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A. M. PRICE.

CUTTING MECHANISM FOR WRAPPING MACHINES.

APPLICATION FILED FEB. 11, 1907.

Fig. 1.

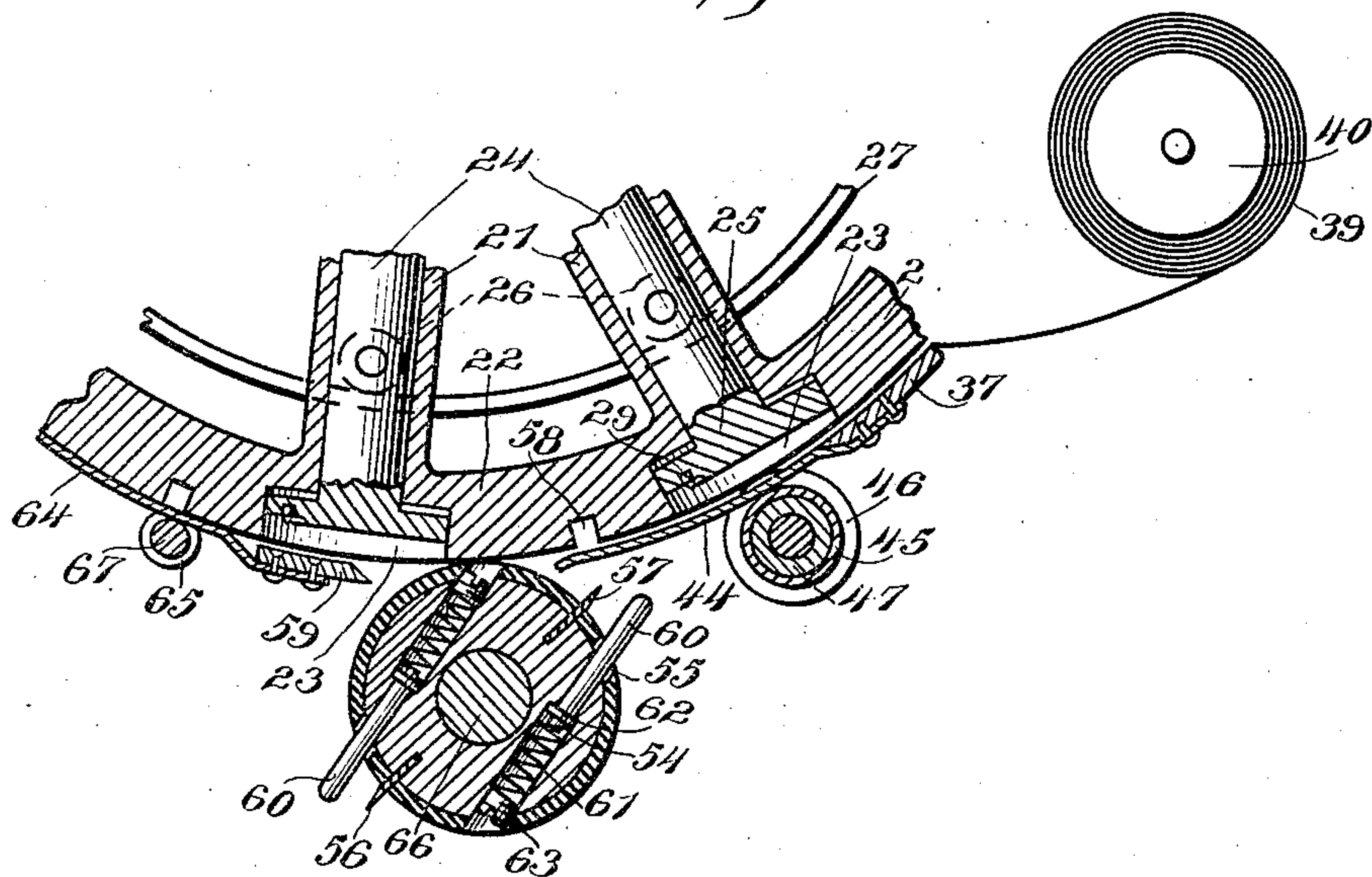
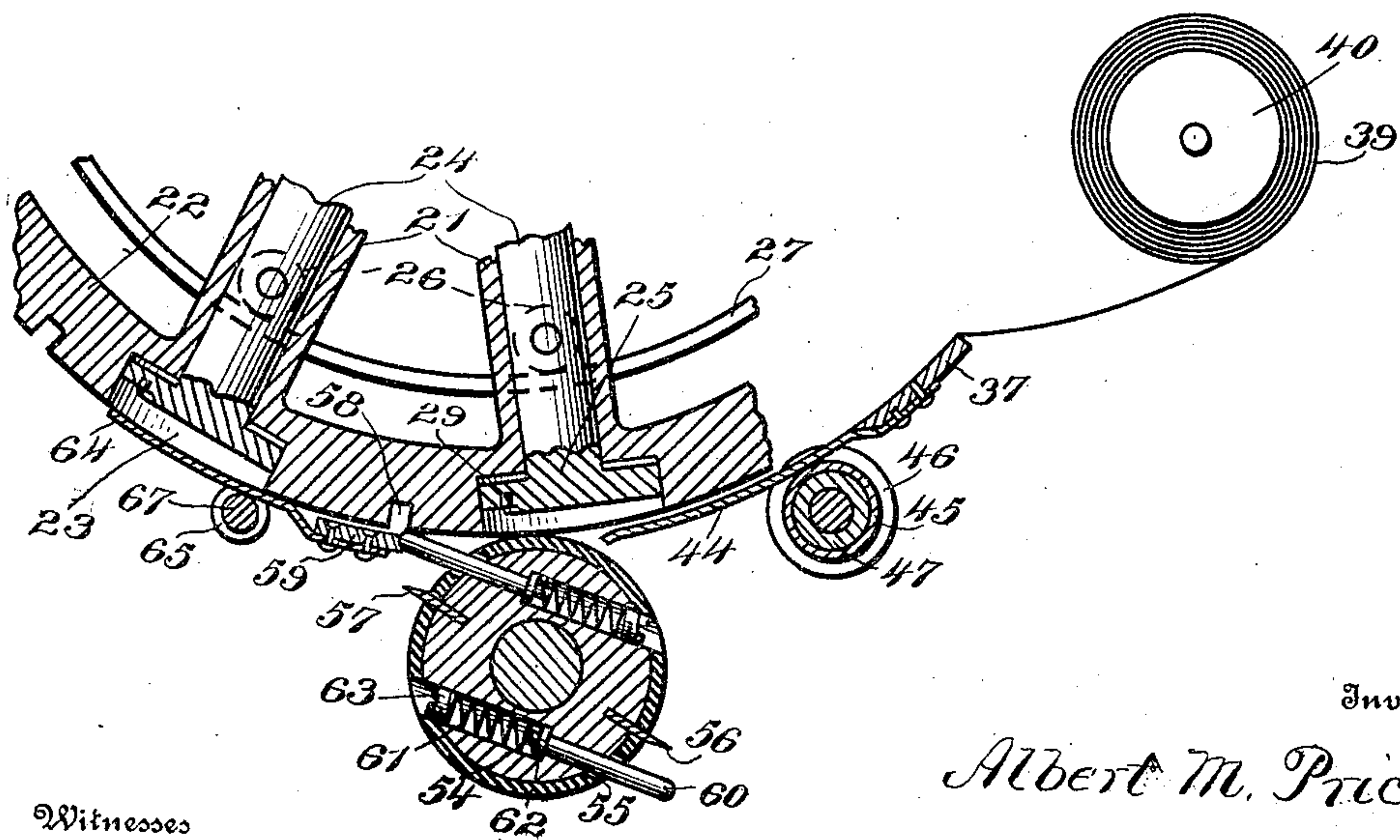


Fig. 2.



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Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT M. PRICE, OF ELGIN, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ADOLPH E. BRION, OF NEW YORK, N. Y.

CUTTING MECHANISM FOR WRAPPING-MACHINES.

No. 880,485.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Original application filed September 13, 1906, Serial No. 278,338. Divided and this application filed February 11, 1907, Serial No. 356,806.

To all whom it may concern:

Be it known that I, ALBERT M. PRICE, a citizen of the United States, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Cutting Mechanism for Wrapping-Machines, of which the following is a specification.

An application for United States Letters Patent, Serial Number 278,338, filed by me Sept. 13, 1905 has for its subject-matter a machine for wrapping sticks of chewing gum and like articles of uniform size, said machine comprising among other mechanism, means for receiving a strip of wrapping material, such as paper, from a roll, guiding it to the article to be wrapped, holding it thereon and cutting it into proper size. This cutting mechanism forms the subject-matter of the present invention which is a division of said application #278,338.

In the description of this invention while the article to be wrapped is designated as "a piece of gum" it will be readily understood that this article is merely used for the purpose of illustration and that any other article of suitable form and size may be used in the machine, if desired.

In the accompanying drawings in which I have illustrated only such portion of the complete machine as is necessary to the present invention, Figure 1, is a sectional view of part of the feeding wheel showing the means for supplying the wrapper to said wheel and the means for properly holding the wrapper thereon and cutting off the proper length, the parts being in the positions assumed just prior to the cutting operation. Fig. 2, is a similar view of the same parts in the position just after the cutting operation.

In the general arrangement of the machine there is provided a suitable magazine in which the pieces of gum are placed by the operator from which they are delivered, one at a time, to a continuously rotating feeder-wheel having a number of receptacles in its periphery, each of the proper form and shape to receive a single piece from the said magazine. As the pieces are carried around by the feeder wheel, a strip of paper from a suitable roll is placed and held over them, against the feeder-wheel, until a predetermined point is reached, when the cutting

mechanism operates, cutting off a proper length to cover one piece. The mechanisms which receive, conduct, hold and sever the paper, under the general name of "cutting mechanism" forming the subject matter of this invention, other parts will be only incidentally referred to and not specifically described.

The feeding wheel 2 is mounted upon a shaft suitably journaled in the frame of the machine and is provided with a rim 22 in which, at regular intervals are formed pockets or receptacles 23. These pockets coincide with the spokes 21 of the wheel 2, the spokes being hollow to receive rods 24 provided at their outer ends with plungers 25 arranged within the pockets. With its plunger at its innermost positions, each pocket is of just sufficient depth to receive one piece of gum. On the inner side of each rod 24 is mounted a small roller 26 which is adapted to engage under a ring 27 to hold the plungers in their inner positions, during the time the article is to be retained in the pocket, said ring being cut away at a point reached later on in the operation of the machine (not shown).

Each plunger has a small pin 29 secured to its face which pierces the gum and prevents its displacement when otherwise not supported.

To a rigid portion of the machine is secured a guard 37 which extends partially around the feeder wheel 2 and prevents the pieces of gum from being thrown out of the pockets 23 by centrifugal force while the feeder-wheel rotates, the direction of its rotation being to the left, said guard 37 being cut away at a suitable point (not shown) to admit of the passage of a strip of paper 39 from a suitably supported roll or spool 40. The paper is then carried around with the feeder wheel 2 and between it and the guard 37, covering the pieces of the gum in the pockets. The guard 37 serves the double purpose of retaining the pieces of gum in the pockets and holding the paper against the rim of the feeder-wheel, its lower end being provided with a flexible spring like extension 44 which lies between the feeder wheel 2 and a roller 45, mounted on a shaft 47. The main central zone of this roller runs in contact with the extension 44 of the guard 37, while rubber collars 46, one

around each end of the roller, bear upon the paper 39 on the feeder wheel and cause it to move therewith.

The shaft 47 is the drive shaft of the machine and its motion is transmitted to the feeder wheel by any suitable gearing or belting (not shown).

At a suitable point beneath the feeding-wheel 2 is mounted a cutting roller 54, provided with a resilient or rubber covering 55, which bears against the wheel 2 and causes the paper 39 to move therewith at their point of tangency, thus holding the paper firmly at both ends of the strip to be cut off between the roller 45 and the roller 54, at the same time permitting it to constantly move forward with the feed-wheel 2. Knives 56 and 57, are mounted upon opposite sides of the roller 54 alternately adapted to enter grooves 58 in the feed-wheel 2. The paper being held firmly on either side of the grooves 58, is punctured by a series of points comprising saw-like edges for the knives and as these points are pushed farther through the paper, the punctures are enlarged until they merge into each other thus completely severing the paper.

In order that the forward end of the paper fed from the roll 39 may not be carried downward by the roller 54, but shall be passed onward with the wheel 2 above a guide 59 secured to the frame of the machine, the roller 54 is provided with four plungers, 60, one pair of which are arranged upon each side thereof. The plungers are held in their positions by springs 61 arranged between their heads 62 and screw-plugs 63 by which the springs are confined. As the roller 54 revolves each plunger engages the feeder-wheel 2, the spring 62 permits the plunger to move back but at the same time holding it against the wheel. The plunger 60 moves inwardly, as it engages the wheel 2 but after it passes the tangential point it again moves outwardly, holding the forward end of the paper against the wheel (see Fig. 2) until the paper passes over the guide 59. The guide 59 has attached to it a spring 64, which extends along the wheel 2, almost to a point where the pieces of gum are delivered from the feeder-wheel and serves the double purpose of preventing the gum from dropping from the pockets in the wheel 2, and preventing the severed portions of the paper (or blank) from adhering to and becoming rolled up on a roller 65 placed adjacent to the wheel. This roller is constructed similar to the roller 45, that is, with two resilient collars between which the spring 64 is adapted to lie and rests against the feeding-wheel 2, at a point a little in the rear of the tangential point where the feeding wheel delivers the gum to a receiving wheel, (not shown) and aids in advancing the cut paper blank along until it, with the gum, is delivered from the feeder-wheel 2.

What I claim as new is

1. A machine for severing blanks from the end of a strip of paper, the combination with a member having transverse grooves over which the paper is fed, of a knife actuated to enter a groove and sever a blank, and means for retaining the blank upon the grooved member after it is severed from the strip.

2. In a machine for severing blanks from the end of a strip of paper, the combination with a member having transverse grooves over which the paper is fed, of a knife actuated to enter a groove and sever a blank, means for holding the strip taut across said groove, and means for retaining the blank upon the grooved member after it is severed from the strip.

3. In a machine for severing blanks from the end of a strip of paper, the combination with a moving member provided with transverse grooves spaced apart to suit the length of the blank to be severed, means for severing the blanks actuated through the strip into said grooves, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

4. In a machine for severing blanks from the end of a strip of paper, the combination with a moving member provided with transverse grooves spaced apart to suit the length of the blank to be severed, means for severing the blanks actuated through the strip into said grooves, means for retaining the strip taut across said grooves until a blank is severed, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

5. In a machine for severing blanks from the end of a strip of paper, the combination with a feeding wheel provided with transverse grooves spaced apart to suit the length of the blank to be severed, means for severing the blanks actuated through the strip into said grooves, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

6. In a machine for severing blanks from the end of a strip of paper, the combination with a moving member provided with transverse grooves spaced apart to suit the length of the blank to be severed, a knife for severing the blanks actuated through the strip into said grooves, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

7. In a machine for severing blanks from the end of a strip of paper, the combination with a feeding wheel provided with transverse grooves spaced apart to suit the length of the blank to be severed, a knife for severing the blanks actuated through the strip into said grooves, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

8. In a machine for severing blanks from

the end of a strip of paper, the combination with a moving member provided with transverse grooves spaced apart to suit the length of the blank to be severed, a roller having a
 5 radially projecting knife for severing the blanks actuated through the strip into said grooves, and means for retaining both ends of the blank taut upon the grooved member after it is severed from the strip.

10 9. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves, of a knife rotating in unison with the feeder wheel and adapted to enter
 15 one of said grooves and sever a blank from the end of a strip of paper, and means for holding the end of the strip and the blank upon the feeder wheel after the blank has been severed from the strip.

20 10. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves over which the paper is fed, of a roller timed to move with the feeder
 25 wheel, a knife carried by said roller and adapted to pass through the paper into one of said grooves and sever a blank, and means for holding the blank against the feeder wheel after it has been severed from the strip.

30 11. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves over which the paper is fed, of a roller timed to move with the feeder
 35 wheel, a knife carried by said roller and adapted to pass through the paper into one of said grooves and sever a blank, means for holding the strip and the blank upon the feeder wheel across said grooves before the
 40 blank is severed, and means for holding the end of the strip and the blank upon the feeder wheel after the blank has been severed from the strip.

45 12. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves of a guard to hold a strip of paper upon the feeder wheel across said
 50 grooves, a roller pressing the guard against the strip on the wheel and simultaneously pressing directly upon the strip held against the wheel, and means for severing the end of the strip at one of said grooves.

55 13. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves *a*, of a roller carrying a knife timed to enter one of said grooves, and yielding
 60 means carried by the roller to hold the strip against the feeder wheel after the blank has been severed from the strip.

14. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse
 65 grooves *a*, of a roller carrying a knife timed

to enter one of said grooves, and yielding means carried by the roller to hold a strip of paper against the wheel before and after a blank is severed from the strip.

15. In a machine for severing blanks from
 70 the end of a strip of paper, the combination with a feeder wheel provided with transverse grooves, a knife moving with the feeder wheel and timed to enter one of said grooves, and yielding plungers moving with and bearing
 75 against the feed-wheel before the blank is severed.

16. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse
 80 grooves, a knife moving with the feeder wheel and timed to enter one of said grooves, and yielding plungers moving with and bearing against the strip of paper after the blank is severed from the strip.

17. In a machine for severing blanks from the end of a strip of paper, the combination with a feeder wheel provided with transverse
 85 grooves, a knife moving with the feeder wheel and timed to enter one of said grooves, and yielding plungers moving with the paper and holding the strip against the feeder wheel before and after the blank is severed.

18. In a machine for severing blanks from the end of a strip of paper, the combination
 90 with a feeder wheel provided with transverse grooves, of a roller provided with a yielding surface bearing upon the paper upon the feeder wheel, a knife projecting radially from the roller in position to enter one of said
 95 grooves, and yielding means for holding the blank upon the feeder wheel after it has been severed from the strip of paper.

19. In a machine for severing blanks from the end of a strip of paper, the combination
 100 with a feeder wheel provided with transverse grooves, of a roller provided with a yielding surface bearing upon the paper upon the feeder wheel, a knife projecting radially from the roller in position to enter one of said
 105 grooves, and yielding means for holding the strip upon the feeder wheel before the blank is severed and holding the blank upon the feeder wheel after it is severed from the strip.

20. In a machine for severing blanks from
 110 the end of a strip of paper, the combination with a feeder wheel having a transverse groove, a roller adjacent to and moving with the feeder wheel, a radial knife projecting from the roller and timed to enter one of said
 115 grooves, and yielding means carried by the roller in the rear of the knife for holding the paper on the feeder wheel.

21. In a machine for severing blanks from the end of a strip of paper, the combination
 120 with a feeder wheel having a transverse groove, a roller adjacent to and moving with the feeder wheel, a radial knife projecting from the roller and timed to enter one of said grooves, and yielding means carried by the
 125 130

roller in advance of and to the rear of the knife for holding the paper on the feeder wheel.

22. In a machine for severing blanks from a strip of paper, the combination with a feeder wheel provided with transverse grooves, a roller moving with the feeder wheel and having radially opposite projecting knives timed to consecutively enter said grooves, and yielding means for alternating with the knives for holding the paper upon the feeder wheel.

23. In a machine for severing blanks from a strip of paper, the combination with a feeder wheel provided with transverse grooves, a roller moving with the feeder wheel and having radially opposite projecting knives timed to consecutively enter said grooves, and yielding plungers for alternat-

ing with the knives for holding the paper upon the feeder wheel.

24. In a machine for severing blanks from a strip of paper, the combination with a feeder wheel provided with transverse grooves, a roller moving with the feeder wheel and having radially opposite projecting knives timed to consecutively enter said grooves, and parallel yielding plungers projecting in opposite directions from the roller and alternating with the knives for holding the paper upon the feeder wheel.

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

ALBERT M. PRICE.

Witnesses:

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KATHRYN LORENZEN.