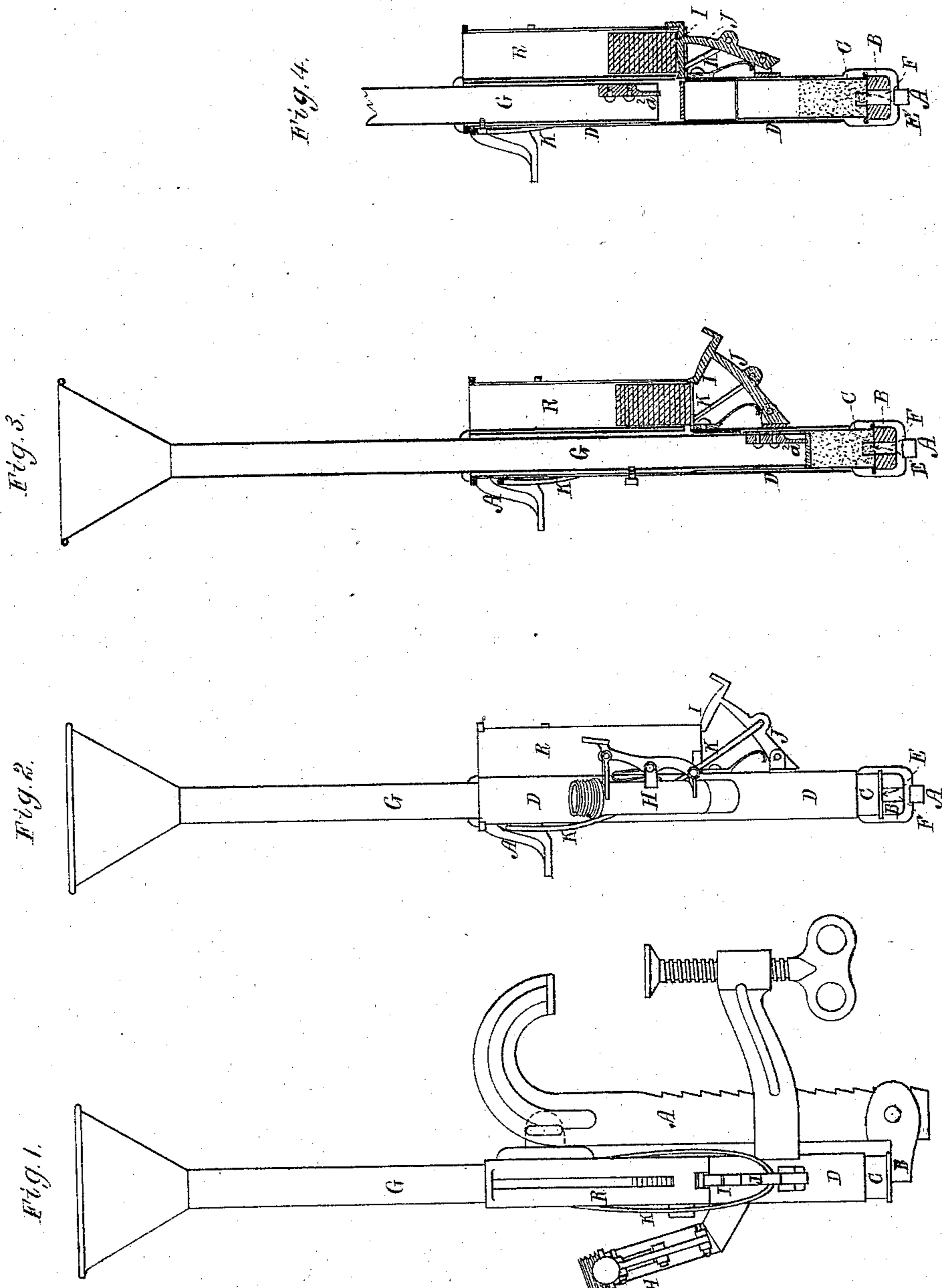


T. L. STURTEVANT.
 Machines for Loading Cartridges.

No. 138,294.

Patented April 29, 1873.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS L. STURTEVANT, OF FRAMINGHAM, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR LOADING CARTRIDGES.

Specification forming part of Letters Patent No. **138,294**, dated April 29, 1873; application filed February 15, 1873.

To all whom it may concern:

Be it known that I, THOMAS L. STURTEVANT, of Framingham, in the county of Middlesex and Commonwealth of Massachusetts, have invented a Machine or Implement for Loading Cartridge-Cases of which the following is a specification:

This invention is an implement for filling or loading cartridge-cases for rifled or smooth-bore fire-arms; and consists mainly in the employment, in combination with a cartridge-case receiving and supporting device, a suitable rammer, and a means of supplying powder and lead to such case, of a magazine for containing a supply of wads, such magazine being provided with a mechanism which automatically feeds forward a wad into the line of the cartridge-case and rammer, and so that the latter may drive such wad into the case upon top of the charges of powder and lead, the said case-receiver, powder and shot delivery, and wad-feeding device being supported upon a suitable standard, and the whole operating as hereinafter explained, the shelf or abutment of the standard upon which the head of the cartridge-case rests being furcated, recessed, or otherwise formed or provided, in order to prevent contact with the cap or fulminate of the cartridge-case, and thereby obviate danger of explosion during the latter.

The drawing accompanying this specification represents, in Figure 1, a side elevation, in Fig. 2 a front elevation, and in Fig. 3 a vertical and longitudinal section, of an implement embodying my invention. Fig. 4 is a section of a portion of the receiver, magazine, feed-plate, and wads, to be explained.

In this drawing, A denotes a metallic bar or standard, provided with a suitable means of enabling it to be clamped in an upright position to a table, bench, or other object capable of supporting the lower part of such standard, terminating in a horizontal shelf, B, upon which the base or head of the cartridge-case, shown at C, is to rest while such case is receiving its charge, the said shelf being furcated, recessed, or perforated in order that the ful-

minate of the cartridge may not come in contact with it. D represents an upright tube or cylinder, which I term the "receiver," of a length preferably about equal to that of the standard A, such cylinder and standard being pivoted together at the upper parts in order that the lower end of the former may be swung away from over the shelf B, before named, and permit of the insertion within the lower end of said cylinder or receiver of a case to be loaded, and, having received the case, of being swung back into such a position that the head of such case rests upon the shelf B, and its cap or fulminate E coincides with the slot or opening F of the said shelf, by which means such fulminate is protected from the concussion or blow to which it would otherwise be subjected by the descent of the "rammer." The shelf B sustains the case under the blow of the rammer and while receiving a charge of powder and lead, and the cylinder or receiver steadies and supports the case in an upright position under such conditions. Within the receiver D I dispose a sliding plunger, G, which in this instance performs the office of a rammer to ram down or condense the powder or shot, and to settle the wads firmly upon them, and this rammer may be a solid rod or a tube; but I have in the accompanying drawing shown it as tubular, as in this case it serves as a chute or conductor through which powder may be poured into the cartridge-case below. To the lower part of the receiver D I secure one or two filling tubes or spouts, H, these spouts communicating with the interior of the receiver at a point immediately above the upper end of the cartridge-case, and being attached to a flask which is to contain powder or shot or balls, and each spout is to be provided with a gate to regulate the flow of powder or shot through it. If powder is to be poured into the cartridge-case through the rammer G, but one filling orifice and flask will be required; but in practice I shall probably employ a flask and spout for both powder and shot.

Alongside of the receiver D I dispose a second cylinder, R, of about equal diameter, this

latter cylinder constituting a hopper or magazine for containing a quantity of wads which are to be placed in it. I, in the accompanying drawing, represents a horizontal gate or valve applied to one side of the magazine D, and sliding across its interior at a point immediately above that which the top of the cartridge-case would reach when in position to be loaded, and the office of this gate is to feed forward a wad from the magazine with each charge of powder or shot that is poured into the case, the gate being of such length and so arranged and operated as to drive inward into the path of the descending plunger and into the line of axis of the receiver and cartridge-case the lowermost or uppermost wad of the supply within the magazine, in order that said plunger in its descent may intercept and drive the wad into the case and upon the powder or shot previously poured therein.

The gate I may be operated by hand, but I prefer to operate it automatically; and to this end I connect it with the rammer G in such manner that the ascent of the latter shall drive it inward across the magazine, and push a wad before it, and the descent of the rammer shall return it to its normal position outside of the magazine.

In the accompanying drawing, the gate I makes part of a vibratory arm, J, pivoted at bottom to the outside of the receiver D, and provided with a suitable spring to force it outward, a rod or clasp, K, being attached to the said arm J and the rammer, by which the ascent and descent of the latter effect the inward and outward movements of the gate, as before stated.

The above description embraces the mechanical construction of an implement which I have herein shown as a practical method of carrying out my present purpose, and the operation or usage of the same may be thus explained: The receiver D is to be swung upon its pivot, its lower end removed from over the shelf B, when a cartridge-case is placed in it from its lower end, and the two returned to the position shown in the drawing, in which, as before stated, the base of the case rests upon the shelf B, with the cap or fulminate between the ears of such shelf. The powder is now poured into the cartridge-case either through the rammer G, if the latter is tubular, or by means of a spout or filling-orifice, such as is shown in the drawing at H, and the rammer is elevated to its extreme highest position, which ascent of the rammer forces the feeding-gate I inward, and pushes a wad before the latter into the receiver, as shown in Fig. 4 of the drawing. The rammer is now pushed downward, which retracts the feeding-gate I, and allows the mass of wads to settle within the hopper or magazine, in order that the next advance of the gate shall push another forward before it, the descent of the plunger

or rammer also having the effect of ramming the wad home upon the powder within the cartridge-case. The rammer may be raised and lowered as many times as may be desired, in order to ram the charge within the cartridge-case more or less solidly, provided such rammer be not elevated to such an extent as to actuate the feed-gate. The powder having been deposited within the cartridge-case and a wad deposited and rammed upon it, as stated, the shot filling-orifice is next to be opened and a charge of shot suffered to pass into the cartridge-case, when the rammer is again raised and lowered and a wad deposited upon the shot, in manner as stated, which completes the loading of the case, and it is removed.

If the implement is to be used for loading rifled arms, the magazine R is to contain bullets in lieu of wads, and the shot delivering flask and orifice dispensed with, the operation of the parts being substantially as before explained, one ascent and descent of the plunger serving to complete the loading of the cartridge-case, as the bullet takes the place of the charge of shot and of the two wads.

Although the magazine for containing wads or bullets is shown herein as filled from the top, and the feed-gate disposed at the bottom, this position may be reversed—that is to say, the magazine may extend below the receiver, and the wads or bullets fed upward by a spring or otherwise.

The powder or shot gate may be opened by the ascent of the rammer, in order to automatically admit the charge of powder or shot to the cartridge-case; but this would induce complexity of parts, and would be of doubtful utility, as the attendant would have one hand at liberty to do the work.

I propose applying to the lower end of the rammer a movable die or type, a^2 , a number of types being provided in order that the "number" of each different size or bore of cartridge may be impressed upon one or both wads. This type may be applied to any plunger or rammer used for the purpose of filling cartridges, and it will be evident that its use is not restricted to the machine herein explained.

Claims.

1. The combination, with the tubular cartridge-case receiver, of the wad or bullet magazine arranged by the side of said receiver, and provided with a feed-aperture corresponding to a similar aperture in the receiver, and the reciprocating feed-plate playing transversely across the magazine and operating at each traverse to push a wad or bullet laterally from said magazine into the receiver, substantially as set forth.

2. The combination, with the cartridge-case receiver and the wad or bullet magazine, arranged substantially as described, of the ram-

mer and reciprocating feeder connected with and operated by said rammer, substantially in the manner and for the purposes shown and set forth.

3. The combination, with the supporting clamp or frame, provided with a forked foot or shelf, of the cartridge-case receiver, hinged to said clamp or frame, so that its lower end may be swung either directly over or out away from said shelf, as and for the purposes shown and set forth.

4. The tubular cartridge-case receiver and

wad or bullet magazine, arranged together substantially as specified, in combination with the supply tube or tubes for introducing powder or shot into the receiver, substantially as shown and set forth.

5. The plunger or rammer, provided at its lower end with a type or die, substantially as and for the purposes set forth.

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Witnesses:

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