

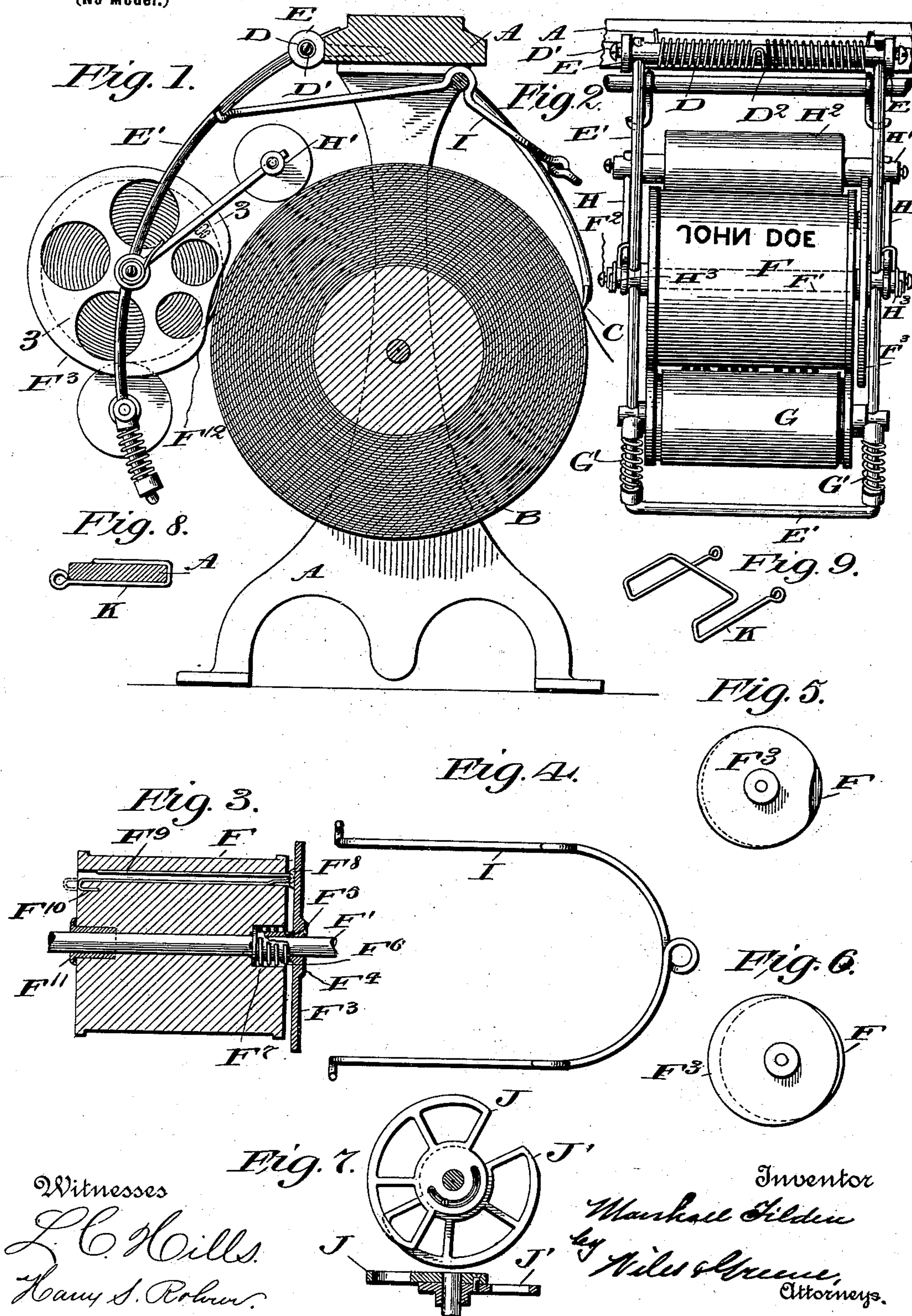
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Patented Apr. 11, 1899.

M. TILDEN.
ROLL PAPER HOLDER AND PRINTER.

(Application filed Dec. 1, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

MARSHALL TILDEN, OF WASHINGTON, DISTRICT OF COLUMBIA.

ROLL-PAPER HOLDER AND PRINTER.

SPECIFICATION forming part of Letters Patent No. 623,049, dated April 11, 1899.

Application filed December 1, 1898. Serial No. 698,001. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL TILDEN, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Roll-Paper Holders and Printers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Ordinary printing attachments for roll-paper holders are unsatisfactory for several reasons. Under certain conditions the ink does not dry before the paper must be used, and hence the imprint is spoiled and the hands are soiled. The printing-roller must be large or it is not suitable for large pieces of paper, and, again, it must be large else it repeats the imprint on the same piece, which is undesirable. It follows that devices of this kind must be made in different sizes.

The object of this invention is to minimize or eliminate all these disadvantages. Accordingly a blotting-pad is automatically applied to each impression made upon the paper, devices are provided for instantly changing the interval between successive impressions automatically made upon the paper when a portion is drawn off the roll, other devices are arranged for at will causing one or more impressions to be omitted when desired, and still other devices are provided for preventing all impressions without materially displacing the printing apparatus.

In the drawings, Figure 1 is a side view, partly in section, showing a roll of paper mounted upon a suitable stand provided with my novel features. Fig. 2 is a view looking from the left in Fig. 1. Fig. 3 is a section on the line 3 3, Fig. 1. Figs. 4, 5, 6, 7, 8, and 9 are detail views hereinafter more fully described.

In the figures, A A is a stand, and B is a roll of paper revolubly mounted therein and pressed upon one side by a knife or tearing-bar C, all without novelty.

To the upper member of the stand and upon that side opposite to the bar C a rod D is revolubly mounted in eyes E. A one-piece rod E' is first bent to U shape and then has its two branches similarly curved to follow approximately the contour of the roll B. Upon

the member thus formed are placed inking and printing rollers, and the free ends of its branches are then inserted in perforations near the ends of the rod D and fixed in place by set-screws D'. A spring D², coiled about the rod D and reacting against the stand, tends constantly to swing the whole printing-frame formed by the rod D and the U-shaped member toward the roll B. The printing-roller F is adjustably fixed upon this frame by having the branches E' passed through the end portions of its shaft F' and clamped by set-screws F², working in the ends of that shaft. Upon the shaft F' at a short distance from one end of the roller is revolubly mounted a disk F³, whose general diameter exceeds that of the roller, but which is cut away on one side, so that at this point the radii are distinctly less than those of the roller. Upon its outer face this disk has a central boss F⁴ to rest against the rod E', and upon its opposite side is a hub F⁵, which projects into the roller. A light spring F⁶, coiled about the hub and reacting against a collar F⁷ upon the shaft, presses the disk gently against the rod E', and thus prevents the disk from rotating by its own momentum. The disk has also upon its inner face a stop-lug F⁸, and a frictionally-held rod F⁹ extends from end to end of the roller in a channel so placed that the rod may be pushed out into engagement with the stop or may be pushed in flush with that end of the roller. The rod may be of U shape, with its branches normally divergent and with one of them, F¹⁰, longer than the other and bent upon itself, so as to lie in and closely fit a smaller parallel channel. This double rod, being made of spring-wire, is held by friction in any position to which it may be pushed in its channel, and its whole length is made a little greater than that of the roller, so that it may be readily pushed at either end which happens to project. At that end of the roller opposite the disk a bushing F¹¹ projects and forms a bearing to rest against the adjacent rod E'. Below is a roller G for inking the printing-roller. It is threaded upon the rods or branches E' by having its shaft perforated, and its two ends are independently pressed against the printing-roller by coiled springs G', and, like the printing-roller, it has projecting bushings to bear

against the side supports. Links H are placed, respectively, upon the projecting ends of the printing-roller shaft and have their opposite ends fixed in the shaft H' of a blotter-roller H². Each link is pressed toward the paper-roll by a spring H³, engaging it and coiled upon the shaft F'. Obviously the springs and links may be removed from the shaft F' at will without disturbing other parts.

10 The whole printing-frame is swung at will from the roll by means of the fork-like lever I, pivotally supported by the upper member of the frame A and having the ends of its branches bent laterally beneath the rods E'.

15 Preferably the disk has much of its body cut away for lightness and for the further object of allowing access to the rod sliding in the printing-roller. Now if this rod be not projecting into the path of the lug on the disk the roller prints in the usual way once in each of its revolutions; but if the rod projects into that path and is behind the lug withdrawal of paper rotates the roller and the disk with it; but after slight rotation of the

25 latter its rounded shoulder F¹² strikes the roll of paper and the roller is swung out of contact and comes at once to rest. The disk then moves on alone until the cut-away portion is brought next the roll, when the roller swings again into contact with the roll and begins to move while the disk comes to rest. This time the rod in the roller projects in front of the lug, and hence the disk remains stationary, while the roller makes a complete revolution and brings the rod again behind the

35 lug, as at first. This alternate rotation of the roller and disk goes on automatically and indefinitely as long as paper is drawn from the roll or until the rod is pushed inward out of the path of the disk-lug. The shoulder which first comes in contact with the roll as the disk revolves is preferably roughened or provided with short sharp teeth, so that there may be no slipping at this point. The length

45 of the paper withdrawn while the disk rotates and the roller is at rest depends, of course, upon the size of the disk and upon the proportion of its periphery that is outside the circle of the roller. This proportion may be varied; but usually as little as possible is removed. The disk may be made but little

55 larger than the roller and be eccentrically mounted, as shown in Fig. 5, or it may be still more eccentrically mounted, as in Fig. 6, where the roller F projects beyond the circle of the disk, and the latter need not be cut away. In order that the proportion mentioned may be varied without changing one form of disk for another by substitution, the

60 disk may be a compound one made up of two overlapping parts, as shown in Fig. 7. In this form the two parts are adjustably locked together by a screw passing through a curved slot in the one into a threaded aperture in the other. When the two parts J J' are set, as shown, we have a roller virtually the same as the one first described; but if the screw be

loosened the two parts may be adjusted to form an entire roller adapted to prevent the roller from making any imprint upon the paper or to lack any proportion of its circumference up to the limit, where the two parts coincide in outline and form substantially a half-disk.

As this attachment is adapted to be attached 75 to a variety of stands commonly used and as some of these have the upper member of metal, the screw-eyes E cannot always be employed without trouble. I therefore provide for use in such cases a spring-clip K, Figs. 8 and 9. 80 This is sprung into position, as shown in the former figure, the eyes aiding in preventing its accidental displacement.

As the construction may be varied in various ways without passing beyond the limits of my invention, I do not wish to limit my claims to the precise forms shown, but desire to claim the devices in whole and in part as broadly as the character of the invention will permit. 90

What I claim is—

1. The combination with a frame for revolvably holding a roll of paper, of a printing-roller supported by the frame to swing toward the axis of the roll, and a blotting-pad roller 95 spring-pressed toward the path of the imprinted paper; whereby paper drawn from the roll is automatically printed and the surplus ink is removed before the paper is used.

2. The combination with a frame for supporting a roll of paper, of a printing-roller yieldingly pressed into position for printing upon the paper, a disk mounted at the end of the roller to rotate about the roller's axis and projecting beyond a portion, only, of the roller's periphery, engaging devices between the roller and disk, and means whereby said devices may at will be made operative or inoperative. 105

3. The combination with a printing-roller 110 arranged to be rotated by the movement of the paper upon which it prints, of a disk mounted to rotate upon the roller's axis and projecting beyond a portion only of the roller's periphery, and means for causing the roller and disk to alternately engage and disengage. 115

4. The combination with a frame for holding a roll of paper, of a printing-roller yieldingly pressing the paper, a disk larger than 120 the roller mounted to rotate independently at the end of the latter and having one side within the elements of the roller's surface, said disk having a projection in position to be detachably engaged by a projection from the adjacent end of the roller. 125

5. The combination with the roll-supporting frame, of the printing-roller hinged to the frame to swing toward the roll, the independently-revoluble disk mounted at the end of 130 the roll and having one side only within the elements of the roller's surface, devices affording slight frictional resistance to the rotation of the disk, a projection upon that face

of the disk next the roller, and a projection on the end of the roller in the path of the projection on the disk one of said projections being arranged for withdrawal at will out of the path of the other.

6. The combination with the revoluble printing-roller having the longitudinal channel, of the frictionally-held rod sliding in the channel to be projected at will from the end of the roller, an independently-revoluble disk mounted at the end of the roller and provided with a stop projecting into the path followed by the rod when protruding from the roller's end.

15 7. The combination with the printing-roller,

of the independently-revoluble disk mounted at the end of the roller and made up of two overlapping sectors adjustable by sliding one upon the other about the disk's axis, as set forth, means for locking the segments together when adjusted, and means for causing the roller and disk to engage and disengage periodically.

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

MARSHALL TILDEN.

Witnesses:

HARRY S. ROHRER,
HUGH M. STERLING.