(No Model.) 2 Sheets—Sheet 1.

E. MORRISON & J. P. HERRON.

PAPER HOLDER AND CUTTER.

No. 329,200. Patented Oct. 27, 1885.

Fig. 1.

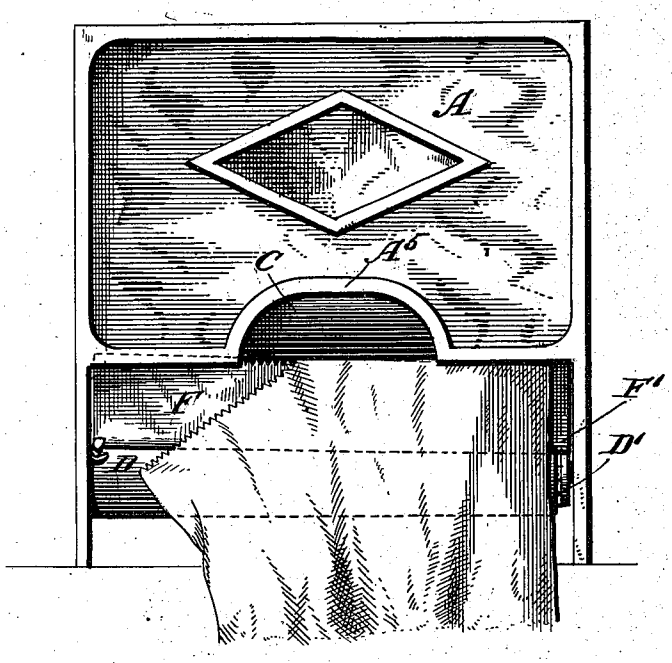
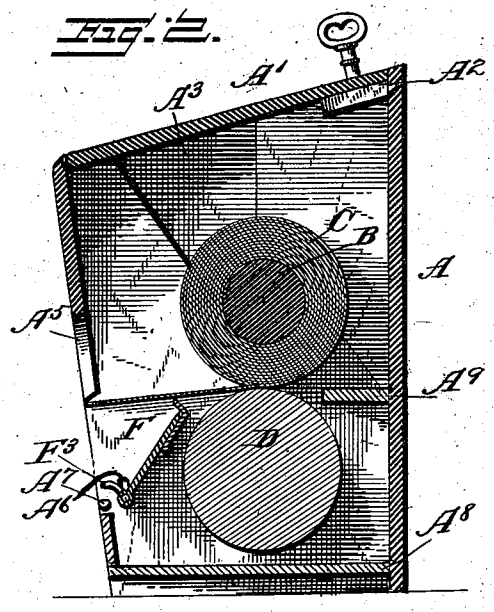


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

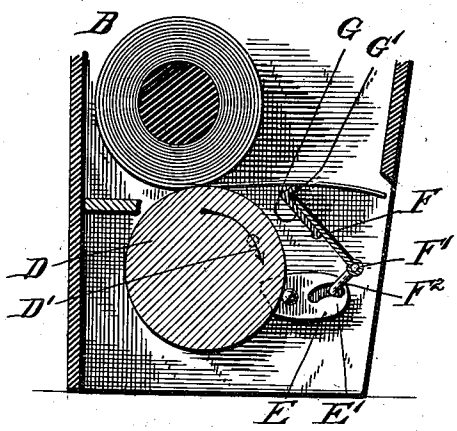


Fig. 4.

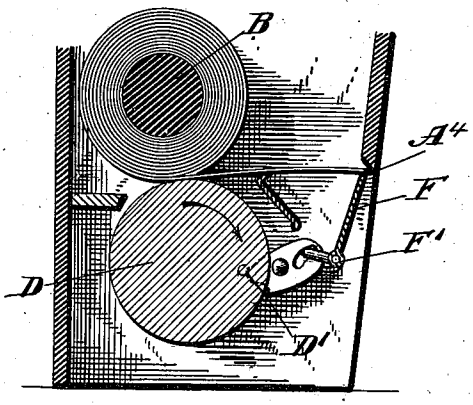


Fig. 5.

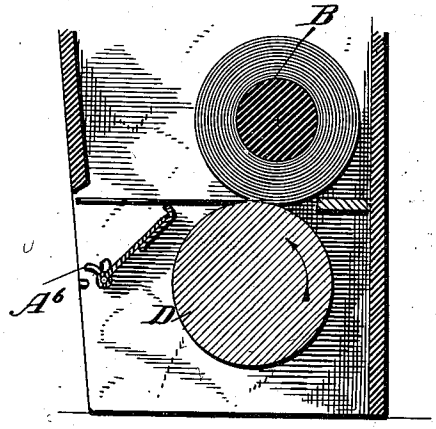
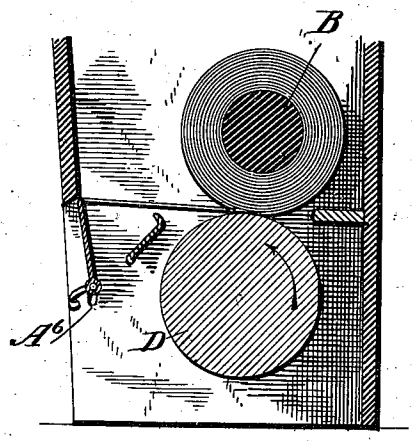


Fig. 6.



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UNITED STATES PATENT OFFICE.

EBENEZER MORRISON AND JAMES P. HERRON, OF WASHINGTON, D. C.

PAPER HOLDER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 329,200, dated October 27, 1885.

Application filed August 19, 1885. Serial No. 174,791. (No model.)

To all whom it may concern:

Be it known that we, EBENEZER MORRISON and JAMES P. HERRON, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Paper Holders and Cutters, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to a fixture for water-closet, wrapping, and other paper, which fixture at the same time is applicable for the storage and delivery of any character of paper which it is desirable to divide into portions of a desired length, quantity, or area for use.

One of the principal objects of the invention is to provide a fixture for paper of the character mentioned, which fixture shall serve to store and deliver in predetermined quantities and separate pieces the paper stored therein. Heretofore fixtures have been provided for supporting paper in roll form and for severing the web into sheets, and it has been found desirable that the length of the portions or sheets severed from the web should be positively predetermined. Lack of economy in the use of the paper by carelessness or otherwise has attended the forms of fixtures heretofore constructed, there having been provided no device for preventing the withdrawal of any quantity desired before severing the same from the roll or web. In some cases there have been provided devices which co-operate to determine the length of the sheet which is severed from the web by one manner of using said devices; but in said cases there is no means provided to prevent any other but the proper manner of using the delivering and severing devices, so that a person so disposed could unwind an almost unlimited amount of paper from the roll without severing it into separated portions or sheets. Furthermore, it is desirable to not only control the quantity of paper to be severed from the web, but to secure the web itself from being removed bodily from the fixture by unauthorized persons.

The construction of our invention whereby the above indicated objects in view are secured will be hereinafter described, and the novel features thereof particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of a fixture constructed in accordance with our invention. Fig. 2 is a central vertical section of Fig. 1, varied only in the inclined disposition of the cover thereof. Figs. 3 and 4 are vertical sections showing the knife out of and in operative positions, respectively; and Figs. 5 and 6 are vertical sections, looking in an opposite direction, the knife being in the same relative positions.

Like letters indicate like parts in all the figures.

A represents a cabinet or case, which is adapted to be closed by a cover or door, A′, which is provided with a locking device, A^2. Each end of the cabinet is provided with a rearwardly-inclined groove or way, A^3, for the reception of and to serve as a bearing for a heavy or weighted roll, B, which is inserted within the roll of paper C. The ways A^3 are so disposed as to maintain the weighted roll B in such a position that the roll of paper C shall bear upon a measuring delivery roll or roller, D, with sufficient pressure to insure the rotation of the latter as paper is drawn from the former. At one end of the measuring-roll is a projecting pin, D′, which once during each revolution of the roll D comes into contact with a lever, E, pivoted to the end wall of the cabinet or case, and provided with a slot, E′, at the end opposite to that with which the pin D′ comes into contact—or, in other words, in its longer arm.

F represents the knife, which is pivoted positively at one end (as at F′) in that end wall of the cabinet at which the lever E is located. At this end of the knife, and projecting from or near its pivot, is an arm, F^2, which projects into the slot E′ of the lever E, so that when the shorter arm of said lever is depressed by the pin D′ on the roll D the longer arm is elevated, and that quickly, so as to oscillate the knife upon its pivot and carry its free or cutting edge from the rest G, provided with a guarding-lip, G′, to and in contact with the lower edge of the face portion or front wall of the cabinet, as at A^4, which portion is cut away to provide a thumb-opening for seizing the end of the web, as at A^5, Fig. 1. The opposite end of the knife is pivoted in a peculiar manner, as illustrated in Figs. 2, 5, and 6. The pivot of the knife is mounted in a slot,

A^6, formed in the end wall of the cabinet or case, and at or near the pivot is a projecting arm, F^3, while in the path of said arm and upon the end wall of the cabinet or case is formed a fixed stud or projection, A^7. A suitable bottom, A^8, or a partition, A^9, serves to prevent access from below to the roll of paper. Now, it will readily be seen that when the knife is rotated upon its pivots the arm F^3 will come in contact with the projection A^7, so that when elevated there will be a constant tendency of the knife to fall by gravity backward upon the guard G, the latter being a bar extending from end to end of the cabinet. By this peculiar pivoting we secure not only the employment of the weight of the knife itself, to cause it to fall down and back after the cut is made, but we also secure an upward throw of the knife into the paper, and an inclined disposition of the cutting-edge of the knife, whereby in the act of drawing paper against the knife the cut commences at the left end of the knife and proceeds to the right end thereof, somewhat after the manner of a shearing cut, thereby reducing the force necessary to sever the sheet from the web, and making the cut naturally and automatically to commence at one side of the web. Now, by putting into the cabinet or case a measuring-roll, D, of a desired diameter for any desired dimension of sheet to be severed from the web, it will be seen that the only means of access to the paper is through the thumb-hole A^5, the parts being in the position illustrated in Figs. 2, 3, and 5, and that the only way of removing paper from the cabinet is by drawing the same therefrom and over the lipped guard G. The weighted roll causes the paper so withdrawn to rotate the measuring-roll, so that when its pin comes in contact with the lever the knife is quickly thrown into an operative position, and prevents the further withdrawal of paper, by reason of the fact that the act of withdrawing the same severs the sheet from the web, when the knife returns to its inoperative position, and another portion may be withdrawn from the case.

We do not confine ourselves to the exact outline or design of a cabinet or case herein shown and described, but may alter the same to suit the taste of the user; and we deem the provision of a cabinet which is capable of being locked, and which at the same time is capable of preventing the removal of more than a single sheet of paper at a time, and which is capable of determining the dimensions of the sheet so removed, as important features of our invention, and in these particular features we do not limit our invention to the exact arrangement and proportion herein shown and described.

By using a weighted core in the roll of paper we secure material advantages which have heretofore been sought by the use of springs arranged to bear upon the periphery of the roll of paper. The object in our construction and in that of our predecessors, has been to produce such an amount of friction in or resistance to the feed of the paper as shall cause a proper action of any severing device over or against which the paper is drawn. Without some tension device the paper when drawn from the roll will readily pass over the knife without being severed. This failure in operation is the more apt to occur when but a small portion of the paper roll remains in the fixture. Now, by applying our improvement to the roll—that is, inserting a core of any suitable material and of sufficient weight to produce a resistance in the feed sufficient to assure a proper action of the severing device—we render many faulty fixtures heretofore constructed practically useful in severing sheets from and to the extreme end of the roll of paper. For the above-stated reasons we do not limit this feature of our invention to a fixture involving a closed case, nor to a fixture provided with ways, as the core may be of the same or a less length than the roll.

One of the important novel features of our invention is the combination of devices whereby we insure the severance of sheets from the web by simply pulling the end of said web while it is upon the knife. To accomplish this purpose, it is necessary that there should be a tension in the web to prevent it slipping at the time that the cut is made; or, in other words, there should be sufficient resistance in the web back of the knife to produce a cutting action by the knife when the web is drawn against the edge of the same. Heretofore in devices of this class the core of the web has been made of wood, and has been mounted in bearings constructed at the ends of the arms of a bail, which is pivotally secured to the wall, so that when the end of the web is pulled downwardly the roll is brought into contact with the wall, and by the pull said contact with the wall produces sufficient friction to sever the web either on lines of perforations across the same or by means of a relatively fixed knife over which the web is drawn. A second means which has heretofore been employed consists in the provision of a spring, the free end of which is arranged to bear upon the roll to produce the desired tension. The objection to this method is that as the roll becomes smaller the pressure of the spring and the tension caused by the same lessen, so that (as in devices where no means is provided to produce tension) when the roll is nearly used up, it is impossible to sever sheets therefrom by simply pulling at the end of the web.

Our invention consists in placing within the roll a weighted core which is sufficient in and of itself to produce the desired tension, whether the roll be of full size or nearly consumed—as, for instance, where there are but three or four coils or layers of the web in roll form; and the simplicity of our invention in this regard recommends itself in view of the absolute requirement that devices of this class, in order to be of practical advantage, must be of cheap construction.

Having thus fully described our invention, what we claim is—

1. A closed cabinet adapted to receive a roll of paper, and provided with an opening giving access to the end of the web only, a knife, and with mechanism for controlling the same, arranged within the case and operated by a pull on the end of the web, substantially as and for the purposes specified.

2. In a fixture of the class described, a measuring roll or roller, a roll of paper supported by the measuring-roll, and a knife mechanically connected with the measuring-roll, whereby sheets of a predetermined length are severed from the paper roll, substantially as specified.

3. The combination of a measuring-roll, a knife, and an independent lever receiving motion from the measuring-roll and serving to throw the knife into operative position, substantially as specified.

4. The combination, with the cabinet or case provided with ways or bottomless guides, of a roll of paper provided with a weighted core, and of a measuring-roll upon which the roll of paper is supported, substantially as specified.

5. In a paper holder and cutter, the combination, with a roll of paper and a support upon which said roll rests, of a weighted core arranged within the roll and otherwise unsupported, and a knife whereby tension is produced in the web regardless of the size and weight of the roll, so as to prevent the web slipping over the knife when pulled to sever sheets therefrom, substantially as specified.

6. The combination of a measuring-roll having a pin projecting from the end thereof, a pivoted slotted lever, and a pivoted knife-plate having an arm projecting into the slot of the lever, substantially as specified.

7. In a fixture of the class described, a knife positively pivoted at one end and provided at its opposite end with a projecting arm, in combination with end supports, one of which is provided with a projection whereby one end of the knife is elevated as it is oscillated, substantially as specified.

8. The combination of a measuring-roll, an oscillating knife, and a guard for covering the cutting-edge of the knife when at its inoperative position, substantially as specified.

9. The case A, provided with the cover A′, locking device A^2, bottom or partition A^9, thumb-hole A^5, a roll of paper, and a measuring-roll, substantially as specified.

10. The combination of the case A, having ways A^3, paper roll C, having weighted core B extended into said ways, measuring-roll D, supporting said paper roll, knife F, having arm F^2, lever E, mechanically connected with said knife and with said measuring-roll, substantially as specified.

11. The combination of the roll D, having pin D′ extending from an end thereof, slotted lever E, pivoted to the case A, knife F, having arms F^2 F^3 and pivoted at one end in a slot, A^6, substantially as specified.

12. The knife F, having arms F^2 F^3, in combination with the case A, having slot A^6, and a projection, A^7, whereby when the knife is tilted on its pivots one end thereof is raised, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

EBENEZER MORRISON.
JAMES P. HERRON.

Witnesses:
E. B. STOCKING,
M. P. CALLAN.