

(No Model.)

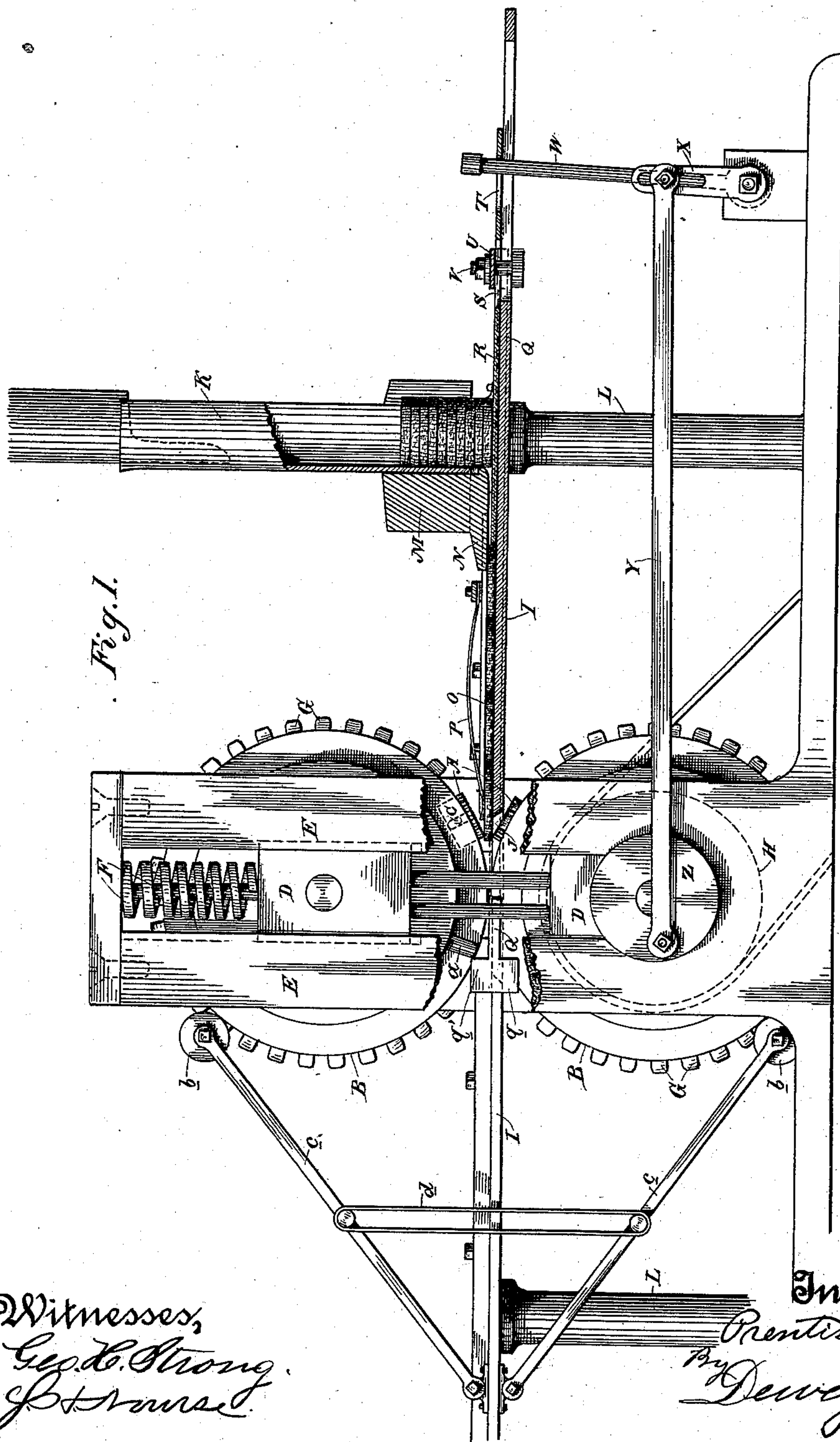
2 Sheets—Sheet 1.

P. SELBY.

WAD PRINTING MACHINE.

No. 382,441.

Patented May 8, 1888.



Witnesses,  
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Fig. 2.

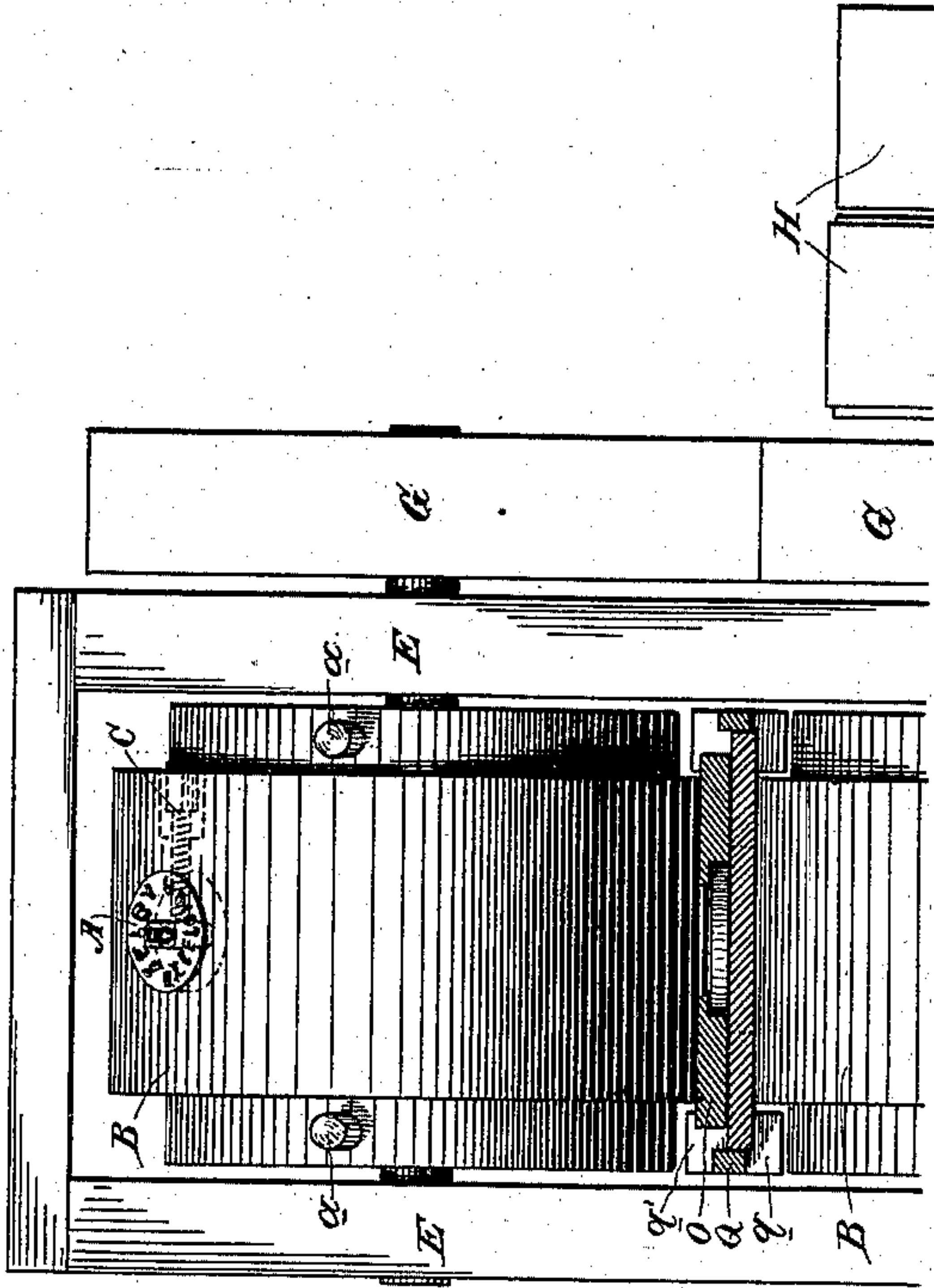
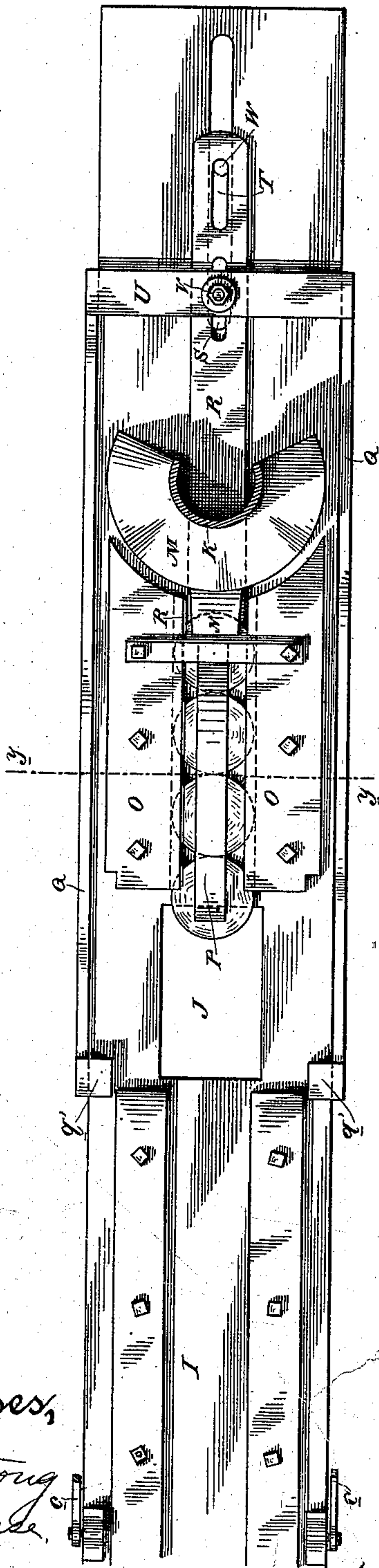


Fig. 3.

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# UNITED STATES PATENT OFFICE.

PRENTISS SELBY, OF OAKLAND, CALIFORNIA.

## WAD-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 382,441, dated May 8, 1888.

Application filed August 31, 1887. Serial No. 248,413. (No model.)

*To all whom it may concern:*

Be it known that I, PRENTISS SELBY, of Oakland, Alameda county, State of California, have invented an Improvement in Wad-Printing Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a machine for printing the wads which are used for gun-cartridges.

It consists of certain details of mechanism, which will be more particularly described by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the machine.

Fig. 2 is a plan view of the table. Fig. 3 is a vertical cross-section taken through line *y y* of Fig. 2.

My invention is designed to print simultaneously upon both sides of wads which are used for shotgun-cartridges.

It consists of stamps or dies A, bearing suitable type or impression, these dies being fixed in the periphery of the rollers or cylinders B, so that when the cylinders are rotated the dies will be brought in opposition to each other at each rotation. In the present case I have shown the dies having a central removable piece, which may contain the number or size, the whole being held in the face of the cylinder or wheel by means of the set-screw, as shown at C. The rollers B are journaled in boxes D, the upper ones of which slide in an upright frame or guides, E, and are pressed downward by means of springs F acting against the upper sides of the journal boxes, as shown in Fig. 1. The rollers are caused to rotate simultaneously by means of gear-wheels G, fixed upon the shafts at one end, the whole being driven by belt-pulleys H, or other suitable connection. A table, I, extends between the rollers B B, and it has a hole or opening, J, made in it at the point where the printing-dies approach each other, so as to allow the lower one to project through the table sufficiently to print upon the lower side of the wad while the upper one is printing upon the upper surface.

The wads are placed in a tube, K, which stands vertically above the table I, the latter being supported upon posts or standards L, as shown. Around the tube K is a weighted seg-

ment of a cylinder, M, having at its lower edge and on the side toward the printing-wheels an extended shoe or spur, N. The edge of this shoe which is nearest the tube K is slightly rounded beneath, so that the wads may easily pass beneath the shoe when forced forward, and the weight of it prevents their being thrown upward or pushed out of place. After leaving the front of the shoe the wads pass beneath the edges of guides O, which are bolted in the table, so as to project a little over each side of the edges of the wads, thus holding them in place as they move forward to the printing-wheel. A spring, P, is so fixed as to press upon the surface of each wad at the point where the printing-dies seize it and prevent its rear edge from tilting up before the dies can draw it between them. A slide, Q, is fixed to move with guides *q* and reciprocate backward and forward upon the table I. In the center of this table is fixed a supplemental slide, R, having slots S and T, and a bar, U, connecting the two slides Q, extends across above this slide, and by means of a bolt, V, and nut this bar is adjusted to any desired point with relation to the slide Q to suit the different sizes of wads. The forward end of this slide R is fitted to strike the wads which are pressed down in the reservoir of the cylinder K and press them forward beneath the shoe N and between the guides O, so that they will be seized one by one by the rotating printing-wheels B, and will thus be printed upon both sides simultaneously.

In order to insure the proper movement of the feeding-slide R, it is operated by a lever-arm, W, which projects up through the slot T, before mentioned, and this lever-arm is fixed to a shaft carrying another lever-arm, X, which is connected by a pitman or rod, Y, with a crank-wheel, Z, upon the shaft of the lower printing-roller. This causes the lever-arm W to vibrate backward and forward, and it presses the feeding-slide R forward, moving the wads, and through the connection U the slide Q also, toward the rollers, so that they are received between the printing-dies, as before described. At the same instant and shortly after this starting has taken place pins or spurs *a*, which project from both sides of the upper wheel at points just in front of the print-



ing-die, engage enlargements or lugs  $q'$  on top of the guides  $q$  of slides  $Q$ , and by this action cause the wads to be brought forward toward the rollers with the same speed as the rollers themselves, and thereby insure precision in the meeting of the wad with the dies. By the time the pins  $a$  become disengaged from the lugs  $q'$  the act of printing is completed, and the lever  $W$  will return the slide  $Q$  back again to its former place, and the same operation will commence anew. The slot  $T$  allows the lever  $W$  a certain amount of lost motion, or a movement of the slide  $R$ , which does not affect the lever. The lever  $W$  is moved by the crank-wheel  $Z$ , connecting-rod  $Y$ , and rocker-arm  $X$ , and pressing against the front of the slot  $T$  it moves the slide  $R$  forward until the wad carried by it is seized between the printing-dies  $A A$ , after which the slide is carried forward at a greater speed by the rotation of the wheels  $B$  until the wad is discharged at the opposite side. The slot  $T$  thus allows the slide  $R$  to move faster than the lever  $W$  would move at the end of its stroke, and after the wad is discharged the lever  $W$ , acting against the rear of the slot  $T$ , returns the slide  $R$  to its first position. The wads are finally delivered beyond the wheels and discharged into any suitable receptacle.

$b$  are inking-rollers, which are supported upon arms  $c$ , which may be united together by an elastic cord or strap,  $d$ , their rear ends being hinged or secured to the table  $I$ , so as to hold the inking-rollers in the proper position to supply the printing-dies as they are rotated.

Having thus described my invention, what I

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

1. The rotating rollers carrying the printing-dies and journaled one above the other, so that the dies shall print simultaneously upon both sides of the wad which passes between them, the wad reservoir or cylinder having a surrounding weighted shoe,  $N$ , the sliding table  $Q$ , and the supplemental wad-feeding slide  $R$ , substantially as herein described.

2. The wad-reservoir with its surrounding weighted shoe, the slide  $Q$ , and the supplemental wad-feeding slide  $R$ , having the slot  $S$ , and the bolt or pin  $V$ , whereby the slides may be adjusted with relation to each other, substantially as herein described.

3. The simultaneously-rotating printing-rollers journaled one above the other, the table extending between the two and having the movable slides  $Q$  and  $R$ , and the operating-levers, in combination with the wad-reservoir, the surrounding segmental shoe, the guides  $O$ , and the spring  $P$ , substantially as herein described.

4. The rotating printing-rollers, in combination with the inking-rollers adjustably supported, so as to press upon the printing-dies, and connected together by an elastic cord or band, substantially as herein described.

In witness whereof I have hereunto set my hand.

PRENTISS SELBY.

Witnesses:

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