

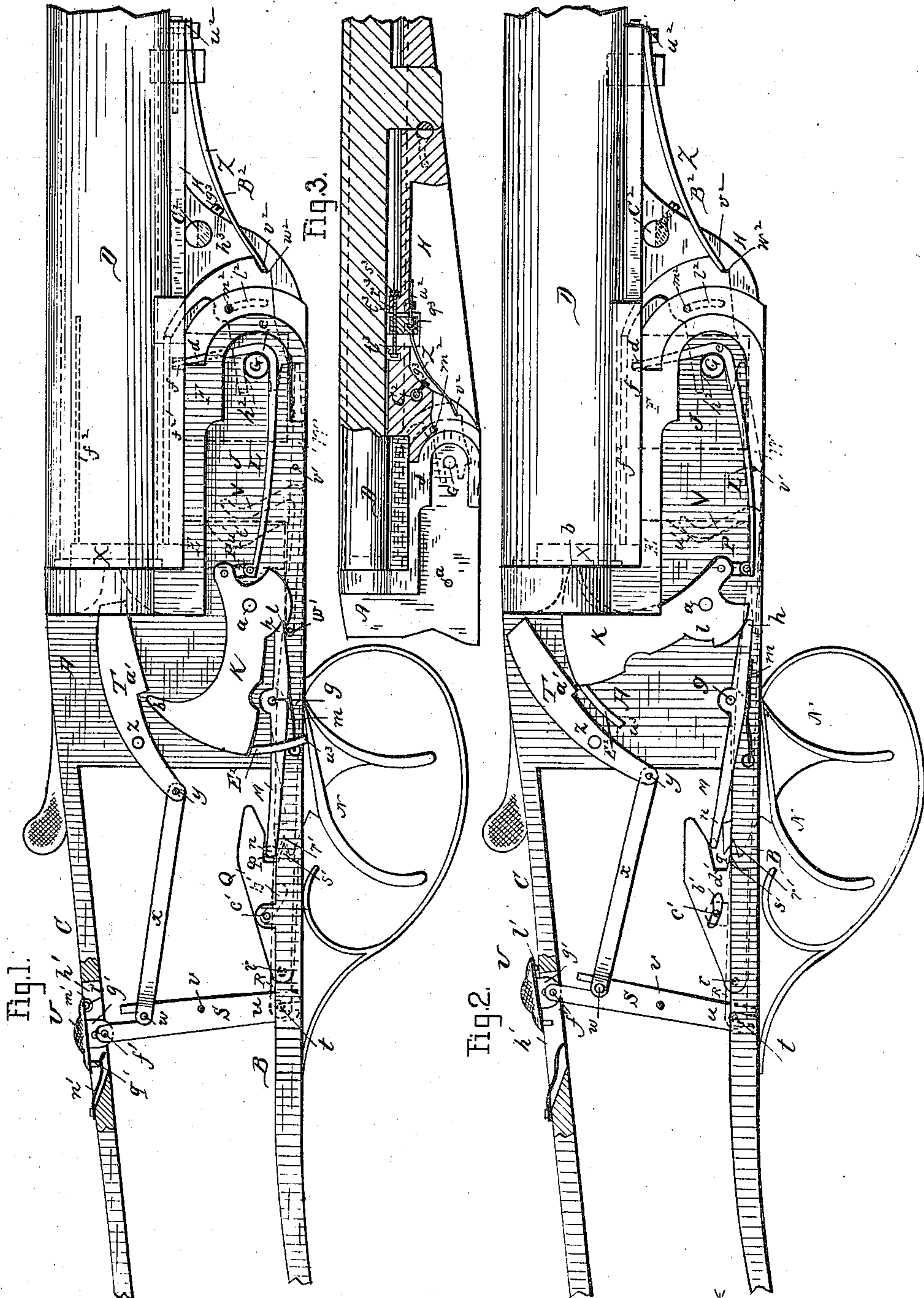
(No Model.)

3 Sheets—Sheet 1.

E. A. BASSETT.
BREECH LOADING FIRE ARM.

No. 325,901.

Patented Sept. 8, 1885.



Witnesses.

Wm. S. Bellows

H. Parker Fellows

Inventor,

Ernest A. Bassett,

Brown Bros.

Attorneys

(No Model.)

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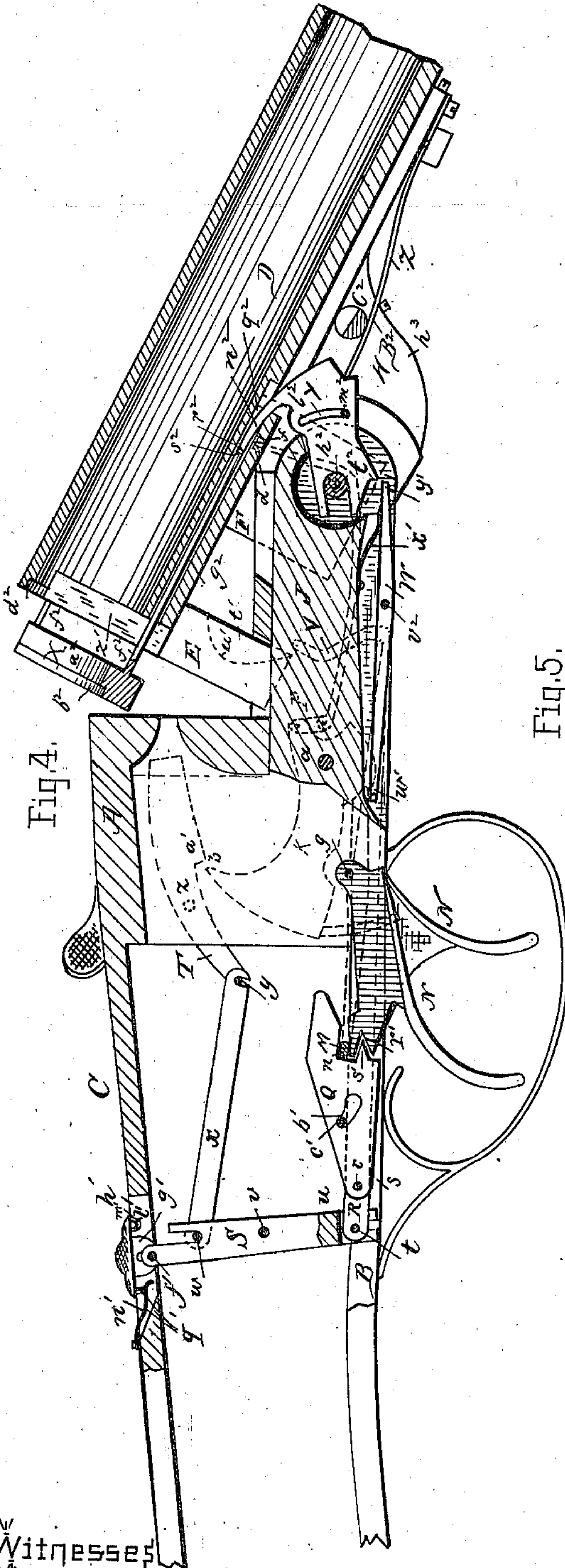


Fig. 4.

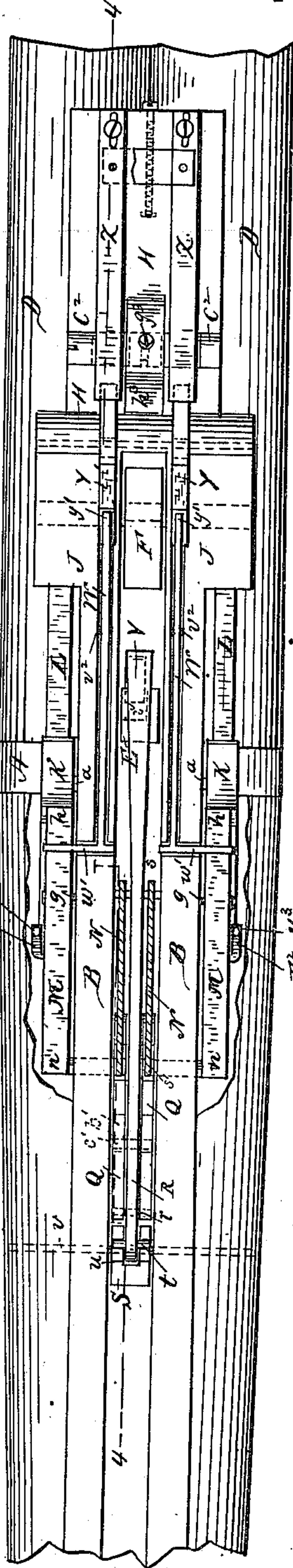


Fig. 5.

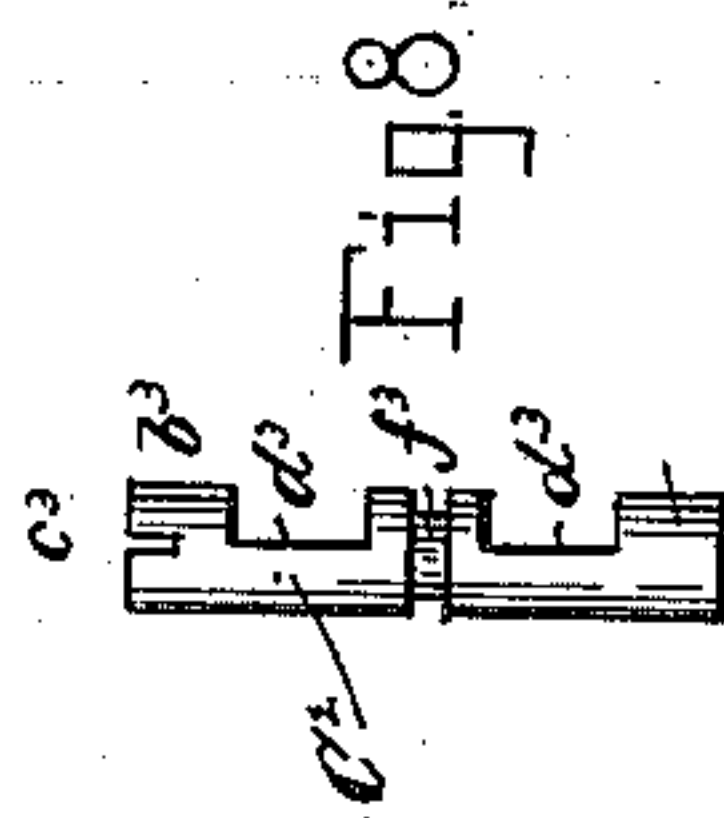


Fig. 6.

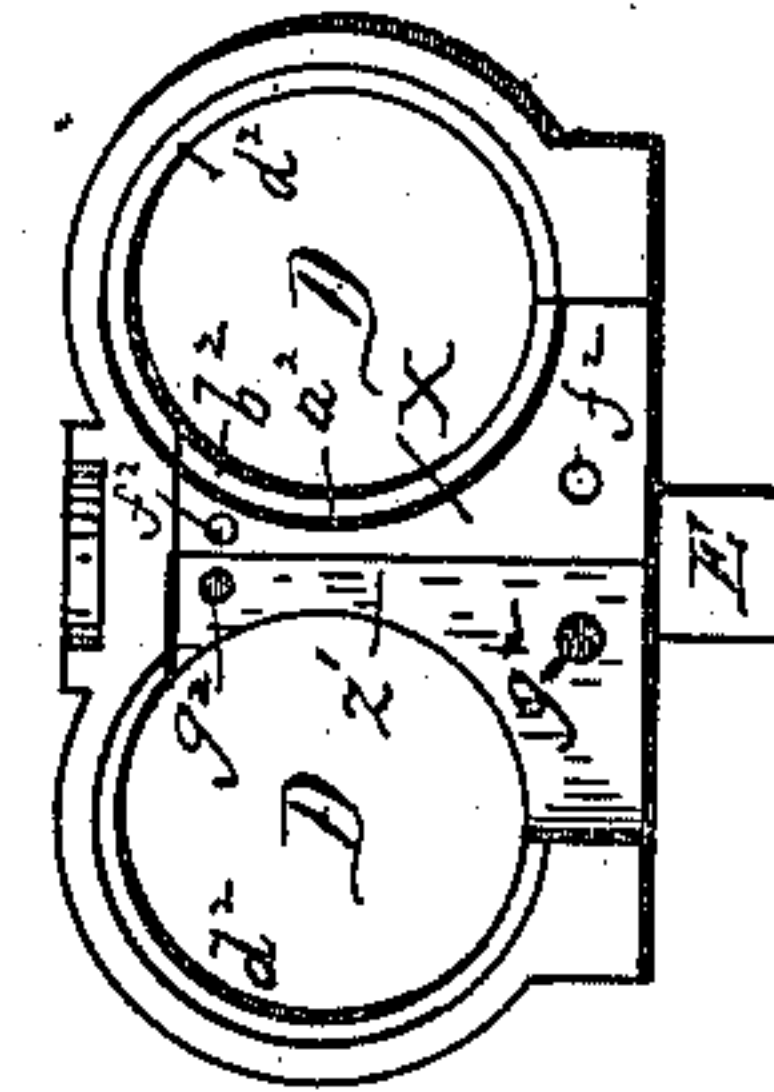


Fig. 7.

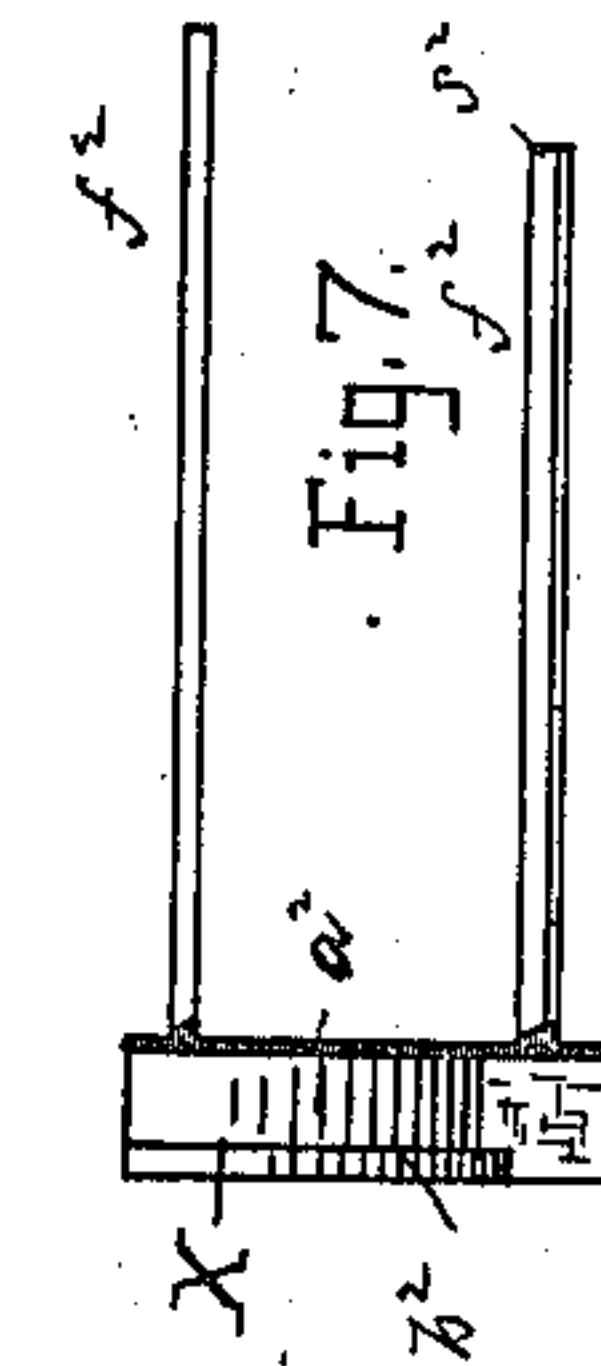


Fig. 8.

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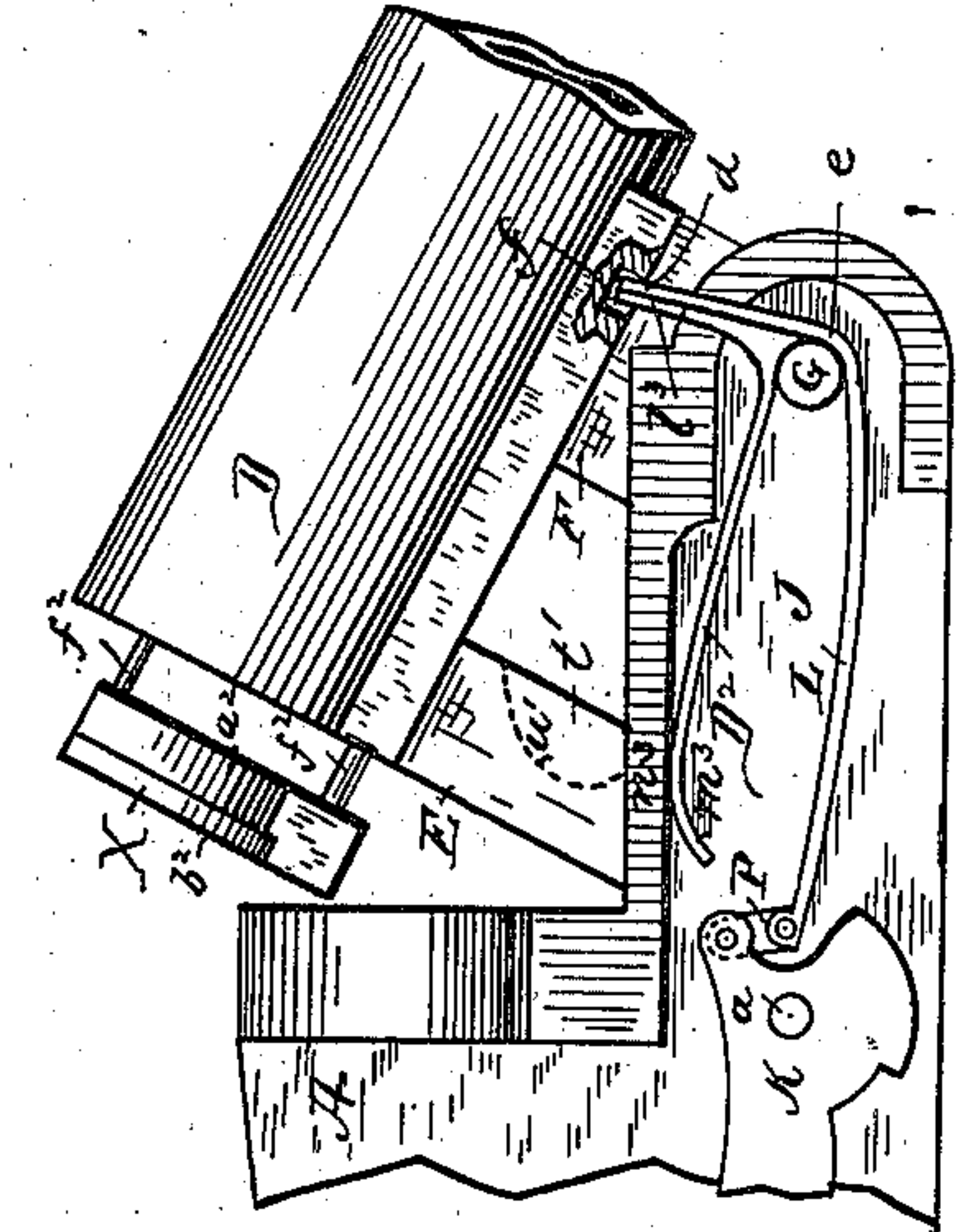


Fig. 13.

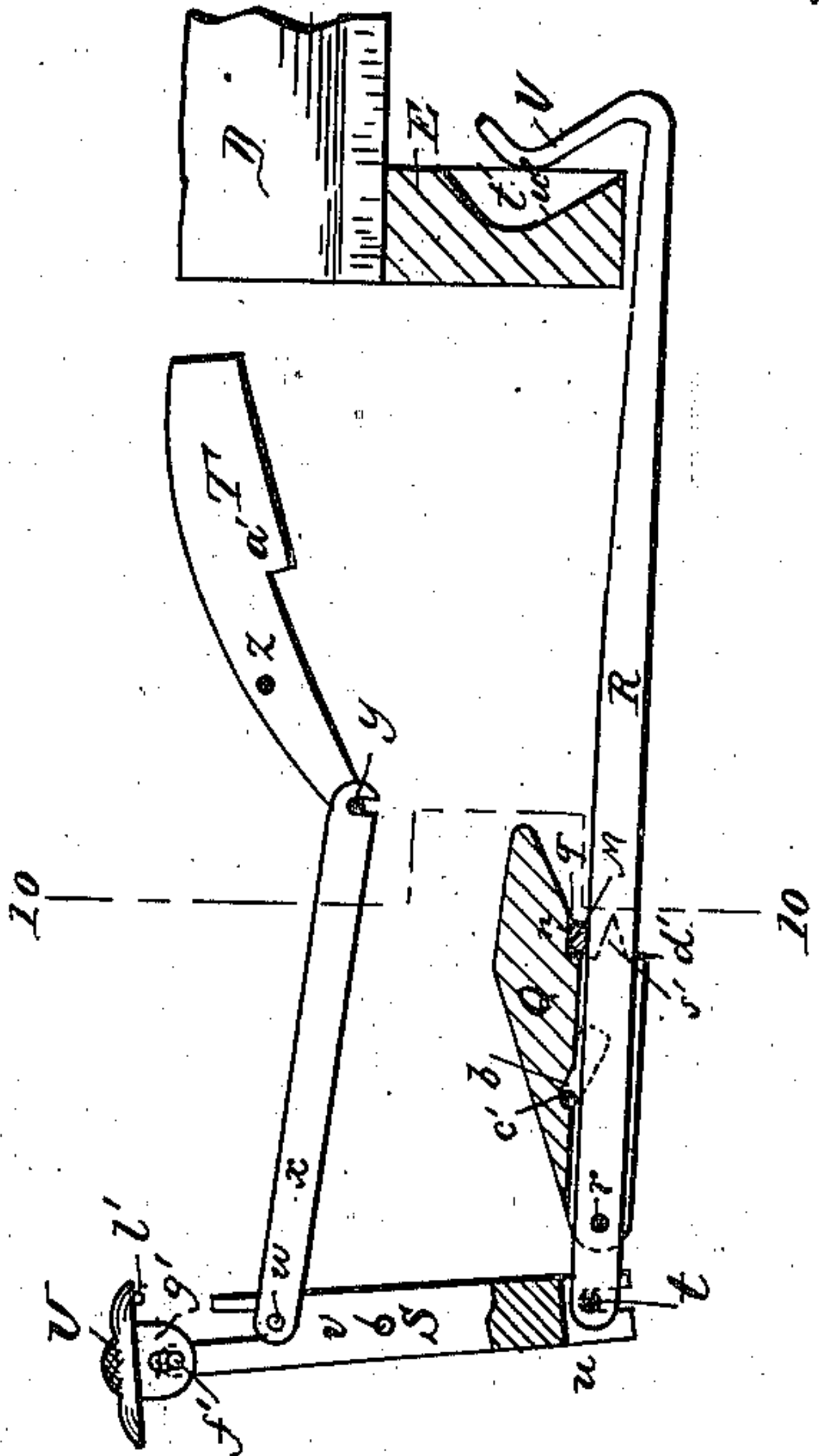


Fig. 9.

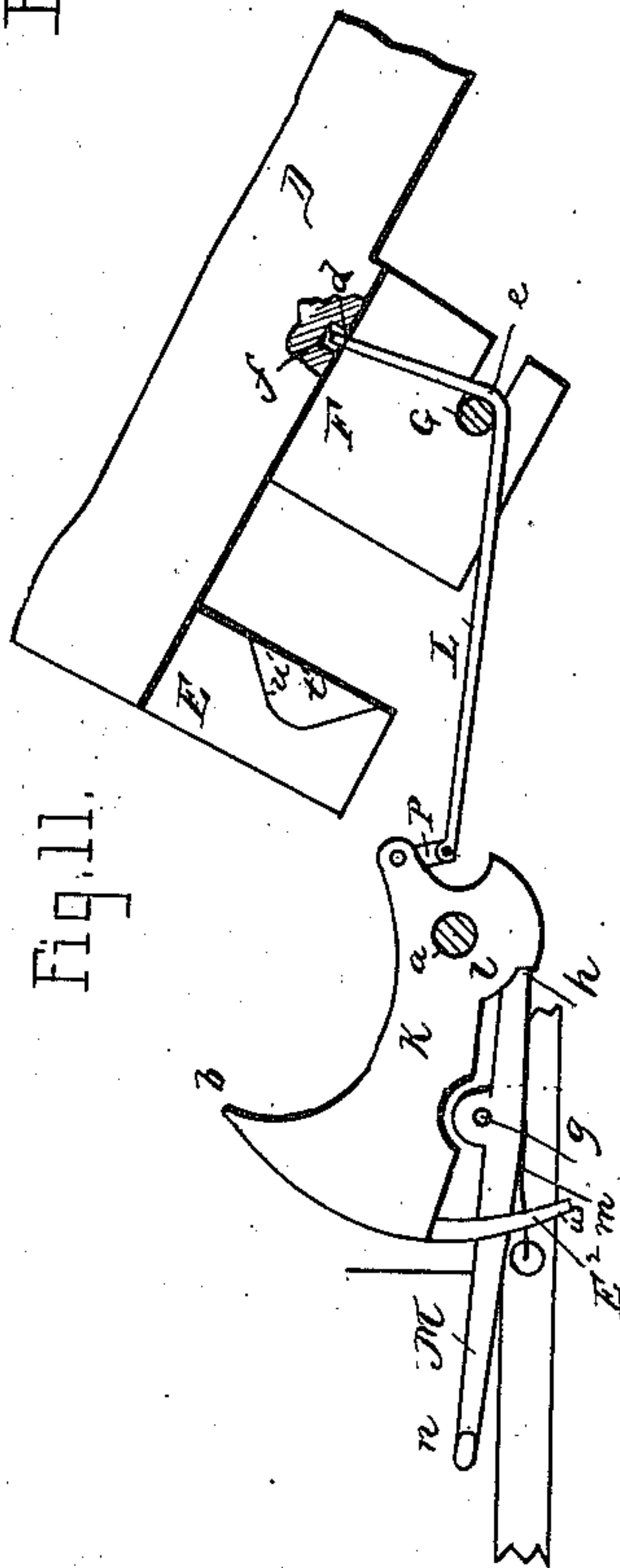


Fig. 11.

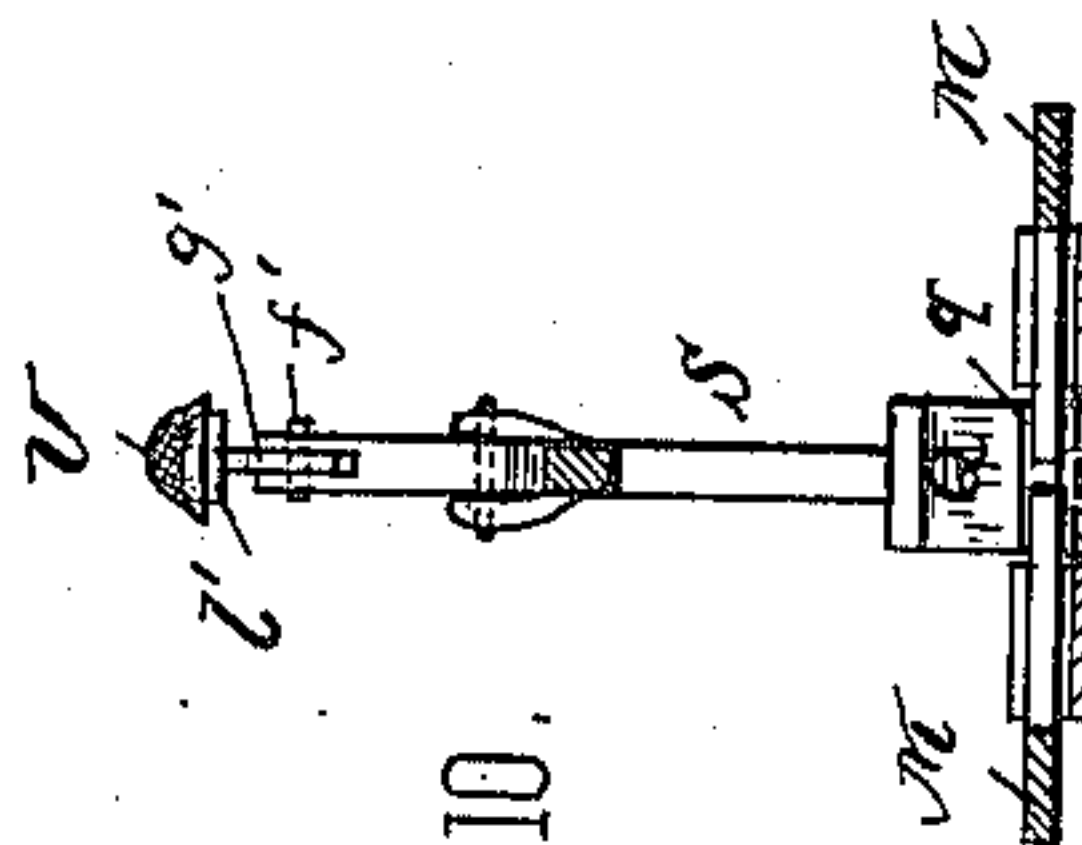


Fig. 10.

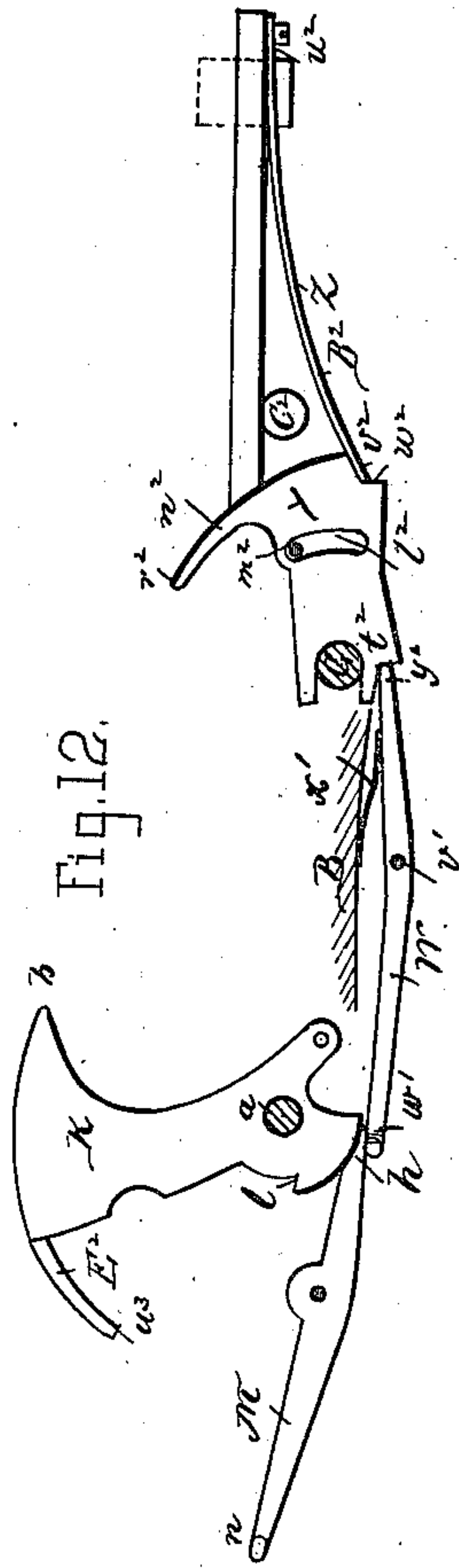


Fig. 12.

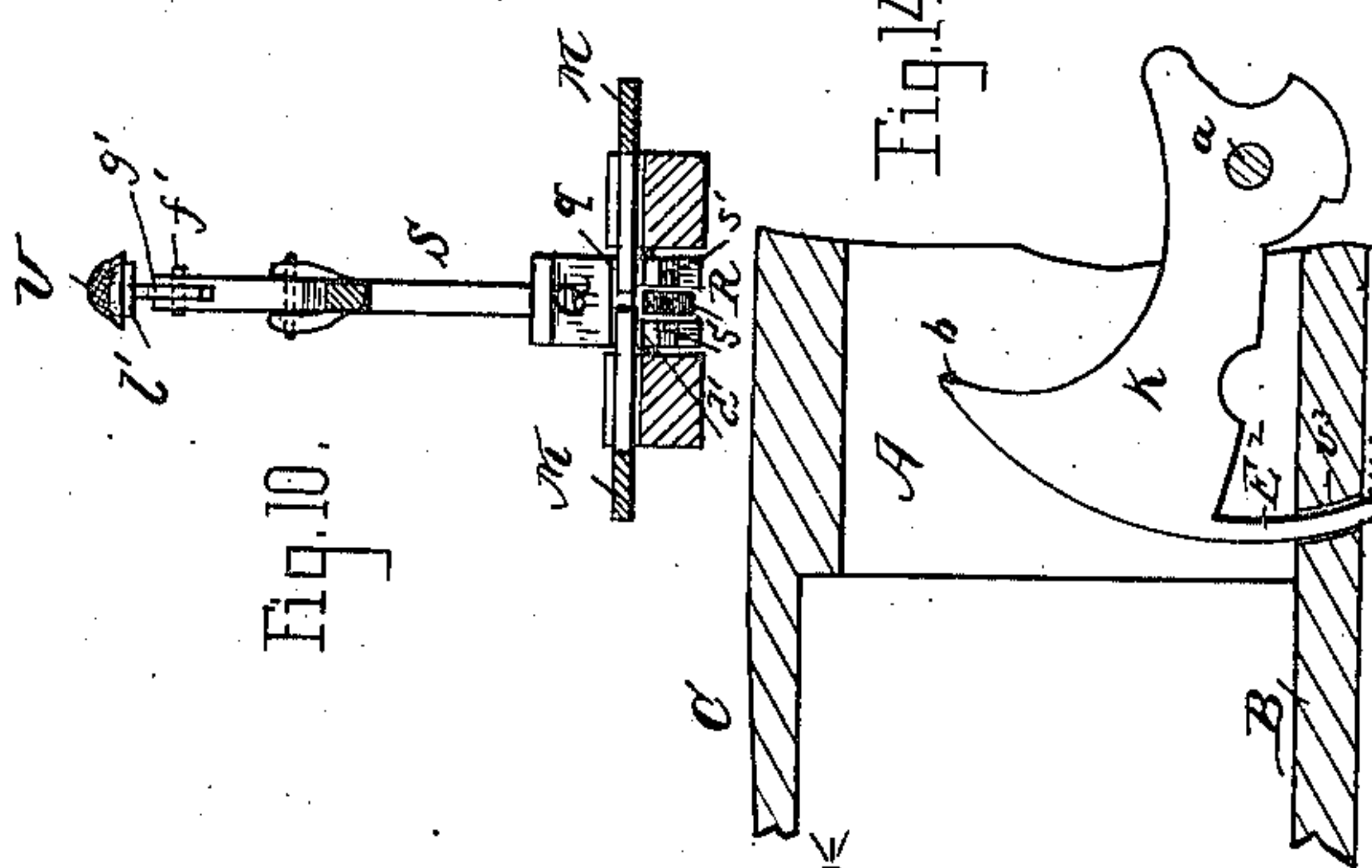


Fig. 14.

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per Brown Bros.
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Witnesses

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UNITED STATES PATENT OFFICE.

ERNEST A. BASSETT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND NATHANIEL M. LOWE, OF SAME PLACE.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 325,901, dated September 8, 1885.

Application filed March 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, ERNEST A. BASSETT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description.

This invention relates to breech-loading hammerless guns, and the principal objects of the invention are to automatically eject the cartridge-shell from the barrel after the discharge of the gun by the lowering or swinging down of the barrel, and also by such movement of the barrel to automatically move the hammer into its cocked position, and then lock its sear and trigger to prevent accidental discharge of the gun, and to also move an obstruction or an abutment into the path of the hammer to prevent, in case the hammer should be accidentally released from its engagement with its sear or cocked position, its striking or firing the cartridge if the gun should be loaded; and the invention consists in a novel construction and arrangement of parts in a breech-loading gun, all substantially as hereinafter fully described.

In the accompanying plates of drawings this invention is illustrated.

In Plate 1, Figures 1 and 2 are detail longitudinal side views at the breech-block and breech end of the gun showing the various parts in side elevation, in Fig. 1 with the hammer cocked and the sear and trigger locked to prevent accidental discharge of the hammer, and in Fig. 2 with the hammer discharged and the gun fired. Fig. 3 is a longitudinal section and side view, to be hereinafter referred to.

In Plate 2, Fig. 4 is a similar view to Figs. 1 and 2, but with the barrel opened or lowered and the cartridge as just ejected from the barrel, and the hammer moved into cocked position, and its sear and trigger locked; Fig. 5, a plan view of the under side, with the outside of stock, &c., removed, and with the parts in the position shown in Fig. 1; Figs. 6, 7, and 8, detail views, to be hereinafter referred to.

In Plate 3, Fig. 9 is a detail side elevation of parts operated by the barrel to lock the sear and trigger, &c.; Fig. 10, a vertical sec-

tion on line 10 10, Fig. 9; Fig. 11, a detail side view of breech end of barrel, the hammer and its spring, showing the hammer as moved into its position of cock by the lowering of the barrel. Fig. 12 is a detail side view of parts in connection with the hammer and sear for the ejection of the cartridge-shell from the barrel; Fig. 13, a detail side view of breech end of the barrel and springs connected therewith to discharge the hammer and assist in closing the barrel after being lowered; Fig. 14, a detail side view of hammer with a portion of breech-block in section, to be hereinafter referred to.

In the drawings, A represents the breech-block; B, the trigger-plate; C, the tang; D, the barrel; E F, the barrel-lugs; G, the pivot on which the barrels swing; H, the fore-end; J, the arm of the breech-block; K, the hammer; L, its spring; M, the sear; N, the triggers, all constructed and arranged for operation as usual in breech-loading guns, and needing no particular description herein, except so far as the same are more or less modified for the purposes of this invention. The hammer K is pivoted at *a*, swinging vertically thereon and adapted by its end *b* to discharge the cartridge, as usual, by the action of its spring L, connected to it by a link, P. The spring L, at its other end, *d*, is bent upward, and, as shown at its bend *e*, lies against and is confined by the pivot-pin G, which serves as a fulcrum, its end *d* entering into and engaging with a socket or notch, *f*, in the under part of the barrel.

The sear M, pivoted at *g*, engages by its end *h* with the notch *l* in the hammer K, to hold it in its cocked position, being held therein by its spring *m*, secured to the trigger-plate B. The other end, *n*, of the sear M is bent inward horizontally at or substantially at a right angle in position for engagement, when desired, with an open horizontal slot, *q*, in a plate, Q. This plate Q is pivoted at *r* to a bar or rod, R, arranged to slide longitudinally forward and backward in a groove, *s*, in the trigger-plate B and breech-block A, and pivoted at *t* to the lower end, *u*, of a vertical lever, S, pivoted at *v* to the stock, the stock not being shown in

the drawings. Connected to this vertical lever S by a pivot, w , is a pitman-rod, x , by its other end pivoted at y to one end of a lever, T, arranged to swing vertically on a pivot, z , of the stock or breech-block. When this lever is swung into the position shown in Fig. 1 more particularly, a shoulder, a' , on its under side will be in the pathway of the travel of the end b of hammer in discharging the gun, and whereby the hammer will abut against such shoulder, so that in case the hammer should be accidentally or otherwise released from its engagement with its sear it will strike against and rest on such shoulder, preventing thereby the discharge of the gun if loaded. Swinging this vertical lever S to the left will, through its connection with lever T, cause its arm to move into such position for the purpose described, and by the lever S, in the same movement through the bar R, connecting it with the slotted plate Q, said plate will be moved into position for its slot q to engage the arm n of the sear M, holding it from movement and consequent disengagement with the hammer.

The plate Q has a curved slot, b' , to slide over a pin, c' , secured to the trigger-plate, which guides the plate in its movement forward and backward—that is, as pushed forward by the lever it causes its end d to move downward for its slot q to engage the arm n of sear M, and when moved backward to cause its end d to move upward—and thus its slot q is released from and moved out of the way of the sear-arm n , to allow the necessary movement of the sear to disengage with its hammer.

Reversing the movement of the lever S releases the plate from the sear and moves the swinging lever T out of the path of the hammer.

The upper end of the lever S is pivoted at f to a downwardly-projecting arm, g' , of a thumb-piece, U, which thumb-piece is arranged to slide upon the upper surface of the tang C, being guided by its arm g' in a longitudinal slot, h' , in the tang, by which thumb-piece U the lever S can be operated from the outside of the tang or stock. To secure this lever S when in its position to lock the sear and prevent movement of the several parts connected with it, and prevent thereby the discharge of the gun, a cross-pin or projection, l' , on the under side of the front end of the thumb-piece U is arranged to engage with a transverse slot, m' , in the upper side of the tang, being held to such engagement by a spring, n' , bearing upwardly against a downward projection, q' , of the thumb-piece U.

To release the thumb-piece U from its interlock with the tang, press down its rear end against its spring q' , which will free its front end from the slot m' , when the thumb-piece can be pushed forward, and thus through the lever lock the sear, &c., as described.

The rear end of the trigger N has a V-shaped notch, r' , into which the end s' of the plate Q when moved forward will enter, and

interlocking with the same prevent any movement of the trigger to release the hammer. As the plate Q is moved back, it is disconnected from the trigger, which is then free to be moved as desired.

Thus far the locking of the several parts to prevent any premature discharge of the gun is accomplished by operating the lever S to move the several parts by hand, but to do this automatically—that is, by the movement of the barrel in lowering it to reload the gun or for any purpose—the following arrangement of parts is provided: The lug E has in its front face a vertical groove, t' , having an inclined bearing-surface, u' , in which groove is arranged to move a correspondingly-inclined arm, V, of the rod R connected to plate Q and lever S, and bearing against said surface u' , as shown more particularly in Fig. 2 in dotted lines. With the gun discharged and the parts in the position shown in Fig. 2, more particularly, in swinging down the barrel to open its breech end to load or unload, the lug E is raised, and in its movement its inclined bearing-surface u' of the groove t' bears against and presses the inclined arm V of bar R, forcing the rod forward in its guiding-groove s , which carries with it the plate Q and the lower end of the lever S, and through the rod-connection x to lever T swings it into its lowermost position, thus automatically locking the trigger, sear, lever, and the hammer from discharging the gun. When the lever S is moved to unlock these several parts for the purpose of discharging the gun, the inclined arm V is brought into its proper position in said groove t' for the again operation of the barrel upon it to lock the firing mechanism, as described.

W is a lever pivoted at v' to the breech-block arm J, and arranged to swing vertically thereon, and to bear by one end, w' , bent at right angles against the under side of the end h of the sear, and held to such bearing by a spring, x' , secured to arm J acting against the upper side of the other end, y' , of said lever.

X is a block or plate arranged to lay within a recess, Z' , in the breech end of the barrel at one side of the barrel, and corresponding on its side a'' with the internal bore of the barrel, and having at such portion a shoulder, b'' , which forms a continuation of a corresponding shoulder or annular recess, d'' , in the end of the barrel, and in which shoulders b'' d'' is adapted to be disposed the flange of the cartridge-shell when placed in the barrel. This block or plate X has two horizontal guide-rods, f'' , one above the other, extending forward and arranged to move backward and forward in sockets g'' in the barrel.

Y is a lever or plate arranged to swing vertically by its open socket h'' on the pivotal pin G of the gun, and guided and limited in its movements by a slot, l'' , over a pin, m'' , of fore-end H. This lever or plate Y has a narrow arm, n'' , concentric with its pivot G, which arm n'' is arranged to enter and pass into an opening, q'' , in the under side of the barrel,

and bear by its end r^2 against the end s^2 of the lower guide-rod, f^2 , of the block or plate X.

t^2 is a shoulder in the plate Y for its abutment against the end y' of lever W, when said lever is in proper position in relation thereto.

The plate or lever Y is for the purpose of ejecting the cartridge-shell after the gun has been discharged, and in its movements for such purpose it is acted upon by a flat spring, Z, secured by one end at w^2 to the under side of the barrel, and bearing by its free end v^2 in a notch, w^2 , in the plate Y.

The movement of the several parts to eject a cartridge shell from the barrel after the gun has been discharged are as follows: As the gun is discharged, the end h of the sear M bears upon the portion x^2 of the hammer K, pressing thereby the end w' of lever W downward, and correspondingly raising its other end, y' , so that it will be in position for the shoulder t^2 of the plate Y to abut against, as shown in Fig. 12. Now, unlock and lower the barrel, and as it moves down, the end r^2 of the arm n^2 of the plate Y enters the opening q' of the gun, by which, through its bearing against the end s^2 of the guide-rod f^2 , the block X is forced outward from its seat Z' , as shown in Figs. 4 and 13, carrying the cartridge shell with it by its flange, and when the barrel is sufficiently lowered for the cartridge-shell to be thrown out and clear the end A^2 of breech-block A, the plate Y will have reached such a position relative to its pivotal point and the barrel and its spring Z and its point of attachment, that the spring will act with a sudden force upon the plate Y, and through it upon the carrier-block X, so that the cartridge-shell will be forcibly ejected from the barrel, the block X and its guide-rods f^2 being prevented from escape by its abutment against the end A^2 of the breech-block. Raise the barrel up and lock it with the breech-block, and in such movement the block X will be returned to its seat z' in the barrel with its cartridge, if one has been put in to load the gun, by the end A^2 of the breech-block pressing against the same, and the plate Y, by the pressure of the end s^2 of rod f^2 against its arm n^2 , will be swung into proper position for operation again as before.

The action of the spring Z, which causes, through the plate Y and block H, the cartridge-shell to be ejected from the barrel, is as follows: As the barrel is lowered, the middle portion of the spring approaches the barrel, and when the barrel has reached the proper position for the cartridge-shell to be ejected, the portion B^2 of the spring Z, near its end v , will have come to a bearing on a cross-pin, C^2 , in the fore-end H, and in the further slight movement of the barrel the spring will be straightened and bent slightly in the opposite direction, and in such straightening as the lever-plate Y will have reached a position for its shoulder t^2 , and center pivot, G, to be in line with the direction of the force exerted by the spring Z, the plate will be suddenly and forcibly moved up, and such force being communicated

as suddenly to the block X, the cartridge-shell will be quickly and forcibly, and with a jerk, as it were, ejected from its seat in the block, and thus free from the barrel.

The mainspring L of the hammer acts upon the hammer to discharge the cartridge, and also serves, when the barrels are swung down, to reload, or for any other purpose, to move the hammer into its cocked position, which is accomplished by the engagement of the end d of the spring with the notch f in the barrel D, for, as the barrel moves downward, it carries such end d with it, consequently raising the end a^3 , and thus swings the hammer into position for its sear to engage with it, as shown.

As the barrel is moved upward and locked, such movement carries with it the arm d of the spring, and, as the end a^3 of the spring is prevented from movement by the cocking of the hammer the spring is compressed by bringing its arms toward each other, thereby increasing its tension for the proper forcible throw of the hammer to discharge the gun.

When the barrel is swung down with the hammer cocked, the lever W will then be in the position shown in Fig. 4—that is, its end y' will be moved so that the shoulder t^2 on the plate Y cannot engage with such end, and thus the cartridge, if within the barrel, will not be ejected, as in such case the plate would move or swing upon its pivot with the barrel, and thus have no effect upon the block X to eject the cartridge; also, with the hammer released, and the plate Y thereby bearing by its shoulder t^2 against the end y' of lever W, if not desirous of having the cartridge ejected from the barrel, turn the pin C^2 half round, for which purpose one end, b^3 , extends to the outside of the arm of breech-block A, and is provided with a slot, c^3 , in which can be placed a screw-driver for operating it. When the pin is so turned, it brings into position opposite the spring z an opening or cut-away portion, d^3 , of said pin, into which the spring will move, and thus have no effect upon the plate Y to cause it to move to eject the shell or cartridge. This pin has a circumferential groove, f^3 , in which a set-screw, g^3 , screwed into the portion h^3 of fore-end projects to prevent any longitudinal movement of said pin, and thus its escape from the gun.

In Fig. 13 is shown a spring, D^2 , which acts to assist in closing the barrel when raising it after having reloaded or ejected the cartridge-shell, and, as shown in such figure, one, E^2 , of its arms is secured to the arm d of the mainspring L in any suitable manner, and engages with the notch f of the barrel, and its free arm m^3 bears against a shoulder, n^3 , of the breech-block, and its tension is such as to act on the barrel in such manner as to assist to raise it to close the gun.

In Fig. 3 is shown means for regulating and adjusting the pressure of the spring Z for its action on the ejector-plate Y, and consists of attaching the end w^2 of the spring to a block, q^3 , through which a screw, r^3 , is arranged to

turn its ends, being secured from longitudinal movement by heads s^2 bearing against ear-pieces t^2 in the fore-end H, and in which ear-pieces the screw is free to turn by any suitable means, which causes the block q^2 to move forward and backward, and thus move it farther from or nearer to the plate Y, and decrease or increase the pressure of the spring L thereon.

There are many advantages in constructing a breech-loading gun according to this invention—first, its absolute safety against accidental or premature discharge, as, for instance, by locking its trigger, its sear, and the operating-lever and by swinging the lever T into position for the abutment thereon of the hammer in case the hammer should be discharged accidentally; second, by the lowering of the barrel to reload it, the cartridge-shell is ejected from the barrel, the hammer is cocked, and the parts designed to prevent the premature discharge of the hammer are brought into their locked position for such purpose; third, when desired the barrel can be lowered without ejecting the cartridge, and when two barrels are combined, if one only is discharged, in swinging down the barrels only the shell of the discharged cartridge will be ejected for the reason as stated, that as the other hammer would be cocked its respective lever W would be out of position for its plate Y to abut against the end y' of such lever, and consequently it would have no effect on the cartridge; fourth, the parts are all locked automatically and it is impossible to lower the barrel without locking the firing mechanism of the gun, also the mainspring not only acts upon the hammer to discharge the cartridge but also acts in the lowering of the barrel to move the hammer into cocked position.

When using a gun having this invention applied thereto, if it has only one barrel the lever W may be dispensed with and a permanent lug or projection be arranged on the arm J for the shoulder w^2 of the plate Y to abut against, although it is preferable to use the lever; but when two barrels are used it is especially needed, in order, when only one barrel is discharged and it is desired to eject its cartridge, not to also eject the cartridge in the barrel not discharged.

The arm d of the spring L can be connected with the fore-end in lieu of the barrel, or to a pin caused to revolve by the lowering of the barrels, it not being intended to limit the invention to any particular manner in which the spring L is connected or operated for the purpose described.

E^2 is an arm extending from the lower edge of the hammer K in a line concentric with the pivot a , and of a length sufficient for its end w^2 , when the hammer is cocked, to project through an opening, v^2 , in the trigger-plate B to the outside of the gun to indicate when the hammer is cocked, as shown in Fig. 14 more particularly.

Several of the pivotal connections of the various operating parts have elongated bearings, and also are open at one end, as is plainly shown in the drawings, which secures freedom of movement of the operating parts, and also allows of their being readily connected together.

The bar R can engage directly with the sear and triggers, if desired, instead of through the plate Q, having properly-constructed openings to connect therewith, but it is preferable to use an independent connecting device, as it is less likely to interfere with the movements of the sear and triggers.

The spring D^2 , in lieu of being attached to the arm d of spring L, can be independent of it and adjusted with the barrel or fore-end; also it and the spring L can be made of one piece of metal being bent and folded together at the arm, portion d and f^2 .

Although the description herein of this invention has been particularly in reference only to one barrel and its various connecting parts, the drawings illustrate the invention in connection with two barrels, and, as is obvious, is as applicable thereto, and in such case some of the parts are to be duplicated, as is easily understood.

In lieu of the swiveling pin C^2 any suitable bearing can be used, as, for instance, a set-screw arranged to screw into the fore-end.

For operating the plate Q to engage with the sear, the lever S can be pivoted directly to it in lieu of being connected thereto by the bar R.

Having thus described my invention, what I claim, is—

1. In a breech-loading gun, in combination with the hammer and its sear, a plate, Q, adapted to engage with the sear and engaging with a pin, c' , and connected to a lever, S, by which the plate Q can be moved to engage with said sear to lock it with the hammer when in its cocked position.

2. In a breech-loading gun, the combination, with the hammer and its trigger, of a plate, Q, having a projection, s' , to engage with a slot, r' , of said trigger, and engaging with a pin, c' , and connected to a lever, S, by which the plate Q can be moved to engage with said trigger to lock it when the hammer is in its cocked position.

3. In a breech-loading gun, the combination, with the hammer, its sear and trigger, of a plate, Q, having a slot, q , to engage with an arm, n , of the sear, a projection, s' , to engage with a notch, r' , in said trigger, and engaging with a pin, c' , and connected to a lever, S, by which the plate Q can be moved to engage with said sear and trigger to lock them when the hammer is in its cocked position.

4. In a breech-loading gun, the combination, with the barrel, of a bar, R, provided at one end with the plate Q to engage with the sear, said bar being located and arranged to slide in the breech-block, and having its other

end, V, in position for the barrel as it is swung down to abut against said end V and move said bar forward, for the purpose specified.

5 5. In a breech-loading gun, in combination with the hammer and its sear, of a plate, Q, having a slot, q , to engage with arm n of sear, and provided with a slot, b' , engaging with and arranged to slide over a pin, c' , and connected to a lever, S, by which the plate Q
10 can be moved to engage with said sear to lock it and the hammer when in its cocked position.

15 6. In a breech-loading gun, in combination with the sear M, of a plate, Q, adapted to engage with the sear and connected to an operating-lever, S, which connects with a lever, T, having a shoulder, a' , for abutment and locking of the hammer, substantially as and for the purpose specified.

20 7. In a breech-loading fire arm, the combination, with the barrel having a lug, E, provided with an inclined bearing-surface, u' , of a bar, R, having an inclined arm, V, to engage with said bearing surface, said bar being
25 adapted by its other end to engage with the sear M to secure it when interlocked with the hammer, substantially as and for the purpose specified.

30 8. In a breech-loading fire-arm, the combination, with the barrel having a lug, E, provided with an inclined bearing-surface, u' , of a bar, R, having an inclined arm, V, to engage with said bearing-surface, and connected to a plate, Q, having an opening, q , to engage
35 with the sear to secure it when interlocked with the hammer, substantially as and for the purpose specified.

40 9. In a breech-loading fire-arm, the combination, with the barrel having a lug, E, provided with an inclined bearing-surface, u' , of a bar, R, having an inclined arm, V, to engage with said bearing-surface, and connected to a plate, Q, having a projection, s' , to engage
45 with the trigger to prevent movement of the same, substantially as described.

50 10. In a breech-loading fire-arm, the combination, with the barrel having a lug, E, provided with an inclined bearing-surface, u' , of a bar, R, having an inclined arm, V, and connected to a plate, Q, having an opening, q , and projection s' , to engage, respectively, with the sear and trigger, all substantially as and for the purpose specified.

55 11. In a breech-loading fire-arm, in combination with the barrel having a recess, f , of a spring having a bearing by its middle portion on the breech-block, and arranged by one arm to engage with said recess, and by its other arm to bear against the breech-block, substantially as and for the purpose specified.
60

65 12. In a breech-loading fire-arm, the combination, with a pivoted plate, Y, and its spring Z, located below the barrel, of a bearing, C^2 , of the barrel, said plate having an arm, n^2 , arranged to act against a guide-rod, f^2 , of a plate,

X, adapted to fit the rear end of the barrel, and provided with a shoulder, b^2 , substantially as and for the purpose specified.

13. In a breech-loading fire-arm, the combination, with a pivoted plate, Y, having a spring, Z, said plate being arranged to abut by its shoulder t^2 against the end of a lever, W, pivoted to the breech-block, and held to such abutment by the hammer, said plate having an arm, n^2 , arranged to act against a guide-rod, f^2 , of a block or plate, X, adapted to fit the rear end of the barrel, and provided with a shoulder, b^2 , substantially as and for the purpose specified. 70 75

14. In a breech-loading fire-arm, the combination, with a plate, Y, arranged for operation to move a plate or block, X, to eject the cartridge, of a spring secured by one end to the barrel or fore-end, and engaging by its free end with said plate, and to act against a bearing, C^2 , of the barrel, substantially as and for the purpose specified. 80 85

15. In a breech-loading fire-arm, the combination, with a plate, Y, arranged to operate to move a plate or block to eject the cartridge, of a spring, Z, adjustably secured by one end to the barrel or fore-end, and arranged to bear by its free end upon said plate, and to act against a bearing, C^2 , substantially as and for the purpose specified. 90 95

16. In a breech-loading gun, the combination, with the barrel or fore-end provided with an abutment, C^2 , and a spring, Z, attached thereto, of a plate, Y, having a shoulder, w^2 , for a bearing for the free end v^2 of the spring Z, and arranged by its end r^2 to bear against an arm, f^2 , of the cartridge-ejecting plate X, substantially as and for the purpose specified. 100

17. In a breech-loading gun, a hammer provided with a rear projecting arm, E^2 , in combination with an opening, v^2 , in the trigger-plate, into or through which opening said arm will project when the hammer is moved into its cocked position for it to be seen from the outside of the plate, substantially as described. 105 110

18. In a breech-loading gun, the combination, with the hammer and its sear, of a spring-lever, W, pivoted to the breech-block and in position for the sear to bear on one, n , of its ends when the hammer is moved into a cocked position, and for its other end, y' , to engage with a shoulder, t^2 , of a plate, Y, to hold said plate from movement for the cartridge-ejector to abut against it to eject the cartridge as the barrel is lowered or swung down, substantially as and for the purpose specified. 115 120

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 125

ERNEST A. BASSETT.

Witnesses:

EDWIN W. BROWN,
WM. S. BELLOWS.