(No Model.) 2 Sheets—Sheet 1.

P. SELBY.

WAD SORTING MACHINE.

No. 375,509. Patented Dec. 27, 1887.

Fig. 1.

Witnesses,
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(No Model.) 2 Sheets—Sheet 2.

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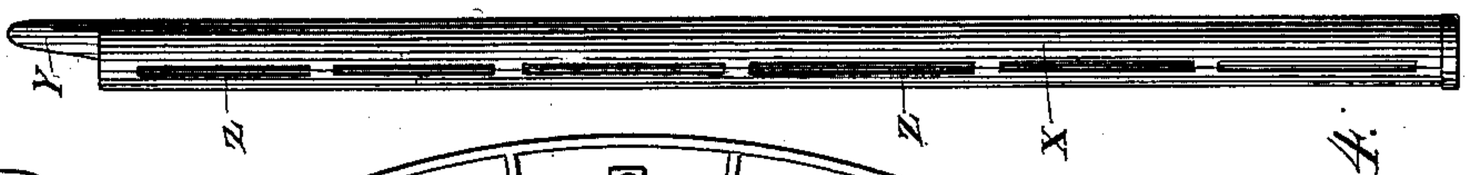

Fig. 3.

Fig. 4.

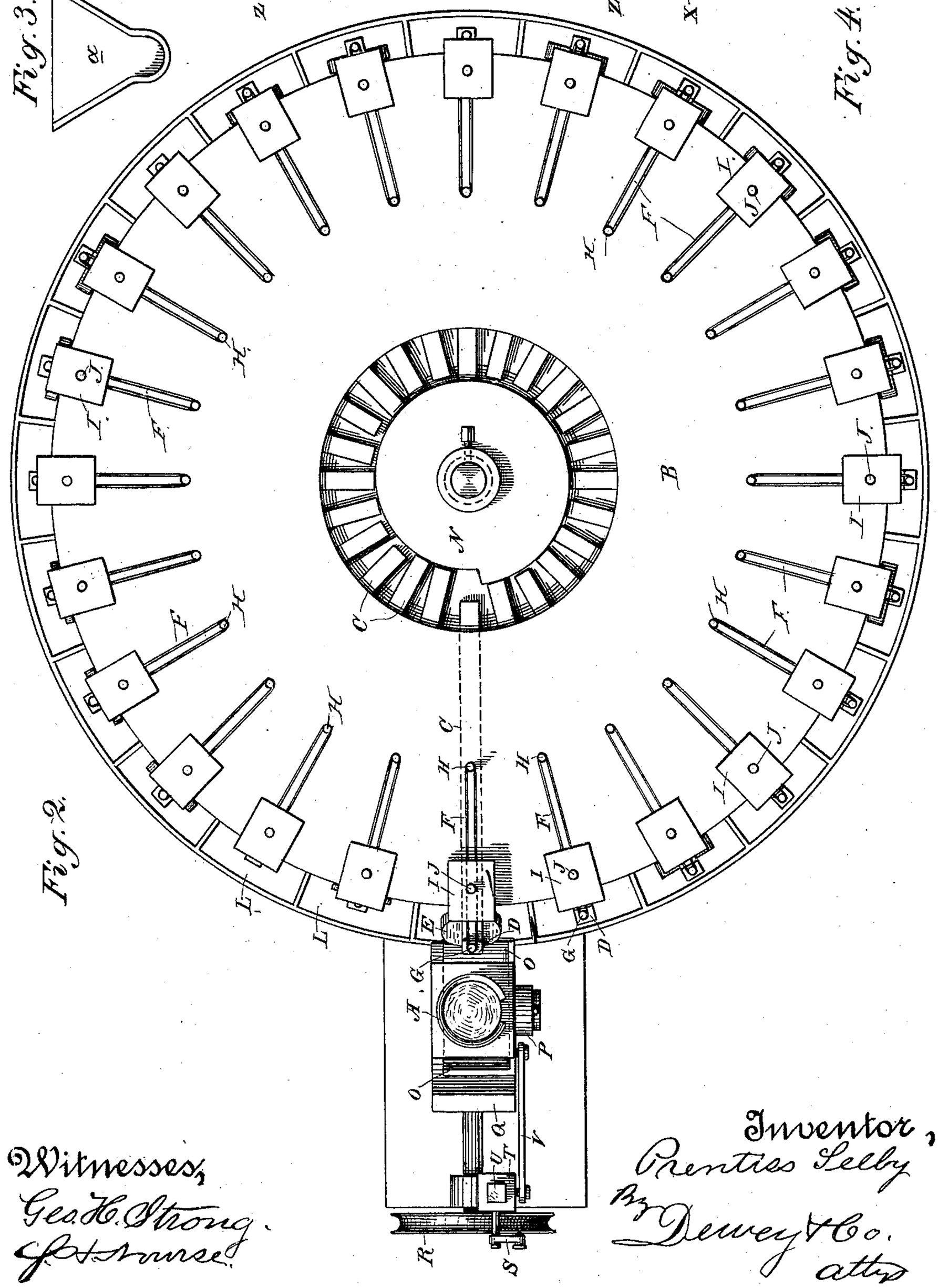

Fig. 2.

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UNITED STATES PATENT OFFICE.

PRENTISS SELBY, OF OAKLAND, CALIFORNIA.

WAD-SORTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 375,509, dated December 27, 1887.

Application filed August 2, 1887. Serial No. 245,980. (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-Sorting Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for sorting wads which are used in loading cartridges, in order that the varying thicknesses of wads may be separated from each other and each grade of wads may be used together, so that the loads in the shells may have an absolute uniformity in every respect.

It consists of a vertical receiver into which the wads are placed, a segmental swinging shoe moving beneath the receiver and acting to carry the wads forward one by one as they fall from the receiver, together with a rotating table having radially-extending arms with clamps or holders at their outer ends, beneath which the wads are deposited by the moving shoe, and a cam which acts upon these rods so as to deposit the wads into the proper receptacles, which are arranged around a periphery of the table.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an elevation of my machine, showing half of the rotating table in section. Fig. 2 is a plan view of the same. Figs. 3 and 4 show the devices for filling the tubes.

A is a vertical tubular receiver of considerable length and of sufficient size to receive wads of the proper diameter, and B is a table revolved by any suitable mechanism so that its periphery will be near the receiver. A series of radial arms, C, extend from the inner circumference of the rotating table B, through suitable guides, to the outer periphery, and upon the outer ends of these arms are the vertical bars or holders D, between which and the vertical side of the table B the wads E are held, as shown in Figs. 1 and 2.

F is the rubber or other elastic spring, which is shown in the present case as passing over a pin, G, upon the outer end of the arm C or upon the vertical part D, and the inner end of this spring is attached to a similar pin, H, upon the top of the table. This spring produces a sufficient tension, so that when a wad is deposited beneath the arm D the tension of the spring will press it against the side of the table B and hold it there until released.

I is a slotted weight moving up and down upon the guide-pin J, and having the legs K extending downward so as to rest upon the upper edge of the wad B; and when the holding-arm D is pushed away from the wad the weight will act to force the latter downward and prevent its sticking. When released, the wads drop into the chambers or receptacles (shown at L) around the periphery of the table, and these chambers have the inclined outlet-tubes M, through which the sorted wads may be discharged into the proper receivers.

N is a cam fixed to a central stationary shaft in such a position that the inner ends of the radial sliding bars C may come in contact with it at the proper time. This time will depend on the thickness of the wad which is held beneath the arm D.

If a thin wad is held beneath the arm D the inner ends of the arm C will be drawn inward by the spring F, so that as the table B rotates the inner end of the arm C will strike the cam, and as it is pressed outward by the incline of the cam it forces the arm D away, so as to release the wad E, and the weight I acts sufficiently to press the wad down, in case it should stick a little, and cause it to drop into the receptacle L, over which it happens to be at the time of its release.

If the wads are thicker beneath some of the arms D, it is manifest that, as the inner end of the sliding bar C is farther away from the center on account of this thicker wad, it will strike the cam N at a later point, and the thick wads will thus be dropped into receptacles which are farther along than those into which the thin ones will fall.

In order to place the wads beneath the holder D, I have shown a segment, O, which is pivoted to or on a pin passing through the hole P, and the outer periphery of the segment fits into a corresponding curve in the base or frame Q, which supports it. This segment is placed beneath the tube A, which holds the wads, so that when drawn back one wad will fall upon the curved floor or base Q in front of the point of the segment. When the segment returns, it pushes this wad forward and

upward, thus forcing it beneath the arm D, by which it is held, the wad sliding up beneath the arm, so as to stand edgewise, as shown in Fig. 1. The segment O is caused to oscillate about its pivot-pin by means of a crank-wheel, R, connected by a pitman, S, with a vertically-moving slide, T, traveling upon the guide U. A link or pitman, V, connects this slide with the segment O, and thus causes it to oscillate about its pivot-point, so as to allow the wads to drop one by one in front of the segment, and thus be forced between the holding-arms D and the side of the rotating table B. As the oscillations of the segment are produced by the rotation of the crank-wheel R, and this is mounted upon a shaft which is driven by the beveled gearing W from the rotating table B, it will be seen that the movements of the segment may be timed so as to be exactly with the rotation of the table and the instant when the arms D are presented to receive one of the wads. These wads are then held by the arms D, and as the table rotates are dropped by the action of the cam N, as before described, into their various receptacles.

In order to fill the tubular receiver A, I have employed a tube, X, having a projecting lip, Y, and having slots along the side, as shown at Z, so that the interior may be seen, to know whether the tube is properly filled, and also for the purpose of assisting in putting the wads in, in case they should not pass in readily. The wads are placed in a sort of trough, *a*, and the tube X, which is closed at one end, is taken by the operator, and the projecting scoop-shaped point Y is moved beneath the wads in the trough *a*, so that they will slide into the tube and fill it instantly. This tube is then inserted into the receiving-tube A and the wads deposited in a perfectly regular manner without getting upon edge or otherwise obstructing the tube.

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

1. A wad-sorter consisting of a rotary table having the radially-sliding arms C, provided with the vertical bars or holders and spring, whereby the wads are held between the holder and the side of the table, in combination with a stationary cam so arranged that as the table rotates the inner ends of the arms will be brought into contact with the cam, and they will be forced outward, so as to release the wad, substantially as herein described.

2. The stationary cam centrally placed, a table rotating outside of said cam and around its common center, said table being provided with spring-actuated holding arms or plates, beneath which the wads may be inserted and held, and sliding arms which are actuated by the cam to release the wads, substantially as herein described.

3. The sliding spring-actuated holding arms or plates, beneath which the wads are received and retained until released by the action of the cam, the vertically-moving weight, by the pressure of which the wads are prevented from sticking when released, in combination with the cam, the rotary table, and the releasing arms or bars acted upon by the stationary cam, the chambers or receivers placed in line beneath the wad-holding plates and having discharge tubes or openings, substantially as herein described.

4. The rotary table, with the spring-actuated holding arms or plates and the releasing-cam, as shown, in combination with a reservoir, the vertical wad-supplying tube or receiver, and the oscillating segment, whereby the wads are removed from the reservoir and placed beneath the holding-plates successively, substantially as herein described.

5. The vertical wad-holding receiver or chamber A, the holding plates or arms, the rotating table, the concave-curved floor or base situated beneath the lower end of the receiver, and the correspondingly-curved arc or segment, by which it is oscillated, so as to allow the wads to fall singly from the receiver in front of the segment and be placed by the segment beneath the holding plates or arms, substantially as herein described.

In witness whereof I have hereunto set my hand.

PRENTISS SELBY.

Witnesses:
JAMES L. KING,
S. H. NOURSE.