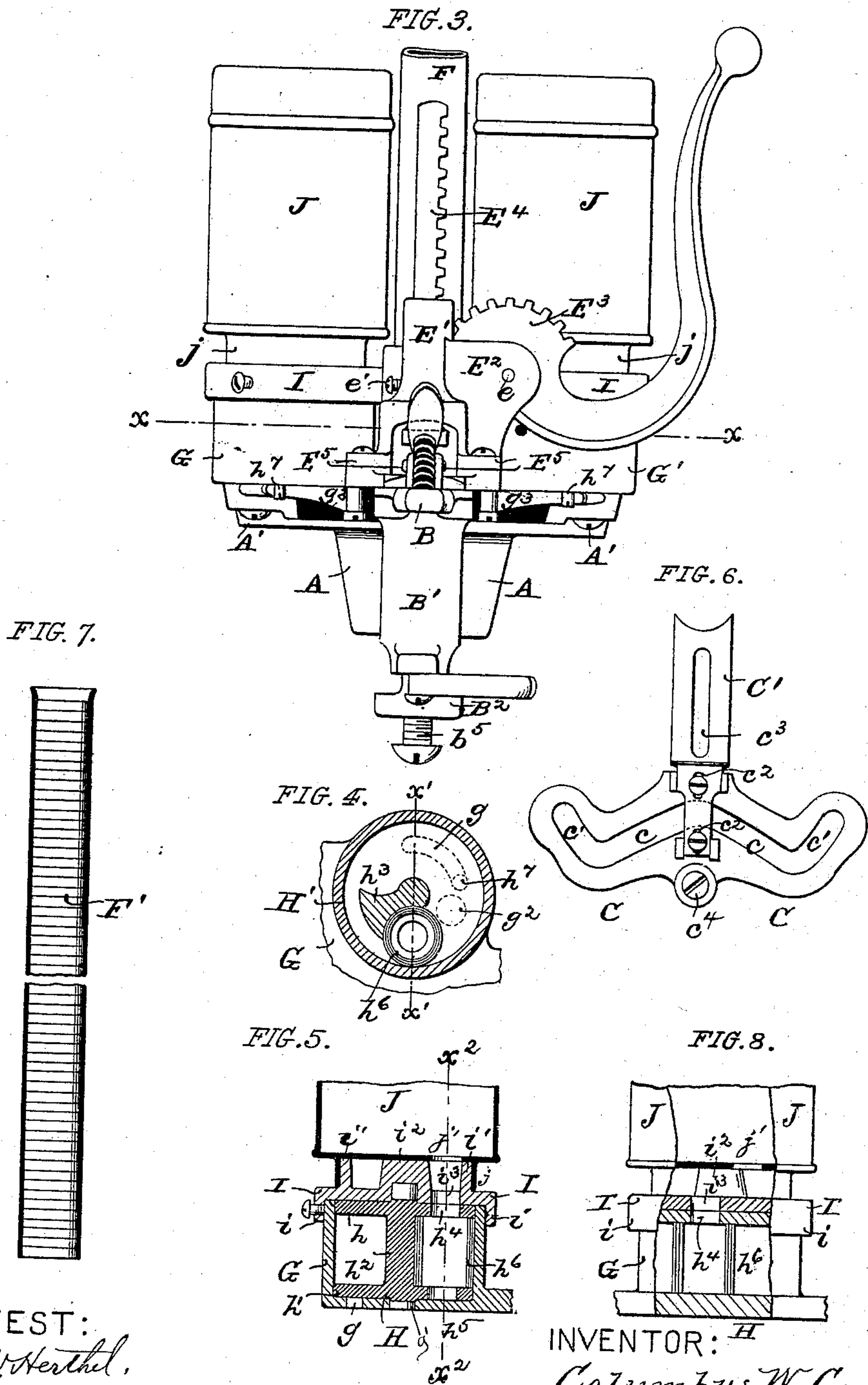


C. W. CORR.
Cartridge Loader.

No. 229,523.

Patented July 6, 1880.



ATTEST:
John W. Herthel,
Chas. Herthel.

INVENTOR: H
Columbus W. Corr
per Herthel & Co

UNITED STATES PATENT OFFICE.

COLUMBUS W. CORR, OF CARLINVILLE, ILLINOIS, ASSIGNOR TO JAMES
H. CAMPBELL, OF SAME PLACE.

CARTRIDGE-LOADER.

SPECIFICATION forming part of Letters Patent No. 229,523, dated July 6, 1880.

Application filed May 15, 1879.

To all whom it may concern:

Be it known that I, COLUMBUS W. CORR, of Carlinville, Macoupin county, and State of Illinois, have invented an Improved Cartridge-Filler, of which the following is a specification.

The object of this invention is to provide an improved machine for loading cartridges or shells for breech-loading guns, &c., with the proper quantity of powder and wad and shot.

I will first fully describe the complete construction and operation of my improved machine, and hereinafter point out the novel features thereof in the claims.

Of the drawings, Figure 1 is a sectional elevation. Fig. 2 is a bottom plan, with part of the bed-plate removed to show the interior parts. Fig. 2½ is a detail top plan of the adjustable wad-holder. Fig. 3 is a front elevation. Fig. 4 is a plan section of one of the tumblers or cut-offs and its contained parts, taken on line *x x* of Fig. 3. Fig. 5 is a sectional elevation of the ammunition-holder and cut-off and its contained parts, taken on line *x' x'* of Fig. 4. Fig. 6 is a detail plan view of the slotted cam-plate and its slider, Fig. 7 being a sectional elevation of one of the tubes containing wads, and Fig. 8 being a detail section of parts, showing the passage of the powder from its receptacle to one of the tumblers.

A is the screw-clamp to secure the machine to a table or support. Between the counter-sunk portions of the bed-plate A' and the top plate A² the following operating parts are contained: B is the hand-lever for purposes of partially rotating the cartridge and bringing it in proper line or position to receive the charge, (such as the proper quantity of powder and shot and wads;) also said lever is to alternately operate the respective cut-off devices, also the slide; and all of which parts control the feeding of the said named respective charges. This hand-lever is as shown in Figs. 1 and 2, and forming part of it is a tube, B', in which the shell or cartridge to be loaded is placed.

The bore of the tube B' (or cartridge-holder) is itself adapted to contain a certain size cartridge; but for different sizes of cartridges I have provided different sizes of tubes *b* to be

fitted inside of the said cartridge-holder. The tube *b* is open at both ends; has a shoulder at *b'*. Its upper end flares outwardly, all as shown in Fig. 1. This internal tube, *b*, forms a flush or smooth interior passage for the entered cartridge, which, as indicated in Fig. 1, is seated so that its upper end abuts against the shoulder *b'* of the tube *b*.

B² is a gate to open and close the bottom of the cartridge-holder; also to retain in same the cartridge properly seated; also for purposes of seating different lengths or sizes of cartridges properly in said holder. The gate B² is therefore pivoted at *b²*, and can be locked or held closed against the bottom of the cartridge-holder by the set-screw *b³*, as shown in Figs. 1, 3. In the hollow of gate B² there is an annular bearing, *b⁴*, which can be raised or lowered by its set-screw *b⁵*, (see Figs. 1, 3.) It is this bearing *b⁴* that supports the shell or cartridge in its holder B', and hence, by merely raising or lowering said bearing, different lengths or sizes of cartridges can be accommodated.

The hand-lever, with its cartridge-holder B', is pivoted at *b⁶*, between the top and bottom plates, (see Figs. 1 and 2,) so as to be capable of a partial rotation, for the purposes before mentioned.

The original position for the hand-lever is, as shown in Figs. 1, 2, in a horizontal or central line. In partially rotating the hand-lever, either to the right or left, a slider or wad-carrier is first operated to bring a wad to the inlet-opening preparatory to further lodging said wad in the cartridge.

I will therefore first describe the construction and operation of the parts in connection with the hand-lever that produce the reciprocation of the wad-carrier.

At *b⁷* the hand-lever has a roller to engage a slotted cam-plate, C, which lies between the bed and top plates. This cam-plate C is constructed and has the slot shaped as clearly shown in Figs. 2 and 6. More particularly stated, the shape of the slot has the duplicate angular features marked *c c* and *c' c'*, as shown. Both portions of the slot marked *c* are to enable the hand-lever, when operated, to impart a reciprocating action to the cam-plate C, and

at same time reciprocate the slider or wad-carrier C' . That portion of the slot marked c' is to enable the hand-lever to further continue its operation or motion without disturbing the position of the said cam-plate and slider, (wad-carrier,) and to further operate the tumblers or cut-off devices, and as will hereinafter appear.

The slider or wad-carrier C' simply consists of a flat bar having the slots at c^2 , the plate being shaped as shown in Figs. 1 and 6. By means of the slots and set-screws at c^2 (see Fig. 6) the slider can be adjustably secured to the cam-plate C , a feature to adapt the action of said slider to suit different sizes or areas of wads, and always force same flush to the inlet-opening that leads to the cartridge. The elongated slot c^3 permits the slider to pass free of the fulcrum-pin. The slider or wad-carrier so made and connected is fitted and guided to slide freely in a longitudinal recessed space prepared for it in the top plate, A^2 . (See Figs. 1 and 2.)

At c^4 the cam-plate has a roller traveling in the same recessed space as that of the slider, so as to ease and guide the action of said cam-plate.

c^5 is the inlet-opening, to which, as stated, the slider, when operated, forces the wad, so that same shall be in line with the cartridge-tube. This opening c^5 therefore exists in the top plate, A^2 , in line with the travel of the slider; also in line with the cartridge-holder, as shown in Fig. 1.

The shape of the opening c^5 is preferably made to flare outwardly, similar to the upper end of the internal tube, b , to contract and better permit the passage of the wad. By therefore moving the hand-lever from its original position, either to the right or left, the slider or wad-carrier is forced forward, and returning said parts to first position, the slider or wad-carrier will occupy the position indicated by the dotted lines in Fig. 2.

D , Figs. 1 and 2½, is an adjustable stop to hold the wad stationary in exact and proper position over the inlet-opening c^5 , and so that the plunger or wad-driver can the better lodge said wad in the cartridge. This adjustable stop consists of a bearing-plate, d , having projecting ends at d' , said plates further having a slot, d^2 , and set-screw d^3 , said parts being shaped as shown in Figs. 1, 2½. This entire stop D , by its slot d^2 and set-screw d^3 , can be adjustably secured, so as to suit different sizes of wads. The same screw d^3 secures the adjustable stop D to the top of the plate A^2 , which is recessed to receive said parts, and so that same shall be in line with the travel of the wad-carrier and in front of the inlet-opening c^5 . When the wad is fed forward to enter the adjustable stop its ends d' are forced apart to receive and hold said wad, as stated, until the plunger forces the wad away; when the stop device D is ready to receive and hold the next wad, &c.

I will now describe the construction and operation of the tube parts that enable the oper-

ator to properly position the wads immediately before the wad-carrier; also the plunger parts used to lodge the wads in the cartridge.

E is a cylinder-socket, open at both ends, in which is placed and held upright the tube that contains the layers of wads. E' is the plunger-barrel. Forming part of this is a lug-bearing, E^2 , to which, at e , the segment-gear lever E^3 is pivoted. The side of the barrel is slotted, so that the teeth of the segment can engage and operate the plunger E^4 , contained in the barrel, said plunger also having teeth, as indicated in Fig. 3. e' is a set-screw passing through the barrel to hold the plunger stationary. Both the socket and barrel parts form, with their plate E^5 , a separate casting, which is properly secured to form part of the top plate, A^2 . The socket or holder E is in line with and in front of the wad-carrier, and the barrel and plunger parts are in line with the inlet-opening c^4 and cartridge-holder, as shown.

In connection with the socket E , I have provided two separate tubes, F and F' , the former being the larger in diameter. Both these tubes are for the purpose of enabling a column of wads to be readily and properly placed and retained in line with the wad-carrier. The wads are first filled in the smaller tube F' , as clearly shown in Fig. 7. The larger tube F is inserted in the socket E , (see Fig. 1,) and in said tube the smaller tube F' , so filled with wads, is inserted. This done, by means of a ramrod, (not shown,) the layers of wads are in the same condition emptied into the larger tube, the smaller tube being at same time extracted. By these means a column of wads in proper alternate layers exists in the larger tube and its socket with sufficient play to permit each wad at the proper time to gravitate in front of the wad-carrier. As apparent, at every reciprocation of the wad-carrier the lowest wad is taken or forced away from the column of wads and fed forward in line under the plunger or wad-driver. The downward thrust of the latter lodges the wad properly in its place inside of the cartridge.

I will now describe the construction and operation of the parts that supply the respective charges of powder and shot and that feed said charges into the cartridge or shell.

The top plate has, forming part of it, two similar cylinder-casings with open top (see G and G') to contain the tumblers or cut-offs H and H' . Both these tumblers are constructed and operate exactly alike. Hence, each consists of the upper and lower disks, h and h' , their spindle h^2 , having a shoulder at h^3 , all as shown in Figs. 4, 5. Further, each of the upper disks has an inlet-opening, h^4 , and the lower disks a discharge-opening, h^5 , both being in line with each other. (See Fig. 5.) In line with the openings h^4 and h^5 , and between the disks, I provide a short tube, h^6 , open at both ends. (See Fig. 5.) Different sizes of these tubes h^6 are provided to suit the different amount of charges to be filled in cartridges.

In Figs. 4, 5 I show a number of these tubes

or fillers, h^6 , the proper one to be selected to suit the determined amount of ammunition to constitute the charge. The selected tube or filler is held stationary between the disks of each tumbler, and retained in proper position by the bearing which the shoulder h^3 presents. At h^7 the lower disk of each tumbler has a projecting pin. (See Figs. 2, 3, and 4.)

The bottom of each casing G G' has a curved slot at g , a center opening at g' , and discharge-opening at g^2 , as shown in Figs. 2, 4, 5. The slot g determines the partial rotation of each tumbler. The opening g' receives the lower end of the spindle, and through the opening g^2 the charge passes directly into the cartridge.

g^3 are springs (see Figs. 2, 3) at bottom of the bed-plate, arranged as shown, for purposes of restoring each tumbler to original position after every operation. When, therefore, the hand-lever with cartridge in its holder is rotated so that the roller end of the lever shall travel in either one of the slots marked c' , the engagement of said acting hand-lever with the projecting pin of the tumbler takes place, and the latter is partly rotated to bring its tube h^6 in line with the opening g^2 , to permit the discharge of the charge in the cartridge. The operation of the tumblers is therefore performed without disturbing the position of the cam-plate and wad-carrier.

I desire to lay stress upon the construction and arrangement of the parts that contain the powder and shot on top of the casings G G' , the purpose in view being to relieve, in as great a measure as possible, the operating-tumblers from the weight of the powder and shot and yet properly permit the feeding of same to the tumblers. As shown, the top of each casing G G' is closed by a cap, I , each of which has flanges i i' , a socket-bearing, i^2 , and opening at i^3 . Each cap, by its flanges, fits on the top of its casing, the flange i' serving to retain the shot or powder receptacle. The bearing i^2 houses the top of the spindle of the tumbler, while the opening i^3 permits the passage of the charge into the tumbler. Hence, each cap is secured on the top of the casings G or G' , so that the opening i^3 shall be in line with the top opening of the tumbler. (See Fig. 5.)

J represents the respective receptacles to contain the powder and shot. The bottoms of these receptacles have flanges j to fit the flange of the cap. At j' the bottoms, further, have openings for the emptying of the contents. Each of the receptacles J is placed and secured on the top of the caps, so that the openings j' shall be situated, say, the diameter of the opening distant to one side from opening in the cap that leads to the tumblers. (See Fig. 8.) This relative position of these openings will cause the downward passage of the powder or shot to be in a diagonal direction. It is the bottom of the receptacles that sustains the main weight of the contents. Between the bottom of the receptacles and top of the cap sufficient space exists for a slight accumulation of the powder or shot, the fur-

ther downward passage of same, to reach the opening that leads to the tumbler, occurring in a slanting direction. Hence, the tumbler to be operated needs only to cut off the descending stream of the charge, and the greater portion of the weight is borne by the cap and the bottom of the receptacles.

All the parts being thus constructed and arranged, the complete operation is as follows: The first action to be performed is to fill the requisite amount or charge of powder in the cartridge. Hence, partially rotate the hand-lever that contains the previously-inserted cartridge in its holder in the direction where the tumbler is that contains the powder. In so moving the hand-lever, it will be noted that before the cartridge comes under and in line with the tumbler referred to the wad-carrier is first actuated to bring a wad to the inlet-opening; also, the wad so fed forward is held by the adjustable stop. In further completing the same motion of the hand-lever, it is brought against the pin on the under side of the tumbler, and actuates this so as to bring its contained powder in line with the opening leading to the cartridge, permitting the discharge through the same of the powder. This done, the hand-lever and its cartridge, so filled with powder, are brought back to original position. When this latter position is reached, all said parts will be in line with the wad that, as stated, had been lodged before the inlet-opening, while at same time the wad-carrier will be in its original position. By next actuating the wad-driver—viz, thrusting the plunger downward—the wad alluded to is forced into the cartridge on top of the powder. The required charge of shot is next to be lodged in the shell. Hence, cause the hand-lever to move in the opposite direction, where the shot is contained in the tumbler. In so doing the wad-carrier, it will be noted, again forces a wad to the front or inlet opening, to be held by the adjustable stop. As soon as the hand-lever has been completely turned the tumbler, with its shot, has been brought in line with the discharge that permits the charge of shot to enter the cartridge. In, lastly, restoring the hand-lever, its cartridge, so filled with powder, wad, and shot, another and final wad can be driven or lodged in the cartridge, to complete the entire charge.

I lay stress upon the independent operation of the parts that enable me, separately, to perform the different stages of charging a cartridge. As apparent, I can charge as many wads in the cartridge as may be desired; or I can separately charge the powder or shot to suit any quantity or amount of charge or size of cartridge.

What I claim is—

1. In an implement for loading cartridge-shells, the combination of the plates A' A^2 , the latter having opening at c^5 , said plates containing the pivoted lever B , arranged to reciprocate a cam-plate, C , having slots c c' ; also a slider or wad-carrier, C' , which is ad-

justably secured to said cam-plate, said slider further having an elongated slot to permit it to pass free of the fulcrum-pin, all substantially as described, and for the purposes set forth.

2. In an implement for loading cartridge-shells having top and bottom plates, $A' A^2$, the pivoted lever B, its roller b^7 , the cam-plate C, having slots $c c$, the slider or wad-carrier C' , by means whereof the latter can be reciprocated, in the manner and for the purposes set forth.

3. In an implement for loading cartridge-shells, the combination of the lever B, pivoted between top and bottom plates, $A' A^2$, the casings $G G'$, having openings $g^2 g^2$, said lever carrying the tube or cartridge-holder B' , open at both ends and controlled by a pivoted gate, B^2 , having an adjustable bearing, b^4 , by means whereof said lever can be actuated either to the right or left and its holder brought alternately in line with either one of the said casings or openings g^2 , as and for the purposes set forth.

4. In a cartridge-filler, the combination of the adjustable stop D, consisting of a bearing-plate, d , having projections d' , the slot d^2 , and set-screw d^3 , by means whereof the wad can be held stationary, in the manner and for the purposes set forth.

5. In a cartridge-filler, the combination of the plates $A' A^2$, the latter having opening c^5 between said plates, the pivoted lever B, carrying

the cartridge-holder B' , open at its top, closed below by gate B^2 , the cam-plate C, having slots $c c$, and connected therewith the slider or wad-carrier C' , the socket E, open at both ends, the two tubes $F F'$, the plunger-barrel E' , its plunger E^4 , meshing with the segment-gear lever E^3 , pivoted to bearing E^2 , all said parts constructed and operating substantially as and for the purposes set forth.

6. The cap I, having flanges $i i'$, socket-bearing i^2 , and opening at i^3 , in combination with the casing G.

7. The powder and shot receptacles J, having at bottom the flange j and opening j' , in combination with the cap or caps of casings $G G'$, as and for the purposes set forth.

8. In a cartridge-filler, the bed and top plates, the pivoted lever carrying cartridge-holder, the cam-plate having slots, the slider or wad-carrier, the pivoted tumblers or cut-off devices, the casings $G G'$, having slots and openings, the caps I, having flanges and openings, the powder and shot receptacles J, having openings at bottom, all said parts being combined, constructed to operate in the manner and for the purposes set forth.

In testimony of said invention I have hereunto set my hand.

COLUMBUS W. CORR.

Witnesses:

GEORGE SIEGEL,
WILLIAM W. HERTHEL.