

(No Model.)

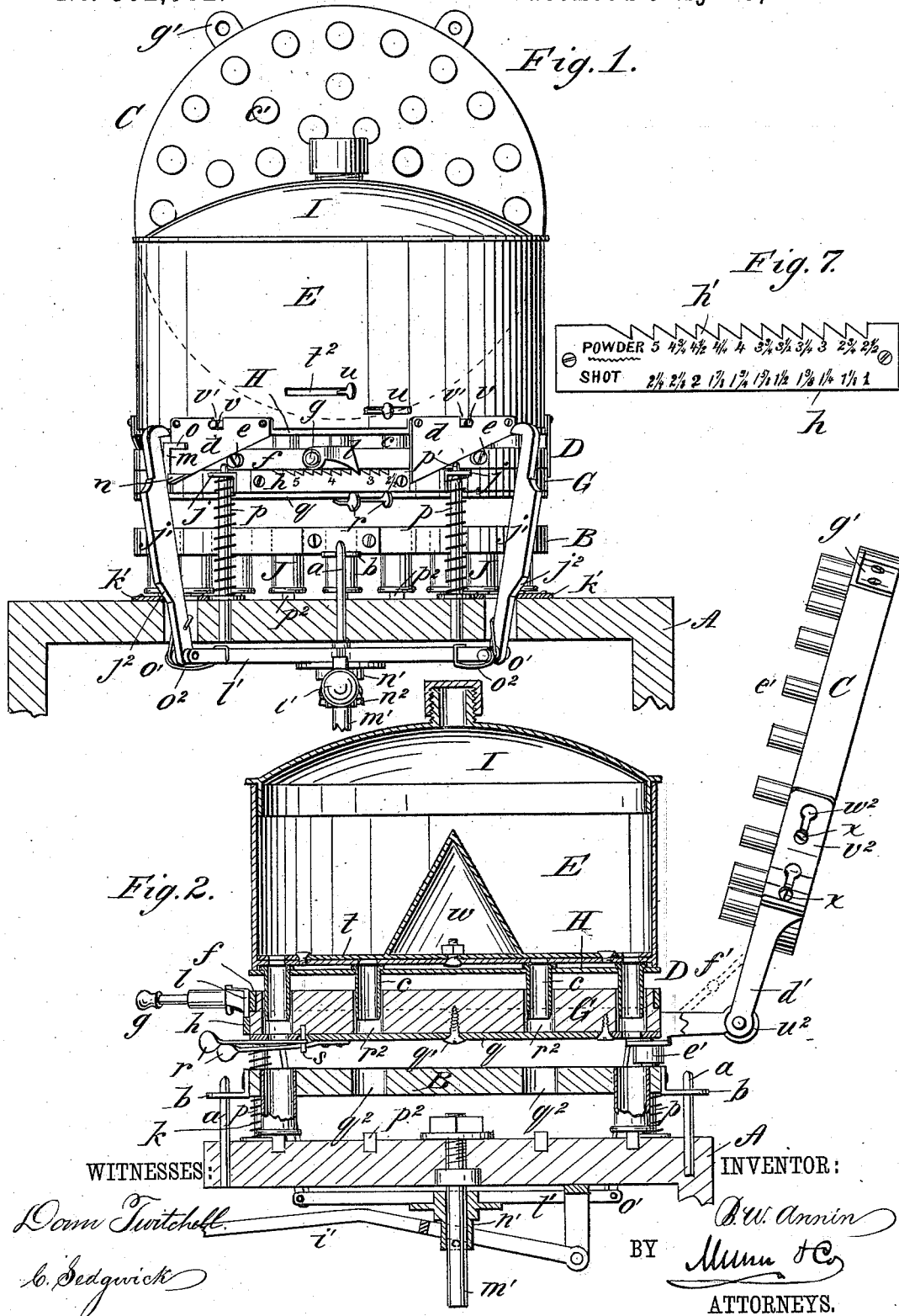
2 Sheets—Sheet 1.

B. W. ANNIN.

CARTRIDGE LOADING MACHINE.

No. 302,082.

Patented July 15, 1884.



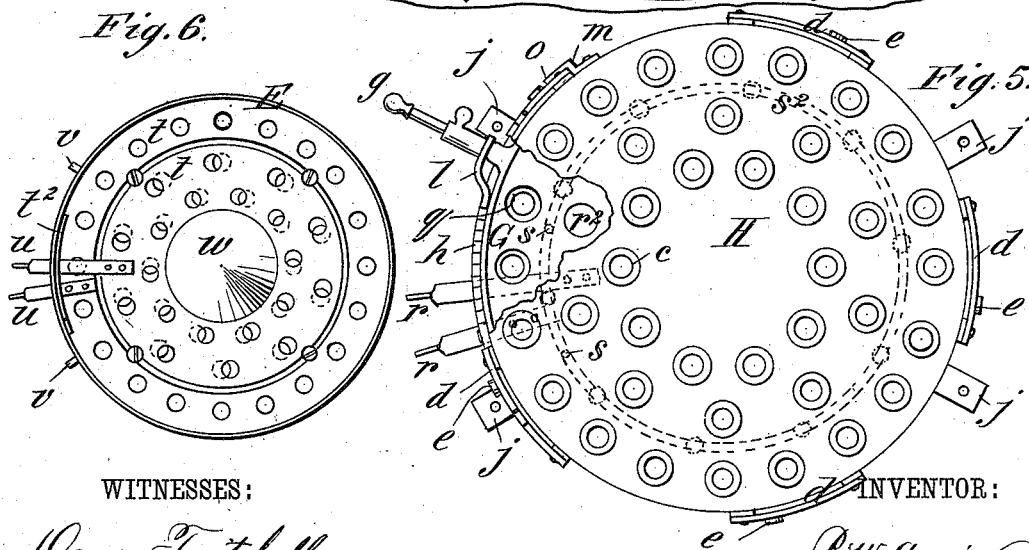
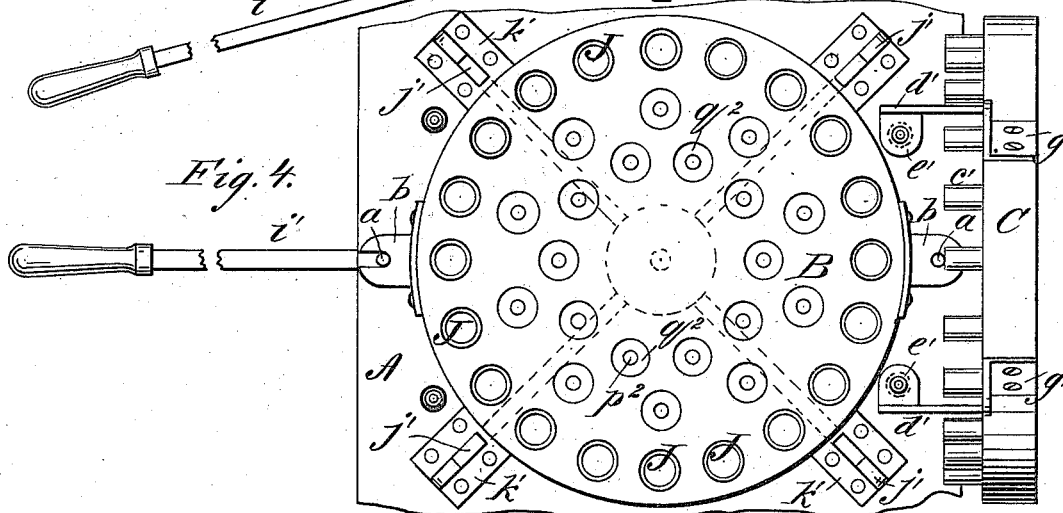
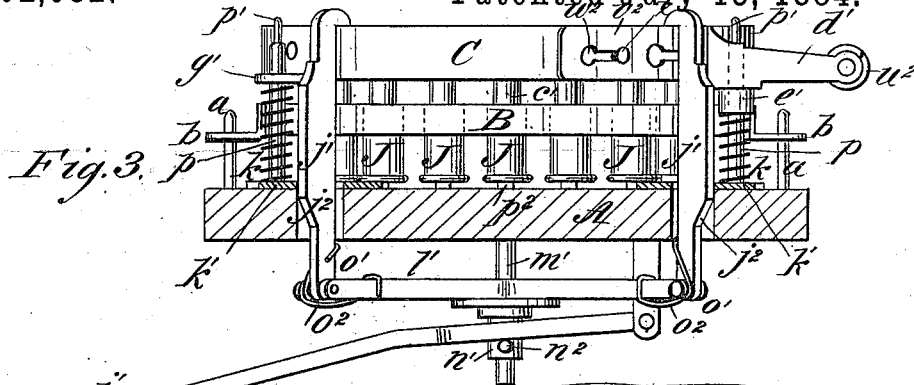
(No Model.)

2 Sheets—Sheet 2.

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WITNESSES:

*Donn Twitchell.*  
*C. Sedgwick*

INVENTOR:

BY

*B. W. Annin*  
*Munn & Co.*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

BRYANT WARD ANNIN, OF HANNIBAL, MISSOURI.

## CARTRIDGE-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 302,082, dated July 15, 1884.

Application filed November 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, BRYANT WARD ANNIN, of Hannibal, in the county of Marion and State of Missouri, have invented a new and Improved Cartridge-Loader, of which the following is a full, clear, and exact description.

My invention consists of a machine for loading cartridges, comprising the following elements: a holding-disk provided with a series of apertures for holding the cartridge-shells in upright position, an adjustable loading-gage containing receptacles for ammunition, corresponding to the apertures in the holder, said gage being adapted to fit upon the holder and discharge the contents of the receptacles into the shells in the holder, a device attached to the gage for effecting the discharge of the ammunition therefrom into the shells, a movable canister adapted to fit upon the gage, said canister being provided with a discharging device and apertures corresponding to the receptacles of the loader, and a rammer device provided with ramming-plugs corresponding to the number of shells to be filled, said rammer and the cartridge-loader being provided with a device for working the rammer and pressing the plugs into the mouths of the shells after they are charged with ammunition, all being contrived in a simple arrangement for enabling a large number of shells to be loaded simultaneously and expeditiously, as hereinafter fully described.

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 the improved machine and a section of the table on which it stands, showing the apparatus adjusted for loading the shells. Fig. 2 is a central sectional elevation of the loader and a side elevation of the ramming device. Fig. 3 is a side elevation and a section of the table, showing the operation of the ramming device, the canister and loading-gage being removed. Fig. 4 is a plan view of the holder for the cartridges, and showing the ramming device turned back and raised off the holder, as for applying the loading-gage and canister. Fig. 5 is a plan view of the loading-gage. Fig. 6 is a plan view, on a smaller scale, of the canister with

the cover removed. Fig. 7 is an enlarged view of the graduated scale and ratchet.

The disk B is the holder for the cartridges J, which are to be inserted in the apertures  $q^2$  of said disk and placed on the table A with the head of the cartridges either capped or not, resting on the table or on pins  $p^2$ , inserted in the table, the holder being gaged by the ear-lugs  $b$  of the holder on the posts  $a$  of the table.

D represents the loading-gage, having receptacles for the ammunition, and E the canister for loading the shells by delivering the ammunition from the canister into the receptacles of the loading-gage for measuring the charges and discharging the charges from said receptacles into the shells. The disk G of this gage has apertures  $r^2$ , forming said receptacles, and corresponding with those of the shell-holder B, and they are made extensible for varying the amount of the charges by means of the tubes  $c$ , attached to the metal disk H, and entering the apertures  $r^2$  of disk G. Beveled plates  $d$  are attached to disk H to raise and lower said disk H by the movement of the stud-pins  $e$  of the ring  $f$ , which ring  $f$  is fitted to the disk G, to be shifted forward and backward by the handle  $g$ , which may be turned to the right hand to allow disk H to descend and contract the charging-receptacles by allowing tubes  $c$  to descend into the apertures of disk G, and may be turned to the left hand to raise said tubes, and extend the receptacles. A graduated scale,  $h$ , with ratchet-notches  $h'$  in the upper edge, is attached to the disk G, and a stop-pawl,  $l$ , is arranged on the ring  $f$ , by which to set the receptacles for any desired size of charge. A guide,  $m$ , is attached to the periphery of the disk G below the ring  $f$ , and next to handle  $g$ , and arranged with relation to the plates  $d$ , suitably for resisting the forward thrust of the stud-pins  $e$ , and that plate  $d$  which moves in the guide  $m$  has a stop,  $n$ , below the arm  $o$  of said guide  $m$ , to limit the rise of the tube by the said inclined plates  $d$  and the stud-pins  $e$  of the shifting ring  $f$ . These inclined plates  $d$  confine the disk H on the disk G of the loader by projecting down over the periphery of said disk, and fitting closely thereto. The disk G of the loader D has projecting ear-lugs  $j$ , by which it rests on the points  $p'$  of the posts  $p$  of ta-

ble A, to be supported thereby over the shell-holder B. On the under side of the disk G of the loader there is a sheet-metal disk, *q*, fitted to turn on a central pivot, *q'*, and having apertures corresponding to the loading-receptacles for a gate to close them while being charged from the canister E above, and for opening the receptacles to let the charges fall into the shells after being filled.

For convenience of loading a smaller number of cartridges than the whole number provided for, the disk *q* is divided into two sections, as indicated by the dotted lines *s*<sup>2</sup>, Fig. 5, and each section is provided with a handle, *r*, so that part of the receptacles may remain closed, while the others may be opened for loading a number of shells corresponding to the number of receptacles controlled by one section of the gate. The stop-pins *s* in the bottom of the disk G limit the movements of the handles *r* for closing the receptacles.

The canister consists of a case, E, of sheet metal, adapted to be set over the disk H, so as to rise and fall with it, and having apertures in the bottom corresponding with the apertures in said disk, together with a gate, *t*, over the bottom to open and close said apertures by turning on a central pivot, said gate having corresponding apertures, and, like the gate of the loader, it is made in two sections, to be worked separately when required, each section having a handle, *u*, for turning it. Guard-plates *t'* are fixed upon the handle *u*, to fit over and close the slots in which the said handles move. The canister is also provided with a couple of stud-pins, *v*, which drop into notches *v'* of a couple of the plates, *d*, to insure the proper relation of its apertures with those of disk H. The canister has a removable cover, I, for opening it, when required, for putting in the ammunition, and in the bottom a cone, *w*, is placed to fill the central space and effect more complete discharge of the contents. Two such canisters will be used when loading with powder and shot—one for each material. When the shells have been charged with powder from the canister E, said canister and the loader are to be removed and wads are to be placed in the shells, to be rammed in them by the rammers *c'*, attached to the disk C, which is supported on two of the posts *p* by a couple of stop-hinges, *d'*, having sockets *c'*, and placed below the ear-lugs *j* and above the springs *k* on said posts. Said hinges may have jointed stays *f'*, but are preferably provided with lugs *u*<sup>2</sup>, by which the rammer-disk C is supported on the hinges *d'* in the raised position, as represented in Fig. 2, while the canister and the loader are in position. That end of the hinge *d'* which is attached to the rammer-disk C is provided with a curved piece, *v*<sup>2</sup>, having slots *w*<sup>2</sup>, enlarged at one end to receive the headed pins *x* of the disk, by which the hinges are secured to said disk, by which construction rammer-disks fitted with rammers of different sizes for shells of different numbers may be applied to the loader, all

the different parts of which loader may be also correspondingly fitted for shells of different sizes. This rammer swings down over the shells, its ear-lugs *g'* dropping on the other two of the four posts *p*, which, with the posts holding the sockets *c'* of the hinges, form guides to insure the rammers entering the shells properly. The lever *i'*, being then pressed down, forces the rammer down by the hooks *j'* to ram the wads into the shells. The hooks *j'* extend down through the plates *k'*, attached to the table, and also through said table to the spider or cross-head *l'*, fitted on the guide-stud *m'* by the sleeve *n'*, having pins *n*<sup>2</sup>, whereby to be worked by the lever *i'*. The hooks *j'* are pivoted at *o'* to the cross-head, and have a spring, *o*<sup>2</sup>, to disconnect them from the rammer when the lever rises. They are caused to swing forward and engage the rammer when the lever *i'* is pressed down by the inclines *j*<sup>2</sup> of said hooks acting on the slotted plates *k'*, through which the hooks pass. The springs *k* on the posts *p* raise the rammer up again on said posts *p*, to permit it to be swung up on the hinges, to allow the loader and the shot-canister to be put on for charging the shells with shot in the same manner as above described with powder, after which the shot canister and loader are again removed, and wads are applied to the shells above the shot and seated by the rammer, as before, above the powder.

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

1. A mechanism for loading cartridge-shells containing the following elements, namely: a holder provided with a series of apertures for holding the cartridge-shells in upright position, an adjustable loading-gage containing receptacles for ammunition corresponding to the apertures in the holder, said gage being adapted to fit upon the holder and discharge the contents of the receptacles into the shells in the holder, a device attached to the gage for effecting the discharge of the ammunition therefrom into the shells, a movable canister adapted to fit upon the gage, said canister being provided with a discharging device and apertures corresponding to the receptacles of the loader, and a rammer device provided with ramming-plugs corresponding to the number of shells to be filled, said rammer and cartridge-holder being provided with a device for working the rammer and pressing the plugs into the mouths of the shells after they are charged with ammunition, all substantially as herein shown and described.

2. The combination, in a cartridge-loading mechanism, of a holder provided with a series of apertures for holding the cartridge-shells in upright position, an adjustable loading-gage containing receptacles for ammunition corresponding to the apertures in the holder, and having a disk provided with a ratchet engaged by a pawl, said gage being adapted to fit upon the holder and discharge the contents of the receptacles into the shells in the holder,

a device attached to the gage for effecting the discharge of ammunition therefrom into the shells, and a movable canister adapted to fit upon the gage, said canister being provided with a discharging device, and apertures corresponding to the receptacles of the loader, all substantially as herein shown and described.

3. The combination, in a cartridge-loading mechanism, of a holder provided with a series of apertures for holding the cartridge-shells in upright position, a gage having a disk provided with a series of apertures, said holder and gage having ear-lugs arranged upon posts of the table, and a ramming device provided with ramming-plugs corresponding with the apertures for holding the shells, said rammer and the cartridge-holder being provided with a device for working the rammer and pressing the plugs into the mouths of the shells after they are charged with ammunition, substantially as herein shown and described.

4. In a cartridge-loader, a gage having a disk provided with apertures, and having a guide-stop provided with an arm, and a plate adjustably arranged upon the disk, and having incline-edged plates provided with a projection below the aforesaid arm, said plate carrying tubes corresponding in number and position with the apertures in the disk, and entering within the same, substantially as described.

5. The loading-gage D, having adjustable receptacles for ammunition, a device for discharging the contents of the receptacles into the shells, and ear-lugs *j*, in combination with the cartridge-holder B, having apertures for the shells and ear-lugs *b*, said loading-gage and cartridge-holder being arranged on the table A by supporting guiding-posts *a* and *p*, substantially as herein shown and described.

6. The adjustable loading-gage D, consisting of disk G, having apertures *r*<sup>2</sup>, disk H, provided with the tubes *c*, extending into said apertures, the adjusting-ring *f*, having studs *e* and handle *g*, the inclined plates *d*, attached to the disk H, one of said plates having a stop, *n*, below the arm *o* of one of the guide-stops *m*, connected to the disk G of the gage, and the apertured discharging-gate *q*, all combined and arranged substantially as described.

7. The combination of an apertured discharging-gate, *q*, with the loading-gage D, made in two concentric sections, and each section provided with a handle and arranged to

be operated independently of the other section, substantially as described.

8. The combination of the canister E, having apertured bottom and an apertured discharging-gate, said gate being made in two sections, each arranged to be operated independently of the other, with the loading-gage D, substantially as described.

9. The rammer C, mounted on hinges *d'*, supported by sockets *e'* on posts *p*, having springs *k*, in combination with the shell-holder B, rammer-operating lever *i'*, and hooks *j'*, the said rammer having ear-lugs *g'*, closing on other posts *p*, having springs *k*, substantially as described.

10. The hooks *j'*, for operating the rammer C, connected to cross-head *l*, and arranged in the slotted plates *k'* and through table A, and having inclines *j'*<sup>2</sup> and the springs *o'*, in combination with rammer C and the shell-holder B, substantially as described.

11. The gage guide-stop *m*, having arm *o*, and being attached to disk G, in combination with a plate, *d*, and adjusting-disk H of the loading-gage, substantially as described.

12. The notched setting-gage *h* and pawl *l*, in combination with the adjusting-ring *f* and the disks G and H of the adjustable loader, substantially as described.

13. In a cartridge-loader, the stop-hinge *d'*, having one arm provided with a sleeve, *e'*, and its other arm with a curved piece, *v'*, having slots *w'*, enlarged at one end, in combination with the rammer-disk C, provided with headed pins *x*, and the shell-holder B, substantially as described.

14. In a cartridge-loader, the combination, with the apertured disk G of the loading-gage D, having a notched and graduated scale, *h*, and the movable ring *f*, arranged upon the disk G, and provided with a pawl and with fixed pins, of the plate H, carrying tubes *c*, and provided with downwardly-projecting beveled plates *d*, substantially as described.

15. The combination, with the disk G, provided with a guide-stop, *m o*, of the ring *f* and the disk H, having beveled plates *d*, one of said plates being provided with a stop, *n*, substantially as described.

BRYANT WARD ANNIN.

Witnesses:

J. VAN BROWN,  
W. G. BROWN.