Jan. 12, 1943. F. L. HUMESTON 2,308,283

REPEATING FIREARM

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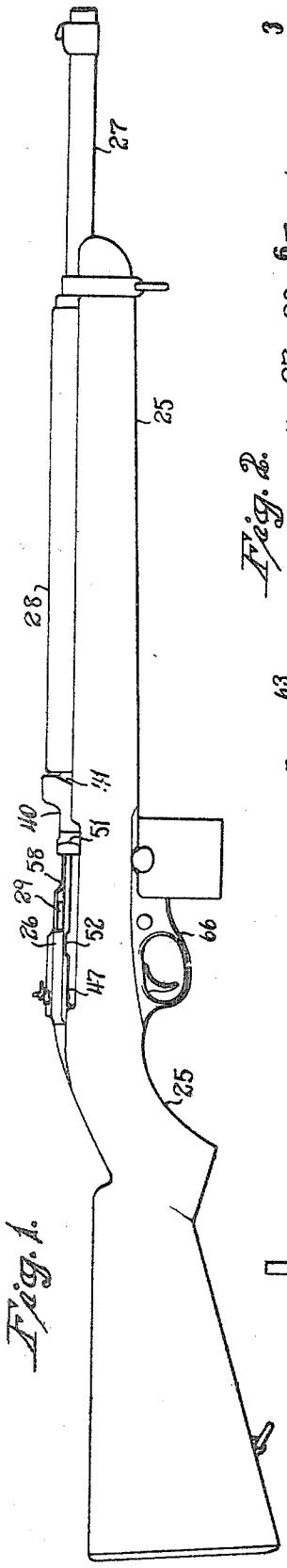


Fig. 1.

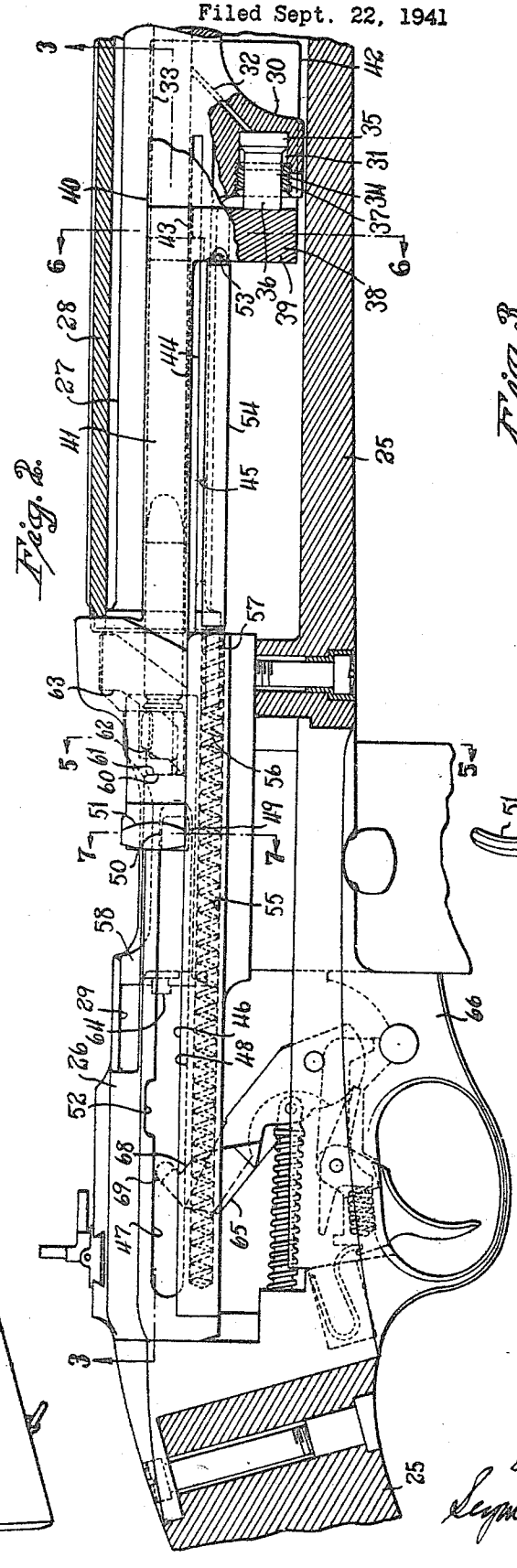


Fig. 2.

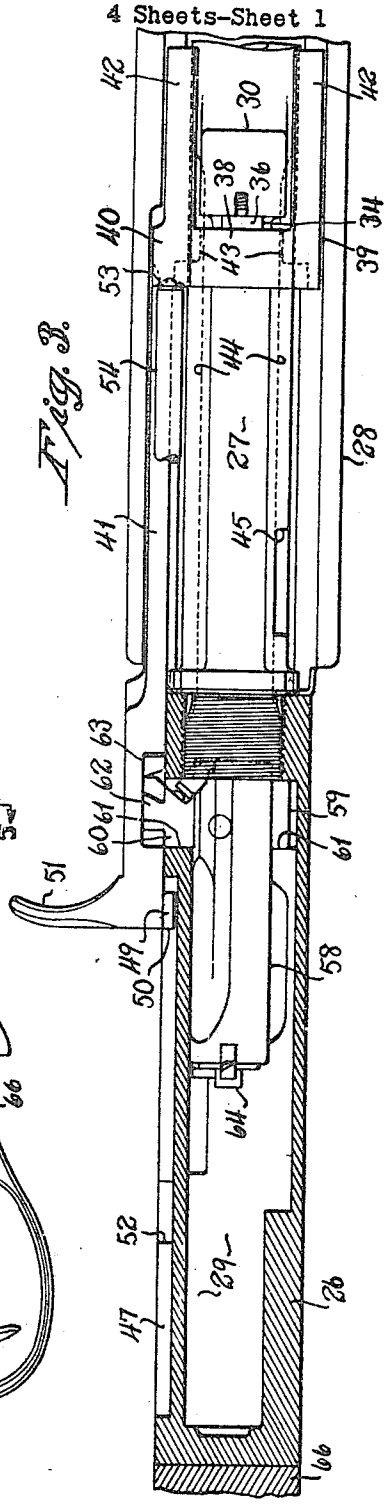


Fig. 3.

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REPEATING FIREARM

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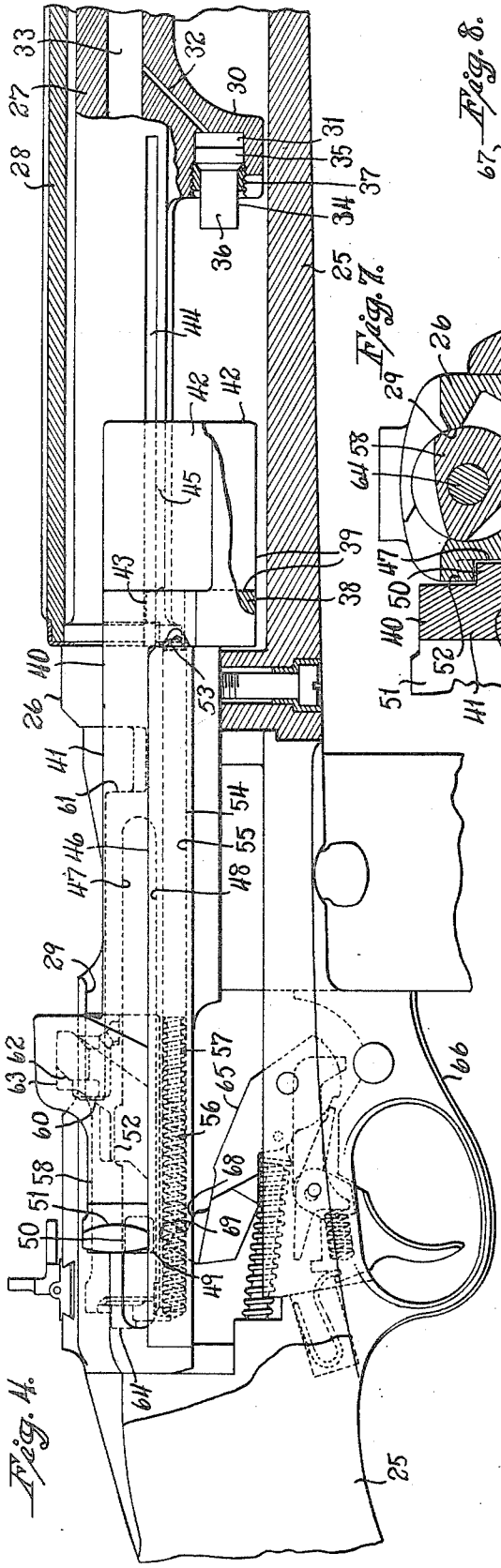


Fig. 4.

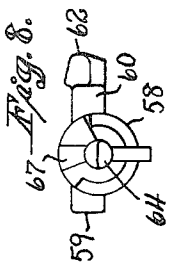


Fig. 8.

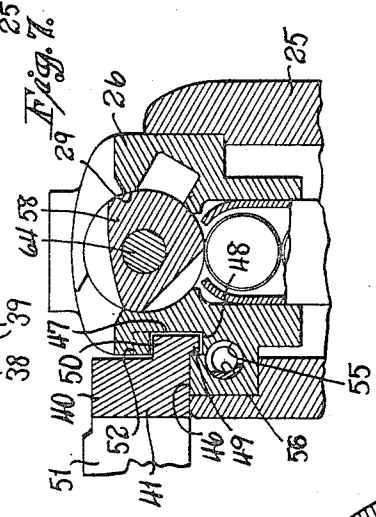


Fig. 7.

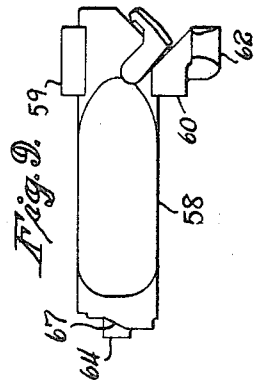


Fig. 9.

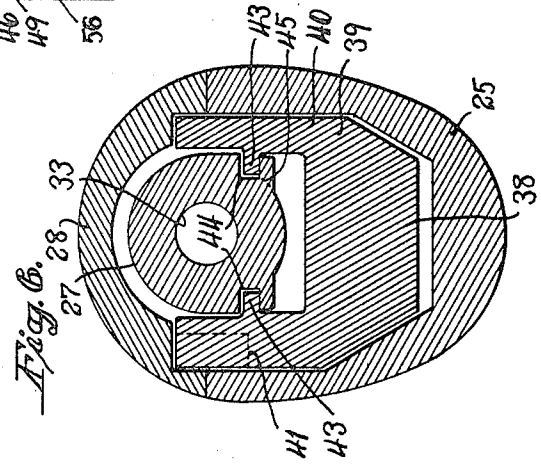


Fig. 6.

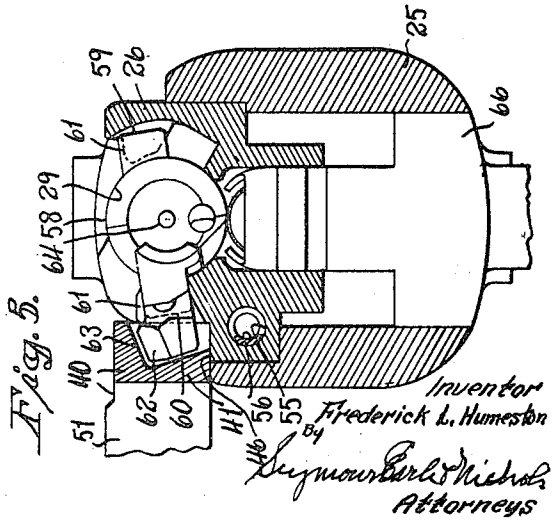


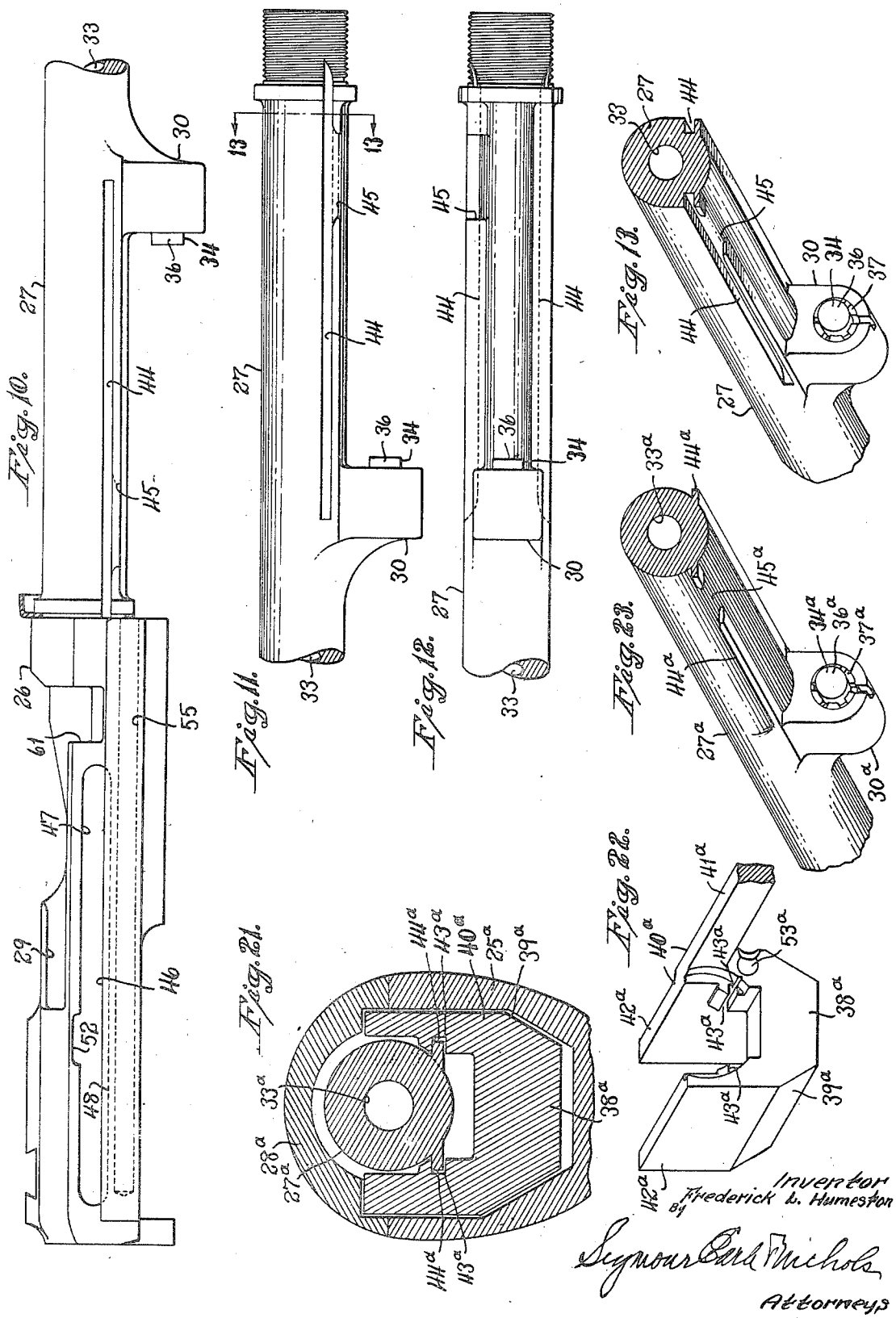
Fig. 5.

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REPEATING FIREARM

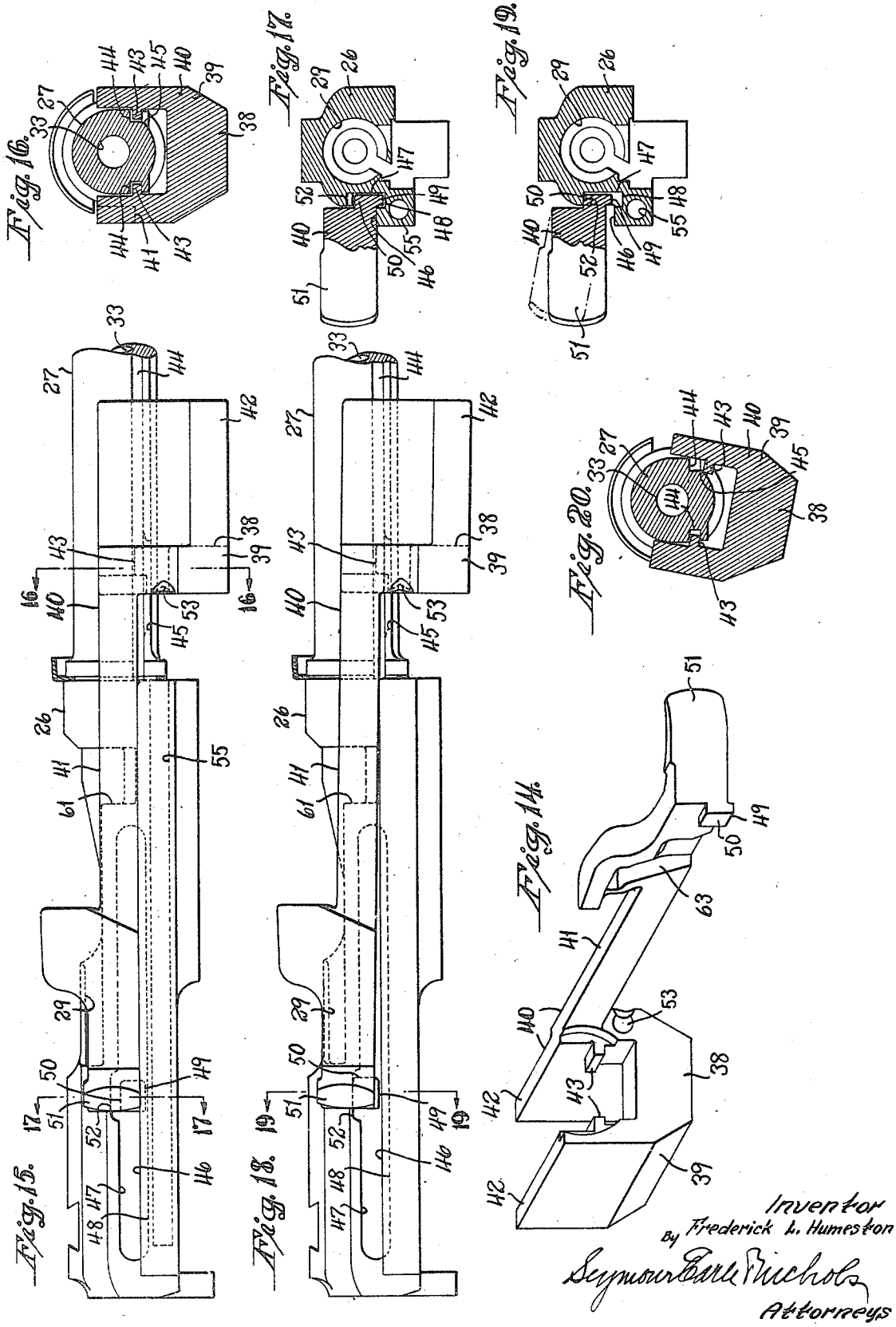
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REPEATING FIREARM

Filed Sept. 22, 1941 4 Sheets-Sheet 4



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Patented Jan. 12, 1943

2,308,283

UNITED STATES PATENT OFFICE

2,308,283

REPEATING FIREARM

Frederick L. Humeston, New Haven, Conn., assignor to Western Cartridge Company, New Haven, Conn., a corporation of Delaware

Application September 22, 1941, Serial No. 411,783

17 Claims. (Cl. 42—16)

The present invention relates to improvements in repeating firearms, and more particularly relates to improvements in repeating firearms of the type employing a reciprocating action-slide for actuating a movable breech-bolt.

One of the objects of the present invention is to provide a superior repeating firearm construction which is durable and reliable in operation and which may be produced at a low cost for manufacture.

Another object of the present invention is to provide a repeating firearm construction having a superior construction and arrangement of parts including a reciprocating action-slide and whereby the said action-slide is reliably guided in its normal movement and whereby the said action-slide may be readily dismounted from the firearm structure and reassembled therewith.

A further object of the present invention is to provide a superior repeating firearm construction embodying a reciprocating action-slide and a gas-operated system for actuating the said action-slide, and wherein the said action-slide is effectively guided without cramping action and with freedom for being conveniently released from such guiding action for being dismounted from the firearm structure.

With the above and other objects in view, as will appear to those skilled in the art from the present disclosure, this invention includes all features in the said disclosure which are novel over the prior art and which are not claimed in any separate application.

In the accompanying drawings, in which certain modes of carrying out the present invention are shown for illustrative purposes:

Fig. 1 is a view in side elevation of a gas-operated repeating firearm embodying the present invention;

Fig. 2 is a broken view of the central portion of the firearm shown partly in side elevation and partly in vertical central-longitudinal section with the parts in the positions which they assume when the hammer is cocked and the breech-bolt is in its breech-closing position preparatory to the discharge of the firearm;

Fig. 3 is a longitudinal sectional view taken on the line 3—3 of Fig. 2, but showing the breech-bolt, barrel and action-slide in reverse plan;

Fig. 4 is a broken view substantially corresponding to Fig. 2, but showing the parts in the positions which they assume when the action-slide is moved rearwardly to substantially the limit of its rearward movement;

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 2;

Fig. 6 is a similar view taken on the line 6—6 of Fig. 2;

Fig. 7 is a broken transverse sectional view taken on the line 7—7 of Fig. 2;

Fig. 8 is a view in rear end elevation of the breech-bolt;

Fig. 9 is a top or plan view thereof;

Fig. 10 is a view in side elevation of the receiver, together with a portion of the barrel;

Fig. 11 is a broken view in side elevation of the rear portion of the barrel and viewing the same from the side opposite to that viewed in Fig. 10;

Fig. 12 is an underside view thereof;

Fig. 13 is a broken sectional perspective view of the barrel taken on the line 13—13 of Fig. 11;

Fig. 14 is a perspective view of the action-slide;

Fig. 15 is a view in side elevation of the receiver, the action-slide and the rear portion of the barrel, showing the said action-slide longitudinally shifted into position for being dismounted from the receiver and barrel;

Fig. 16 is a transverse sectional view taken on the line 16—16 of Fig. 15;

Fig. 17 is a similar view but taken on the line 17—17 of Fig. 15;

Fig. 18 is a view similar to Fig. 15 but showing the rear end of the action-slide lifted upwardly to free its retaining-lip from the retaining-channel in the receiver, preparatory to swinging the action-slide transversely with respect to the firearm structure;

Fig. 19 is a transverse sectional view taken on the line 19—19 of Fig. 18;

Fig. 20 is a transverse sectional view corresponding to Fig. 16, but showing the action-slide as being swung laterally with respect to the barrel and receiver;

Fig. 21 is a transverse sectional view of the nature of Fig. 6, but showing a modified form of means for guiding the longitudinal movement of the action-slide;

Fig. 22 is a broken perspective view of the forward portion of the action-slide of the structure of Fig. 21; and

Fig. 23 is a broken perspective view of the nature of Fig. 13 and showing the rear portion of the barrel of the structure of Figs. 21 and 22.

The particular repeating firearm herein chosen for the purpose of illustrating the present invention is of the gas-operated type and the form of the invention shown in Figs. 1 to 20 inclusive in-

cludes, in the main, a stock 25, a receiver 26, a barrel 27 and a barrel-cap 28. The stock 25 and the barrel-cap 28 are preferably formed of wood or other suitable heat-insulating material, while the receiver 26 and barrel 27 are preferably formed of a high-grade steel.

The forward end of the receiver 26 is rigidly connected to the barrel 27 and the said receiver is formed interiorly with a mechanism-receiving chamber 29 accommodating various parts of the firearm mechanism.

A short distance forwardly of the front end of the receiver 26, the barrel 27 is provided with an integral downwardly-extending lug 30 formed with a rearwardly-opening piston-chamber 31 and with an inclined gas-passage 32 leading forwardly and upwardly from the front end of the said piston-chamber into communication with the bore 33 of the barrel 27, as is especially well shown in Figs. 2 and 4.

Reciprocating in the piston-chamber 31 of the lug 30 is a piston generally designated by the reference character 34 and including a head 35 at its forward end and a rearwardly-extending cylindrically-contoured stem 36 projecting rearwardly beyond the rear face of the lug 30. The said stem 36 extends axially through a retaining-ring 37 threaded into the rear end of the piston-chamber 31 and having its forward face engaged, on occasion, by the rear face of the head 35 of the piston 34.

The rear end of the stem 36 of the piston 34 above referred to, engages with the forward face of the rear wall 38 of a cross-head 39 located at the front end of a reciprocating action-slide generally designated by the reference character 40, and shown particularly well in Fig. 14, in which figure the action-slide is viewed mainly from the left and rear. The action-slide 40, in addition to the cross-head 39, also includes on its right side an integral rearwardly-extending bar 41 extending adjacent the right side of both the receiver 26 and the rear portion of the barrel 27.

In addition to its rear wall 38, the cross-head 39 of the action-slide 40 also includes two complemental laterally-spaced-apart side walls 42—42 extending forwardly from the rear wall 38 and normally respectively located on opposite sides of the lug 30. The said rear wall 38 is of about only half the height of the said side walls 42—42 and is located at the lower ends of the said side walls so as to extend crosswise beneath the barrel 27. Immediately above the rear wall 38, each of the side walls 42—42 is provided with an inwardly-projecting longitudinal guide-rib 43, each of which is in substantially the same horizontal plane and projects inwardly toward its complemental guide-rib, as is especially well shown in Fig. 14. Each of the said guide-ribs constitutes a guide-ledge having a downwardly-facing bearing-surface for purposes as will hereinafter appear.

Each of the guide-ribs 43—43 of the action-slide 40 has a free sliding fit in the adjacent one of two guide-grooves 44—44, one of which latter is formed on each of the respective opposite sides of the barrel 27 adjacent the lower edge of the rear end thereof, as is especially well shown in Figs. 10 to 13 inclusive. Adjacent its rear end, the guide-groove 44 formed in the left side of the barrel 27 has its bottom wall interrupted to provide a gap or downwardly-leading clearance-passage 45, which is of a length slightly exceeding the length of the left guide-rib 43 on the cross-head 39 of the action-slide 40, all for purposes as will more fully hereinafter appear. The portions of the barrel forming the bottoms of the respective guide-grooves 44—44 constitute ledges, each having an upwardly-facing bearing-surface upon which the downwardly-facing bearing-surface of one of the guide-ribs 43—43 slides.

Normally, the respective opposite guide-ribs 43—43 of the cross-head 39, by riding in the complemental guide-grooves 44—44 in the barrel 27, serve to guide the reciprocating movement of the said cross-head in a predetermined path longitudinally of the firearm. Since, however, in the normal reciprocation of the action-slide, the left guide-rib 43 thereof rides rearwardly past the gap or clearance-passage 45 in the complemental left guide-groove 44, releasable means is provided for preventing the said guide-rib from moving downwardly through the said gap 45, as will be presently described.

On its right side, the receiver 26 is shaped to form a longitudinal ledge 46 upon the upper face of which the lower edge of the bar 41 of the action-slide 40 normally rests and reciprocates. Mainly above the upper surface of the said ledge 46 and partly below the same in a position inwardly with respect thereto, the receiver 26 is formed with a shallow longitudinal recess 47 opening laterally outwardly toward the inner face of the bar 41 of the action-slide 40, as is especially well shown in Figs. 17 and 19. The lower portion of the recess 47 just referred to, lying inwardly of the ledge 46 and below the upper surface thereof, provides, in effect, an upwardly-opening retaining-channel 48, which receives with a free sliding fit a retaining-finger 49 projecting downwardly from a block-like guide-lug 50 projecting inwardly from the inner face of the rear portion of the bar 41 of the action-slide 40 adjacent the operating-handle 51 of the said action-slide. The guide-lug 50, together with its integral retaining-finger 49, is of sufficient height to just freely slide in the recess 47 in the right side of the receiver 26, as is shown especially well in Figs. 2, 4 and 7.

Leading upwardly from the upper edge of the recess 47 in the side of the receiver 26, is a relatively-short clearance-notch 52 which is positioned so that the guide-lug 50 at the rear of the action-slide 40 registers with the said clearance-notch at the same time that the left guide-rib 43 of the cross-head 39 is in registry with the clearance-passage 45 leading downwardly from the left guide-groove 44 of the barrel 27.

By virtue of its engagement with the outer face or wall of the retaining-channel 48, the retaining-finger 49 normally prevents the action-slide 40 from being tilted into the position in which the latter is shown in Fig. 20, when the left guide-rib 43 of the said action-slide is in registration with the gap 45 in the left guide-groove 44 of the barrel 27. Thus, normally the left guide-rib 43 of the cross-head 39 of the action-slide 40 rides from front to rear and vice versa across the gap 45 without dropping therethrough.

When it is desired to dismount the action-slide 40 from the barrel 27 and receiver 26 (after stock 25 and barrel-cap 28 have first been removed), the action-slide is brought longitudinally into substantially the position in which it is shown in Figs. 15, 16 and 17. Now by manually lifting the rear end of the bar 41 of the said action-slide upwardly, the retaining-finger 49 at its rear end will be lifted clear of the retaining-channel 48 while the upper portion of the guide-lug 50 is accommodated in the clearance-notch

52, as is shown in Figs. 18 and 19. The entire action-slide may now be tilted around its right guide-rib 43 as a fulcrum from the pisition in which it is shown in Fig. 16 into the position in which it is shown in Fig. 20. In this manner, the action-slide 40 may be completely removed from the remainder of the structure of the firearm by continuing the swinging movement referred to. Reinstallation of the action-slide 40 may be effected by reversing the procedure just above outlined.

The right side wall 42 of the cross-head 39 of the action-slide 40 is formed in its rear face just below the bar 41 with a rearwardly-opening recess or socket 53 receiving the pointed forward end of a breech-closing plunger 54. The said plunger is adapted to reciprocate in a cylindrically-contoured longitudinal pocket 55 opening forwardly through the front end of the receiver 26 and located in the right side of the receiver 26 mainly in the ledge 46 thereof. The pocket 55 just referred to accommodates a helical breech-closing spring 56 which thrusts at its rear end against the closed rear wall of the said pocket. At its forward end the said spring 56 thrusts against the rear end of the breech-closing plunger 54 proper at the point where a relatively-slender integral stem 57 projects rearwardly from the breech-closing plunger 54 into the interior of the spring 56.

The breech-closing spring 56 acting through the breech-closing plunger 54 exerts a constant but yielding effort to move the action-slide 40 forwardly to the limit of its movement and until its said forward movement is checked by engagement with the piston 34, as shown in Fig. 2.

Reciprocating in the upper portion of the hollow interior of the receiver 26 is a breech-bolt 58 which also has oscillatory movement for being locked and unlocked in a manner generally like the breech-bolt employed in the well-known Garand military rifle. The said breech-bolt is provided with two oppositely-extending locking-lugs 59 and 60 formed integral therewith and located adjacent its forward end, as shown particularly well in Fig. 9. These locking-lugs 59 and 60 are engageable with forwardly-facing locking-abutments 61—61 (Fig. 5) formed in the receiver 26. The right locking-lug 60 is formed with an extension 62 which enters a cam-recess 63 formed in the inner face of the bar 41 of the action-slide 40 just forwardly of the operating-handle 51 thereof. The cam-recess 63 is shaped so that upon the action-slide moving rearwardly from the position in which it is shown in Fig. 2, the breech-bolt 58 will be first turned to disengage its locking-lugs 59 and 60 from the locking-abutments 61—61 of the receiver 26. The said cam-recess 63 is also so shaped that after the breech-bolt has been unlocked as above described, the continued rearward movement of the action-slide 40 will effect the straight rearward travel of the said breech-bolt 58 to the limit of its rearward travel. The said cam-recess serves upon the forward movement of the action-slide 40 to first move the breech-bolt 58 substantially in a straight line forwardly and ultimately to turn the said breech-bolt to re-engage its locking-lugs 59 and 60 with the locking-abutments 61—61 of the receiver 26, in a manner well known in the art.

The breech-bolt 58 carries a firing-pin 64 which normally projects rearwardly beyond the rear face of the said breech-bolt and is adapted to be struck by the upper portion of a pivotal hammer 65 pivotally mounted in a trigger-plate 66 which is rigidly attached to the firearm structure and extends both to the rear and beneath the receiver 26.

The trigger mechanism for controlling the hammer 65 requires no detailed description herein, but it is to be noted that the breech-bolt 58 is formed upon its rear face immediately above the firing-pin 64 with a circumferentially-inclined hammer-retiring cam-surface 67 (Figs. 8 and 9) which acts to impart to the hammer 65 a slight initial rearward swinging movement, as will be presently described.

The hammer 65 is formed with a striking-surface 68 which engages with the rear face of the firing-pin 64 to drive the same forwardly to effect the discharge of the firearm. Immediately above the striking-surface 68, the hammer 65 is formed with a nose 69 which lies in substantial engagement with the hammer-retiring cam-surface 67 of the breech-bolt 58, immediately following the discharge of the firearm.

Now when the firearm is discharged, the action slide 40 starts rearwardly under an impulse imparted to it by gas pressure acting upon the piston 34. The breech-bolt 58 will first be turned, as before described, with the effect of causing the hammer-retiring cam-surface 67 of the breech-bolt 58 to turn about the longitudinal axis of the said breech-bolt and by engagement with the inclined forward face of the nose 69 of the hammer 65, cause the said hammer to be slightly retired out of engagement with the firing-pin 64 to permit the same to retire rearwardly. After the initial retirement of the hammer 65 by means of the cam-surface 67 as just described, the straight-line rearward travel of the breech-bolt will continue to swing the said hammer in a counterclockwise direction until it is fully cocked preparatory to a further discharge of the firearm.

In the structure illustrated in Figs. 21, 22 and 23, a barrel 27*a* is employed which instead of having guide-grooves 44, as in the structure of the preceding figures, is formed on each of its respective opposite sides with guide-ribs or ledges 44*a* and 44*a*, the left one of which is interrupted to provide a clearance-passage 45*a*. The upper surface of each of the guide-ribs 44*a* provides an upwardly-facing bearing-surface for the guidance of an action-slide, as will presently appear.

The remaining structure of the barrel 27*a* corresponds to the barrel 27 above described and has corresponding reference characters marked thereon, save with the addition of the reference character *a*.

The action-slide 40*a*, designed for use with the barrel 27*a*, corresponds to the action-slide 40 previously described, save that instead of being formed with inwardly-projecting guide-ribs, the said action-slide 40*a* is formed with complemental opposed inwardly-opening guide-grooves 43*a*—43*a* respectively adapted to fit over the guide-ribs 44*a*—44*a* of the barrel 27*a*. The guide-groove 43*a* extend the full length of the rear wall 38*a*, the left-side upwardly-extending portion of which latter is, therefore, sufficiently narrow to be vertically swung through the clearance-passage 45*a* of the barrel 27*a*.

The other features of the modified form of the present invention shown in Figs. 21 to 23 inclusive correspond generally in respects other than those above noted, to the structure of Figs. 1 to 20 inclusive, and bear similar reference char-

acters, with the addition of the reference character *a* to each thereof to differentiate from the form of the invention first shown.

The invention may be carried out in other specific ways than those herein set forth without departing from the spirit and essential characteristics of the invention, and the present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.

I claim:

1. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and releasable retaining-means releasably restraining the said action-slide against lateral tilting movement.

2. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and releasable retaining-means releasably restraining the said action-slide against lateral tilting movement.

3. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and releasable retaining-means releasably restraining the said action-slide against tilting movement and including a retaining-surface on the said receiver and facing inwardly thereon, and a retaining-finger carried by the said action-slide and engaging with the retaining-surface of the said receiver.

4. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clear-

ance-passage of the said barrel to permit the said action-slide to be tilted laterally; and releasable retaining-means releasably restraining the said action-slide against tilting movement and including a retaining-surface on the said receiver and facing inwardly thereon, and a retaining-finger carried by the said action-slide and engaging with the retaining-surface of the said receiver.

5. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an upwardly-opening longitudinal groove having a retaining-surface facing inwardly toward the axis of the said receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and a retaining-finger carried by the said action-slide and extending downwardly into the upwardly-opening longitudinal groove in the side wall of the said receiver to releasably restrain the said action-slide against lateral tilting movement.

6. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an upwardly-opening longitudinal groove having a retaining-surface facing inwardly toward the axis of the said receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and a retaining-finger carried by the said action-slide and extending downwardly into the upwardly-opening longitudinal groove in the side wall of the said receiver to releasably restrain the said action-slide against lateral tilting movement.

7. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an outwardly-opening recess and with an upwardly-opening retaining-groove communicating with and extending parallel with the bottom portion of the said recess; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and a retaining-finger projecting laterally into the outwardly-opening recess in the side wall of the receiver and downwardly into the upwardly-opening retaining-groove in the said receiver to releasably restrain the said action-slide against lateral tilting movement.

8. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an outwardly-opening recess and with an upwardly-opening retaining-groove communicating with and extending parallel with the bottom portion of the said recess; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge

at a point intermediate the respective opposite ends of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical interrupting clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and a retaining-finger projecting laterally into the outwardly-opening recess in the side wall of the receiver and downwardly into the upwardly-opening retaining-groove in the said receiver to releasably restrain the said action-slide against lateral tilting movement.

9. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and releasable retaining-means releasably restraining the said action-slide against lateral tilting movement.

10. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends thereof; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the interrupting vertical clearance-passage of the said barrel to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and releasable retaining-means releasably restraining the said action-slide against lateral tilting movement.

11. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface for the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longi-

tudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and releasable retaining-means releasably restraining the said action-slide against tilting movement and including a retaining-surface on the said receiver and facing inwardly thereon, and a retaining-finger carried by the said action-slide and engaging with the retaining-surface of the said receiver.

12. A firearm structure including in combination: a receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel, the said action-slide also being provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel, the first guide-ledge of the said action-slide being shorter than the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical interrupting clearance-passage of the said barrel to permit the said action-slide to be tilted laterally; and releasable retaining-means releasably restraining the said action-slide against tilting movement and including a retaining-surface on the said receiver and facing inwardly thereon, and a retaining-finger carried by the said action-slide and engaging with the retaining-surface of the said receiver.

13. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an upwardly-opening longitudinal groove having a retaining-surface facing inwardly toward the axis of the said receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the vertical clearance-passage of the said barrel to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and a retaining-finger carried by the bar of the said action-slide and extending downwardly into the upwardly-opening longitudinal groove in the side wall of the said receiver to releasably restrain the said action-slide against lateral tilting movement.

14. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an upwardly-opening longitudinal groove having a retaining-surface facing inwardly toward the axis of the said receiver; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective opposite ends of the latter; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the said interrupting clearance-passage to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and a retaining-finger carried by the bar of the said action-slide and extending downwardly into the upwardly-opening longitudinal groove in the side wall of the said receiver to re-

leasably restrain the said action-slide against lateral tilting movement.

15. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an outwardly-opening recess and with an upwardly-opening retaining-groove communicating with and extending parallel with the bottom portion of the said recess; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the said vertical clearance-passage to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and a retaining-finger projecting laterally from the bar of the said action-slide into the outwardly-opening recess in the side wall of the receiver and downwardly into the upwardly-opening retaining-groove in the said receiver to releasably restrain the said action-slide against lateral tilting movement.

16. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an outwardly-opening recess and with an upwardly-opening retaining-groove communicating with and extending parallel with the bottom portion of the said recess; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical interrupting clearance-passage leading downwardly from the upper surface of the said first guide-ledge at a point intermediate the respective oposite ends of the latter; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical interrupting clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the said interrupting clearance-passage to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and a retaining-finger carried by the bar of the said action-slide and projecting laterally into the outwardly-opening recess in the side wall of the receiver and downwardly into the upwardly-opening retaining groove in the said receiver to releasably restrain the said action-slide against lateral tilting movement.

17. A firearm structure including in combination: a receiver formed in the outer face of one of its side walls with an outwardly-opening recess and with an upwardly-opening retaining groove communicating with and extending parallel with the bottom portion of the said recess, the said receiver also being formed with a clearance-notch leading upwardly from the outwardly-opening recess therein; a barrel extending forwardly from the said receiver and provided on one of its sides with a longitudinally-extending first guide-ledge having an upwardly-facing bearing-surface, the said barrel also being formed on its opposite side from the said first guide-ledge with a longitudinally-extending second guide-ledge also having an upwardly-facing bearing-surface, the said barrel also being formed with a vertical clearance-passage leading downwardly from the upper surface of the said first guide-ledge; an action-slide movable longitudinally with respect to the said receiver and the said barrel and including a cross-head at its forward end and a bar extending rearwardly from the said cross-head alongside of the said receiver, the said cross-head of the action-slide comprising two side walls respectively located adjacent the opposite sides of the said barrel and a cross-wall extending beneath the said barrel and connecting the two said side walls, one of the said side walls of the cross-head of the action-slide being provided with a longitudinally-extending first guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the first guide-ledge of the said barrel and having a length shorter than the length of the vertical clearance-passage leading downwardly from the upper surface of the first guide-ledge of the said barrel to permit the first guide-ledge of the said action-slide to be swung downwardly through the said vertical clearance-passage to permit the action-slide to be tilted laterally, the other of the side walls of the cross-head of the

action-slide being also provided with a longitudinally-extending second guide-ledge having a downwardly-facing bearing-surface normally riding upon the bearing-surface of the second guide-ledge of the said barrel; and a retaining-finger projecting laterally from the bar of the said action-slide into the outwardly-opening recess in the side wall of the receiver and downwardly into the upwardly-opening retaining-groove in the said receiver to reelasably restrain the said action-slide against lateral tilting movement, the said retaining-finger being positioned on the bar of the action-slide so as to register with the clearance-notch in the receiver at the same time that the first guide-ledge of the action-slide registers with the vertical clearance-passage leading downwardly from the first guide-ledge of the said barrel.

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