SUPERPOSED BARREL, BREECH LOADING FIREARM

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My invention relates to double barrelled, breech loading firearms, of the drop-down type, and preferably to those arms wherein the barrels are superposed, that is arranged one above the other.

It has for its object to provide an improved fixation of the barrels to the breech.

These barrels have hitherto been pivoted to the breech by small projecting pivots or the like which had to resist the recoil of the arm and the dropping down of the barrels. These pivots were liable to rapid wear.

According to my invention, the pivots are relieved from any strain by means of cooperating depressions and projections, provided on the barrels and on the breech, and disposed co-axially with said pivots.

In the annexed drawings:

Fig. 1 is a partial side view of an arm according to the invention, at the closed position.

Fig. 2 is a similar view at the opened position.

Fig. 3 is a partial plan view of the breech, the barrels superposedly removed.

Figs. 4 and 5 are side views with parts in section, to show the loading mechanism.

Figs. 6 is a fragmental side view to an enlarged scale with parts in section, showing the removable forepart of the gun.

Figs. 7 and 8 are sections of the barrels on lines VII—VII and VIII—VIII (Fig. 2).

Figs. 9 and 10 are general side views of the arm, the wood parts superposedly removed.

The barrels, generally referenced as 100, are pivoted on the breech, generally referenced as 101, by means of two small projections 102, 102'.

(Fig. 3) riveted to the sides of the breech. These pivots receiving no strain, such an arrangement is simple and strong enough. They cooperate with semi-circular recesses 103 provided laterally on the barrels. These recesses are opened toward the front end of the breech as clearly shown in dotted lines in Fig. 2. The common geometrical axis of pivots 102, 102' and of the corresponding recesses is located very low on the barrels. In the case illustrated, it is substantially tangent to the lower part of the barrels.

The barrels are provided with lateral arcuate projecting parts 104 (Fig. 2) which are arranged co-axially with pivots 102, 102'. These parts fit in recesses 105, 105' provided internally in the sides of the breech in such a way that the interior face of part 104 (i.e. the face which is nearest to the pivots 102, 102') slides on the arcuate interior face of the corresponding recess 105, the exterior faces being out of mutual cooperation.

The forepart of the breech is provided with semi-circular portions 106, 106' projecting toward the front end of the gun, and co-axial with pivots 102 and 102'. These portions cooperate with corresponding semi-circular recesses 107, 107', provided in the bifurcated end of a removable part, generally referenced as 108, which is adapted to be fixed to the barrels just in front of the breech.

This fixation is obtained in the following manner, Figs. 4 to 6: The rear end of part 108 terminates into a finger 109 which fits into a depression provided in a tooth 110 downwardly projecting from the barrels. The front end of part 108 has a hole 111 into which fits a depending projection 112 of the barrels, the fixation being perfected by means of a small bolt 113 pressed by a spring 114.

When part 108 is fixed in position (Figs. 1 and 2), the barrels pivot on the breech without exciting any strain on pivots 102, 102' which, as shown, are preferably arranged with considerable play within their recesses 103. In fact, these pivots are provided only to facilitate the adjusting of the barrels into the breech, but it may be noted that the true pivots are projections 106, 106' and recesses 107, 107', on one hand, and projections 104 and recesses 105, 105', on the other hand. The strength of such an arrangement is considerable. A material advantage is that, when the parts are normally greased, the dropping down of the barrels is relatively slow, whereby shocks are minimized.

The drop-down motion is limited by part 108 itself. The latter is provided with a portion 115 (Figs. 4 to 6) which when the breech is opened, abuts against the lower edge of the breech. As shown Fig. 5, the opened position is so arranged that projections 104 and recesses 105, 105' are yet materially far from being disengaged.

When it is desired to separate the barrels from the breech, part 108 is first removed; then the barrels are pivoted and their motion being then unlimited, it is possible to disengage projections 104 from recesses 105, 105' and the barrels may be pulled rearwardly, whereby pivots 102 and 102' are disengaged from recesses 103. Thus the fixation of the barrels is perfected without any screw, pin or the like.

Owing to the very low position of the barrel pivots, the rear face of the barrels may satisfactorily contact with the vertical face of the breech without intermediate sliding parts. The loss of gases may be minimized.

As shown, the breech sides are high to reduce the lateral gas losses. To insure a more attractive aspect of the device, the barrels are provided with laterally projecting portions 116, 116' which
fit on the sides on the breech (Figs. 1, 2 and 7). These portions, as well as projections 104, may be machined out of the barrels, but they are preferably in the form of separate parts fixed by dovetailing, screwing, or otherwise.

The loading mechanism (Figs. 4 to 6) comprises two parallel loading rods 12 provided with a front nose 117 cooperating with a common actuating tooth 118 formed near the rear end of part 108. When the breech is opened, tooth 118 actuates rearwardly both rods 12 and the latter load the percussion mechanism. In Figs. 4 and 5, it is diagrammatically shown that rod 12 actuates a lever 16, pivoted at 11, which lever in turn actuates a loading lever 8 pivoted at 9. The latter directly drives the head 5 of one hammer. The other one is similarly loaded by the second rod 12 located just behind the one illustrated in the drawings.

It will be noted that the arrangement described comprises no screw, nut, cotter pin or the like on the exterior surface of the arm, a matter of material commercial importance.

The invention is in no way limited to the form of pivots 102, 102' as illustrated. In fact, these pivots may be dispensed with since they are used only as centering means during the fixation of the barrels within the breech.

The invention is intended to be used on arms of the superposed barrel type, to solve the peculiar difficulties which arise with these arms.

I claim:

1. In a firearm of the character described, cooperating depressions and projections provided in the breech and on the lateral faces of the barrels, the active contacting faces of said depressions and projections being co-axial with the geometric axis around which the barrels pivot with respect to the breech, said faces being disposed rearwardly of said axis to prevent any forward motion of the barrels with respect to the breech; lateral forwardly projecting, substantially semi-circular portions on said breech, co-axial with said axis; a member removable attached under the barrels, said member being bifurcated at its rear end and thus forming lateral portions on the barrels, said portions being provided with arcuate recesses adapted for contacting cooperation with said semi-circular portions on the breech; a tooth at the rear end of said member; and cocking rods rectilinearly movable within the breech, said rods being adapted to cock the percussion mechanism of the arm, and said rods being arranged so as to be actuated by said tooth during the drop-down motion of the barrels.

2. In the arrangement set forth in claim 1, means for attaching the bifurcated member under the barrels, comprising a finger at the rear end of said member; a tooth downwardly projecting from the barrels, said tooth having a recess adapted to cooperate with said finger; said member having a hole at the front end; a portion projecting downwardly from the barrels and adapted to fit within the hole; and means for locking said portion within said hole.

3. In a double-barrelled, breech-loading firearm of the drop-down type, wherein the barrels are superposed, means for pivoting the barrels at the breech comprising two movable arcuate members laterally attached to the barrels and having their ends in the form of a circular arc concentric with the geometric center about which the barrels pivot, the breech being suitably grooved to cooperate with the arcuate members to prevent any forward displacement of the barrels, the dimensions of the arcuate members and of the grooves being such that they mutually cooperate even when the firearm is in the drop-down position, lateral projections passing toward the front of the breech, said projections being substantially semicircular and concentric with the geometric center of the barrels, and detachable members laterally attached to the barrels and having an arcuate groove adapted to cooperate with the projections to prevent any rearward displacement of the barrels.

4. The combination set forth in claim 3, in which the members laterally attached to the barrels in front of the breech are formed by the bifurcated end of a single member removably attached under the barrels, said member having a shaped projection which, when the breech is open, bears against the forward end of the breech to limit the drop-down movement of the barrels.

5. In a double-barrelled, breech-loading firearm of the drop-down type, wherein the barrels are superposed, means for pivoting the barrels at the breech comprising two detachable arcuate members laterally attached to the barrels and having their centers at the geometric center about which the barrels pivot, the breech being grooved to cooperate with the arcuate members to prevent any forward displacement of the barrels, the dimensions of the arcuate members and of the grooves being such that they mutually cooperate even when the firearm is in the drop-down position, and ledges laterally integral with the barrels above the arcuate members and adapted to bear against the sides of the breech when the barrel is in the closed position.

6. The firearm set forth in claim 1, in which the cocking rods are joined in one piece.

7. The firearm set forth in claim 5, in which, in the closed position, there are four points of contact between the barrel and the breech, two points opposing the other two.

8. The firearm set forth in claim 3, in which the circular members commence in a plane tangent to the bottom of the lower barrel and are prolonged without a break to the upper lateral ledges on each side in the region of the upper axis.

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