

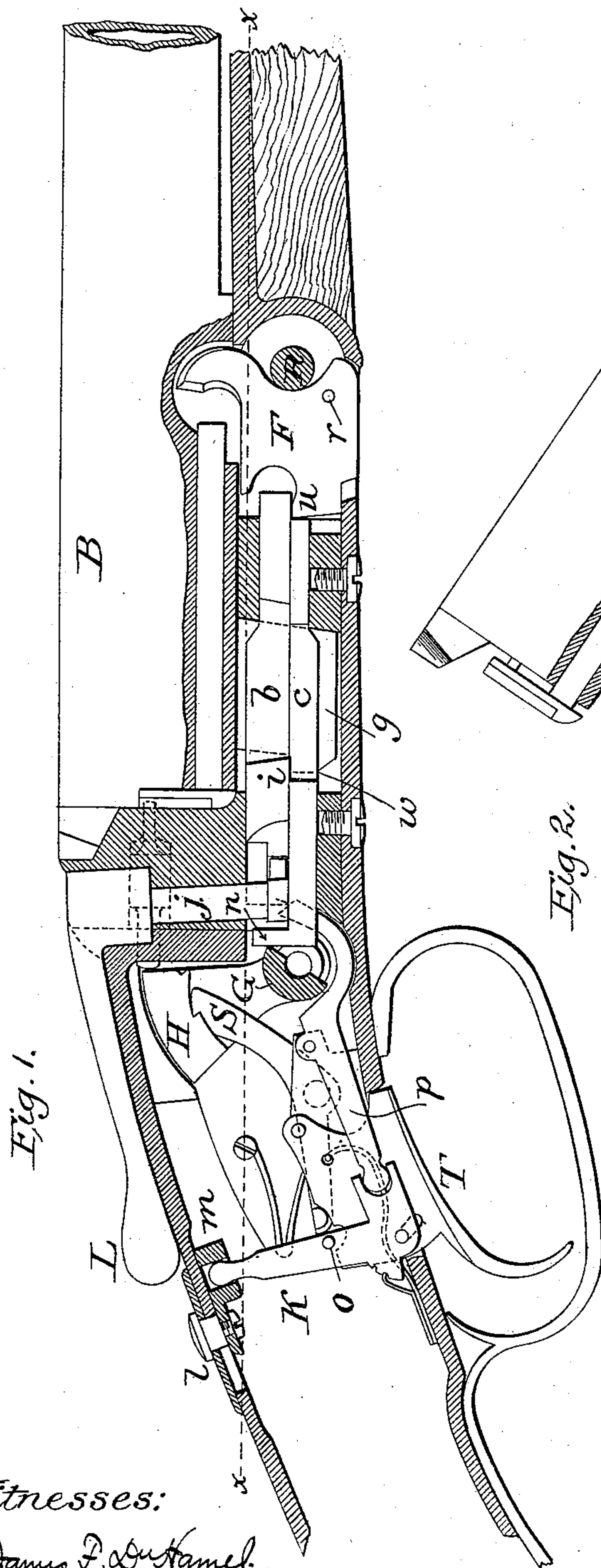
(No Model.)

2 Sheets—Sheet 1.

L. P. DISS.  
BREECH LOADING GUN.

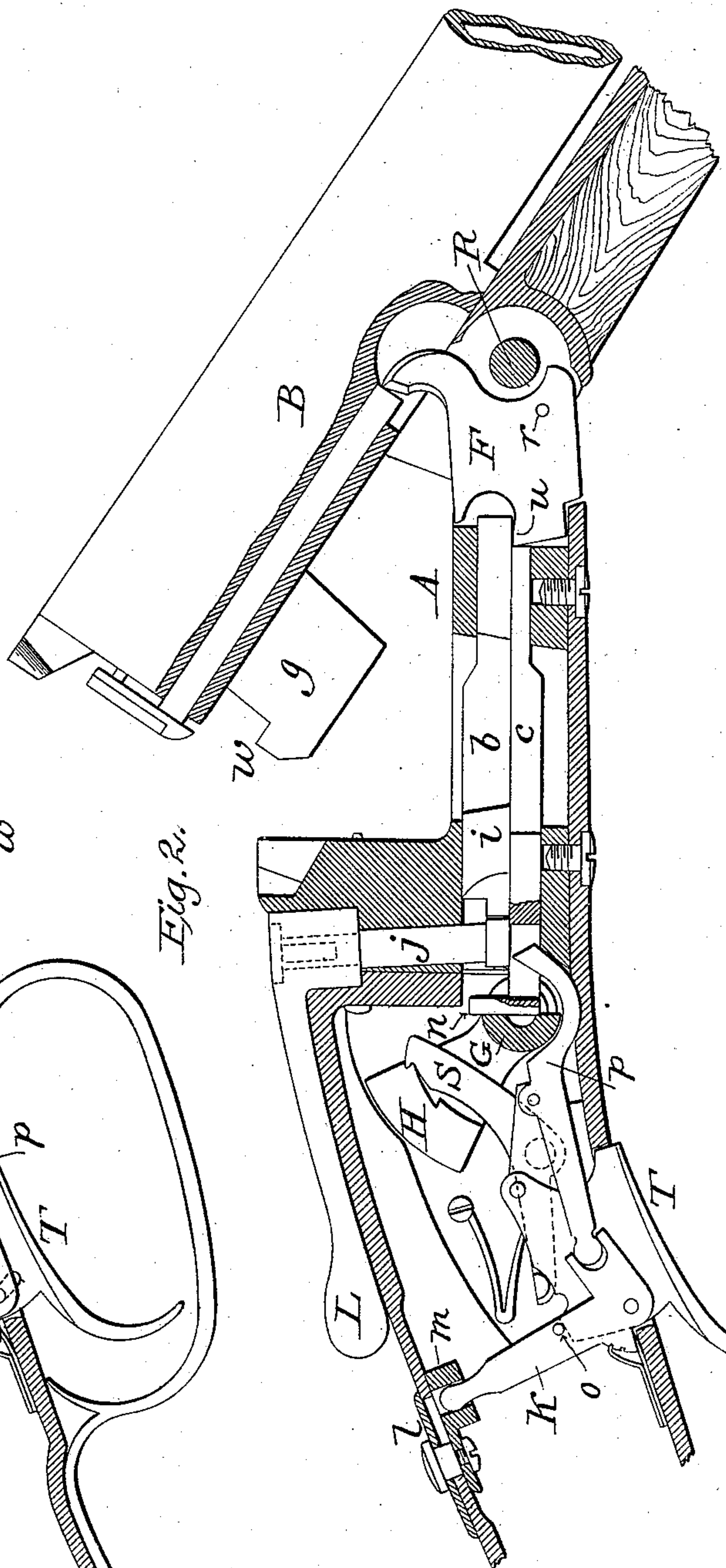
No. 383,108.

Patented May 22, 1888.



Witnesses:

James F. Duhamel  
Horace A. Dodge.



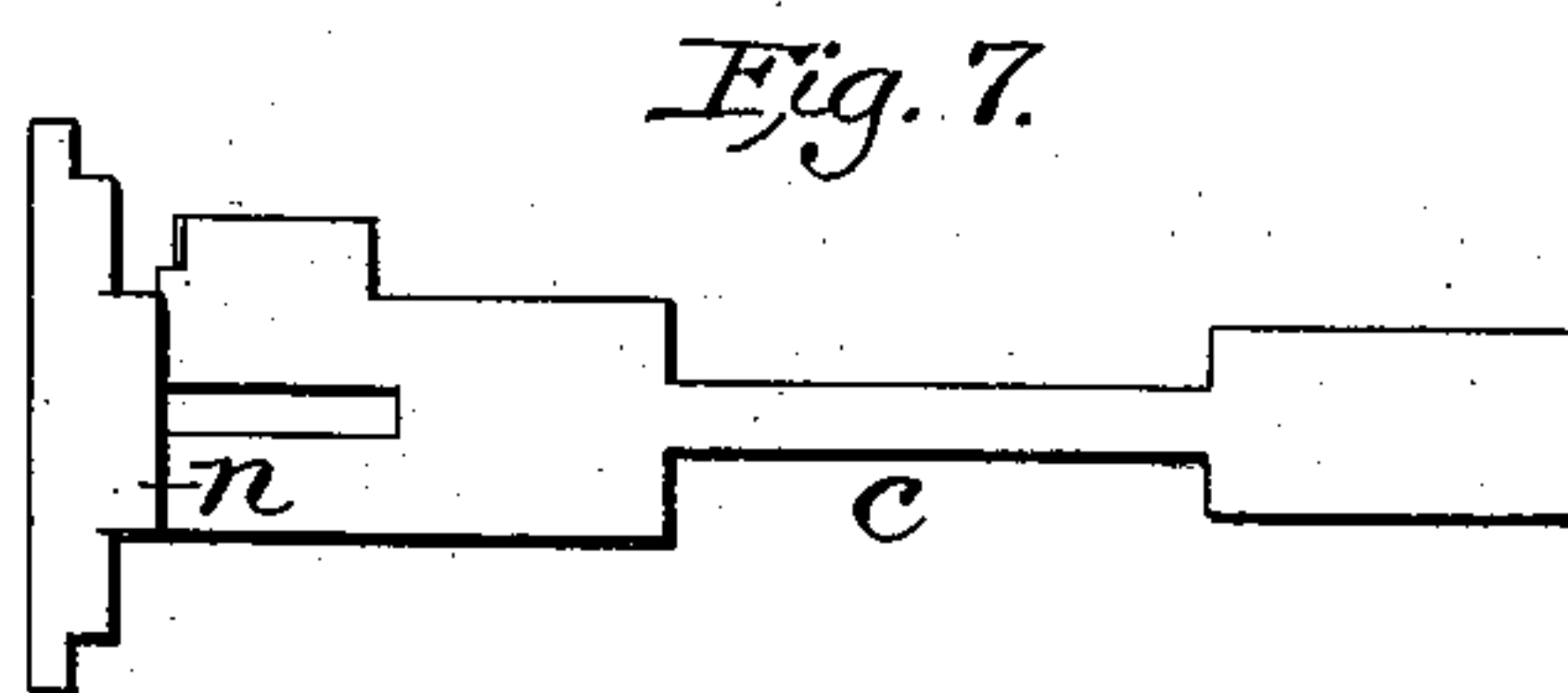
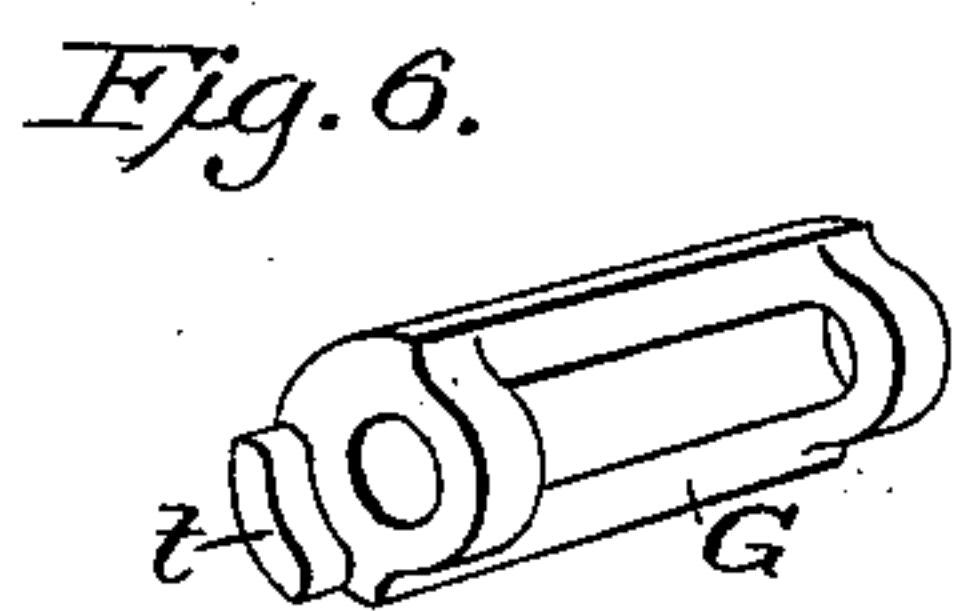
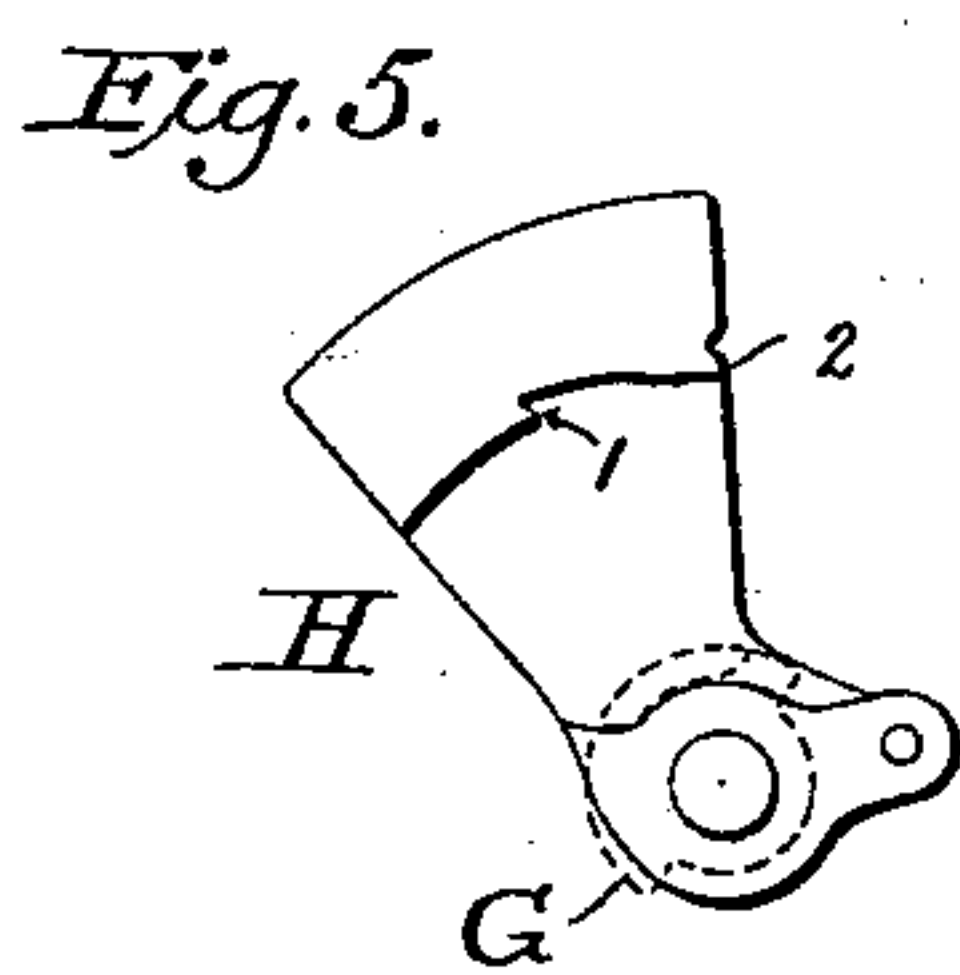
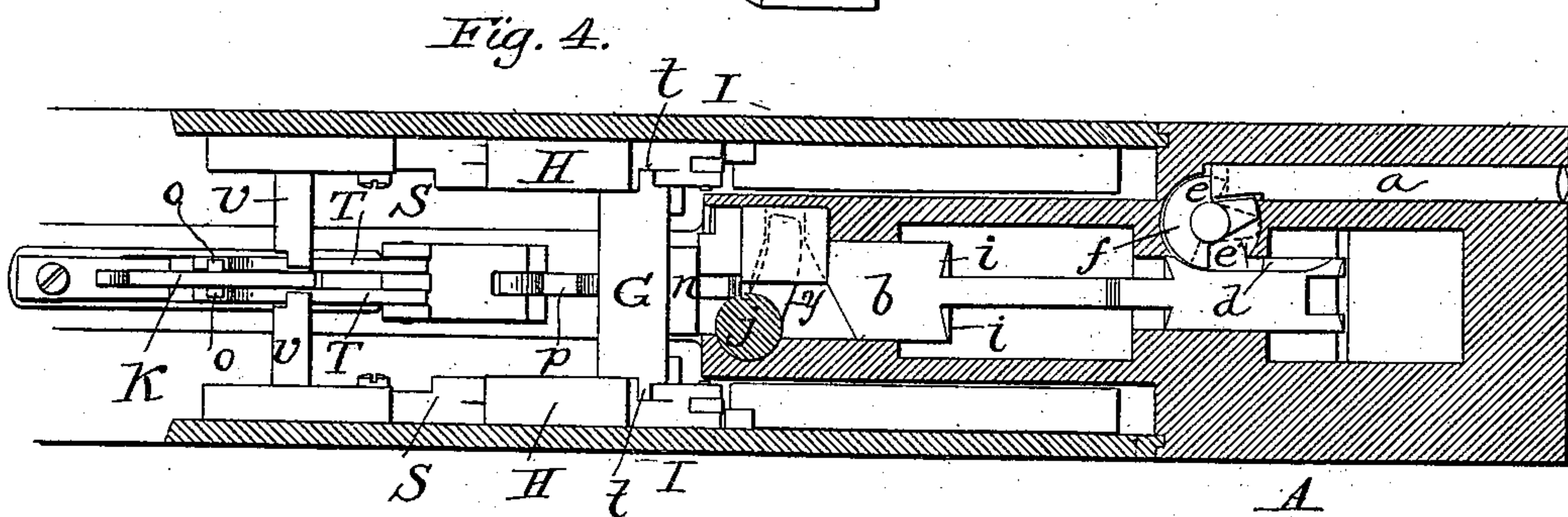
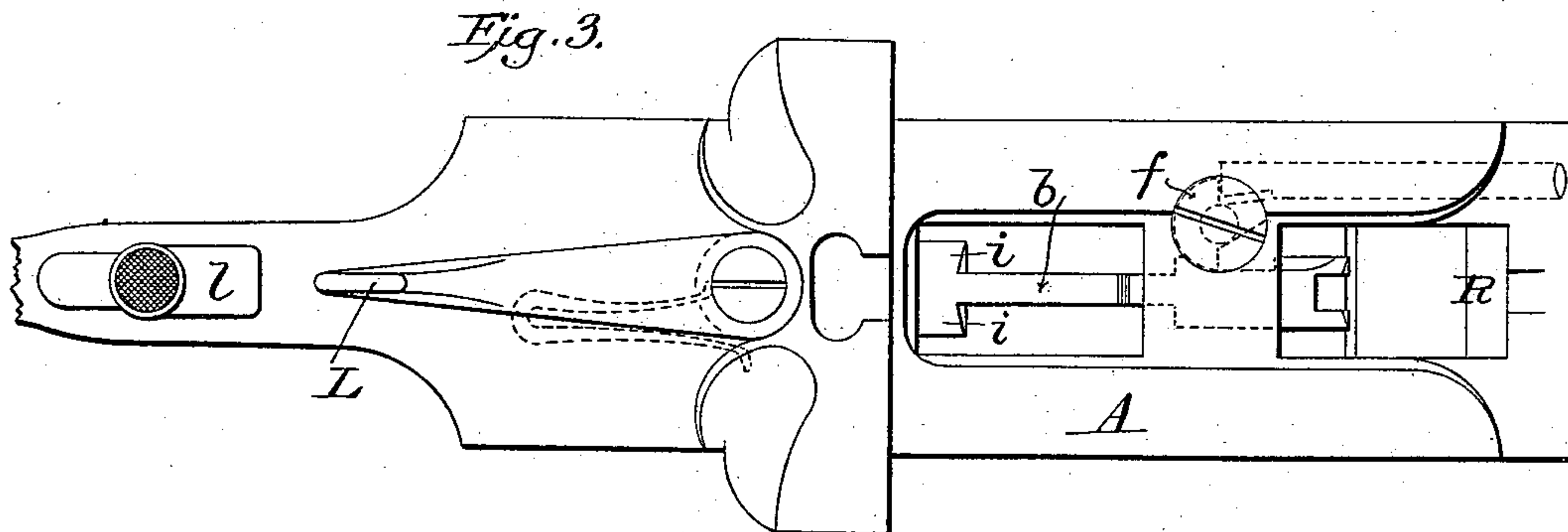
Inventor:

Louis P. Diss.  
by Dodge & Sons.  
Atty.

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# UNITED STATES PATENT OFFICE.

LOUIS P. DISS, OF ILION, NEW YORK.

## BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 383,108, dated May 22, 1888.

Application filed February 18, 1888. Serial No. 264,473. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS P. DISS, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Breech-Loading Guns, of which the following is a specification.

My invention relates to breech-loading guns of that class which have their hammers within the frame and are therefore termed "hammerless guns;" and my invention consists, principally, in devices for cocking the hammers and locking the triggers automatically by the tipping of the barrels, stopping or limiting the movement of the locking-bolt, and letting the hammers down from the full to the half cock notch, all as hereinafter more fully described.

Figure 1 is a longitudinal vertical section with the barrels locked in position and the hammers at half-cock. Fig. 2 is a similar view showing the barrels tipped or dropped with the hammers at full-cock and the triggers locked. Fig. 3 is a top plan view of the frame with the barrels detached. Fig. 4 is a transverse longitudinal section of the same, taken on the line *x x* of Fig. 1; and Figs. 5, 6, and 7 are views of parts shown detached.

In constructing my improved gun I make the frame A in the usual manner. The barrels B are provided with two slotted lugs, the front one of which hooks into a hole at the front end of the frame A and engages with the transverse pin R, on which the barrels swing, while the rear lug, *g*, shuts into another hole in the frame farther back, it straddling the locking-bolt *b*, which, as shown in Figs. 3 and 4, is cut away at its sides for that purpose, it being provided with two lips, *i*, as shown in Figs. 2, 3, and 4, which engage with the projection *w* on the lug *g* when the gun is closed, as shown in Fig. 1. This locking-bolt *b* is drawn back by a thumb-lever, L, secured to a bolt, *j*, on the lower end of which is a curved arm, *y*, which engages in a recess in an offset of the bolt *b*, as shown in Fig. 4, the bolt being pressed forward by a bent spring arranged to act on the lever L and its bolt *j* in the usual manner, as shown in dotted lines in Fig. 3, so that normally the bolt *b* is kept pressed forward with its forward end resting over the heel *u* of the pivoted pawl F, as shown in Figs.

1 and 2, thus preventing the pawl F from tipping with the barrels; and, as the pawl F is pivoted to the front lug by pin *r*, it will be seen that the barrels cannot be unhooked from the frame until the bolt *b* is drawn back far enough to release the pawl, as hereinafter explained.

To limit the movement of bolt *b*, I place a small sliding bolt, *a*, in a hole bored longitudinally in the front part of frame A at one side, as shown in Figs. 3 and 4. In a recess at the rear end of this stop-bolt *a*, I place a rocker, *f*, which, as shown in Fig. 4, is provided with a shoulder, *e*, against which the rear end of bolt *a* bears, the rocker *f* having a similar shoulder, *e'*, on its opposite side, against which a shoulder, *d*, on bolt *b* strikes as the bolt is drawn back. The result of this arrangement would be to cause the front end of bolt *a* to project beyond the front end of the frame; but when the fore-arm F of the stock is secured to the barrels, as shown in Figs. 1 and 2, it cannot thus project, because its front end strikes the end of the fore-arm F, which stops it, and therefore the bolt *b* cannot be drawn back beyond a certain point, and the barrels cannot at such time be unhooked from the frame; but the movement of the bolt *b* is sufficient to withdraw its lips *i* from the projection *w* on the lug *g*, thereby unlocking the barrels, so they can be tipped.

The hammers H, one of which is shown detached in Fig. 5, are each provided near their upper ends with an inward projection or shoulder, in the lower edge of which are the half-cock notch 1 and the full-cock notch 2, the latter being at the front edge of the hammer. These hammers are mounted with their mainsprings and sears *s* on lock-plates I, let into the sides of the frame A, so as to be flush therewith, as shown in Fig. 4, the sears *s* being formed, as shown in Fig. 1, to engage with the notches of the hammer, and provided at their rear ends with inwardly-projecting arms *v*, to engage over the triggers, as usual.

On the inner side of each hammer, a little above its pivot, is formed a curved recess, as shown in dotted lines in Fig. 5, in which rests loosely a projection, *t*, formed on the opposite ends of a semicircular rocker, G, which reaches across from one hammer to the other, as shown



in Fig. 4, the position of this rocker G in relation to the hammers being shown also in Figs. 1 and 2.

In the same holes in which the locking-bolt *b* rests I place another bolt, *c*, it being located directly under the bolt *b*, as shown in Figs. 1 and 2. At its rear end this bolt *c* is provided with a flat head or projection, *n*, as shown in Figs. 1 and 2, this head or projection *n* being arranged to bear against the front upper edge of rocker G, as shown clearly in Fig. 1, so that when said bolt *c* is pushed back it will cause the rocker G to make a partial rotation, and, as this rocker G is connected to the hammers H by means of the projections *t*, as above explained, it will be seen that the backward movement of the bolt *c* will thereby cock the hammers.

The bolt *c* is pushed back by the pawl F, Figs. 1 and 2, which is pivoted in the slot of the front lug by a pin, *r*, located below or eccentric to the pin R, which is the axis on which the barrels swing or tip, so that as the barrels swing over the pawl F, being unable to swing bodily with them because its rear point, *u*, rests under the projecting end of the bolt *b*, and is thereby prevented from swinging upward, is pushed backward against the front end of bolt *c*, thereby pushing it back also, and it in turn pushes against the upper edge of rocker G, which in turn carries the hammers over backward with it, the sear *s* of course catching in the notches and holding the hammers at the half or the full cock, according to the distance the barrels are moved or swung. If the barrels are allowed to move their full distance, as represented in Fig. 2, then the hammers will be placed at full-cock, as there shown.

If at any time it is desired to let the hammers down from full to half cock, it is only necessary to drop the barrels, place the finger on the triggers, which of course will release the sears from the hammers, and then gradually raise the barrels, which will permit the bolt *c* to move forward, and the hammers will of course follow until caught at the half-cock by the sears, the finger being removed from the triggers in the meantime.

In these hammerless guns there is always more or less danger of their being accidentally fired, because, the hammers being hidden, a person picking up the gun is unable to tell whether it is cocked or not. To provide against such accidents, I have devised a means whereby the triggers are automatically locked whenever the gun is opened and cocked. To accomplish this I provide a vertical elbow-lever, K, and pivot it to the lower part of the frame near the rear end of and between the two triggers T, and through this I put a pin, *o*, which projects at each side directly over the upper edge of the triggers, as shown in Fig. 2, and which of course will prevent the triggers from being moved so long as it remains in that position. At its upper end this lever K is connected to a slide, *l*, upon the upper tang of the frame,

as shown in Figs. 1, 2, and 3, the object of the slide *l* being to push the lever K forward, and thereby carry the pin *o* over a notch in the upper edge of the triggers, as shown in Fig. 1, thereby unlocking the triggers so the gun can be fired.

In order to automatically throw the lever K back so as to lock the triggers, its front or horizontal arm is connected with the rear end of a pivoted lever, *p*, as shown in Figs. 1 and 2, the front end of this lever *p* being curved, so as to pass under rocker G and then up through a slot in the lower bolt, *c*, to a point directly in rear of the lower rear corner of the locking-bolt *b*, as shown by dotted lines in Fig. 1, the front end of said lever *p* being beveled or inclined, so that when bolt *b* is drawn back its lower edge at its rear end will operate on the beveled end of lever *p*, thereby depressing its front end to the position shown in Fig. 2. Its rear end of course being raised and operating on the short arm of lever K will thereby throw the lever back and cause it to lock the triggers. By these means the triggers are automatically locked each time the barrels are dropped and the hammers cocked.

It is obvious that, instead of making the rocker G of a separate piece, the result would be the same if the bolt *c* has a cross-head formed on it of proper form to engage with the two hammers, and such a construction is shown in Fig. 7. For convenience of manufacture, I prefer to make the rocker in a separate piece, as above described.

It will of course be understood that the stop-pin *a*, with its rocker *f*, will prevent the bolt *b* from being drawn back far enough to let the point *u* of pawl F slip from under the end of said bolt so long as the fore-arm of the stock is attached or the gun is in condition for use, but that whenever the fore arm is removed then the bolt *b* can be drawn back far enough to release the point *u* of pawl F, and thus permit the pawl to be lifted out, with the lug to which it is attached. The upper point of the pawl forms a projection against which the end of the extractor-stem strikes when the barrels are tipped, as shown in Fig. 2.

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

1. The combination, in a tip-barrel gun, of the frame A, provided with the central longitudinally-sliding locking-bolt, *b*, provided with the shoulder *d*, the pivoted rocker *f*, provided with the shoulders *e* and *e'*, and the longitudinally-sliding stop-pin *a*, with the pawl F, pivoted to the under side of the barrels and arranged to fit in the recess in the frame in front of the locking-bolt, whereby the movement of the locking-bolt is limited and the dismounting of the barrels prevented until the fore-arm of the stock is detached, the said parts being arranged in relation to each other, substantially as shown and described.

2. The hammer H, provided on its inner side with a curved rib or projection having the notches 1 and 2 formed therein, in combina-



tion with the pivoted sear *s*, having its front end provided with the hook-shaped point arranged to bear against the under side of the curved projection on the side of the hammer and engage in the notches therein, whereby the hammers may be held at full or at half cock at will, as set forth.

3. In combination with the triggers *T*, provided on their upper edges with a notch or recess, the pivoted elbow-lever *K*, provided with the pin or projections *o*, arranged to engage with said trigger in rear of said notch, and connected at its upper end with the slide *l*, and the pivoted lever *p*, having its rear end connected to the elbow-lever *K* and its front beveled end arranged in line with the locking-bolt *b* so as to be depressed thereby in the rearward movement of said bolt, all arranged

in relation to each other substantially as shown, whereby the triggers are automatically locked whenever the hammers are cocked and can be released for firing whenever desired.

4. The combination, in a tip-barrel gun, of the barrels *B*, having the pawl *F* pivoted to their under side, the frame *A*, having the locking-bolt *b* and cocking-bolt *c* both mounted centrally therein, the rocker *G*, or equivalent cross-head, at the rear end of the cocking-bolt, and the hammers *H H*, all being constructed and arranged in relation to each other, substantially as and for the purposes herein set forth.

LOUIS P. DISS.

Witnesses:

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A. D. RICHARDSON.