

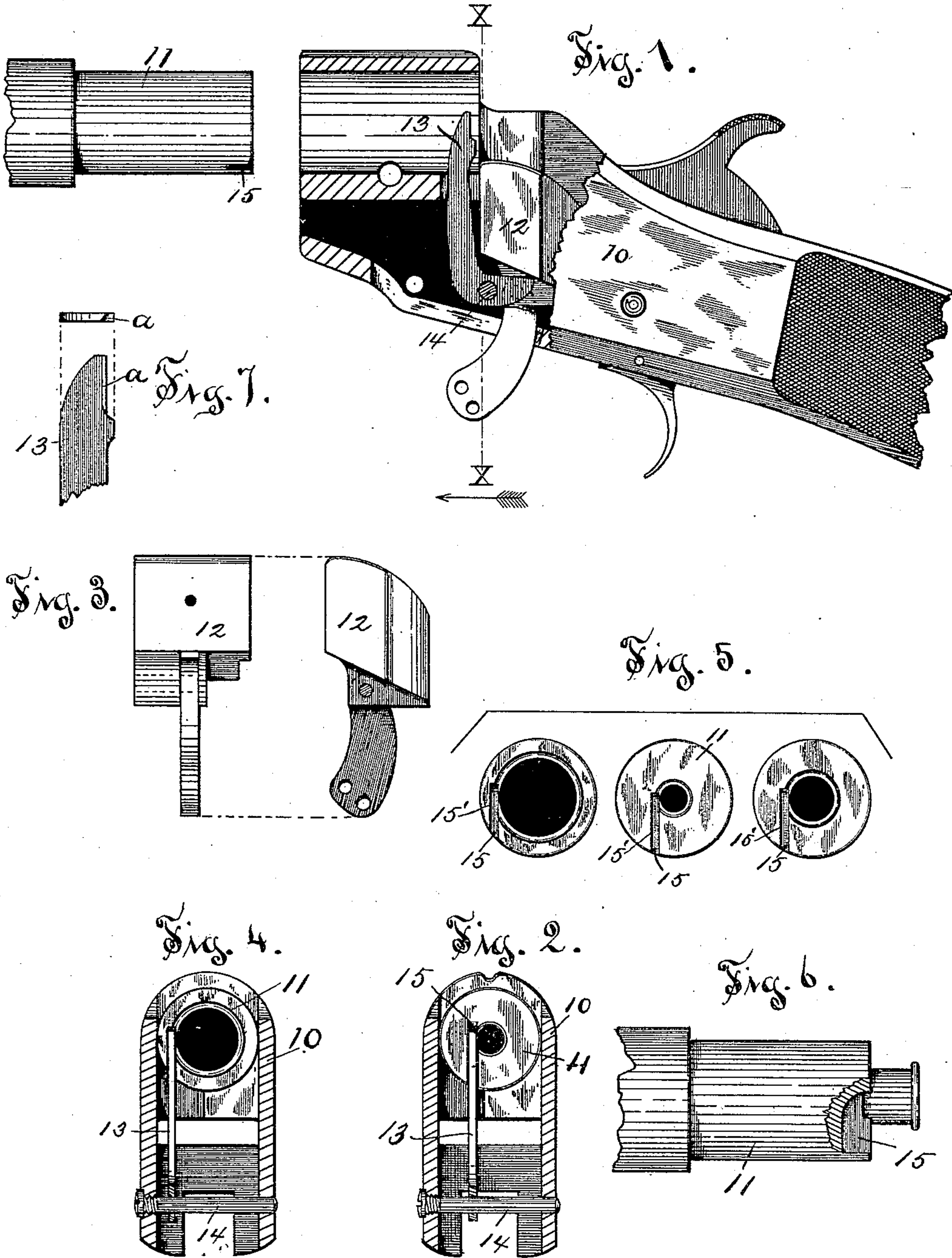
(No Model.)

W. H. DAVENPORT.

ADJUSTABLE EXTRACTOR FOR BREECH LOADING GUNS.

No. 442,106.

Patented Dec. 9, 1890.



Witnesses

Allen Tenny  
Alonzo M. Luther

Inventor

William H. Davenport,  
By his Attorney  
Frank H. Allen.



# UNITED STATES PATENT OFFICE.

WILLIAM H. DAVENPORT, OF NORWICH, CONNECTICUT.

## ADJUSTABLE EXTRACTOR FOR BREECH-LOADING GUNS.

SPECIFICATION forming part of Letters Patent No. 442,106, dated December 9, 1890.

Application filed January 13, 1890. Serial No. 336,835. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. DAVENPORT, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have made certain new and useful Improvements in Fire-Arms, which improvements are fully set forth and described in the following specification, reference being had to the annexed sheet of drawings.

This invention is in that class of fire-arms represented by United States Patents Nos. 406,031 and 406,032, issued to me July 2, 1889; and the principal object of my present invention is to simplify the construction and means of support of the cartridge-extractor in such fire-arms. So far as I am familiar with such arms it has been a common practice heretofore to provide for each size or caliber of barrel an extractor expressly adapted for use with that particular size or caliber and not operative with other sizes. Since the practice of providing a multiple of interchangeable barrels of different caliber for use with a single frame has been introduced much difficulty and annoyance have been met, in the fact that an extractor suited for use with a barrel of one caliber—as, for example, a twenty-two-one-hundredths bore—could not be satisfactorily used with a barrel of greatly different caliber—as, for example, a forty-four-one-hundredths bore or shotgun of still larger bore. This invention seeks to overcome this difficulty, and provides an extractor that may be successfully used with barrels of any caliber.

Another important result attained through my new form of extractor lies in the fact that there is little or no liability on the part of said extractor to slip from under the cartridge-head during the act of extracting an empty shell from the barrel, and thereby failing to throw out said shell.

In the annexed drawings I have shown only such portions of a rifle as are necessary to explain my improvements to one skilled in the art.

Figure 1 is a side view of a portion of a rifle-frame, and shows also a part of the barrel removed therefrom, said frame being partially cut away to expose to view certain of the internal parts. Fig. 2 is a cross-sectional

view of said frame on line *x x*, looking in the direction of the arrow in Fig. 1, and showing the extractor and a barrel of small caliber seated therein. Fig. 3 shows front and side views of the breech-block and its attached link. In Fig. 4 I have shown a cross-sectional view substantially like Fig. 2, but illustrating the ease with which my extractor adapts itself to the differences of caliber of the barrels shown. Fig. 5 shows rear end views of the three barrels of different bores, and Fig. 6 is a side view of the rear portion of one of said barrels broken away in part to show the depth and shape of the cut provided to receive the extractor. Fig. 7 shows side and end views of the end of the extractor considerably enlarged.

In the drawings, 10 denotes the frame, 11 the barrel, 12 the breech-block, and 13 the extractor.

The several parts named thus far are the same in general construction and action as the analogous elements in my earlier patents above referred to, excepting that the extractor is of somewhat different form and coacts with the cartridge-shell in a different manner. In my said earlier patents the extractor proper was formed as a pin fitted to slide longitudinally in the barrel and bearing a head that extended laterally under the flange of the cartridge-shell. The said headed rod was moved at the proper time (to throw out the cartridge-shell) by a lever-arm shaped much like my present extractor 13.

My present form of extractor dispenses with the headed rod, and so cheapens the cost of making, fitting, and assembling the arm.

Extractor 13 is preferably made of sheet metal, being punched from stock of proper thickness, and is pivoted in frame 10 by and on a screw 14, that reaches from side to side of said frame, as best illustrated in Figs. 2 and 4 of the drawings. This construction allows said extractor to be adjusted on its pivot-screw to bring the end of the longer arm of said extractor into operative relation to the cartridge-head.

The rear end of barrel 11 is slotted vertically, as at 15 in the drawings, this slot being formed, preferably, by dropping a suitable cutter into the barrel end very close to the bore or chamber that is to receive the cartridge—



in fact cutting away a portion of the counter-bore that receives the flange of the cartridge-shell. The slot 15 is of such width that the described sheet-metal extractor 13 may enter  
5 freely, and yet may have but little lateral deflection. When assembled for use, the extractor may have sufficient forward and backward movement in slot 15 to start the cartridge-shell; but said extractor is prevented  
10 from leaving said slot by the vertically-sliding breech-block 12, which lies in its path. By thus preventing the entire withdrawal of the extractor from slot 15 the outer wall 15' of the slot serves as a solid backing or guard  
15 to hold the end of the extractor in close locking engagement with the cartridge-flange during the act of withdrawing the shell from the barrel. If such backing was not provided, the thin extractor would occasionally crowd  
20 off or spring away from the cartridge-flange and fail to extract the shell. It will thus be understood that slot 15 provides a backing for the extractor, as last above explained, and also that it prevents the lateral displacement  
25 of said extractor on its pivot-screw 14. That portion of the extractor end that engages the cartridge-flange is beveled, as at *a*, Fig. 7, thus providing a somewhat sharp edge that is less liable to slip than a flat surface. If it  
30 is desired to use a multiple of barrels with the same frame, it is only necessary to move

extractor 13 laterally on its pivot until it is brought into alignment with the barrel-slot 15. This is best understood by referring to Figs. 2 and 4. In the former a barrel with a  
35 very small bore is shown, while in the latter a barrel with a much larger bore is illustrated; but no change in the extractor (except in position) is required.

One of the valuable results seen in an ex- 40 tractor of my new form having the cartridge-engaging end of uniform thickness is in the fact that but one size is required for all the various sizes of bores of rifles or shotguns, so that where formerly a half-dozen or more ex- 45 tractors were necessarily made and kept in stock at the factory but one size is now required.

Having described my invention, I claim—

In combination with a frame 10, a barrel 50 slotted from its rear end adjacent to the chamber that receives a cartridge, and an extractor pivoted in said frame with its free end extending into said barrel-slot, said extractor being loosely fitted on its pivot and free to be 55 moved laterally to coact with barrels of different caliber, substantially as described.

WILLIAM H. DAVENPORT.

Witnesses:

FRANK H. ALLEN,  
ALONZO M. LUTHER.