(No Model.) 3 Sheets—Sheet 1.

E. A. FRANKLIN.

MACHINE FOR LOADING CARTRIDGES.

No. 347,268. Patented Aug. 10, 1886.

Fig. 1.

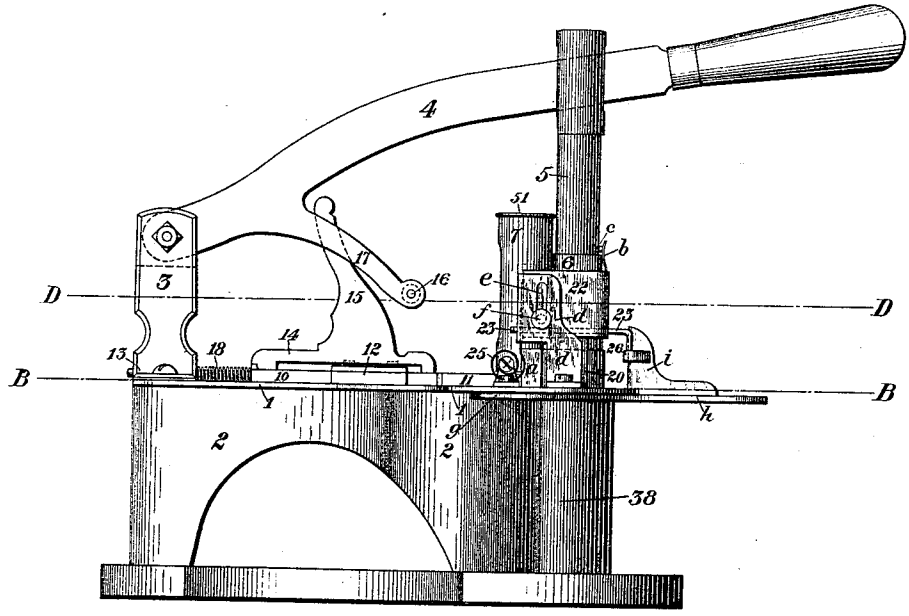
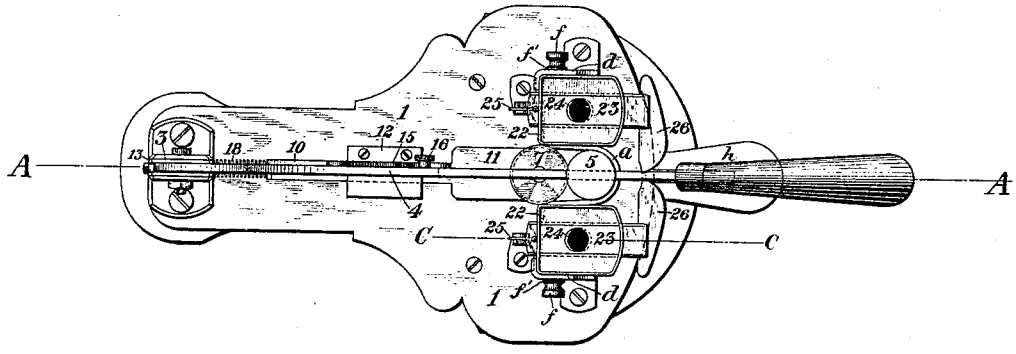


Fig. 2.



Witnesses.
Harry L. Gill
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(No Model.)

3 Sheets—Sheet 2.

E. A. FRANKLIN.

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Fig. 3.

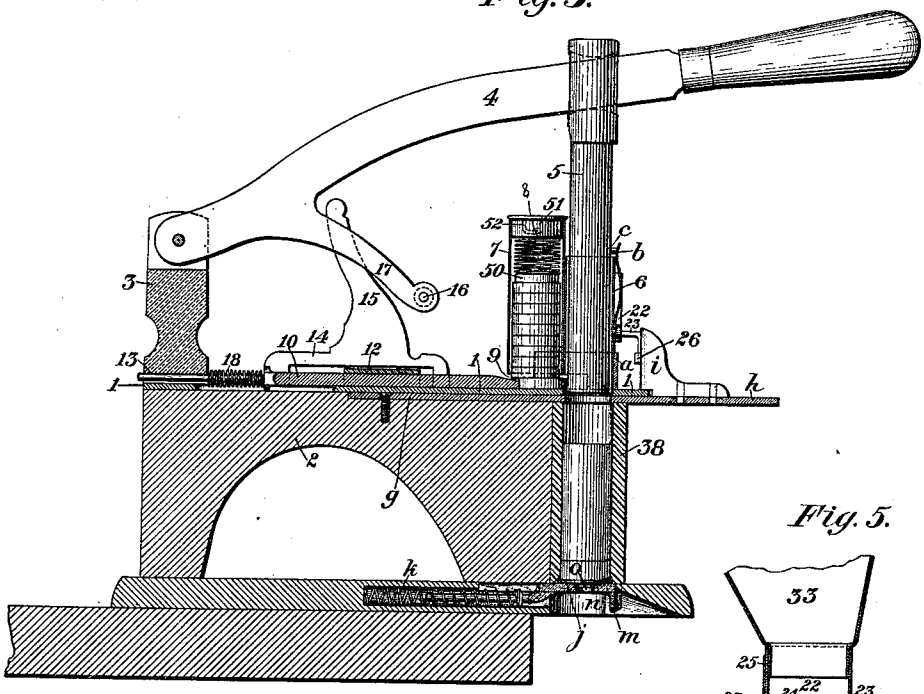


Fig. 5.

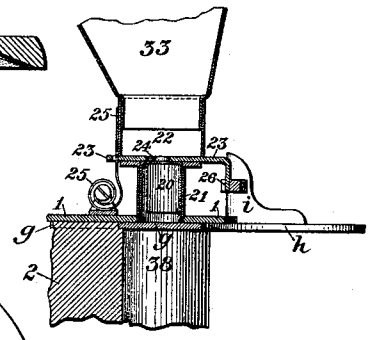
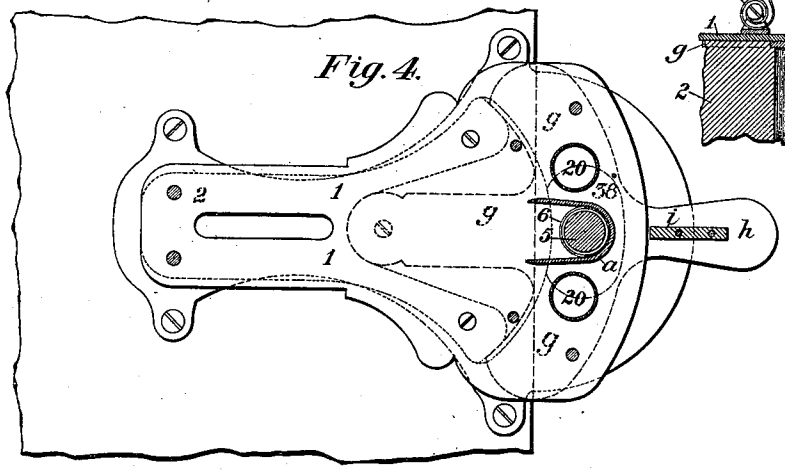


Fig. 4.



Witnesses.

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(No Model.)

3 Sheets—Sheet 3.

E. A. FRANKLIN.

MACHINE FOR LOADING CARTRIDGES.

No. 347,268. Patented Aug. 10, 1886.

Fig. 6.

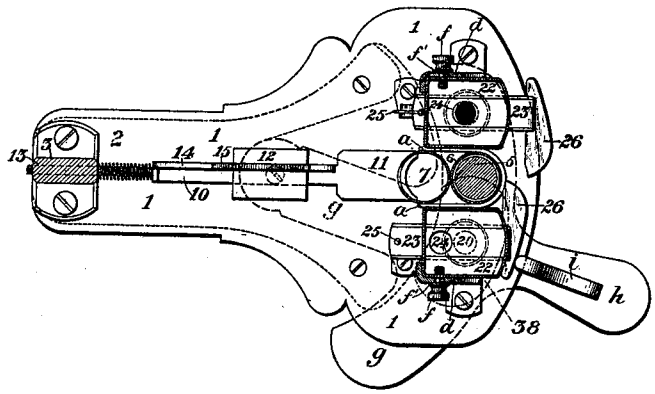
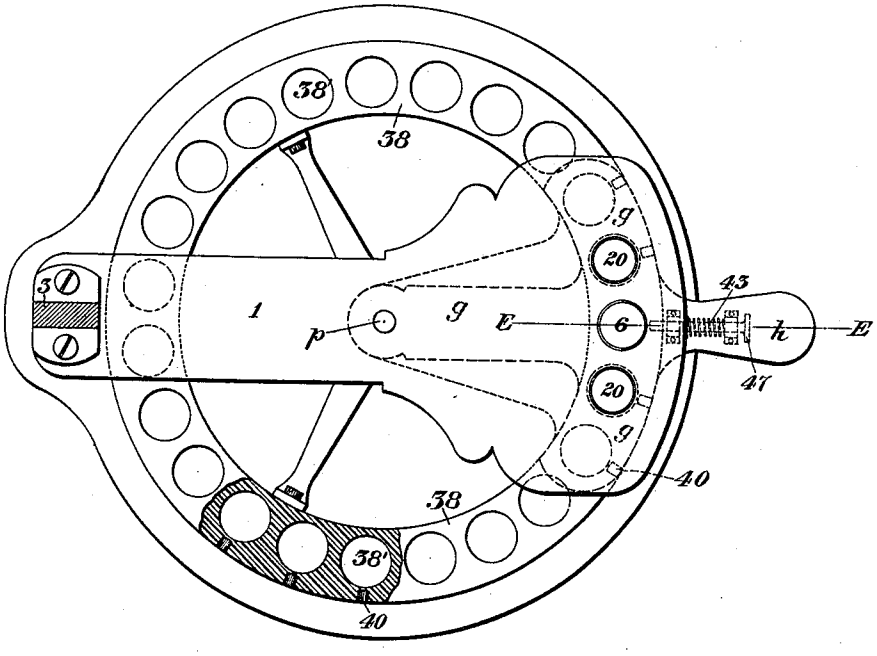


Fig. 7.



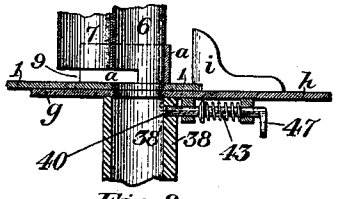


Fig. 8

Witnesses.

Harry L. Gill

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Inventor.

Edward A. Franklin

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UNITED STATES PATENT OFFICE.

EDWARD A. FRANKLIN, OF BRENHAM, TEXAS, ASSIGNOR TO BAILEY, FARRELL & CO., OF PITTSBURG, PENNSYLVANIA.

MACHINE FOR LOADING CARTRIDGES.

SPECIFICATION forming part of Letters Patent No. 347,268, dated August 10, 1886.

Application filed April 3, 1886. Serial No. 197,598. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. FRANKLIN, of Brenham, in the county of Washington and State of Texas, have invented a new and useful Improvement in Machines for Loading Cartridges; and I do hereby declare the following to be a full, clear, and exact description thereof.

My present invention relates to improvements on the machine for charging cartridges which forms the subject-matter of my application No. 186,918, filed December 28, 1885.

To enable others skilled in the art to make and use my invention, I will now describe it by reference to the accompanying three sheets of drawings, in which—

Figure 1 is a side elevation of my improved machine. Fig. 2 is a plan view. Fig. 3 is a vertical section on the line A A, Fig. 2. Fig. 4 is a plan section on the line B B of Fig. 1. Fig. 5 is a vertical section of one of the chargers on the line C C of Fig. 2. Fig. 6 is a plan section on the line D D of Fig. 1. Fig. 7 is a plan view of a modification. Fig. 8 is a vertical section on the line E E of Fig. 7.

Like symbols of reference indicate like parts wherever they occur. The numerals indicate parts which are practically the same as those indicated by like figures in the other case, and the letters indicate parts peculiar to the present improvement.

A suitable flat bed-plate, 1, is mounted on the top of a stand, frame, or block, 2. At the rear end of the bed-plate is a bracket or standard, 3, to which the lever 4, which operates the plunger, is pivoted. The plunger 5 reciprocates vertically in a tubular guide, 6, and is connected to the lever by a loose connection, which enables it to be moved in a right line by the lever.

The wad-holder 7 stands directly under the lever 4, and is secured in a vertical position to the U-shaped strap or plate *a*, which encircles the front side of the guide 6, so that its lower end terminates the thickness of one wad above the surface of the bed-plate 1. It is fastened at its sides only, so that there is a slot or opening at the front and back, through which the wad-charging slide works. The adjacent side of the tubular guide 6 is slotted in like manner, as at 9, Fig. 3, to permit the wad to be transferred from the wad-holder 7 to the guide-tube 6, preparatory to being forced down into the cartridge-shell.

On the surface of the plate 1, back of the wad-holder, is the wad-slide 10, which reciprocates in guides 12 and 13, and has its front end, 11, cut out in semicircular form to fit the edges of the wads. Secured to the top of the slide 10 by means of a strap, 14, or otherwise, is a vertical arm, 15, the front edge of which is curved or inclined and engages a pin, 16, on an arm, 17, which extends down from the lever 4, so that when the lever 4 is depressed the pin 16, moving over the inclined edge of the arm 15, forces the slide 10 back, and when the lever 4 is raised and the pressure of the pin 16 removed from the arm 15 the slide is shot forward by a spring, 18, which encircles its rear end and bears against the base of the standard 3 and a shoulder on the slide. The wad-holder has a presser-foot, 50, which is connected by a spiral spring with a removable cap, 51, having a stud or pin, 8, which engages with a bayonet-clutch slot, 52, in the edge of the holder. The tension of the spring holds the wads tightly down in the holder, so that they may be driven out laterally through the slot 9, one by one, by the action of the slide 10. When the holder becomes empty, the cap 51 is unfastened, the presser device taken out, and the holder refilled. The foot 50 is thicker than the slot 9, and consequently cannot be forced through it, so that when the holder becomes empty the slide strikes it and cannot go forward, which will call attention to the fact that the wads are exhausted, and thereby guard against the incomplete charging of the shells.

Fastened to the guide 6 is a spring-catch, *b*, which engages a notch, *c*, in the side of the plunger 5, to maintain it in a raised position, in which its lower end is above the lower surface of the bed-plate. If desired, the notch *c* may be omitted, and the spring *b* alone depended on to maintain the plunger in position, as will be understood, so as to be out of the way of and permit the lateral movement of the plate *g*, which carries the shell-holder.

On the bed-plate 1 and on opposite sides of the guide 6 are two measuring-chargers, 20, one on each side, for measuring the charges of

powder and shot. These chargers are composed of two tubes, each of them having a telescoping section, 21, the upper end of which is attached to and opens into a hopper-box, 22. The latter is supported by a bracket, *d*, fastened to the bed-plate and provided with a vertical slot, *e*, so that the weight of the hopper shall not be upon the charger, but be supported from the bed-plate. A set-screw, *f*, in the side of the box extends through the slot, and outside of it has a collar, *f'*, which, when it is screwed up, bears on the bracket and fastens the box in the proper position to secure the required capacity in the charger 20.

Arranged in guides in the floor of the charger 20 is a slide, 23, having an opening, 24, which, when the slide is in one position, registers with the upper end of the charger 20. When the slide is in its other position, it closes the end of the charger, so that the material in the box 22 cannot enter the charger. The rear end of the slide projects beyond the back side of the box 22, where it is connected with a suitable spring, 25, which, bearing against it, holds it forward in its opened position. The front end of the slide projects beyond the front side of the box, where it is provided with a transverse plate or flange, 26, having a curved or inclined front edge.

Pivoted or journaled to the under side of the bed-plate is a flat plate, *g*, having a projecting arm or handle, *h*, upon which is a vertical striking arm or pin, *i*, which projects upward, and when in a middle position stands between the inner ends of the two flanges 26 of the charger-slides. This pin oscillates in the arc of a circle struck from the pivot of the plate *g* as a center, and as it moves from its middle or normal position to either side it encounters the inclined or curved edge of one of the flanges 26, and forces its slide 23 backward against its spring 25, and closes the opening between the box 22 and charger 20. When the pin *i* is returned to its middle position, the slide is released and the spring 25 shoots it forward and opens communication between the box 22 and charger 20 again.

Attached to the under side of the plate *g* is a cartridge-shell holder, 38, having an open upper end, which, when in a middle position, registers with the lower end of the tubular guide 6, and when in one of the side positions registers with the lower end of one of the chargers 20. Except when the lower ends of the guide 6 and chargers 20 register with the shell-holder, they are closed by the flat plate *g*. The lower end of the shell-holder 38 is closed by a movable bottom, *j*, which permits the insertion and removal of the shell, and when it is in place supports it under the action of the plunger 5, when it rams the wad down into the shell. In the present instance the movable bottom consists of a slide held in position by a spring, *k*, and it is provided with a concave dependent lip, *m*, working in a recess, *n*, in the bottom of the frame, which facilitates the moving of the sliding bottom.

I do not limit myself to a sliding spring-bottom, because I can also use a hinged or a pivoted one, as will be understood. The bottom has a hole, *o*, in the center, so that the cap in the head of the shell shall not encounter a hard surface and be accidentally exploded in charging the shell. The boxes 22 are intended to hold removable hoppers 33, containing any desired quantity of powder and shot. The spring holds the bottom closed, and when opened closes it as soon as the pressure exerted in inserting or removing a shell is withdrawn. The shell is therefore not liable to displacement or loss by reason of the holder being left open.

Thus constructed, the operation of my improved machine is as follows: The wad-holder 7 being filled with wads, and the hoppers 33 with powder and shot, and the lever 4 being in the raised position shown in Figs. 1 and 3, a cartridge-shell is inserted in the holder 38, and the holder 38 is moved sidewise under the powder-charger. This movement causes the pin *i* to encounter the inclined flange 26, thereby forcing the slide 23 back and closing the communication between the charger 20 and the box 22, so as to separate the charge in the charger 20 from the supply and prevent any more powder from entering the charger until the charge therein has been deposited in the shell and the charging-opening is closed. When the shell reaches its position under the charger 20, the charge of powder runs down into it. Then the holder is moved back to position under the guide 6. This movement causes the plate *g* to come under the lower end of the powder-charger and close it, and releases the slide 23, so that it is shot forward by the spring 25, the hopper opened, and the charger again filled with powder therefrom. The lever 4 is then raised, so that the lower end of the plunger 5 shall clear the slot 9, when the spring-slide 10 will force the wad which rests on the bed-plate through the slot 9 into the tubular guide 6, over the upper end of the cartridge-shell in the holder 38. The wad, being composed of elastic material, is in its free state larger than the bore of the shell, and so remains in a horizontal position on its upper end. The plunger is then forced down and rams the wad into the shell and firmly down on top of the powder, compressing the latter into the lower end of the shell. The lever is then raised until the plunger clears the plate *g*, when the shell-holder is moved sidewise under the shot-charger, and charged with shot, in the same manner as has been described with reference to the powder. It is then moved back under the guide 6, and the shot-wad inserted, in the same manner as has been described with reference to the first wad. The cartridge is then removed by pressing back the movable bottom *j* and permitting it to drop into the hand, or if it sticks in the holder it can be forced out by the plunger. The wads cannot enter the guide-tube 6 as long as the plunger stands in front of the slot 9, and

the spring-catch *b* holds the plunger in that position and above the plate *g* while the charging operations are going on.

In Figs. 7 and 8 I show a modification, which consists in the use of a revoluble circular shell-holder, 38, having a large number of shell-compartments, 38', and pivoted on the central pin, *p*, so as to be free to turn. Mounted in a pair of lugs or other supports on the under side of the arm *h* is a sliding spring-bolt, 43, having a finger-pull, 47, for drawing it back. In the outer surface of the shell-holder, opposite each shell-cavity, is a hole, 40, for receiving the point of the bolt 43 and centering the cavity with the arm *h*. All other parts of the machine remain unchanged. In using this modification shells may be placed in each compartment, and then by moving the holder by means of the handle *h* and bolt 43, as will be understood, all the shells may be first charged with powder, then wadded, then charged with shot, and finally wadded, or each shell may be completely loaded before anything is done to the next.

My improved machine is remarkably cheap and simple in construction, easy and efficient in operation, and not liable to get out of order.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a cartridge-charger, of a reciprocating plunger with a shell-holder arranged below the plunger and provided with a movable spring-bottom, which supports the shell against the action of the plunger, substantially as and for the purposes described.

2. The combination, in a cartridge-charger, of a reciprocating plunger with a shell-holder arranged below the plunger and provided with a sliding spring-bottom, which admits of the insertion and removal of the shell and supports it against the action of the plunger, substantially as and for the purposes described.

3. The combination, in a cartridge-loader, of a pivoted plate carrying the shell-holder and normally closing the lower end of the powder or shot charger, which is arranged to register with the shell-holder, a spring-actuated slide for controlling the passage between the charger and its hopper, said slide having an inclined flange at its outer end, and a pin or striker on said plate, which engages the incline and closes the hopper when the shell-holder registers with the lower end of the charger, substantially as and for the purposes described.

4. In a cartridge-loader, a charger composed of two telescoping tubes, one fastened to the bed-plate over the receiving position of the shell-holder and the other to a supply-hopper, in combination with a bracket on the bed-plate and adjustable fastening devices for supporting the hopper in any desired position over the fixed tube of the charger, substantially as and for the purposes described.

5. The combination, in a cartridge-loader, of a reciprocating plunger, a plunger guide, a wad-holder arranged at the side of the guide, a wad-passage between the wad-holder and guide, a slide actuated by a spring to force a wad into the guide when the plunger is raised and retracted by the plunger-lever when the plunger descends, a charger arranged at each side of the guide, each having a charging-slide which admits the charge from a hopper into the charger, a radially-moving plate closing the lower ends of the guide and chargers, a shell-holder suspended on the moving plate, which is caused to register with the guide and chargers by the movement of the plate, and a movable bottom in the shell-holder, substantially as and for the purposes described.

6. The combination, in a cartridge-charger, of a plunger, a plunger-guide, a wad-holder communicating at the bottom with the plunger-guide, a spring-actuated wad-slide working through the base of the wad-holder to push the bottom wad forward into the plunger-guide, a vertical inclined arm on the slide, and a plunger-lever provided with an arm which engages the arm on the slide and retracts the slide as the plunger descends, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 20th day of March, A. D. 1886.

EDWARD A. FRANKLIN.

Witnesses:

THOMAS B. KERR,

W. B. CORWIN.