

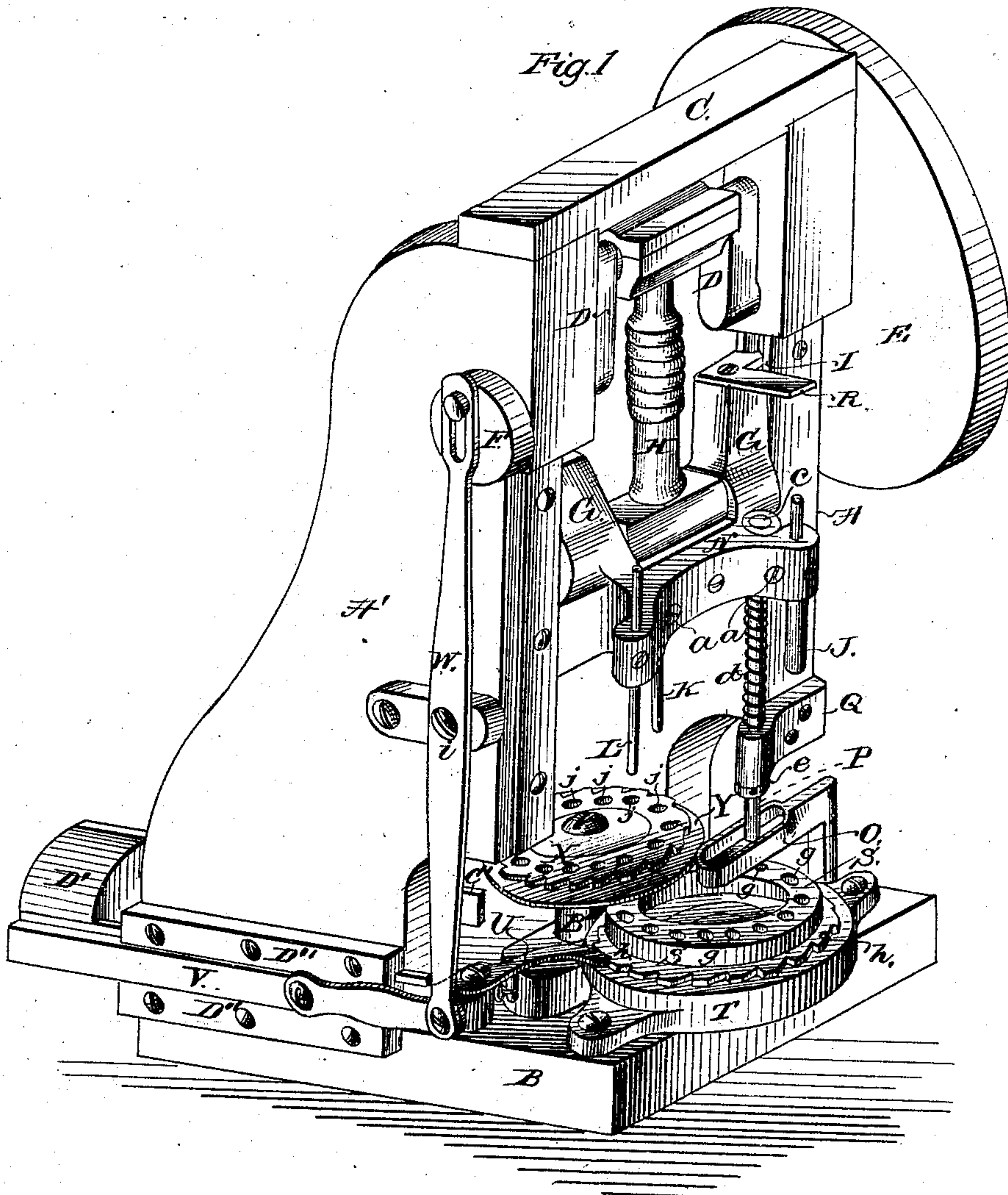
(No Model.)

3 Sheets—Sheet 1.

A. C. HOBBS.

Cartridge Re-enforce Pasting Machine.  
No. 237,276.

Patented Feb. 1, 1881.



WITNESSES

*John F. C. Prinkert*

*J. M. Smith*

*A. C. Hobbs.*

INVENTOR

By *G. M. Crittenden* ATTORNEYS

(No Model.)

3 Sheets—Sheet 2.

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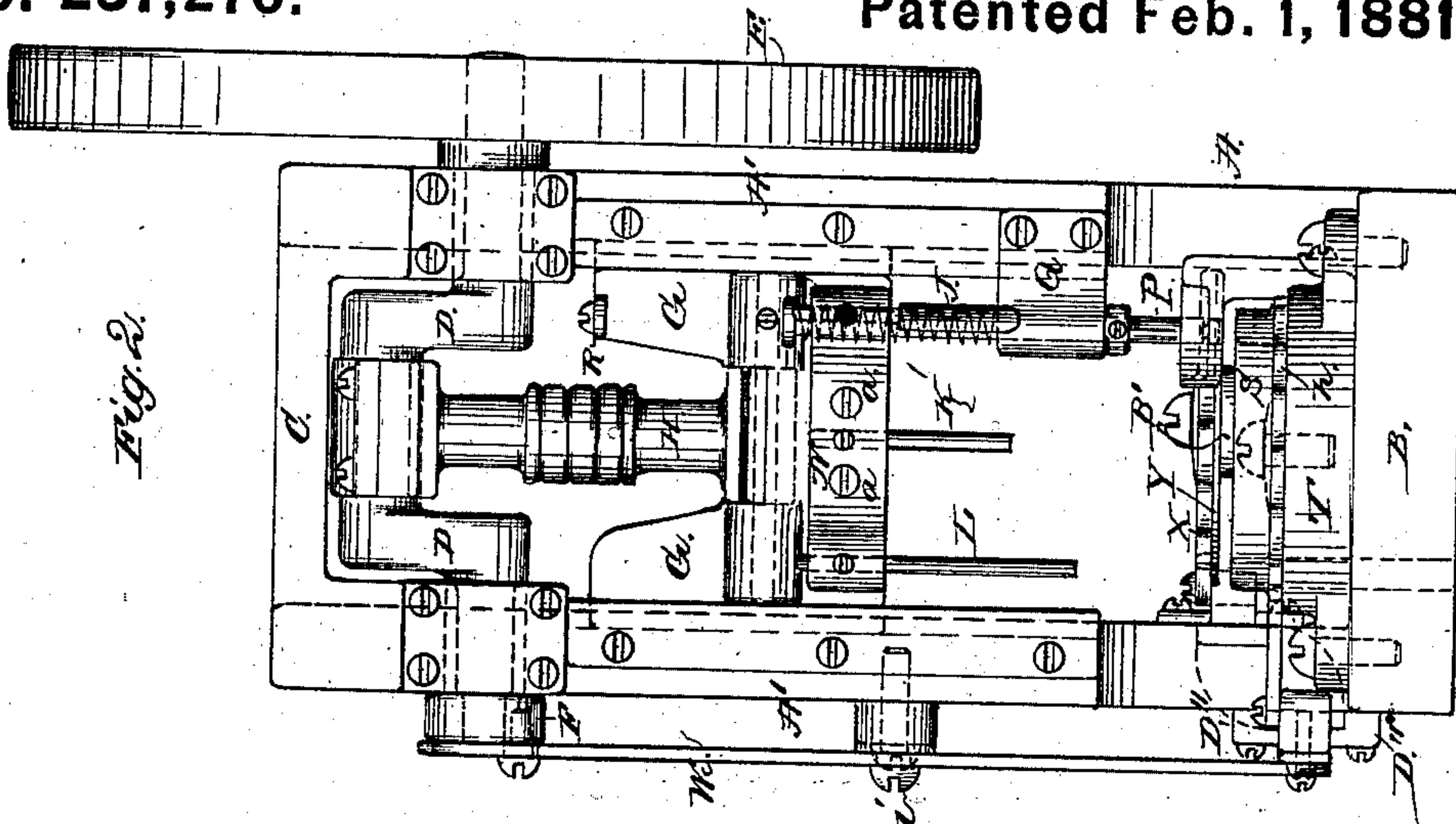


Fig. 2.

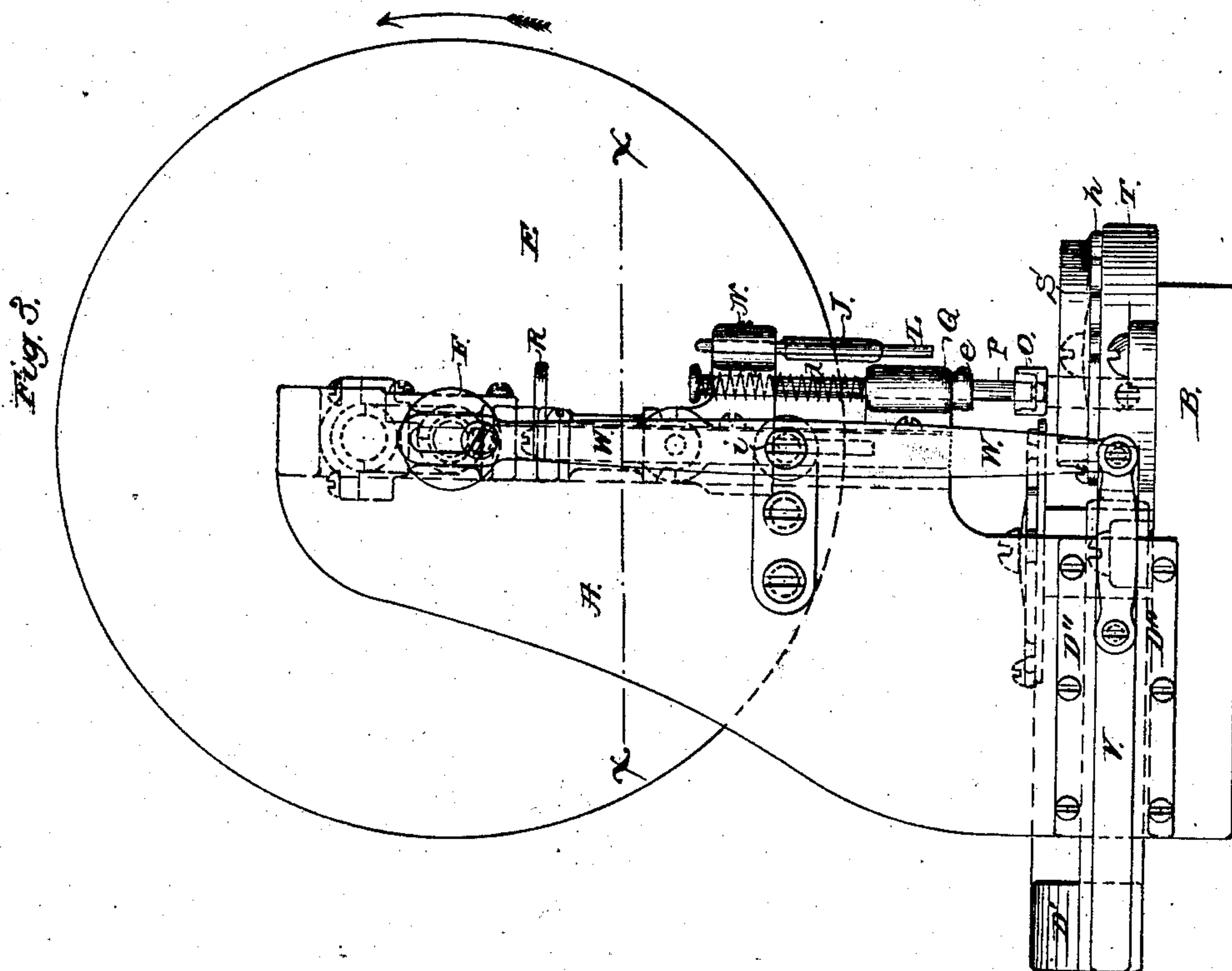


Fig. 3.

Witnesses.  
John F. C. Prinkert

J. W. Smith

A. C. Hobbs. *Inventor.*

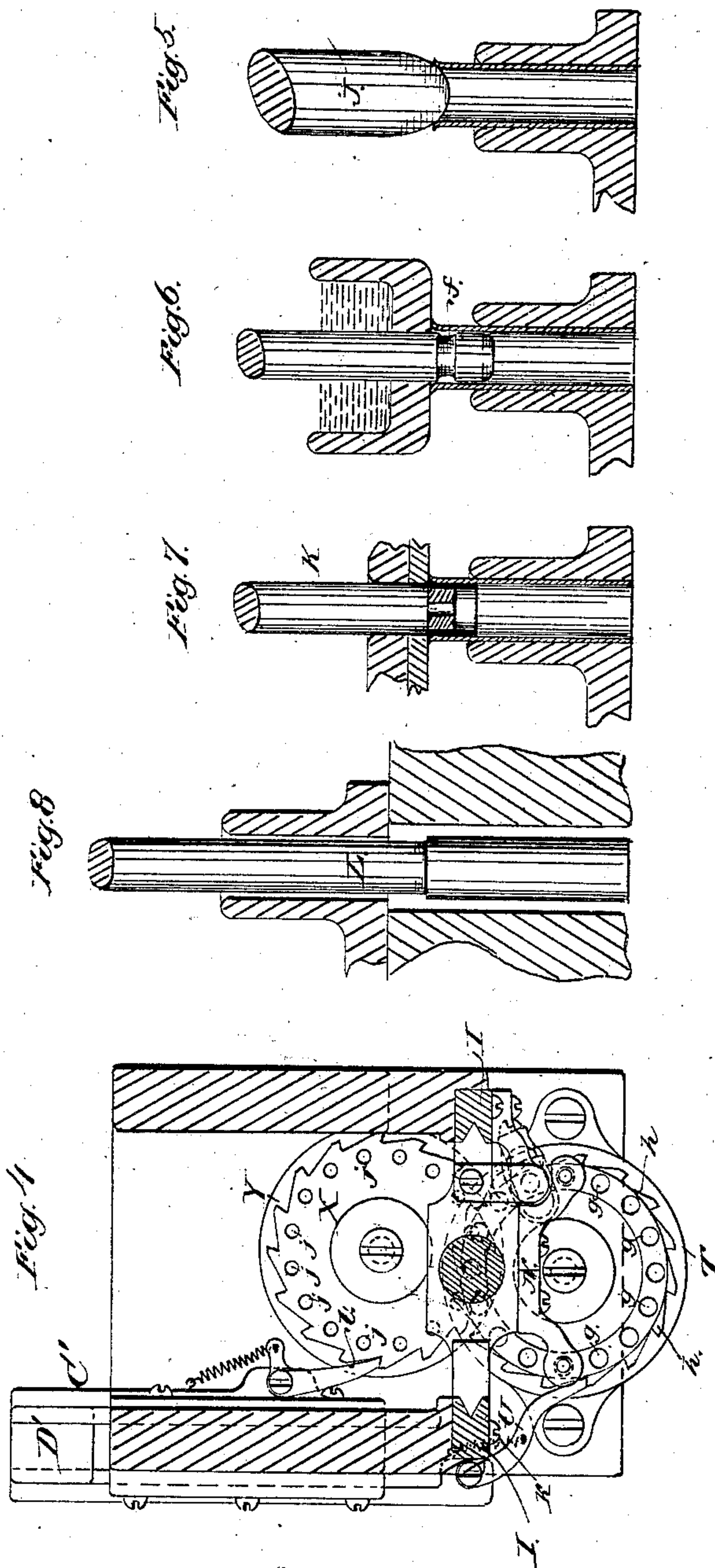
By Wm. C. Whitcomb Attorney.



(No Model.)

3 Sheets—Sheet 3.

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John F. C. Pomeroy  
J. M. Smith

A. C. Hobbs. Inventor

By Wm. C. Cruikshank Attorney.



# UNITED STATES PATENT OFFICE.

ALFRED C. HOBBS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO UNION METALLIC CARTRIDGE COMPANY, OF SAME PLACE.

## CARTRIDGE RE-ENFORCE PASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,276, dated February 1, 1881.

Application filed May 3, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, A. C. HOBBS, a citizen of the United States, residing at Bridgeport, Connecticut, have invented new and useful Improvements in Re-Enforce Pasting Machines for Cartridges, of which the following is a specification.

Paper shells for cartridges are now made with what is well known as a "re-enforce," which consists of a short paper tube located within the end of the shell. It has been found very desirable to secure these short tubes in place by pasting; and my invention relates to a machine adapted to accomplish this result. It has for its objects to automatically feed the open-ended shells successively to an expander and a pasting device and then under a re-enforce carrier where the re-enforce is automatically forced into position within the head end of the shell; and with these ends in view my invention consists in the construction and arrangement hereinafter described for accomplishing the results named.

In order that those skilled may fully understand my invention, I will proceed to describe, in detail, the construction of my improved machine and its mode of operation, referring by letters to the accompanying drawings, in which—

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a front view of the same. Fig. 3 is a side elevation. Fig. 4 is a horizontal section, taken at the line  $x x$  of Fig. 3; Fig. 5, a detail vertical section, showing the expanding-plunger and shell, &c.; Fig. 6, a similar view of the paste-box, plunger, and shell; Fig. 7, a similar view, showing the re-enforced driven "home" to its place in the end of the shell; and Fig. 8, a similar view, showing the finished shell in the act of being ejected.

Similar letters indicate like parts in the several views.

A A' are the side frames of the machine, which are erected upon a bed, B, and rigidly held at the top by a bridge or plate, C.

D is a crank-shaft, arranged at the top in suitable bearings in the side frames, and provided at one end with a power-pulley, E, and at the opposite end with an eccentric, F.

G is a plunger-carrier, which is connected by a pitman, H, to the crank-shaft D, and adapted to be reciprocated vertically in side guides, I I, secured to the frames A A'.

J is the expander-plunger; K, a plunger for forcing the re-enforce tube into the shell, and L an ejector-plunger, all vertically and adjustably arranged in the head G by means of binding-screws, as clearly shown at Fig. 1. The head G may be made in one piece, or the forwardly-projecting portion N may be made separate and secured in place by bolts  $a a$ .

O is a paste-fountain mounted upon the bed and arranged over the shell-carrier, and P is the paste-plunger, arranged to reciprocate vertically in a bracket-bearing, Q, secured to the side frame, A. The plunger P is provided with a cap,  $c$ , and spiral spring  $d$ , by means of which it is elevated when released from pressure, an adjustable collar,  $e$ , limiting the upward movement.

R is a horizontal rigid arm or tappet secured to the head G, and is so arranged that during the downward movement of said head the tappet will come in contact with the cap  $c$  and force the paste-plunger P down, the spiral spring  $d$  returning the plunger when the head ascends. The plunger P travels through a hole in the bottom of the paste-fountain, the proper quantity of paste being carried therefrom by the annular groove  $f$ , Fig. 6, near the lower end of the plunger.

S is a circular shell-carrier, in which are formed a series of holes,  $g$ , adapted to receive the ordinary paper-shell tubes, the depth of these holes being such that the paper shells shall project slightly above the same. This carrier is pivoted to a block, T, secured to the bed B. A series of ratchet-teeth,  $h$ , are formed on the periphery of the carrier S, so that the same may be rotated by a spring-pawl, U, pivoted to a horizontally-reciprocating bar, V. Motion is applied to the bar V by a walking-beam, W, which is pivoted at  $i$  to the side frame, A', and connected at its upper end to the eccentric F, and at the lower end to the front end of the bar V. The pawl U is held in operative position by a spiral spring,  $k$ , Fig. 4.

X is a circular plate with a series of pockets,  $j$ , for carrying the re-enforce tubes. This plate



X is pivoted to another plate, Y, which is mounted upon a post or block, B', secured to the bed B. The re-enforce carrier X and plate Y extend over the shell-carrier S, as clearly shown at Figs. 1 and 4, the plate Y having a single hole registering with the pockets *g j* in the two carriers, so that the re-enforce tubes may at the proper time be forced down vertically into the end of the shells, as will be hereinafter explained. The re-enforce carrier is rotated in unison with the shell-carrier and in a similar manner by a spring-pawl, *l*, pivoted to a horizontally-reciprocating bar, C'; which is connected to the bar V by a head-block, D', (see Fig. 4,) the two bars V and C' moving in suitable guides or ways D'' secured on each side of the side frame, A'.

Operation: The several parts being properly adjusted, the carrier S is loaded with shell-tubes and the carrier X with re-enforce tubes and motion is imparted to the pulley E. The rotation of the crank-shaft D causes the head G to descend. The plunger J is forced into the open end of the shell-tube, brought immediately beneath the same by the rotation of the carrier. The continued rotation of the shaft D then causes the head to ascend, and in its next downward movement the shell-carrier is rotated a distance sufficient to carry the previously expanded shell immediately under the paste-box and plunger, so that as the descent is continued the expanding-plunger J distends another shell, and the paste-plunger P, carrying a supply of paste, enters the previously distended shell and wipes therein a supply of paste. This operation and movement continues until the first expanded shell, with its supply of paste, comes into line with the plunger K, which forces one of the re-enforces down and into the open and expanded shell-tube, as illustrated at Fig. 6. A continuation of movement brings the first shell, with the re-enforce pasted therein, into line

with the ejector L, which forces the completed shell down through the carrier-block T, which has a hole or channel cut therein for that purpose, the movements of the several parts being timed to permit of the operation just described. It will be readily understood that new shells and re-enforce tubes may be fed to their respective carriers either by hand or automatically, it involving no invention to apply such feeding mechanism. I do not wish to confine myself to the exact details of construction and arrangement, as they may be varied in many particulars without departing from the spirit of my invention, the gist of which rests in the idea of automatically feeding, expanding, and pasting the shell-tubes, feeding and depositing in place the re-enforce tubes, and ejecting the completed shells.

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

1. The combination of the rotary shell-carrier S, the vertically-reciprocating expanding-plunger J, the pasting mechanism, consisting of the paste-box O and grooved plunger P, the re-enforce carrier X, plunger K, and ejector L, whereby the shells are fed, expanded, and subsequently pasted, the re-enforces inserted and forced into position, and the completed article subsequently ejected from the machine, as hereinbefore set forth.

2. In combination with the rotary shell-carrier S and head G, provided with projecting arm R, the paste-box O and plunger P, provided with annular paste-carrying groove, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ALFRED C. HOBBS. [L. S.]

Witnesses:

SAML. T. HOUGHTON,  
ROBT. I. WHITE.