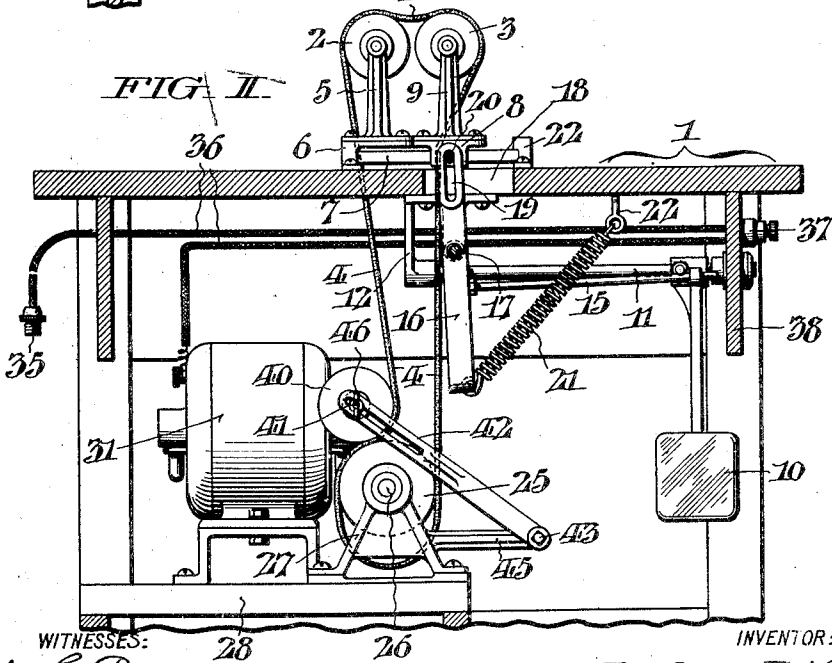
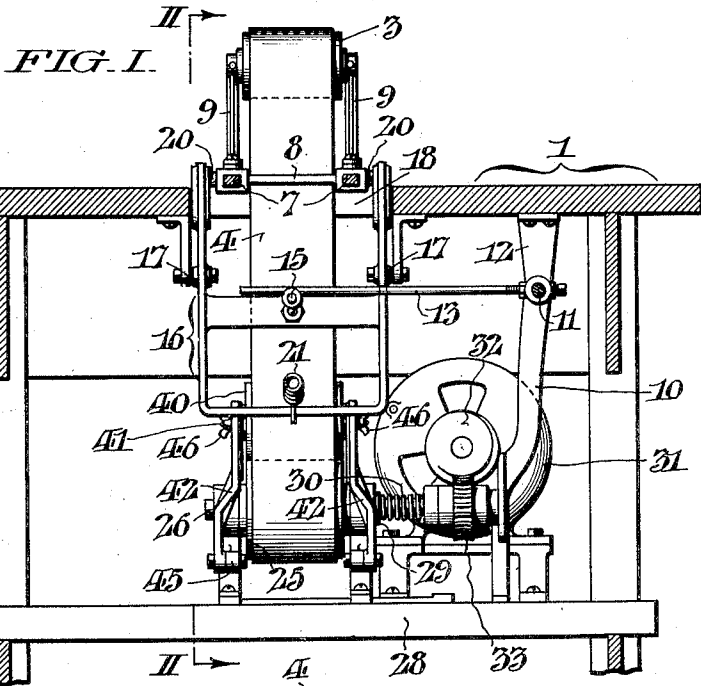


A. FEIFER.  
 WRAPPING MACHINE.  
 APPLICATION FILED JAN. 15, 1920.

1,393,768.

Patented Oct. 18, 1921.

2 SHEETS—SHEET 1.



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FIG. III.

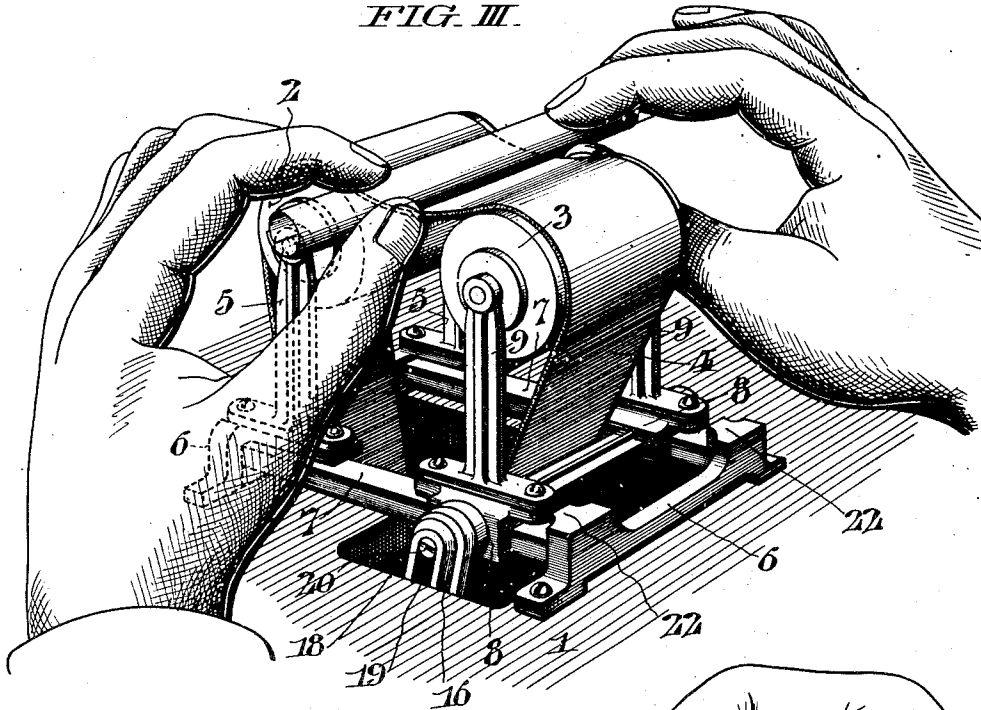
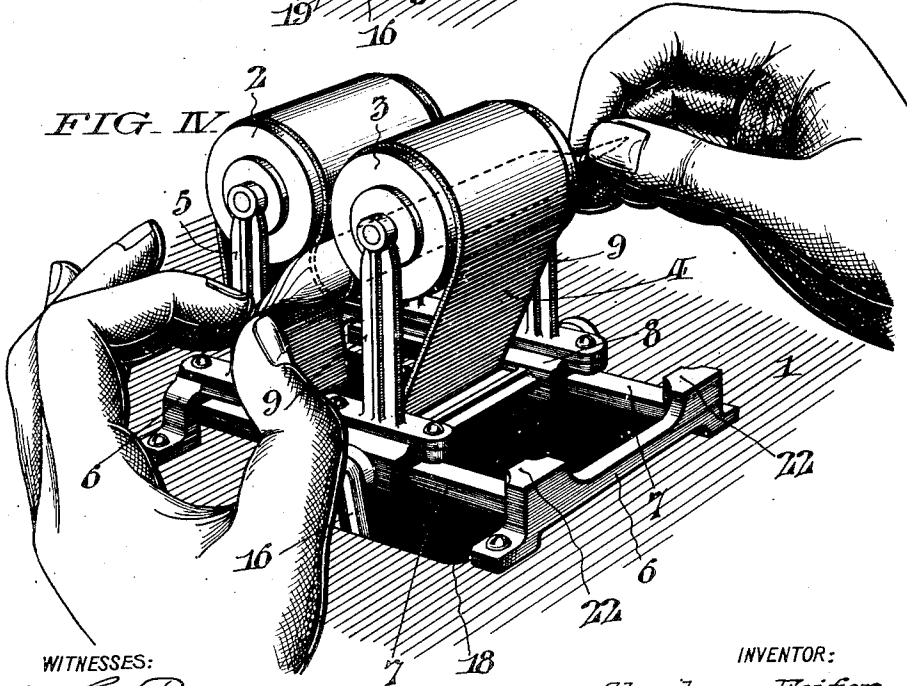


FIG. IV.



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# UNITED STATES PATENT OFFICE.

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## WRAPPING-MACHINE.

1,393,768.

Specification of Letters Patent.

Patented Oct. 18, 1921.

Application filed January 15, 1920. Serial No. 351,682.

*To all whom it may concern:*

Be it known that I, ABRAHAM FEIFER, a citizen of the United States, residing in Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Wrapping-Machines, whereof the following is a specification, reference being had to the accompanying drawings.

The invention relates to wrapping machines, and more specifically to machines of this classification, which are more especially adapted for wrapping small articles substantially cylindrical in form, such, for example, as candy, cigars, etc.

The primary object of the present invention is to provide a wrapping machine wherein the article, in a partially wrapped condition, is bodily rotated, so that twisting of the projecting ends of the wrapper may be automatically effected while manually held against relative rotation by the operative, and the package thus completed.

The organization by which I attain the ends above referred to, involves certain novel details of construction and arrangement which will become apparent from the detailed description which follows.

In the accompanying drawings, Figure I is a view partly in front elevation and partly in longitudinal section of a wrapping machine conveniently embodying my invention.

Fig. II, is a transverse sectional elevation of the same as viewed in the direction of the arrows II—II in Fig. I.

Fig. III, is a perspective view of the essential elements of the machine showing the initial step in the wrapping operation.

Fig. IV, is an illustration similar to Fig. III, showing the manner in which the ends of the wrapper are twisted to complete the package.

From Figs. I and II, it will be noted that the organization there shown, comprises a table 1, which serves as an appropriate support for the various moving parts of the machine, a pair of relatively movable rolls 2 and 3 mounted thereon, and an endless belt 4 whose uppermost bight normally runs slack over said rolls. Roll 2, is journaled in fixed upright bearing brackets 5, secured to a frame 6, having incorporated with it, parallel guide bars 7, 7, upon which is slidably mounted a carriage 8. Said carriage comprises upstanding journal brackets 9, for the

companion roll 3, and is shiftable upon the guide bars 7, by means of a knee lever 10, secured to a rock shaft 11, suspended from the lower face of the table top by hanger bearings 12. Extending from the boss of the knee lever 10, about at right angles to the latter, is a flexible rod 13, which intersects the path of movement of a similar rod 15, extending from a swinging yoke frame lever 16, fulcrumed at 17, 17. This frame-like lever 16 operates within an opening 18, in the table top, and its upper ends are slotted as at 19, best seen in Fig. II, to engage pins 20, projecting from the sides of the carriage 8. A coiled spring 21, attached at one end to the yoke frame 16, and at the other to a fixed anchorage 22, yieldingly urges the rolls 2 and 3 together and normally maintains the roll 3 in close running proximity to the roll 2, as shown in Figs. II and IV. The extent of motion of the movable roll 3, is determined, in one direction, by the engagement of the attachment plates of the brackets 5 and 9, and in the other, by stops 22, forming parts of the frame 6,—any excess pressure upon the knee lever 10, being absorbed by the rods 13 and 15. The lowermost bight of the belt 4 normally hangs slack from the rolls 2, 3, through an opening in the table 1.

The belt 4, is driven by means of a roll 25, engaging its lowermost bight beneath the table 1 on one side of the belt. This roll 25 is mounted upon a shaft 26, journaled in bearings 27, which are supported upon a platform 28, forming part of the table 1. The mounting of the roll 25 upon the shaft 26 is such that the same may yield and turn under any excessive pull by the belt, this being permitted, in the present instance, by a friction connection comprising a collar 29, kept from independent rotation on the shaft 26 in any suitable manner and held against said roller by a spring 30. The shaft 26 is driven by a motor 31 through speed reduction gearing comprising a worm 32 and an intermeshing gear 33. The motor may be connected to a power line by means of a plug 35, which forms the terminal of a cable 36, having an interposed control switch 37, which is secured to the front side board 38, of the table 1, so as to be conveniently accessible to the operative.

In order to maintain the proper working tension on the belt 4 during the activity of the latter in the course of the wrapping op-

eration, I have provided a weighted roll 40, which engages the belt 4 on the other side thereof from the driving rolls 25 and yieldingly presses the belt against the latter.

5 This roll 40 is idle, revolving freely upon a shaft 41, adjustably supported in the ends of arms 42. These arms are fulcrumed at 43, to the projecting extensions 45, forming integral parts of the brackets 27. By adjusting the roll 40, along the arms 42, it will be seen that the tension upon the belt may be varied as desired. The adjustments of the roll 40, are fixable by means of winged nuts 46, engaging the reduced threaded ends 15 of the shaft 41.

In operation, the wrapper is placed about the article in any convenient manner, and roll 3, temporarily shifted away from the roll 2, by pressure upon the knee lever 10, to the position shown in Fig. III. The partially wrapped article and the belt are together depressed between the rolls so as to form, in the belt, a pocket or loop which, when the roll 3, is released, automatically retains the charge in coöperation with roll 2, in the manner shown in Fig. IV. After releasing the roll 3, the operator shifts his hands and grasps the projecting ends of the wrapper, which, owing to the induced rotation of the charge enveloped in the loop of the belt, causes the final twisting by which the wrapping operation is completed. During the activity of the belt, the weighted roll 40, serves to maintain a constant yielding tension so that the articles (notwithstanding any unevenness in their contour) may be readily accommodated in the loop formation, and their rotation at the same time assured. If desired, the twisted ends of the wrapper may be subsequently crushed endwise against the body of the package.

Having thus described my invention, I claim:

1. A wrapping machine comprising a pair 45 of yieldingly separable rolls normally maintained close together; an endless belt with a bight normally running free and slack over said rolls, so that it may be depressed between them by an article to be wrapped to 50 form a loop about the article, and a bight normally hanging slack from them; and driving means for said belt engaging said latter bight.

2. A wrapping machine comprising a pair 55 of yieldingly separable rolls normally maintained close together; an endless belt with a bight normally running free and slack over said rolls, so that it may be depressed between them by an article to be wrapped to 60 form a loop about the article, and a bight normally hanging slack from them; a driving roll engaging said latter bight on one

side of the belt; and an adjustable roll engaging said latter bight on the other side of the belt and serving to maintain the belt in 6 proper working tension.

3. A wrapping machine comprising a pair of yieldingly separable rolls normally maintained close together; an endless belt with a bight normally running free and slack over 7 said rolls, so that it may be depressed between them by an article to be wrapped to form a loop about the article, and a bight normally hanging slack from them; a driving roll engaging said latter bight on one 7 side of the belt; and an idle roll on the other side of the belt yieldingly pressing it against said driving roll.

4. A wrapping machine comprising a table; a pair of relatively movable rolls on 8 said table; an endless belt with a bight normally running free and slack over said rolls and a bight hanging from the rolls through the table, said first-mentioned bight of said belt being accessible at the ends of said rolls 8 to permit automatic wrapping of an article in a loop of the belt between the rolls formed by depression of said first-mentioned bight by the article to be wrapped while said article is manually held by ends of the wrapper 9 projecting beyond the edges of the belt; and means beneath said table for driving said belt.

5. A wrapping machine comprising a table; a roll mounted in bearing brackets extending from a frame fixed upon the top of the table; a carriage slidably mounted upon said frame and formed with bearing brackets for supporting a companion roll; a belt normally running slack upon said rolls; a 10 yoke frame operative through an opening in the table top in shifting the slidable carriage; a spring effective upon the yoke frame in tending to maintain the companion roll normally in close running proximity 10 to its fellow; a knee lever for shifting the yoke frame against the tension of the spring to temporarily separate the rolls to permit the depression of the belt between them and the formation of an enveloping loop about 11 a partially wrapped article; and means for driving the belt to effect rotation of its charge so that the projecting ends of the wrapper may be automatically twisted while held against relative rotation in the grasp 11 of the operative.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 13th day of January, 1920.

ABRAHAM FEIFER.

Witnesses:

JAMES H. BELL,  
E. L. FULLERTON.