T. C. JOHNSON.

SHOULDER ARM.

APPLICATION FILED JULY 5, 1919.

1,323,065.

Patented Nov. 25, 1919.

3 SHEETS—SHEET 1.

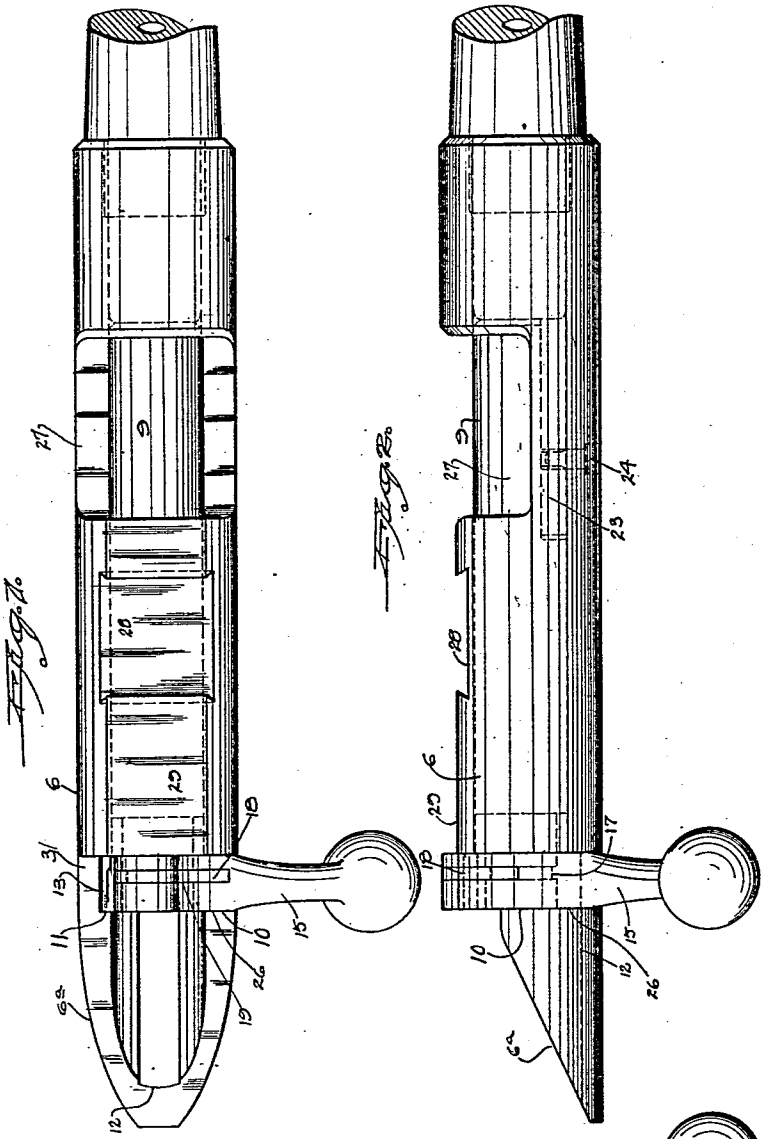


Fig. 1.

Fig. 2.

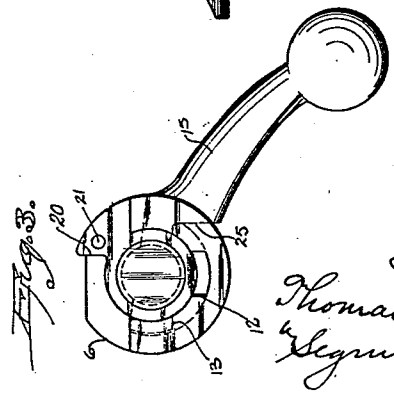


Fig. 3.

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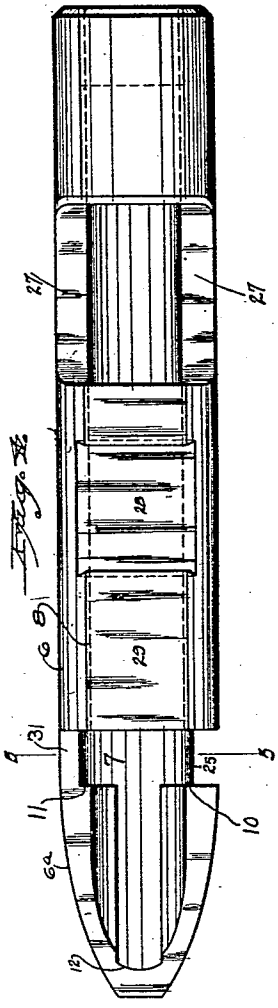
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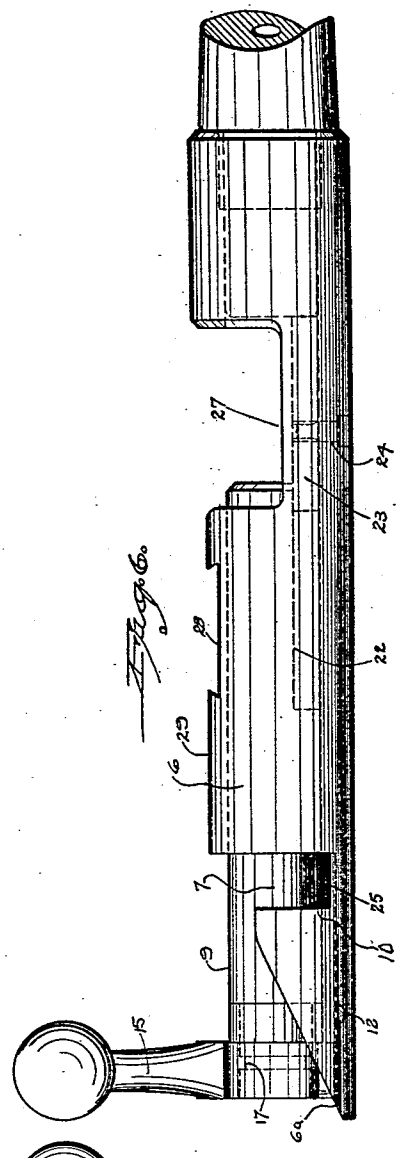
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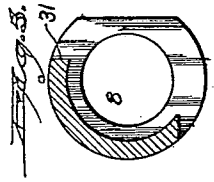
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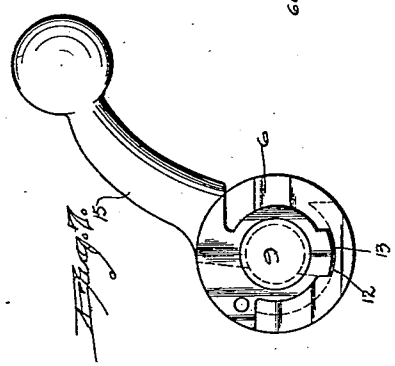
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3 SHEETS—SHEET 2.









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3 SHEETS—SHEET 3.

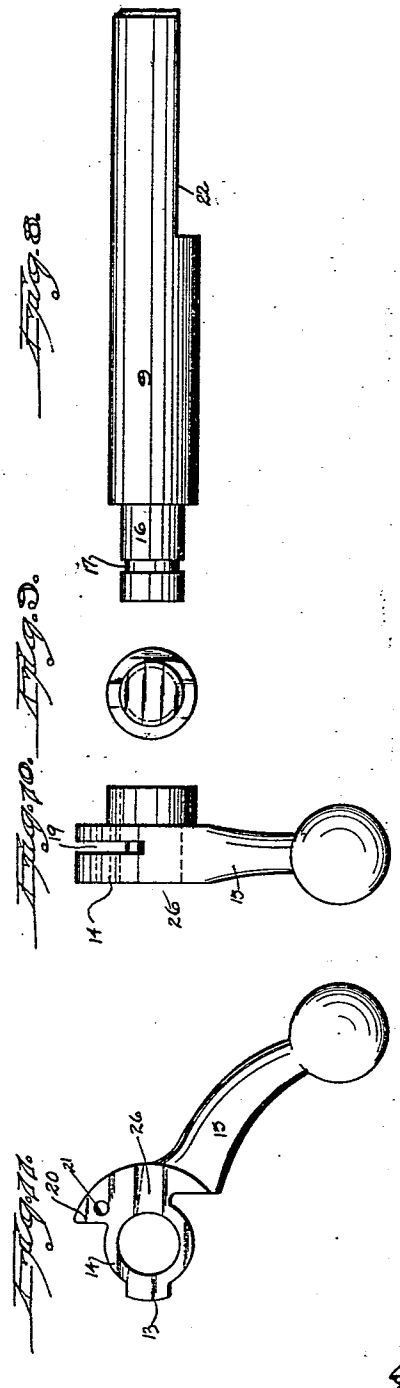


Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 13.

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UNITED STATES PATENT OFFICE.

THOMAS C. JOHNSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WINCHESTER REPEATING ARMS CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

SHOULDER-ARM.

1,323,065. Specification of Letters Patent. Patented Nov. 25, 1919.

Application filed July 5, 1919. Serial No. 308,849.

To all whom it may concern:

Be it known that I, THOMAS C. JOHNSON, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Shoulder-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a detached plan view of the receiver, bolt and bolt-handle of a shoulder arm constructed in accordance with my invention, the bolt being shown in its locked position, and the barrel being shown as broken away at the breech.

Fig. 2 a corresponding view in side elevation.

Fig. 3 a rear end view thereof.

Fig. 4 a detached plan view of the receiver, shown as stripped.

Fig. 5 a view in transverse section on the line 5—5 of Fig. 4.

Fig. 6 a view in side elevation corresponding to Figs. 1 and 2, but showing the bolt in its unlocked and retracted position.

Fig. 7 a corresponding rear view thereof.

Fig. 8 a detached view in side elevation of the bolt.

Fig. 9 a rear end view thereof.

Fig. 10 a detached view in side elevation of the bolt-handle.

Fig. 11 a rear view thereof.

Fig. 12 a detached view in elevation of the bolt-handle key.

Fig. 13 an edge view thereof.

My invention relates to an improvement in that class of shoulder arms in which the bolt is locked at its rear end, the object being to produce a simple, symmetrical, safe, durable, convenient and reliable arm constructed with particular reference to distributing the shock of recoil on laterally opposite sides of the axis of the bolt at the rear end thereof.

With these ends in view, my invention consists in a shoulder arm having its bolt locked at its rear end on laterally opposite sides of its longitudinal axis.

My invention further consists in a shoulder arm having its bolt provided at its rear end with a pivotal handle formed with a projection by means of which it is held in its elevated position during its forward and rearward excursion with the bolt.

My invention further consists in a shoulder arm having certain details of construction as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, the upper rear corner of the receiver 6 is rearwardly and downwardly beveled to form a tapering receiver-terminal 6^a at its rear end. At its forward end the terminal is formed with a transversely arranged segmental locking-slot 7 intersecting the rear end of the bolt-chamber 8 formed in the body of the receiver for the reception and longitudinal movement of the cylindrical bolt 9. The said slot 7 is concentric with the bolt-chamber 8 but struck on a larger curve than the same so as to produce right and left hand recoil-taking shoulders 10 and 11 standing at a right angle to the axis of the bolt-chamber on opposite lateral sides of the axis thereof, and substantially in the horizontal plane, whereby provision is made for taking the shock of recoil on both sides of the axis of the bolt and laterally rather than vertically. A guide-groove 12 intersecting the rear wall of the locking-slot 7 and extending rearward therefrom in the receiver-terminal 6^a in line with the bolt-chamber, receives a guiding and locking-lug or projection 13 radially offsetting from the sleeve 14 of the bolt-handle 15. The bolt 9 is formed at its rear end with a concentric stem 16 fitting into the handle-sleeve 14 and formed with an annular groove 17 receiving a flat wing-like key 18 fitting into a slot 19 formed in part in the sleeve 14 and in part in the stop-shoulder 20 of the bolt-handle, the said key being held in place by a pin 21 inserted into the said shoulder, whereby the handle is pivotally mounted upon the rear end of the bolt which although free to be moved back and forth in the bolt-chamber, is held against rotation therein by having the lower portion of its forward end cut away to form a flat bearing-face 22 which rides upon the flat upper bearing-face of a bolt-guide 23 located within the bottom of the forward end of the bolt-chamber and held in place by a screw 24.

A deep cut 25 formed in the right hand wall of the receiver and registering with the segmental locking-slot 7 aforesaid, is pro-

vided to permit the handle to be turned down into its locked position in which the rear face of its lug or projection 13 is engaged with the left hand recoil-taking shoulder 11 aforesaid, and in which the right hand recoil-taking shoulder 10 is engaged by the locking surface 26 of the handle, whereby the shock of recoil is distributed, so to speak, between recoil-taking abutments located in, or substantially in, the horizontal plane and on opposite lateral sides of the axis of the bolt, instead of at a point above and below the axis thereof as in some guns of the prior art, my improved construction being adapted to an arm the receiver whereof has its rear end rearwardly and downwardly beveled to form the receiver-terminal 6^a by which the upper rear corner of the receiver is cut off.

The upper portion of the forward end of the receiver is transversely cut away to produce a cartridge-loading and cartridge-ejecting opening 27 intersecting the forward end of the bolt-chamber, while the upper surface of the receiver, at a point close to the rear end of the said opening, is formed with a transverse dovetail-slot 28 which may be utilized for the mounting of a rear sight, or a telescope-mount, or which may be filled in with an ornamental block. To the rear of the slot 28, the top of the receiver is shaped to form a flat bearing-face 29 which, as shown, extends rearward to the segmental locking-slot 7 which marks the beginning of the beveled terminal end 6^a.

In using my improved gun, assuming the bolt to be fully retracted and the bolt-handle to be in its elevated position as shown in Fig. 6, the handle is pushed forward until it is fully alined with the transverse segmental locking-slot in the receiver, the bolt being thus moved into its closed position. During this forward movement of the bolt and handle, the latter is firmly sustained in its elevated position by the riding of its lug 13 in the guide-slot 12. The handle is now rocked from left to right upon the bolt-stem 16, whereby its lug 13 is engaged with the left hand recoil-taking shoulder 11 of the receiver, and whereby the locking surface 26 of the handle is engaged with the right hand recoil-taking shoulder 10 of the receiver, the handle being at this time in the position in which it is shown in Figs. 1, 2 and 3. Provision is thus made for distributing the shock of recoil between two recoil-taking abutments respectively located on opposite sides of the axis of the bolt and laterally with respect thereto and substantially in the horizontal plane. To unlock the bolt, the handle is lifted into the position in which it is shown in Figs. 6 and 7, in which its stop-shoulder 20 engages with the surface 31 forming the left hand wall of the locking slot 7. When the shoulder 20 has been engaged with the surface 31, the lug 13 has been registered with the guide-slot 12 for the retraction of the bolt into its unlocked position.

The transverse locking-slot 7 as herein shown and described intersects the opposite side walls of the receiver and opens upwardly and rearwardly, its left hand end merging into a stop-shoulder for the bolt-handle when the same is thrown into its open position and its right hand end being cut away to a level below its left hand end for the reception of the bolt-handle when the same is thrown into its locked position and the rear wall of the slot being entirely cut away to the level of its left hand end. The receiver, moreover, is cut away horizontally, rearwardly and downwardly from the front wall of the said slot so that the same opens upwardly and rearwardly as described so as to give a substantially full view of the handle at all times. This enables the recoil-taking surfaces of the handle and receiver to be seen when the handle is in its closed position and thus permits the accurate fitting of the parts in the initial construction of the arm with the end in view of having the recoil taken equally on both sides of the axis of the receiver which is not possible when either one or both of the pairs of recoil-taking surfaces are hidden from view. Furthermore by the construction above described, I am able to shorten up the receiver as well as secure symmetrical lines for the receiver and gun-stock.

I am aware that it is broadly old to construct a bolt-action shoulder-arm so as to take the shock of recoil in a horizontal plane scribed, I am able to shorten up the receiver and do not claim that construction broadly.

I claim:—

1. A bolt-action shoulder-arm having its receiver formed at its rear end with a single transverse upwardly and rearwardly opening locking-slot intersecting its opposite side walls, the left-hand end of the said slot merging into a horizontal handle-stop surface and its right-hand end being cut away for the clearance of the handle-stem, a non-rotatable bolt and a bolt-handle swiveled upon the rear end thereof fitting in the said locking-slot and engaging with the rear wall thereof in the horizontal plane on opposite sides of the axis of the receiver.

2. A bolt-action shoulder arm having its receiver formed at its rear end with a single transverse upwardly and rearwardly opening locking-slot and with a guide slot leading rearwardly out of the rear wall of the said locking-slot in a line parallel with the axis of the gun; a non-rotatable bolt and a bolt-handle swiveled upon the rear end of the bolt, adapted to engage with the right-hand portion of the rear wall of the said locking-slot and formed with a projection engaging simultaneously with the left-hand portion of

the rear wall of the said locking-slot for taking the recoil of the gun at that point and co-acting with the said guide-slot for maintaining the handle in its vertical position during the longitudinal movement thereof and when not located in the said locking-slot.

3. A bolt-action shoulder arm having its receiver formed at its rear end with a single transverse upwardly and rearwardly opening locking-slot intersecting its opposite side walls, its left-hand end being higher than its right-hand end and its rear wall being lower than its front wall; a non-rotatable bolt and a bolt-handle swiveled upon the rear end of the bolt and adapted to fit into the said locking-slot and engaging with the lower rear wall thereof at points on opposite sides of the axis of the receiver, the said handle engaging when upturned with a stop-surface at the left-hand end of the slot and entering the right end of the slot when turned down into its locked position.

4. A bolt-action shoulder arm having its receiver formed at its rear end with a single transverse upwardly and rearwardly opening-locking slot intersecting its opposite side walls and the rear end of the receiver being horizontally rearwardly and downwardly cut away from the front wall of the said slot to form a tapering terminal end the bottom of which is provided with a guide-slot intersecting the center of the bottom of the rear wall of the said locking-slot; a non-rotatable bolt and a bolt handle swiveled upon the rear end thereof and adapted to enter the said locking-slot and to co-act with the right-hand portion of the rear wall thereof in taking the recoil and formed with a recoil-taking projection co-acting with the left-hand portion of the rear wall thereof and also co-acting with the guide-slot, whereby the handle is maintained in its elevated position during its forward and rearward excursions.

5. A bolt-action shoulder arm having the rear end of its receiver formed with a single transverse upwardly and rearwardly opening locking-slot intersecting its opposite side walls and with a longitudinally arranged guide-slot intersecting the center of the bottom of the rear wall of the said locking-slot; a bolt having the lower face of its forward end cut away, a bolt-guide located in the bottom of the bore of the receiver of the gun for co-acting with the said cut-away portion of the bolt whereby the bolt is held against rotation, and a bolt-handle swiveled upon the rear end of the bolt and co-acting with the rear wall of the locking-slot for taking the recoil of the gun, and co-acting with the guide-slot for being held against pivotal movement with respect to the non-rotatable bolt during the forward and rearward excursions thereof.

6. A bolt-action shoulder-arm having a receiver formed with a transverse locking-slot intersecting its opposite side walls and providing recoil-taking surfaces located on laterally opposite sides of the axis of the receiver, a non-rotatable bolt, and a bolt-handle swiveled upon the rear end thereof and furnished with locking-surfaces positioned to co-act with the respective recoil-taking faces of the receiver when the handle is in its locked position, the said receiver being horizontally rearwardly cut away from the front wall of the said locking-slot to expose to view the upper edges of the contacting surfaces of the locking slot and handle.

7. A bolt-action shoulder-arm having a receiver provided with a transverse locking-slot having its rear wall horizontally cut away below the level of its front wall and having its left-hand end wall cut away to the level of its rear wall and its right-hand end wall cut away below the level of its rear wall, a non-rotatable bolt and a bolt-handle swiveled upon the rear end thereof and furnished with locking surfaces respectively positioned to co-act with the rear wall of the said locking-slot on laterally opposite sides of the axis of the bolt when the handle is in its locked position, the rear end of the receiver being cut away horizontally and downwardly below the level of the rear wall of the said locking-slot.

8. A bolt-action shoulder-arm having a receiver formed at its rear end with a single transverse upwardly and rearwardly opening locking-slot, a non-rotatable bolt formed at its rear end with a reduced stem having an annular circumferential groove, a bolt-handle adapted to enter the said locking-slot and provided with a forwardly projecting slotted sleeve receiving the reduced stem at the rear end of the bolt, and a key mounted in the said sleeve and entering the said groove for pivotally connecting the handle with the bolt.

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

THOMAS C. JOHNSON.

Witnesses:
CLARA L. WEED,
GEORGE D. SEYMOUR.