

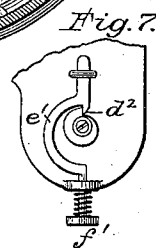
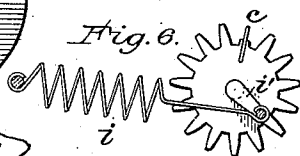
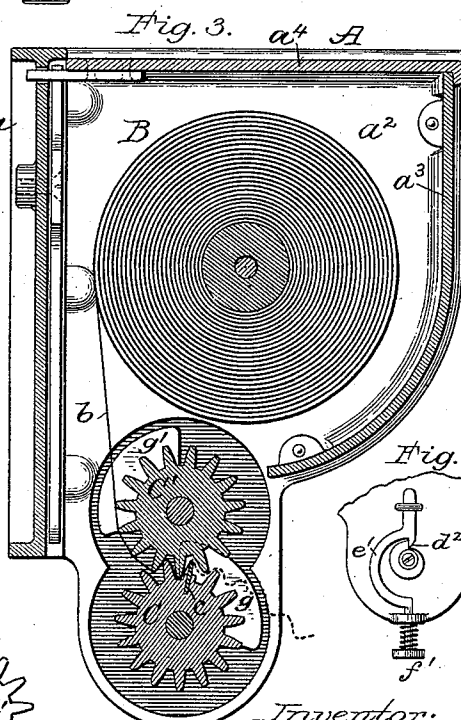
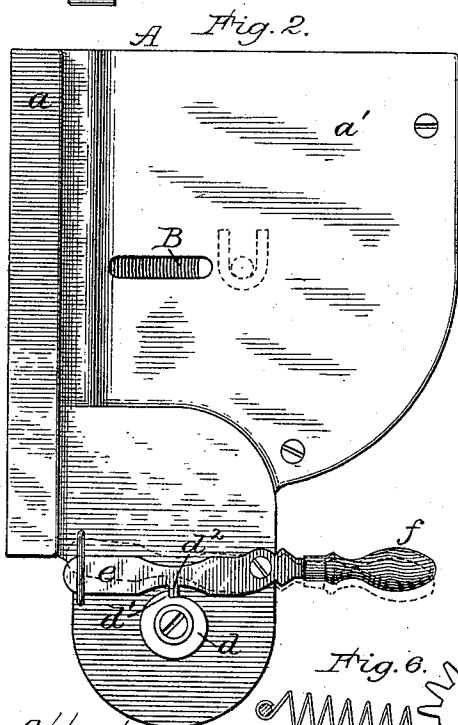
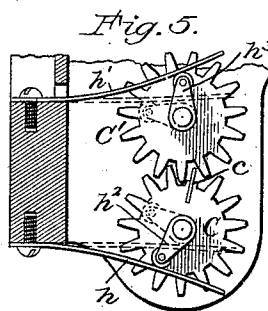
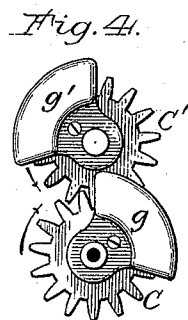
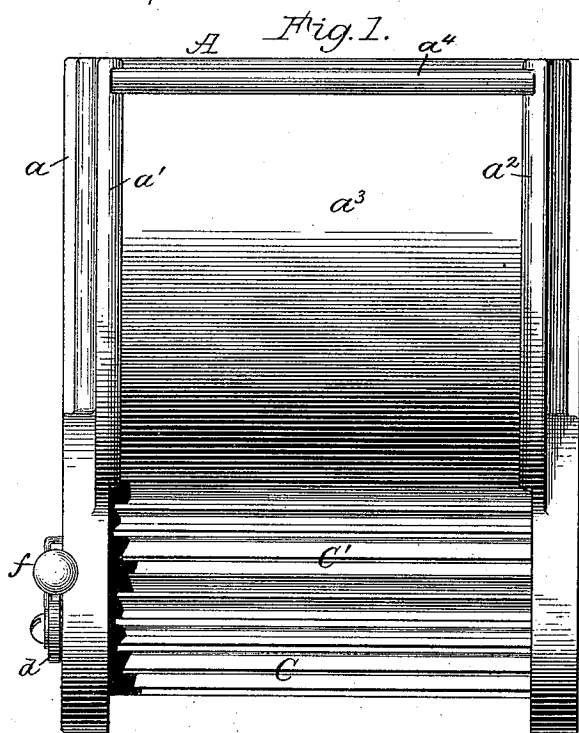
(No Model.)

D. L. GOFF.

MECHANISM FOR DELIVERING AND CUTTING ROLL PAPER.

No. 486,103.

Patented Nov. 15, 1892.



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MECHANISM FOR DELIVERING AND CUTTING ROLL-PAPER.

SPECIFICATION forming part of Letters Patent No. 486,103, dated November 15, 1892.

Application filed May 5, 1892. Serial No. 431,908. (No model.)

To all whom it may concern:

Be it known that I, DARIUS L. GOFF, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Mechanism for Delivering and Cutting Roll-Paper; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

My present invention relates to machines of that type which was disclosed in my application for Letters Patent filed September 25, 1890, Serial No. 366,075. My said application disclosed various organizations respectively embodying all or portions of my invention, and among them was a machine of the particular variety which constitutes the subject of my present application, and it is to be understood that the features of novelty to be herein specified and claimed are such as could not have been appropriately claimed in my said original application.

This machine is adapted to deliver paper from a rotatively-mounted roll-package in predetermined lengths, the measuring operation being dependent upon delivery-rolls and an automatic stopping mechanism. The severing of the free end of the paper involves the use of a properly-located knife or cutter, against which the paper is pulled or drawn by the operator after the stop-motion has precluded a further draft of paper. The releasing of the stopping mechanism involves manipulation; but the projection from the rolls of a grasping length of the free end of the paper is in this machine automatically executed by a peculiar overbalancing of the rolls, the latter making a partial automatic rotation forwardly promptly on being released from the stopping mechanism, whereas in certain of my other machines the rolls are thus partially rotated for projecting the free end from the right of the rolls by means of a hand-wheel, and in other machines two sets of rolls are co-operatively coupled for alternately working with two roll-packages, the draft of paper from either set of rolls and from either package causing the last cut free

end of the other package to be projected from the other set of rolls.

After describing my invention as embodied in the machine illustrated in the drawings the features deemed novel and appropriate to this application will be duly specified in the clauses of claim hereunto annexed.

Referring to the drawings, Figure 1 illustrates my said machine in front elevation. Fig. 2 illustrates the same in end view. Fig. 3 is a central vertical cross-section of the same. Fig. 4 illustrates the overbalancing of the delivery-rolls by means of weights, as employed in the machine, Figs. 1, 2, and 3. Fig. 5 illustrates the overbalancing of the delivery-rolls by means of flat springs. Fig. 6 illustrates the overbalancing of the rolls by means of a spiral spring. Fig. 7 illustrates a releasing-pawl and thumb-piece, the latter operating as by a slide or push-button, so distinguished from a lever-pawl and thumb-piece, as shown in Figs. 1 and 2.

The casing A of the machine may be varied in its form and construction, due provision being made for properly mounting a roll-package of paper B therein and also for affording bearings for the delivering and measuring rolls C and C', with space for their accompanying mechanism. As here shown, the casing is composed of a back plate a , two end plates a' a'' , and a curved front plate a^3 , the chamber in which the roll-package is carried being closed at the top by a sliding cover a^4 and secured by a gravity-latch, as specially disclosed by me in a contemporaneous application for patent. (See Serial No. 431,907, May 5, 1892.)

The roll-package B is usually provided with a central hollow core, and it is carried on a shaft freely supported in U-shaped bearings projecting from the inner surfaces of the end plates, one of said bearings being indicated in dotted lines in Fig. 2 with an adjacent open slot, through which the diminishing size of the roll of paper may be from time to time observed. Below the roll-package the delivering and measuring rolls C C' are so located that the free end of paper dependent from the package may be passed between the rolls and outwardly, as indicated at

b, and also in dotted lines in Fig. 3. These rolls are longitudinally corrugated and mesh together, and they are therefore in substance rotatively coupled or geared together, so as to revolve in harmony. The lower roll C carries a knife or cutter c, which in this instance is a serrated blade mounted radially at the periphery of the roll, so as to take the place of one of the corrugations. As shown in Fig. 3, the cutter is in its operative position, the rolls being locked at that point by stopping mechanism, which in this instance consists in part of a disk d, (on the shaft of the lower roll,) having on its periphery a stop-catch d', as clearly indicated in Fig. 2. With this disk a stop-pawl engages, it being immaterial in what manner the pawl may be constructed and applied, so long as it has a finger d² and will automatically engage with the catch on the disk and be capable of promptly releasing the disk upon being manipulated. As shown in Fig. 2, the finger d² is carried at the inner end of a simple pivoted lever e, the outer end being provided with a thumb-piece or handle f. In Fig. 7 the finger d² is carried by an appropriately-shaped freely-sliding bar e', which may be provided with a light spring if gravity be insufficient. The outer or lower end of this bar is provided with a thumb-piece or push-button f'. As shown in Fig. 1, the releasing device e f is outside of the casing at one end; but it may be located within the casing, if desired, so long as the thumb-piece is externally accessible.

As thus far described, it will be readily seen that if the projecting free end of the paper be pulled the rolls will make but one revolution and then be stopped, with the cutter in proper position for severing the length of paper so drawn out, if the latter be either straightly pulled or, as is preferable, pulled downwardly and torsionally. After thus detaching said length the then free end of paper will be tightly held in the bight of the rolls, and of course inaccessible for pulling, and in order that a grasping length of paper may be automatically projected from the rolls upon releasing the stopping mechanism the rolls are overbalanced, or, in other words, so unequally balanced when in that position that they will freely rotate forwardly to the required degree upon being permitted so to do. It is immaterial in what manner this overbalancing of the rolls is effected, and it can be accomplished in various ways, whether by weights or by springs.

In Figs. 1, 2, 3, and 4 the overbalancing and the resultant automatic rotation of the rolls is due to the presence of segmental weights g and g', usually duplicated, one pair being at each end of the rolls, it being understood, however, that they need be only heavy enough to surely semi-rotate the rolls and draw a short length of paper from the roll-package. When the rolls are in their locked position, the weight g of the lower roll is at the

front upper side thereof and the weight g' at rear upper side of the upper roll, and therefore they operate in harmony for properly inducing the required rotative movement of both rolls, as will be clearly understood upon inspection of Figs. 3 and 4. These weights afford somewhat less than one-quarter of a revolution, which is ample for my purposes. It will be readily seen that the pulling out of paper until the stop-motion operates sets the weights in their operative or working positions and that they must promptly operate upon the manipulation of the thumb-piece.

In Fig. 5 I illustrate the use of flat springs h and h', respectively, bearing at proper times upon tappet-arms h² h³, projecting radially from the axis of the rolls, (or mounted on the ends of the rolls,) said springs being set for service in the same manner as the weights are, and they perform the overbalancing function in a satisfactory manner. By setting the upper tappet-arm h³ a little behind the lower arm h² (as to time) a very satisfactory range of rotation can be secured.

In Fig. 6 I illustrate the use of spiral springs for the same purpose, the retractile spring i being coupled to a crank-arm i' at the end of one or both of the roll-shafts, said crank-arm being double if the bearing for the shaft is outside of the crank and single if located at the end of the shaft outside of a bearing.

Other means for overbalancing the rolls might have been illustrated, but what I have disclosed is deemed ample for enabling a full comprehension of this, the characteristic feature in this class of my machines.

It will be obvious that however a paper-cutter may be arranged in the machine it can be relied upon for service so long as it occupies a position favorable to being engaged by the paper near the rolls after the stop-motion has been operated, and it is equally obvious that the means for overbalancing, with the stopping mechanism and any form of releasing device, do not depend for their value upon any special arrangement of the cutter.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a machine for delivering paper in predetermined lengths from a rotatively-mounted roll-package, the combination, substantially as hereinbefore described, of a pair of overbalanced delivering and measuring rolls geared together, a cutter carried on one of said rolls, stopping mechanism for restricting the rotation of said rolls, and a thumb-piece which when manipulated releases the rolls and permits them to partially rotate and to automatically project the free end of the paper for grasping, so that on pulling said free end a length thereof may be drawn from the package corresponding with the measuring capacity of the rolls, the cutter presented in position for service, and the

rolls so set by the stopping mechanism that when next released they will be partially rotated automatically because of their being overbalanced.

5 2. In a paper-delivering machine, the combination, substantially as hereinbefore described, of a pair of delivery-rolls geared together, stopping mechanism restricting the rotation of the rolls, and means, as weights

or springs, for overbalancing said rolls and causing them to partially rotate automatically upon being released from the stopping mechanism.

DARIUS L. GOFF.

Witnesses:

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M. W. SPENCER.