

July 31, 1945.

C. A. GRONDONA

2,380,644

MEANS FOR MOUNTING ROLLS IN DISPENSING CABINETS

Filed Oct. 6, 1942

2 Sheets-Sheet 1

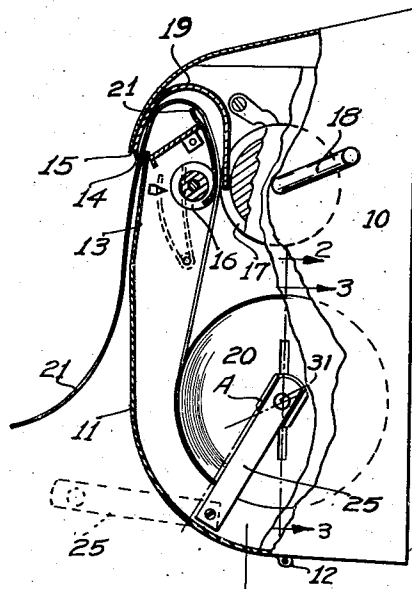


Fig. 1

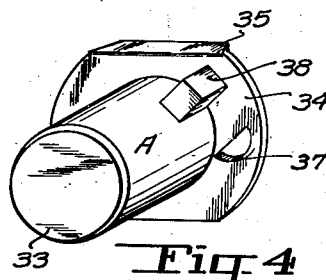


Fig. 4

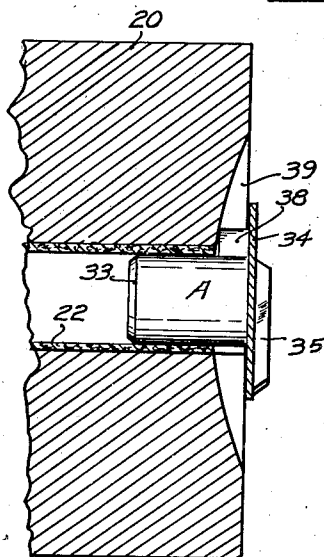


Fig. 3

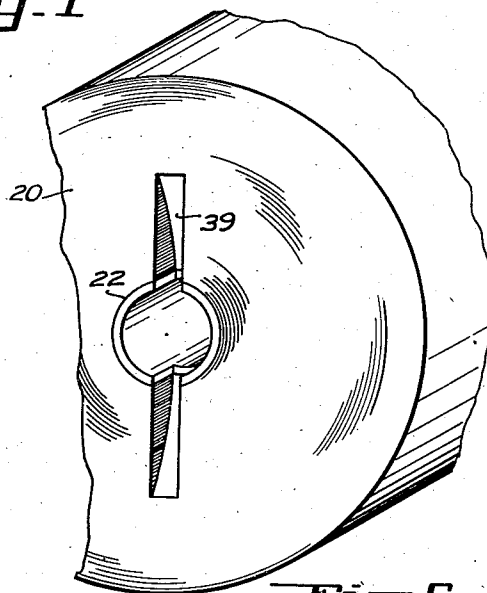


Fig. 6

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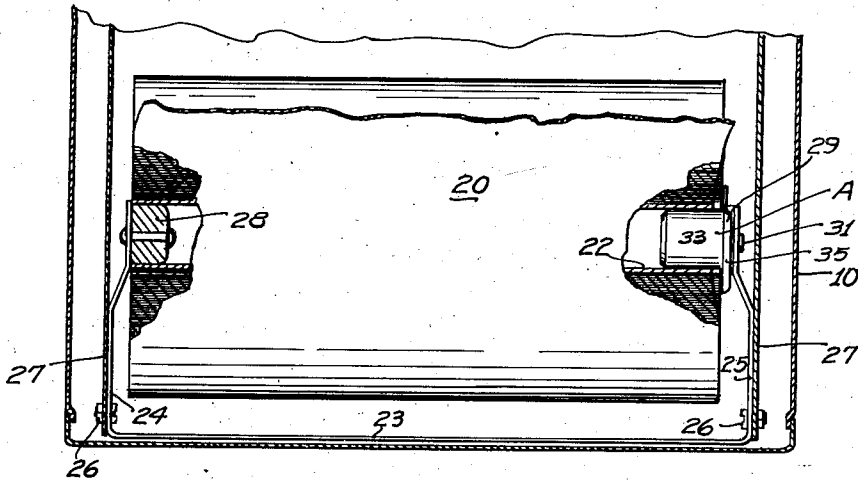


Fig. 2

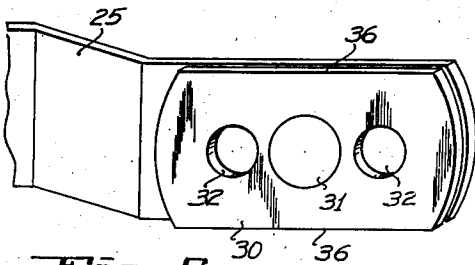


Fig. 3

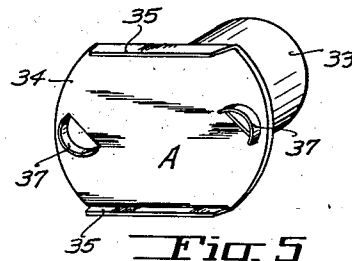


Fig. 5

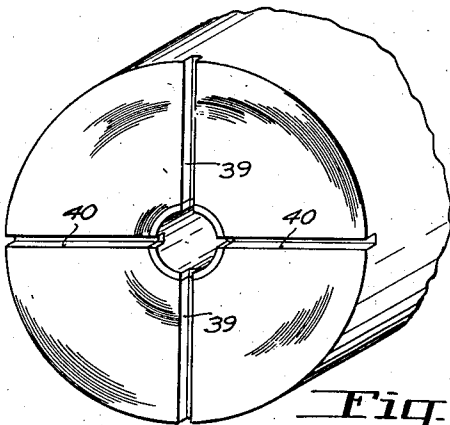


Fig. 6

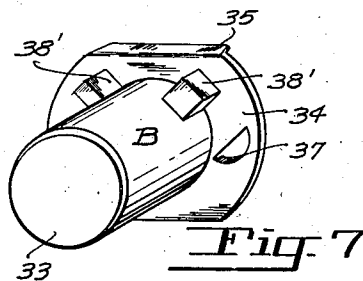


Fig. 7

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UNITED STATES PATENT OFFICE

2,380,644

MEANS FOR MOUNTING ROLLS IN
DISPENSING CABINETS

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Application October 6, 1942, Serial No. 461,027

2 Claims. (Cl. 242—55.5)

This invention relates in general to the mounting of rolls of paper and the like in a dispensing apparatus, and relates in particular to the mounting of a roll of paper towelling in a suitable dispensing cabinet.

This invention is intended primarily to be employed in connection with towel dispensers of the type shown and described in U. S. Letters Patent No. 2,146,038, issued February 7, 1939, to Merle J. West and entitled "Towel dispenser," and in U. S. Letters Patent No. 2,169,399, issued August 15, 1939, to F. G. Steiner, entitled "Dispensing cabinet and means for mounting a supply roll therein," to which patents reference is made. In both of these patents the main object of the patentees is to provide means for preventing the wrong placement of the towel roll in the dispenser, thus to have the roll so placed that when the paper is ejected from the cabinet of the dispenser, it will be in such position that it can be easily grasped. The present invention similarly, by improved means, seeks to insure the proper placement of the towel roll in order that the same advantages may be obtained.

In the two patents referred to, however, the means employed for attaining this particular object include metal attachments permanently secured to the paper core of the towel rolls. Thus, every roll of towelling, in order to be used in these dispensers, must first be supplied with a necessary cap or attachment, and, since these caps or attachments are so formed and secured in place in the roll cores that it is impractical, if not impossible, to transfer them from one core or roll to another, the inventions in these two patents necessitate a certain waste of metal and extra expense which it is the purpose of the present invention to avoid.

A special object of this present invention, accordingly, is to provide an improved means for preventing the wrong placement of the towel roll in the dispenser but in which no permanent metal attachment is required to be secured to the roll or core and in connection with which very little change will be required in the roll itself. This object I am able to obtain by grooving the end of a towel roll and by using a specially designed demountable and removable chuck in cooperation therewith in the manner hereinafter briefly described.

In the description reference is made to the accompanying drawings in which:

Fig. 1 is a side elevation, partly in section, of a towel dispensing cabinet similar to the cabinets

described in Patents No. 2,146,038 and No. 2,169,399, in which my invention may be employed;

Fig. 2 is a fragmentary section of the dispensing cabinet, with the towel roll mounted therein, taken approximately on the line 2—2 of Fig. 1, with portions of the towel roll broken away to show the rotatable mounting for the ends of the roll core;

Fig. 3 is a longitudinal sectional elevation of one end of the towel roll corresponding to line 3—3 of Fig. 1 and showing the removable chuck member mounted in place at the end of the roll and core;

Fig. 4 is a perspective view of the removable chuck member taken from one end;

Fig. 5 is a similar perspective view of the removable chuck member taken from the opposite end;

Fig. 6 is a fragmentary perspective end view of the towel roll showing one manner of grooving the roll end to accommodate the removable chuck;

Fig. 7 is a perspective view of a slightly modified removable chuck member, the view corresponding in other respects to that shown in Fig. 4;

Fig. 8 is a perspective view of an end of a towel roll showing a manner in which the end may be grooved to accommodate the modified chuck member of Fig. 7; and

Fig. 9 is a perspective view of a bracket arm of the towel dispenser showing a pivot member adapted to engage and cooperate with the chuck member in the mounting of the roll.

Referring first to Figures 1 and 2, the towel dispensing cabinet 10 has a hinged front portion 11 adapted to swing downwardly on hinges 12 when the cabinet is opened for inserting the towel roll 20. The upper end 13 of this front portion 11 is arranged so as to form a downward-leading delivery slot or opening 14 with the lower edge 15 of the top portion of the cabinet. A pair of feed rolls 16 and 17 feed the paper towelling from the towel roll 20 through the delivery slot 14, the feed roll 17 being operated by the usual crank 18. A guide 19 directs the paper from the feed rolls through the delivery slot 14. The paper is guided over a blade 21, the top edge of which is serrated or sharpened so as to cause the section 21 of the paper outside of the cabinet to become separated when the free end of the paper is pulled.

The towel roll 20 is so arranged in the cabinet that the tendency of the section 21 of the paper outside of the cabinet will be to curl slightly outwardly away from the front of the cabinet. This facilitates the grasping of the free end of the

towel. Were the towel roll 20 placed in the cabinet in reversed position the free end of the towel would curl against the front of the cabinet and consequently would be much less accessible for grasping. The means for mounting the towel roll, to be presently explained, is so arranged as to make it impossible to place the towel roll in the cabinet the wrong way. The towel roll 20 comprises paper toweling material wound on the usual paper core or tube 22.

A strip of metal 23 (Fig. 2) has its ends bent upwardly at right angles to form arms 24 and 25 and these arms are pivoted at 26 to vertical plates 27 secured within the cabinet. On the free end of arm 24, a projection or cylindrical plug 28 is rotatably mounted and is adapted to fit within the paper roll core 22, as shown in Fig. 2. On the free end of the other arm 25 a locking member 29 is rotatably mounted. This member 29 is shown more clearly in Fig. 9 and comprises a plate 30 to which a pivot element 31 is firmly secured. The pivot element 31 extends from one face and is journaled in the free end of arm 25 as indicated also in Fig. 2. A pair of holes 32 extend through the plate 30 and are equidistantly spaced from the axis of the pivot element 31.

The removable and demountable chuck member A, shown in detail in Figs. 4 and 5, comprises a stem portion 33, which is preferably cylindrical and adapted to fit within the end of the core 22 of the towel roll, and a formed plate 34. The formed plate 34 has a pair of parallel upturned flanges 35 (Fig. 5) adapted to engage the sides 36 (Fig. 9) of the locking member 29, and the formed plate 34 also has a pair of semi-circular punched-out lugs 37 so located and of such size that they will engage the holes 32 of the locking member 29 when the flanges 35 engage the edges of the locking member and the axis of the chuck is brought into registration with the axis of the pivot element 31. The chuck also carries a lug or key 38 (Fig. 4) secured to the stem 33 and to the formed plate 34, which lug is designed to fit into a groove or slot in the end of the towel roll, such as the groove 39 shown in Fig. 6.

When the towel roll is to be placed in the towel dispenser the front of the dispenser is opened and the arms 24 and 25 are swung down into the dotted line position of Fig. 1. The chuck member A is inserted in the slotted end of the towel roll with the key lug 38 inserted in the slot, as shown in Fig. 3. The opposite end of the roll core is slid over the plug 28 on the arm 24. Then the flanges 35 of the chuck member A are aligned with the sides 36 of the locking member 29 on the arm 25, and finally the arms 24 and 25 are swung outwardly slightly to enable the chuck member A to be brought into position until its semi-circular lugs 37 engage the holes 32 in the locking member 29. After this occurs the towel roll cannot then be removed from the arms 24 and 25 until these arms are again sprung sufficiently to enable the chuck member to be disengaged from the locking member 29. When the towel roll is secured in position between the arms 24 and 25 these arms with the mounted roll are then swung up into the cabinet, placing the roll in the position shown in Figs. 1 and 2.

From the foregoing explanation it will be clear that the towel roll could not be inserted in the dispensing cabinet in the wrong or reverse position, for, since only one end of the towel roll is to be grooved, if an attempt were made to insert the chuck member in the opposite end of the core

and roll, the key lug 38 would hold the outer end of the chuck member in a position spaced from the end of the roll, and the arms 24 and 25 would then have to be sprung too far apart to enable them to be swung back into place in the cabinet.

The stem portion 33 of the chuck member A could be either a solid plug, as shown in Fig. 4, or could be tubular. Also it need not be cylindrical, although I consider this form to be most practical. But the stem portion in any event should be of such cross-sectional dimension that it will have a sufficiently loose fitting in the roll core to permit easy insertion and removing, but at the same time this stem should be of sufficient size to keep the towel roll from wobbling when the roll is in place in the dispensing cabinet.

In Figs. 3 and 6 I have illustrated the key-accommodating slot or groove 39 in the end of the towel roll as arcuately-bottomed and as extending in opposite directions radially from the axis. This particular form of slot has been illustrated because I have found it very convenient to make. However, any slot of sufficient size to accommodate the key lug and extending through the end of the core and radially outward therefrom would serve the same purpose. Since it is customary to use paper cores of relatively thin material on which to wind paper toweling, it would hardly be sufficient for my purpose to have the slot extend only through the end of the core without continuing at least some distance through the toweling adjacent the core. The slot could extend to the outer perimeter of the roll, and it could easily extend diametrically entirely across the end of the roll and be usable in my invention. A slot extending diametrically across the end of the roll also has the advantage of being a very easy one to cut in the roll end.

Although I have shown the plate 34 of the chuck member A and the locking member 29 formed with certain particular cooperating elements on their adjacent faces, the arrangement of such elements is for the purpose of illustration only, and it will be clear that an endless number of modifications might be made in the shape and arrangement of engaging elements which would serve the same purpose and still be within the scope of the present invention. The locking member 29 might even be omitted altogether in the construction and the plate of the chuck member itself formed with a central stud, in place of the flanges and lugs, and the free end of the arm 25 provided with a hole in which such stud when inserted therein would be rotatable.

It would also be possible to have more than one key lug in the chuck member, but this would require corresponding slots in the end of the towel roll to be arranged accordingly. Thus in Fig. 7, the modified chuck member B has two key lugs 38' disposed at right angles to each other. In Fig. 8 a towel roll is shown having a pair of right-angularly disposed diametrical slots 39 and 40, which for convenience have been cut to a uniform depth across the entire end of the towel roll, the towel roll in this figure thus being made suitable for use with the chuck member of Fig. 7.

Further modifications might also be made in the removable chuck, in the accommodating slots of the roll and in the engaging elements of chuck and supporting member in the dispenser with-

out departing from the principle of this invention, and it is not my intention to limit my invention otherwise than as set forth in the claims. I claim:

1. The combination of a paper towel supply roll having a hollow core, a groove in one end of said roll, said groove extending in diametrically opposite directions from the axis of said roll, the other end of said roll being without such groove, a removable chuck for said grooved end of said roll, said chuck having a stem portion extending into the corresponding end of said core and having a plate attached to the outer end of said stem portion, a lug secured to said stem portion and to said plate, said groove adapted to accommodate said lug and thereby to permit said plate to rest against the end of said roll, a dispensing cabinet for said roll, a pair of roll-supporting arms in said cabinet, an element carried on one of said arms for engaging an end of said core, a plate rotatably mounted on the other of said arms, said rotatably mounted plate and said chuck plate having cooperating elements adapted to hold said plates in engagement with each other when said roll is placed in position between said arms and said plates are brought into registration, said arms at the opposite ends of said roll normally spaced apart a distance approximately equal to the length of said roll, means preventing said arms from being spaced a greater distance apart when said arms are in normal position in said cabinet, whereby if said chuck were placed at the ungrooved end of said roll said chuck plate would be held spaced from said ungrooved end and would require said arms to be positioned a greater distance apart than allowed by said means, and whereby such reverse mounting of the roll in the cabinet is thus prevented.

2. The combination of a paper towel supply roll having a hollow core, a groove in one end of said roll, said groove extending in diametri-

cally opposite directions from the axis of said roll, said groove having an arcuate bottom and said bottom meeting the surface of the end of said roll at the outer extremities of said groove, the other end of said roll being without such groove, a removable chuck for said grooved end of said roll, said chuck having a stem portion extending into the corresponding end of said core and having a formed plate attached to the outer end of said stem portion, a lug secured to said stem portion and to said plate, said groove adapted to accommodate said lug and thereby to permit said plate to rest against the end of said roll, a dispensing cabinet for said roll, a pair of roll-supporting arms in said cabinet, an element carried on one of said arms for engaging an end of said core, a plate rotatably mounted on the other of said arms, said rotatably mounted plate and said chuck plate having cooperating elements adapted to hold said plates in engagement with each other when said roll is placed in position between said arms and said plates are brought into registration, said cooperating elements including a pair of parallel flanges on one plate for engagement with the sides of the other plate, a pair of punched-out lugs in one plate and a pair of holes in the other plate adapted to be engaged by said pair of lugs, said arms at the opposite ends of said roll normally spaced apart a distance approximately equal to the length of said roll, means preventing said arms from being spaced a greater distance apart when said arms are in normal position in said cabinet, whereby if said chuck were placed at the ungrooved end of said roll said chuck plate would be held spaced from said ungrooved end and would require said arms to be positioned a greater distance apart than allowed by said means, and whereby such reverse mounting of the roll in the cabinet is thus prevented.

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