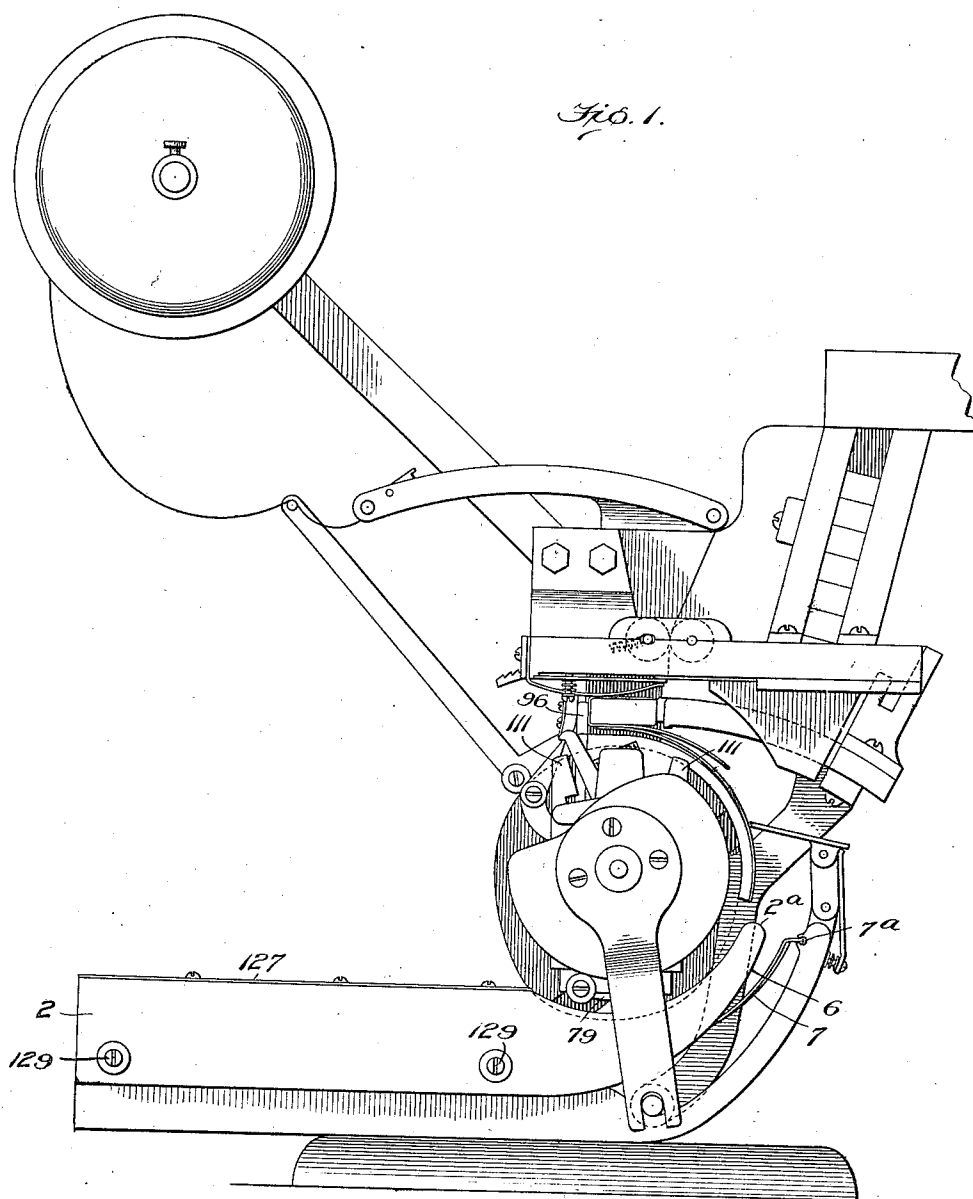


1,009,257.

C. C. PAGE.
WRAPPING MACHINE.
APPLICATION FILED NOV. 16, 1910.

Patented Nov. 21, 1911.
4 SHEETS—SHEET 1.



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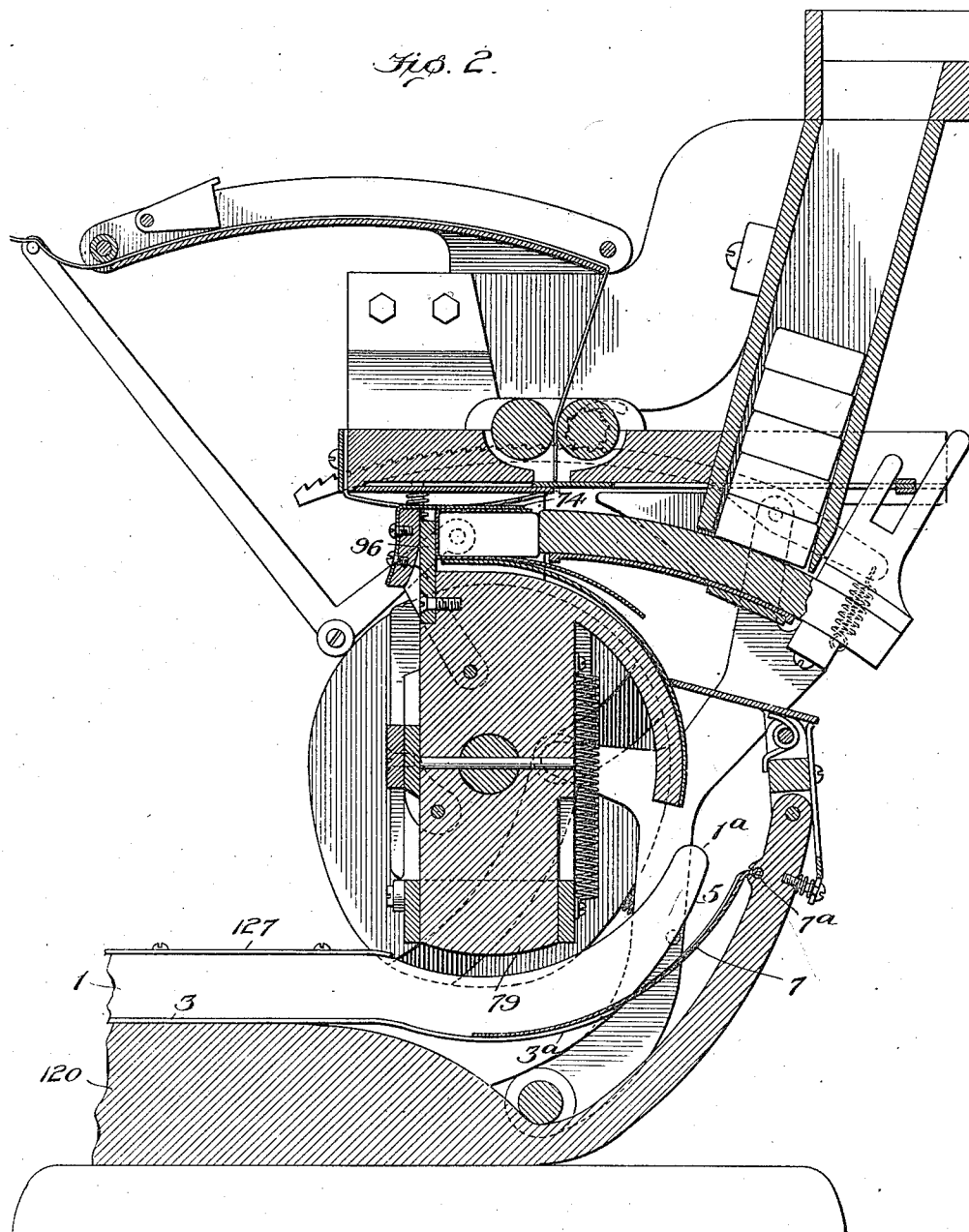
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Fig. 2.



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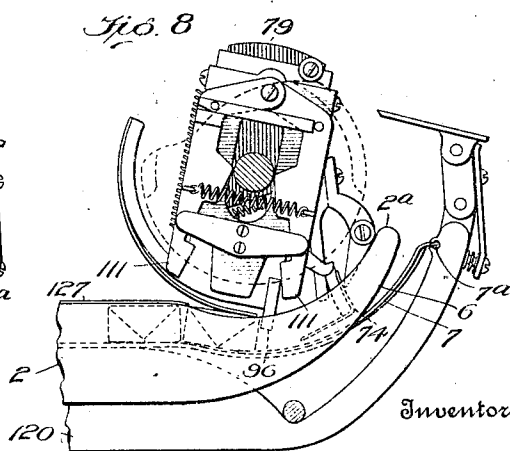
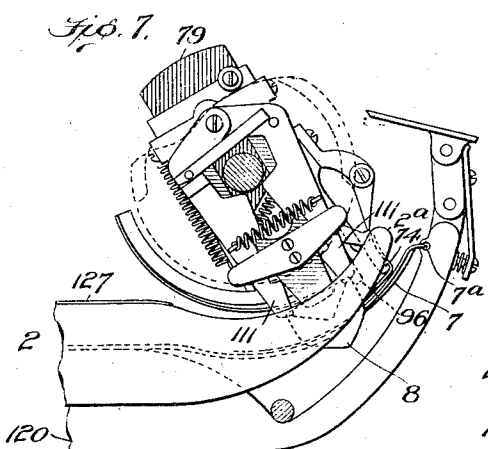
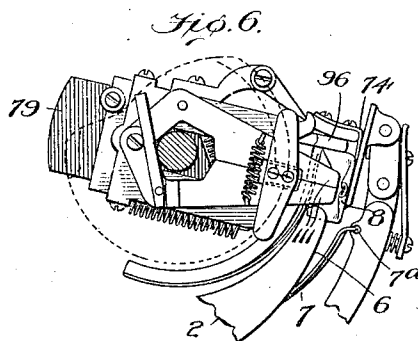
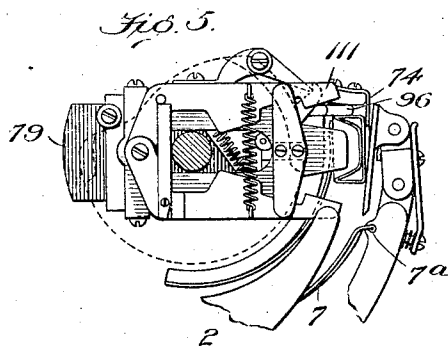
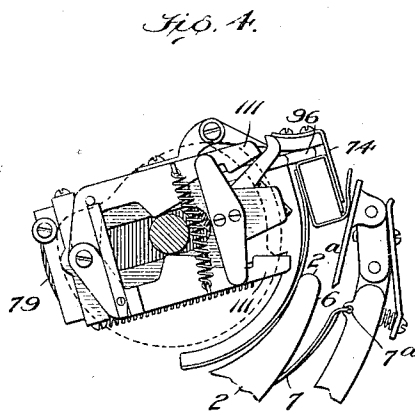
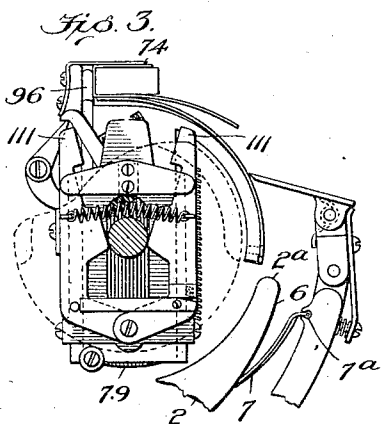
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

Fig. 9.

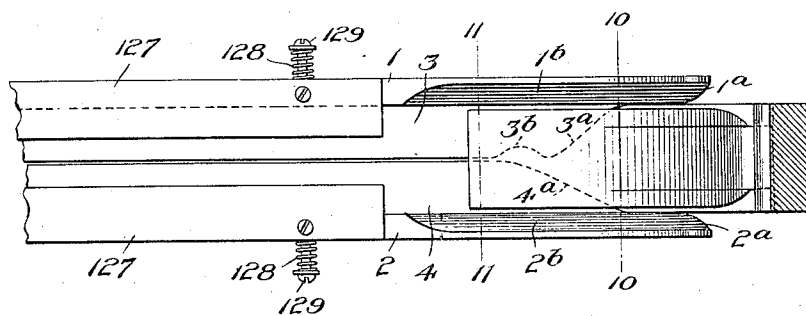


Fig. 10.

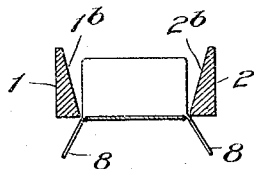


Fig. 11.

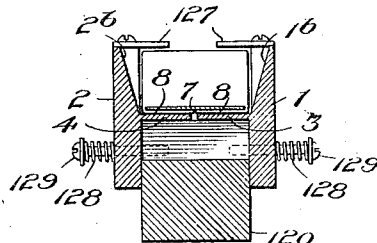


Fig. 12.

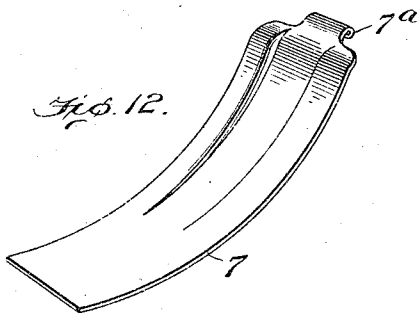
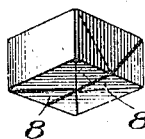


Fig. 13.



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UNITED STATES PATENT OFFICE.

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WRAPPING-MACHINE.

1,009,257.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed November 16, 1910. Serial No. 592,683.

To all whom it may concern:

Be it known that I, CLARENCE C. PAGE, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Wrapping-Machines; 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.

My invention relates to the construction of machines for folding a wrapper of paper or other suitable flexible material about articles of merchandise, such as caramels, soap or the like, and has for its principal object to provide means of a simple and efficient character for performing the final folding operation.

For the purpose of illustration, I have shown my invention as incorporated in a form of wrapping machine for which Letters Patent No. 952,273 were issued to myself and Robert Tucker on March 15, 1910; but it is to be understood that the features of construction of the apparatus of the patent referred to, while particularly well suited for use in conjunction with my present invention, are to be considered as merely illustrative of one form of mechanism for performing the wrapping operations which precede the wrapping or folding operation effected by the devices that are the subject of this invention.

The present invention provides simple means for so folding a wrapper about an article of merchandise that the final folds of the wrapper at each end of the article to be wrapped shall lie against the same side of the article, to thus form what is commonly called a back fold.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a side elevation of a wrapping machine embodying my invention; Fig. 2 is an enlarged, vertical, central section of the apparatus shown in Fig. 1, the wrapper supply reel and its supporting standard being omitted and portions of the feed plunger and knife actuating mechanism being shown in elevation; Figs. 3 to 8, inclusive, are detail views showing the successive positions assumed by the several folding devices during the wrapper folding operation; Fig. 9

is a detail view showing, in plan, the relation of the pivoted supporting blade or tongue to the spring-pressed folder blades which are located at the delivery end of the machine; Fig. 10 is a detail section, taken in the plane of the line 10—10, Fig. 9, showing a partially wrapped article passing this point; Fig. 11 is a detail section, taken in the plane of the line 11—11, Fig. 9, showing a completely wrapped article passing to the delivery chute; Fig. 12 is a detail perspective view of the pivoted blade or tongue for supporting the partially wrapped article as it passes to the folder blades by which the final folding operation is effected; Fig. 13 is a perspective view showing a completely wrapped article.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully so that others skilled in the art to which it appertains may apply the same.

The organized apparatus which is illustrated in the drawings consists of mechanism for feeding separate wrappers across the path of the article to be wrapped, mechanism for successively delivering the articles from a magazine to a movable receiver into which the wrapper is forced or carried by the article of merchandise and by which the wrapper is partially wrapped around the article, folding mechanism for completely folding the wrapper around the article, and mechanism for releasing the article of merchandise from the receiver by which it is transported to permit its delivery from the machine.

Except as hereinafter described, the mechanism for performing the several functions above noted may, as shown in the drawings, conveniently be the same in construction and operation as that shown and described in Patent Number 952,273 heretofore referred to, and, therefore, it will be unnecessary to herein describe anything more than the novel features of the wrapper folding mechanism which are the subject of this invention.

In the drawings the devices for performing the final wrapper folding operation consist of a pair of parallel blades 1 and 2 between which the article of merchandise is compelled to travel after it has been released from the article holder 74 and is be-

ing pushed forward by the ejector member 96 of the carrier head 79. As shown more particularly in Figs. 1 and 2, these blades may be conveniently mounted on a supporting member 120 which is preferably curved upwardly at its inner end to afford a mounting for a pivotally movable curved tongue 7 which is so arranged adjacent to the revolving carrier by which the article of merchandise is transported as to sustain and support the partially wrapped article after it has been released from the article holder 74 of the carrier. In order that the folder blades may automatically adjust themselves to permit the passage between them of articles which vary somewhat from the normal size, as well as for the purpose of causing the inner vertical faces of the blades to be firmly pressed against the end folds of the wrapped article, it is preferred to so mount said folder blades on the supporting member 120 that they may move toward and from each other to thus vary the width of the channel formed between them, a convenient means for effecting this result consisting of springs 128 which bear upon the blades and upon washers that are carried by screws 129 which pass loosely through said blades and have threaded engagement with the supporting member 120.

The folder blades 1 and 2, which, if desired may be made of sufficient length to constitute a delivery chute for the wrapped article, are provided with inwardly extending flanges, 3 and 4, respectively, which rest upon the supporting member 120. These flanges taper or diminish in width toward the receiving ends of the folder blades, as shown at 3^a, 4^a, and preferably merge with the upwardly extending portions of their respective blades at a short distance forward of the entrance end of the channel formed between said blades. As shown in Fig. 9, the distances through which the taper or diminution in width of the flanges 3 and 4 is accomplished are unequal, the tapering portion 4^a of the flange 4 overlapping and being longer than the tapering portion 3^a of the flange 3. This relation of the tapered portions of the flanges 3 and 4 permits the folds in the wrapper which are effected by these flanges to be made without interference with each other, the fold made by the tapered portion 3^a being effected more rapidly and being completed somewhat in advance of the completion of the fold formed by the less sharply inclined portion 4^a. In order to permit the tip of the fold formed by the flange 4 to get from beneath the opposite flange 3 the inner edge of the latter may be formed with a notch 3^b which is located substantially opposite the point where the tapered portion 4^a of the flange 4 reaches its full width.

The inner end portions of the folder

blades 1 and 2 extend upwardly toward the revolving carrier head 74 so as to permit the article of merchandise transported thereby to be passed between them; the lower faces 5 and 6 of these portions of the blades being inclined or curved for the purpose of engaging the projecting end folds of the wrapper and gradually folding them downward, as will be readily understood upon reference to Figs. 6, 7, 8 and 10 of the drawings.

To permit the wrapper folding fingers 111 to readily enter between the folder blades 1 and 2 the inner ends of said blades are preferably rounded, as at 1^a, 2^a, and in order to afford the said folding fingers 111 sufficient clearance to permit them to readily travel between the said folder blades and to be freely withdrawn therefrom the inner faces of the folder blades 1 and 2 are beveled or cut out, as at 1^b, 2^b, for a suitable distance forwardly from their inner ends. If desired the upper faces of the folder blades 1 and 2 may be provided with inwardly projecting flexible retaining strips 127 which extend from the delivery ends of said blades approximately to the path of travel of the rotating folding devices mounted on the carrier head 74, the completely wrapped articles being thus certainly retained in the chute until they reach the delivery end thereof.

Pivotally mounted on the supporting member 120 is a curved tongue 7 the outer or free end of which rests upon the inwardly extending flanges 3 and 4 of the parallel folder blades 1 and 2. This tongue, which is approximately the width of the article to be wrapped, may be formed of thin steel and is preferably curled at one end to form an eye or bead 7^a which may be inserted in a drilled and slotted aperture with which the supporting member 120 is provided, the tongue 7 being thus pivotally mounted on the supporting member 120 in a simple manner which permits it to have sufficient movement in all directions to prevent it from binding against the folder blades 1 and 2. As shown in the drawings the tongue 7 is preferably circularly curved and is so located adjacent to the revolving carrier by which the article is transported that it affords a support for the article of merchandise after the latter has been released from the holder 74 and is being pushed forward by the ejector arm 96 of the rotating carrier head. The tongue 7, as more particularly shown in Fig. 12, is also preferably fashioned with a centrally disposed groove or depression which is deepest adjacent to the pivoted end 7^a of the tongue and gradually shallows thence toward the free end thereof, merging with the surface somewhat inwardly of the free end. As will be seen, when the partially wrapped article is released from the article holder 74 and is moved over the curved tongue 7, as more particularly shown in

Fig. 7, the outward pressure of the curved leaf spring forming the facing of the carrier head 79, as described in Patent No. 952,273 hitherto mentioned, forces the partially wrapped article firmly against the tongue 7, and as the face of the latter is grooved or channeled it results that, notwithstanding irregularities in the article to be wrapped, pressure on the partially wrapped article at the edges thereof is insured, thus creasing the wrapper at the edges of the article so as to allow the end folds 8 to be turned back neatly by the inwardly extending flanges 3 and 4 of the folder blades. In the particular embodiment of the invention shown in the drawings the groove in the pivoted tongue 7 is deepest adjacent to the pivoted end in order to permit a releasing movement of the article holder 74 just after the article which is being wrapped enters upon the tongue, the smallness of the arc described by the article holder in releasing the article necessitating somewhat more space for the operation of the holder than that allowed by the arc bounding the path of travel of the article.

The operation of these folding devices will be readily understood from an examination of Figs. 3 to 11, inclusive, of the drawings. The wrapping of the article of merchandise having reached the stage illustrated in Fig. 6, the continued rotation of the carrier head 79 causes the partially wrapped article to pass between the folder blades 1 and 2 as shown in Figs. 7 and 10, the article holder 74 being at this time released and the article of merchandise being supported on the curved tongue 7 and pushed forward by the ejector arm 96 of the carrier. During this period the end folds 8 of the wrapper move in contact with the curved lower faces 5 and 6 of the folder blades 1 and 2, respectively, and are gradually folded or forced downwardly, as more particularly shown in Fig. 10. When the article being wrapped reaches the tapered portions 3^a, 4^a of the flanged blades the end folds 8 of the wrapper are carried upwardly against the under side of the thin tongue 7, one end fold being carried upwardly in advance of the other and both folds passing to the upper side of the inwardly extending flanges 3 and 4 of the folder blades, as previously described. As the article, now completely wrapped, is pushed onward toward its point of delivery it is slipped off the end of the curved tongue 7 and is supported throughout the remainder of its travel by the inwardly extending flanges 3 and 4 of the folder blades.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a wrapping machine, the combination with a pivoted member adapted to support the article to be wrapped, of a plurality of folder blades between which the article passes, said folder blades having inwardly projecting flanges forming a support for the said pivoted member.

2. In a wrapping machine, the combination with a member for supporting the article to be wrapped, said supporting member having a free end, of folder blades upon which the free end of said supporting member rests, said folder blades having means for engaging and folding a wrapper.

3. In a wrapping machine, the combination with a pivoted curved tongue adapted to support an article to be wrapped, of parallel folder blades having inwardly extending flanges which are adapted to support the free end of said pivoted tongue.

4. In a wrapping machine, the combination with a tongue having a free end, of folder blades having tapered flanges, the free end of said tongue being supported by said blades.

5. In a wrapping machine, the combination with a tongue having a free end, of folder blades engaging said tongue, said folder blades having tapering flanges which are adapted to fold the wrapper against said tongue and also having inclined faces adapted to engage and fold the wrapper.

6. In a wrapping machine, the combination with a pivotally mounted curved tongue, of folder blades supporting said tongue, said folder blades having inwardly extending flanges formed with tapering portions which are adapted to fold the wrapper against said tongue and also having curved lower faces which are adapted to engage and fold the wrapper.

7. In a wrapping machine, the combination with a pivotally mounted curved tongue having a longitudinally extending groove therein, of folder blades having inwardly extending flanges which are adapted to fold the wrapper against said tongue.

8. In a wrapping machine, the combination with a pivotally mounted curved tongue having a shallowing longitudinally extending groove therein, of folder blades supporting said tongue, said folder blades having inwardly extending flanges formed with tapering portions of unequal length, one of said flanges being notched to permit the wrapper fold to pass from beneath the same.

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

CLARENCE C. PAGE

Witnesses:

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ROBERT TUCKER.