(No Model.)

C. C. JOHNSON.

HOLDER AND CUTTER FOR WEB PAPER.

No. 302,735. Patented July 29, 1884.

FIG. 1.

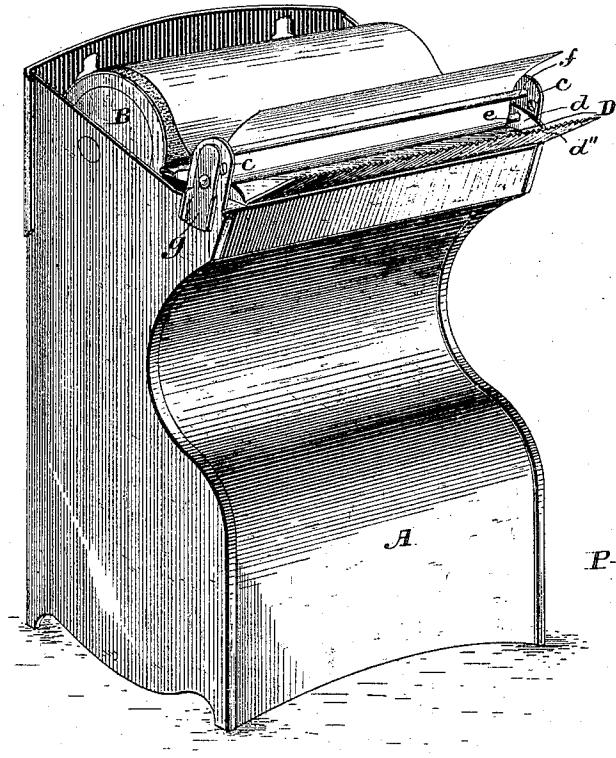


FIG. 2.

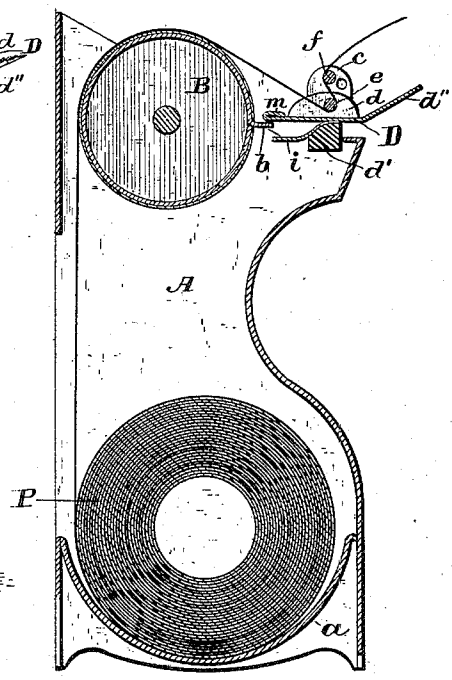


FIG. 3.

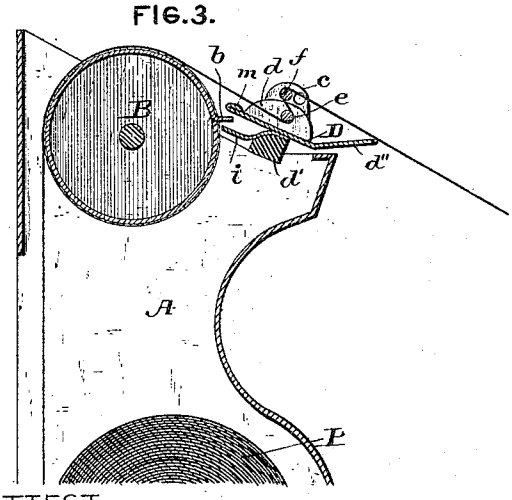
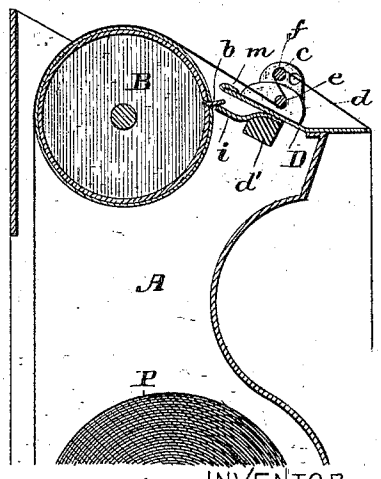


FIG 4



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HOLDER AND CUTTER FOR WEB-PAPER.

SPECIFICATION forming part of Letters Patent No. 302,735, dated July 29, 1884.

Application filed May 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. JOHNSON, of Springfield, in the county of Windsor and State of Vermont, have invented certain new and useful Improvements in Holders and Cutters for Web-Paper; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this application.

Previous to my invention contrivances of various constructions have been devised for holding rolls or wound webs of paper, some of which had for their object to facilitate or convenience merely the unwinding and tearing off of portions of the web of paper as it might be desired for use for any purpose, and others of which have been adapted not only for this purpose, but also to readily effect the severance or cutting of the web of paper at any desired point, as larger or smaller portions of the web might be required for use. In some of these contrivances as heretofore made the web of wound paper has been supported axially by some sort of reel-like device, while in others it has been simply contained within a box or receptacle; and in some of said previous contrivances the web of paper employed has been manufactured or prepared with rows of perforations running crosswise of the web and arranged equidistant, for the purpose of predetermining the lines at which a severance of the material might be easily effected, while in others a plain web of wound paper has been used, and some sort of cutting device or severing-knife has been employed to facilitate the cutting off of pieces of the web of any desired length.

My present invention relates to that type of contrivances for conveniently using portions of a wound web of paper in which some sort of severing knife or device is employed, and in which the roll of paper is simply contained within a suitable box-like receptacle.

Heretofore, so far as my knowledge of the art extends, no contrivance in the way of a paper-holder provided with some suitable means for effecting a severance of the web of paper, so as to separate therefrom pieces for use, has been constructed so that only pieces of a uniform and predetermined length could be separated from the supply web or roll.

I propose to provide for use a contrivance in the use of which only a given predetermined amount of the paper can be unreeled and cut off at any single operation of the machine; and to this main end and object my invention may be said to consist, essentially, in the combination, with any suitable means for holding the supply-roll and some sort of device or mechanism for cutting or assisting in the severance of the web of paper, of a suitable measuring or controlling device operating in conjunction with the cutting mechanism, so that whenever a given quantity of the web shall have been drawn off for the purpose of separating it from the main supply the cutting mechanism must be brought into operation and the drawn-off portion of the web severed from the rest of the paper before a further supply can be obtained from the roll or wound web.

To enable those skilled in the art to which my invention relates to make and use the same, I will now proceed to more fully describe it, referring by letters of reference to the accompanying drawings, which form part of this specification, and in which I have illustrated my invention carried out in that form in which I have so far successfully practiced it.

In the said drawings, Figure 1 is a perspective view of my improved paper holder and cutting contrivance, with the parts and the web of paper illustrated in the condition in which they would appear immediately after the severance of a piece of paper from the main reel or supply-web. Fig. 2 is a vertical central section showing the contrivance under the same conditions. Fig. 3 is a similar section, (the lower portion of the contrivance, however, being omitted,) but showing the paper drawn off or unreeled preparatory to the severance of the piece to be cut off. Fig. 4 is a view similar to that shown in Fig. 3, but with the paper shown as pulled down against the cutting-knife, and with the parts in the positions in which they would be during the cutting operation.

In the several figures the same part will be found designated by the same letter of reference.

A is a simple box-like case of any desired design, and of a suitable size to contain in its lower portion, and resting upon its semi-cylindrical bottom *a*, the roll or wound web of paper P. This box or case A is preferably made open at its back side, for a purpose to be presently explained, and is adapted to have its rearmost portion secured by any suitable devices or means to any wall or partition where it may be desired to fasten up the contrivance for the use of the paper. In the upper part of said case A, and near to its top opening, is suitably mounted to turn freely on its axis a cylinder or measuring-drum, B, which is provided with a radially-projecting rib or flange, *b*, that is about equal in length to the length of the roll, and projects from the periphery of the roll to a suitable extent to operate in conjunction with certain devices connected with the cutting mechanism, in a manner to be presently explained. Forward of the measuring-roll is pivotally hung in projecting ear portions *c c* of the case a rocking or tilting cutting and regulating device, D, which, in the case shown, is made of a piece of sheet metal having upwardly projecting or bent portions *d* at either end, through which passes a shaft, *e*, on which said cutting and regulating device is hung, the said shaft being supported at either end by the upwardly-projecting stands of the case A, as clearly shown. In suitable holes in these stands is also supported a removable shaft or rod, *f*, which by preference is held in place by a turn-button, *g*, as illustrated. The outer or forward portion of the device D is bent or inclined slightly upwardly, as seen at *d''*, and has its extreme edge sharpened and serrated to render it capable of easily severing the web of paper. The rearmost portion, or that part of the rocking device D which is nearest to the measuring-roll B, is formed or provided with a lip-like device, *i*, which preferably extends throughout its whole length, and it is arranged, as shown, a short distance below the rear edge, *m*, of said rocking device. This lip-like device *i* projects to such an extent and is so arranged relatively to the periphery of the measuring-roll B and its projecting rib or flange that when the rocking device D has its rear portion in the lowermost position the said rib of the cylinder B will perfectly clear it as the cylinder rotates, but so that when the rocking device shall have its rearmost portion elevated said lip-like device *i* will come so near to the periphery of the roll B as to form a stop, against which the projecting rib of said roll will come, in a manner and for a purpose to be presently explained. The rocking or tilting device D is weighted, or otherwise so constructed and arranged that when left free its rearmost portion will always occupy the lowermost position.

In the use of the contrivance, the web of paper is placed in the lower part of the case, and an unwound portion is passed thence upwardly near the back side of the case and partially around the periphery of the measuring or regulating cylinder B; thence under the shaft or rod upon which, as shown, the tilting or rocking device D is hung; thence backwardly under and upwardly past the shaft or rod *f*, all as fully illustrated at Figs. 1 and 2 of the drawings; and in drawing off and cutting or severing portions of the web for use the operation of the contrivance is as follows: Supposing the web of paper and the parts of the machine to be in the condition and positions seen at Figs. 1 and 2, the projecting or free end of the web of paper is grasped and pulled off in the direction and manner illustrated at Fig. 3 until the projecting rib of the cylinder B comes around and into contact or engagement with the lip-like projection *i* of the rocking device D, which will now have been elevated by the rocking of D, caused by the slight downward pull of the paper being drawn off against the cutting device. This changed condition of the parts will occur when the cylinder B shall have made one revolution, and the parts now being brought to a chock, or dead-lock, the portion of the paper or web drawn off is easily cut or severed by pulling it hard down onto the cutting device, as illustrated at Fig. 4, and at the same time giving the portion of the paper grasped by the hand of the user a slight pull or jerk sidewise of the web. The instant this cutting operation shall have been effected so as to free the cutting end of the paper forming part of the supply-roll, the rocking device D will, by gravity, reassume the position illustrated at Fig. 2, whereby the projecting lip-like device *i* is lowered to a position such that the cylinder B will be free to make another revolution when desired. In consequence of the passage of the web in a sort of intertwined manner between and partially around the two shafts or rods *e* and *f*, as shown, the free end of the web, after a piece of paper has been cut off, will naturally assume the position shown at Figs. 1 and 2, and thus be in a convenient condition to be grasped by the hand of a person when it may be desired to again operate the contrivance. These two rods, with the paper thus intertwined about them, also perform the function of exerting a sort of tension on the web, so that in pulling off the paper it will not come too easily, and so that the proper force may be applied by pulling the web downward at the same time onto the tilting or rocking device D, to throw its rearmost portion upward, and through the medium of the projecting device *i* effect the stoppage or chocking of the measuring-cylinder B. In the case shown I have provided the rear portion of the rocking or tilting device D with a weight, *d'*, and the combined arrangement of the various parts shown is such that the forward bottom portion of the tilting plate D comes to a stop on the front

upper edge of the case A, while the extent of motion of said device D in the opposite direction is limited by the weight or under portion of the rocking device coming to a stop against the inner surface of the case A; but all these details of construction may of course be infinitely varied, and the forms, as well as the sizes and proportions of all the devices, may be modified in various ways without departing from the spirit of my invention, the gist of which lies in the use, in connection with a cutting mechanism and some suitable means for supporting the supply-roll, of a measuring or regulating device coacting with the cutting mechanism in such manner that whenever a given quantity of the paper shall have been drawn off the action of the parts preliminary to the cutting operation shall effect a stoppage of the supply, and at the same time lock the moving parts, so that the force applied to the paper pulled off will operate to perform the cutting of the paper.

If deemed expedient, the roll of paper may be axially supported in any suitable manner, in lieu of resting within a receptacle such as shown. By a placement of the upper guide and tension rod in different positions relatively to the lower rod or shaft, a greater or less tension may be applied to the web of paper; and, if found desirable, the periphery of the measuring and regulating cylinder B may be of such a character, or may be so roughened, as to prevent the possibility of any accidental slip of the web on the cylinder without turning the latter, whereby the designed operation of the contrivance so as to permit the drawing off only at each operation of a given quantity of paper might be rendered imperfect.

Having now so fully explained the construction and operation of my improved contrivance that those skilled in the art can make and use machines containing my invention, and wishing to be understood that I do not limit my claim to any precise construction, so long as the principle of operation pointed out shall be involved in the machine, what I claim as new, and desire to secure by Letters Patent, is—

In combination with suitable means for the support of the supply-roll of paper and a severing or cutting device or mechanism, a measuring or regulating device, arranged substantially as described, whereby the preliminary action of the cutting mechanism, caused by a downward pull of the web on the knife, shall operate to stop the measuring and regulating device, substantially as set forth, so that pieces of a given length only will be unreeled and cut off.

It witness whereof I have hereunto set my hand this 17th day of May, 1884.

CHARLES C. JOHNSON.

In presence of—

JUSTUS DARTT,

A. M. ALLBE.