

(No Model.)

2 Sheets—Sheet 1.

J. M. KEEP.

APPARATUS FOR HOLDING AND ISSUING PAPER FOR TOILET OR
OTHER PURPOSES.

No. 495,892.

Patented Apr. 18, 1893.

Fig. 1.

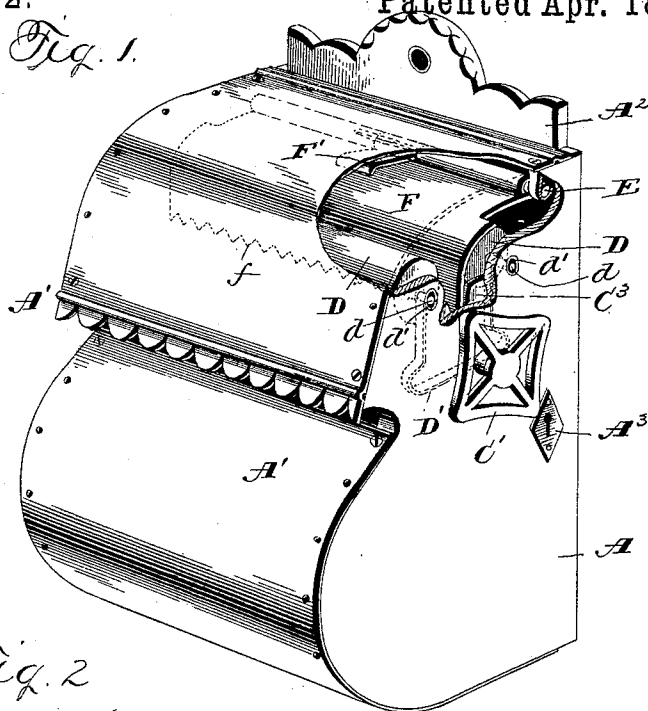
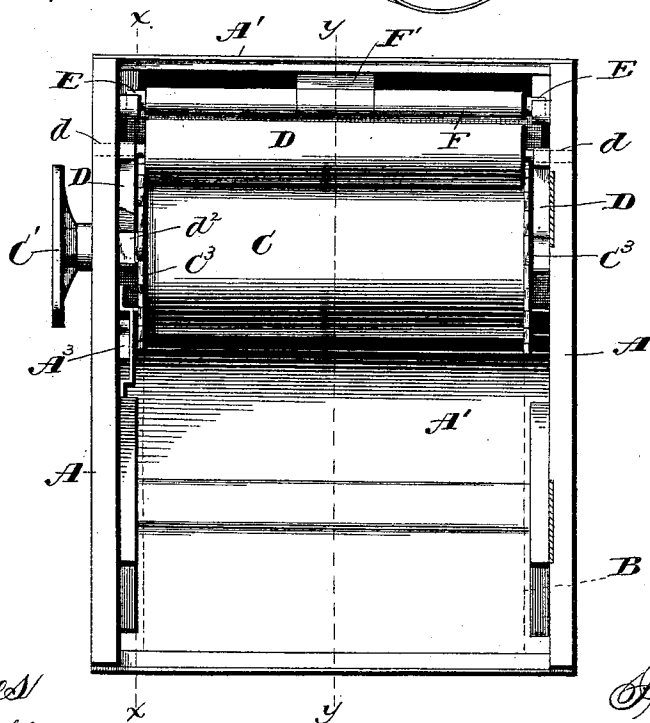


Fig. 2



Witnesses
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Inventor
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Fig. 3.

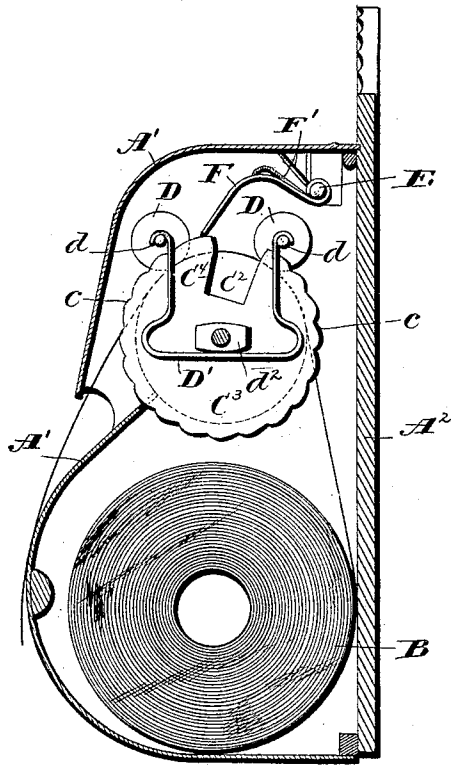


Fig. 4.

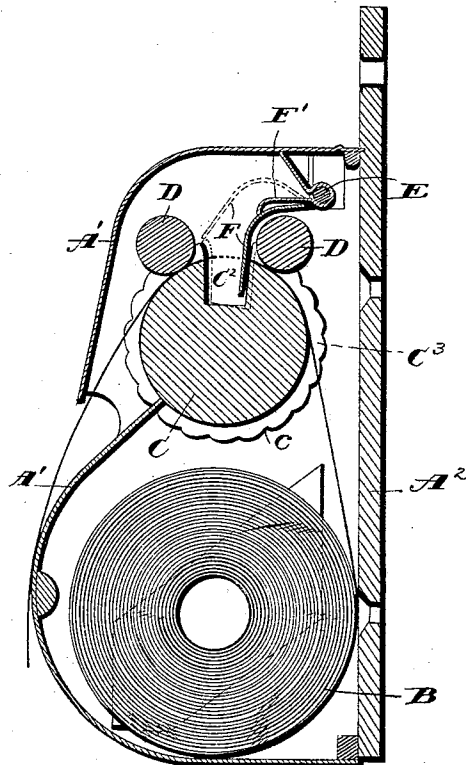


Fig. 5.

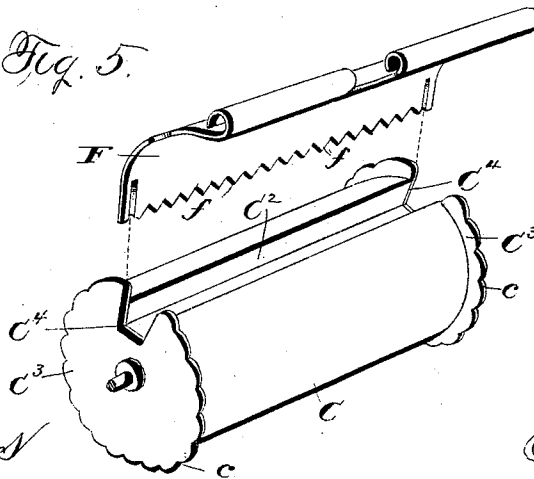
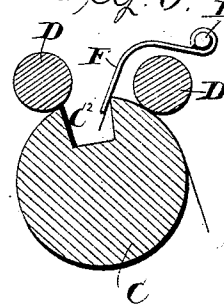


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES M. KEEP, OF NEW YORK, N. Y.

APPARATUS FOR HOLDING AND ISSUING PAPER FOR TOILET OR OTHER PURPOSES.

SPECIFICATION forming part of Letters Patent No. 495,892, dated April 18, 1893.

Application filed December 15, 1891. Serial No. 415,315. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. KEEP, a citizen of the United States, residing at New York city, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Apparatus for Holding and Issuing Paper for Toilet and other Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows a perspective view of my apparatus with part of the casing broken away to show the mechanism within; Fig. 2, a rear view of the same with the rear side of the casing removed; Fig. 3, a view of a section on line *x. x.*, of Fig. 2; Fig. 4, a view of a section, on line *y. y.*, of Fig. 2; Fig. 5, a detail perspective view showing the main feed roller with the cutter lifters and the cutter; and Fig. 6 a detail sectional view, showing the operation of the severing striker, in keeping the severed end of the strip down in the groove or depression in the feed roller, until the forward one of the pressure rollers comes to and projects in over the groove, so that the proper riding of said roller over the strip is insured.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention has been to provide an improved apparatus for holding and issuing, in suitable lengths, paper for toilet and other purposes, and to this end my invention consists in the apparatus and in the parts thereof constructed, arranged, and combined as hereinafter specified.

In the drawings A, A, designate the sides of the casing, which can be of any desired material and construction, and A' designates the casing front, which is, preferably, but not necessarily, made of metal, in the shape shown, having the rounded, or semi-cylindrical lower portion, and the upper part covering the top of the casing and extending forward and downward beyond the upper edge of the lower part, so as to leave space between it and such edge, for the issue of the paper to be fed out in the manner to be described.

The casing back A² is preferably hinged to one of the sides A, so that it can be opened for the insertion of the roll B of paper into the roll receiving lower part of the casing, a lock A³ being provided to normally lock the back shut.

Within the upper part of the casing, above the paper roll receiving space, is journaled the roller C, having a circumference substantially equal to the length of the pieces in which the paper from the roll is to be issued. As shown in the drawings, this roller, having its shaft provided with a suitable turning head or handle C', on the outer side of the casing, has in its periphery, the longitudinal depression or groove C².

Attached to or arranged to turn with the roller, are the disks C³, C³, which I term the lifters, having notches C⁴ cut in them to correspond in position with the ends of the depression or groove C². The periphery of each disk is notched, as shown at *c, c*, the notches having their rear sides with reference to the rotation of the roller made more abrupt than their forward sides for a purpose to be explained hereinafter.

Just above roller C are the two other rollers, D, D, which are parallel to each other and roller C, and are situated apart from each other a distance greater than the width of the groove C² in the latter roller. Their shafts or pivots *d, d*, are journaled in slotted bearing openings *d', d'*, on the casing, so that they can be capable of movement to and from the periphery of roller C. For drawing them normally toward the latter, I provide the spring D', which is U-shaped in general form, having its lower part engaging the under side of an abutment *d²*, on the inner side of the casing, and its arms hooked at their upper ends to engage the roller shafts or pivots *d, d*, as shown best in Fig. 3. With the described construction, the rollers D, D, will always be pressed toward roller C, so that any paper passing over the periphery of the latter will be firmly held against the same and caused to travel forward with it as the roller is rotated.

Pivoted or hinged upon the rod E in the upper part of the casing, is the striker F forming the paper cutting device, which extending forward and downward, from its pivotal portion, over the rear roller D and down between it and the front one, has its lower edge adapted to descend well into the roller groove C², when the latter is brought around under the space between rollers D, D. Such edge is serrated or provided with teeth *f, f*, adapted to penetrate a stretched piece of paper easily at points close together. The striker is made

wider than the roller C is long, so that its sides will project into the notches C⁴ in the lifter disks C³, C³, when it is down in the position shown in Fig. 4, and will be engaged by such disks as the roller is turned forward.

A spring F', having one arm engaging the top of the casing, and the other bearing down upon the upper side of the striker, serves to force the latter downward toward roller C. For convenience sake, the spring is made with its central portion adapted to receive and embrace the striker supporting rod E, a portion of the pivotal part of the striker being removed to accommodate the spring on the rod. In order to allow the said rod with the striker and spring to be easily put in place in or removed from the casing, the supports for the ends of the rod are preferably made as shown, in the shape of open topped sockets into which the ends of the rod, having been forced upward and inward against the stress of spring F', can be easily dropped.

The upper edge of the lower part of the front of the casing is, as shown in Figs. 3 and 4, carried upward and inward, so as to stand close to the periphery of roller C, and act as a guide for the paper passing downward and outward from such roller.

The operation of my apparatus, constructed as shown and described, is briefly as follows: A roll of paper of the desired kind is dropped into the receiving space below the rollers, and the free end of the paper is carried upward over roller C, until the rear one of rollers D, D, engages it, and presses it down upon the first mentioned roller. A forward turn of the latter by means of head or handle C' will then draw the paper from the roll and carry it forward under the front roller D, and then downward and outward toward and through the issue opening in the front of the casing. With the parts in the positions, shown in full lines in Fig. 4, a piece of the paper has been severed from the roll strip, and the upper end of the latter is held between roller C and rear roller D, and the striker F is down with its serrated edge in the groove or depression C² below the periphery of roller C. The striker now holds the severed end of the strip folded down into the groove C², over the rear edge of the latter, and the forward pressure roller D is close to the groove's forward edge. Further rotation of the feed roller causes the lifter disks, at the rear sides of their notches C⁴ C⁴, to ride under and force the serrated striker, forming the paper severing device, upward, against the stress of spring F; but the striker edge is not thus lifted clear of the feed roller groove, until the forward roller D has come to project well over said groove, and over the extreme end of the strip, so that the latter could not, as the rising of the striker continues, get up past the underside of the roller. Continued rotation of roller C raises the striker clear of the plane of the periphery of such roller, and the forward roller D drops a little into the groove, so as to keep the end of the paper

strip bent downward over the groove edge, until the roller rides up over such edge and presses the paper smoothly upon the periphery of the feed roller. The serrated edge of the striker is now held well above the path of the paper, ready for another severing stroke, when the notches in the lifter disks are again brought around to the part of the striker resting upon said disks. From the drawings, it will be seen that the forward one of the two rollers D D is situated close to the path of the strip severing striker and so that it will be close to the forward edge of the groove or depression in the feed roller, when the severing operation takes place. With this construction said roller D will, immediately after such severing, be brought, by the rotation of the feed roller, so as to project inward over a part of the groove in the feed roller, before the severed end of the strip, which has been carried down into said groove, is released by the striker, and left free to rise again (see Fig. 6). This insures the proper riding of the forward pressure roller over the strip end, so that said roller will engage the strip where it is bent down over the rear edge of the feed roller groove, and prevents any chance of the paper getting curled up or wrinkling, because of its edge abutting against the rear side of the said pressure roller. The device for raising the severing striker is arranged so as not to raise the lower edge of the latter clear of the groove, until the forward pressure roller has, because of the rotation of the feed roller C, come to project well over the path of the severed strip edge as the latter tends to fly up. Meanwhile, the already severed sheet, whose rear edge is held between the front roller D and roller C, is fed down and out of the casing, and, as the latter roller continues to turn the edge of the strip running from the roll, is carried forward to and under said front roller D, and from the latter down toward the delivery or issue opening. During the said turning of roller C, the striker F bearing upon the edges of the lifters C³, C³, rides over the serrations therein, and, by engaging them, prevents any backward revolution of the said roller. As the latter is turned to bring the groove or depression C² around to the space between rollers D, D, again, the notches C⁴, C⁴, in the lifters C³, C³, allow the cutting striker to be driven down quickly by the action of spring D', so that its serrated edge will strike and easily sever the paper where it is held stretched across the groove or depression C² by the joint action of rollers D, D, and C. The length of the piece of paper which will thus be severed from the roll strip, obviously, depends upon the circumference of roller C. Where there is only one groove or depression C² in said roller, said circumference should then be made equal to the length of the pieces of paper desired to be delivered. By making the roller larger, and having on it two or more of the grooves or depressions with a corresponding increase

in the number of notches C⁴, C⁴, in the lifter disks C³, C³, pieces of the same length could be caused to be delivered by only part revolutions of the main roller.

5 Instead of making the spring and striker separate, both can be combined in one piece by making the upper part of the latter of spring material and attaching it to some suitable support.

10 It will be noticed that in my apparatus no supporting shaft is necessary to receive the roll of paper placed in the receptacle below the feeding rollers. Of course, one can be used if desired, but it is not at all necessary.

15 My apparatus, as shown and described is simple and cheap in construction, and, while being efficient and certain in action, contains no parts or mechanism capable of getting out of place, or out of order.

20 Having thus described my invention, what I claim is—

1. In an apparatus for holding and issuing paper, for toilet and other purposes, having a suitable receptacle for the paper strip, in combination with the feed roller having a longitudinal groove or depression in its periphery the strip severing striker striking down into the roller groove, so as to entirely sever the strip stretched across the same, and 30 two rollers, to press the strip against the feed roller periphery, situated, respectively, in front of and to the rear of the path of the striker, the forward one of such pressure rollers being close to the point where the striker divides the paper, so that the severed end of the strip cannot get up past it, but must pass under it, as the feed roller is turned forward, substantially as and for the purpose specified.

2. In an apparatus for holding and issuing 40 paper, for toilet or other purposes, having a suitable receptacle for the paper strip, in combination with a feed roller having the longitudinal groove in its periphery, the strip severing striker striking down into said groove close to the forward edge of the same the two 45 movable pressure rollers, situated respectively, to the front and rear of the path of the striker, the forward one of such rollers being placed so as to be close to the forward edge 50 of the feed roller groove when the striker descends into the latter and spring means forcing the pressure rollers toward the feed roller periphery, substantially as and for the purpose described.

55 3. In an apparatus for holding and issuing paper, for toilet and other purposes, having a suitable receptacle for the paper strip, in combination with a strip severing striker the rotary roller for feeding the strip forward having a depression or groove in its periphery, 60 the two pressure rollers having their shafts journaled in bearings to allow them to move toward and from the feed roller and the U-shaped springs each engaging a suitable stationary abutment and having its two arms 65 engaging the shafts of the two pressure rollers

so as to draw them toward the feed roller, substantially as and for the purpose set forth.

4. In an apparatus for holding and issuing paper, for toilet and other purposes, having a 70 suitable receptacle for the paper strip, in combination with the feed roller, with a longitudinal groove in its periphery, the strip severing striker, adapted to strike through the strip down into the feed roller groove, pivoted 75 to swing downward and rearward toward the rear side of such groove, so as to fold the severed strip end down over the groove edge, and the two pressure rollers to the front and rear of the path of the striker, the forward one being 80 situated close to said path, substantially as and for the purpose shown.

5. In an apparatus for holding and issuing paper, for toilet and other purposes, having a suitable receptacle for the paper strip, in combination with the feed roller having a longitudinal groove in its periphery, a strip severing 85 striker, automatic means, operated by the feed roller, to raise the striker and release it, as the roller groove is brought around to its path, one or more pressure devices forcing the 90 striker down toward the roller and the two pressure rollers respectively in front and to the rear of path of the striker, the front roller being situated so as to be close to the forward 95 edge of the feed roller groove, as the striker descends to sever the strip, substantially as and for the purpose shown and described.

6. In an apparatus for holding and issuing 100 paper, for toilet and other purposes, having a suitable receptacle for the paper strip, in combination with the feed roller having a longitudinal groove in its periphery, a strip severing 105 striker to descend into such groove, the two pressure rollers respectively to the front and rear of the path of the striker, and means for causing the latter to descend into the groove and rise again, as the feed roller rotates, adapted to allow the striker to remain 110 down in the groove, until the forward pressure roller is brought partly over the groove, by the rotation of the feed roller, substantially as and for the purpose specified.

7. In combination with the rotary feeding 115 roller having a depression or groove in its periphery and the spring actuated strip severing striker, one or more striker lifting disks turning with the roller, each having a notch, to allow the striker to descend into the roller 120 groove or depression, and a series of smaller notches, in its periphery to be engaged by the striker, so as to prevent backward turning of the roller, substantially as and for the purpose described. 125

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of December, A. D. 1891.

JAMES M. KEEP.

Witnesses:

J. N. KEEP,

CHARLES WOOD.