

Feb. 7, 1939.

M. J. WEST

2,146,038

PAPER DISPENSING CABINET

Filed May 1, 1937

2 Sheets-Sheet 1

FIG. 9

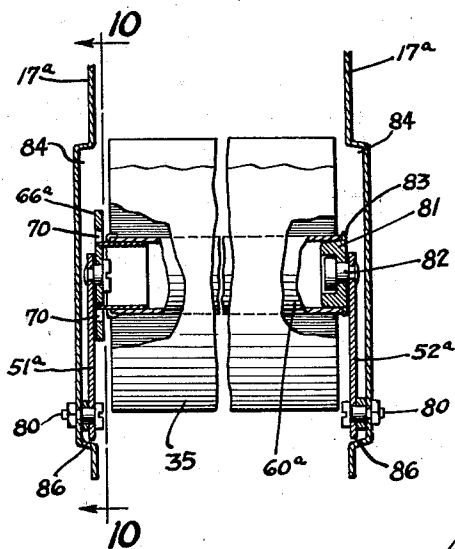


FIG. 1

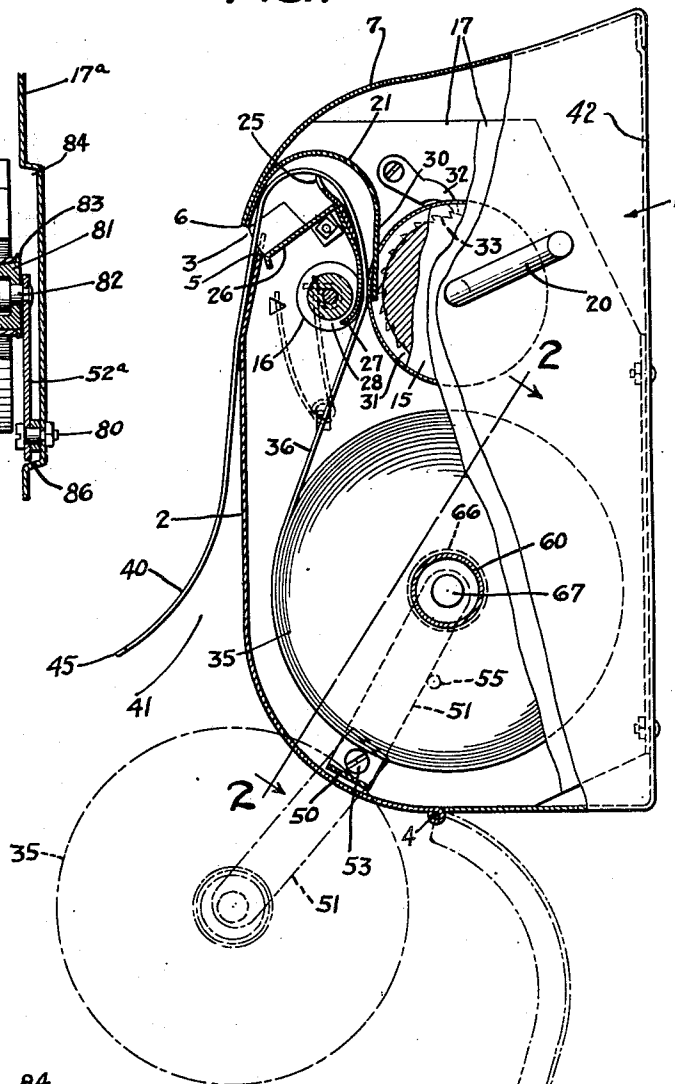
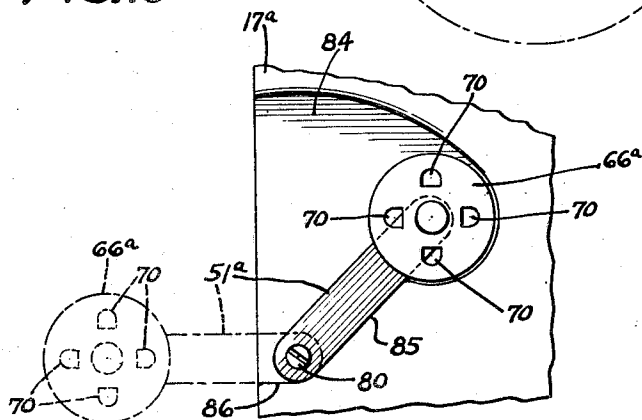


FIG. 10



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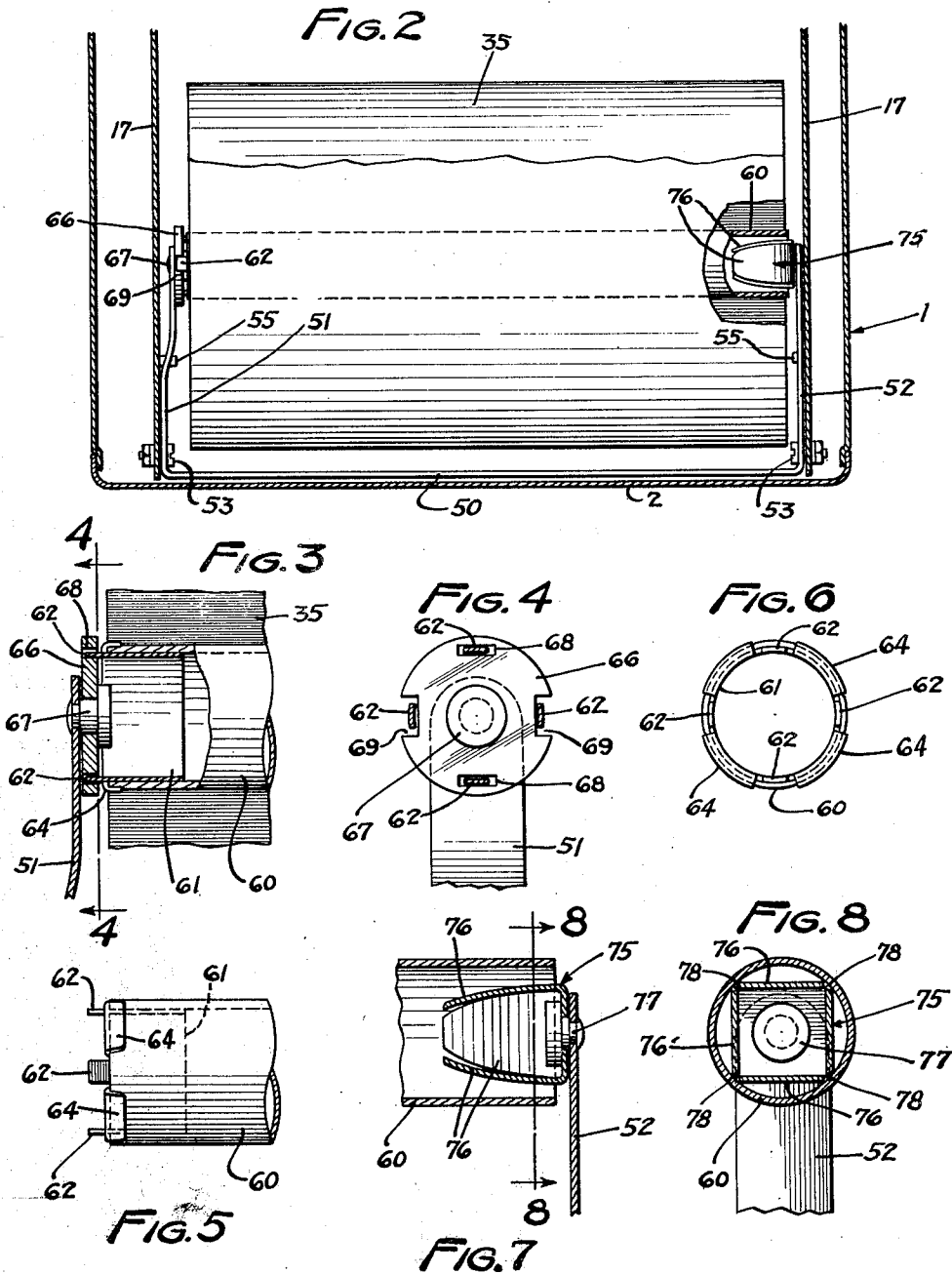
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UNITED STATES PATENT OFFICE

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PAPER DISPENSING CABINET

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8 Claims. (Cl. 242—55.5)

The invention relates to a method and means for causing paper, which has assumed a curled relation with reference to a roll from which it is unwound, to be delivered through an opening to an outstanding easily accessible position.

The invention also has for its particular object to provide means to force proper placement of the supply roll in the cabinet to the end that the above result be attained.

In feeding paper from a roll, the paper tends to curl in a direction toward the roll, after it has left the roll. If the roll is put in the cabinet in the wrong way, the curl of the paper after exit from the cabinet will be such that the edge of the paper will engage the outer surface of the cabinet so that it is difficult to get hold of. If the roll is put in the right way, the paper will after it has passed through the delivery opening, assume an outstanding position. It is an object of this invention to so dispose the roll that when the paper is delivered it will always assume this last mentioned position.

It is seen from the above that the manner of loading or placing of the supply roll has an important relation to the position which the paper will assume after exit from the delivery opening. It has been found that the paper will lie in an outstanding and accessible position, when the roll is so positioned that the paper leads from that side of the roll which is nearest the side of the cabinet having the delivery opening.

It is therefore an object of the invention to provide means which prevents operative mounting of the roll in the cabinet if the roll is not so positioned that the paper comes off of that side which is nearest to the delivery opening.

Features include the means for preventing wrong placement of the roll; a frame-like supply roll support which can be swung outwardly to a position accessible for loading; a pair of arms as a mount for the roll and the utilization of portions of the supporting plates as stops therefor for limiting inner and outer motions; the detail constructions which can be cheaply manufactured and which can be easily assembled and operated and all broader ideas of means inherent in the disclosure for forcing proper placement of the supply roll.

Objects, features and advantages of the invention will be set forth in the description of the drawings forming part of this application, and in said drawings.

Figure 1 is a vertical section through a cabinet illustrating the invention;

Figure 2 is a section on line 2—2 of Figure 1

illustrating the support or mount and supply roll thereon;

Figure 3 is a detail section illustrating means respectively on one side of the support and on the corresponding end of the core cooperative to support the roll;

Figure 4 is a section on line 4—4 of Figure 3;

Figure 5 is an elevation of that end of the core corresponding to the showing of Figure 3;

Figure 6 is an end of the core shown in Figure 5;

Figure 7 is a sectional view showing the means respectively on the opposite side of the support and corresponding end of the core cooperative to support the roll;

Figure 8 is a section on line 8—8 of Figure 7;

Figure 9 is a section showing a modification of the mount for the supply roll; and

Figure 10 is an elevation looking in direction of the line 10—10 of Figure 9.

The device may be applied to any suitable type of cabinet 1 which has a front wall 2 having a delivery opening 3. In this instance the front wall 2 is pivoted at the bottom of the cabinet at 4 to swing downwardly as shown in dot and dash lines. The upper edge 5 of this down-swingable front cooperates with the lower edge 6 of the top 7 of the cabinet to define a down-leading delivery opening 3.

Suitable means within the cabinet is provided for feeding the paper outwardly through the delivery opening to lie in opposition to the wall. This means includes a measuring roll 15 having a pinch roll 16 cooperable therewith, these rolls being suitably rotatively mounted in plates 17 which are spaced, see Figure 2, from the sides of the cabinet 1.

Roll 15 is operated by a crank 20. A suitable guide 21 directs the paper to and through the opening 3. The paper is guided upwardly and over a tearoff knife or blade 25, by which the paper is separated as a result of pull thereon. The blade is mounted on a suitable support 26 depending from which are fingers 27 entering grooves 28 of the pinch roll. The guide 21 also has fingers 30 which enter grooves 31 of the measuring roll. These fingers form a guide and prevent wrapping of the paper about the rolls. A pawl 32 cooperates with teeth 33 on the measuring roll to prevent rotation of the roll in wrong direction.

The supply roll is indicated at 35 and this roll is so placed that the web 36 leads to the feeding means from that side of the roll which is nearest the wall 2. The purpose of this ar-

5 rangement has been previously mentioned, and it can be seen in Figure 1 that the paper after being fed out tends to curl as indicated at 40. The paper is thus spaced as at 41 away from the front wall 2 so that its lower edge portion can be easily grasped. If the web 36 came off of that side of the roll which is nearest the back wall 42 of the cabinet, the curl after exit would be in a direction opposite to that shown at 40, in which case the bottom edge 45 of the paper would be against the outer surface of the wall 2 so that it would be difficult to grasp.

10 An important feature of this invention is the provision of means on the roll, and on a mount or support therefor, which prevents wrong placement of the roll on the support. Referring to Figure 2, one form of the invention comprises a support made of sheet metal and having arms 51, 52, bent up from a connecting portion 50. Each arm is pivoted as at 53 to a corresponding plate 17, so that the support can be swung outwardly to a point accessible for loading, see dot and dash lines of Figure 1. The inward movement of the frame is limited by stop pins 55.

25 Referring now to Figures 2, 3 and 7 the roll 35 has a core 60 of paper which is preferably hollow, and one end of the core has secured thereto a series of coupling projections. The projections are formed by suitably slitting the end of a metal tube 61, and said projections are indicated at 62 and in this instance there are four. Portions 64 of the metal at points between the projections are bent around the end of the core as clamps, thus securing the tube 61 in the core 60. On the arm 51 is a disc 66 rotatably held on pin 67 suitably riveted to the arm. This disc has what may be termed recesses, 68, 69 arranged in pairs diametrically related to one another. These recesses are herein constituted by openings and notches. In Figure 4 the recesses 68 are constituted by openings, which extend entirely through the disc and the recesses 69 are constituted by notching the edge of the disc. In Figure 10 these recesses are formed by punching openings 70 in the disc 66^a.

45 On the arm 52, see Figure 7, is a projection 75 which is formed from a plate by punching to provide fingers 76 which are bent to form the hollow square shown in Figure 8. This element 75 is pivoted to the arm 52 as at 77, and the corners 78 loosely engage the inner surface of the core 60. By means of the elements 66 and 75 the core and the supply roll upon it are rotatably mounted, and it is seen that it is impossible to mount the roll unless the respective elements of the mounting means are in the exact cooperative relation shown. Although the specific mounting means is claimed, there is no intention to limit the invention entirely to the construction because I believe myself the first to provide means for preventing wrong placement of the roll for the purpose disclosed.

60 In Figure 9 the element 66^a only differs from that of the element 66 in that recesses are all made by punching openings in the disc. It is to be understood that there may be only two of these recesses instead of four as shown in Figures 4, and 10, respectively. In this case also the arms 51^a, 52^a are separately pivoted as at 80 to the plates 17^a and the arm 52^a has a plug 81 pivoted as at 82 and having a flange 83 which engages the edge or end of the core 60^a.

75 It is noted that the arms 51^a and 52^a are housed in recesses 84 of the plates 17^a. As shown in Figure 10 the bottom portion 85 of the

recess forms a stop for limiting the inward movement of the arm, and the forward portion 86 of the bottom of the recess forms a stop for limiting the outward movement.

Whatever the construction of the cooperative means carried respectively by the support and core, it is understood that broadly they are so constructed that mounting can be accomplished only in one way, that is, when the roll is placed as has been previously described.

Various changes in the construction can be made without departing from the broad idea of forced proper placement to prevent less accessible positioning of the paper after feed-out.

I claim as my invention:

1. A paper cabinet having a front wall having a delivery opening, a pair of feed rolls with which the paper has substantially only a line contact, means by which the paper is guided after leaving said feed rolls, and a supply roll, said feed rolls, guiding means and supply roll being so related that that face of the paper which was inside when on the roll faces toward the user and away from said front wall of the cabinet after passing through the delivery opening, whereby the curling tendency of the paper resultant from its original roll formation is utilized to maintain the projected portion of the paper spaced from the wall to facilitate grasping, said supply roll having a core, and means for detachably mounting said core, said means being so formed that cooperation for mounting cannot take place unless the supply roll is related to said feed rolls and guiding means in the manner aforesaid.

2. A paper cabinet having a front wall having a delivery opening, a pair of feed rolls with which the paper has substantially only a line contact, means by which the paper is guided after leaving said feed rolls, and a supply roll, said feed rolls, guiding means and supply roll being so related that that face of the paper which was inside when on the roll faces toward the user and away from said front wall of the cabinet after passing through the delivery opening, whereby the curling tendency of the paper resultant from its original roll formation is utilized to maintain the projected portion of the paper spaced from the wall to facilitate grasping, said supply roll having a core and means for detachably journaling said core, said means being so formed that cooperation for journaling cannot take place unless the supply roll is related to said feed rolls and guiding means in the manner aforesaid.

3. A paper cabinet having a front wall having a delivery opening, a pair of feed rolls with which the paper has substantially only a line contact, means by which the paper is guided after leaving said feed rolls, and a supply roll, said feed rolls, guiding means and supply roll being so related that that face of the paper which was inside when on the roll faces toward the user and away from said front wall of the cabinet after passing through the delivery opening whereby the curling tendency of the paper resultant from its original roll formation is utilized to maintain the projected portion of the paper spaced from the wall to facilitate grasping, said supply roll having a core, adjustable means, and means journaling said core thereto, said journaling means being so formed that cooperation for journaling cannot take place unless the supply roll is related to said feed rolls and guiding means in the manner aforesaid.

4. A paper cabinet having a wall having a delivery opening, means for feeding lengths of paper one at a time through said opening, means for guiding the paper after leaving said feeding means to direct it downwardly and outwardly through the opening to pendant relation and in opposition to said wall, and a supply roll of paper, said feeding means, guiding means and supply roll being so related that that face of the paper which was inside when on the roll faces toward the user and away from said wall after passing through the delivery opening whereby the combined action of the guiding means and the curling tendency of the paper resultant from its original roll formation are utilized to maintain the projected portion of the paper pendant and spaced from the wall to facilitate grasping, said supply roll having a core and means for detachably mounting the core, said means being so formed that cooperation for mounting cannot take place unless the supply roll is related to the feeding and guiding means in the manner and for the purpose aforesaid.

5. A paper cabinet having an elongated upright wall having a delivery opening near its top, a manually operable means for feeding elongated lengths of paper one at a time through said opening, means for guiding the paper after leaving said feeding means to direct it downwardly and outwardly through the opening to pendant relation and in opposition to said wall, and a supply roll of paper, said feeding means, guiding means and supply roll being so related that that face of the paper which was inside when on the roll faces toward the user and away from said wall after passing through the delivery opening, whereby the combined action of the guiding means and the curling tendency of the paper resultant from its original roll formation are utilized to maintain the projected portion of

the paper pendant and spaced from the wall to facilitate grasping, said supply roll having a core and means for detachably mounting the core, said means being so formed that cooperation for mounting cannot take place unless the supply roll is related to the feeding and guiding means in the manner and for the purpose aforesaid.

6. A paper dispensing cabinet, a supply roll having a core, means pivoted within the cabinet to swing outside of the cabinet for loading, said movable means including two arms each having a journaling disc rotatable thereon, the disc of one of said arms fitting within the core and the disc of the other arm being larger than the diameter of the core and said core and disc having means cooperative to connect the core to said discs for rotation in unison.

7. A paper dispensing cabinet, a supply roll having a core, a pair of arms pivoted within the cabinet each having a journaling element rotatable thereon, the rotatable element of one of the arms fitting within the core and the rotatable element of the other arm being larger than the diameter of the core and having recesses, and means on the core detachably fitting the recesses to connect the parts for rotation in unison.

8. A paper dispensing cabinet, having recesses one in each of two opposite walls, an arm in each recess pivoted to swing to a position outside of the cabinet, means on the arms for journaling a supply roll, and said recesses having wall portions with which the arms engage, respectively to limit motion of the arms when within the cabinet and to limit motion of the arms when the same are positioned outside of the cabinet, said wall portions and the pivots of said arms being so disposed that the arms and the roll thereon are gravity held in each stop position.

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