

C. OWENS.
FOLDING AND WRAPPING MACHINE.
APPLICATION FILED MAY 9, 1907.

911,543.

Patented Feb. 2, 1909.

Fig. 1.

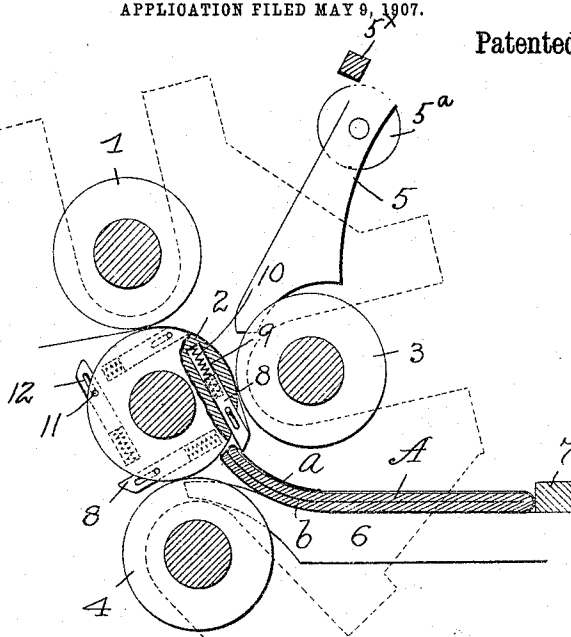


Fig. 2.

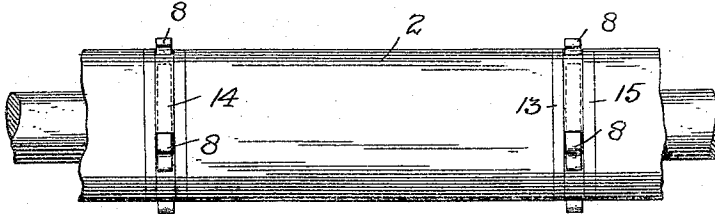


Fig. 3.

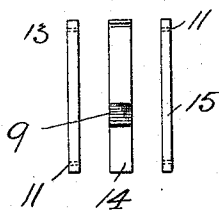


Fig. 4.

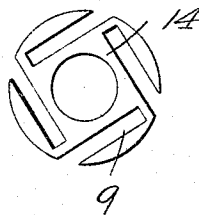
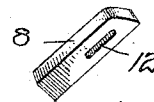


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES OWENS, OF CHATTANOOGA, TENNESSEE, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO MONTAGUE MAILING MACHINERY CO.

FOLDING AND WRAPPING MACHINE.

No. 911,543.

Specification of Letters Patent.

Patented Feb. 2, 1909.

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To all whom it may concern:

Be it known that I, CHARLES OWENS, citizen of the United States, residing at Chattanooga, Tennessee, have invented certain
5 new and useful Improvements in Folding and Wrapping Machines, of which the following is a specification.

My invention relates to folding and wrapping machines for magazines, newspapers
10 and the like articles, and it concerns particularly, means whereby the wrapper is more closely and neatly applied to the magazine or other article or package intended to be wrapped than has been possible heretofore.

15 In carrying out my invention, I associate with the folding rollers, means whereby the wrapping paper is drawn or pressed into close contact with the magazine or package and particularly around the edge thereof.

20 The invention consists in the features and combination and arrangement of parts as will be hereinafter described and particularly point out in the claims.

In the accompanying drawing, Figure 1
25 represents a side view of the folding rollers and associated parts with my improvement combined therewith. Fig. 2 is a plan view of the folding roller of my improved construction. Fig. 3 is a detail view. Fig. 4
30 is a detail view of one of the parts shown in Fig. 3. Fig. 5 is a detail view of one of the grippers or smoothing devices.

In these drawings the folding rollers are indicated at 1, 2, 3 and 4, these being arranged in a manner now known in the art.
35 The magazine with the wrapper is first directed to the bite of the rollers 1, 2, and passing therebetween is acted upon by the guide-way 5, which has an abutment at 5^x
40 which causes the buckling of the magazine which thence passes between the rolls 2 and 3 where it is folded, and upon emerging from between the rolls 2 and 3 the magazine is directed and controlled in its position
45 by the guide-way 6, the end of the magazine striking the abutment 7, and from here it passes between the rolls 2 and 4 which completes the wrapping operation.

The condition of the magazine or other
50 article after passing between the rolls 2 and 3 is indicated at A, Fig. 1, which has been folded once in the present instance, and it having received the paste at the point *a* indicated by the heavy black line, said paste

having been received from a suitable paste
55 supply roll or device at the upper part of the guide-way 5 said roll being shown conventionally at 5^a. The wrapping paper is also indicated in this figure associated with the magazine, this wrapping paper starting
60 from the point *b* and passing around the magazine as indicated and lying between the rolls 1 and 2. When the magazine has arrived at the point indicated, the wrapping paper is drawn, by my present improvement,
65 into close contact with the magazine and particularly is it drawn closely about the edges of the folded portion of the magazine, and it is directed in this drawn or close state to the paste covered surface so as to unite
70 therewith. For this purpose I provide the folding roll 2 with a series of grippers or smoothing or drawing devices 8 for the wrapping paper, said grippers consisting of blocks or fingers movably supported in recesses 9 in the said roll, being normally
75 pressed outwardly by springs 10 and being limited in their movement by pins 11 carried by the roll passing through slots 12 in the said grippers. 80

In the operation of the parts the grippers
80 recede upon passing the bite of the rolls 1, 2; 2, 3; or 2, 4 and thus they do not interfere with the folding operations, but when the magazine has assumed the position shown in
85 Fig. 1 and the wrapping paper has been severed from the web, one pair of the grippers as shown in said figure contacts with the wrapping paper to one side of the magazine or other article, and serves by its action,
90 to draw the wrapping paper closely around the edge of the magazine and this control of the wrapping paper is maintained until the gripping or drawing finger or fingers arrives at the bite between the rolls 2 and 4 and thus
95 the wrapping paper is held tightly in its wrapped position until it contacts with the paste covered surface to unite therewith, thus insuring a tightly wrapped magazine. The grippers or drawing or smoothing
100 fingers being yieldingly mounted as described, as long as the magazine and wrapping paper are passing the roll which carries these grippers, the grippers which contact with the magazine and wrapping paper are forced
105 back into their retracted position by said contact. When, however, the magazine reaches the position shown, and the wrapping paper

has been severed and thereby relieved of tension, the plunger or drawing finger which then is in contact with the wrapping paper assumes its operative position of Fig. 1. It will be noticed that the point of contact of the gripping finger is upon the side of the gripper instead of at the end or point, and pressure resulting from this contact tends to move the gripping finger laterally so that it is in a measure locked by bearing against the walls of its socket or recess. When, however, the magazine is brought fully into the bite of the rolls 2 and 4 the pressure from the magazine then acts directly upon the point of the plunger and forces it back into its retracted position with practically no friction. In this way the fingers or grippers, while insuring a tightly wrapped package or magazine do not in any way injure the wrapping paper or the package which is wrapped.

In Fig. 3 I shows three disks 13, 14, 15. Instead of forming the recesses for the fingers or plungers directly in the roller 2, these recesses are formed in the disk 14, as shown, also in Fig. 4 and to the sides of this disk the disks 13 and 15 are applied, and these latter carry the pins 11 which extend through the recesses of the middle disk 14 and serve to limit the outer movement of the plungers.

The abutment or stop 7 plays an important part in the action of the apparatus as it arrests the onward movement of the magazine or other article and thus enables the tightening devices or fingers to perform their function while the magazine is held against movement. In other words, the stop 7 provides the necessary resistance for the tightening fingers to act against in drawing the wrapper around the edge of the magazine. Furthermore the tightening fingers or plungers not only serve to tighten the wrapper about the magazine but they also serve to convey the adjacent portion of the package from the bite of the rolls 2, 3 to the bite of the rolls 2, 4 and they thus serve to insure a quick action and present the magazine with certainty to the bite of the rolls 2, 4.

I claim as my invention:—

1. In combination in a wrapping machine, a plurality of rollers presenting a plurality of bites for the passage of the magazine or package being wrapped, and means carried by one of the rollers, and making complete revolutions therewith, for drawing the wrapper closely about the trailing edge of the magazine on leaving one bite and for directing said edge as the leading edge to another bite of said rollers, substantially as described.

2. In combination in a wrapping machine, a pair of rollers between which the article and its wrapper passes, said rollers rotating in one direction and acting thereby to fold the magazine, and yielding means carried by

one of the rollers and normally projecting beyond the periphery thereof for drawing the wrapper closely about the package and for pressing the leading edge of the article laterally, substantially as described.

3. In combination in a wrapping machine a plurality of rollers presenting a plurality of bites for the passage of the magazine or package being wrapped, and yielding means carried by one of the rollers, and making complete revolutions therewith, for drawing the wrapper closely about the trailing edge of the magazine on leaving one bite, and for directing said edge as the leading edge to another bite of said rollers, substantially as described.

4. In combination, the folding rollers 1, 2, 3, 4, guide means to receive the magazine or other article from the bite of the rollers 1 and 2 to be directed to the bite of the rollers 2 and 3, guide means for receiving the said magazine from the bite of the rollers 2 and 3 to be directed to the bite of the rollers 2 and 4, and means revolving with the roller 2 for drawing the paper closely about the magazine, said means being yieldingly supported, substantially as described.

5. In combination in a wrapping machine, a pair of rollers, means for applying the paste to the package to be wrapped, and means revolving with one of the rollers for drawing the wrapping paper closely about the package to be wrapped, said means operating at the point where the flap of the wrapper is applied to the pasted portion of the wrapped package, said means being arranged to recede in relation to its carrying roller in passing the bite of the rollers, substantially as described.

6. In combination, a group of rollers for wrapping and folding a magazine, one of the rollers having a plurality of yielding fingers or plungers for drawing the wrapping paper closely about the magazine or other article being wrapped, substantially as described.

7. In combination in a wrapping machine, a roll, a disk associated therewith having a recess or recesses, a slotted finger or plunger movable in said recess, a pair of disks, one at each side of the recessed disk and a pin carried by said pair of disks and extending through the recess and through the slotted finger or plunger to limit the movement of the same, substantially as described.

8. In combination, a pair of rollers through which the magazine or other article and its wrapper passes, an abutment against which the magazine or other article bears as it comes from the said rollers, and means rotating with one of the rollers for drawing the wrapping paper tightly about the edge of the magazine, substantially as described.

9. In combination in a machine of the class described, a plurality of rollers, an

abutment against which the magazine or other article strikes as it comes from the said rollers, and means carried by one of the rollers for conveying the magazine from one bite of the rollers to another bite, substantially as described.

10. In combination in a machine of the class described a pair of rollers through which the magazine and its wrapper passes, a stop or abutment against which the magazine strikes and a yielding finger carried by one of the rollers to engage the wrapping paper and draw the same over the edge of the magazine, substantially as described.

11. In combination with a group of rollers presenting a plurality of bites for the articles, a projection on one roller to direct the article from bite to bite, substantially as de-

scribed said projection making complete revolutions with its carrying roller.

12. In combination with a group of rollers presenting a plurality of bites for the articles, a yielding projection on one roller to direct the article from bite to bite, substantially as described said projection yielding in respect to the periphery of its carrying roller to pass the bite between it and its companion roller, and making complete revolutions with said carrying roller.

In testimony whereof, I affix my signature in presence of two witnesses.

CHARLES OWENS.

Witnesses:

E. C. DYMOND,
ALBERT LAZARD.