

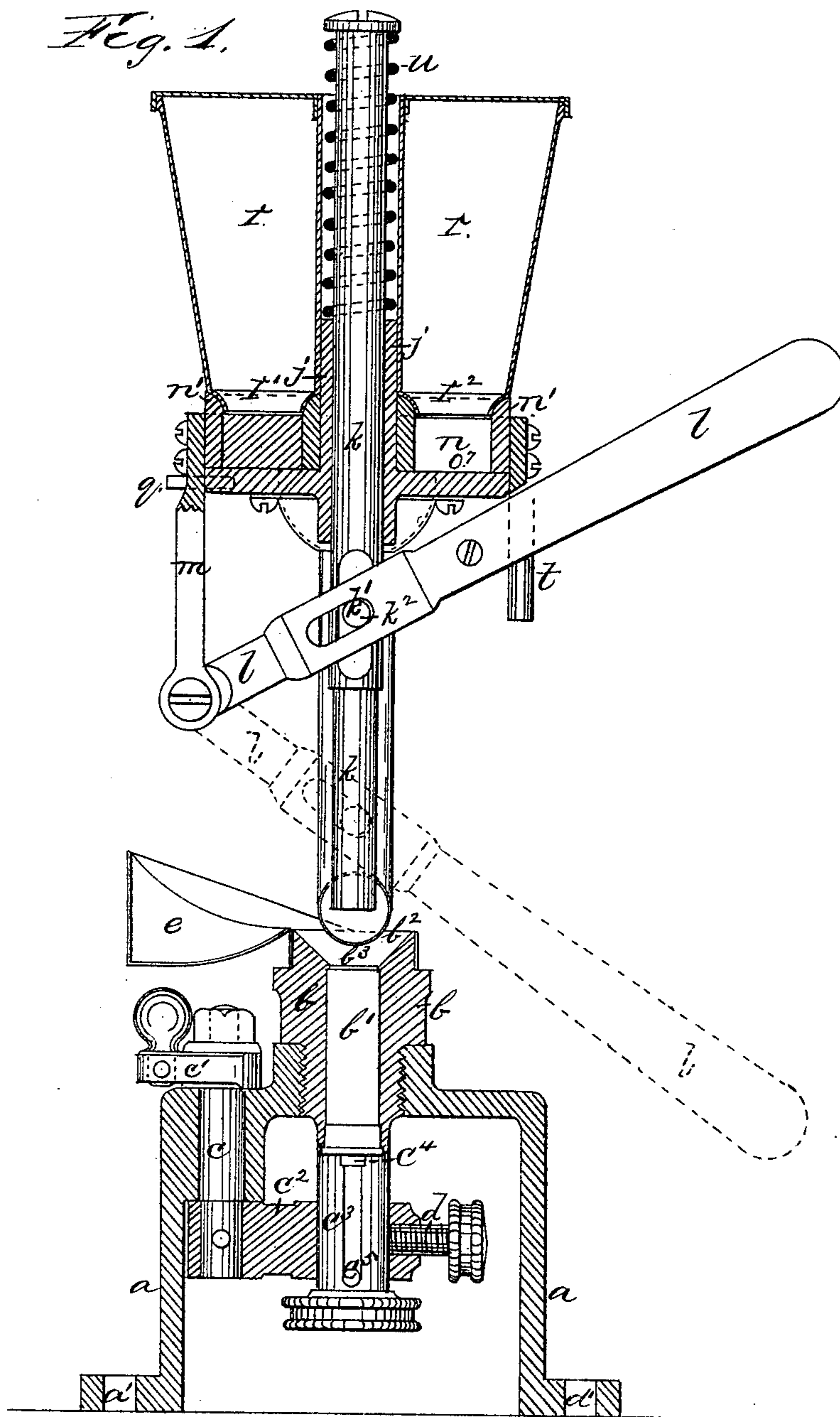
(No Model.)

2 Sheets—Sheet 1.

L. KELLER.
CARTRIDGE LOADING MACHINE.

No. 272,060.

Patented Feb. 13, 1883.



WITNESSES:

Phillips Abbott.
H. L. Bennett.

INVENTOR

Louis Keller

BY *Wetmore Jenner*

+ Thompson his ATTORNEYS.

(No Model.)

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Fig. 2.

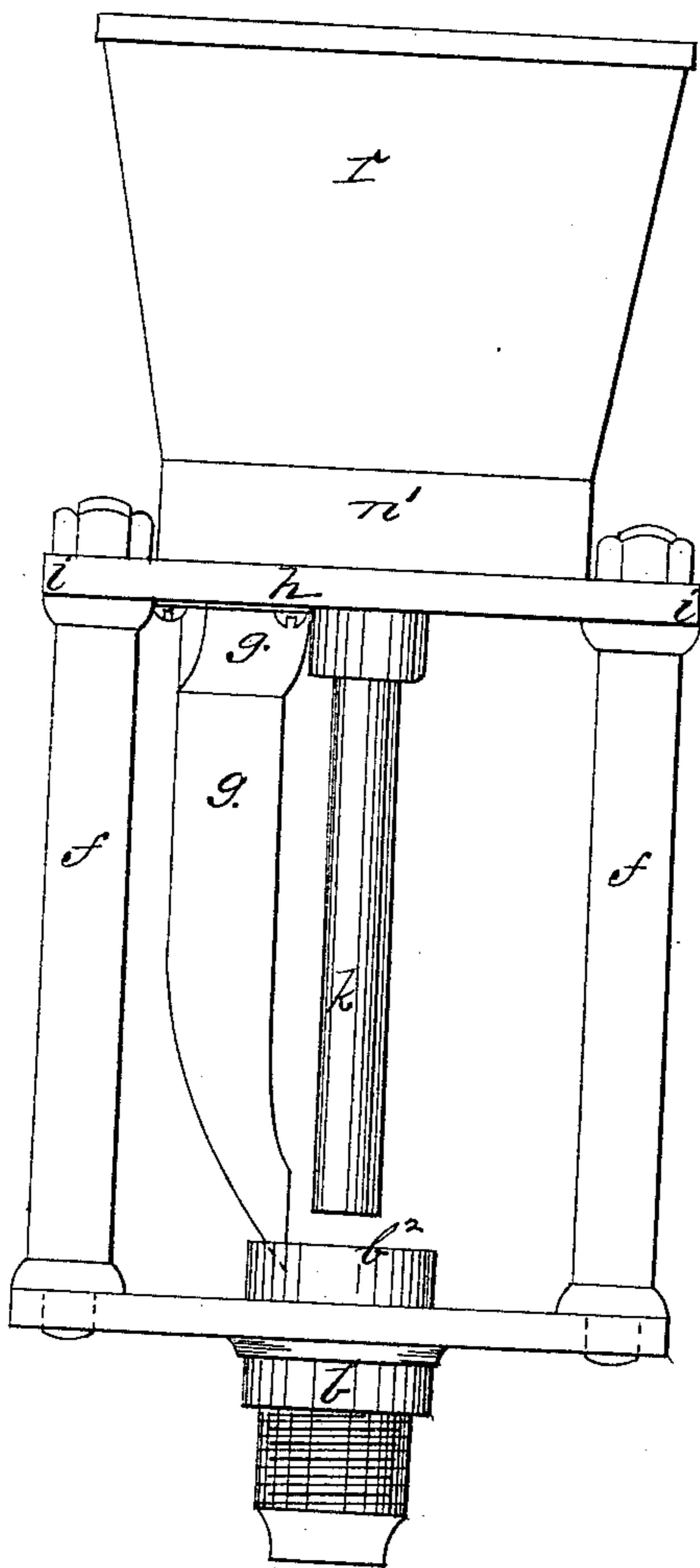


Fig. 3.

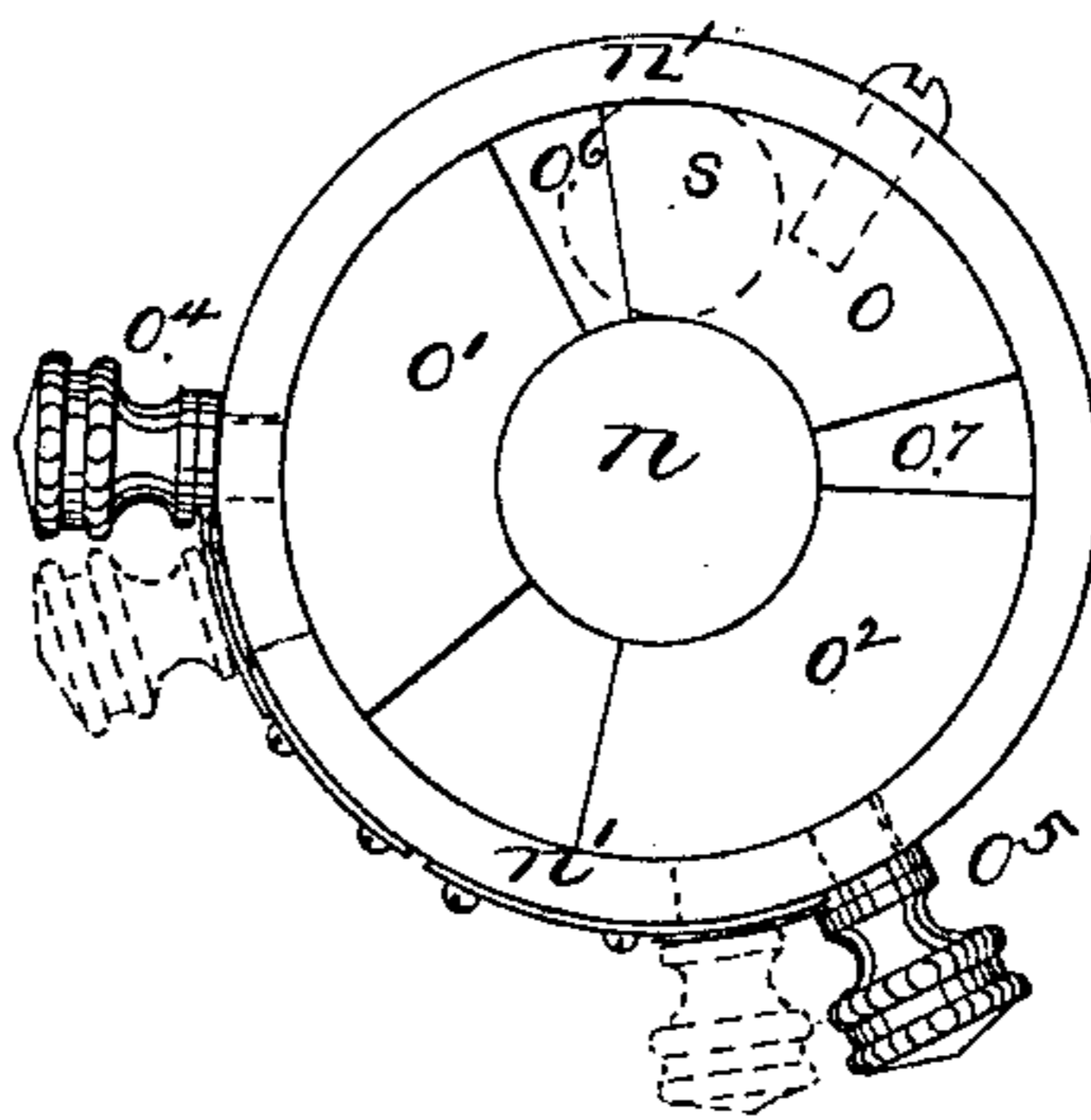
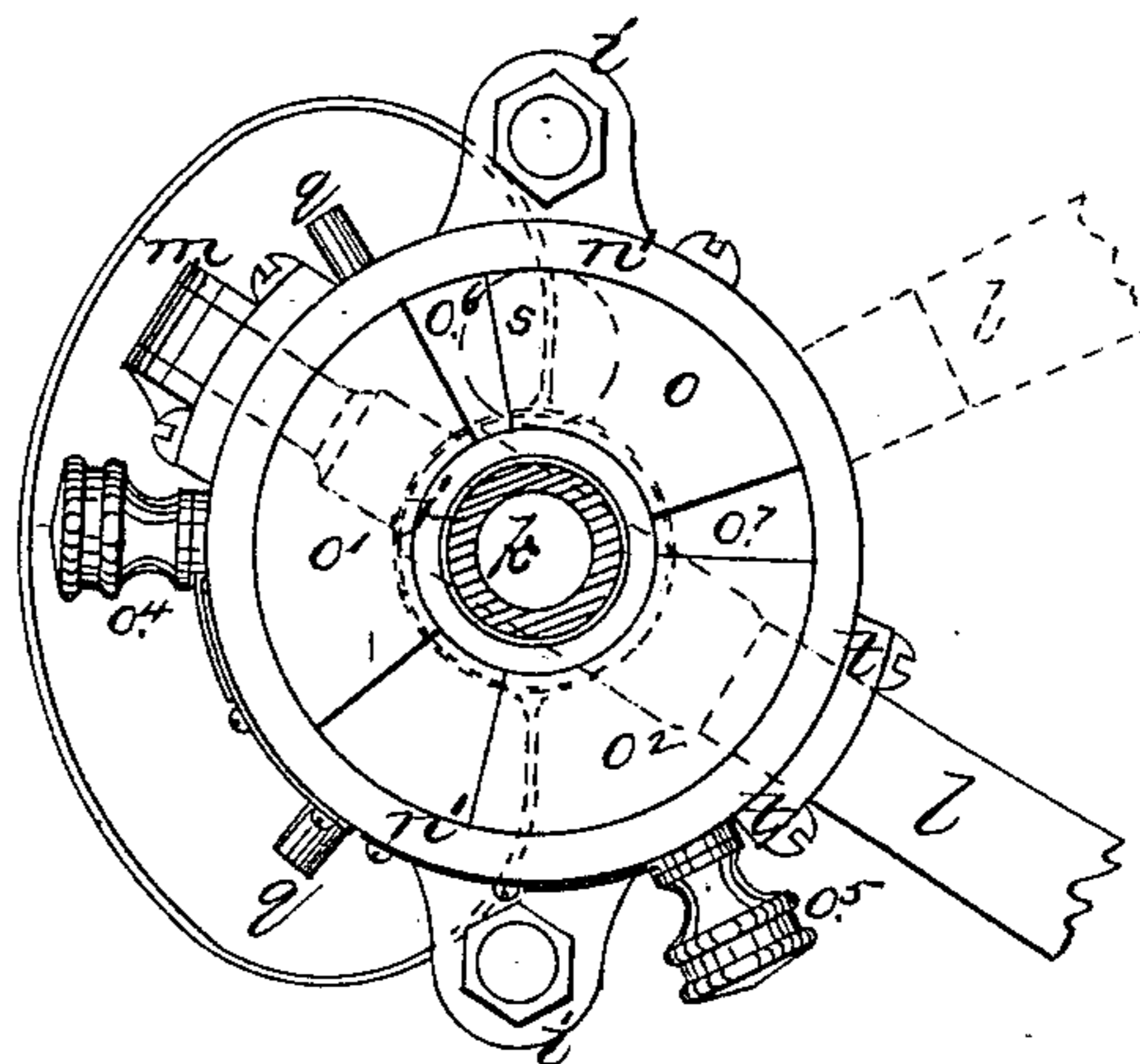


Fig. 4.



WITNESSES:

Phillips Abbott.
H. L. Bennett.

INVENTOR

Louis Keller.

BY *Wetmore Jenner &*
Thompson his ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS KELLER, OF NEW YORK, N. Y.

CARTRIDGE-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 272,060, dated February 13, 1883.

Application filed November 6, 1882. (No model.)

To all whom it may concern :

Be it known that I, LOUIS KELLER, of the city of New York, State and county of New York, have invented a new and useful Improvement in Cartridge-Loading Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to apparatus for loading cartridges, in which the following devices are incorporated, to wit: a hopper divided into two chambers, in one of which the powder is contained and in the other the shot, a gate containing the shot and powder measuring chambers, a tube to convey the powder and shot to the shell, a plunger to force the wads into the cartridge, and a support for the cartridge.

My improvements relate more particularly to the plunger and its actuating-lever, the gate, and the support for the cartridge, and are as follows:

Figure 1 shows a sectional view of the apparatus through the lever which works the plunger. Fig. 2 is a plan view of the apparatus, showing the arrangement of the powder and shot tube, the plunger, and the cartridge-supporting device. Fig. 3 shows a plan of the gate. Fig. 4 shows a view of the gate as operated by the lever.

Like letters indicate like parts in all the figures.

In the drawings, *a* are legs upon which the device is supported. Instead of separate legs the support may be a solid flange-like casting of any desired shape.

a' are holes through the lower ends of the legs, whereby the apparatus may be screwed to a bench or table. An ordinary thumb-screw clamp may be substituted in place of the screws, if desired.

b is a block of metal which sustains the cartridge horizontally. It is fastened to the legs, and through it a hole, *b'*, is formed, of a size suitable to receive and hold the cartridge. At the upper end the block *b* is cut out hopper-like, as at *b²*, so that the powder and shot coming from the conveying-tube shall be more surely guided into the shell, and so that the wads may be more easily located to receive the thrust of the plunger. At the bottom of

the hopper-like part there is an inwardly-projecting circumferential flange or shoulder, *b³*, which protects the upper rim of the shell from injury by the plunger, and also guides it into the shell.

c is a bolt which rotates in a hole formed through the support of the device. On its upper end is a handle or lever, *c'*, and on its lower end is fastened an arm, *c²*, which carries a block of metal, *c³*. This block is the anvil or support for the cartridge. It sustains it vertically. Across its upper face, and on the arc of a circle of which the distance between the center of the block *c³* and the center of the bolt *c* is a radius, is cut a groove, *c⁴*, sufficiently wide and deep to prevent the primer in the end of the cartridge from being rubbed as the block is swung from under it.

c⁵ is a key or pin to prevent the block from turning in the arm *c²*.

d is a set-screw, whereby the block *c³* may be held at such elevation as desired. When it is loosened the block may be slid up and down through the arm to adjust it to cartridges of different length.

e is a tray to contain the wads. It is preferably fastened to the upper portion of the block *b*.

ff are two posts which support the upper part of the apparatus. They rest on the legs at the bottom, and connect with the plate *h* at their upper ends.

g is the powder and shot conveying tube. It connects at the top with a hole through the plate *h*, which plate forms the bottom of the powder and shot chambers in the gate. Upon this plate *h* the gate rests. It also forms the base or platform for the upper part of the apparatus. It is supported by posts *ff*, which preferably pass through two ears projecting from the plate. (Shown at *ii*.) The lower end of the tube *g* discharges into the hopper-like upper end of the cartridge-sustaining block. (Seen at *b²*.)

j is the guide for the plunger. It is also the axis for the gate to swing on. It is fast to the plate *h*. Through it the plunger *k* moves vertically, and also rotates horizontally as the device is operated.

l is the lever or arm which actuates the plunger and the gate. It connects with the

plunger k by a universal or two-motion joint. (Shown at k' .) One end of the lever has a handle on it. The other is pivoted to an arm, m , which is rigidly fastened to the side of the gate. A slot is cut through the lever l horizontally, through which travels the pin k^2 , which connects the lever to the plunger.

n is the gate. (Best shown in Figs. 3 and 4.) Through its center is a hole, the sides of which fit around the plunger-guide j . Its exterior is composed of a ring, n' , set edgewise, and the space intermediate, this ring and the plunger-guide j is partially filled by three blocks, o , o' , and o^2 . The block o is fastened firmly to the ring n' , and the other two are movable circularly within the ring. Set-screws o^4 and o^5 play through slots in the side of the ring n' and enter the blocks o' and o^2 , whereby these blocks can be moved circumferentially and fastened in any desired position, thus enlarging or contracting the chambers o^6 and o^7 , which are respectively the powder and shot measuring chambers. On the side of the ring n' , near the set-screws o^4 and o^5 , respectively, may be placed appropriate graduations, and, if desired, an indicating finger or pointer, whereby the capacity of the chambers, respectively, can be readily ascertained.

q q are two stops suitably located on the plate h , or in any other suitable position, to limit the movement of the gate, as hereinafter stated.

r is the powder and shot hopper. It is divided into two chambers by a partition. In the bottom of the hopper are formed two holes, r' and r^2 . The hole through the plate h , which connects with the conveying-tube g , (seen at s , Figs. 3 and 4,) is located between the holes r' and r^2 , so that when the gate is turned in one direction by a movement of the lever l one of the chambers in the gate—either the powder or the shot chamber, as the case may be—will be brought over the hole s , and the contents of the chamber emptied through the hole s into the conveyer-tube g , and by it carried to the cartridge; and when the lever is moved in the opposite direction the other chamber will in its turn be brought over the hole s and its contents will be emptied into the conveyer, and by it, in like manner, carried to the cartridge; and the holes in the bottom of the hopper are so located that when one of the chambers in the gate is discharging its contents into the conveyer-tube the other chamber will be filled either with powder or shot, as the case may be, from the hopper.

t t are two pins, between which the lever, when in its most elevated position, rests, and by its impingement against them the gate is more easily and smoothly turned. They are not, however, essential.

u is a spring which holds the plunger and lever in their most elevated position when no downward pressure is exerted on the lever, and it retracts them when such pressure is removed.

The operation is as follows: The block c^3 is swung out from under the cartridge-sustaining block b , either by turning the handle c' or by simply taking hold of the block c^2 and pulling it away. (And here I will state that the handle c' is not essential to the successful operation of the apparatus. The bolt c may be fastened in the base of the apparatus and the arm c^2 simply rotate upon it.) The cartridge is then introduced into the hole b' in the block b from below. The supporting-block c^3 is then swung back under the head of the cartridge. The lever l is then swung horizontally to the right or the left, as the case may be, (depending upon which chamber in the gate contains the powder,) until it brings up against the appropriate stop, q . While being thus swung the plunger rotates in its guide j . The powder will then drop into the conveyer-tube g and be emptied into the cartridge, and the shot-chamber in the gate will be filled from the hopper. A wad is then slid from the tray e into the center of the hopper-like upper end of the cartridge-sustaining block b . The lever is then depressed, carrying down with it the plunger k , which forces the wad home. The lever and plunger are then allowed to ascend, being retracted by the spring u , and the lever is then swung horizontally in the opposite direction until it is arrested by the second stop q . When this takes place the shot will descend through the hole s in the plate h and the conveyer-tube g into the cartridge, as did the powder, and while this is taking place the powder-chamber in the gate is being refilled from the hopper. A second wad is then, as before, placed centrally in the upper end of the block b and the plunger again brought down by pressure on the lever. The cartridge is now loaded. The anvil or cartridge-supporting block c^3 is now a second time swung out from under the loaded cartridge, and if the cartridge sticks in the block b the lever l being again brought down the plunger will force the cartridge out.

Among the benefits arising from my invention are the following:

First, both the gate and the plunger are operated by the same lever, requiring but one hand.

Second, if the cartridge sticks it can be at once forced out by the lever and plunger.

Third, the capacity of the powder and shot chambers in the gate can be easily and quickly changed without the aid of tools.

Having thus described my invention, I claim—

1. The combination, in a cartridge-loading apparatus, of suitable receptacles for containing the powder and shot, connecting with a movable gate which contains the shot and powder measuring chambers, means for conveying the shot and powder from the gate to the cartridge, a plunger to force the wads into the cartridge, a lever so connected with the plunger and the gate that they may both be operated by it, a block to retain the cartridge lat-

erally placed in line with the plunger, and a swinging block or support against which the head of the cartridge rests, which swinging block may be swung out from under the cartridge, so that it may be forced out from the stationary laterally-supporting block, and all supported on a suitable base or standard, substantially as and for the purposes set forth.

2. The combination, in a cartridge loading apparatus, of suitable receptacles for containing the powder and shot, connecting with a movable gate, which contains two measuring-chambers, one for the powder and the other for the shot, means for conveying the powder and shot from the gate to the cartridge, a plunger placed over or in line with the cartridge-supporting device, and a lever so con-

nected with the gate and with the plunger that they may both be operated by it, all being supported by a suitable base or standard, substantially as and for the purposes set forth.

3. In a cartridge-loading apparatus, the combination of the swinging arm c^2 , pivoted to the base of the apparatus, the vertically-supporting block c^3 , provided with the radially-cut groove c^4 , the pin c^5 , to prevent turning of the supporting-block c^3 , and means for adjusting the block c^3 vertically in the arm c^2 , substantially as and for the purposes set forth.

LOUIS KELLER.

Witnesses:

PHILLIPS ABBOTT,
JOHN J. CAULDWELL.