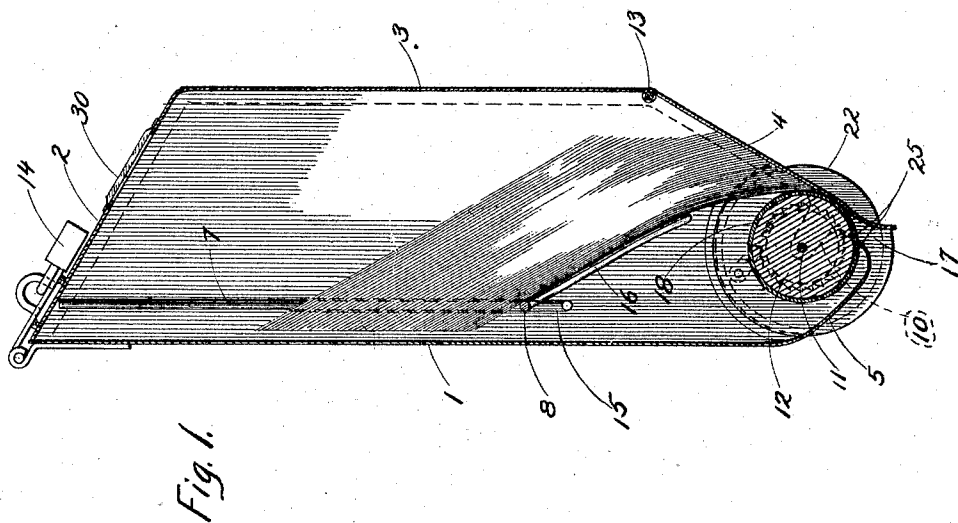
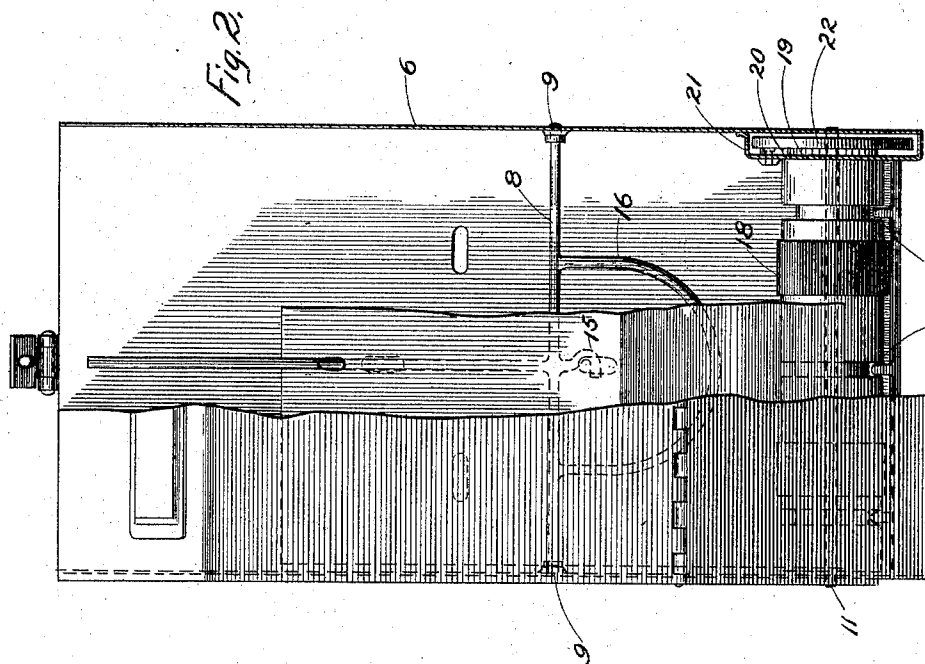


J. WELSH.
CABINET AND PAPER THEREFOR.
APPLICATION FILED SEPT. 28, 1908.

965,780.

Patented July 26, 1910.

3 SHEETS—SHEET 1.



Witnesses:

Lillian Kibby
Florence Plonk

Inventor;

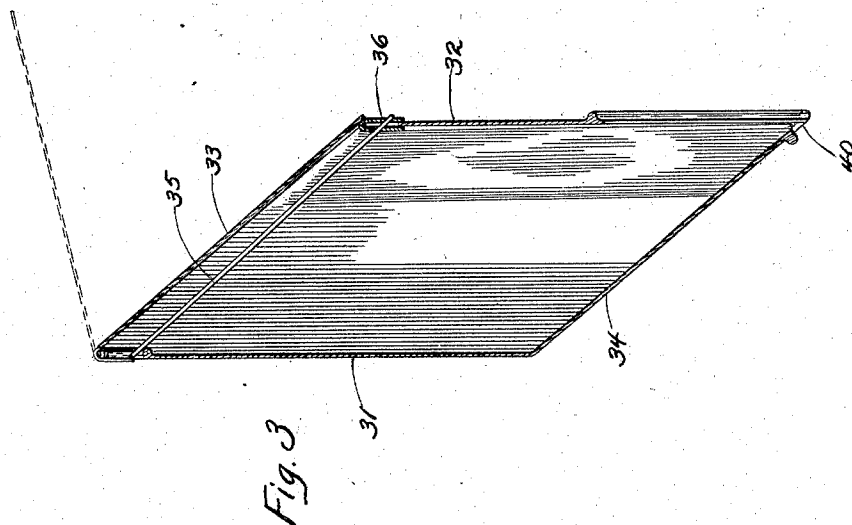
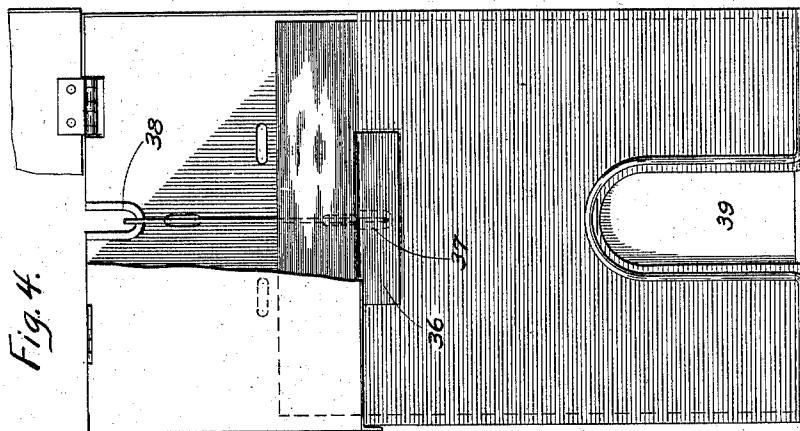
John Welsh
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

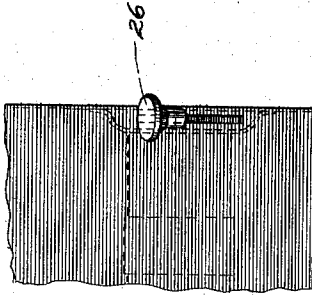


Fig. 7.

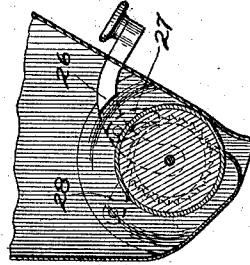


Fig. 8.

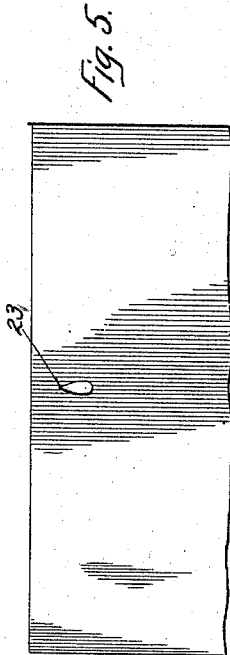


Fig. 5.

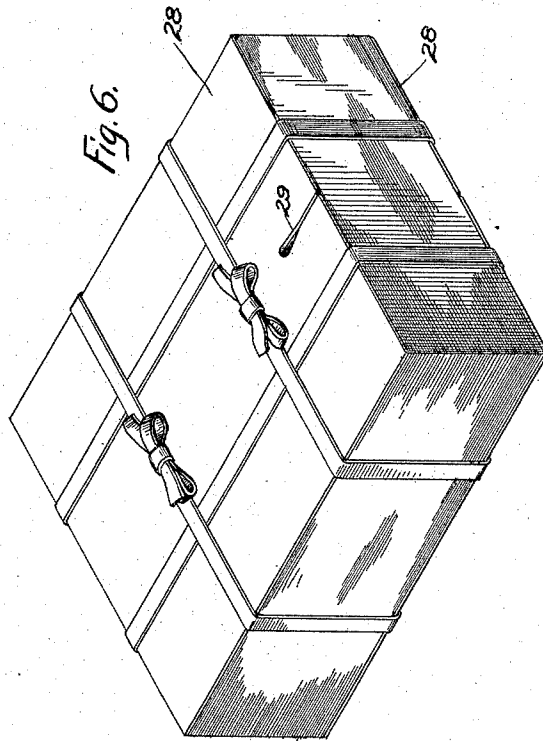


Fig. 6.

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UNITED STATES PATENT OFFICE.

JOHN WELSH, OF GREEN BAY, WISCONSIN.

CABINET AND PAPER THEREFOR.

965,780.

Specification of Letters Patent.

Patented July 26, 1910.

Application filed September 28, 1908. Serial No. 455,181.

To all whom it may concern:

Be it known that I, JOHN WELSH, a citizen of the United States, residing at Green Bay, in the county of Brown and State of Wisconsin, have invented certain new and useful Improvements in Cabinets and Paper Therefor, of which the following is a specification.

The object of my invention is to provide a new and improved cabinet for toilet paper, and to provide paper in packages adapted to be conveniently placed in such a cabinet and extracted therefrom.

In the drawings—Figure 1 is a vertical section through the cabinet from front to back. Fig. 2 is a front view of the cabinet, certain parts being broken away. Fig. 3 is a vertical section through a modified form. Fig. 4 is a front view of the form shown in Fig. 3, certain parts being broken away. Fig. 5 is a view of a sheet of paper showing the perforation therein. Fig. 6 is a perspective view of a package of paper ready for insertion in the cabinet, the outer wrapper being removed. Figs. 7 and 8 are fragmentary views showing a modified form of mechanism for rotating the feed roll, this mechanism being applicable to the structure shown in Figs. 1 and 2.

The cabinet consists of an outer casing, the back wall 1 of which is preferably flat and adapted to lie against the wall to which the cabinet is secured. The front of the casing in the structure illustrated in Figs. 1 and 2 comprises an upper inclined portion 2, a vertical portion 3 and a rearwardly and downwardly inclined lower part 4, the part 2 forming the top of the casing and the part 4 part of the bottom. The back wall 1 also comprises a forwardly inclined portion 5 forming the remainder of the bottom of the casing. The side walls 6 may be formed integral with the back wall 1, or otherwise, as found convenient.

A spindle 7 for holding the paper is provided with a cross member 8 having bearings at 9 in the sides of the casing, thus permitting the spindle to occupy the upright position shown in Fig. 1 or to be inclined forwardly for the purpose of permitting the machine to be conveniently loaded. The cross member 8 also acts as a stop to retain the paper on the spindle. The front of the machine near its lower edge is provided with ears 10 pivoted at 11 upon the bearing of a feed roll 12 or at some other convenient

point upon the casing. Intermediate its ends the front is also provided with a hinged joint 13, and at the top any suitable lock, as 14, is provided for the purpose of preventing access to the interior of the cabinet. When unlocked, the lower portion 4 of the front may be turned on its center 11, but as contact with the lower edge of the wall upon which the cabinet is placed will limit the movement of the lower part of the front, I have provided the additional hinged joint 13 to permit the upper part of the front being dropped completely away from the cabinet in order to permit free access to the interior thereof in loading the same.

The front being opened, as above described, the spindle 7 may be turned forward upon its axis 8 for the purpose of placing a package of paper thereon. The forward movement of the spindle 7 is limited by the downwardly projecting stop 15 adapted to contact with the back of the casing, thus holding the spindle 7 in a forwardly inclined position while the paper is being placed thereon. Rigidly connected to the spindle 7, or its connected bearing shaft 8, is a forwardly and downwardly projecting support 16 adapted to hold the superposed sheets of paper in the position illustrated in Fig. 1. It is obvious, however, that the support 16 need not necessarily form a part of the spindle 7 and its bearing shaft 8, but might if desired, be formed as a part of the casing. Furthermore, the stop 15 instead of forming a part of the spindle might be placed upon some convenient part of the casing in order to limit the forward movement of the spindle 7, the only object to be attained by this part being the limitation of the forward movement of the spindle. I have found that the support 16 may be dispensed with with quite satisfactory results. Its use, however, serves to insure against the possibility of the lower edges of the downwardly hanging sheets of paper falling behind instead of in front of the feed roll 12.

The feed roll 12 is adapted to frictionally engage the under sheet of the pile placed upon the spindle 7, and rotation thereof draws the lower sheet downwardly through the space 17 between the lower edges of the front and rear walls of the casing. The feed roll is, preferably, provided upon its surface with some material adapted to secure sufficient frictional hold upon the paper. In the present instance I have employed

rubber bands 18, the surface of such bands preferably being roughened. The feed roll is provided at one end with a ratchet wheel 19 co-acting with a detent 20 fixed to a bracket 21 secured to the side of the cabinet. Also secured to the shaft of the feed roll is a thumb wheel 22 of sufficient diameter to project through a slit in the front of the casing where it will be accessible.

By reference to Fig. 1, it will be apparent that the downwardly and rearwardly sloping front, together with the feed roll, form a wedge shaped space, so positioned with reference to the spindle that the lower sheets of the pile fall into such wedge shaped space, where they are firmly seized by the feed roll and carried out of the machine upon rotation thereof. The spindle being vertical, the sheets of paper are fanned out at their edges, thus causing the lower sheets to project beyond the upper ones.

One of the advantages of the arrangement described is that it permits the indefinite extension upward of the cabinet, thus rendering it possible to construct a cabinet of any desired capacity. As fast as sheets are removed from the lower side of the pile of paper, the entire pile falls by gravity, thus leaving the lower sheets always in the same relation to the feed roll and outlet of the cabinet. In order to accomplish this result, however, it is necessary that the sheets of paper be provided with a perforation sufficiently large to permit them to slide freely upon the spindle. Paper of this kind has heretofore been merely punctured without removing any of the paper from the sheet, thus leaving the package with a simple slit or cut therethrough. Paper so punctured is not suitable for use in the manner above described, as its frictional engagement with the spindle would prevent its feeding downwardly thereon. I have found by experiment, however, that despite the difficulty of economically puncturing tissue paper in such a manner as to remove part of the paper from the sheet leaving a free aperture therein, such paper can be successfully punched without entailing a prohibitive expense.

In Fig. 5, I have illustrated a part of a single sheet perforated in such a manner as to be adapted for use in my cabinet. The perforation is formed by a punch and consists of the free opening left by the removal of part of the sheet of paper. I preferably form this perforation pointed at the end 23 adjacent the edge of the sheet and rounded or square at the opposite end. The pointed end of the perforation is provided for the purpose of facilitating the tearing of the paper from the spindle. In practice, I found that paper so perforated splits from the pointed end of the perforation to the edge of the paper when withdrawn from the spindle, whereas a perforation not so pointed

causes greater resistance to the removal from the spindle and results in tearing away from the sheet a piece thereof extending from the perforation to the edge.

In order to provide against any possibility of the paper winding around the roller, I have shown the latter provided with annular grooves 24 adapted to co-act with fingers 25 projecting from the lower edge of the back 1 into said grooves. These fingers are so inclined that a sheet of paper adhering to the outside of the roll will contact therewith and be deflected away from the roll.

It will not be necessary in all instances to make the spindle 7 vertical, but it should be given sufficient inclination to cause the pile of paper to slide thereon by gravity when the under sheets are removed, or other means, such as a spring, could be provided for impelling the sheets along the spindle. I have found, however, that gravity alone is sufficient to cause a positive and satisfactory action of the device.

In Figs. 7 and 8 I have shown a modified means for imparting rotation to the feed roll, consisting in a lever 26 pivoted on the shaft of the feed roll and carrying a pawl 27. A detent 28 may be provided for preventing backward rotation of the feed roll. Pressure upon the outwardly projecting end of the lever 26 will rotate the feed roll sufficiently to carry the edge of a sheet of paper outside of the casing, where it can be seized and withdrawn.

In Fig. 6 I show a bundle of paper adapted for use in the cabinet above described, the sheets being punctured as shown in Fig. 5, and upon the top and bottom of the pile sheets of strawboard, or other stiff material 28, are placed for the purpose of protecting and giving rigidity to the bundle. The cardboard sheets 28 are provided with notches or slots 29 extending inwardly from the edges thereof and at their inner ends registering with the perforations 23 in the paper. The bundle is preferably fastened together with tape or twine tied in bow knots in order to facilitate removal thereof. For shipment, the entire bundle will be covered with a wrapper in the usual manner.

In loading the cabinet, the front will be opened in the manner above described and the spindle 7 turned forward upon its axis, the stop 15 being, preferably, so arranged that the spindle when turned forward will remain stationary in a slightly upwardly inclined position. The spindle will then be passed through the perforation in the bundle of paper (shown in Fig. 6), after which the string or tape will be untied and removed and the sheets of cardboard slipped off, the removal of the sheets of cardboard being facilitated by reason of the fact that the slots 29 are continued to the edges of said

5 sheets, thus obviating the necessity of tearing them. The spindle will then be moved back to vertical position—as shown in Fig. 1—whereupon the sheets of paper will hang
 10 down as illustrated in that view, the lower sheet being in contact with the feed roll and in position to be removed upon the manipulation thereof.

The structure described not only provides
 15 simple and efficient means for removing paper from the cabinet, but permits of its contents being replenished at any time, thus obviating the necessity of waiting until the contents are entirely consumed, or throwing
 20 away part of the contents before reloading, as is necessary in roll machines and machines of other types. A sight opening 30 permits the interior of the cabinet to be inspected for the purpose of ascertaining whether it
 25 needs reloading. This sight aperture may be placed in any convenient part of the casing. It will be obvious, of course, that the front of the cabinet may be removably secured to the remainder thereof by other
 30 means than pivoting if desired, but I have found the hinged front to be convenient and effective in use.

In Figs. 3 and 4 I have illustrated a modification in which the feed roll is dispensed
 35 with, this form being especially adapted for household use or in other instances where it is not desired to involve the expense of a more elaborate cabinet. In this instance the cabinet proper consists of a casing having
 40 vertical front and back walls 31 and 32 and downwardly and forwardly inclined top and bottom walls 33 and 34. The top 33 is preferably hinged at its upper rear edge, thus permitting it to be opened for the purpose
 45 of inserting the paper. In this modification the spindle 35 instead of being vertical is placed at an angle of about forty-five degrees and consists of a piece of wire attached at its forward end to a piece of sheet metal
 50 36 bent to a U-shaped cross section. The front of the casing may be notched, as at 37, for the purpose of affording clearance for the spindle 35, and the back may also be notched as shown at 38, for the purpose of
 55 forming a rest for the rear and upper end of the spindle. In loading this form of cabinet, the spindle is lifted bodily out of the machine and passed through the perforation in a package of paper. The spindle and
 60 paper are then placed in the machine in the position shown in Figs. 3 and 4, the U-shaped strip of metal 36 embracing the upper edge of the front and the rear end of the spindle resting upon the base of the notch
 65 38. At its lower edge the front is provided with a notch 39. This arrangement permits the easy removal of a single sheet of paper from the cabinet, this result being effected by placing the thumb in the notch
 70 39 against the foremost sheet of paper which

will be frictionally engaged to permit the sheet being drawn downwardly through the slit 40 at the bottom thereof.

Referring to the form shown in Figs. 1 and 2, it will be apparent that the spindle 7
 70 might be placed at the front of the machine instead of at the back, in which event the feed roll would be oppositely disposed with reference to the casing, and in feeding the paper it will be necessary to do so by an
 75 upward movement of the hand instead of a downward movement. This arrangement would in effect amount to placing the machine shown in Fig. 1 with the side 3 against
 80 the wall, and permitting the thumb wheel 22 to project through the side 1. This arrangement would be less convenient but would fall within the scope of my invention.

From the foregoing it will be apparent 85
 that I have provided a cabinet and paper adapted for use therein, having the advantage that the supply of paper can be replenished when partially used without entailing
 90 any waste or inconvenience, and the further advantage of simplicity of construction and operation.

I claim:

1. In a device of the class described, a casing, a vertical spindle pivoted at its lower
 95 end adjacent the back of said casing, said casing being provided with an outlet at its lower end, and a friction roller adjacent said outlet.
2. In a device of the class described, a casing, a vertical spindle pivoted at its lower
 100 end adjacent the back of said casing, a support at the base of said spindle, said casing being provided with an outlet at its lower end, and a friction roller adjacent said out-
 105 let.
3. In a device of the class described, a casing, a spindle pivoted at its lower end adjacent the back of said casing, a stop to limit the pivotal movement of said spindle, said
 110 casing being provided with an outlet at its lower end, and a friction roller adjacent said outlet.
4. In a device of the class described, a casing, a spindle pivoted at its lower end adjacent the back of said casing, a stop and a
 115 downwardly and forwardly inclined support cooperating with said spindle, said casing being provided with an outlet at its lower end, and a friction roller adjacent
 120 said outlet.
5. In a device of the class described, a casing, a spindle pivoted at its lower end adjacent the back of said casing, a downwardly and forwardly sloping support at the base
 125 of said spindle, and a friction roller mounted at the lower end of said casing, the front of said casing sloping downwardly and rearwardly and near its lower edge lying adjacent to said roller.

6. In a device of the class described, a casing, a spindle pivoted at its lower end adjacent the back of said casing, a downwardly and forwardly sloping support at the base of said spindle, a friction roller mounted at the lower end of said casing, the front of said casing sloping downwardly and rearwardly and near its lower edge lying adjacent to said roller, and means projecting through said casing for rotating said roller.

7. In a device of the class described, a casing, a spindle pivoted at its lower end adjacent the back of said casing, a downwardly and forwardly sloping support at the base of said spindle, a friction roller mounted at the lower end of said casing, the front of said casing sloping downwardly and rearwardly and near its lower edge lying adjacent to said roller, and a hand wheel mounted on said roller and projecting edgewise through said casing.

8. In a device of the class described, a casing, and a spindle pivoted at its lower end adjacent the back of said casing, said spindle having a downward projection below its pivot to form a stop and a forward and downwardly inclined projection to form a support.

9. In a device of the class described, a casing, and a spindle pivoted at its lower end adjacent the back of said casing, said spindle having a downward projection below its pivot to form a stop and a forward and downwardly inclined projection to form a support, and a friction roller near the bottom of said casing adjacent the outlet thereof.

10. In a device of the class described, a casing, an upright spindle adjacent the back thereof, a stop at the base of said spindle to retain a package of paper thereon, and a feed roll beneath and forward of said spindle in position to lie beneath a package of paper impaled upon and hanging down-

wardly and forwardly from said spindle, the lower part of the front wall of said casing sloping downwardly and inwardly to a point adjacent said roll, and the back wall of said casing sloping forwardly and downwardly at its lower end to a point beneath said roll.

11. In a device of the class described, a casing, an upright spindle adjacent the back thereof, a stop at the base of said spindle to retain a package of paper thereon, and a feed roll beneath and forward of said spindle in position to lie beneath a package of paper impaled upon and hanging downwardly and forwardly from said spindle, the lower part of the front wall of said casing sloping downwardly and inwardly to a point adjacent said roll, and the back wall of said casing sloping forwardly and downwardly at its lower end to a point beneath said roll, said roll being provided with annular channels and fingers upon the lower edge of said back wall projecting into said channels.

12. In a device of the class described, a casing, an upright spindle mounted adjacent the back thereof, a stop at the base of said spindle to retain a package of paper thereon, and a feed roll beneath and forward of said spindle in position to lie beneath a package of paper impaled upon and hanging downwardly and forwardly from said spindle, said spindle being pivotally movable away from the back of said casing to permit insertion thereof through a package of paper having a perforation farther from its edge than the normal distance between said spindle and the back of said casing.

In testimony whereof, I have subscribed my name.

JOHN WELSH.

Witnesses:

HENRY C. WHITE,
FRANK ZIZELMAN.