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EJECTOR FOR SHOTGUN
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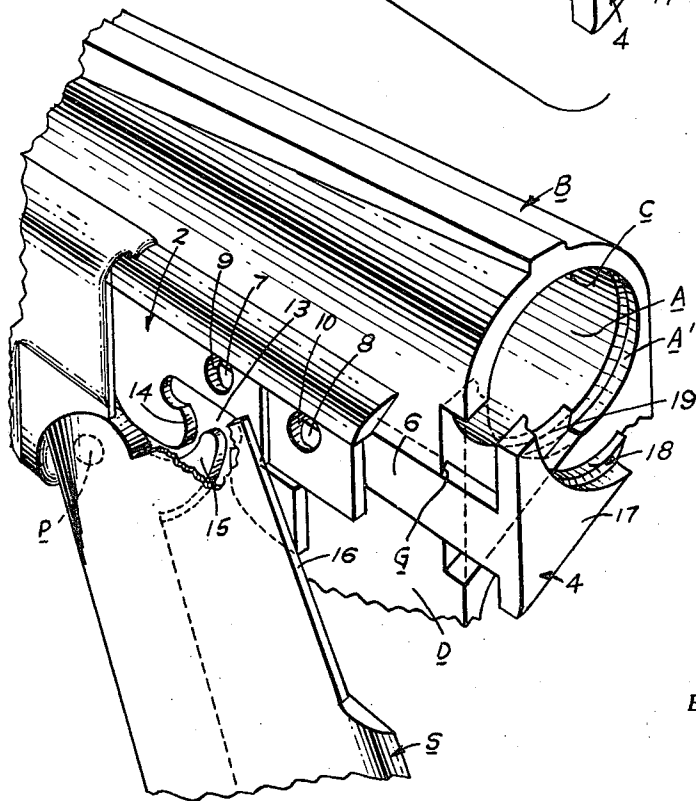
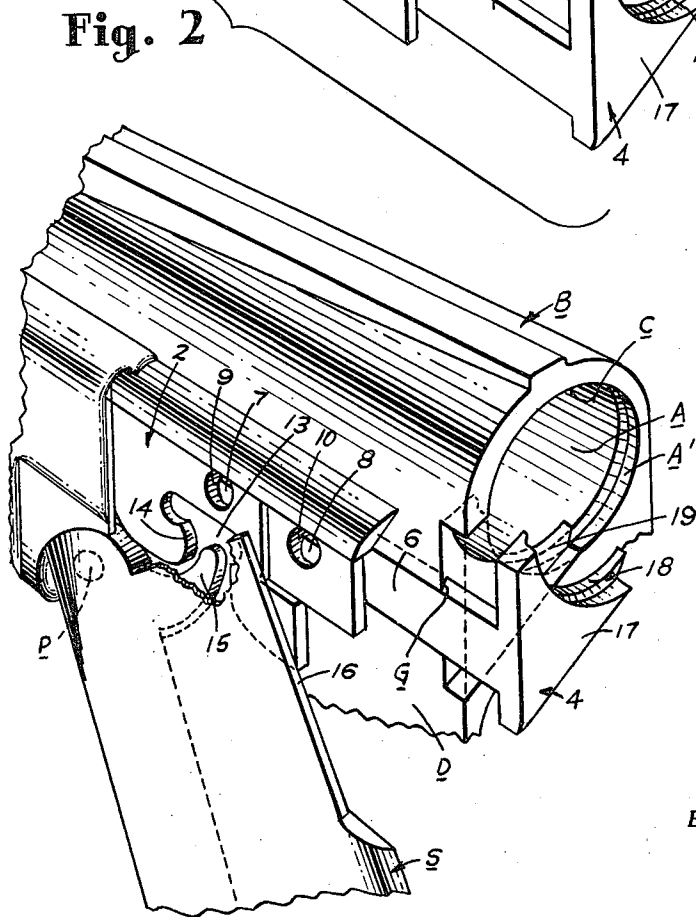
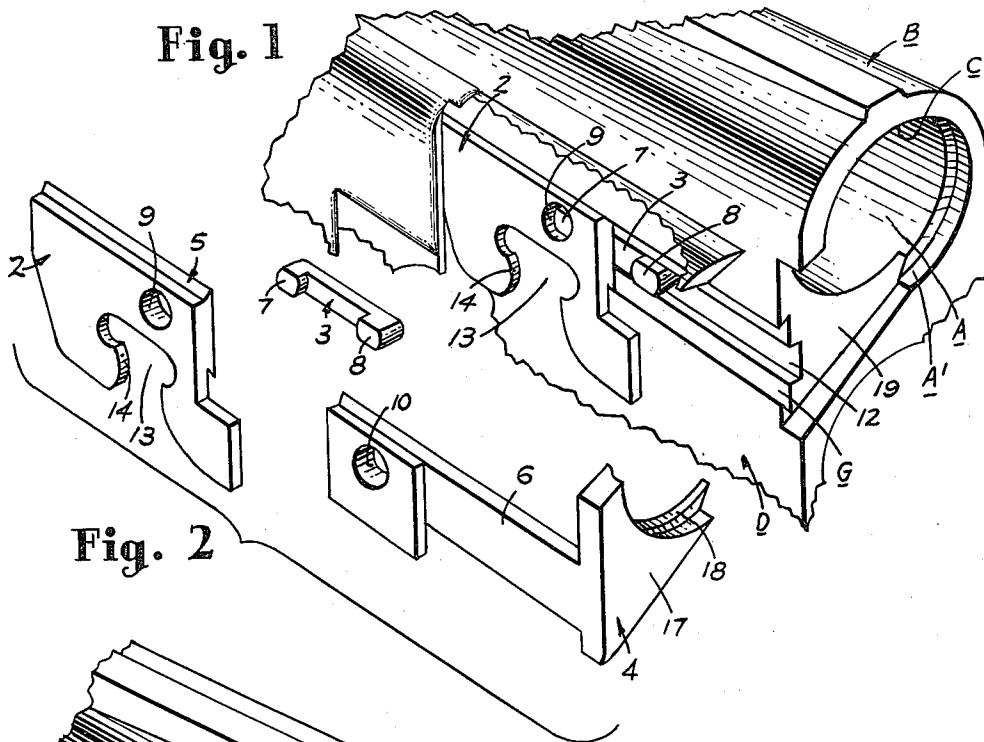


Fig. 3

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EJECTOR FOR SHOTGUN

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This invention relates to ejectors for shotguns, and more particularly to an ejector assembly which is removable and interchangeable and especially adaptable for use in connection with auxiliary barrels for firing shells of smaller caliber than the barrel gauge as used primarily for practice shooting with breech-loading shotguns.

Accordingly, it is the general object of the present invention to provide an ejector assembly for shotguns consisting of three parts with one part being interchangeable and adapted to correspond to the particular caliber auxiliary barrel being used with the gun.

It is another object of the invention to provide an improved ejector assembly for shotguns which consist of parts which can be easily and inexpensively manufactured and which are so constructed and arranged that they may be quickly interconnected and assembled in the gun and removed therefrom.

It is a further object of this invention to provide an ejector for shotguns which is efficient and effective in its use for automatically extracting the exploded shell from the shell chamber.

Various other objects and advantages of this invention will be more apparent in the course of the following specification, and will be particularly pointed out in the appended claims.

In the accompanying drawings, there is shown for the purpose of illustration, an embodiment which my invention may assume in practice.

In these drawings:

FIG. 1 is a fragmentary perspective view of the breech end of a shotgun barrel showing the improved ejector of the present invention incorporated therewith with the rear extractor member removed,

FIG. 2 is an exploded perspective view showing the parts of the ejector assembly in accordance with the present invention, and

FIG. 3 is a fragmentary perspective view of the breech end of the gun, similar to FIG. 1, showing the ejector assembled thereon and with the gun broken or open at the breech.

Referring more particularly to the drawings, there is shown in FIG. 1 a shotgun with which the improved ejector assembly in accordance with the present invention is shown incorporated. Such a gun comprises a barrel B pivotally connected to with the usual gun stock S by means of a pivotal connection at P. The bore C at the rear end of the barrel is counter-bored so as to provide a shell chamber A and counter-bored again at the extreme rear end so as to provide a cylindrical portion A¹ for the reception of the flange or rim of the standard shell in a manner well known to those skilled in the art. To one side of the barrel B at the rear end thereof, there is arranged in a part D associated therewith an elongated dovetail groove or channel G which is adapted to act as a keyway and in which the ejector assembly is slidably arranged.

As more clearly shown in FIG. 2 of the drawings, the ejector assembly E in accordance with the present invention consists of three parts, namely, an irregular-shaped forward member 2, a rear extractor member 4, and an extension link member 3 which interconnects the forward member 2 with the rear extractor member 4.

On the inner side of the forward member 2, there is arranged a longitudinally extending flange portion 5 having a cross section corresponding to the dovetail groove

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G in the part D in which it is slidably disposed and with which it cooperates. The rear extractor member 4 has arranged therewith an elongated portion 6 also having a cross-section corresponding to the groove G in which it is also slidably disposed and with which it cooperates.

This forward member 2 and the rear extractor member 4 are interconnected by the link member 3 which has projections 7 and 8 arranged at each end thereof which are disposed in apertures 9 and 10, respectively, arranged in the forward and rear members 2 and 4, respectively. This link member 3 is slidably arranged preferably in an elongated groove 12 arranged in the part D centrally of the groove G therein.

In the lower edge portion of the forward member 2, there is arranged an irregular-shaped slot 13 bordered by a cam surface 14 which cooperates with a cam lug portion 15 arranged on the inner face of the side plate 16 of the gun stock for a purpose and in a manner to be described.

On the extreme rear end of the rear member 4, there is arranged a quadrant-like portion 17 having a semi-circular portion 18 arranged therewith which corresponds to the cylindrical portion A¹ and which portion normally fits in a recess 19 arranged in the breech at the rear end of shell chamber A and which is a continuation of cylindrical portion A¹ at rear portion of the shell chamber and which in cooperation therewith is adapted to receive the rim or flange of the shell when the gun is closed and in readiness for use.

Having described the construction of my improved ejector assembly and the position it assumes in the gun, it functions in the following manner.

It will be understood that the three parts of the ejector assembly E, namely, the forward member 2, the link member 3, and the rear extraction member 4 are removable from the open end of the grooves or channels C and 12 when the gun is broken at the breech and the gun is in an open and in an inoperative position. The ejector assembly is designed in this manner in order that the rear extractor member 4 may be quickly and conveniently replaced with a different size extractor in case an auxiliary tube or barrel is inserted in the barrel B of the gun for firing shells of a caliber smaller than the barrel gauge which is sometimes desirable especially in the case of practice shooting which removable characteristic is one of the most important aspects of the invention.

When the ejector assembly E is positioned in the gun barrel unit, as shown in FIG. 3 of the drawings, the gun is in readiness for use. A shell is then positioned in the shell chamber A of the barrel and gun is closed at the breech. In closing the gun it will be seen that the cam lug fixture 15 on the side plate 16 engages the forward portion of the cam surface 14 on the side of the slot 13 thereby moving the entire ejector assembly toward the forward end of the barrel which follows that the quadrant-like portion 14 of the member 4 is positioned in the recess 19 at the breech as shown in the broken lines of FIG. 3. The gun is then in readiness for firing.

After the gun has been fired the gun is broken and in the opening action of the gun, as shown in FIG. 3, the cam lug 15 engages the rear portion of the cam surface 14 on the rear side of the slot 13 thereby moving the ejector assembly E rearwardly to the position shown in the full lines of FIG. 3 so as to eject the exploded shell from the shell chamber in readiness for receiving a shell for the next firing operation.

As a result of my invention, it will be seen that there is provided an ejector assembly consisting of three interconnecting inexpensive parts which may be easily and quickly removed from or assembled in the gun with one part therein being readily interchangeable so that the gun can be conveniently altered for firing shells of smaller

caliber than that for which it was originally designed when an auxiliary barrel is used in connection therewith.

While I have shown and described an embodiment which my invention may assume in practice, it will be understood that this embodiment is merely for the purpose of illustration and description, and that other forms may be devised within the scope of my invention as defined in the appended claims.

What I claim as my invention is:

1. In combination with a breech-loading shotgun having a barrel and a breech with an elongated groove arranged to one side of the barrel and extending to and opening into the breech at the rear end of the barrel, an ejector assembly including a forward member and a rear extractor member, both of said members being slidable in said groove and being removable therefrom, means interconnecting said forward member and said rear member so that the assembly will move as a unit, and means for actuating the ejector assembly when the gun parts are moved to position to open or close the gun at the breech.
2. The combination as defined in claim 1, wherein the means for actuating the ejector assembly includes a slot arranged in said forward member bordered by a cam surface, a cam lug portion carried by the stock of the gun which is arranged in said slot and cooperates with the cam surface to move the ejector assembly to and from its protracted position when the gun is broken at the breech.
3. In combination with a breech-loading shotgun having a barrel and a breech with an elongated groove arranged to one side of the barrel and extending to and opening into the breech at the rear end of the barrel, an ejector assembly consisting of three parts, namely, a forward member, an extension link, and a rear extractor member, all of said members being slidable in said groove and being removable therefrom, said link member arranged between said forward member and said rear member interconnecting the same so that the assembly will move as a unit, and means for actuating the ejector assembly when the gun parts are moved to position to open or close the gun at the breech.
4. The combination as defined in claim 3, wherein the means for actuating the ejector assembly includes a slot arranged in said forward member bordered by a cam surface, a cam lug portion carried by the stock of the gun which is arranged in said slot and cooperates with the cam surface to move the ejector assembly to and from its protracted position.
5. The combination as defined in claim 3, wherein the link member consists of a body member having a projection arranged on the side thereof adjacent each end thereof which projections are disposed in respective apertures in the forward member and the rear extractor member.
6. In combination with a breech-loading shotgun having a barrel and a breech with an elongated dovetail groove arranged to one side of the barrel and extending to and opening into the breech at the rear end of barrel,

an ejector assembly consisting of three parts, namely, a forward member, an extension link, and a rear extractor member, both said forward member and said rear member having a portion carried thereby having a cross-section which corresponds to the cross-section of said groove and in which they are slidably and removably disposed,

means for actuating the ejector assembly when the gun parts are moved to position to open or close the gun at the breech.

7. The combination as defined in claim 6, wherein the means for actuating the ejector assembly includes a slot arranged in said forward member bordered by a cam surface,

a cam lug portion carried by the stock of the gun which is arranged in said slot and cooperates with the cam surface to move the ejector assembly to and from its protracted position when the gun is broken at the breech.

8. The combination as defined in claim 6, wherein the link member consists of a body member having a projection arranged on the side thereof adjacent each end thereof which projections are disposed in respective apertures in the forward member and the rear extractor member.

9. In combination with a breech-loading shotgun having a barrel and a breech with an elongated dovetail groove arranged to one side of the barrel and extending to and opening into the breech at the rear end of the barrel,

an ejector assembly consisting of three parts, namely, a forward member, an extension link, and a rear extractor member, both said forward member and said rear member having a portion carried thereby having a cross-section which corresponds to the cross-section of said groove and in which they are slidably and removably disposed,

said link arranged in said groove between said forward member and said rear member interconnecting the same so that the assembly will move as a unit, and means for actuating the ejector assembly when the gun parts are moved to position to open or close the gun at the breech.

10. The combination as defined in claim 9, wherein the means for actuating the ejector assembly includes a slot arranged in said forward member bordered by a cam surface,

a cam lug portion carried by the stock of the gun which is arranged in said slot and cooperates with the cam surface to move the ejector assembly to and from its protracted position when the gun is broken at the breech.

11. The combination as defined in claim 9, wherein the link member consists of a body member having a projection arranged on the side thereof adjacent each end thereof which projections are disposed in respective apertures in the forward member and the rear extractor member.

References Cited in the file of this patent

UNITED STATES PATENTS

114,230	Tiesing et al. -----	Apr. 25, 1871
1,806,736	Browning -----	May 26, 1931