

No. 768,070.

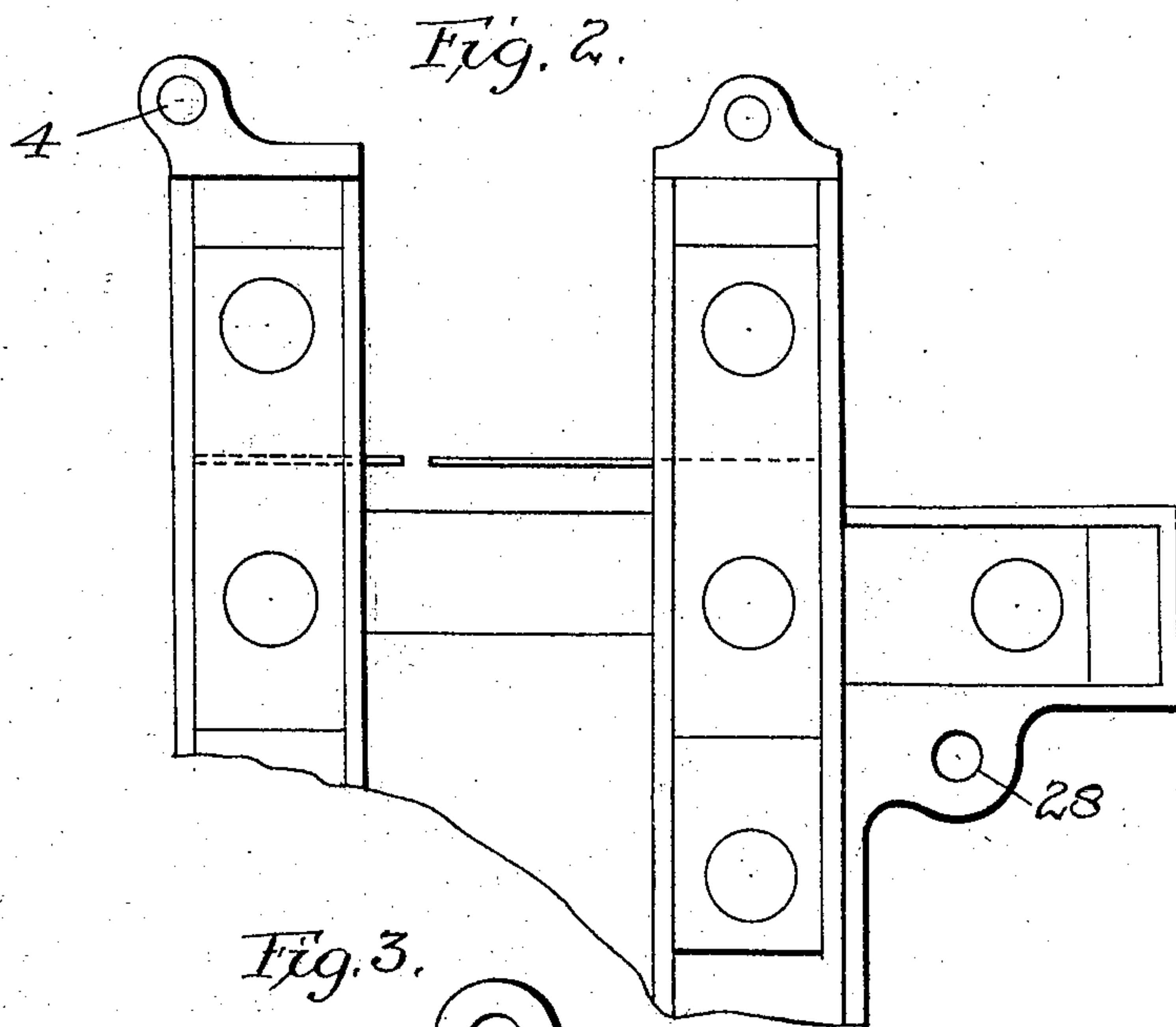
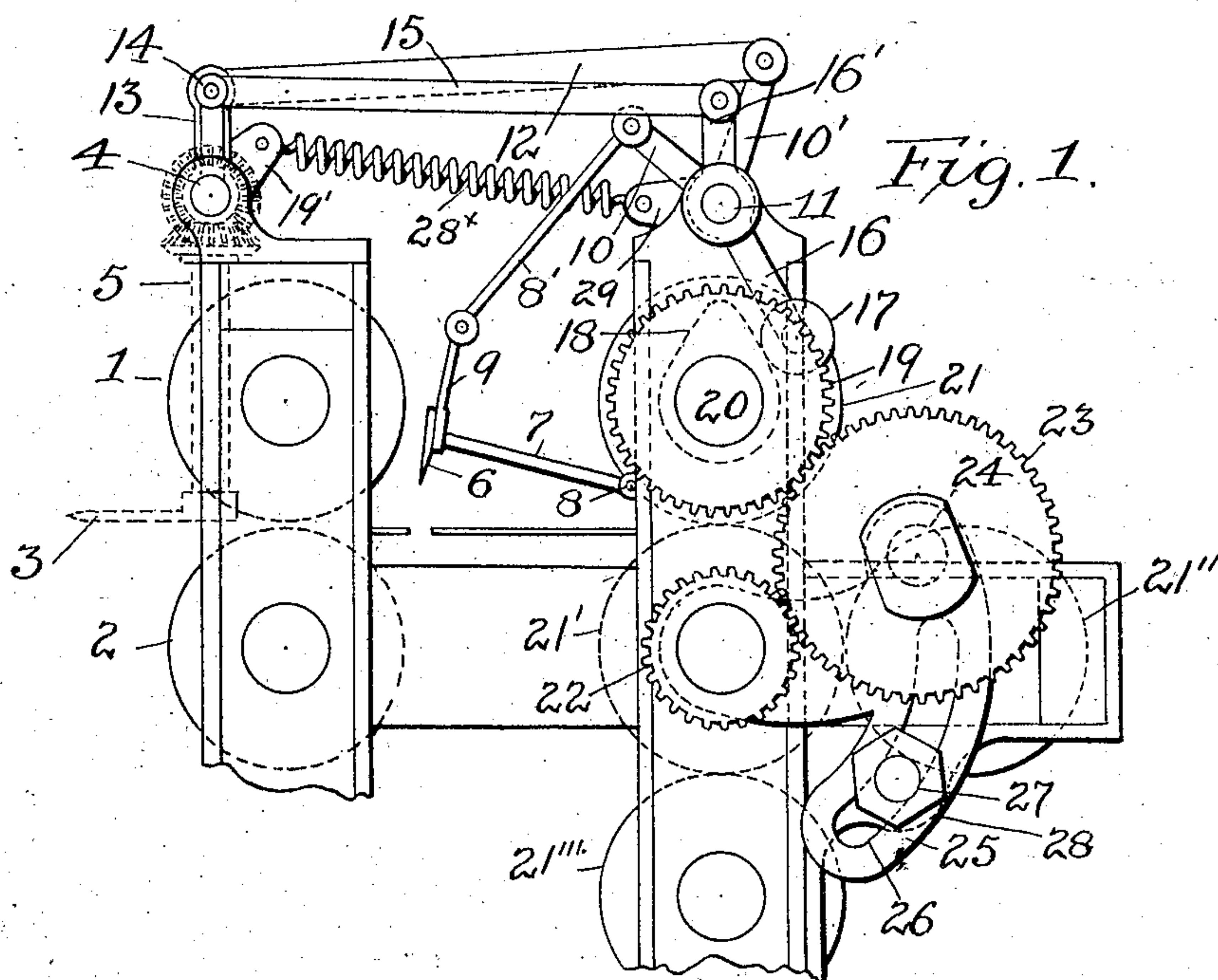
PATENTED AUG. 23, 1904.

C. OWENS.

CUTTING MECHANISM FOR WRAPPING MACHINES.

APPLICATION FILED DEC. 23, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES OWENS, OF NEW YORK, N. Y.

CUTTING MECHANISM FOR WRAPPING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 768,070, dated August 23, 1904.

Application filed December 23, 1903. Serial No. 186,308. (No model.)

To all whom it may concern:

Be it known that I, CHARLES OWENS, a citizen of the United States, residing at New York, N. Y., have invented certain new and useful Improvements in Cutting Mechanism for Wrapping-Machines, of which the following is a specification.

My invention relates to folding and wrapping machines, and particularly to that form of folding and wrapping mechanism disclosed by me in Letters Patent of the United States, dated March 17, 1903, No. 722,879.

My present invention pertains more especially to the cutting and feeding mechanism for the web of wrapping-paper, my object being to provide such a cutting mechanism and to associate the same with the feeding mechanism in such a manner as will enable the operator to produce wrappers of different length.

The invention consists in the features and combination and arrangement of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of so much of a folding and wrapping machine as is necessary to a full understanding of my invention. Fig. 2 is a view of part of the frame. Fig. 3 is a detail view.

In the drawings, 1 2 indicate the initial feed-rolls for feeding the web of paper from which the wrappers are cut. These rolls are associated with feed-fingers, one of which is indicated at 3 and is intended to feed into the bite of the rolls magazines, pamphlets, or other articles which it is designed to wrap or fold and wrap. The operation of these feed-fingers is substantially the same as that disclosed in my Patent No. 722,880, March 17, 1903, and is effected from a cross-shaft 4, suitably journaled in the frame of the machine and to which an oscillatory motion is imparted, as will be described. This shaft is geared to vertical shafts, one of which is shown at 5, which shafts at their lower ends carry the feed-fingers 3 for the magazine. Immediately in rear of the initial feed-rollers 1 2 a knife 6 is arranged to cut the web into the lengths desired for the wrappers. This knife is carried by an arm or arms 7, pivoted to the frame at 8, and it is operated so as to raise and lower

through the link 8', pivoted to the arm 9, attached to the knife, the said link at its upper end being pivotally connected with a lever, one arm of which is shown at 10 and the other arm at 10', the said lever being loosely pivoted on a cross bar or shaft 11, extending between and connected with the sides of the frame. The arm 10' of the lever is connected, through a bar 12, with an arm 13, fixed on the cross-shaft 4, and the operating connection is continued through a second arm 14, fixed on the said cross-shaft, which is pivotally joined to a bar 15, extending rearwardly and connected with the arm 16' of a lever pivoted on the cross shaft or bar 11, the said lever having another arm, 16, carrying a roller 17, arranged to be operated by a cam 18, secured to the inner face of the gear-wheel 19, loose on the shaft 20 of the folding-roller 21. This folding-roller is associated with other folding-rollers 21', 21'', and 21''', forming a group of folding-rollers substantially as disclosed in the patent above mentioned. The gear 19 is driven from a gear 22 on the shaft of the folding-roller 21', which gear meshes with an intermediate gear 23, which in turn meshes with the cam-carrying gear 19. The intermediate gear 23 is carried by a pin 24 in a bracket 25, which is pivoted on the shaft of the gear 21'. The bracket has a segmental slot 26, through which a bolt 27 passes into the frame at 28, and by means of this bolt the bracket may be adjusted to different positions around the axis of the shaft of the gear 22 and roll 21', so that by adjusting this bracket a larger or smaller gear may be employed in place of the cam-gear 19.

From the above it will be seen that the period between the strokes of the cutting-knife may be varied in relation to the feeding action of the feed-rolls 1 2, so that different lengths of wrapping-paper may be severed from the web, so as to produce longer or shorter wrappers to suit the magazine or other article being wrapped, and this change in the action of the cutter is effected by adjusting the bracket 25 before mentioned and substituting a larger or smaller driven cam-gear on the shaft 20 in place of the gear 19.

The connections above described, it will be

seen, operate not only the cutting-knife, but also operate the feed-arms through the cross-shaft, the gearing, and the depending shafts above mentioned. The cutting mechanism and the feed-fingers are thus operated from the same source, and they each have oscillatory or to-and-fro movement, the cam operating them one way and a spring 28^x giving the reverse movement. This spring is attached at one end to the arm 19', fixed on the cross-shaft 4, and at its other end to an arm 29. The feed-arms also partake of the differential movement in relation to the feeding action of the feed-rolls, for it will be apparent that if the periods between the strokes of the knife are varied in relation to the feeding in of the web of paper a similar variation of the action of the feed-fingers must also take place, and this relative action is derived from the mechanism above described. The distance of the apex of the cam beyond the low part determines the throw of the knife.

It will be noticed that my present improvements are applied to the machine substantially as organized and illustrated in the patent above referred to, the knife being operated through gearing associated with the folding mechanism and the operating connections being applied to the frame substantially as shown in the patent referred to.

I do not limit myself to the means for returning the knife to normal position, as a grooved cam may be used in place of that shown and the knife mechanism operated thereby.

I claim as my invention—

1. In combination with the feed-rolls, feed-fingers having oscillating movement, a knife having a to-and-fro movement, a cam and connections between said cam and the said feed-fingers and knife, substantially as described.

2. In combination with the feed-rolls, feed-fingers having oscillating movement, a knife having a to-and-fro movement and change-speed mechanism for operating the said feed-fingers and knife to vary their action in relation to the feed-rolls.

3. In combination with feed-rolls, oscillating

feed-fingers, a cross-shaft, depending shafts carrying the feed-fingers, means for rocking the said shaft and a cutting-knife operated from the said shaft, substantially as described.

4. In combination, feed-rolls, oscillating feed-fingers, a cross-shaft connected with the feed-fingers, a change-speed mechanism for operating the cross-shaft and a knife operated from the cross-shaft, substantially as described.

5. In combination with feeding-in rolls, a group of folding-rolls, a knife operating between the feeding-in rolls and folding-rolls, gearing on the shafts of the folding-rolls, a bracket pivotally supported on one of said shafts, a gear supported on the said bracket and meshing with the gears on the roll-shafts, a cam connected with one of the gears and connections from the said cam for operating the knife, substantially as described.

6. In combination with the feeding-in rolls, feed-fingers for the magazine, a cross-shaft with connections to the feed-fingers, a knife operating in rear of the feed-fingers, a pivoted arm carrying the said knife, a cross shaft or bar 11 and connections for operating the said knife-carrying arm, said connections including lever-arms supported on the said cross shafts or bars, and means for operating the said lever connections, substantially as described.

7. In combination with feeding-in rolls, a group of folding-rolls, cross shafts or bars 4 and 11, a lever on the bar 11, a cam for operating the said lever, an arm fixed on the shaft 4 connected with the said lever, a second lever on the bar 11 connected with the knife, and a second arm fixed on the shaft 4 connected with the second lever of the bar 11, feed-fingers and connections from the feed-fingers to the said cross-shaft 4, substantially as described.

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

CHARLES OWENS.

Witnesses:

BEN H. BROWN,
I. V. HARTMAN.