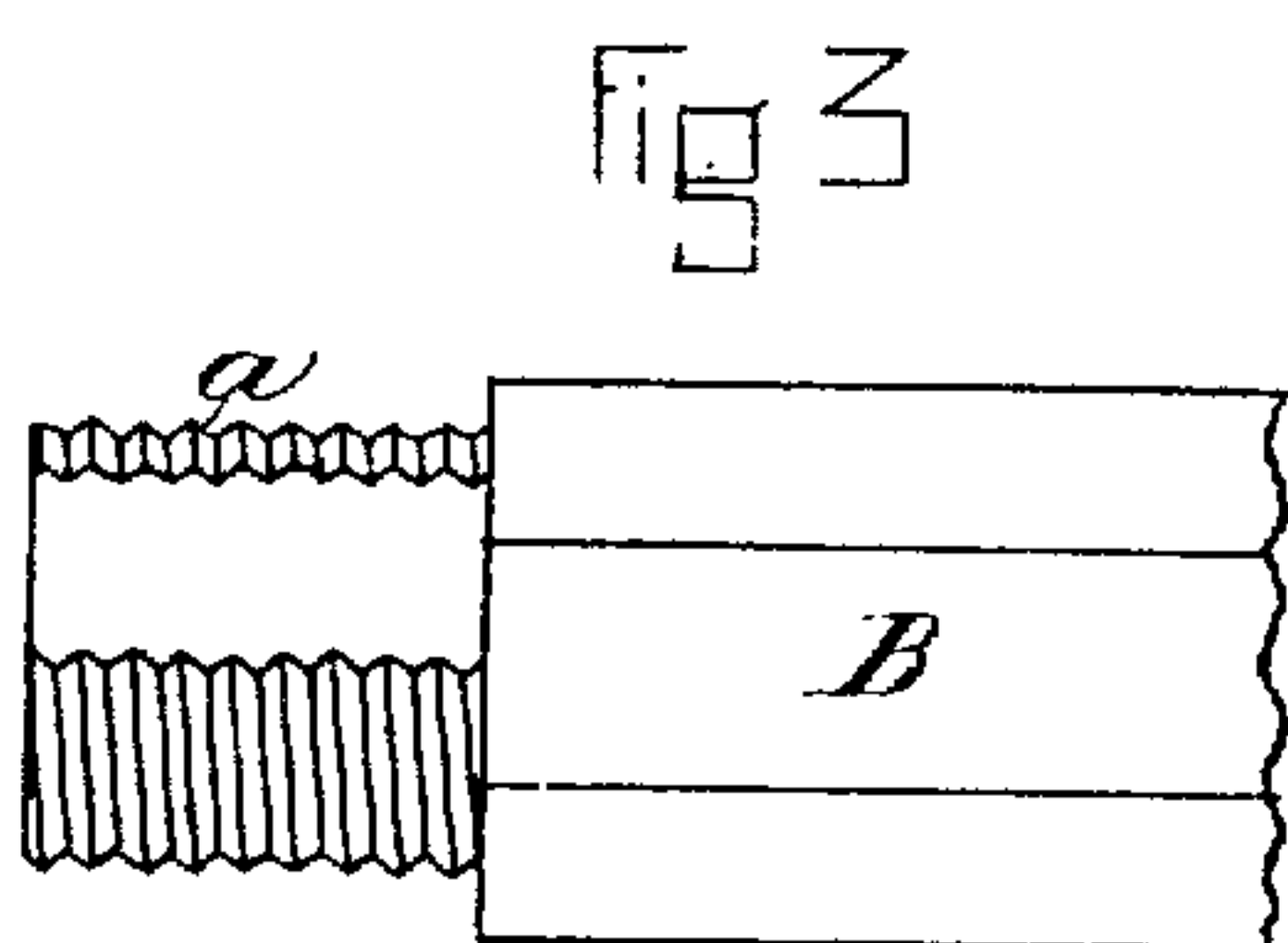
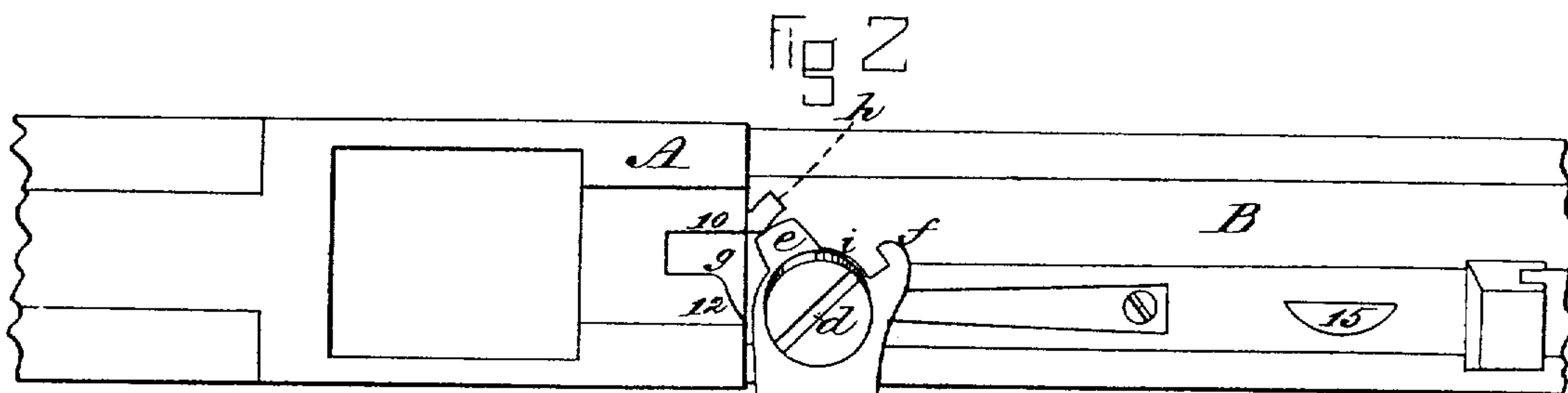
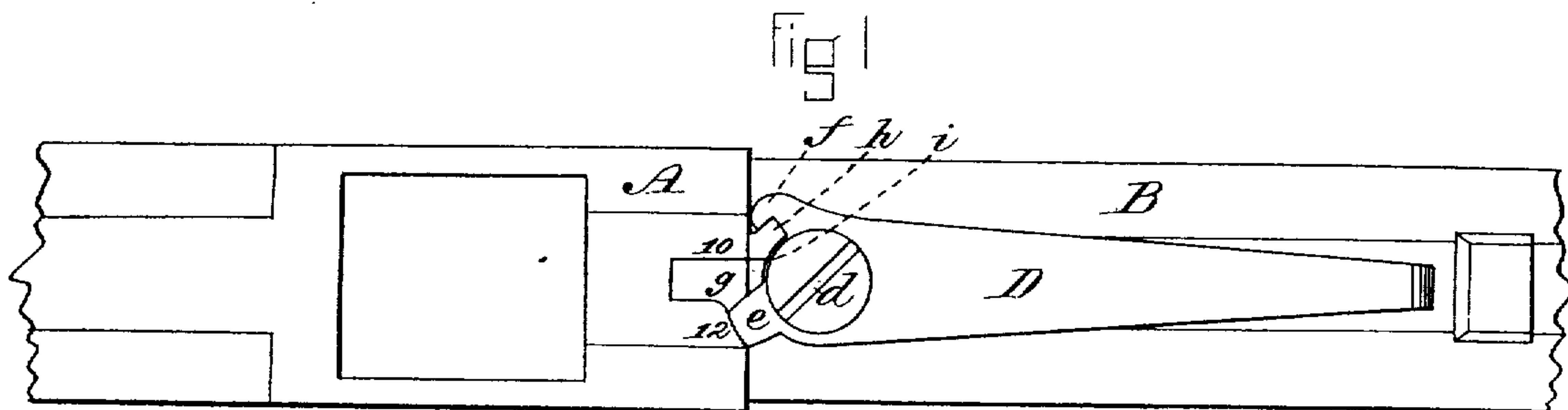


(No Model.)

D. KIRKWOOD.
BREECH LOADING FIRE ARM.

No. 318,001.

Patented May 19, 1885.



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DAVID KIRKWOOD, OF BOSTON, MASSACHUSETTS.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 318,001, dated May 19, 1885.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, DAVID KIRKWOOD, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the under side of a portion of a breech-loading fire-arm having my improvements applied thereto, the guard-lever and breech-block being removed. Fig. 2 is a similar plan, with the parts in a different position. Fig. 3 is a side elevation of the rear end of the barrel. Fig. 4 is an elevation of the front end of the breech-piece. Figs. 5 and 6 represent a modification of my invention.

In single-barrel breech-loading fire-arms it is desirable that the barrel should be capable of being readily disconnected from the stock, in order that the two may be packed together in a small compass within a suitable case for convenience in traveling or transportation.

To this end my invention has for its object to provide a simple and convenient means for connecting the barrel with the breech-piece and disconnecting it therefrom; and consists in a lever mechanism for partially rotating the barrel on its longitudinal axis, and thereby locking it with or unlocking it from the breech-piece, as hereinafter set forth, the locking device being so constructed that its parts will be caused to engage with or be disengaged from each other by an axial movement of the barrel in the proper direction.

In the said drawings, A represents the breech-piece of a single-barrel fire-arm, and B the barrel, which is connected to the said breech-piece by means of an ordinary segmental screw, *a*, at its rear end, adapted to fit a correspondingly-formed female screw, *b*, in the breech-piece, the parts being so constructed that a partial rotation of the barrel on its longitudinal axis will cause the screw *a* to be disengaged from the screw *b*, when the barrel can be removed from the breech-piece by drawing it out with the hand.

I will now describe the means by which the barrel is partially rotated on its longitudinal

axis to lock it with or unlock it from the breech-piece A.

To the under side of the barrel is pivoted at *d* a powerful lever, D, the short arm or inner end of which is provided with two projections, *e f*, the larger one, *e*, of which fits within a recess, *g*, in the breech-piece, said recess having a straight side, 10, and an inclined or curved side, 12, while the smaller projection, *f*, bears against a projection, *h*, on the breech-piece when the parts are in the position seen in Fig. 1, in which position the barrel is locked in place and the lever D held securely by a suitable catch—in the present instance a projection on its outer end springing into a notch, 15, in the barrel.

To unlock the barrel, the lever D is moved into the position seen in Fig. 2, and during the first part of the movement of this lever the barrel remains stationary, as the width of the recess *g* exceeds that of the projection *e*, and consequently the barrel B is not moved until the projection *e* strikes the straight side 10 of the recess *g*. This first loose movement of the lever D without rotating the barrel allows the projection *e* to move within the recess *g* sufficiently to enable it to clear itself from the side 12 of the said recess and allow the barrel to be rotated on its longitudinal axis, which is then accomplished by the further movement of the lever D into the position seen in Fig. 2, and the consequent pressure of the projection *e* against the side 10 of the recess *g*. The barrel has now been rotated sufficiently to disengage the screws *a b*, when it can be disconnected from the breech-piece, as desired.

In putting the barrel and breech-piece together as the lever D is moved in the direction of the arrow, Fig. 2, the projection *e* takes a bearing against the curved or inclined side 12 of the recess *g* in the breech-piece, and thus causes the barrel to be rotated on its longitudinal axis, as desired, to turn the screws *a b* together and lock it firmly to the breech-piece, and when the inward throw or movement of the lever D has been completed the projection *e* thereon will extend in a straight line from the fulcrum *d* of the lever D to the curved surface 12 of the recess *g*, which curved surface 12 forms the arc of a circle, having its center at the fulcrum *d* when the lever is in the po-

sition seen in Fig. 1, and this projection *e*, when so placed between the side 12 of the recess *g* and the fulcrum *d* of the lever D, will form a stop and securely lock the barrel in place, and prevent any possibility of its being moved in the slightest degree in a direction to disengage it from the breech-piece until the projection *e* has been moved over into contact with the side 10 of the said recess *g*, for the reason that any tendency of the barrel to turn on its longitudinal axis in a direction to unlock the barrel will produce a strain in the direction of the length of the projection *e* between the side 12 and the fulcrum *d*, which strain will be effectually resisted by the projection *e* when in the position seen in Fig. 1.

In unlocking the barrel the projection *f* of the lever D at once clears the projection *h* on the breech-piece; but as the lever D is moved in the direction of the arrow to lock the barrel the projection *f* comes into contact with the projection *h* and forms an additional locking device between the barrel and the breech-piece, while the curved portion *i* of the lever D also takes a bearing against the adjacent side of the projection *h*, which effectually prevents the barrel from being rotated beyond its proper position in locking it to the said breech-piece in case the screw should become loose from wear.

I do not confine myself to the employment of a segmental screw as a means of connecting the barrel with the breech-piece, as any other suitable device which is capable of being locked and unlocked by the rotation of the barrel on its longitudinal axis may be employed instead, if preferred.

The construction and arrangement of the lever D, and its method of engagement with the breech-piece to produce a movement of the barrel on its longitudinal axis may be varied, if desired, without departing from the spirit of my invention. For instance, instead of the lever being constructed and arranged to swing out to one side of the barrel in a horizontal plane, as above described, it may be so arranged on the under side of the barrel as to swing downward and upward, as seen in Fig. 5, the short or inner arm of the lever fitting between the inclined surfaces of two stationary projections, *k k*, Fig. 6, on the breech-piece, which thus produce a partial rotation of the barrel on its longitudinal axis, as the short arm of the lever is moved vertically between them, while these two projections, fitting snugly against opposite sides of the short arm of the lever when in the position seen in Fig.

5, serve to lock the barrel and prevent it from turning in either direction.

What I claim as my invention, and desire to secure by Letters Patent, is:—

1. The combination, with the barrel B and breech-piece A, having connecting screw-threads, and adapted to be connected and disconnected by rotation of the barrel on its longitudinal axis, of a lever, D, pivoted to the under side of said barrel, and adapted to engage with the breech-piece and lie flat along the under side of the barrel when its movement is completed, substantially as and for the purpose set forth.

2. The combination, with the barrel B and the breech-piece A, having a recess, *g*, said barrel and breech-piece having connecting screw-threads, of the lever D, having a projection, *e*, at its inner end fitting within the recess *g* in the breech-piece whereby the barrel is locked when the inward throw of the lever D is completed, substantially as described.

3. The combination, with the barrel B and the breech-piece A, having a recess, *g*, and a projection, *h*, said barrel and breech-piece having connecting screw-threads, of the lever D, provided with a projection, *e*, fitting within the recess *g*, and having a portion, *i*, which takes a bearing against the projection *h* on the inward movement of the lever D, substantially as set forth.

4. The combination, with the barrel B and the breech-piece A, having a recess, *g*, and a projection, *h*, said barrel and breech-piece having connecting screw-threads, of the lever D, provided with a projection, *e*, fitting within the recess *g*, and having a portion, *i*, and a projection, *f*, which takes a bearing against the projection *h* on the inward movement of the lever D, substantially as described.

5. The combination, with the barrel B and the breech-piece A, having a recess, *g*, said barrel and breech-piece having connecting screw-threads, of the lever D, pivoted to the barrel at *d*, and provided with a projection, *e*, at its inner end, fitting within said recess, and having a loose motion therein between its sides 10 and 12, whereby it is caused to clear itself from the side 12 before commencing to rotate the barrel, substantially as and for the purpose described.

Witness my hand this 28th day of June, A. D. 1884.

DAVID KIRKWOOD.

In presence of—

P. E. TESCHEMACHER,
CHAS. E. GRIFFIN.