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PATENTED FEB. 26, 1907.

B. W. STEVENS & W. HANSON.

WAD STAMPING DEVICE.

APPLICATION FILED FEB. 6, 1906.

3 SHEETS—SHEET 1.

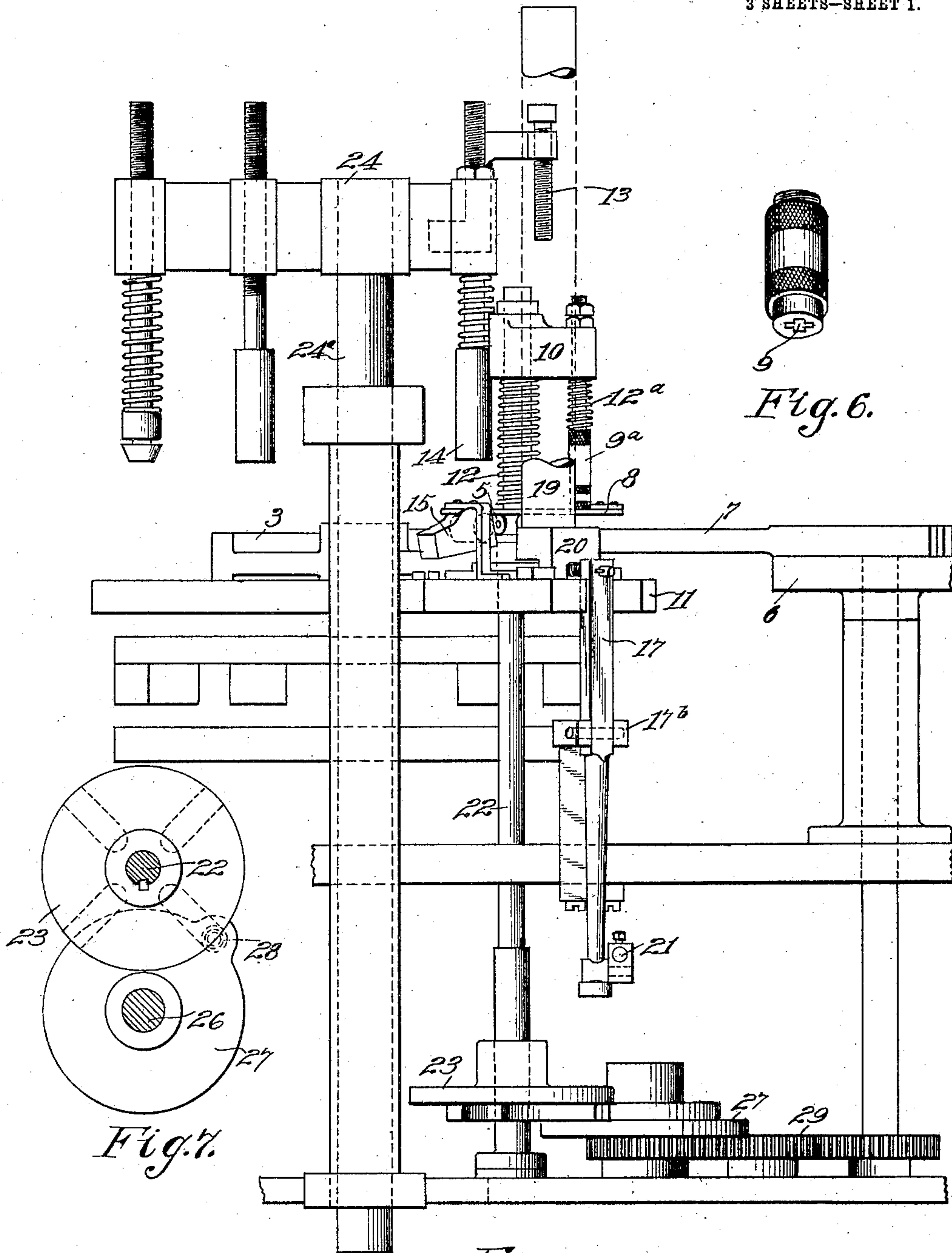


Fig. 7.

Fig. 1.

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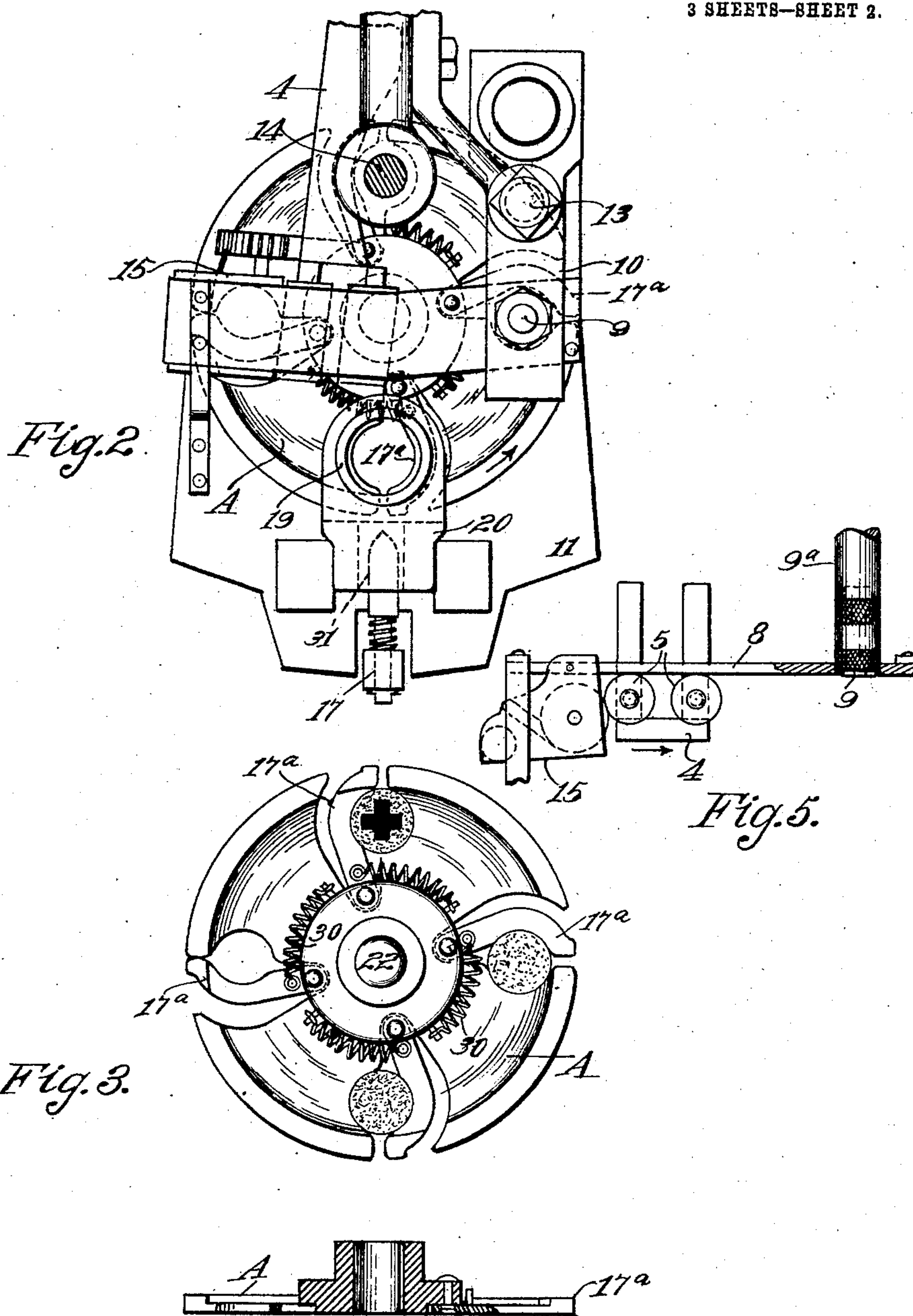
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3 SHEETS—SHEET 2.



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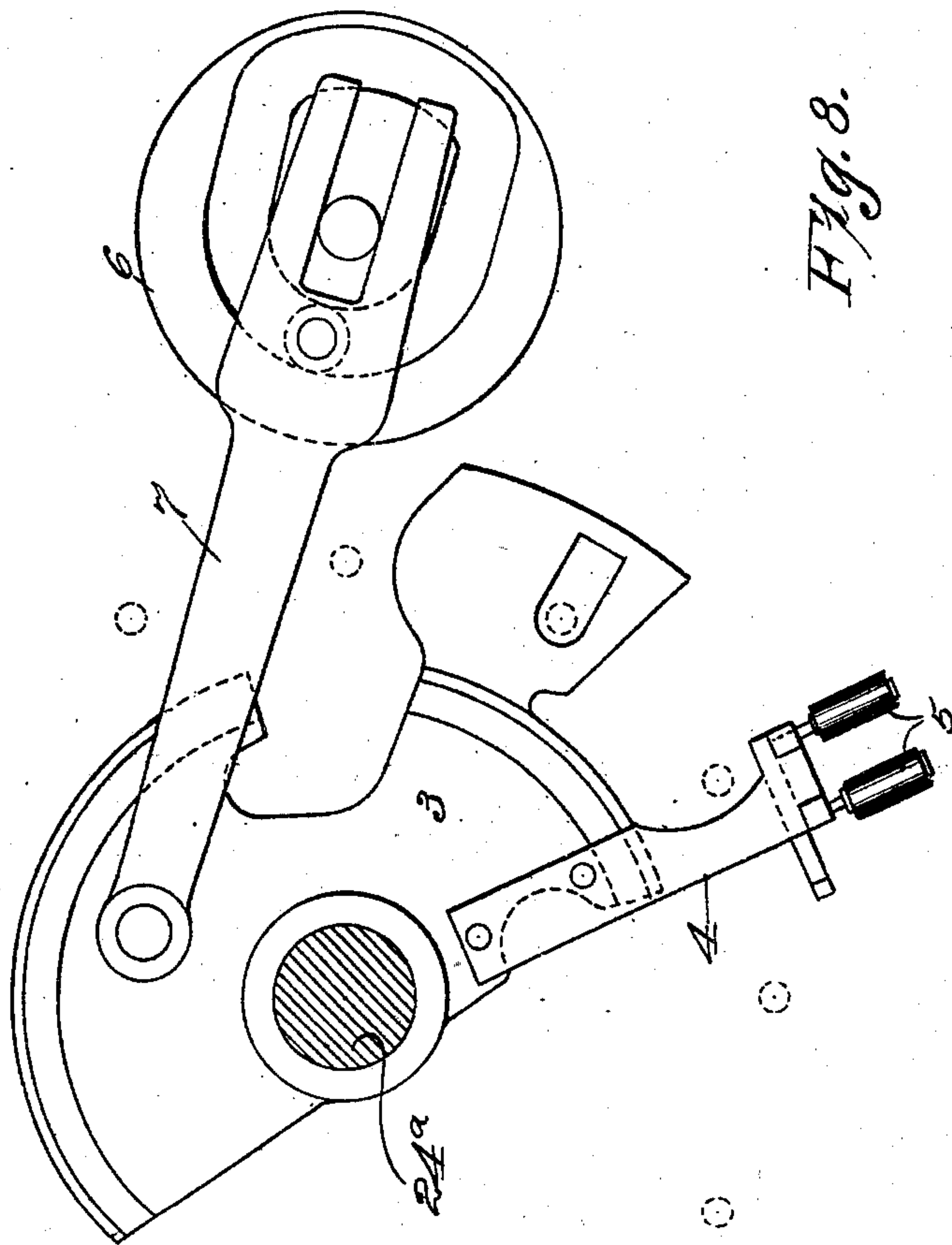
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WAD STAMPING DEVICE.

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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

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## WAD-STAMPING DEVICE.

No. 845,486.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed February 6, 1906. Serial No. 299,708.

*To all whom it may concern:*

Be it known that we, BRAINARD W. STEVENS and WILLIAM HANSON, citizens of the United States, residing at Pinole, in the county of Contra Costa and State of California, have invented new and useful Improvements in Wad-Stamping Devices, of which the following is a specification.

Our invention relates to a device which is especially designed for stamping the top wads which are placed in cartridge-shells after the latter have been loaded with powder and shot and to stamp letters, figures, or other characters upon the top wad before it is placed in the shell.

It consists of a combination of printing devices and mechanism by which the operation is carried out and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of part of a cartridge-loading machine, showing our device. Fig. 2 is a plan view of the table and wad-carrier. Fig. 3 is a separate plan view of the wad-carrier. Fig. 4 is a vertical section of the same. Fig. 5 is a detached view of the indicating and stamping devices. Fig. 6, Sheet 1, is a perspective view of the stamp. Fig. 7, Sheet 1, is a detached view of the intermittent driving-gear. Fig. 8 is a diagrammatic and sectional view showing the inking-rollers and the actuating-cam.

Cartridge-loading machines provide a means for supplying powder, shot, intermediate and top wads, which are successively introduced into the shell and the shell afterward crimped to retain its contents in readiness for use. The top wads are usually stamped to indicate the class of the cartridge in which they are placed. This operation of stamping is usually performed separately, the wad being stamped on both sides, and a large stock of such stamped wads having the various designs or markings are kept on hand. They often become mixed and must be thrown away.

In our device we employ a wad-stamping device in which the blank wads are supplied to a wad-tube and from thence they are delivered upon a table and moved by a carrier, so that they may be stamped with the desired design before being introduced into the

shell. The stamp is changeable to suit the required mark and is carried by a reciprocating stamper-bar. Thus one style of wad may be stamped for all loads of any gage and there will be no necessity of keeping a separate stock of wads on hand. The labor of changing the style of wads in the tube will also be eliminated, and the machine will be changed from one character of load to another by simply changing the stamp.

In the drawings we have shown only sufficient of a well-known cartridge-loading machine to show our attachment.

A is the wad-carrier of our device, mounted upon the shaft 22, at the lower end of which is a device 23, by which the shaft is intermittently revolved and the carrier turned a part of a revolution. This device consists of a slotted disk, (shown at 23,) and upon a driving-shaft 26 is a disk 27, carrying an upwardly-projecting pin 28, which at each revolution of the shaft 26 engages one of the radial slots in the disk 23, and thus turns this disk and the shaft 22 a part of a revolution. In the present case it is shown as turning one-quarter of a complete revolution, thus turning the carrier A the same distance.

The disk 27 is rotated by gearing (shown at 29, Fig. 1) and driven by suitable connection with the other portions of the loading-machine. The carrier A has four openings diverging from the center to the outside, and within these openings are fingers 17<sup>a</sup>, which are normally drawn toward one side of the opening by springs 30. The carrier travels above the stamper-plate 11 and the wads are delivered from a wad-tube 19 upon the table and within the openings of the carrier. Each of the openings is brought into line with the wad-tube, and at the same time the arm 17<sup>a</sup> is forced back against the tension of its spring 30, so as to leave a space sufficient for the wad to be received between the arm or finger and the opposing curved side of the wad-carrier. In order to move these arms back at the proper interval, we have shown a reciprocating plunger 31, which is actuated by a lever-arm 17, fulcrumed at 17<sup>b</sup>. The lower end of this arm has connected with it a rod 21, which is actuated by a cam, (not here shown,) so that the arm will be oscillated upon its fulcrum and will thus press the



point 31 into the space between the arm 17<sup>a</sup> and the side of the opening in the carrier A, and thus forcing the arm 17<sup>a</sup> back, as previously described, will leave space for the wad to be placed between the arm and the side of the carrier. A retraction of the opening device 31 allows the spring 30 to act and close the arm 17<sup>a</sup> against the wad, thus holding it firmly in position in the carrier. The wads are moved down intermittently in unison with the movement of the loading and other wad-carrying plungers which are carried by the rammer-head 24, and this head is reciprocated vertically by a shaft 24<sup>a</sup> and cam or other mechanism of the loading-machine. (Not here shown.) After the wad has been thus placed in the carrier A the carrier is advanced and the stamp is placed upon the top of the wad.

The stamp may be of any desired character. As shown in Fig. 6 it represents a cross, as at 9, and the stamp is secured in a stamper-bar 9<sup>a</sup>, which is reciprocated at the proper interval to impress the mark upon the wad beneath it. The stamper-bar 9<sup>a</sup> is carried in a cross-head 10, which is normally held up by a spring, as at 12, surrounding the cross-head guide. A spring 12<sup>a</sup>, surrounding the stamper-bar below the guide and pressing upon a shoulder of said bar, serves to relieve and equalize the pressure if the wads should be of different thicknesses. In order to supply the ink to mark these wads, we have shown an ink-carrier 15.

5 are inking-rollers so journaled as to receive the ink from the carrier and distribute it to the stamp. The rollers are moved by arm 4 and the wad-carrier of the loading-machine, so as to pass beneath the stamp and leave a supply of ink upon its surface.

13 is a pressure-pin carried by the rammer-head 24, movable in unison therewith, and this pressure-pin, striking the stamp-carrying cross-head 10, forces the latter down, and with it the stamp, as previously described. The pin being screw-threaded may be adjusted to suit the reciprocation of the rammer-head.

The operation of the device will then be as follows: Wads being dropped into the tube 19 will fall to the wad-tube base 20. The carrier-trip or opening device 17 moves against the V-shaped opening in the wad-carrier and forces the finger or arm 17<sup>a</sup> back to allow one wad to drop into the space in the carrier. The intermittent gear-drive 23 rotates the shaft 22 and the wad-carrier A, which is attached to the shaft. One quarter-turn of the wad-carrier A brings the wad into position over the stamper-plate 11 and under the stamp-bar 9<sup>a</sup> and the stamp 9 at its lower end. The rammer-head or spider 24 descending carries with it the pin 13, and this strikes the cross-head 10, which carried the stamper-bar and forces it down, so that the

stamp 9<sup>a</sup> touches the wad and leaves an impression thereon. As the cross-head or spider 24 rises it carries with it the pin 13, and the stamper-bar 9<sup>a</sup> also rises, being carried by the expansion of the spring 12 on the cross-head guide. As the stamper-bar 9 rises the arm 4, operated by the wad-carrier of the loading-machine, is moved and passes the ink-rolls under the stamp, leaving a fresh supply of ink thereon. The shaft 22 now rotates again a one-quarter turn and carries the stamped wad to a position under the rammer 14. This rammer descends simultaneously with all the other rammers on the machine, being carried by the rammer-head or spider 24, and the cartridge then moves onto the crimper usually attached to a loading-machine and not here shown. After the crimping the cartridge moves to the exit position and is removed from the wad-carrier in a finished condition. The disk 3, which carries the arm 4 and the inking-rollers 5, is carried by the shaft 24<sup>a</sup>, and the disk is oscillated about its central support by means of a connecting-rod 7, the opposite end of which is actuated by a cam 6.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cartridge-loading machine, the combination of a rotary carrier having perforations adapted to receive wads, a stamper-plate beneath the carrier so arranged that the perforations of the carrier may pass thereover, a stamping device above the plate in alinement with the perforations, and a shell-carrier movable beneath the stamper-plate.

2. The combination with a cartridge-loading machine of a horizontally-revoluble carrier having openings in its periphery to receive wads and a stamper-plate over the surface of which the carrier is moved, mechanism by which the carrier is intermittently rotated a part of a revolution, spring-pressed clamping arms or fingers adapted to retain a wad in position while being moved by the carrier, a reciprocating wedge-shaped device whereby said arms are moved or opened to disclose a space sufficient for the reception of the wad, a wad-tube located above the periphery of the carrier and in line with the path of travel of the openings, means by which the wads are singly delivered to the carrier, means for retracting the opening device to allow the fingers to clamp the wads in position, a printing-stamp located in the path of travel of the wad, above the stamper-plate, and means for depressing the stamp upon the wad between the intermittent movements of the carrier.

3. In combination with a cartridge-loading machine of a stamper-plate, an intermittently-revoluble wad-carrier consisting of a disk having peripheral openings, and spring-pressed clamping-fingers to hold the wads in



the openings, a device for retracting the fingers to admit wads, said device comprising a centrally-fulcrumed bar, a wedge-shaped arm carried upon one end in the plane of the wad-carrier, a reciprocable rod connecting with the opposite end of the lever, and acting to oscillate the lever to first open the clamp, and to afterward allow it to close and hold the wad in the carrier.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

BRAINARD W. STEVENS.  
WILLIAM HANSON.

Witnesses:

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