

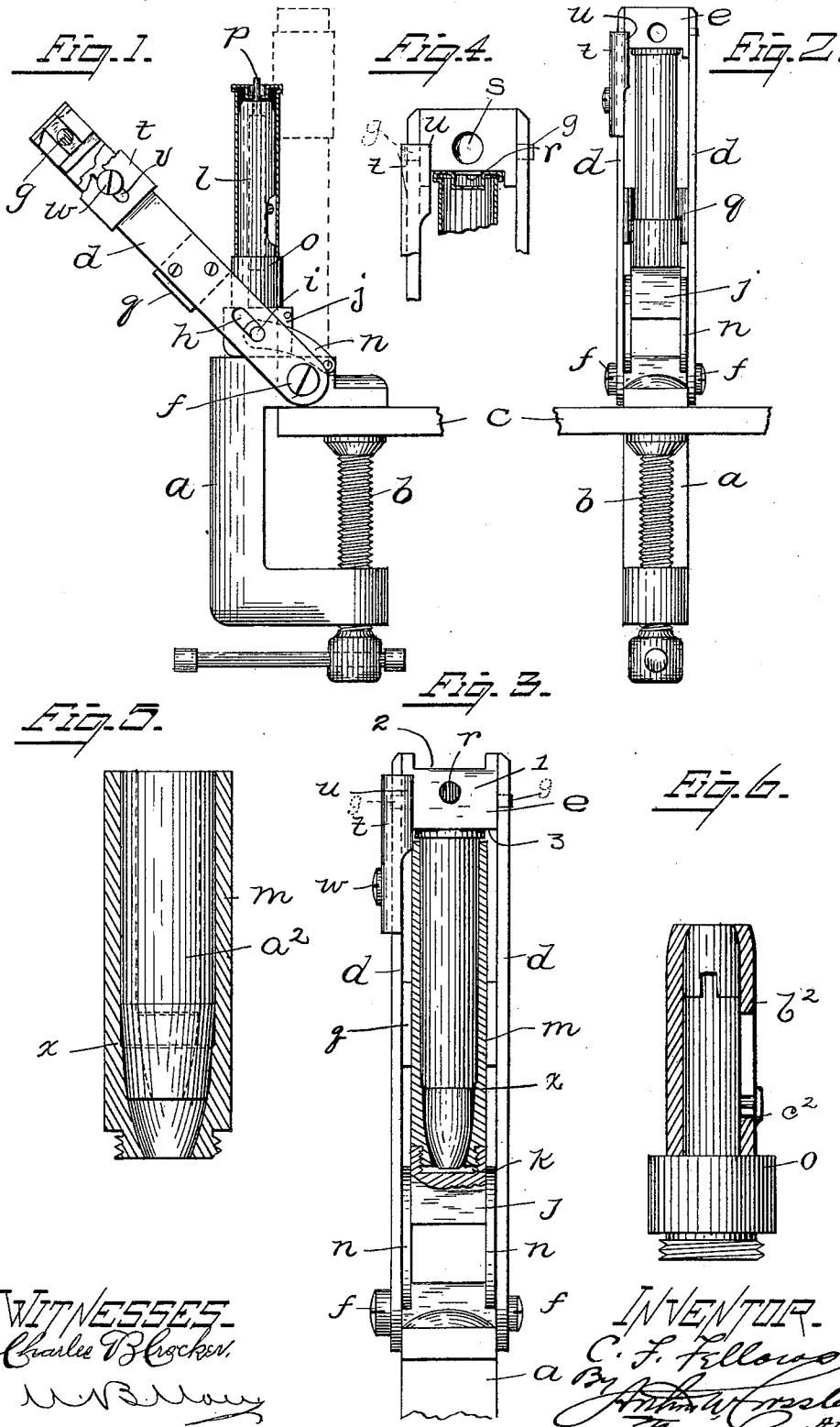
(No Model.)

2 Sheets—Sheet 1.

C. F. FELLOWS.  
CARTRIDGE LOADING IMPLEMENT.

No. 585,382.

Patented June 29, 1897.



WITNESSES.  
Charles B. Rogers.  
W. B. May

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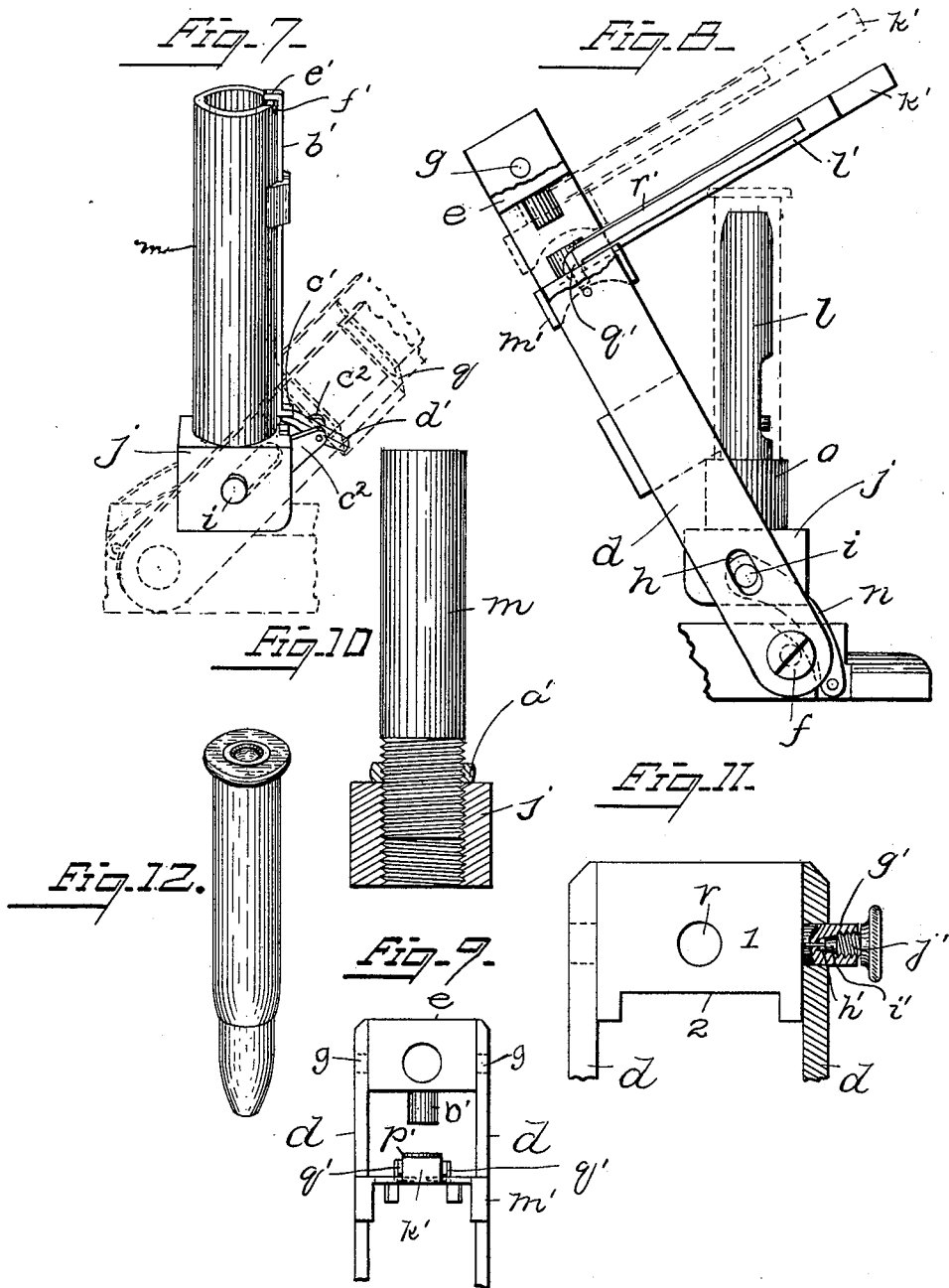
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WITNESSES.  
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INVENTOR.  
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# UNITED STATES PATENT OFFICE.

CHARLES F. FELLOWS, OF WEST CHELMSFORD, MASSACHUSETTS.

## CARTRIDGE-LOADING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 585,382, dated June 29, 1897.

Application filed April 4, 1896. Serial No. 586,159. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. FELLOWS, of West Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Cartridge-Reloading Implements, of which the following is a description sufficiently full, clear, and exact to enable those skilled in the art to which it appertains or with which it is most nearly connected to make and use the same.

This invention has relation to that class of tools or devices for extracting the primers from exploded cartridge-shells and then repriming and reloading them as exemplified in my former patent, No. 555,237, dated February 25, 1896, to which reference may be had for an understanding of the same.

The object of the invention is to add such improvements to a tool of the character mentioned as will enhance its utility and efficiency and at the same time simplify the same and permit of the discarding of a number of parts, in order to render it more compact and convenient for use. The manner in which I attain this object and in what the invention consists will be hereinafter fully described and set forth.

Reference is to be had to the annexed drawings, and to the letters and figures marked thereon, forming a part of this specification, the same letters and figures designating the same parts or features, as the case may be, wherever they occur.

Of the drawings, Figure 1 is a side elevation of a tool or implement constructed in accordance with my invention, the same being equipped with the primer-extractor. Fig. 2 is an end elevation of the same. Fig. 3 illustrates the tool in the act of forcing a bullet into the shell. Fig. 4 is a detail view illustrating the tool as arranged for repriming a cartridge-shell. Fig. 5 illustrates a chambered receiver adapted for loading a large-sized shell and provided with a removable interior casing for loading a small-sized shell. Fig. 6 illustrates a shell-holder having an external casing, whereby two different-sized shells may be reprimed on the same tool. Fig. 7 illustrates the shell-loading receiver as

being equipped with an ejector for the shell. Figs. 8 and 9 show the tool as being provided with means for automatically feeding the primers to the shells prior to their being inserted in place. Fig. 10 shows the loading-receiver and means for adjusting it relatively to its support. Fig. 11 shows a slight modification with respect to the manner of temporarily securing the movable abutment against movement. Fig. 12 shows in perspective a reprimed and reloaded cartridge.

In carrying out my invention I employ a base *a*, provided with a clamping-screw *b* for securing it to a table or other support, as indicated at *c*, so as to steady it while the operations of extracting the exploded primers, repriming, and reloading are being carried on. A frame consisting of two side bars *d d* and an abutment *e* is pivoted to the base by means of screws *ff*, passing through the lower ends of the side bars into the base. The movable abutment is one of the peculiar features of my invention, and consists of a preferably rectangular block provided with trunnions *g*, extending into apertures or bearings in the ends of the side bars *d*. It is so constructed as to be capable of being used in extracting the exploded primers and repriming and reloading the shell, as will be hereinafter described.

Each of the side bars is provided near its lower end with a longitudinal slot *h* to receive a trunnion *i* of a swinging support or supporting-block *j*. This block *j* is formed with a threaded socket *k* to receive the threaded end of the shell-holder *l* (see Fig. 1) or the shell-receiver *m*. (See Fig. 3.) It is adapted to swing on its trunnions and is capable, by reason of the elongated slots *h*, of being moved positively toward and from the abutment *e*, there being provided movable means (as contradistinguished from a stationary cam) for accomplishing this positive movement in each direction.

The means referred to consists of two parallel links *n*, each pivoted to the base in front of the pivot-point of the swinging frame and also pivoted on the trunnions *i i*. Now it will be seen that when the frame is swung forward or back the supporting-block will be

positively moved toward or from the abutment, the movements thereof being limited by the end walls of the slots *h*.

The holder *l*, on which the shell is placed to have the exploded primer extracted and a new primer inserted, is cylindrical in shape with an enlarged base *o*, forming a shoulder on which the shell rests. It is provided with a central aperture to receive a primer-extracting pin *p*, which has a laterally-projecting stud extending through a bayonet-slot (shown in Fig. 6) in the side of the holder, so that it can be held in the position illustrated in Fig. 1 for extracting the primers or be allowed to drop until its end is entirely withdrawn in the holder when the tool is being employed in repriming, as shown in Fig. 6.

The side bars *d* are connected by a cross-brace *q*, (see Figs. 1 and 2,) formed to receive and support the holder or the receiver in place in the frame and to prevent them from moving during the manipulation of the tool.

The movable or revoluble abutment *e* is provided in one of its flat faces 1 with a stud or pin *r*, against which the shell and the primer are forced in order to set the primer in place. It is also provided with a through-aperture *s*, extending from another face 2, the aperture being at right angles to the axial line of the stud through which the extracted primer may pass. The face 2 is recessed to receive the shell. Another face 3 is flat to form an abutment when the cartridge is being loaded.

In order to hold the movable abutment in place, I employ a sliding lock consisting of a plate *t*, provided with side flanges *u* and with a longitudinal slot *v*, through which a screw *w* passes into the side bar *d*. The plate may be slid up into the position shown in Figs. 2 and 4, so that the side flanges *u* lie on either side of the faces of the abutment *e*, so as to prevent it from revolving.

When it is desired to swing the revoluble abutment to present a new face to the shell, the plate may be slid down and afterward slid up again when the abutment has been adjusted. In extracting the primers from a number of cartridges the holder *l* is screwed in place on the swinging block or support *j*, and the extracting-pin *p* is moved up so as to project from the end of the holder. The empty cartridge-shell is placed on the holder, the frame being swung to one side, as shown by full lines in Fig. 1, and the holder being rocked into a vertical position. After the shell has been put in place the holder is swung on its trunnions until it lies between the side bars and against the cross-bar *q*. Then the whole frame is rocked into the position illustrated in dotted lines in Fig. 1. This, as before explained, forces the cartridge against face 2 of the abutment and thrusts the holder upward until the pin *p* ejects the primer from the cartridge-shell. The frame being rocked back again and the holder be-

ing swung forward, the shell may be withdrawn and a new one inserted in its place.

When it is desired to insert new primers in the shells, the pin *p* is lowered and the movable abutment *e* is partially revolved, so as to bring the stud *r* on the face 1 into position, as shown in Fig. 4, being locked in that position by the lock-plate *t*. The primer is dropped into place in the shell and the parts are caused to perform the same acts as before described in connection with the extractor, so that the stud in engaging the primer drives it in place, and the stud being shorter than the primer the rim of the latter engages the block from which the stud projects and is turned over, whereby a bur is formed which acts to hold the primer in place when the shell is removed.

For reloading the cartridge I employ a chambered receiver, such as is indicated in Fig. 3. The bullet is placed loosely in the shell after the explosive has been inserted in the same, and the cartridge thus prepared is placed in the chambered receiver *m*. The movable abutment having been turned with the face 3 opposite the chamber, the frame is again rocked so as to drive the bullet home. The aperture in the receiver is reduced at *x*, so that when the bullet is forced home the edges of the shell are bent in so as to firmly clasp it, as shown in Fig. 3.

From the foregoing it will be seen that the movable abutment will thus be employed for all three operations, there being a separate face for each one of them.

In Fig. 10 it is shown how the chambered receiver may be adjusted vertically in the supporting-block, the latter being provided with a threaded through-aperture into which the threaded end of the receiver may be screwed, there being a lock-nut *a'* for holding it in any desired adjustment.

In Fig. 7 I have shown the receiver as being provided with an ejector. The latter consists of a rod *b'*, sliding in guides on the chamber and having a finger *e'*, against which the flange of the shell will lie, and which will press against the said flange, so as to lift it partially from the receiver when the latter is in a certain position with relation to the frame. The block is provided with ears *c'*, in which is pivoted a lever *d'*, having its inner end extending under a finger *c'* on the lower end of the said rod. The outer end of the said lever projects far enough so as to be engaged with the cross-bar *q* on the side bars. When the chambered receiver lies between and parallel with the side bars, the ejector-rod may be thrust down until the finger *e'* fits in an aperture *f'* in the receiver with its top face flush with the upper end of the said receiver. On rocking the receiver out from the frame, however, the end of the lever *d'* will engage the cross-bar and force up the ejector-rod, as shown in the figure last mentioned.

In Fig. 11 I have shown a modified means

for holding the movable abutment in any one of its operative positions. In this case the trunnion  $g'$  is split longitudinally and is provided with a frusto-conical aperture  $h'$  to receive a frusto-conical wedge  $i'$ , against which the end of a screw  $j'$  may abut. After the abutment has been adjusted in position it may be locked therein by forcing the wedge  $i'$  into the aperture  $h'$  by means of the screw  $j'$ .

Referring to Figs. 8 and 9, it will be seen that I have provided means for feeding primers to the action of the stud or punch. It consists of a hopper  $k'$ , mounted on the end of and communicating with a chute  $l'$ , which latter is mounted on plates  $m'$ , sliding on the side bars  $d$  and held in their lowermost position by springs  $n'$ . The stud or punch  $o'$  is elongated and when the plates  $m'$  are raised is adapted to pass through a guideway  $p'$  and force a primer therein into place on a cartridge.  $q'$  is a detent mounted on a spring-strip  $r'$  and normally prevents the primer from dropping through the guides. It is so arranged that when the top of the shell comes in contact therewith it moves the detent back and allows the stud to force it into place in the shell. The chute may be removed after the operation of repriming has been completed. The primers are placed in the hopper and chute with the proper side uppermost, so that they are delivered properly to the shells.

In the operation of repriming the shell is placed on the holder and is rocked so as to lie in the frame. As the frame is swung forward the shell strikes the plates  $m'$  and causes the latter to rise. At the same time the detent  $q'$  is withdrawn and the stud passing through the guide engages the priming. The shell continuing to rise, the primer is forced into place, as will be understood. In removing the shell the springs force the plates  $m'$  into their former position and the detent slips into place to engage the next primer which has slipped into the guide.

It will be understood that with the same tool different sizes of interchangeable holders and receivers may be employed.

In Fig. 5 I have shown a receiver of large size, in which is placed a smaller receiver  $a^2$ , to be employed in connection with a smaller cartridge. Instead of nesting one receiver in the other I may employ interchangeable receivers of different diameters and lengths having their ends all threaded to fit the threaded aperture in the base-block.

Fig. 6 shows how a casing  $b^2$  may be secured over the holder  $c^2$ , so that the tool may be adapted for repriming different sizes of shells.

I have also contemplated adjusting the movable abutment in the side bars to correspond with its receiver or holder that is being used.

From the foregoing it will be observed that I have provided an extremely efficient and durable tool for the purposes for which it is

intended. It is compact and convenient in form and may be easily packed for transportation. The holder or receiver is positively moved toward and from the abutment, so that I avoid the use of springs or cams. The abutment can be easily and quickly adjusted in position so as to present the proper face to the shell.

It is apparent that in carrying out my invention some changes in the construction herein shown and described may be made, and I would therefore have it understood that I do not limit myself to the exact construction set forth, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having thus explained the nature of the invention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of the modes of its use, it is declared that what is claimed is—

1. In a device of the class described, the combination of a stationary base, a swinging frame hinged thereto, having a revoluble abutment, a holder for the shell pivoted in the frame, and movable means connected with the holder and the base for positively moving the holder toward and from the abutment.

2. In a tool of the character described, the combination with a stationary base, and a swinging frame having an abutment, of a support pivoted in the frame, a holder for the shell secured to the support, and links connecting the support with the base for positively moving the support and the holder toward and from the abutment.

3. In a tool of the character described, the combination with a stationary base, and a swinging frame pivoted thereto and having an abutment, of a support having trunnions extending into slots in the frame, a holder for the shell secured to said support, and links pivoted on the trunnions and on the base substantially for the purposes set forth.

4. In a device of the class described the combination with a pivoted frame provided with a revoluble abutment, of a support movable in the frame in the direction of the abutment when the frame is rocked, and a holder secured to the support.

5. In a tool of the character described, the combination with the frame and the abutment therein, of a support movable in the frame, and a holder for the shell, one of the last two said parts having a threaded recess into which the other is screwed.

6. In a tool of the character described, the combination with the frame, and a shell-holder adjustable therein, of a revoluble abutment movable in the said frame.

7. In a tool of the character described, the combination with the frame, and a shell-holder adjustable therein, of a revoluble abut-

ment movable in the said frame and means for locking the abutment to the frame.

8. In a device of the class described the combination with the pivoted frame having a  
5 shell-holder mounted therein and adapted to move longitudinally thereof, a revoluble abutment pivoted within the frame.

9. In a tool of the character described, the combination with the frame, and a holder for  
10 moving the shell longitudinally for repriming it or extracting a primer therefrom, of an adjustable abutment having a face against which the shell is moved for extracting the  
15 primer, and a face provided with a stud against which the shell is moved to insert a fresh primer, and means for locking the abutment to the frame in the desired position.

10. In a device of the class described, the combination with a pivoted frame having a  
20 support movable longitudinally thereof when the frame is rocked, of a revoluble abutment having a plurality of faces adapted to be interchangeably operated, means for removably attaching the support and means adapted  
25 to cooperate with the respective faces of the abutment.

11. In a tool of the character described, the combination with a frame, an abutment there-

in, and a movable support, of a chambered receiver for the shell adapted to be attached  
30 to and detached from the movable support.

12. In a tool of the character described, the combination with the frame, having a cross-bar, and a support pivoted in said frame, of  
35 a chambered receiver secured to said support, a lever pivoted in ears projecting from the support and adapted to engage the cross-bar of the frame, and an ejector-rod sliding in guides on the chambered receiver, and having  
40 a finger adapted to engage the flange of the shell.

13. In a tool of the character described, the combination with a frame having a revoluble abutment, a support pivoted in said frame  
45 and movable toward and from the abutment, of a holder or receiver for the shell adjustably secured to said support.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of  
50 March, A. D. 1896.

CHARLES F. FELLOWS.

Witnesses:

ARTHUR W. CROSSLEY,  
MARCUS B. MAY.