

(No Model.)

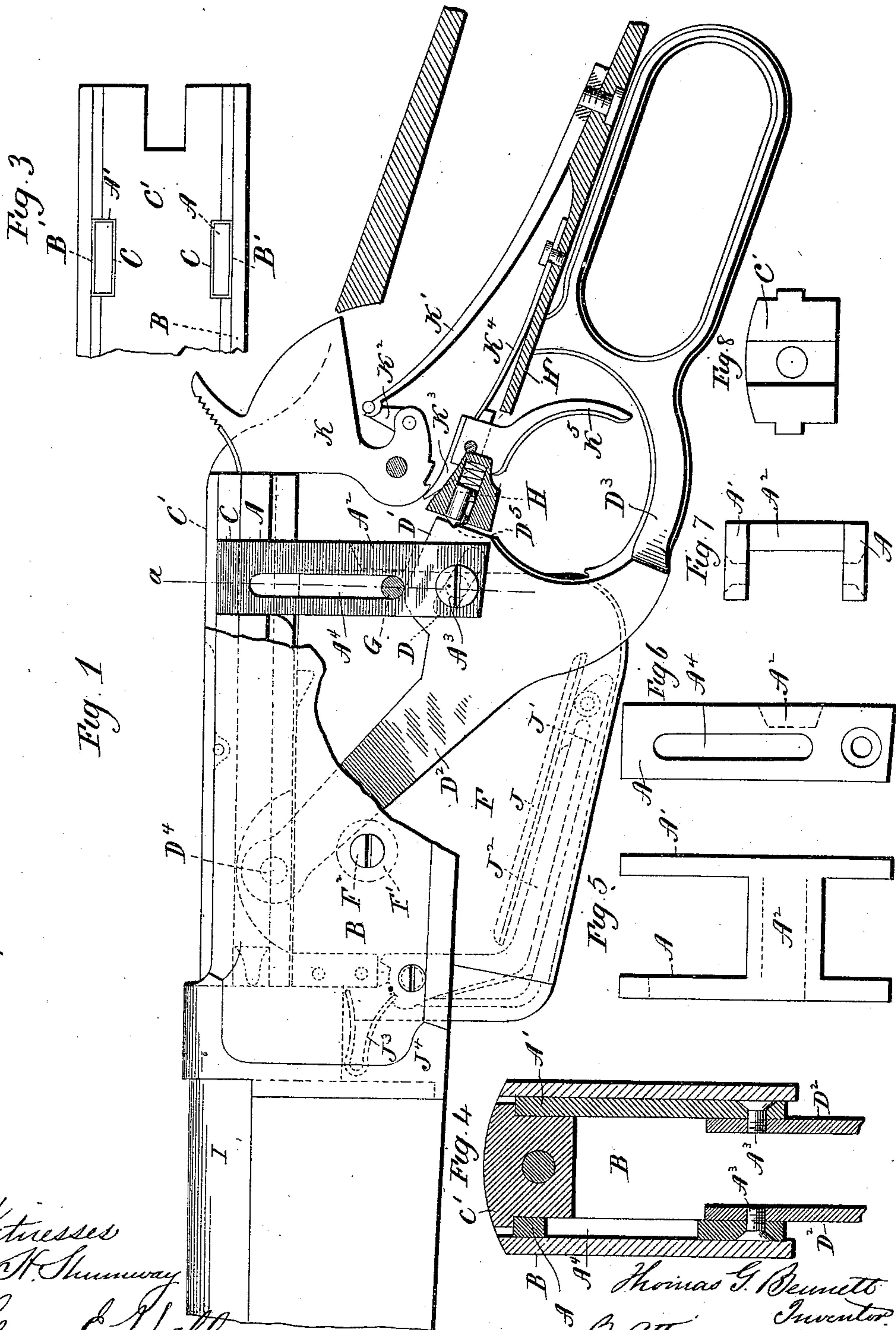
2 Sheets—Sheet 1.

T. G. BENNETT.

RECOIL LOCKING MECHANISM FOR MAGAZINE BOLT GUNS.

No. 549,343.

Patented Nov. 5, 1895.



Witnesses
J. H. Shumway
Geo. C. Hall

Thomas G. Bennett
Inventor.
By Atty Earle & Seymour

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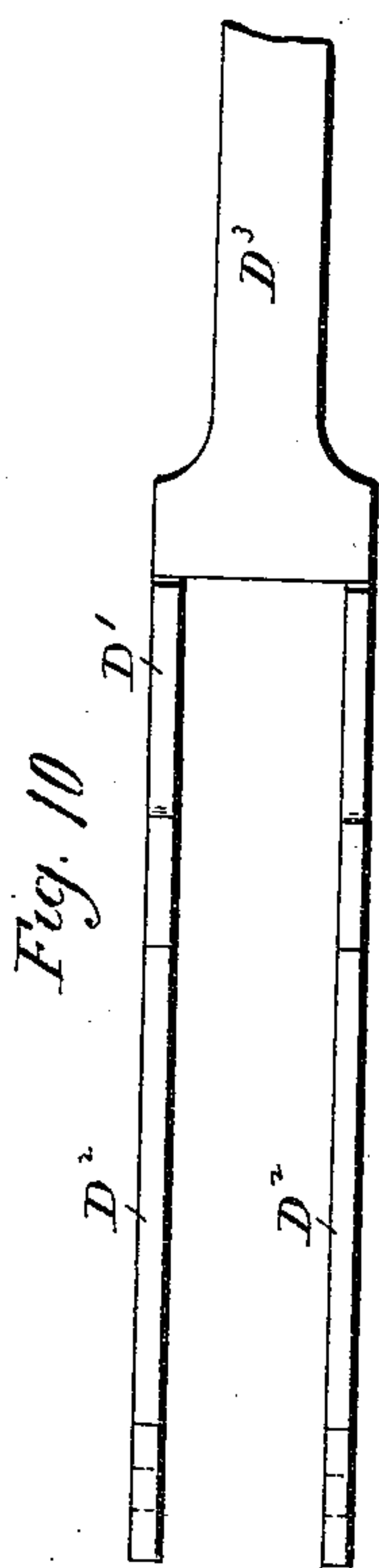


Fig. 10

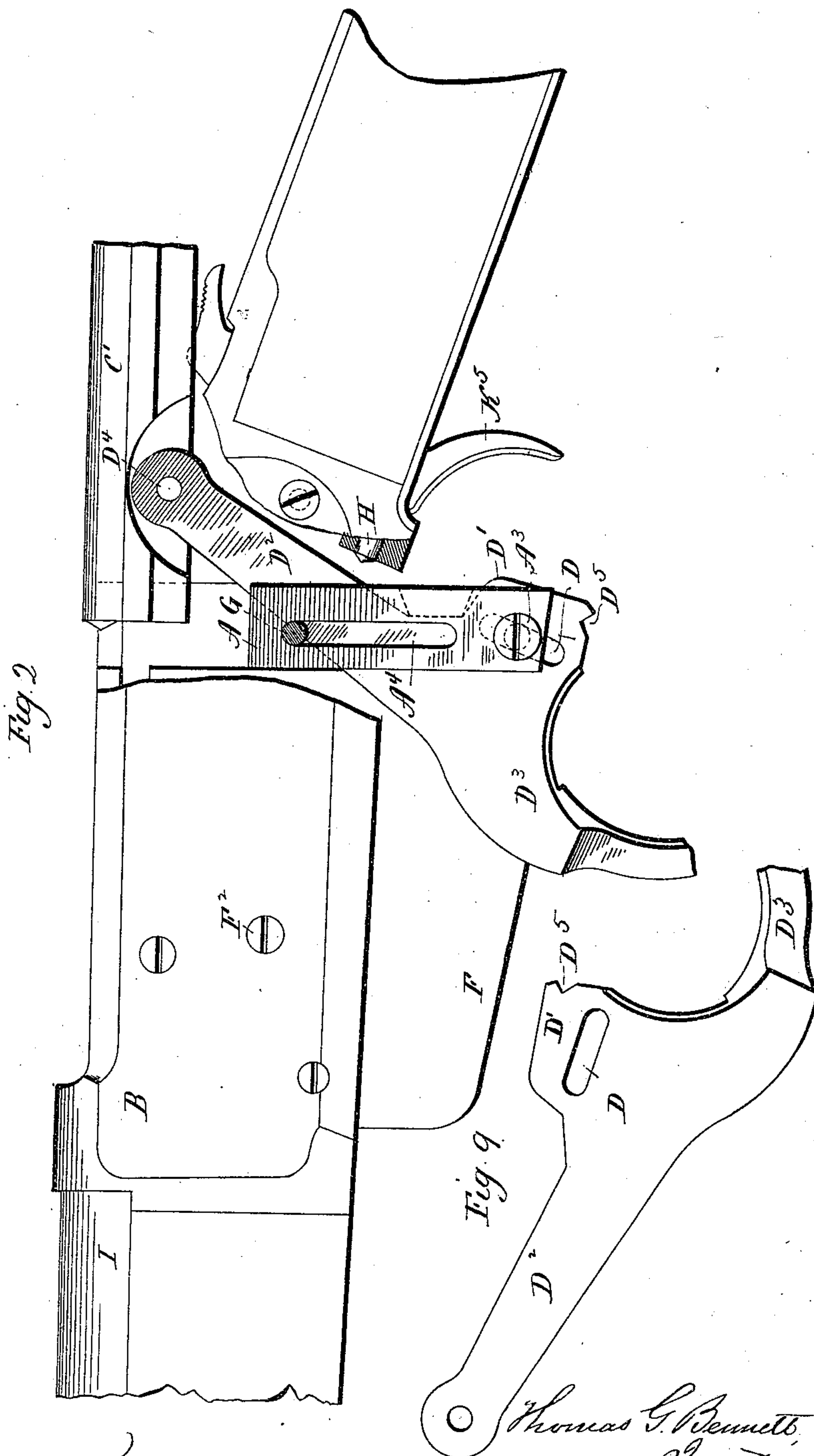


Fig. 2

Fig. 9.

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UNITED STATES PATENT OFFICE.

THOMAS G. BENNETT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE
WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

RECOIL LOCKING MECHANISM FOR MAGAZINE BOLT-GUNS.

SPECIFICATION forming part of Letters Patent No. 549,343, dated November 5, 1895.

Application filed August 24, 1894. Serial No. 521,145. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. BENNETT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new
5 Box-Magazine Breech-Loading Firearm; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description
10 of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view, partly in side elevation and partly in vertical longitudinal
15 section, of a firearm containing my invention with its parts in their closed positions; Fig. 2, a similar but less comprehensive view with the parts of the gun in their open positions; Fig. 3, a broken plan view showing the
20 rear end of the breech-bolt, the upper ends of the side pieces of the recoil-block, and the frame; Fig. 4, a view in vertical transverse section, on the line *a b* of Fig. 1, through the breech-bolt, recoil-block, frame, and finger-
25 lever; Fig. 5, a detached view, in front elevation, of the recoil-block; Fig. 6, a view thereof in side elevation; Fig. 7, a reverse plan view thereof; Fig. 8, a rear view of the breech-bolt; Fig. 9, a detached view, in side
30 elevation, of the finger-lever; Fig. 10, a plan view thereof.

My invention relates to an improvement in that class of magazine firearms which have box-magazines, as distinguished from tubular
35 magazines, the object being to produce a reliable, convenient, and effective arm having few parts and not liable to derangement.

With these ends in view my invention consists in a box-magazine breech-loading arm
40 having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

Inasmuch as my present invention relates mainly to the breech-bolt, the recoil-block,
45 and the finger-lever I shall aim to particularly describe those parts without detailing the construction of the other instrumentalities in the arm more than is necessary for an understanding of the construction and ar-
50 rangement of the parts specified.

As herein shown, the recoil-block, Figs. 5,

6, and 7, which is preferably formed from a single piece of metal, comprises two straight corresponding side pieces *A* and *A'* and a cross-piece or tie *A²*, having its upper and
55 lower edges beveled, located at a right angle to the side pieces, and joining the rear edges thereof at a point below the vertical center of the block. As thus constructed, there is clearance between the two side pieces of the
60 recoil-block above and below and in front of the cross-piece which unites them. The said recoil-block is arranged vertically within the frame *B*, the inner faces of the side walls of which are constructed with shallow grooves
65 *B' B'*, Fig. 3, into which the outer edges of the side pieces *A* and *A'* of the recoil-block respectively enter, whereby the block is guided in its up-and-down movement. As thus constructed, the upper ends of the side pieces virtually
70 form locking-arms, which take into the shallow vertically-arranged grooves *C C*, located opposite each other and formed in the side walls of the reciprocating breech-bolt *C'* at a point very near the rear end thereof. When
75 the breech-bolt is in its closed position, the upper ends of the side pieces extend upward into the said grooves and lock the said breech-bolt in the said position and take the recoil of the
80 exploding cartridges, while, on the other hand, when the recoil-block is in its depressed or open position the upper ends of the side pieces are entirely cleared from the said grooves, so
85 as to permit the breech-bolt to be moved back and forth in being opened and closed. The lower ends of the side pieces virtually form coupling-arms and respectively carry coupling-screws *A³ A³*, which extend inward
90 through them, the projecting pivot ends of the said screws taking into inclined coupling-slots *D D*, made in lugs *D'*, offsetting rearwardly from the bases of the two arms *D² D²*, formed by bifurcating the upper end of the finger-lever *D³* to adapt the same to embrace
95 the box-magazine *F*, the said arms of the finger-lever being adapted in their separation to fit between the side pieces of the recoil-block, as shown in Fig. 4. I thus articulate the lower end of the recoil-block with the finger-
100 lever, the extreme inner ends of the arms of which embrace the forward end of the breech-bolt, to which they are connected by means

of a horizontal pin D^4 . To limit the vertical movement of the recoil-block, I form in the side piece A thereof a long slot A^4 , extending at its lower end down in front of the cross-piece A^2 of the recoil-block and receiving the inner pivot end of a screw G, located in one of the side walls of the receiver. It will be understood that the elongated slots D D, formed in the finger-lever, are adapted in length and position to permit the lost motion required to allow the breech-bolt to move forward into its closed position before the recoil-block is lifted into its closed position, and, on the other hand, to allow the recoil-block to retire into its open position before the breech-bolt begins to move back into its open position.

It will be noticed by reference to Fig. 2 of the drawings that when the breech-bolt, recoil-block, and finger-lever are in their open positions the finger-lever engages with the cross-piece A^2 of the recoil-block, whereby the lever is prevented from substantial rearward movement until after the breech-bolt has been moved into its closed position, which is immediately followed by the lifting of the recoil-block into its closed position. The lugs D' of the finger-lever are constructed, it will be observed, with notches D^5 , Figs. 1 and 2, receiving spring - pressed friction - pins H, mounted in the forward end of the lower tang H' of the frame, the said pins coacting with the said notches to hold the finger-lever in its closed position. Only one pin and notch are shown. The box-magazine F is located in the vertical receiving-chamber B, formed in the frame, and is provided upon its opposite sides with two trunnions F' F' , internally threaded to receive set-screw pivots F^2 F^2 , one of which is shown in Fig. 1, and which are mounted in the opposite side walls of the frame for supporting the box-magazine in place.

Within the box-magazine I locate mechanism for successively presenting the cartridges in front of the breech-bolt for their introduction thereby into the barrel I of the gun. This mechanism may be of any approved character. As herein shown, it consists of a carrier J, a carrier-arm J' , and a lifting-lever J^2 , the forward end or base of which is engaged and operated by a spring J^3 , located in a chamber J^4 , formed in the receiver. I do not, however, limit myself to the use of any particular mechanism for feeding the cartridges upward in the carrier, as I may use any suitable mechanism for that purpose.

The particular mechanism herein shown I have described and claimed in another application executed of even date herewith.

I may also employ in connection with my improved breech-bolt and recoil-block any approved form of firing mechanism, that shown herein consisting of a hammer K, hammer-spring K' , stirrup K^2 , connecting the said hammer and spring, sear K^3 , sear-spring K^4 , and trigger-guard K^5 . As the parts last

mentioned are of ordinary construction, they do not need detailed description.

In view of the changes already suggested and of others which may obviously be made I would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a box-magazine breech-loading firearm, the combination with the breech-bolt and box-magazine thereof, of a finger-lever pivotally connected with the breech-bolt, and a recoil-block coacting with the bolt to lock the same in its closed position, articulated with the finger-lever and comprising two side-pieces and a cross-piece or tie which joins the said side pieces, the upper ends of which form locking-arms, while their lower ends form coupling-arms, substantially as described.

2. In a box-magazine, breech-loading firearm, the combination with the breech-bolt thereof, of a vertically arranged reciprocating recoil-block, adapted at its upper end to take into the breech-bolt for locking the same in its closed position, and having a horizontal cross-piece or tie extending between its opposite sides, and a finger-lever connected with the breech-bolt for operating the same, loosely articulated with the recoil-block at the lower end thereof, and adapted to abut against the tie of the recoil-block, which limits the rearward movement of the lever when the recoil-block is open, substantially as set forth.

3. In a box-magazine, breech-loading firearm, the combination with the frame thereof, of a box-magazine located therein, a breech-bolt located above the said magazine, a finger-lever having its inner end bifurcated to form two arms which embrace the box-magazine and are pivotally connected at their upper extremities with the breech-bolt; a vertically arranged reciprocating recoil-block adapted at its upper end to take into the rear end of the breech-bolt for locking the same in its closed position, and constructed at its lower end with two coupling-arms with which the bases of the respective arms of the finger-lever are loosely articulated, whereby the finger-lever is connected with the arm, and the recoil-block operated, and means for limiting the reciprocation of the recoil-block, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS G. BENNETT.

Witnesses:

G. E. HODSON,
A. W. HOOPER.