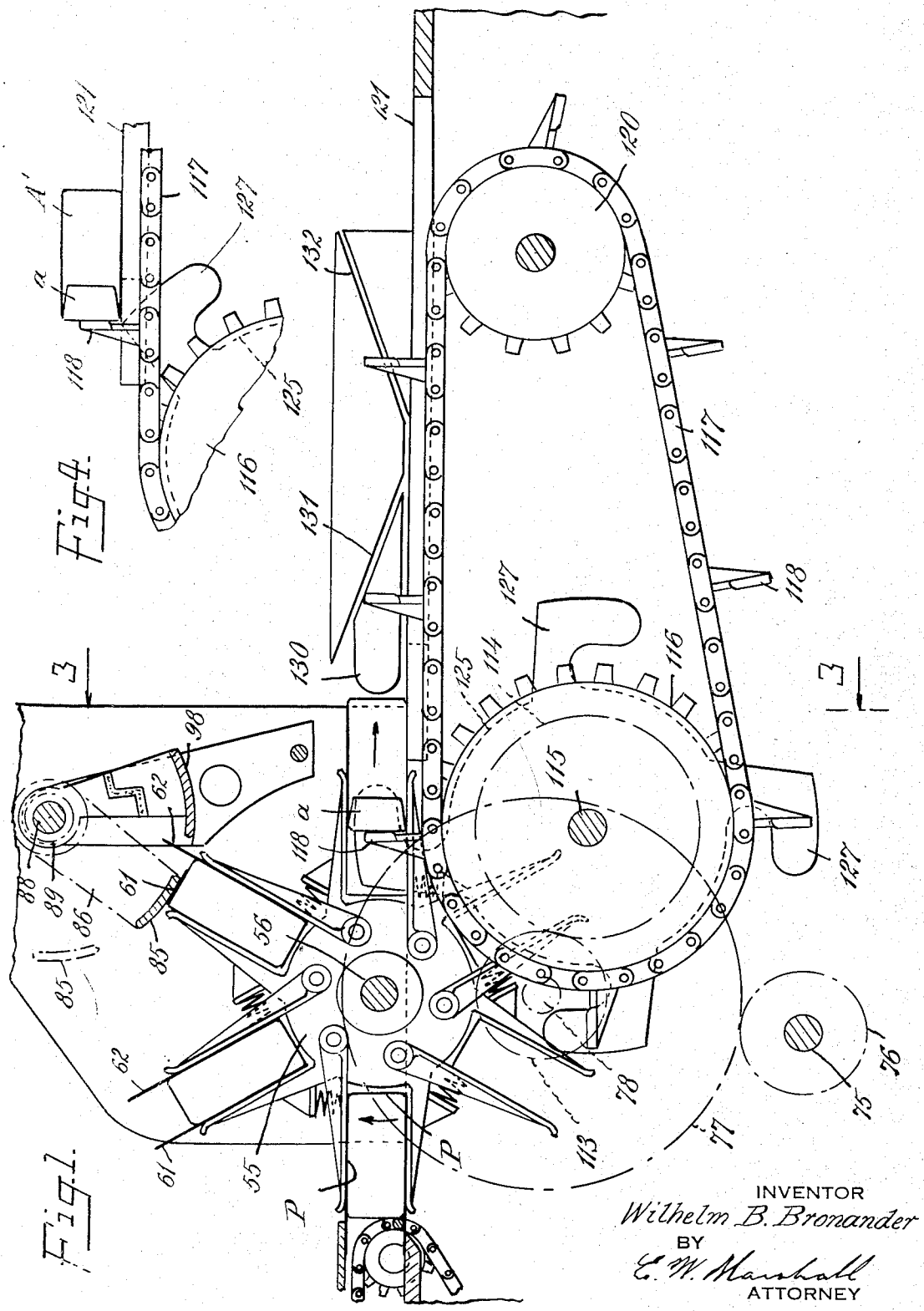
May 21, 1946. W. B. BRONANDER 2,400,682

WRAPPER FOLDING MECHANISM

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WRAPPER FOLDING MECHANISM

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Fig. 2.

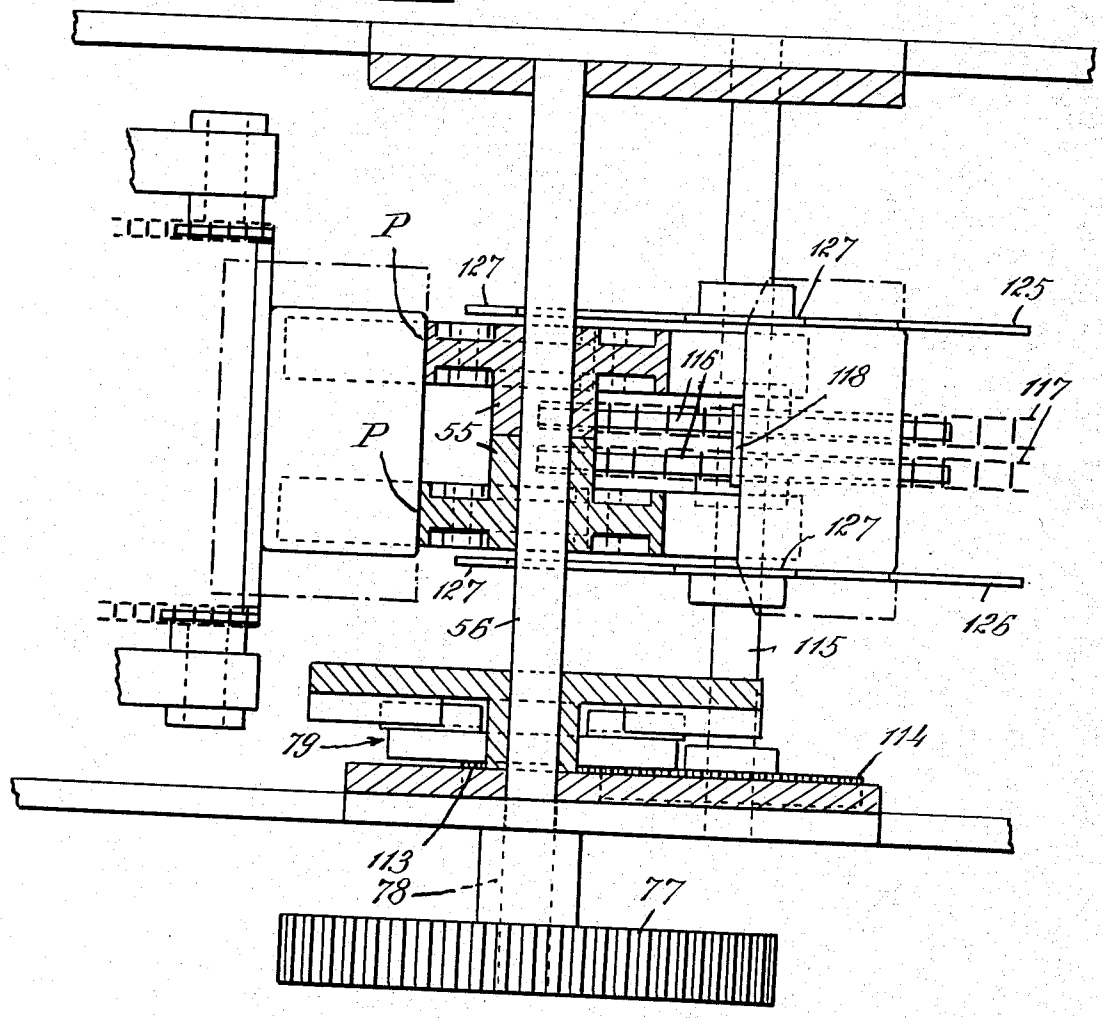


Fig. 5.

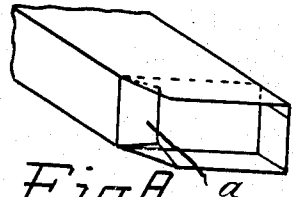


Fig. 8.

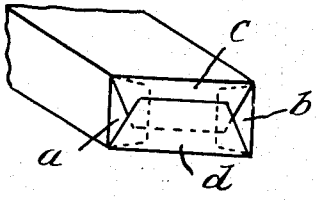


Fig. 6.

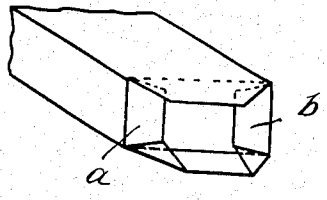
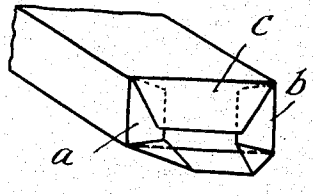


Fig. 7.



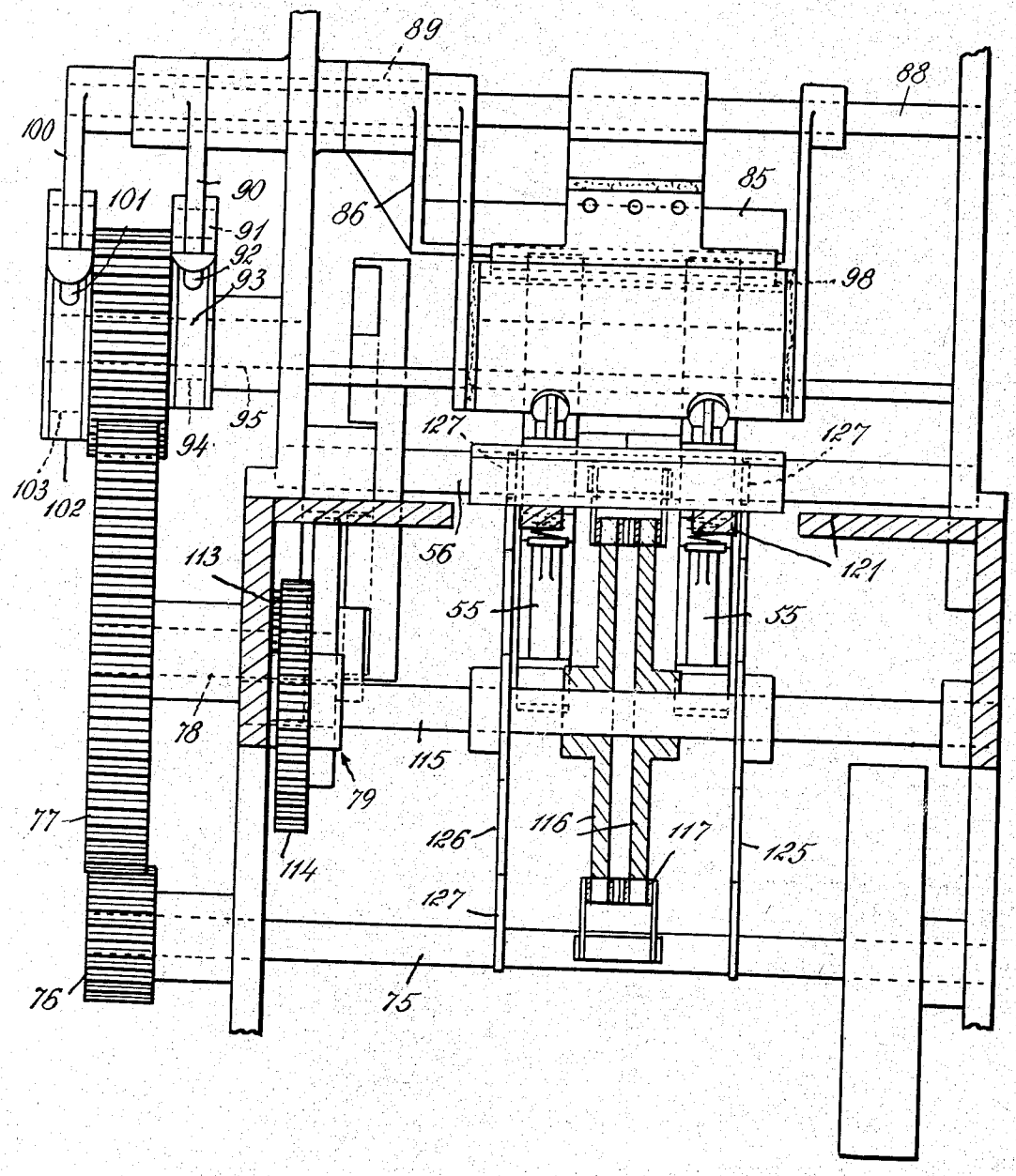
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WRAPPER FOLDING MECHANISM

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Fig. 3.



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2,400,682

UNITED STATES PATENT OFFICE

2,400,682

WRAPPER FOLDING MECHANISM

Wilhelm B. Bronander, Montclair, N. J.

Original application February 12, 1942, Serial No. 430,566. Divided and this application January 26, 1945, Serial No. 574,723

8 Claims. (Cl. 93—7)

This invention relates to an improvement in a wrapper folding mechanism shown in my co-pending application for patent Serial No. 430,566, filed February 12, 1942, and allowed July 26, 1944, and this application is filed as a division of said allowed application. In the present application a novel part of the wrapper folding mechanism is shown, described and claimed, which makes it possible to run a wrapping machine at high speed and to make neat and tight folds over the ends of a package.

In the drawings:

Figure 1 is a sectional elevation of a mechanism which is made according to and embodies this invention;

Figure 2 is a plan view of some of the parts shown in Fig. 1;

Figure 3 is a sectional elevation taken substantially on line 3—3 of Figure 1;

Figure 4 is a sectional elevation of some of the parts shown in Fig. 1, shown in different relative positions and illustrating the operation.

Figs. 5, 6, 7 and 8 are perspective views of one end of a package and show successive stages of the wrapper fold.

In the aforesaid application I have shown in detail a mechanism by means of which a wrapper is folded around a package and positioned in an intermittently rotatable turret wheel comprising two laterally spaced side members 55, 55 mounted on a shaft 56. These side members are provided with alined, exactly similar pockets P which receive the articles and the wrapper which are folded over the front edge and the top and bottom of them. The shaft 56 is driven by a main shaft 75 through Geneva gearing 79, the details of which form no part of this invention. The shaft 75 is driven from any suitable source of power. On it is a gear 76 which meshes with a gear 77 carried by a shaft 78.

As the articles are carried around by the turret wheel the outwardly projecting flaps 61 of the wrapper are first folded down against the outer surface of the article by an arcuate folding plate 85 carried by an arm 86 rotatably mounted on a shaft 88. The arm 86 has secured thereto a sleeve 89 which carries at its outer end an arm 90. The arm 90 is pivoted at 91 to a link 92 which is pivoted at its opposite end to an eccentric strap 93 surrounding an eccentric 94 carried by a shaft 95. As the eccentric rotates, the link 92 will be oscillated and the folding plate 85 moved alternately in opposite direction.

The shaft 88 has secured to its outer end an arm 100 which is pivoted to link 101, the other end of which is pivoted to an eccentric strap 102 mounted on an eccentric 103 carried by the shaft 95. This eccentric is so designed that the plate 98 will be moved in a clockwise direction after the flap 61 has been folded down and the plate 98 will engage and fold flap 62 downwardly over the flap 61. Thus when the articles reach the horizontal position shown to the right in Figure 1, the wrappers encircle them with the portion of the wrappers extending outwardly from the ends of the articles. The means for folding these outwardly extending portions of the wrappers will now be described.

A gear 113 mounted on the shaft 78 meshes with a gear 114 carried by a shaft 115 which is parallel to and spaced from the shaft 56. Sprocket wheels 116 on shaft 115 drive sprocket chains 117 from which extend spaced feeding members or lugs 118. The chains 117 are also mounted on idle sprocket wheels 120.

Outside of the turret wheel and at the sides of the table 121, a pair of disks 125, 126 are mounted on the shaft 115 to rotate with the sprocket wheels 116. Each disk has projecting from its periphery a plurality of angularly spaced blades 127 which have flat arcuate ends which engage parts of the wrapper which extend from the package beyond opposite sides of the turret wheel and make the first end folds *a* on the ends of the package, one of which folds is shown in Fig. 5. The upper runs of the chains are parallel with the table 121 and the lugs 118 which are spaced back of the arcuate ends of the blades 127 as the latter engage the wrapper, pass upwardly between the spaced side members 55, 55 of the turret wheel and engage the packages in the right hand pocket P and feed it out of the pocket and along the table 121. When the packages reach the position in which one of them is shown at A', in Fig. 4, the rear ends of the packages are beyond the rotary path of the blades 127.

The other end folds are made in the usual manner. The second end fold *b* (Fig. 6) is formed by stationary tuckers 130 disposed at the sides of the table 121. The tucker 130 which would appear in Fig. 4 has been omitted from this figure for the sake of clarity. The third end fold *c* (Fig. 7) is formed by passing the wrapper through a slot 131 formed between stationary blocks and the fourth end fold *d* (Fig. 8) by passing the wrapper through a slot 132. These slots are formed in walls at the sides of the table. After the articles are thus completely wrapped,

they are carried along the table to a suitable point of delivery.

Various modifications in construction, mode of operation, method and use of an invention may and do occur to others, especially after benefiting from knowledge of such disclosure as that herein presented of the principles involved, but the invention itself is not confined to the present showing.

I claim:

1. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, and disks on the shaft on opposite sides of the guide having projecting parts arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of said turret wheel.

2. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, and angularly spaced blades on the shaft on opposite sides of the guide arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of said turret wheel.

3. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, and disks on the shaft on opposite sides of the guide, each of said disks having a blade projecting from its periphery arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of said turret wheel.

4. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, and disks on the shaft on opposite sides of the guide, each of said disks having a plurality of angularly spaced blades extending from its periphery arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of said turret wheel.

5. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, and disks on the shaft on opposite sides of the guides, each of said disks having a plurality of angularly spaced blades extending from its periphery with a flat arcuate portion at the outer end of each blade arranged to engage parts of a package in the turret wheel beyond the sides of said turret wheel.

6. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, disks on the shaft on opposite sides of the guide having projecting parts arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of said wheel, a sprocket wheel on said shaft arranged to rotate with said disks, a sprocket chain having a run parallel with the guide, and spaced lugs on the chain projecting into a pocket in the turret wheel and through the guide arranged to propel the packages.

7. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, disks on the shaft on opposite sides of the guide, each of said disks having a blade projecting from its periphery arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of the turret wheel, a sprocket chain having a run parallel with the guide, and spaced lugs on the chain projecting into a pocket in the turret wheel and through the guide arranged to propel the packages.

8. A straight guide, a rotatable turret wheel having a radially disposed pocket adapted to receive a package and a wrapper and to move the package to position one of its sides in alinement with the guide, a shaft parallel with and spaced from the axis of rotation of the turret wheel, disks on the shaft on opposite sides of the guides, each of said disks having a plurality of angularly spaced blades extending from its periphery with a flat arcuate portion of the outer end of each blade arranged to engage parts of a wrapper extending from the ends of a package in the turret wheel beyond the sides of the turret wheel, a sprocket wheel on said shaft arranged to rotate with said disks, a sprocket chain having a run parallel with the guides, and spaced lugs on the chain projecting into a pocket in the turret wheel and through the guide arranged to propel the packages, said lugs being spaced to engage the rear ends of the packages after the flat arcuate portions of the blades have engaged the wrapper.

WILHELM B. BRONANDER.