

No. 768,103.

PATENTED AUG, 23, 1904

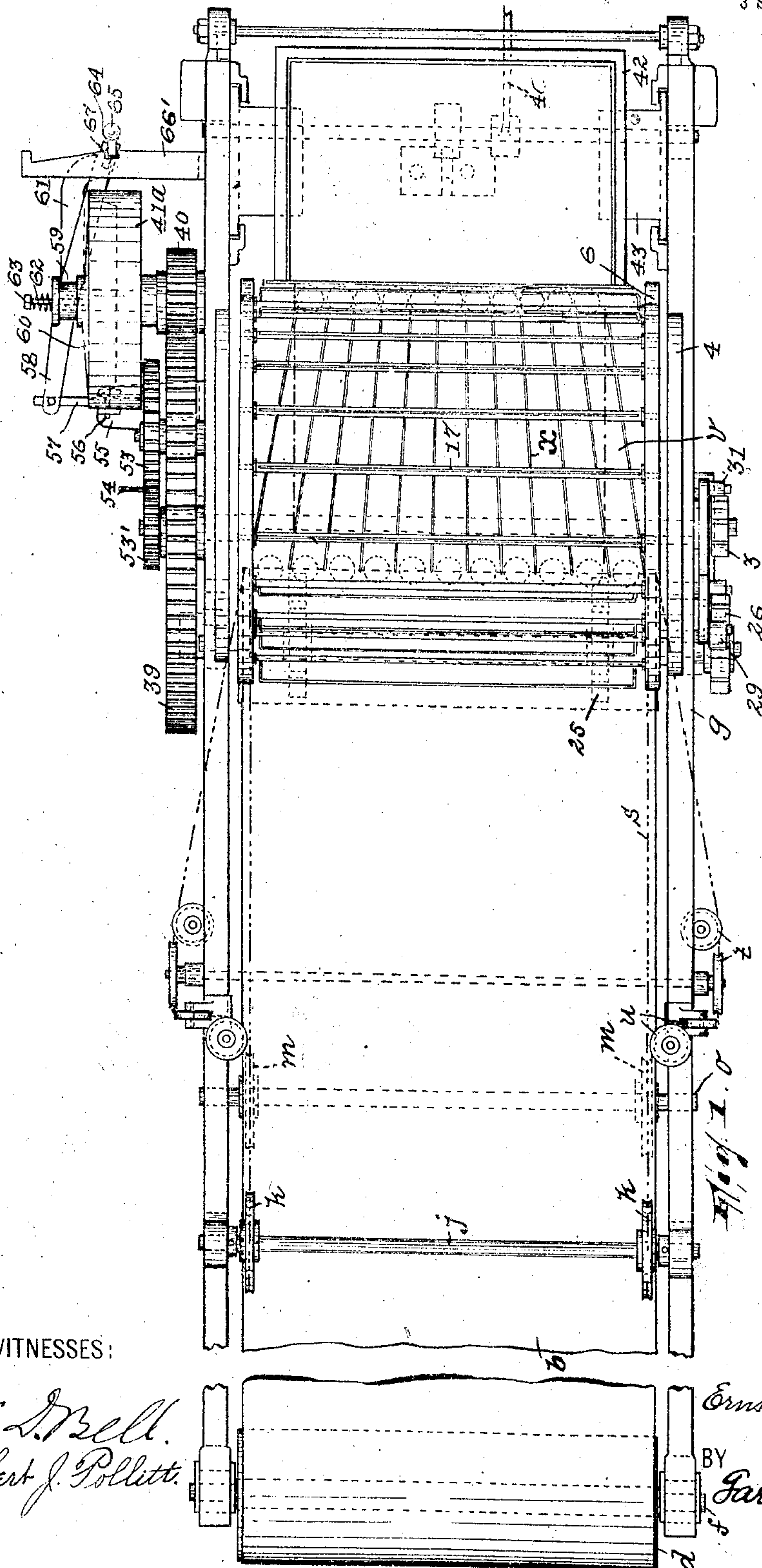
E. F. W. WIEDA.

MACHINE FOR PACKAGING CANDIES OR THE LIKE.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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INVENTOR,

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BY

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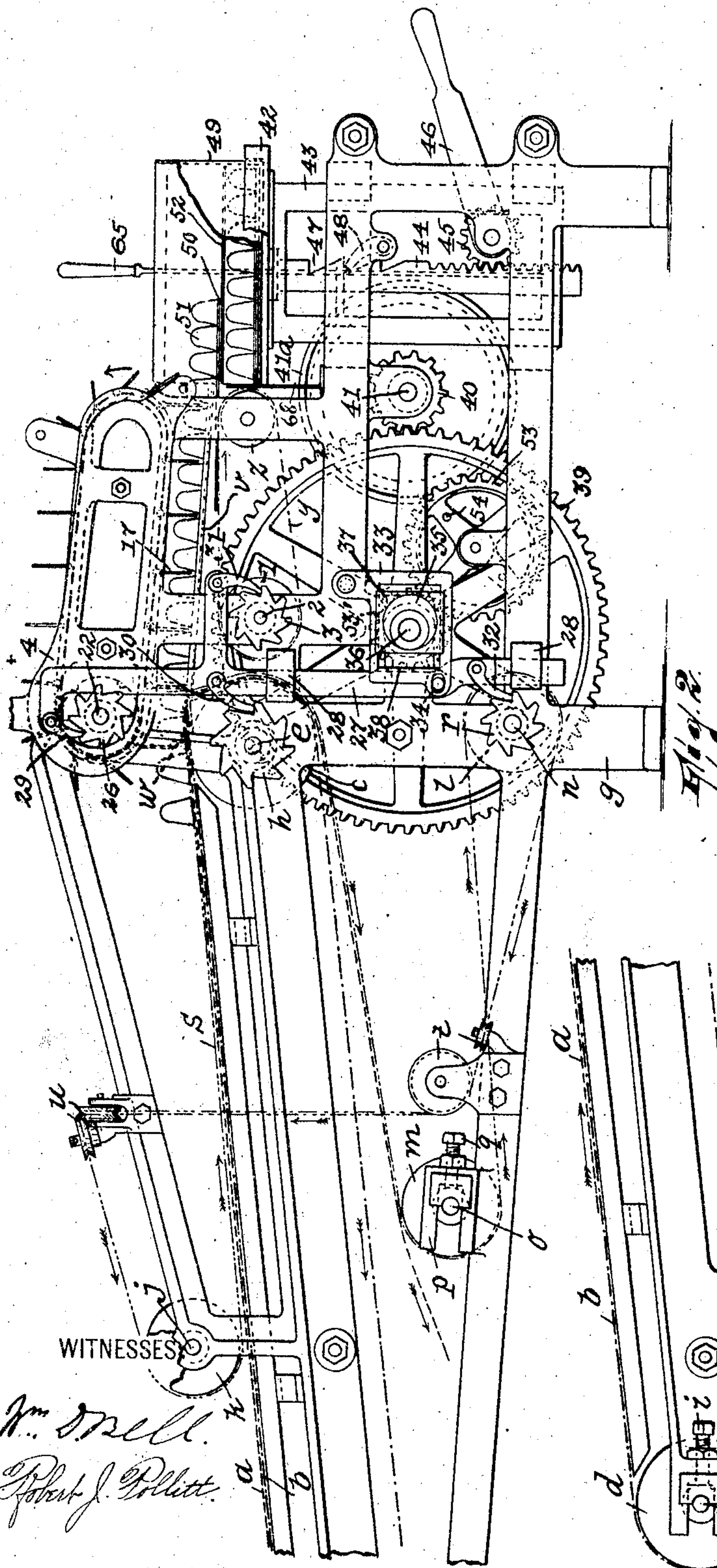
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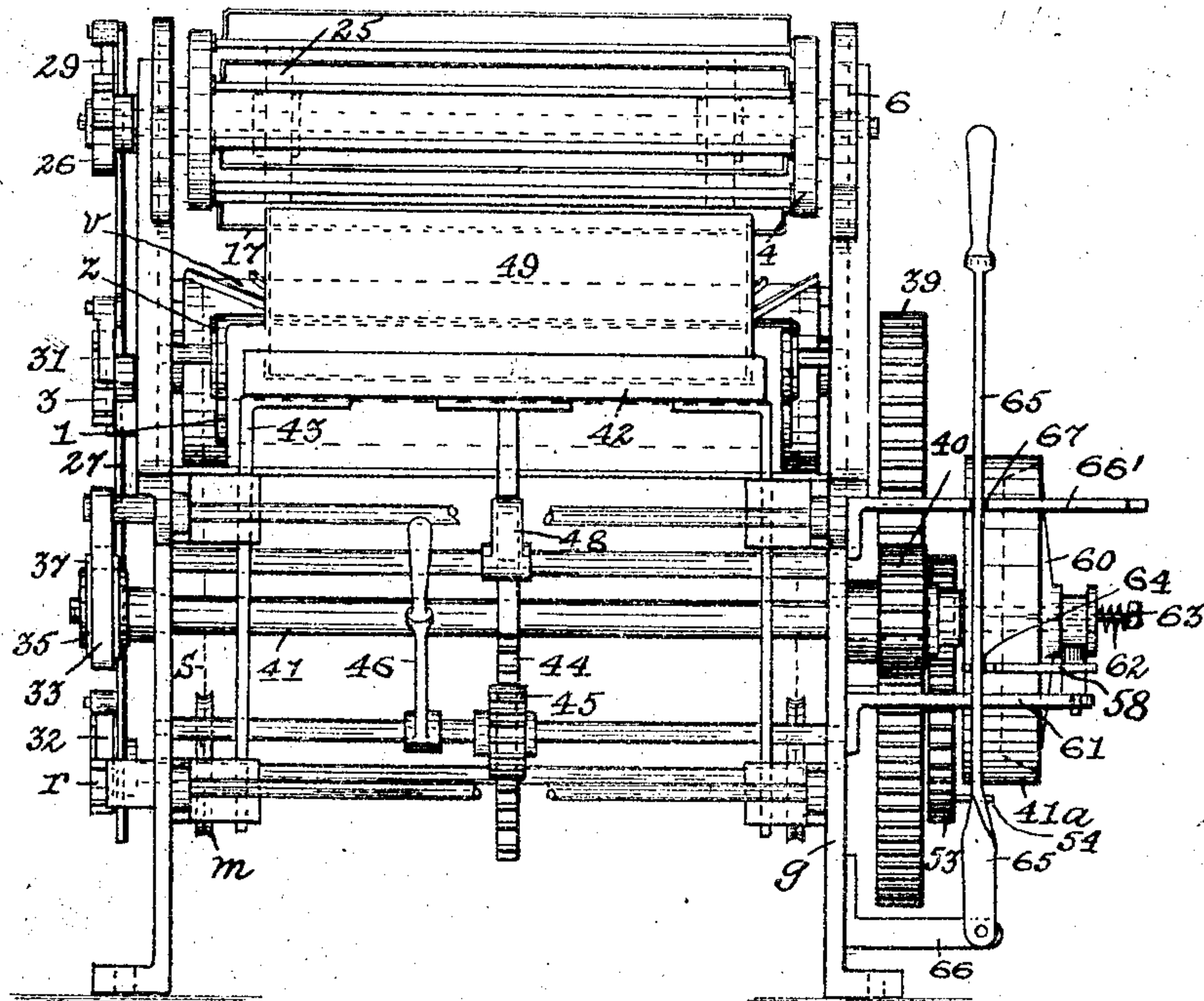


Fig. 4.

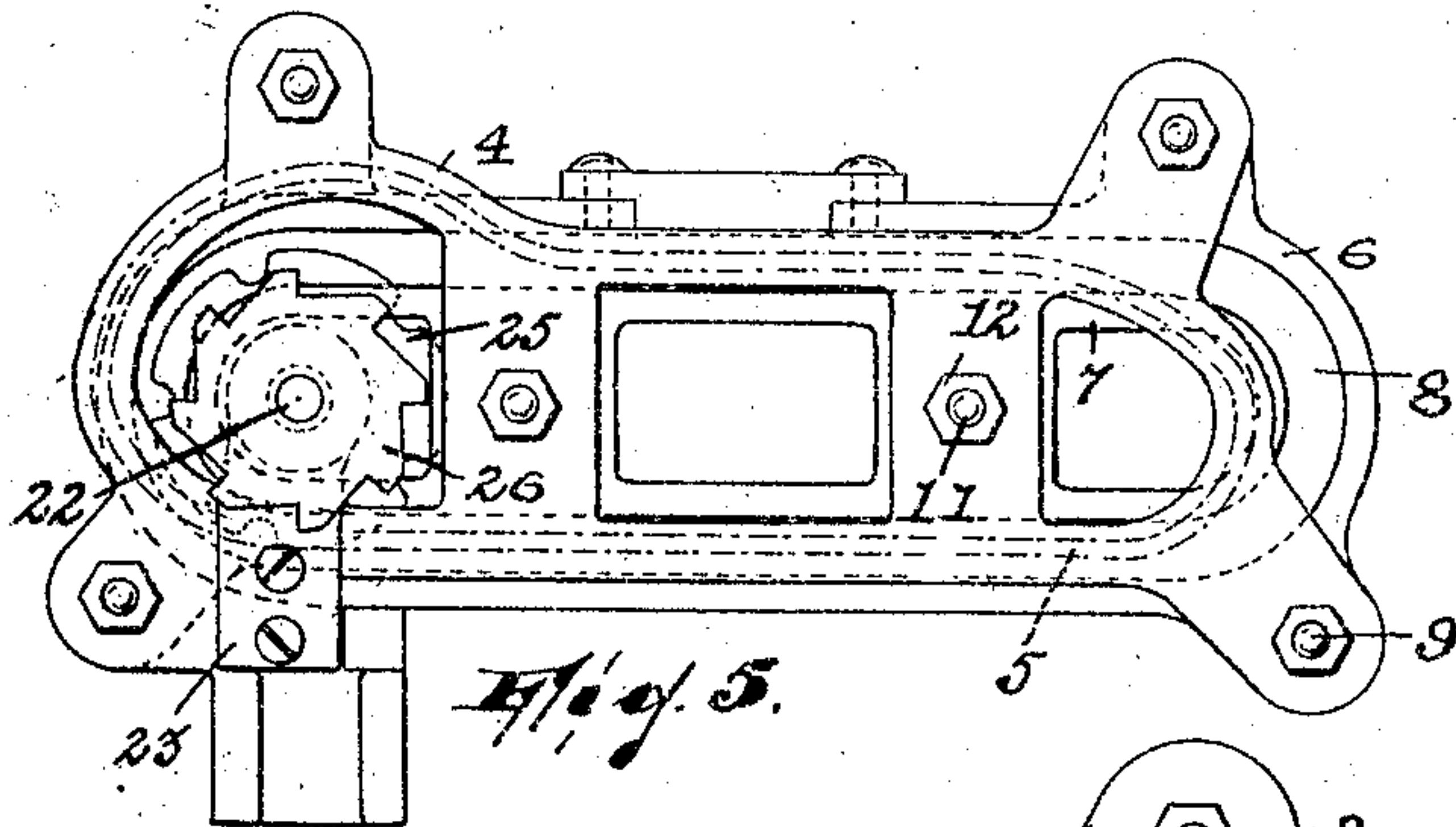


Fig. 5.

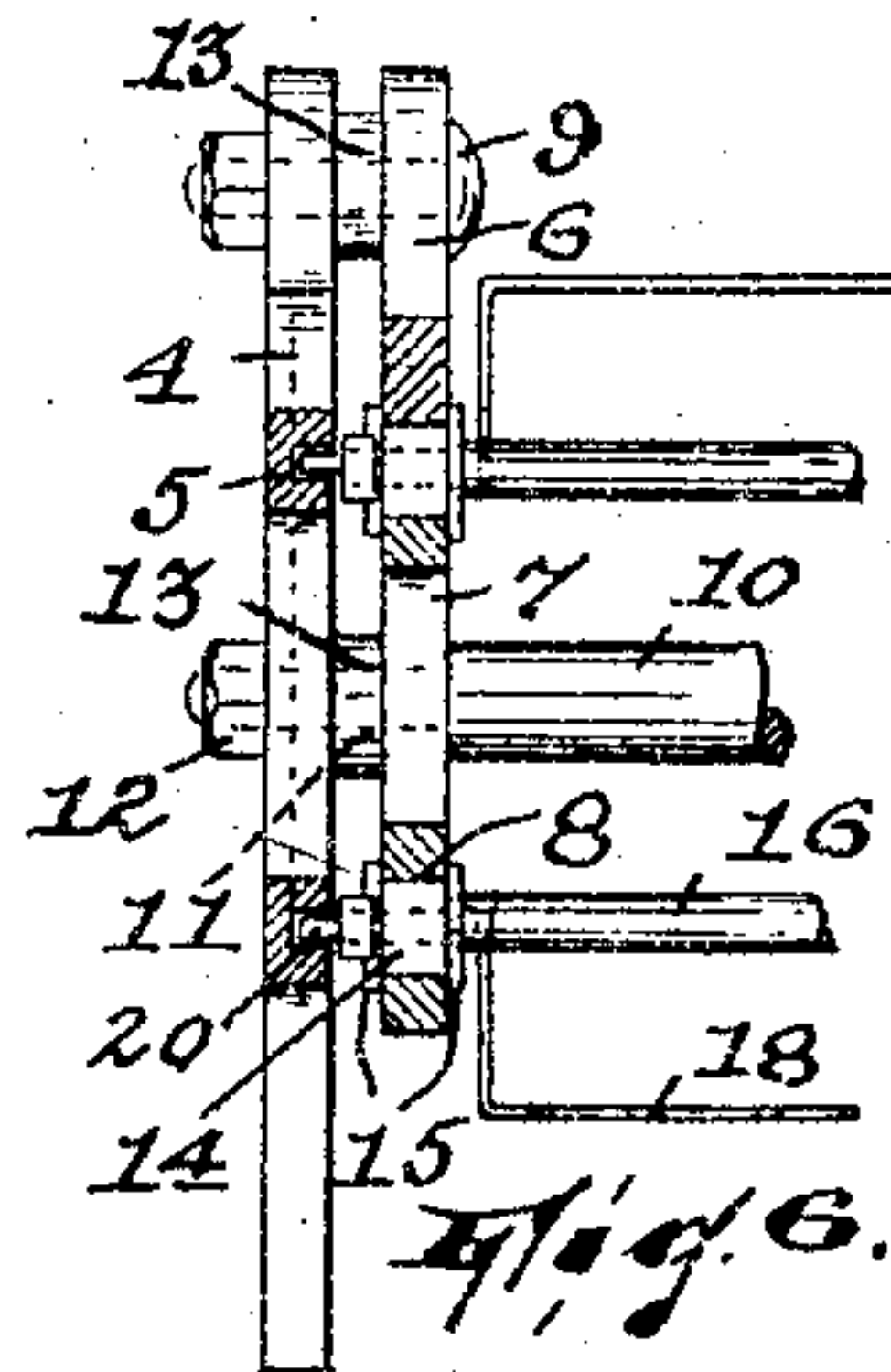


Fig. 6.

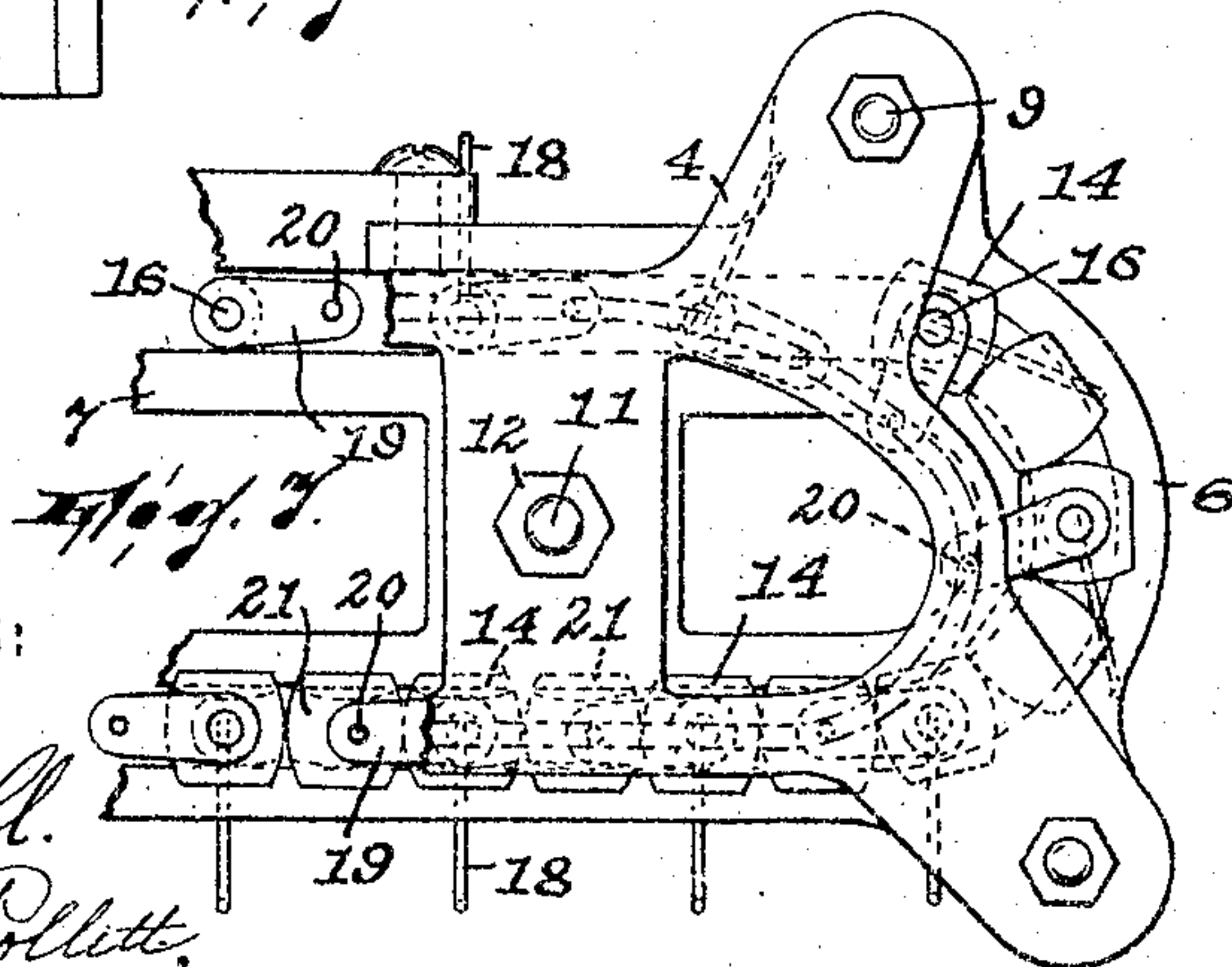


Fig. 7.

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# UNITED STATES PATENT OFFICE.

ERNST F. W. WIEDA, OF PATERSON, NEW JERSEY.

## MACHINE FOR PACKAGING CANDIES OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 768,103, dated August 23, 1904.

Application filed November 14, 1902. Serial No. 131,430. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST F. W. WIEDA, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Machines for Packaging Candies or the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention has for its object to provide a machine for packaging candies and other similar articles, so as not only to expedite the packaging and reduce the cost of labor, but, which I view as of more importance, to eliminate the necessity for handling the goods. In the case of certain classes of candies, &c., particularly such as chocolate or cream coated ones, the least handling very materially deteriorates them by destroying that gloss and appearance of freshness which makes them attractive to the customer.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of one embodiment of a machine designed to accomplish the aforementioned objects. Fig. 2 is a side view of said machine, the front portion thereof being broken away. Fig. 3 is a side view of that portion of the machine which is removed in Fig. 2. Fig. 4 is a rear view of the machine, and Figs. 5, 6, and 7 illustrate certain details.

After the final step in the process of making candies and the like they are usually laid in series of rows on sheets of paper until they harden sufficiently. They are afterward individually taken from the sheets and packed by hand in a box, being disposed according to the preferred way in tiers, each tier being supported by a sheet of cardboard or the like.

My machine is designed to do the work of removing the candies or other articles from the sheets of paper on which they are placed to harden, then dispose them on the sheets of cardboard which support them in the box in which they are finally packed, and then suc-

cessively lay such sheets thus laden with the candies in the proper disposition in said box. To this end the sheets of paper on which the candies are placed to harden and whose course is indicated by the dash-line *a* in Figs. 2 and 3 of the drawings are laid on an endless apron *b*, which extends around rollers *c* and *d*, which have their shafts *e* and *f*, respectively, journaled in the frame *g* of the machine. One end of shaft *e* carries a ratchet-wheel *h*, and the roller *d* is made adjustable relatively to the roller *c* by means of set-screws *i*, suitably mounted in the frame and taking against the shaft *f*.

On a shaft *j*, extending over the apron and journaled in the frame, are rigidly mounted near the edge portions of the apron *b* two pulleys *k*. *l* and *m* are other pairs of pulleys respectively secured on shafts *n* and *o*, the latter being rendered adjustable in a bracket *p* on the frame by means of set-screws *q* and the former carrying a ratchet-wheel *r*.

*s* designates endless flexible devices, such as wires, which extend around the pulleys *k*, then parallel with the apron *b*, around the roller *c*, then around the pulleys *m*, then around the pulleys *l*, and then around pairs of auxiliary pulleys *t* and *u* back to the pulleys *k*, said wires being adapted by being maintained by the pulleys *k* and the roller *c* close down to the apron *b* to hold the papers which move along the path *a* securely and properly guided as they advance with the apron and also to deflect said papers out of the machine when they reach the point where they part with the candies.

*v* is an inclined plate down which the candies are directed after leaving the apron.

*w* is an angle-iron which extends across the machine between the roller *c* and the adjacent edge of the plate *v*, said angle-iron serving to take the apron *b* and the wires *s* close up to said edge of the plate. The top of the plate is provided with a series of convergent ribs or walls *x*, the spacing between which is greater near the apron end of the plate than the other end thereof. These walls by their convergence tend to crowd the candies uniformly together; so that by the time they leave the plate they will be disposed in the



close order which they occupy when finally packed.

In the drawings and as above described I have illustrated but two wires for guiding and deflecting the papers on which the candies rest when introduced into the machine; but it will be understood that I do not wish to be limited to this number.

Under the plate *v* is a continuous belt *w*, which extends over rollers *z* and 1, the shaft 2 of the latter of which carries a ratchet-wheel 3. This belt is adapted to feed the cardboard sheets on which the candies rest when finally packed. Said sheets of cardboard are introduced in between the plate and the belt from the point adjacent the discharge end of the former, the belt being so driven that it thereupon moves the cardboard in the reverse direction—i. e., coincident with the moving candies.

Adjacent the plate *v* are secured, near both side edges of the same, two castings 4, in which are formed raceways 5 in the form of grooves. 6 and 7 are other castings, which are formed and disposed the latter within the former in such manner that they produce another raceway 8 in the form of a slot, the casting 6 being secured to the corresponding casting 4 and inside of the same by bolts 9, while the casting 7 is likewise secured by means of rods 10, whose reduced ends 11 penetrate the castings 4 and 7 and are threaded for the reception of nuts 12. Between the casting 4 on the one hand and the castings 6 and 7 on the other hand are spacers 13, disposed on the bolts 9 and reduced portions 11 of the rods 10.

In the raceway 8 are adapted to move blocks 14, which are flanged, as at 15, to keep them in place, and in these blocks are journaled the shafts 16 of fingers 17, (see Figs. 2, 6, and 7,) which comprise, in addition to the parts 16, bent-wire devices 18, secured in said shaft. Each shaft 16 is formed with an arm 19, having a pin or toe 20 projecting outwardly therefrom into the corresponding way 5.

21 are idlers which space the blocks 14, alternating with them and moving correspondingly in the way 8.

On a shaft 22, which is journaled in brackets 23 on the casting 4, are secured sprocket-wheels 25, which are adapted to engage the shafts 16, so as to advance the series of fingers in the direction of the arrow in Fig. 2. Said shaft 22 carries a ratchet-wheel 26.

The movements of the apron *b*, the endless wires *s*, the belt *w*, and the series of fingers 17 are intermittent. They are effected simultaneously from a vertically-reciprocating rod 27, guided in brackets 28, secured to one side of the frame *g*, through the medium of pawls 29, 30, 31, and 32, respectively, engaging the ratchets 26, *h*, 3, and *r*. The rod 27 is reciprocated from a stirrup 33, which is piv-

oted in the frame and has a slot-and-pin engagement 34 with said rod, said stirrup being oscillated from an eccentric 35 on a shaft 36 through the medium of a block 37, which slides in a slot 38 in the stirrup. The shaft 36 carries a gear 39, which is driven by a pinion 40 on the main drive-shaft 41 of the machine, said drive-shaft carrying a pulley 41", by which power is taken into the machine.

42 is a lowering or depressible table sustained by a suitable support 43, which is guided in the frame *g* for vertical movement, the up-and-down movement of the whole being controlled by a rack 44, with which a pinion 45, formed fast with a handle 46, which is fulcrumed in the frame *g* engages. The rack is formed with notches 47, with which is adapted to engage a pawl 48, pivoted in the frame.

The box 49 to be filled with the candies is placed on the table 42, and as fast as a sheet of cardboard 50, filled with candies 51, is delivered into the box the pawl 48 is released from the rack and the handle 46 made use of to lower the table, so that the pawl may be engaged with the next superjacent notch. Thereupon an additional sheet of cardboard 52 is laid over the tier of candies just deposited in the box, so that they will not be damaged by the cardboard supporting the next incoming tier.

In order that the operator may have opportunity to lower the box before each incoming tier of candies is deposited therein, the machine automatically stops, and this is effected as follows: On a pinion 53, which is driven from a pinion 53', are detents 54, which are adapted to actuate the throw-out mechanism. (Illustrated in Figs. 1 and 4.) 55 is a bracket in which is fulcrumed at 56 a lever 57, the inner end of the lever being adapted to be engaged by one of the detents 54, while to its outer end is pivoted one end of a lever 58. This last-named lever engages in the groove 59 of a friction-clutch 60, which is fast with the shaft 41. It should be remarked that the pulley 41" is loose on the shaft. The lever 58 is sustained in that portion thereof which engages the clutch by a bracket 61, and it is normally drawn outwardly by the clutch 60, which is itself normally drawn outwardly by a spring 62, connecting said clutch with an extension 63 of the shaft. When the lever 58 is forced inwardly, it of course forces the clutch into operative engagement with the pulley, so that the rotary action of the pulley is imparted to said shaft. The free end of the lever is notched, as at 64, to receive a hand-lever 65, which is pivoted in a bracket 66, so as to move transversely of the machine, and has slight flexibility in the direction of the length of the machine. In a bracket 66' is formed a notch 67, with which the hand-lever engages in such manner as to hold the



lever 58 in its innermost position, maintaining the clutch in contact with the pulley.

The operation of the machine is as follows: The sheets filled with the candies to be packed  
5 are successively laid on the apron *b*, which, with the coaction of the wires *s*, properly guides the candy-laden sheets up to the angle-iron *w*, at which point the wires deflect the sheets downwardly around the roller, finally  
10 discharging them from the machine. Just previously to the sheets leaving the candies the fingers 17 interpose themselves and begin to act to advance the candies along the convergent ways between the walls *x* on the plate *v*. At  
15 this point it should be remarked that the ways 5 and 8 in the castings 4, 6, and 7 are of such relative shapes that at that portion in the movement of the fingers where they approach and leave the candies they are caused to stand  
20 substantially vertical, so as to keep their action on the candies uniform throughout all that portion of the movement of the candies when the fingers are engaging them. As the candies advance through and leave the ways  
25 formed between the walls *x* on the plate *v* they are successively slipped off onto the sheet of cardboard which is to support them in the box 49, said sheet being caused to advance with them by the belt *y*. When one  
30 tier of candies has been deposited in the box, one of the detents 54 engages the inner end of lever 57, tilting the latter, which in turn tilts lever 58. Lever 58 presses the flexible  
35 hand-lever 65 outwardly, so that it disengages from the notch 67 and permits the spring 62 to draw the clutch 60 out of engagement with the pulley, thus stopping the machine. The operator then releases pawl 48  
40 and by manipulating handle 46 lets the table down the distance of one notch 47. Thereupon after disposing an additional sheet of cardboard over the candies already deposited in the box the hand-lever 65 is forced inwardly into reengagement with the notch 67,  
45 so as to restart the machine. From here on the operation is a repetition of that above described.

The box 49 is made with one side wall removed, so as to accommodate the feeding in of  
50 the articles. 68 is therefore a stationary wall arranged so that as the box lowers it takes the place of the removed wall of the box.

In order to render the machine perfectly automatic, I am now perfecting mechanisms  
55 for automatically feeding the sheets of cardboard forming the permanent supports for the candies and for automatically moving the table 42. I am also perfecting a mechanism for feeding in strips of cardboard or the like  
60 to serve as vertical dividing-walls between the candies. These I will make the subject of a separate application.

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

1. In a machine for packaging candies or other similar articles on a portable supporting sheet or sheets, the combination of a frame, means for effecting the advance of such sheet or sheets, and means for depositing the arti- 70 cles on said sheet or sheets, substantially as described.

2. In a machine for packaging candies or other similar articles on a portable supporting sheet or sheets, the combination of a frame, 75 means for effecting the advance of such sheet or sheets, and means for successively depositing the articles on said sheet or sheets during the advance of the latter, substantially as described. 80

3. In a machine for packaging candies or other similar articles, the combination of a frame, means for advancing the articles in substantially horizontal disposition, a sheet-like support disposed horizontally under said arti- 85 cles, and means for advancing said support horizontally, substantially as described.

4. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combina- 90 tion of a frame, means for advancing the articles in substantially horizontal disposition, and means for advancing the sheets to support said articles in a plane disposed beneath the plane of advance of said articles, substan- 95 tially as described.

5. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combina- 100 tion of a frame, a plate along which the articles to be packaged are adapted to be advanced, means disposed under said plate for advancing the sheets for supporting the articles, said means being adapted to discharge in substan- 105 tially the same direction that the articles are discharged from the plate, and a support for the box in which said articles are to be packaged arranged at the discharge for said articles and sheets and movable vertically, substantially as described. 110

6. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combina- 115 tion of a frame, a plate along which the articles to be packaged are adapted to be advanced, means disposed under said plate for advancing the sheets for supporting the articles, said means being adapted to discharge in substan- 120 tially the same direction that the articles are discharged from the plate, means for advancing said articles along the plate, and a support for the box in which said articles are to be packaged arranged at the discharge for said articles and sheets and movable vertically, sub- 125 stantially as described.

7. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combina- 130 tion of a frame, a plate along which the articles to be packaged are adapted to be advanced, a



continuous belt disposed under said plate and movable in the same direction with that in which the articles advance on the plate, said belt being adapted to advance the sheets for supporting the packaged articles, and means for advancing the articles along said plate so as to successively discharge them onto the sheets advanced by the belt, substantially as described.

8. In a machine for removing candies or other articles from their temporary sheet-like supports onto the permanent sheet-like supports which sustain them when packaged, the combination of a frame, means for advancing said articles and their temporary sheet-like supports, means for separating the articles from said temporary supports, means for sustaining the articles after being separated from said supports, means for advancing the permanent sheet-like supports, and means for advancing the articles from said sustaining means onto said permanent supports, substantially as described.

9. In a machine for removing candies or other articles from their temporary sheet-like supports onto the permanent sheet-like supports which sustain them when packaged, the combination of a frame, means for advancing said articles and their temporary sheet-like supports, means for separating the articles from said temporary supports, a plate along which said articles are to be advanced after being separated from their temporary supports, a continuous moving belt disposed under said plate and adapted to advance the permanent sheet-like supports, and means for advancing the articles along said plate onto said permanent support, substantially as described.

10. In a machine for removing candies or other articles from their temporary sheet-like supports onto the permanent sheet-like supports which sustain them when packaged, the combination of a frame, means for advancing said articles and their temporary sheet-like supports, means for separating the articles from said temporary supports, a plate along which said articles are to be advanced after being separated from their temporary supports, a continuous moving belt disposed under said plate and adapted to advance the permanent sheet-like supports, means for advancing the articles along said plate onto said permanent support, and a table for the box to receive said articles and their permanent supports, said table being movable vertically, substantially as described.

11. In a machine for removing candies or other articles from their temporary sheet-like supports onto the permanent sheet-like supports which sustain them when packaged, the combination of a frame, a continuous moving apron for advancing said articles and the temporary sheet-like supports therefor, a plate for receiving the articles having one edge thereof proximating said apron, and means

for deflecting said supports away from the articles at the point of proximation of the plate and apron, substantially as described.

12. The combination of an endless horizontal traveling apron of flexible material and supports for holding the upper carrying stretch of said apron substantially flat, the support at the discharge end of said upper stretch of the apron being formed to present a relatively sharp edge and said apron being normally held close-fitting around said edge to thus have imparted thereto an abrupt bend, substantially as described.

13. The combination of an endless horizontal traveling apron of flexible material, means for supporting and advancing said apron, said means comprising a rotary part around whose periphery the apron extends and which is disposed at the discharge end of the upper stretch of the apron, another supporting means disposed between the apron and said rotary device and formed to present a relatively sharp edge to the apron, said apron being held close-fitting around said edge to thus have imparted thereto an abrupt bend, and a plate-like support having its receiving-surface substantially flush with the top stretch of the apron and one edge thereof disposed close to the apron at the bend therein, substantially as described.

14. In a machine for packaging candies or other similar articles on a portable supporting sheet or sheets, the combination of a frame, an endless traveling belt having its upper stretch approximately horizontal and carrying said sheet or sheets, and means for depositing said articles on said sheet or sheets, substantially as described.

15. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combination of a frame, and means, arranged in said frame, for successively depositing the sheets each laden with said articles in superposed disposition, substantially as described.

16. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combination of a frame, a support in said frame for the box in which said articles are to be packaged, and means, arranged in said frame, for successively depositing the sheets each laden with said articles in superposed disposition in said box, substantially as described.

17. In a machine for packaging candies or other similar articles in tiers supported by sheets of cardboard or the like, the combination of a frame, means for depositing the articles on the sheets which sustain them in tiers when packaged, and means for successively advancing said sheets, laden with said articles, into superposed disposition, substantially as described.

18. In a machine for packaging candies or other similar articles in tiers supported by



5 sheets of cardboard or the like, the combination of a frame, means for depositing the articles on the sheets which sustain them in tiers when packaged, and means, coactive with said first-named means, for successively advancing said sheets, laden with said articles, into superposed disposition, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of November, 1902.

ERNST F. W. WIEDA.

Witnesses:

JOHN W. STEWARD,  
ALFRED GARTNER.