(No Model.) 2 Sheets—Sheet 1.

C. A. THOMPSON.

CARTRIDGE LOADER.

No. 326,693. Patented Sept. 22, 1885.

Fig. 1.

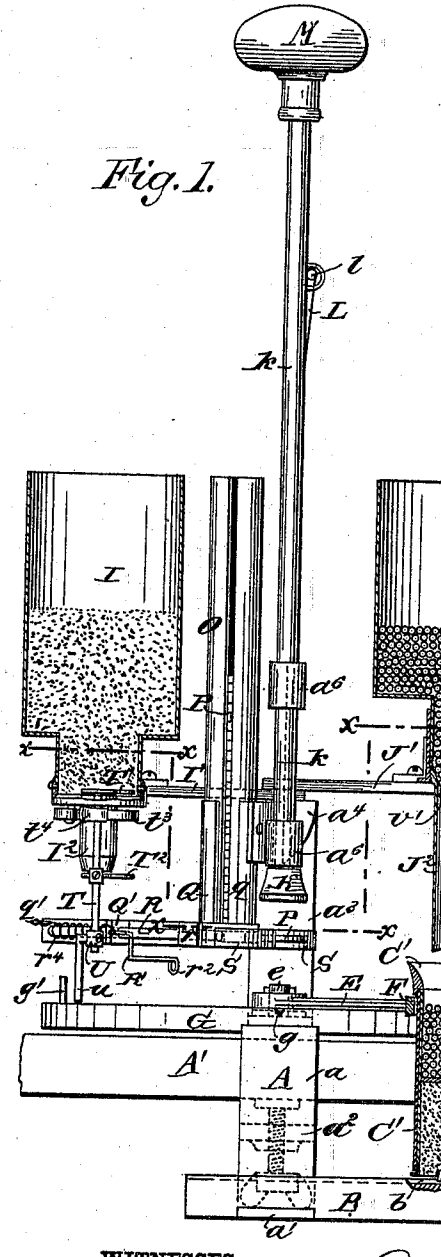
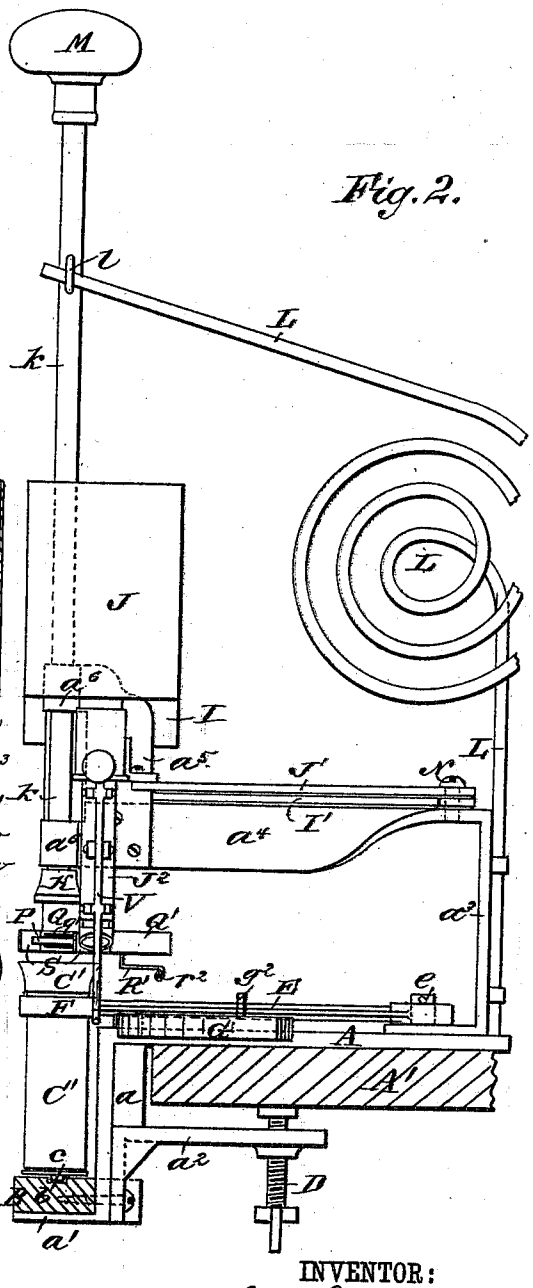


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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No. 326,693. Patented Sept. 22, 1885.

Fig. 3.

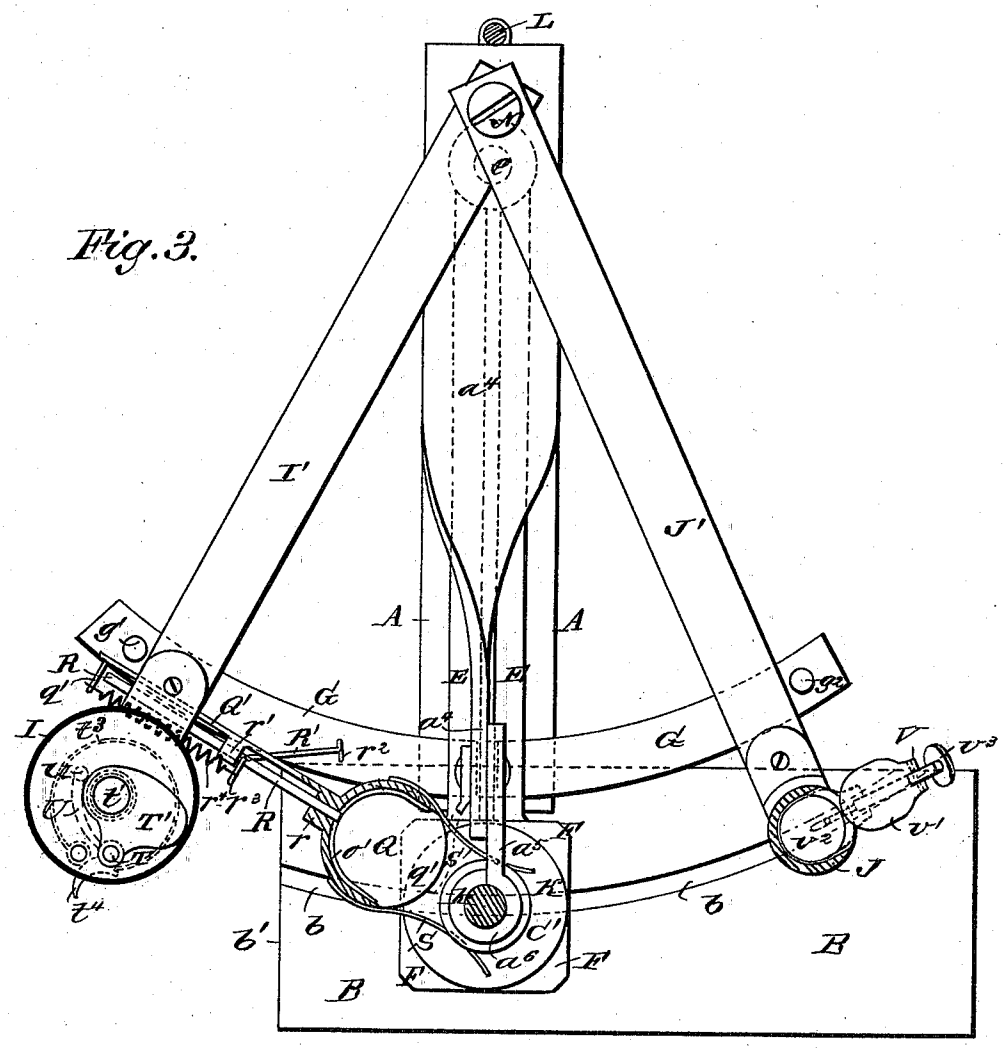
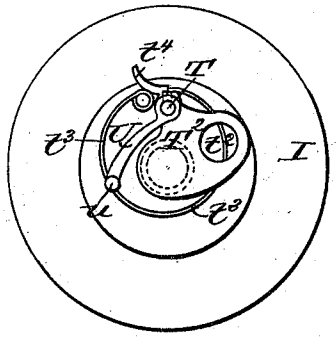


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES A. THOMPSON, OF HOPKINSVILLE, KENTUCKY.

CARTRIDGE-LOADER.

SPECIFICATION forming part of Letters Patent No. 326,693, dated September 22, 1885.

Application filed December 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. THOMPSON, of Hopkinsville, in the county of Christian and State of Kentucky, have invented a new and Improved Cartridge-Loader, of which the following is a full, clear, and exact description.

The object of my invention is to improve the construction of cartridge-loaders, so as to provide a simple inexpensive machine adapted to be worked effectively by unskilled labor.

The invention consists in particular constructions and combinations of parts of the cartridge-loader, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improved cartridge-loader, partly in section. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is a plan view in section on the lines *x x x x x x*, Fig. 1, in larger size; and Fig. 4 is an under side view of the powder flask or hopper and its discharging mechanism.

The letter A indicates a suitable plate of metal, by which the mechanism of the cartridge-loader is supported, said plate being bent downward, as at *a*, and also outward at *a'*, so as to form a support to the base-block B, on which the ends of the cartridge-shells C rest, as the shells are supported in the holder C' while being rammed, and to the part *a* of plate A is fixed a flange or bracket, a^2, which stands below the plate A a sufficient distance to allow the machine to be clamped to a table, A', by the screw D, threaded through the flange a^2. (See Fig. 2.)

To the plate A is pivoted at *e* an arm, E, which extends forward and has an eye, F, at its forward or free end, in which the cartridge-holder C' is held; and G is a bar or plate, which is curved in a circle struck from the pivot *e*, and serves as a rest or support to the swinging arm E. The bar G has a center notch, *g*, at its upper face, into which the arm E may rest to position the shell C properly below the rammer K, and stop-pins g' g^2 rise from the opposite end parts of bar G, to limit the side movements of the arm E, so as to position the shell C directly below the discharge-nozzles of the powder and shot flasks I J, respectively, as hereinafter more fully explained.

From the base-plate A rises a post or standard, a^3, which is bent forward to form the arm a^4, which carries a head-plate, a^5, provided with the bearings a^6, in which the shaft *k* of the rammer K is fitted to slide, and so as to hold the rammer directly above the cartridge-shell C when the arm E rests in the notch *g* of the bar G, and a coiled or other suitable retracting-spring, L, is fastened at one end to the frame-post a^3, and its other end passes loosely through a suitable eye or keeper, *l*, on the rammer-shaft *k*, and so that when the rammer is thrust downward into the cartridge-shell by a blow or pressure of the hand on its head or knob M the spring will act when the hand is removed to lift the rammer from the shell.

I' J' are respectively arms or bars which are connected rigidly at one end, by a screw-bolt, N, or otherwise, to the machine-frame, and support the flasks or hoppers I J, respectively, at their forward ends, so as to hold the flasks in proper relations to the stop-pins g' g^2 and the cartridge-holding arm E F.

The parts A, *a*, *a'*, a^2, a^3, a^4, a^5, and a^6 of the machine-frame may be cast together in one piece, if desired.

The letter O indicates the wad holder or cylinder, which consists of a tube having a lengthwise slot, *o*, through which the supply of wads P in the holder may be noted, and I set the removable holder O in a tubular support, Q, which is held to the arm a^4 of the machine-frame a little to one side of the rammer K, the support Q being slotted at *q*, in line with the slot *o* of the holder O, and for a like purpose; and the support Q has a shoulder, *o'*, on which the lower end of the holder O will be supported above the bottom or floor of the support Q, which is open or slotted, as at *q'*, next its floor at the side or portion facing the rammer, so that the lowermost wad P may be forced by a push-rod or ejector, R, out of the support and between the opposing faces of springs S S, fixed to the holder, so that the springs hold the ejected wad directly over the shell C and below the rammer K, which when forced down will carry the wad from between the clamping-springs S S and force it

into the cartridge-shell, the stroke of the ejector R being limited, so that the wad shall be centered properly between the springs S S over the shell. I fit the ejector R to slide in a bearing, r, on the body of the support Q, and in a bearing, r', on an arm, Q', which projects from said support, and the ejector has an arm, R', fixed to it, which has a bent end or head, r^2, to which the finger may be applied for operating the ejector to pass a wad, P, to the springs S S; and on the rod is a pin or staple, r^3, to which one end of a spring, r^4, is attached, its other end being fastened to a pin, q', on the arm Q', so that the spring r^4 acts to draw the ejector back when it is released after ejecting each wad. The spring-connection r^3 in this instance serves as a stop to limit the movement of the ejector both ways by contact with its bearings r r'. (See Fig. 3.)

I provide for the automatic discharge of predetermined quantities of powder and shot into the cartridge-shells as follows: In the base of the powder flask or hopper I is journaled the vertically-ranging shaft T, on which is fixed the upper valve or cut-off, T', which works flatwise over the open inner end of the nozzle I^2 of the hopper, and said shaft T also carries the lower valve or cut-off, T^2, which works over the open outer or lower end of the nozzle, and the valves T' T^2 have discharge-openings t' t^2, respectively, one of which will be open to the nozzle while the other is closed. To the lower end of the shaft T is fixed—it may be adjustably—an arm, U, which has a downwardly-projecting stem, u, which lies in the path described by the eye F, so that as the arm E is swung over toward the hopper I, with the cartridge-shell holder C' held in its eye F, the eye or arm will strike the stem u and swing the valve T^2 to carry its opening t^2 below the nozzle I^2, the upper valve, T', meanwhile closing, so that a charge of powder will drop from the nozzle into the shell C, and as the arm E is swung back again a spring, T^3, acts on a stud or finger-piece, t^4, fixed to the shaft to close valve T^2 and open valve T', which allows the next charge of powder to fill into the spout, ready to be dropped into the next cartridge-shell, as above described. I make the nozzle I^2 so that it may be lengthened or shortened to vary the charge of powder as required, and I make the lower valve, T^2, adjustable by a set-screw, or other suitable fastening of it to the rod T, so that it may be set closely to the end of the nozzle, however it may be adjusted. The valves T' T^2 may be operated to drop the powder by pressing on the finger-piece t^4 at any time desired. To the side of the nozzle J^2 of the shot flask or hopper J is pivoted at v a rock-lever, V, which has pivoted to its upper and lower ends, respectively, the slide-valves v' v^2, which enter slots in the nozzle J^2, a spring, V', acting to hold the valve v' open and the valve v^2 closed. From the lower end of the lever V an arm, W, projects in the path of the eye F of arm E, so that as the said arm E is swung over toward the hopper J either it or its eye F will strike the arm W and open valve v^2, and at the same time close valve v', so that a quantity of shot which would about fill the spout J^2 between the valves v' v^2 will drop into the cartridge-shell C. By fitting the lower valve, v^2, to different slots in the nozzle the charge of shot can be varied at will. I provide a push-plate, v^3, on the lever V, by pressing which the shot may be discharged by hand, when desired. I form a groove at b in the base-block B, which groove is curved in the arc described by the fulminate-cap c on the end of the cartridge C, held by the holder C', said groove b giving space to the cap, so it will not be fired by friction on the block B as the arm E swings around, or by the ramming of the cartridge. The base-block B extends but a short distance from the plate A toward the hopper I to allow the cartridge-shell C to be passed up from beneath into the holder C'.

The continuous operation, briefly stated, is as follows: The cartridge holder C' will be swung to the left, just beyond the end b' of the base B, and the empty cartridge-shell C will be passed upward into it and held by the hand, while the arm E is swung still farther to carry its eyes F against the stem u of arm U, which is pressed to operate the valves T' T^2, to drop a charge of powder into the shell. The arm E then will be swung back again, or to the right hand, until it rests in the notch g of bar G, which carries the cartridge-shell onto the block B and directly below the rammer K. The ejector R now will be operated to pass a wad, P, between the springs S S, and the rammer will be brought down to force the wad into the shell C and pack the powder. The arm E then will be swung to the right, and so its eye F strikes the stem W and pushes it outward, which will operate valves v' v^2, as in Fig. 1, to drop a charge of shot into the shell C, and the arm E then will be swung beneath the rammer, a second wad, P, will be ejected from the holder O Q between the springs S S, and forced down by the rammer into the shell, to pack the shot and close the forward end of the cartridge, and the arm E will be swung still farther to the left to carry the charged cartridge past the end b' of base B, when it may be forced from the holder by the finger, and be trimmed and crimped by any approved device to complete the sealing of its forward end, as will readily be understood.

It is evident that the cartridges may be loaded quickly and accurately by the use of my improved loader and by unskilled labor at a minimum cost.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a cartridge-loader, the combination, with a suitable support and powder and shot holders having valves provided with downwardly-projecting stems, of a pivoted shell-carrying arm having its free end projecting between the said holders, and adapted to act on

the stems of the said holders on the free end of the arm, a rammer arranged between the shot and powder holders, a wad-holder arranged at one side of the rammer, and an ejector for forcing the wads out of the holder, substantially as herein shown and described.

2. In a cartridge-loader, the combination, with a suitable support and powder and shot holders having valves provided with downwardly-projecting stems, of a pivoted shell-carrying arm having its free end projecting between the powder and shot holders and adapted to engage the stems of their valves, a spring-actuated rammer between the powder and shot holders, a wad-holder at one side of the rammer, and a spring-retracted ejector for forcing the wads from the said holder, substantially as herein shown and described.

3. A cartridge-loader constructed with a pivoted arm, E, provided at its free end with an open-bottomed cartridge-shell holder, C′, and with powder and shot holders I J, supported one at each side of the wad-ejector and rammer, substantially as specified, and a base-block, B, for supporting the cartridge-shell under the rammer, said block B not extending beneath one of the ammunition-holders, to allow insertion and removal of the cartridge-shells, substantially as herein set forth.

4. The combination, in a cartridge-loader, of the pivoted arm E, having means for holding the cartridge-shell at its free end, a powder-holder, I, having valves T' T^2 on a stem, T, journaled in the base of the powder flask or holder, and the arm U on the end of the said stem, having a stem, u, adapted to be struck by the arm E, for automatically discharging powder into the cartridge-shells, substantially as herein set forth.

5. The combination, in a cartridge-loader, of the pivoted arm E, having means for holding the cartridge-shell at its free end, a shot-holder, J, having valves v' v^2, attached to a pivoted spring-pressed lever, V, and said lever having a stem, W, adapted to be struck by the arm E, for automatically discharging shot into the cartridge-shells, substantially as herein set forth.

6. In a cartridge-loader, the wad-holder constructed with a removable tube, O, slotted at o, and a tubular base-support, Q, slotted at q, and provided with a shoulder, o', on which the tube O rests, and said support Q having a side slot, q', for exit of the wads, and springs S S, for holding the ejected wads, in combination with an ejector acting to push the lowermost wad from the holder, substantially as herein set forth.

7. In a cartridge-loader, the combination, with the rammer K, of a wad-holder having a side slot next the bottom, springs S S, fixed at the sides of said slot, and an ejector, R, fitted with a retracting-spring, substantially as herein set forth.

8. In a cartridge-loader, the wad-ejector made with a plunger-rod, R, having an arm, R′, and sliding in bearings r r' of the wad-holder support, and with a stop, r^3, and retracting-spring r^4, substantially as herein set forth.

CHARLES A. THOMPSON.

Witnesses:
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LUCIAN JONES.