

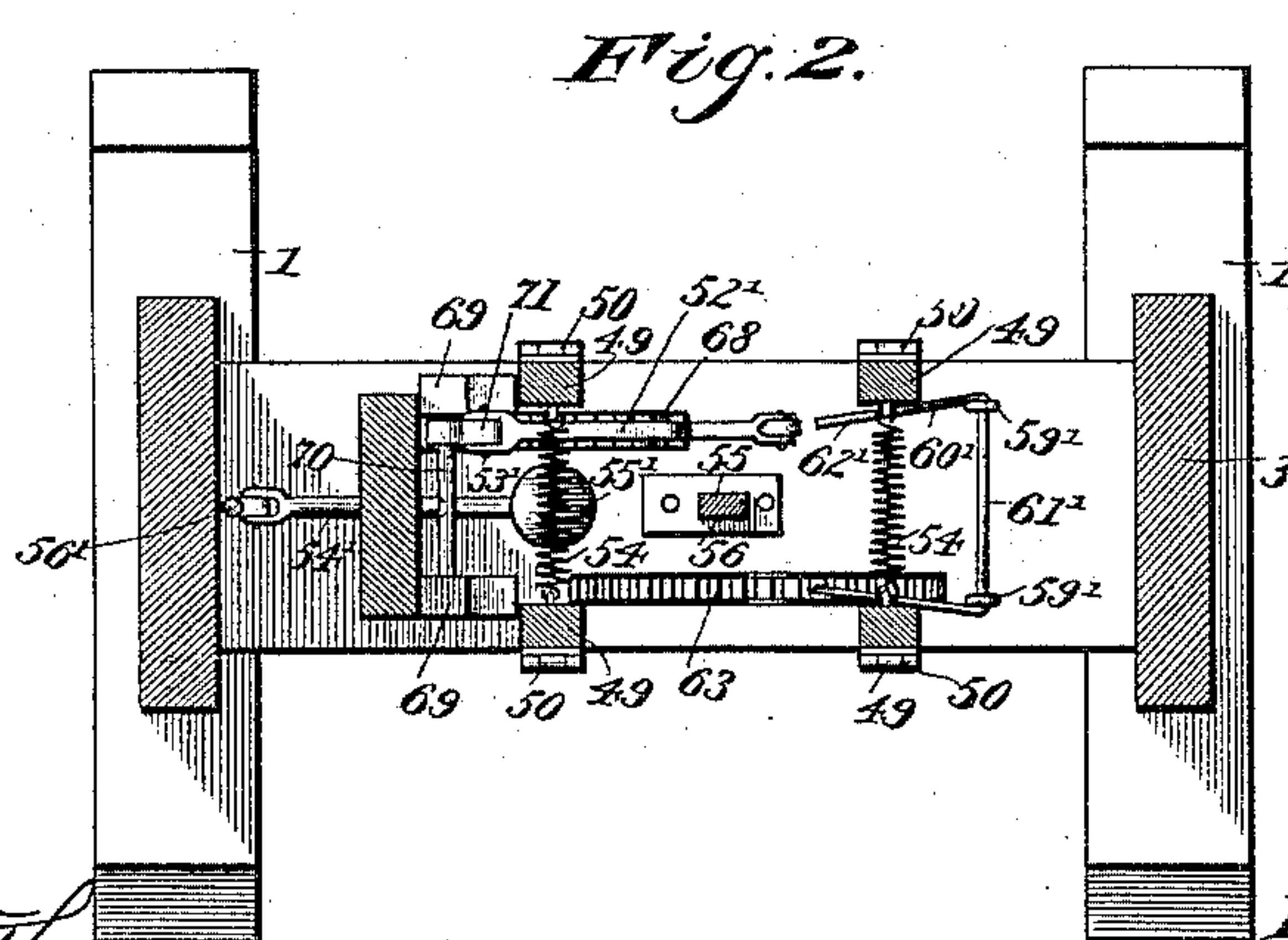
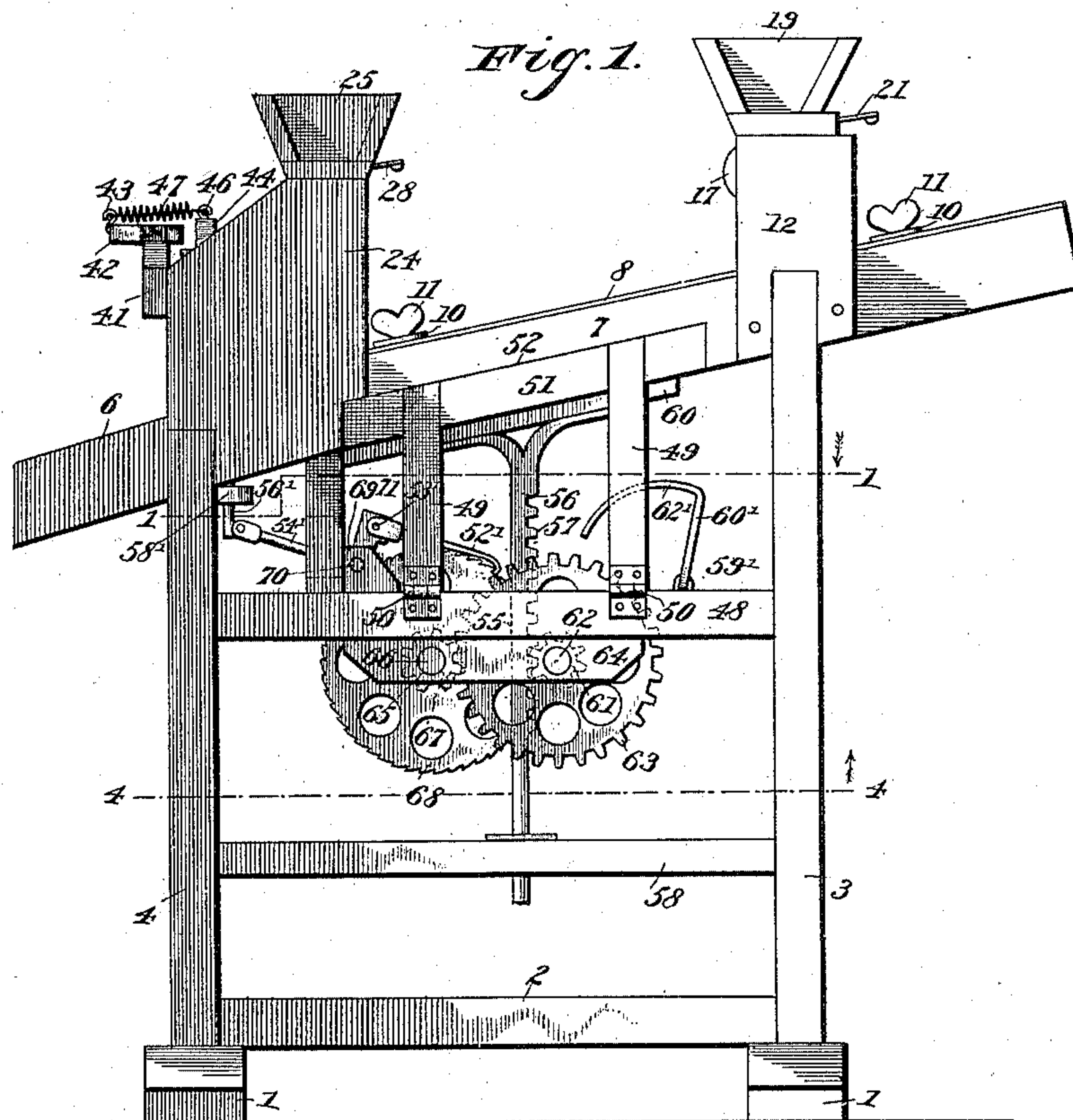
(No Model.)

3 Sheets—Sheet 1.

B. W. WRIGHT & E. E. ROGERS.
CAN LABELING MACHINE.

No. 488,346.

Patented Dec. 20, 1892.



Witnesses;

Matthewson
J. S. Giggers

By their Attorneys,

C. A. Snow & Co.

Inventors,

Beverly W. Wright
& Edward E. Rogers,

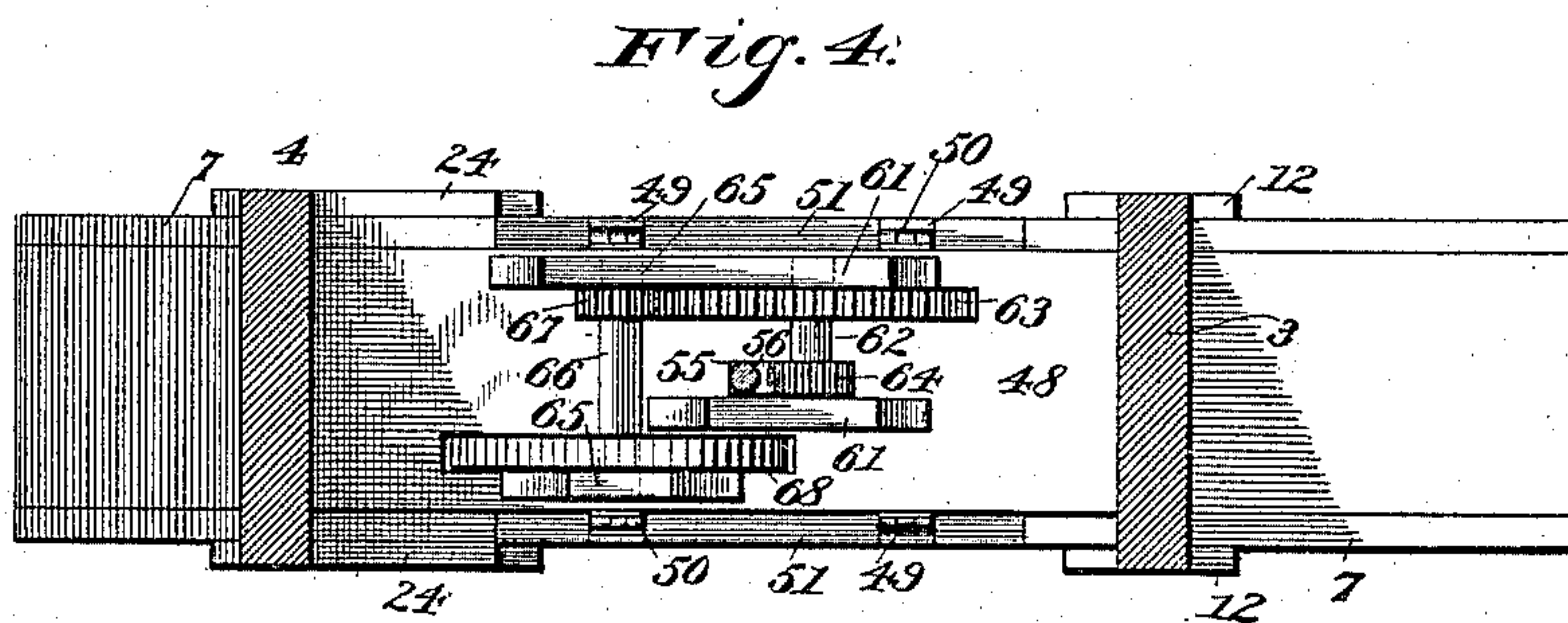
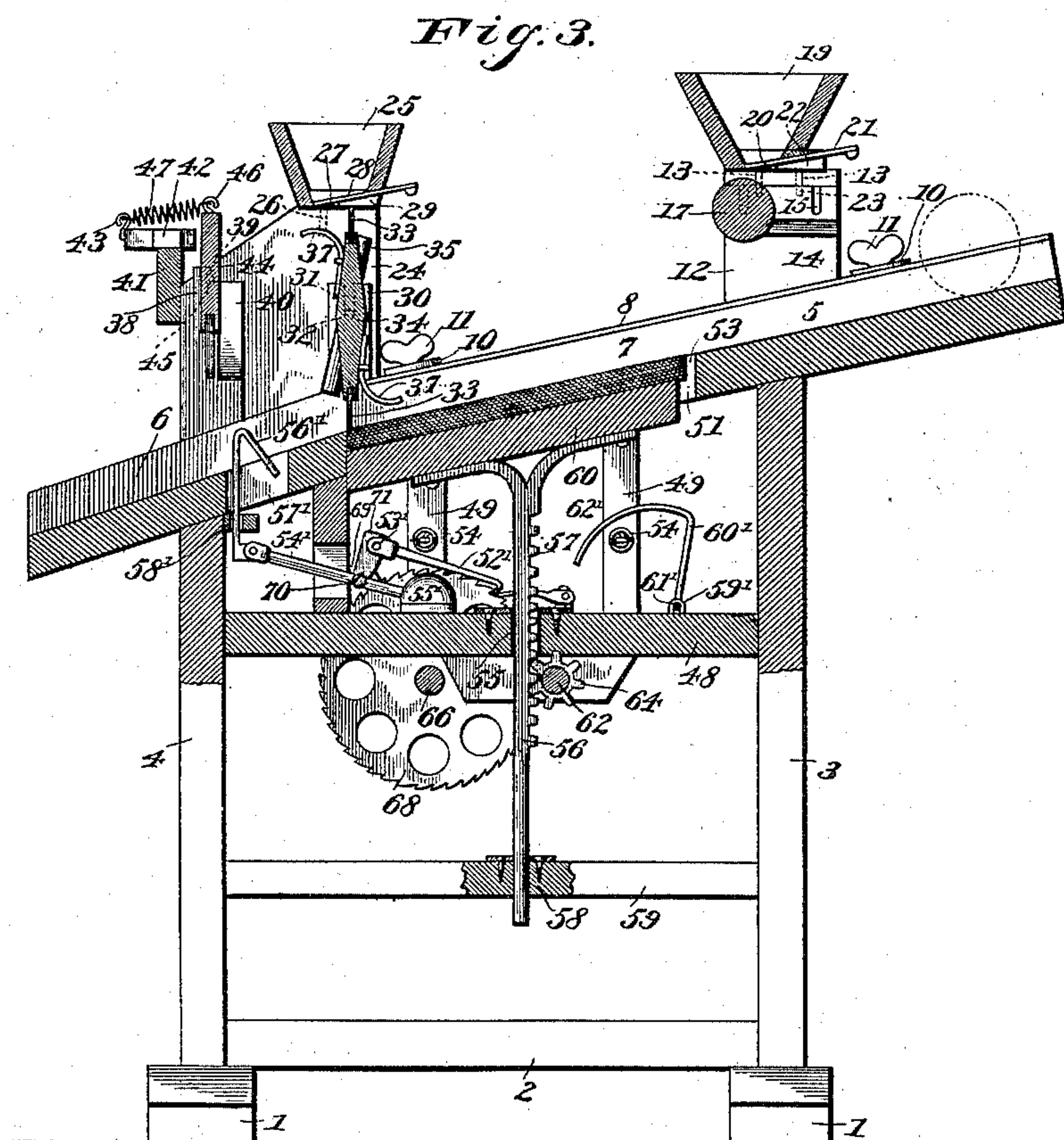
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Witnesses;

J. M. Whitford
J. H. Diggers

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C. A. Snow & Co.

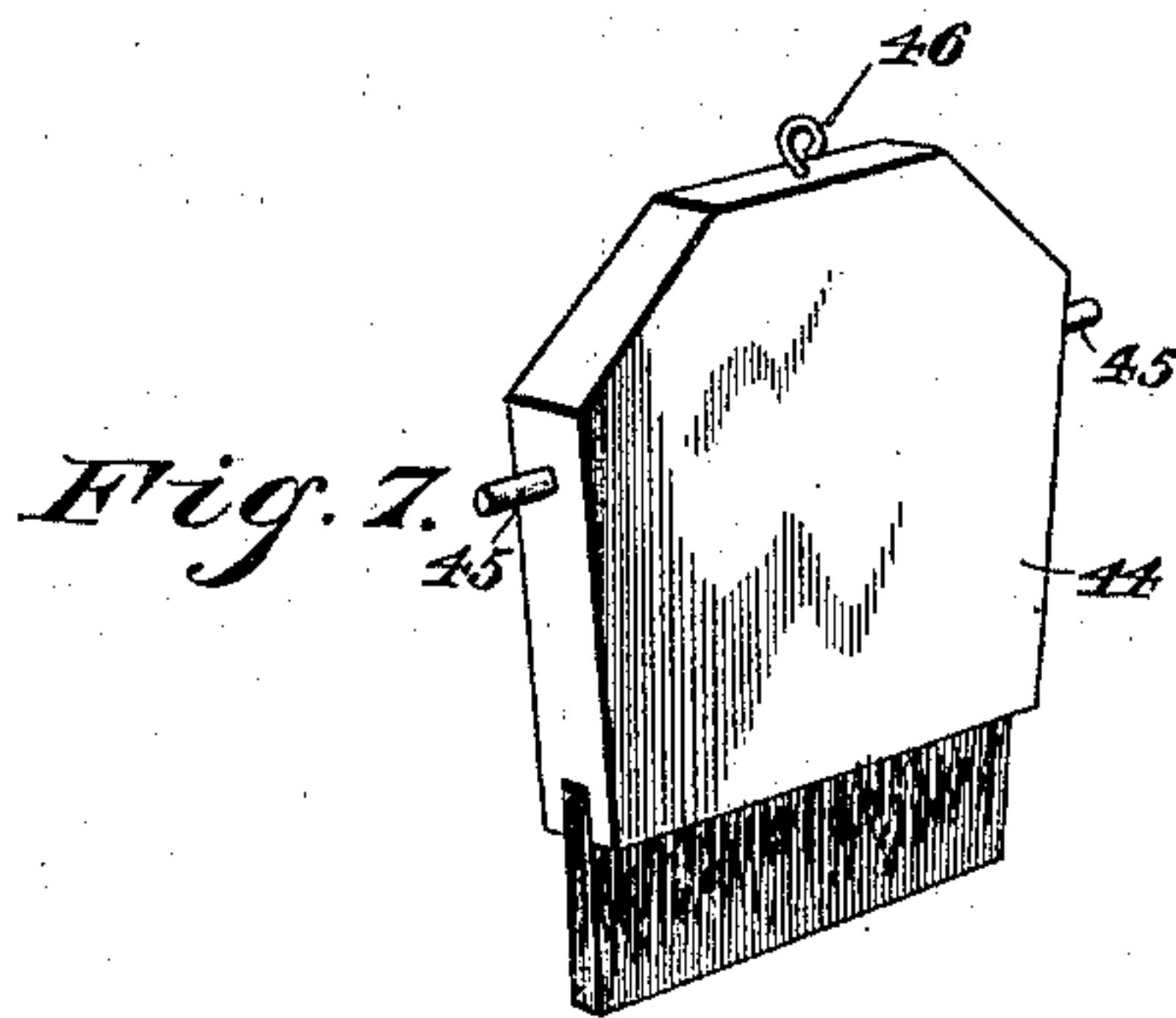
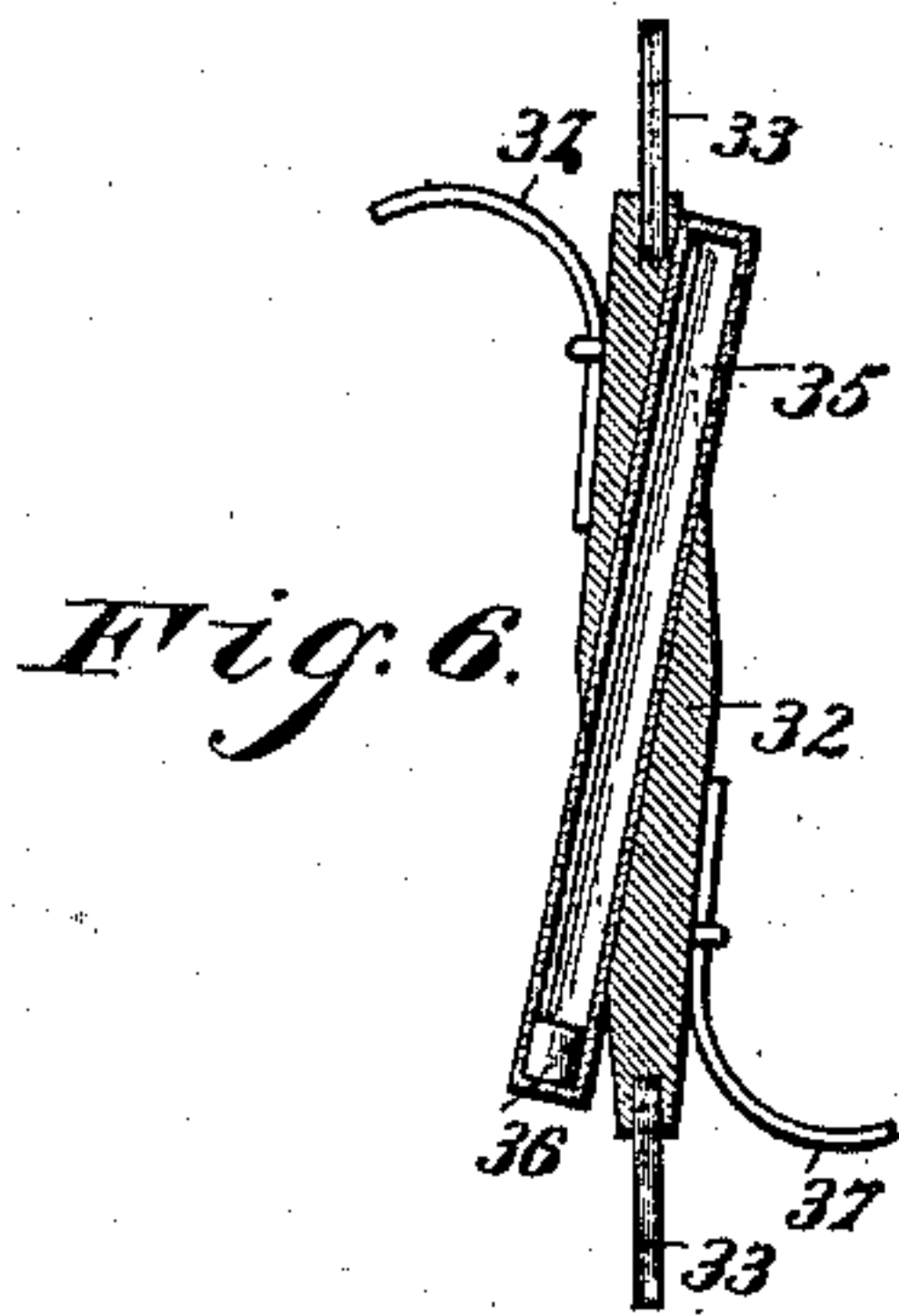
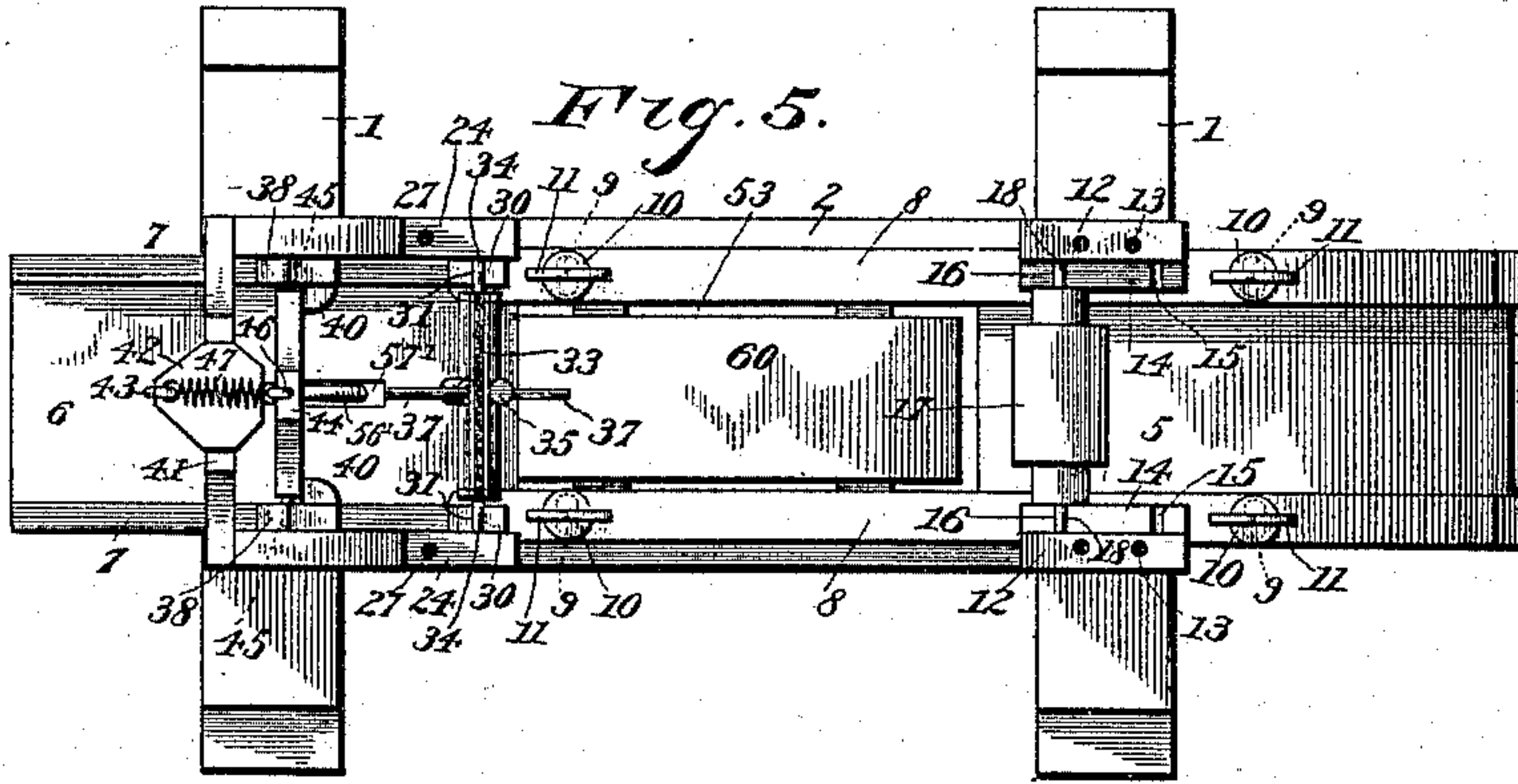
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3 Sheets—Sheet 3.

B. W. WRIGHT & E. E. ROGERS.
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Witnesses;

J. M. [Signature]
J. H. Diggers

Inventors

Beverly W. Wright &
Edward E. Rogers,

By their Attorneys,

C. A. Snow & Co

UNITED STATES PATENT OFFICE.

BEVERLEY W. WRIGHT AND EDWARD E. ROGERS, OF PRESTON, MARYLAND.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 488,346, dated December 20, 1892.

Application filed May 10, 1892. Serial No. 432,500. (No model.)

To all whom it may concern:

Be it known that we, BEVERLEY W. WRIGHT and EDWARD E. ROGERS, citizens of the United States, residing at Preston, in the county of Caroline and State of Maryland, have invented a new and useful Can-Labeling Machine, of which the following is a specification.

Our invention relates to improvements in can-labeling machines; the objects in view being to provide a machine of cheap and simple construction, into which the cans may be rolled successively by hand or otherwise, and which will efficiently and accurately apply the labels thereto; to adapt the machine to economize paste; to render the machine automatic in its movements; and to adapt it for applying the labels to cans of various sizes.

With these general and other specific objects in view, our invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a side elevation of a can-labeling machine constructed in accordance with my invention. Fig. 2 is a horizontal sectional view on lines 1—1 Fig. 1. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a horizontal sectional view on lines 4—4, Fig. 1, the parts be- shown in bottom plan. Fig. 5 is a top plan view of the machine. Fig. 6 is a detail in longitudinal section of the rotatable paste-brush. Fig. 7 is a perspective view of the same.

Like numerals of reference indicate like parts in all the figures of the drawings.

Upon opposite transverse sills 1, in this instance employed, I mount a longitudinal connecting-beam 2, from the ends of which and from the upper sides of the sills rise front and rear standards 3 and 4. These standards have their upper ends bifurcated, and secured thereto between the bifurcations is an inclined bottom or way 5, the rear end of which is disposed at a greater declination than the major portion of the same, whereby an abrupt discharge 6 is formed. The bottom or way is provided with opposite sides with vertical flanges or walls 7, extending parallel to each other and from end to end of the same. From the front ends of the side-walls or flanges 7 to the points where they abruptly decline to form the discharge 6, metal strips or guides 8 are in this instance mounted upon their up-

per sides. Each strip 8 is provided with a series of transverse adjusting-slots 9, over which washers 10 are located, and through the washers and slots and into openings formed in the side-walls 7, thumb-screws 11 are passed.

Rising from the bifurcations of the front standard 3 is a pair of short standards 12, the upper edges of which are horizontal, and are provided with pairs of mortises 13. The inner sides of these standards above the inclined way, have secured thereto transverse cleats 14, and the upper edges of these cleats are provided with pairs of front and rear slots 15 and 16 respectively.

17 designates a pasting-roll, the trunnions 18 which project from its axial center, being designed to be mounted loosely in the slots 15 or 16. When mounted in the slots it will be obvious that the roll may rise and fall, as well as rotate. Inasmuch as the cleats 14 are horizontal, and the way 7 inclined, it will be obvious that by arranging the roll in the front slots, it will be brought closer to said way than when it is arranged in the rear slots. By this, in a manner as will hereinafter be apparent, I accommodate the roll and way for cans of varying diameters. Upon the standards 12 a paste-box or receptacle 19 is mounted, and this box has its bottom provided with a transverse paste-emitting slot 20, adapted to be covered either wholly or partially by a sliding cut-off, 21, mounted in a pair of parallel ways 22. Near one of the ends of the bottom of the box a pair of tenons 23 depend, and by arranging these tenons in the front mortises 13 of the standards 12, the paste-emitting slot 20 will be brought opposite the paste-roll 17, when the latter is in the rear slots or journals 16. By reversing the paste-box and placing the tenons 23 in the rear mortises 13, the slot 20 will be in position to deliver paste to the paste-roll when the latter is in the front pair of slots 15.

A pair of vertical standards 24 rise from the bifurcations of the rear standards 4, to a point above the ways and embrace the opposite sides of the latter. Upon the upper ends of these standards a second or rear paste-box 25 is mounted, the same being secured in position by any ordinary means, in this instance by tenons 26, depending from the bottom of

the box and fitting in mortises 27, formed in the upper ends of the standards 24. The bottom is provided with a paste-emitting or discharge-slot 27, which is covered by a sliding cut-off 28, adapted to either wholly or partially close the slot and mounted in ways 29.

A pair of vertical cleats 30 are secured to the inner sides near the front edges of the standards 24, and are provided at their upper ends with bearing-slots 31. In these slots there is removably mounted a rotatable brush. The brush consists of a wooden body-portion 32, oblong in shape and provided at its opposite or upper and lower ends with a line of bristles 33. The body-portion is further provided at its opposite longitudinal edges with bearing-trunnions 34, which fit loosely in the before-mentioned bearing-slots 31 of the cleats. A diagonal bore is formed in the brush, extending from end to end thereof, and through the body-portion; and in this bore there is mounted rigidly a metal tube 35, passing centrally or through the axis of the brush. This tube is closed at its opposite ends, and a loose weight 36 is mounted within and adapted to slide from one end to the other of the tube, exerting its influence at opposite sides of the center of the brush. The opposite faces of the brush, at diagonally-opposite points, are provided with curved can-engaging arms 37, which when the brush is in position lie in the path of the cans as they are rolled in a manner hereinafter described, down the inclined way.

In rear of the cleats 30 a second pair of cleats 38 are secured to the inner sides near the rear edges of the standard 24. These cleats are provided at their upper ends with inclined bearing-slots 39, and in front of the same with stops 40. A cross-bar 41 connects the rear edges of the standards 24 and a block 42 surmounts the cross-bar at its center, and is provided with a hook 43, at its rear end.

44 designates a brush-body, provided at its lower end with a row of bristles and at its opposite sides with bearing-trunnions 45, the latter adapted to take removably in the inclined bearing-slots 39 of the cleats 38. A hook 46 at the upper end of the brush-body, is connected by a coiled spring 47 with the hook 43, whereby the upper end of the brush is drawn to the rear and its lower end coming against the stops 40, is limited, in that direction.

Below the inclined way the standards 3 and 4 support a transverse cross-piece or platform 48, and from the same at opposite sides of the center rise vertical pairs of bars 49, the lower ends of which are hinged at 50 to the sides or edges of the platform 48. The upper ends of these bars 49 are connected by inclined bars 51, which take into recesses or openings 52, formed in the side-walls or flanges 7 of the inclined way, and form side-walls to an opening 53 formed in the bottom of the inclined way. The bars 49 are connected by transversely-disposed coiled springs 54, whereby

they are drawn inwardly. Between these bars the platform or cross-piece 58 is provided with an opening 55, and in the same is mounted for vertical movement a plunger 56, the face of which is toothed at 57, and the lower end of which extends down and through a guide-opening 58, formed in a cross-bar 59. The upper end of the plunger supports a table, 60, inclined similar to the bottom of the inclined way, and of a length adapting it to take within the opening in said bottom. In bearings 61, located upon the under side of the platform 48, and in front of the vertical plunger, a transverse shaft 62 is journaled, and said shaft has mounted thereon for movement therewith a gear-wheel 63, and a small gear 64, the latter meshing with the rack-teeth of the plunger. At the opposite side of the plunger, in bearings 65, a transverse shaft 66 is journaled, and the latter carries a small gear 67, which engages with and drives the large gear 65, and is further provided with a finely toothed ratchet-wheel 68. The gear 63 and ratchet-wheel 68 project upwardly through openings formed in the platform 48.

In bearings 69, in rear of and above the ratchet-wheel 68, a rock-shaft 70 is mounted, and from the same there rises a rock-arm 71, located in rear of the ratchet-wheel. To the free end of this rock-arm a drawing-pawl 52' is connected, by means of a pivot 53'. A rocking-lever 54' is rigidly mounted between its ends upon the rock-shaft, and is provided at its front end with a weight 55', which normally throws the rock-arm and drawing-pawl forward, so that by a depression of the rear end of the rocking-lever the pawl will operate the ratchet-wheel one or more teeth, as may be desired. A trip-rod 56' is pivoted at its lower end to the rear end of the trip-lever, and has its upper end bent, as shown, and projected through a slot 57', formed in the bottom of the inclined way. This trip-rod is mounted upon a guide-bracket 58'.

In bearing-eyes 59', located upon the platform 48, in front of the vertical hinged bars 49, the transverse portion of a bail 60' is journaled. This transverse portion indicated as 61', is adapted to rock in the bearing-eyes and beyond said eyes is provided with upturned ends, forwardly curved about midway their length, forming spreaders 62'. The spreaders are resilient, and may be compressed and swung into a position between the front pair of bars 49, whereby the latter are spread against the tension of their springs.

This completes the construction, and in order to place the machine in operative condition, the drawing pawl is first raised out of engagement with the ratchet teeth, and the label-carrying table 60 permitted to descend. The spreader is then thrown rearwardly, so as to laterally spread the bars 49, and the pile of labels to be applied to the cans is laid upon the table, the ends of the labels abutting against a vertical head-board or stock 63', which is mounted upon the platform 48, and

projects up to the lower end of the opening in the bottom of the inclined way. Paste having been supplied to the paste-boxes, the machine is ready for operation. In such operation, the cans are fed to the upper end of the inclined way as rapidly as possible by the operator, and as they pass under and roll in contact with the paste-roller, paste is distributed over the surface of the can, and as the can rolls over the pile of labels, the uppermost of the pile adheres to the can and is rolled thereon. The can striking the curved arm at the lower end of the brush 32, tilts the latter so that its weight sliding to the opposite or what was before the upper end of the tube, causes the brush to make a one-half rotation, the upper brush passing in contact with the slot of the paste-box and thus receiving a discharge of paste and the lower end being drawn across the lower end of the uppermost label of the pile, delivering paste at that point. After the label has caused the operation mentioned by the rotatable brush, it passes over the upper end of the trip-rod depressing it, by which is caused a movement of the rock-shaft, resulting in a slight movement of the ratchet-wheel. It will at once be obvious that through the train of gearing described, such movement will be transmitted to the label-table supporting-plunger, and that said table with its pile of labels, will be raised a very short distance (the thickness of the label). When this has been accomplished, the can continuing its course comes in contact with the lower end of the yielding brush, pivoted in rear of the rotatable brush, and thus said yielding brush as the can forces its way thereby, serves to press the label snugly upon the can.

This completes the operation of labeling, and it will be obvious that the same may be carried on as rapidly as cans can be placed in the upper end of the inclined way; and furthermore that the feed and application of paste and label is all entirely automatic, requiring no attention whatever from the operator.

Having described our invention, what we claim is:—

1. In a can-labeling machine, the combination with an inclined way and label-applying devices located therein, of opposite standards located at the sides of the way in advance of the label-applying devices, said standards having upper horizontal ends provided with front and rear mortises the paste-box having a slot near one edge and formed in its bottom, tenons depending from the bottom near the opposite edge to where the slot is located, and adapted to fit removably in the mortises of the standards, front and rear bearings located in the standards and a paste-roll removably mounted in the bearings and adapted to contact with the paste-discharging-slot of the box, substantially as specified.

2. In a can-labeling machine, the combina-

tion with an inclined way having an opening, paste-delivering mechanism located in front of the opening, a paste-delivering device located near the rear end of the opening and above the same, a brush the opposite ends of which are provided with bristles pivoted between the rear end of the opening, and the paste-delivering receptacle, said brush having its lower end located in the path of a can when moving down the inclined way, means for temporarily holding the brush in a vertical position until struck by a can, of a label-carrying table mounted in the opening of the way and means for raising the same, substantially as specified.

3. In a can-labeling machine, the combination with an inclined way having an opening, paste mechanism in front of the opening, the label-carrying table mounted below the opening, means for raising said table, of a paste-receptacle having a discharge, supported above the rear end of the opening, and a brush having bristles at its upper and lower ends and pivoted for rotation between the rear end of the opening and the paste-receptacle, said brush being provided with a weight, adapted to move from end to end thereof, during the rotations of the brush, substantially as specified.

4. In a can-labeling machine, the combination with an inclined way having an opening, paste-distributing mechanism located in front of the opening, a label-supporting table mounted in the opening, mechanism for raising the table, of a paste-discharge located in rear of the opening and above the same, a rotatable brush mounted in bearings between the paste-discharge and opening, and provided at its upper and lower ends with a line of bristles, a tube passed diagonally through the brush and a shifting weight mounted in the tube and adapted to move from end to end of the same, substantially as specified.

5. In a can-labeling machine, the combination with an inclined-way having an opening, a table supported therein and adapted to support the labels, means for raising the table, and mechanism for applying paste to cans located in front of the opening, of the opposite supports arranged in rear of the opening, the paste-discharging receptacles supported thereby, a brush rotatably mounted under the paste receptacle and having its opposite ends provided with bristles adapted to receive paste from the discharge of the receptacle, a shifting-weight mounted for sliding upon the brush, and a second brush loosely pivoted between the supports and spring-pressed into the path of the cans, substantially as specified.

6. In a can-labeling machine, the combination with the inclined way, the opposite standards supporting the same the platform below the way supported by the standards, recesses formed in the sides of the way and in-line with an opening formed in the bottom

of the way, of opposite frames hinged to the platform, springs for drawing the same inwardly, an intermediate table for supporting the labels, loosely fitting in the opening between the frames, a head-board at the lower end of the opening, and means for raising the table, substantially as specified.

7. In a can-labeling machine, the combination with the inclined way, the opposite standards supporting the same, the platform below the way supported by the standards, recesses formed in the sides of the way and in line with an opening formed in the bottom of the way, of opposite frames hinged to the platform, springs for drawing the same inwardly, an intermediate table for supporting the labels loosely fitting in the opening between the frames, means for raising the table, and means for spreading the frames during the loading of the table with labels, substantially as specified.

8. In a can-labeling machine, the combination with the inclined way, the opposite standards supporting the same, the platform below the way supported by the standards, recesses formed in the sides of the way and in line with an opening formed in the bottom of the way, of opposite frames hinged to the platform, springs for drawing the same inwardly, an intermediate table for supporting the labels loosely fitting in the opening between the frames, means for raising the table, a pair of bearings upon the platform in front of the frames, a transverse shaft journaled in the bearings, and a pair of spring-arms rising from the ends of the shaft and extending for-

wardly and adapted to be interposed between the opposite frames, substantially as specified.

9. In a can-labeling machine, the combination with the inclined way, having the opening, the plunger mounted in an opening formed in a platform below the way, and supporting a table within the opening of the way, said plunger being provided with rack-teeth, a shaft journaled below the platform, a pinion and gear mounted on the shaft, the former engaging with the rack-teeth, a transverse shaft at the opposite side of the plunger, a small gear thereon engaging with the gear-wheel of the first-mentioned shaft, and a finely-toothed ratchet-wheel also on the second shaft, a rock-shaft journaled in rear of the ratchet-wheel, said rock-shaft being provided with a rock-arm, a drawing-pawl pivoted to the free end of the rock-arm, and at its free end engaging the teeth of the ratchet-wheel, a rocking-lever mounted on the rock-shaft, means for normally depressing its front end, and a vertical trip-rod pivoted at its lower end to the rocking-lever and extending up into the way, whereby it is adapted to be operated by a can, of pasting-mechanism arranged above the way, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

BEVERLEY W. WRIGHT.
EDWARD E. ROGERS.

Witnesses:

R. I. LEDMUN,
J. KEMP STEVENS.