

No. 707,590.

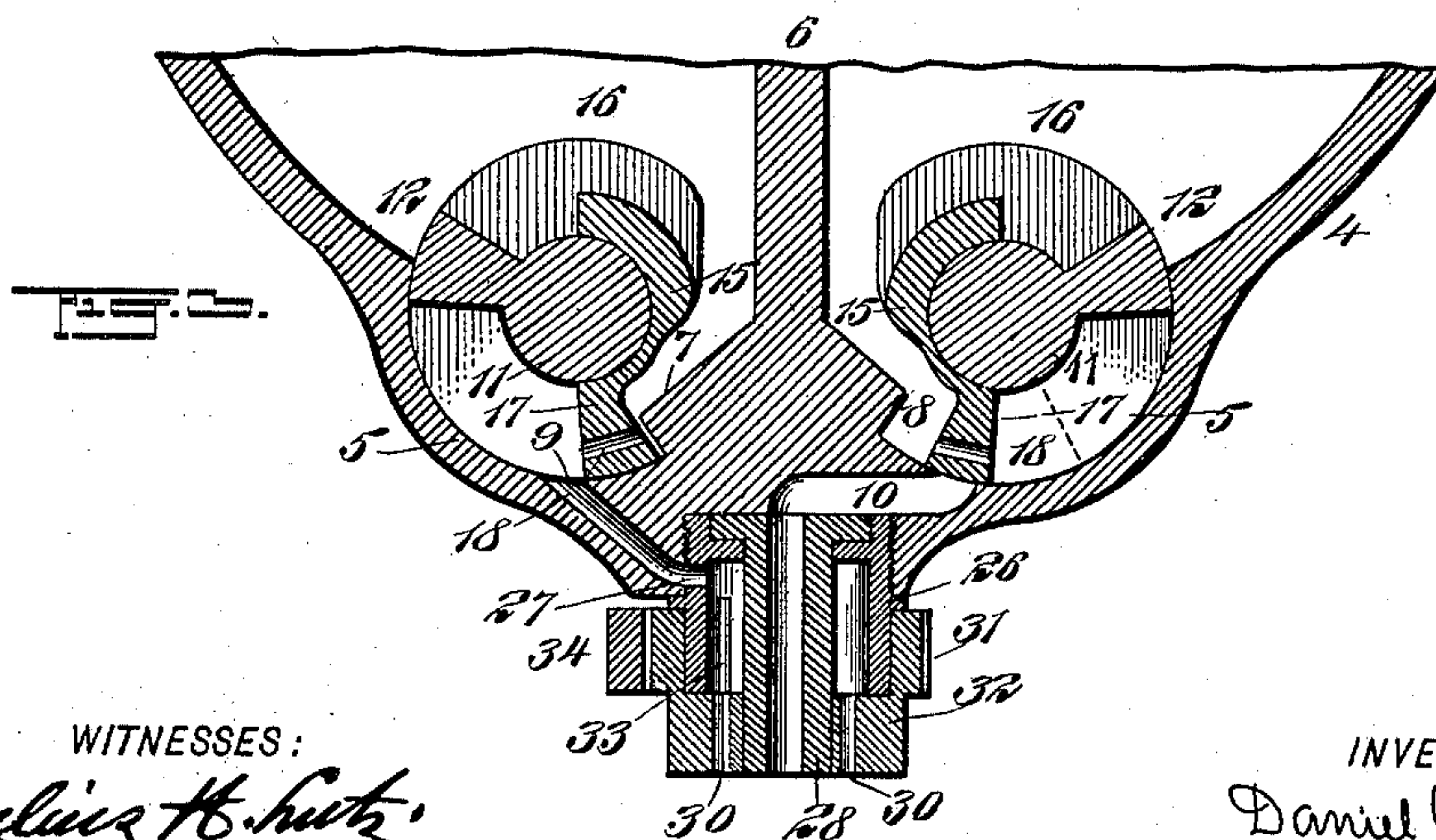
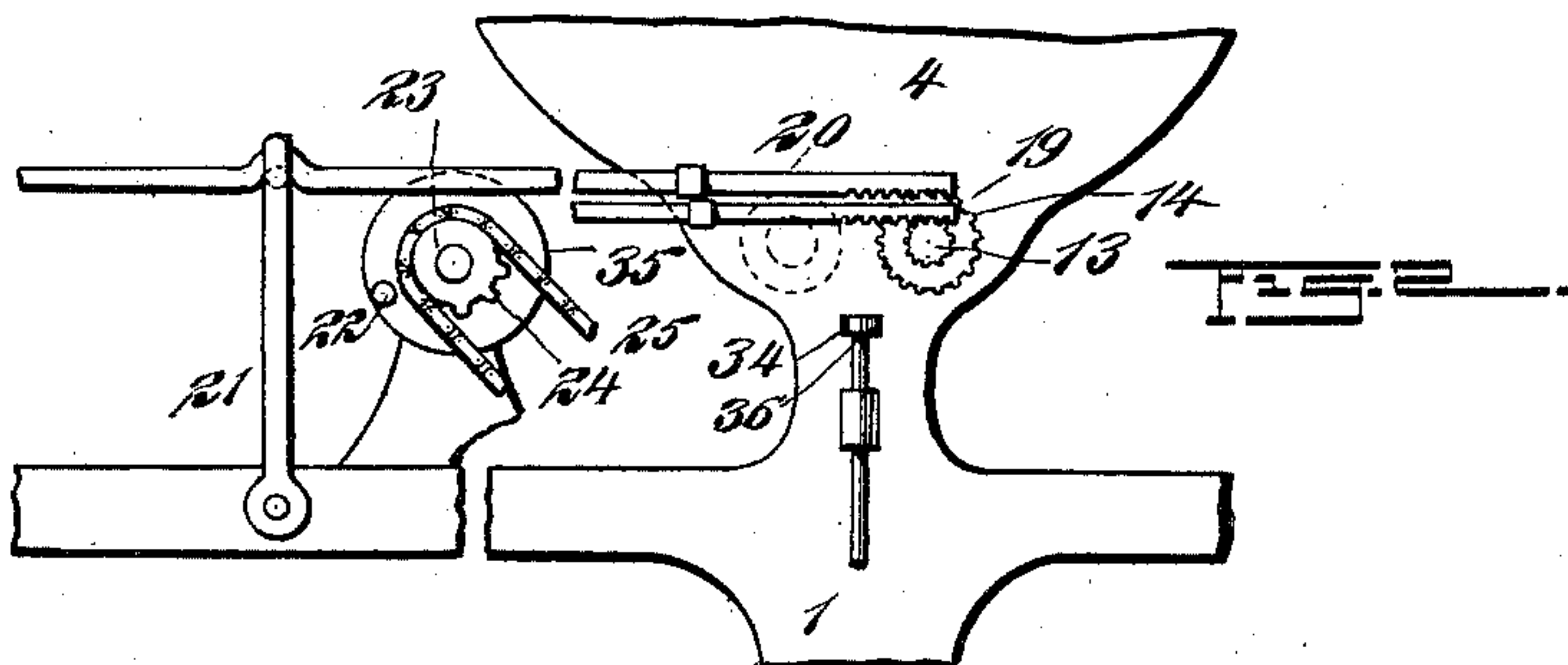
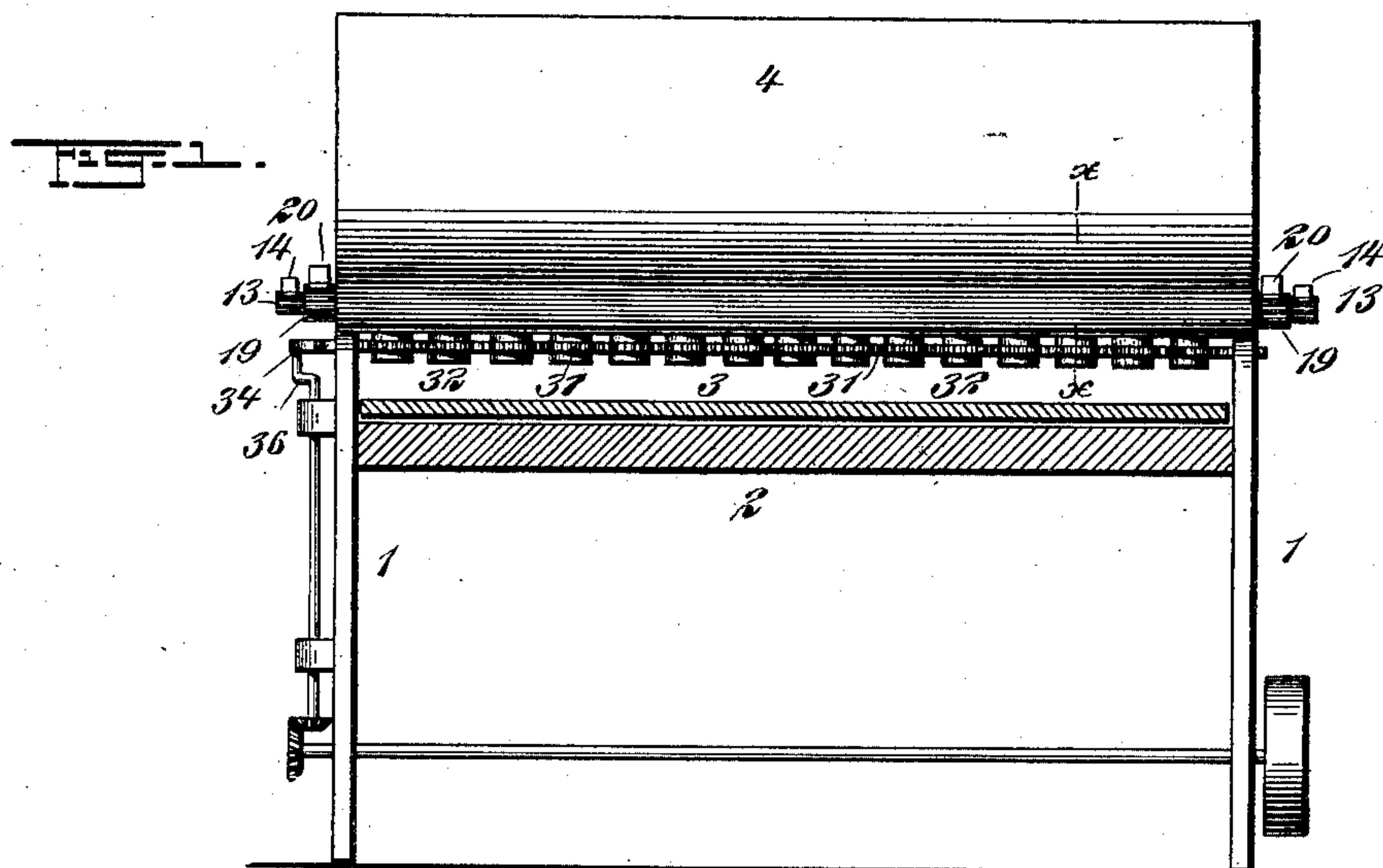
Patented Aug. 26, 1902.

D. M. HOLMES.
DOUBLE STROKE DEPOSITOR.

(Application filed Jan. 2, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

FIG. 4.

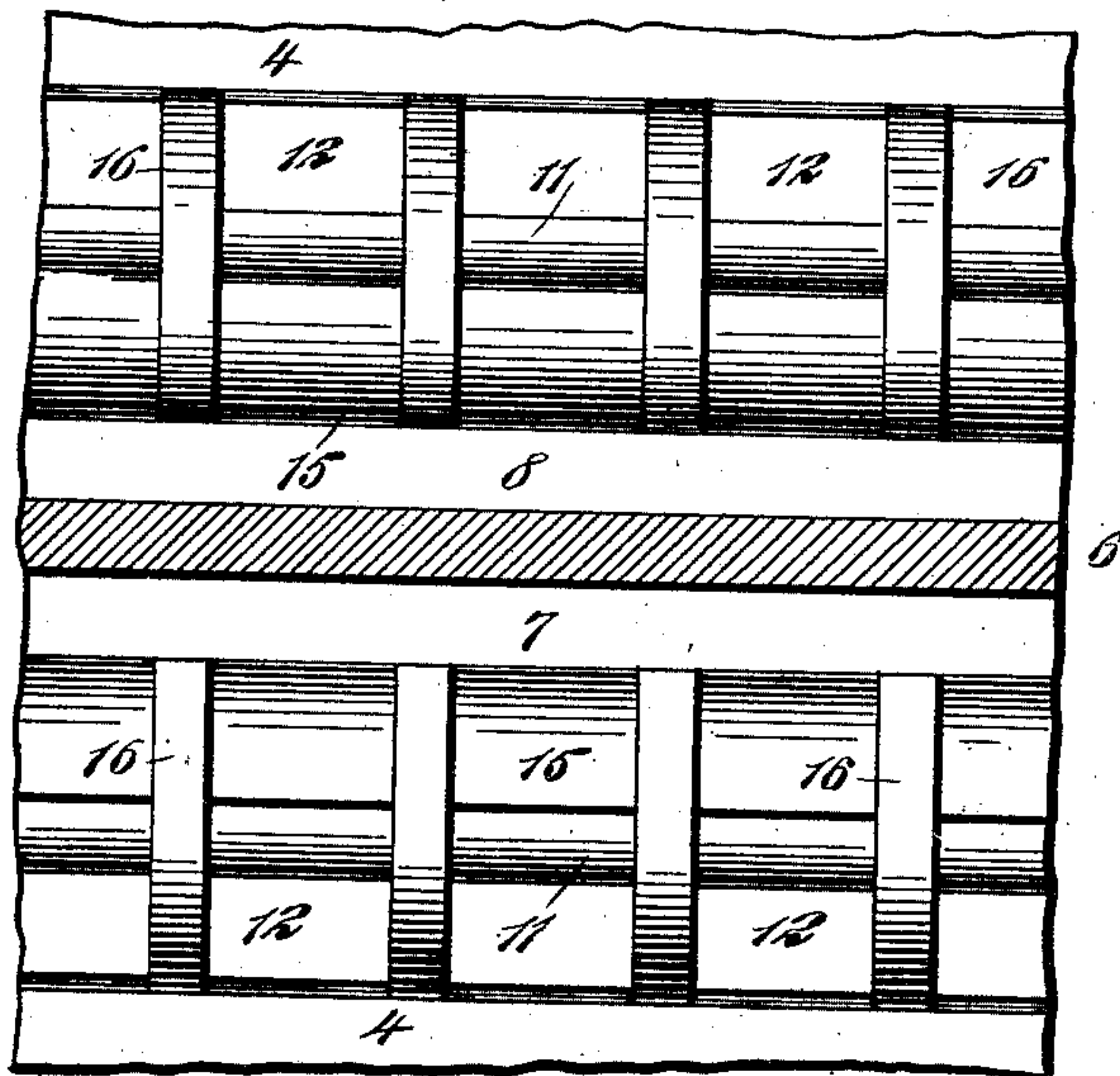


FIG. 5.

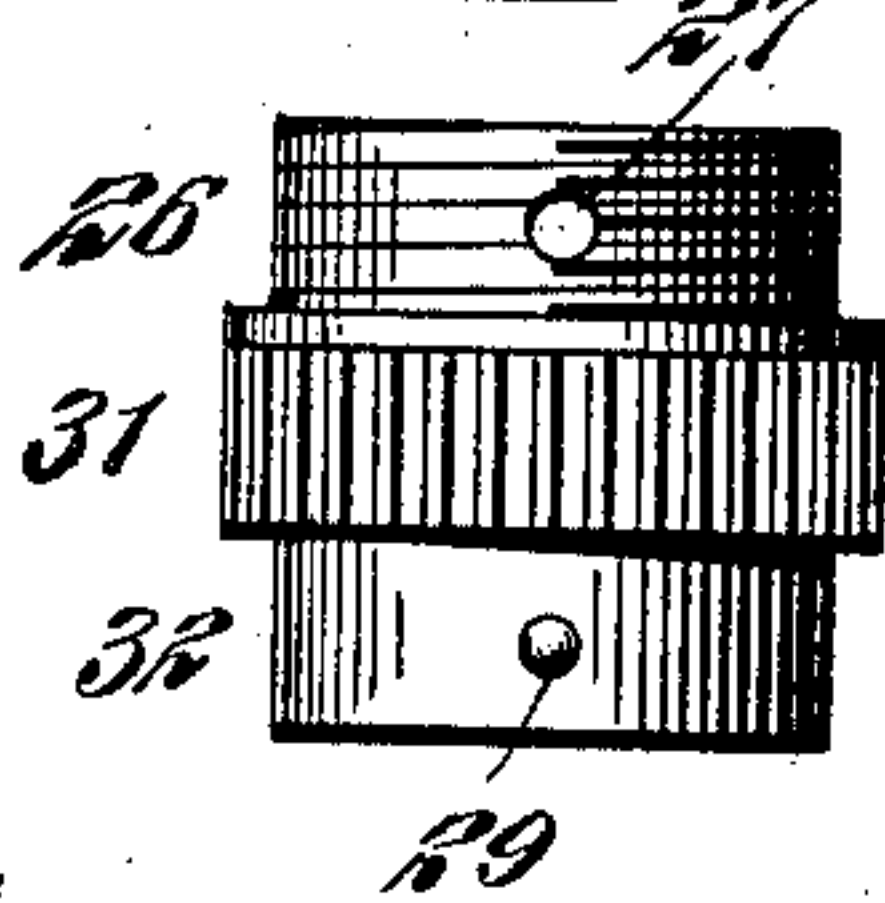


FIG. 7.

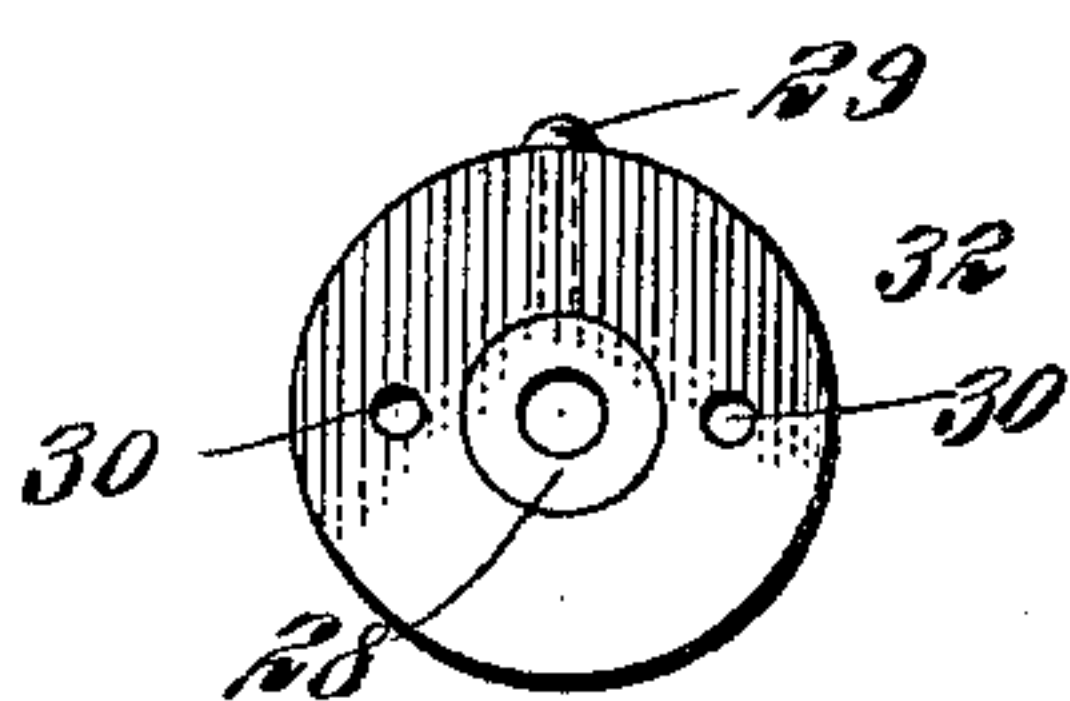
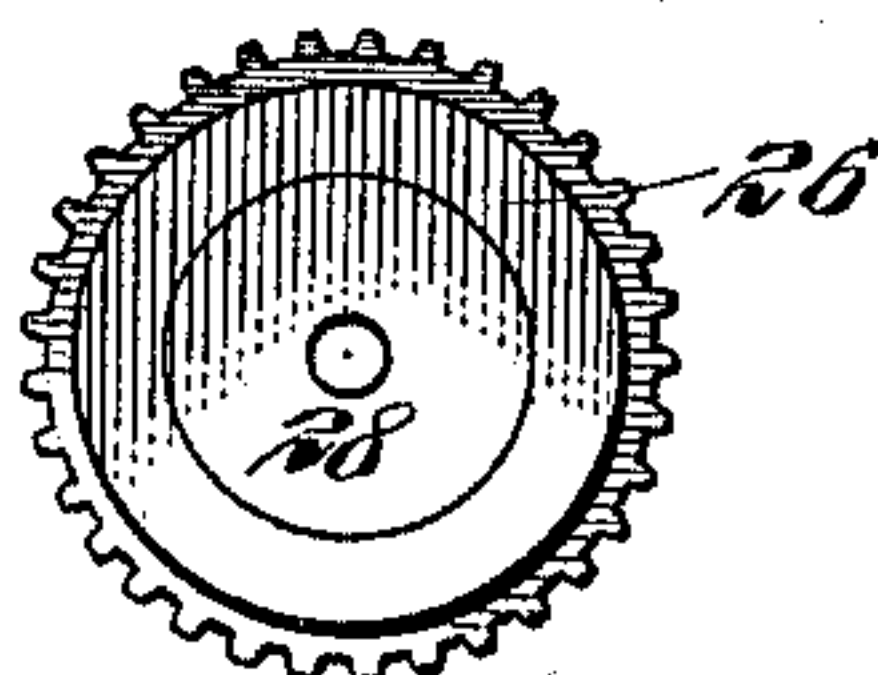


FIG. 6.



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UNITED - STATES - PATENT - OFFICE.

DANIEL M. HOLMES, OF ARLINGTON, NEW JERSEY, ASSIGNOR TO CHARLES S. FOWLER AND LUCIUS A. ROCKWELL, OF NEW YORK, N. Y.

DOUBLE-STROKE DEPOSITOR.

SPECIFICATION forming part of Letters Patent No. 707,590, dated August 26, 1902.

Application filed January 2, 1902. Serial No. 88,105. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. HOLMES, a citizen of the United States, and a resident of Arlington, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Double-Stroke Depositors, of which the following is a specification.

My invention relates especially to means and mechanism employed for depositing semi-fluid confectionery material in molds, &c., and has for its object the provision of a simple and effective depositor whereby a plurality of layers of material may be deposited, the number being regulated at will.

To attain the desired end, my invention consists in the combination, with a material hopper or holder provided with exit-orifices, of a discharging device in which is comprised two independently partially-rotatable oscillatory members located in a common throat, one of said members being provided with ports or orifices; and my invention also involves certain novel and useful combinations or arrangements of parts and peculiarities of construction and operation, all of which will be hereinafter first fully described and then pointed out in the claims.

In the accompanying drawings, forming a part hereof, Figure 1 is an end elevation of a depositor embodying my invention. Fig. 2 is a side elevation thereof. Fig. 3 is an enlarged vertical sectional view at line *xx* of Fig. 1. Fig. 4 is a plan view looking down upon Fig. 3. Fig. 5 is a side elevation of one of the material-directing devices removed from the hopper. Fig. 6 is a top plan view, and Fig. 7 a bottom plan view, of the same.

Similar numerals of reference wherever they occur indicate corresponding parts in all the figures.

1 is the main frame of the machine.

2 is the bed.

3 is the belt for carrying the mold-trays.

4 is a material hopper or holder mounted above the main frame and having at its bottom semicircular seats or throats 5.

6 is a central division or partition provided with offsets 7 and 8, projecting into the throats 5.

9 and 10 are discharge-ports.

11 represents shafts journaled at the ends of the hopper 4 and bearing tongues 12. Upon one end of each shaft 11 is a pinion 13, arranged to engage with a rack 14, which may be caused to reciprocate by any suitable means. Surrounding the shaft 11 is a hollow shaft 15, provided with broken rings 16, extending between the tongues 12, the peripheries of the rings 16 corresponding to the contour of the seats 5. Projecting from the hollow shaft is a longitudinal tongue 17, having perforations 18 therethrough opposite to each tongue 12 upon the shaft 11. The hollow shaft 15 passes through the sides of the hopper 4 and bears a pinion 19, which engages with a reciprocable rack 20.

Referring to Fig. 2 of the drawings, it will be seen that the rack 20 engages with a rock-arm 21, by which it may be reciprocated. In order to provide means for disengaging the rock-arm from the rack when it is desired to vary the number of discharges of material from one portion of the depositor, I provide a wheel 35, having in its face a pin 22, said wheel being mounted upon a shaft 23, carrying a sprocket-wheel 24, engaging with an operating-chain 25.

The material-directing devices fixed in the bottom of the hopper are comprised of a shell 26, screwed or otherwise held in place in the body of the hopper. This shell 26 has at one side an opening 27, corresponding to a discharge-port 9. Within the shell 26, below the top, is an inwardly-projecting flange whereon is supported the flange projecting from a central discharge-tube 28, the opening therethrough registering with a discharge-port 10.

32 is a thimble held in place upon the tube 28 by means of a screw or pin 29 and having discharge-openings 30 through its bottom portion.

31 represents teeth formed upon the periphery of the thimble 32. The parts 26, 28, and 32 form the walls of an annular chamber with which a port 9 communicates.

33 is a pin which projects upward from the base of the thimble 32 within the annular chamber.

34 is a rack which engages with the teeth 31 upon the thimble, and 36 is a crank whereby said rack may be reciprocated.

The operation of my depositor is as follows:

5 Material being supplied to the hopper upon each side of the partition therein, in starting the moving parts the tongues 12 and 17 of the oscillatory members of the discharging mechanism rest against each other, such position
10 of the tongue 12 being indicated by the dotted line in the right-hand portion of Fig. 3 of the drawings. These two members move together until the tongue 17 covers the port 10, when the movement of such tongue ceases.
15 The tongue 12 continues to move in the same direction, drawing material from the mass within the hopper through the perforation 18 in the tongue 17, filling the space between said tongue and the tongue 12. Before the
20 tongue 12 passes from its seat in the throat of the hopper its movement is stopped in accordance with the quantity of material it is desired to deposit. The tongues 12 and 17, with the material held between them, now
25 move in the opposite direction until the tongue 17 strikes the offset 8, closing the opening through the tongue and opening the port 10. The continued movement of the tongue 12 forces the material in front of it through the
30 port 10 and the tube 28 to the mold. The discharging mechanism upon the opposite side of the partition now operates in the same manner as above described, forcing the material into the annular chamber in the directing device, the rack 34 imparting a rotary
35 movement to the thimble 32, presenting all parts of the chamber to the supply-port, and at the same time the pin 33, moving with the thimble, passes through the material in said
40 chamber, keeping the material homogeneous and insuring an even flow. The material passes from the annular chamber through the perforations 30 in the base of the thimble. By varying the number of oscillations of the
45 discharging devices through the medium of the changeable motion of the reciprocating racks one kind of material may be completely inclosed within the other or different materials may be deposited in a plurality of layers.
50 Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination with a material hopper or holder provided with exit orifices or
55 ports, of a discharging device in which is comprised two independently, partially-rotatable

ble, oscillatory members located in a common throat, one of said members being provided with ports or orifices.

2. The combination with a material hopper or holder provided with exit orifices or ports and a division or partition, of discharging devices in each of which is comprised two independently, partially-rotatable, oscillatory members, located in a common throat one of
65 said members having openings or ports there-through.

3. In a depositor, a discharging device in which is comprised two independently, partially-rotatable members, located in a common
70 throat, as set forth, one of said members being perforated and arranged to come in contact with a projection extending into the throat.

4. In a depositor, the combination with a
75 discharging device in which is comprised two independently, partially-rotatable, oscillatory members, located in a common throat, of means for varying the oscillation of said members.
80

5. In a depositor, the combination with a material hopper or holder provided with exit orifices or ports and discharging devices at the bottom of the hopper, of directing devices in each of which is comprised a central
85 exit-tube having communication with one side of the material-hopper, and a chamber surrounding said exit-tube having communication with the other side of the material-hopper, discharge-openings leading from said
90 chamber, and means for rotating the bottom and inner wall of the chamber.

6. The combination with a fixed shell at the bottom of the material-hopper, of a central discharge-tube and a thimble rotatably
95 held thereon; a supply-port at the top of the thimble and discharge-openings at the bottom of the thimble, and means for rotating the thimble.

7. The combination with a fixed shell at
100 the bottom of the material-hopper, of a central discharge-tube and thimble rotatably held thereon, the thimble having a supply-port at the top and discharge-openings at the bottom, a pin located within the thimble, and
105 means for rotating the thimble.

Signed by me at New York this 15th day of November, 1901.

DANIEL M. HOLMES.

Witnesses:

A. M. PIERCE,
C. L. DAVIS.