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1,459,054

R. S. HATCH

WRAPPING MACHINE

Filed June 10, 1922

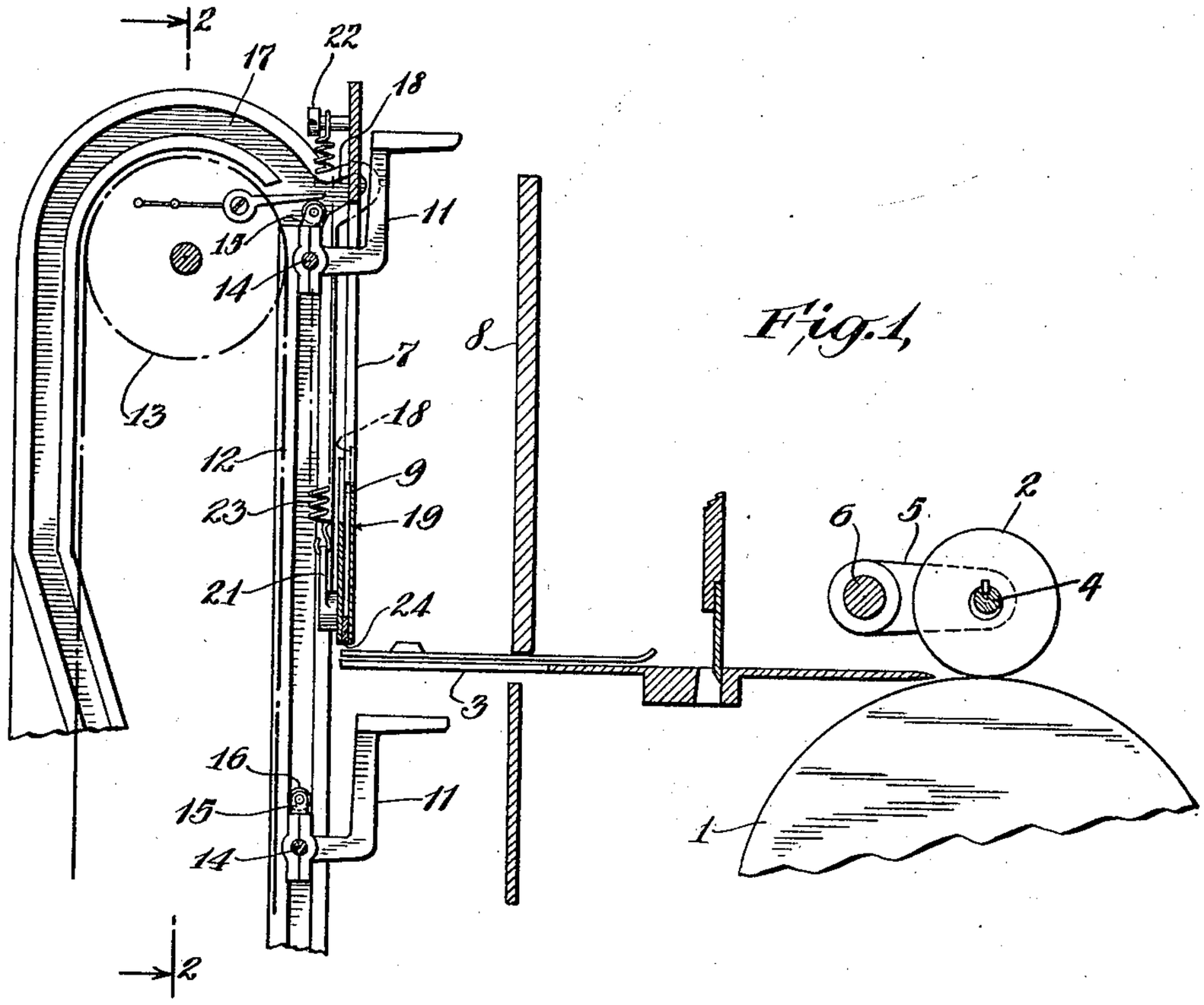

Fig. 1.

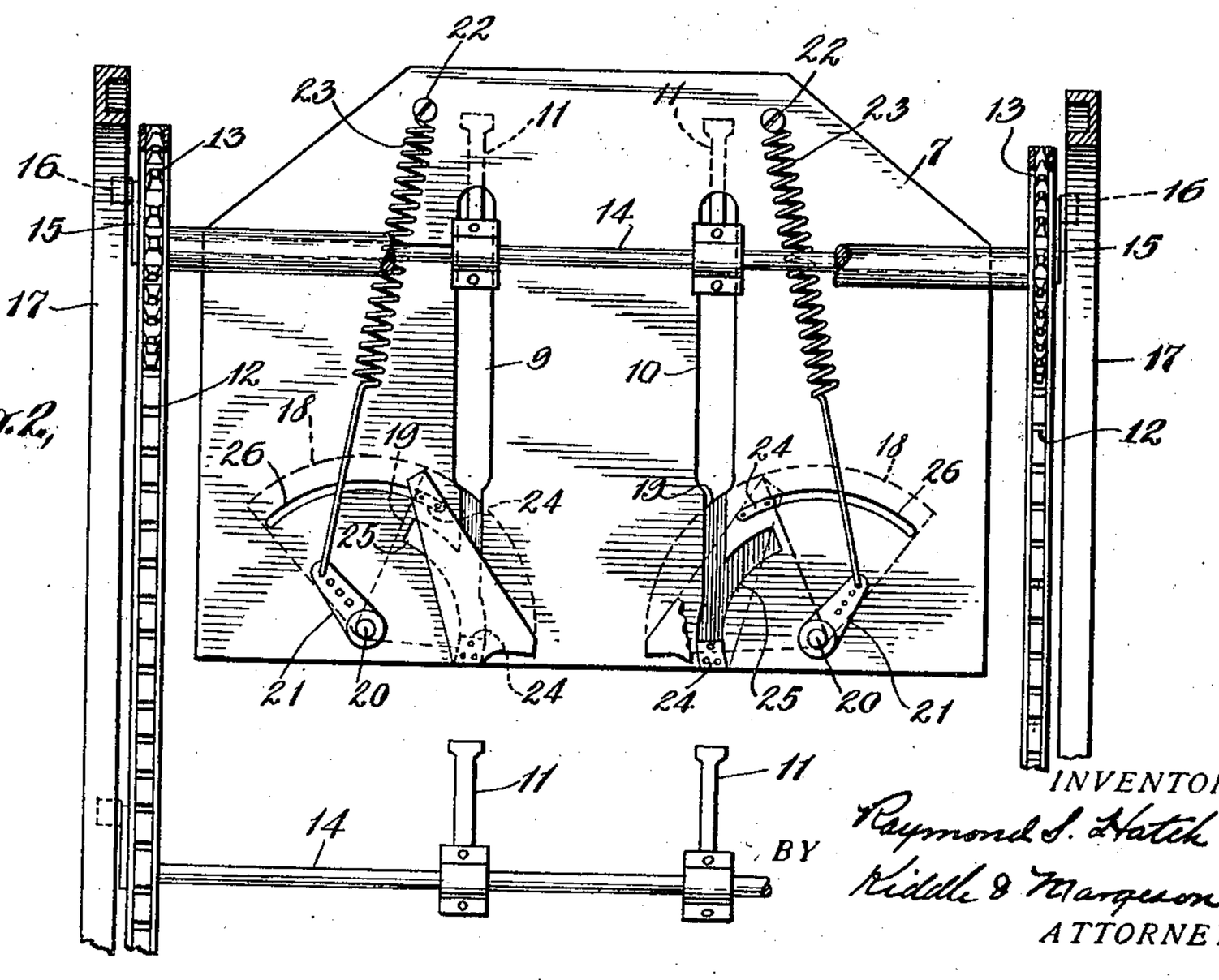

Fig. 2.

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UNITED STATES PATENT OFFICE.

RAYMOND S. HATCH, OF NUTLEY, NEW JERSEY, ASSIGNOR TO THE HAMMERSLEY MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

WRAPPING MACHINE.

Application filed June 10, 1922. Serial No. 567,253.

To all whom it may concern:

Be it known that I, RAYMOND S. HATCH, a citizen of the United States, and a resident of Nutley, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Wrapping Machines, of which the following is a specification.

My invention relates to improvements in wrapping machines of the type disclosed in H. A. Sevigne and F. K. Arnold Patent No. 1,253,636 of January 15, 1918, and is directed to improvements in the vertical chute or passageway through which the bread or other article to be wrapped is lifted during one stage of the wrapping operation.

One wall of the passageway or chute of the patent above referred to is provided with a series of vertically extending slots to permit of the passage of the lifting or elevating fingers by which the loaf is raised and I have found that these slots are more or less objectionable under certain wrapping conditions causing wrinkling and sometimes fracture of the paper wrapper and as a matter of fact practically prohibit the use of a self-sealing waxed paper. It is the purpose of the present invention to provide a chute in which the slots in the wall thereof are automatically closed off behind the lifting fingers so that the side of the plate below the fingers and next the article being wrapped is smooth and unbroken, thereby preventing tearing or wrinkling the paper wrapper as the same is elevated, draped over the top of the loaf or other article being raised in the chute.

The machine to which my invention is applied is of a well known type and hence I will not illustrate the same in the accompanying drawings but will merely show my improved chute in detail with the lifting fingers and associated mechanism shown more or less diagrammatically.

In the accompanying drawings,—

Fig. 1 shows my invention in part sectional end elevation; and

Fig. 2 is a view taken substantially on the line 2—2 of Fig. 1.

Referring to the drawings in detail,—1 designates a drum over which the paper constituting the wrapper is fed. the paper passing under a series of rolls 2 and then over a bed 3. The rolls 2 are mounted upon and rotate with a shaft 4. The shaft 4 is mounted at its ends in arms 5 of a rockshaft 6, means being provided for rocking the shaft so that when the rolls 2 bear upon the paper the web will be advanced to the severing mechanism. Preferably the apertures in the rolls 2 are larger than the shaft 4 to permit of a slight movement of the rolls on the shaft to compensate for any variation in the thickness of the paper.

7 and 8 indicate the two walls of the vertical passageway or chute to which my invention is specifically directed the wall 7 being slotted as indicated at 9 and 10 to permit of the upward passage of the lifting or elevating fingers 11. These fingers are provided for the purpose of lifting the article to be wrapped vertically in the chute composed of the side walls 7 and 8, the article being raised by these fingers beneath the paper fed across the bed 3. This wrapper as the article is elevated is folded down the sides of the article by the wall of the chute as will be apparent.

The fingers 11 are carried by a chain 12 driven by a sprocket wheel 13 and each shaft 14 by which the finger is attached to the chain carries an arm 15 carrying a roller 16 traveling in a cam track 17. This cam track is provided with an offset 18 adjacent the top thereof and followed by the roller 16 to cause a finger 11 to rotate about the shaft 14 to a horizontal position, and as the chain 12 continues its movement the roller 16 following the cam track will gradually carry the finger endwise while still in a horizontal position out of its slot 9 or 10 in the plate 7.

As so far described it will be seen that the fingers 11 are elevated, a pair at a time, it being understood that it is preferable to have two or more fingers upon each shaft 14; the fingers will raise the article to be wrapped in the chute or passageway provided by the plates 7 and 8, the paper wrapper just prior to the commencement of the upward movement of the article to be wrapped having

been fed forward over the top of the article to be wrapped so as to be folded about the sides thereof as the article is lifted. As the article to be wrapped is elevated to its upward limit the fingers 11 will be tipped so as to be no longer a support for the article and are retracted out of the slots 9 and 10.

It will be understood of course that the article to be wrapped is thereafter received by other supporting apparatus such as shown in the Sevigne and Arnold patent above referred to and carried through the remaining wrapping and sealing operations. This feature has nothing to do with the present invention.

In order that the paper wrapper may not be torn and creased by the slots 9 and 10 I provide means for closing these slots off after the fingers 11 have traversed them a certain distance and this mechanism will now be described.

From Figs. 1 and 2 it will be seen that the inner side of the plate 7 is provided with two curved recesses 18 embracing the slots 9 and 10. These recesses are identical and their associated mechanism and hence but one will be described. In each recess is mounted a sector plate 19, this plate having a pin or stub shaft 20 attached thereto. The pin or shaft is attached to the center of the sector and projects through the plate and carries at its outer end a lever 21. Attached to the end of this lever and to a fixture 22 is a coil spring 23 always under tension and adapted to hold the sector plate or gate 19 in closed position, that is to say in position to close off the slots 9 and 10. This plate or gate lies flush with the inner side of the plate 7 so that the side of the plate 7, in other words the wall of the chute is smooth and unbroken with the gate closed.

In order that the gate may be properly guided in its swinging movement I provide the same with guide blocks 24, one of which cooperates with the lower part of the slot 9 and an offset continuation 25 of this slot which is concentric with the arc of the recess 18, the other cooperating with a slot 26 also concentric with the arc of the recess 18.

As above pointed out, two or more recesses and two or more slots are provided in the plate 7 and there is of course a plate or gate 19 for each slot.

From the foregoing it will be seen that initially the inner face of the plate 7 is smooth and unbroken from the top or arc of the gate 19 to the bottom edge of the plate 7. In the operation of the machine as the fingers 11 strike the under side of the gates 19 the same will be swung about their centers to permit of the fingers passing up through the slots, these plates however snapping back to their orginial positions as soon as the fingers have passed, so that the paper wrapper as it is carried upwardly by the article to be wrapped will be dragged along a smooth surface so far as that portion below the bottom of the article is concerned, thereby eliminating the possibility of tearing the wrapper or wrinkling the same by the slots 9 and 10.

It is to be understood that my improved form of slotted chute side-wall may be varied within the scope of the present invention, the present invention being broadly directed to the provision of means for closing off the elevating finger slots after the fingers have entered the slots so as to afford a smooth surface along which the paper wrapper is dragged.

I claim:

1. In a wrapping machine, a pair of plates spaced from each other to form a passageway or chute, elevating fingers for raising an article in said chute, one of said plates being provided with slots for the passage of said fingers and gates for automatically closing said slots.

2. In a wrapping machine, a chute, elevating fingers for raising articles therein, one of the walls of said chute being slotted for passage of said fingers and means for automatically closing said slots.

3. In a wrapping machine comprising a chute, the combination of a slotted plate constituting one wall of said chute and means for automatically closing said slots at predetermined intervals to convert the face of said plate adjacent the interior of the chute into a smooth unbroken surface throughout a portion of said slots.

4. In a wrapping machine, the combination of a chute, elevating fingers for raising articles in said chute, one wall of said chute being provided with slots for the passage of said fingers and gates one face of which lies flush with the inner face of said wall for closing off said slots after the passage of the elevating fingers therethrough.

5. In combination, a slotted plate, a recess therein embracing the slot in said plate, a gate in said recess one face of said gate lying flush with one face of said plate and a spring for actuating said gate into position to close off said slot.

6. In combination, a slotted plate provided with a recess embracing the slot in the plate, a gate pivotally mounted on said plate and lying within said recess so that one face of the gate lies flush with one face of the plate, said plate being provided with arcuate slots and guiding blocks carried by said gate and riding in said arcuate slots for guiding the movement of said gate.

7. In a wrapping machine, the combination of a pair of spaced plates forming a passageway or chute, elevating fingers for raising articles in said chute, one of said plates being slotted to permit the passage of said fingers through the chute, a gate set

into said slotted plate and pivotally carried thereby for closing off the slot in said plate and arranged to be raised by the elevating fingers as said fingers pass through the slot in said plate, and means for returning said gate to slot-closing position automatically, said gate being arranged to lie flush with the face of the slotted plate adjacent the interior of the chute so that this face of the slotted plate below the fingers presents a smooth unbroken surface.

This specification signed this 8th day of June, 1922.

RAYMOND S. HATCH.