To all whom it may concern:

Be it known that I, Jean Dessard, a subject of the King of the Belgians, residing at Herstal-lez-Liege, Belgium, have invented certain new and useful Improvements in Hammerless Small Arms, of which the following is a specification.

This invention relates to hammerless small-arms and consists of a gun or rifle having one, or more drop-down barrels, in which the action comprises a knee-piece acting both as the firing bolt and the cocking device; this cocking bolt slides in the knuckle and enters directly into engagement with the compressing sear of the action when discharge has taken place and the breech is opened.

The accompanying drawing represents a hammerless gun of the above kind:

Figure 1 is an elevation in section on line A—A of Figure 2, showing the bolt in the cocked position.

Figure 2 is a view from below, showing one of the bolts cocked and the other fired.

Figure 3 is a section similar to that of Figure 1 through the line B—B—A in the action body and through B—C in the front or fore-end.

Figure 4 is a front view of the letter.

Figure 5 shows separately one of the breech bolts.

Figure 6 shows the corresponding sear.

The gun represented in the drawing comprises an action body 1, in which the barrels 2 are hooked and latched in any suitable manner. On each side of this action body 1 there is formed a longitudinal recess 3 in which there can slide backwards and forwards the bolt 4 which is shown detached in Figure 5. This bolt 4 consists of a knee-piece of which the standing leg forms the firing member proper, while the lower leg, which after firing extends into the recesses 5 in the front or fore-end 6 (see also Figure 4), acts as cocking device for the lock-action.

The front extremity of each action bolt 4 ends in an inclined plane 9 upon which there presses a corresponding inclined face 10 of the recess 5 in the fore-end 6 when the barrels 2 are broken down, which movement serves to force back the bolt 4 and to bring it into the cocked position.

The bolt 4 is maintained in the cocked position by a projection 11 on its inner side, this member entering into engagement with the shoulder or notch 12 in the corresponding sear 13. The latter consists of a small lever pivoting around the axis 14 and acted upon by one of the leaves of a U-shaped plate spring 15, fixed upon the inner face of the action-body 1. The other leaf of this spring 15 acts upon the second sear 13 (belonging to the second barrel), placed beside the first upon the pin or axis 14. Each of the triggers 16 has at its forward end a beak 17 extending to above the end of the corresponding sear, in such a way that this end is lowered and the projection 11 of the bolt 4 is released when the trigger 16 is pressed. The spring 18 then fires the corresponding barrel.

The spring 15 which tends constantly to raise the rear end of the sears 13 against the projection 11, serves also as a spring for the triggers in the guard.

The firing spring 18 is fitted in a longitudinal groove or recess 19 formed in the lower leg of the bolt 4 (Figures 1 and 5). It bears at one end, when the bolt is mounted in the action-body, upon the front wall of the recess 19, and at the other end upon the rear-pin 14, which passes through the action-body 1 and the slots 19 in the bolts 4. This spring 18 is therefore compressed when the bolt 4 is forced back into engagement with the sear 13.

Dismantling of the action is thus effected very simply by removing the pin 14, which frees the sears 13 and allows the withdrawal of the bolts 4 with their springs 18, which can remain in the recesses 19. Each bolt 4 has a perforation 20 drilled through the upright leg in axial alignment with the slot 19. This is to allow a suitable instrument to be inserted to compress the spring 18 and hold it in compressed position and therefore facilitate the insertion and removal of the pin 14 in assembling and dismantling action.

The breech mechanism described can be adapted to small-arms of different type from that represented by way of example.

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

1. A firing mechanism for guns comprising in combination, a frame, a bolt reciprocable in the frame and provided with a longitudinal recess, a sear pivot pin fixed in the frame and passing through the recess, and a firing spring disposed in the
recess between the sear pin and one end of the recess.

2. In a firing mechanism for guns in combination a frame, a pair of bolts reciprocable in the frame, and disposed side by side, each bolt having a longitudinal recess therein, a pin fixed in the frame and passing through the recesses, a spring in each recess confined between the pin and one end of the recess, a pair of sears pivotally mounted on the pin between the bolts, and means on each bolt adapted to engage the corresponding sear to retain the bolt in cocked position.

3. In a firing mechanism for guns in combination, a pair of bolts reciprocable in the frame and disposed side by side, each bolt having a longitudinal slot therethrough, a pin fixed in the frame and passing through the slots, a spring in each slot confined between one end thereof and said pin, a pair of sears pivotally mounted on the pin between the bolts, means on each bolt adapted to engage the corresponding sear and a U-shaped spring, each arm of which engages a sear and tends to hold it in bolt-engaging position.

4. As an article of manufacture a bolt for guns comprising an L-shaped member having a longitudinal spring slot through one arm thereof and a perforation communicating with the slot and in axial alignment therewith.

5. In a firing mechanism for guns a frame, a bolt reciprocable in the frame and having a longitudinal slot therein, a pin fixed in the frame and passing through the slot, a spring in the slot confined between one end thereof and said pin, the bolt having a perforation in axial alignment with the slot adapted to receive a tool for compressing the spring to assist in removing and replacing the pin.

In testimony whereof I affix my signature.

JEAN DESSARD.

Witnesses:

CURTIS T. EVERTT,
J. GRAU.