Nov. 17, 1964 E. A. GOVATSOS ETAL 3,157,370

SUPPORT BRACKET FOR TOILET PAPER ROLLS

Filed Oct. 25, 1961 2 Sheets-Sheet 1

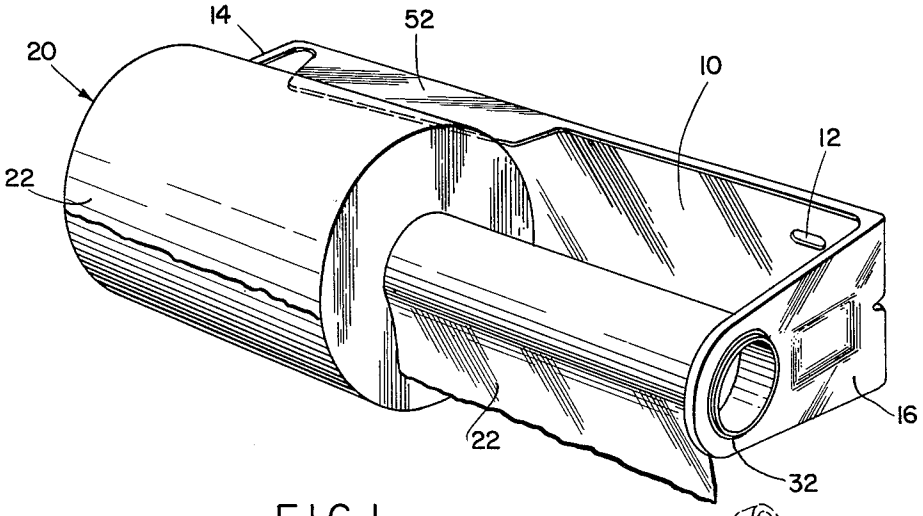


FIG. 1

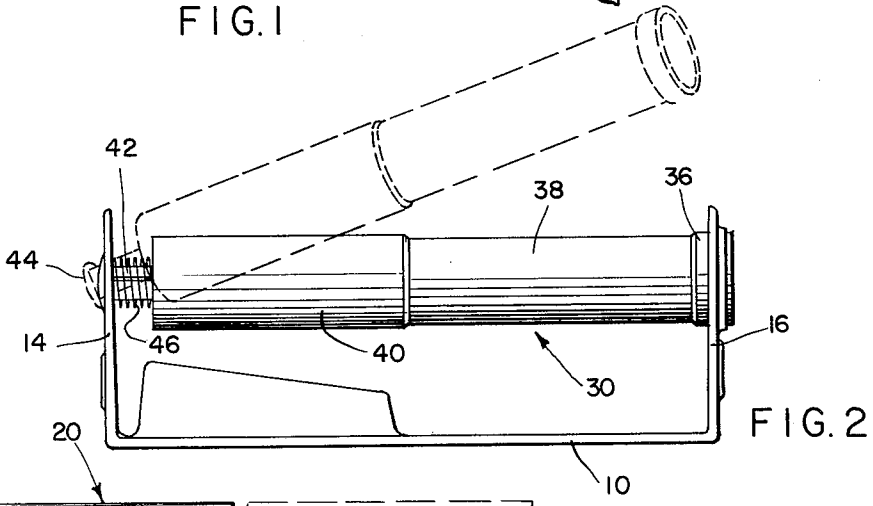


FIG. 2

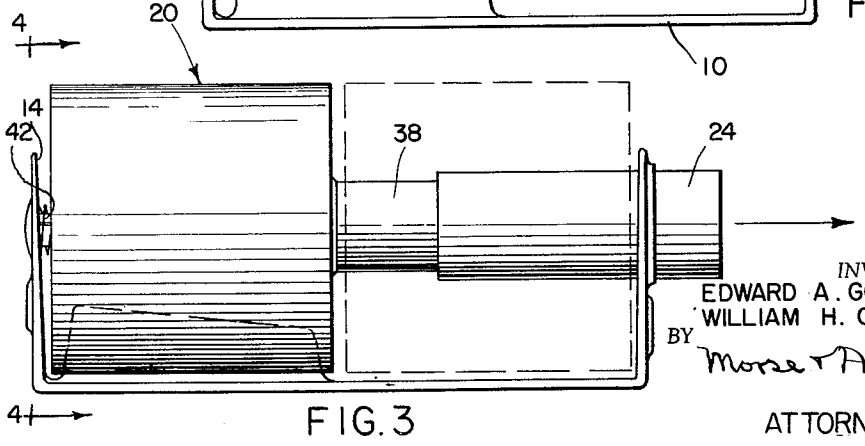


FIG. 3

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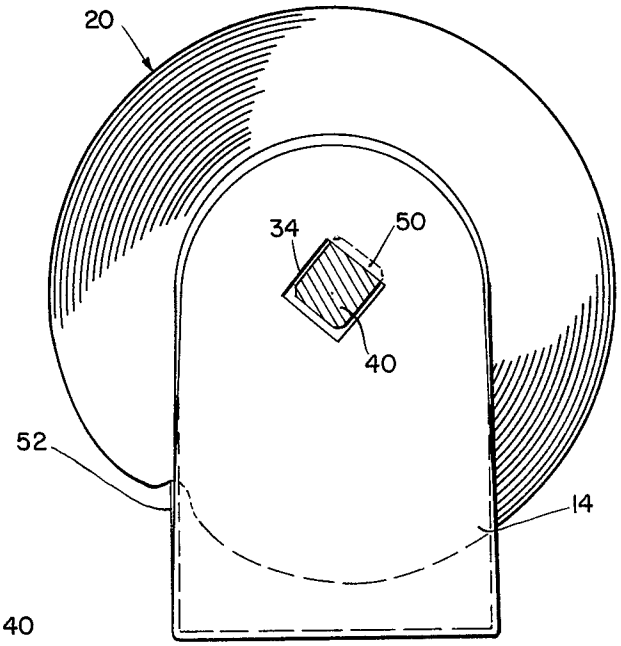


FIG. 4

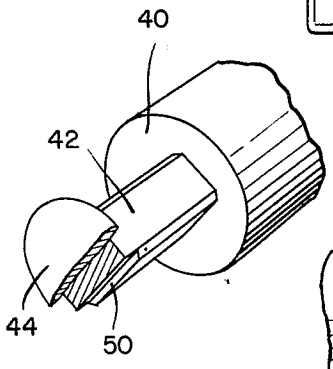


FIG. 6

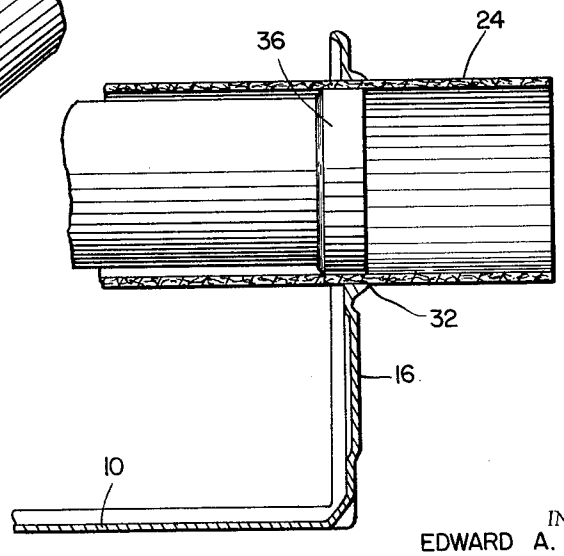


FIG. 5

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SUPPORT BRACKET FOR TOILET PAPER ROLLS

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This invention relates to a support bracket for two rolls of toilet paper, one of which is for current use, the other being a reserve supply to be available when the first roll is used. In public or semi-public comfort stations where only occasional supervision can be had, it is desirable to have a roll of toilet tissue available for use, and also a reserve roll on hand as an attendant cannot always be at hand to replenish the supply when the last pieces are drawn from the currently used roll. It is important, however, that the reserve roll be unusable until the paper on the active roll is exhausted. Devices, presently in use, providing this function require tearing of the tubular core of the used-up roll to remove it from its supporting arbor, in order to admit the reserve roll to the active position. This is a clumsy and often frustrating operation, especially for women with delicate fingernails. It is an object of this invention to provide, in a reserve-roll-accommodating toilet paper dispenser of the type in which accessibility of the reserve roll depends on the exhaustion of the previous roll and the disposition of its core, a simple and elegant means for the disposition of such core. This invention can be embodied preferably in a support bracket so constructed that it will hold two rolls of toilet paper which cannot be removed therefrom until all the paper on one of the rolls has been taken therefrom. The other roll is firmly clamped so that it is practically impossible to take paper from it while it is in the reserve position. When the roll in current use is empty, its core can be removed simply by sliding it through a hole supporting an end of the arbor. The spare roll can then be shifted to the active position without disturbing the arbor on which the rolls are mounted. When there is only one roll on the arbor, it can be manipulated to receive a second roll. For a more complete understanding of the invention, reference may be had to the following description thereof and to the drawings, of which

FIGURE 1 is a perspective view of a support bracket embodying the invention with paper rolls thereon;

FIGURE 2 is a bottom plan view of the support bracket;

FIGURE 3 is a bottom plan view of the support bracket with a reserve roll and a core thereon;

FIGURE 4 is a section on the line 4—4 of FIGURE 3, but on a larger scale;

FIGURE 5 is a fragmentary sectional view of the bracket and a core partly removed therefrom; and

FIGURE 6 is a fragmentary perspective view of the arbor on which paper rolls are to be mounted.

The bracket support illustrated on the drawings comprises a back member 10 consisting of a rectangular plate with perforations 12 through which screws can be driven to mount the device on a wall. From the ends of the plate 10 two arms 14, 16 project outward. These arms are preferably but not necessarily integral with the back plate 10 and are mutually parallel. The length of the plate 10, and hence the spacing between the arms, is slightly more than the combined lengths of the rolls 20 of toilet tissue to be mounted between the arms. The bracket support is preferably designed to hold two such rolls but it can be made longer to hold more if desired.

The rolls 20 of paper are of standard size and shape, the axial length being 4½", each roll consisting of a long strip of tissue 22 wound on a tubular paper core 24 which has a wall thickness of about .05".

An arbor 30 is provided to carry two rolls of paper. The ends of the arbor project through the arms 14, 16. For this purpose a circular hole 32 is provided in the arm 16, this hole having a diameter closely equal to the outside diameter of a core 24. A smaller hole 34 is provided in the arm 14, this hole preferably having a polygonal shape, e.g. a square. The arbor 30 is generally cylindrical with an end portion 36 normally extending through the circular hole 32, this portion 36 having a diameter closely equal to the interior diameter of a paper core 24 so that a core from which all the tissue has been removed can be pushed through the clearance between the end portion 36 of the arbor and the circular edge of the arm 16 surrounding the hole 32. Next to the end portion 36 of the arbor is a portion 38 of slightly smaller diameter and about 4½" long, that is, long enough to be received within the core of a roll with a loose fit so that the roll is freely rotatable thereon. Next to the portion 38 is a portion 40 having a diameter equal to that of the end portion 36, that is, just large enough to be received in the core of a roll with a snug fit. This portion is about 4" long and next to it is the other end portion 42 of the arbor, the latter being considerably reduced in diameter for a loosely sliding fit in the square hole 34 in the arm 14. As shown, the reduced portion 42 has a square cross-section with the corners shaved. At the extremity of the portion 42 of the arbor is a head 44 which is a disk larger than the hole 34. This limits the movement of the arbor to the right, as seen in FIGURE 2 or 3. The reduced portion 42 permits a movement to the left for a sufficient distance to clear the other end of the arbor from the arm 16. When so shifted to the left against the pressure of a weak restoring spring 46, the arbor can be tilted to a position such as is indicated by broken lines in FIGURE 2, the clearance from the arm 16 being sufficient for mounting a full paper roll on the arbor.

To load the device, two rolls of paper are mounted respectively on the portions 40 and 38 of the arbor. The arbor is then pushed toward the left so that the end portion 36 can move down into registry with the hole 32 which it enters when the arbor is then shifted to the right. To lock the arbor against subsequent movement to the left while the rolls are in place, a notch 50 is provided in the reduced portion 42 of the arbor adjacent to the head 44 to receive a portion of the inner edge of the arm 14 at the hole 34. Before the arbor can be axially moved, the reduced portion 42 must first be laterally displaced to clear the notch 50 from the edge of the arm therein. To prevent accidental displacement of this kind, a braking blade 52 is mounted on or made integral with the back member 10, this blade projecting forward to press into the roll 20 on the portion 40 of the arbor to clamp the roll against rotation. The free edge of the blade 52 is smoothly rounded and extends at an angle to the plane of the back member 10 so that when the reserve roll 20 is in place, the blade presses most strongly on the surface of the roll adjacent to its left end. As indicated in FIGURE 4, the notch 50 is arranged directly opposite to the edge of the blade 52 so that the latter has the dual function of preventing rotation of the roll and of maintaining the interlock of the notch 50 and the edge portion of the arm 14 engaged therein.

Since rotation of the reserve roll 20 is prevented by the pressure of the blade 52 which indents the body of paper on the roll, paper for use is taken from the other roll which is freely rotatable on the portion 38 of the arbor. Since the hole 32 is only as large as the outer diameter of the core 24, the active roll cannot be removed from the arbor until all the paper 22 has been drawn therefrom. When the core is bare, it can be slid axially through the hole 32 as indicated in FIGURE 5. The reserve roll 20 can then be shifted to the right to the active

position on the portion 38 of the arbor where it is clear of the blade 52. This permits a lateral displacement of the reduced portion 42 of the arbor to clear the notch 50 so that the arbor can be moved axially to the left to clear its other end from the arm 16 when an attendant services the device to supply a fresh roll for the reserve position.

We claim:

1. A bracket support for a plurality of rolls of toilet tissue, comprising a back member, parallel arms projecting out from said back member and spaced apart a distance slightly greater than the combined lengths of the rolls to be supported thereby, an arbor extending through and supported by said arms, rigid means on said bracket support for clamping all the rolls on said arbor except one from rotation thereon, and means including said clamping means and the rolls clamped thereby for locking said arbor against axial movement relative to said arms.

2. A bracket support for two rolls of toilet tissue, comprising a back member, parallel arms projecting out from said back member and spaced apart a distance slightly greater than twice the length of a paper roll, an arbor extending through said arms and adapted to hold two rolls between said arms, rigid means on said bracket support normally clamping one of said two rolls on the arbor against rotation, and means including said clamped roll and the clamping means for locking the arbor against axial movement relative to said arms.

3. A bracket supoprt as described in claim 2, said clamping means comprising a rigid blade projecting from said back member and pressing into the side of the clamped roll.

4. A bracket support for two rolls of toilet tissue having tubular paper cores, comprising a back member, parallel arms projecting out from said back member and spaced apart slightly more than the length of two paper rolls, one of said arms having a hole therethrough smaller than the cross-section of a paper core, an arbor between and supported by said arms and adapted to receive thereon two paper rolls, said arbor having a reduced end portion extending slidably through said hole, said reduced portion of the arbor having a head on the end thereof normally engaging against the outer surface of said one arm, said reduced portion of the arbor also having a transverse notch adjacent to said head to receive a portion of said arm at said hole whereby to lock said arbor against axial movement until the reduced portion thereof is moved laterally to clear said notch from engagement with said arm, and means on the other said arm preventing lateral movement of the end of the arbor remote from said head when said head is in its normal position adjacent to said one arm.

5. A bracket support for two rolls of toilet tissue having tubular paper cores, comprising a back member, parallel arms projecting out from said back member and spaced apart slightly more than the length of two paper rolls, one of said arms having a circular hole therethrough with a diameter equal to the outer diameter of a paper core, the other arm having a smaller hole therethrough,

an arbor supported by said arms, said arbor having one end portion normally extending through and projecting slightly beyond said circular hole and having a diameter equal to the inner diameter of a paper core, the other end portion of said arbor being of reduced diameter and extending loosely through the smaller hole in said other arm, a head on said other end of the arbor normally bearing against the outer face of said other arm, and means made effective by a paper roll on the portion of the arbor adjacent to said other arm to lock said arbor against axial movement.

6. A bracket support as described in claim 5, said locking means including means engaging a side of the paper roll adjacent to said other arm to hold said last mentioned roll against rotation on said arbor.

7. A bracket support as described in claim 6, said roll engaging means consisting of a blade extending out from said back member to press into a side of the paper roll.

8. A bracket support as described in claim 7, said smaller hole in said other arm having a polygonal shape, said portion of the arbor of reduced diameter having a cross-sectional shape similar to that of the smaller hole.

9. A bracket support as described in claim 7, the notch in the arbor adjacent to said head being in the side of the reduced portion of the arbor remote from said blade.

10. A bracket support as described in claim 9, and a compression spring surrounding the portion of reduced diameter to press said arbor toward said one arm whereby to maintain said arbor yieldingly projecting through said circular hole.

11. A bracket support as described in claim 5, said arbor having a portion adjacent to said one end portion thereof and of sufficient length to extend from one end to the other of a paper roll thereon, said adjacent portion having a diameter less than the interior diameter of a paper roll core, whereby a paper roll is freely rotatable thereon.

12. A bracket support for two rolls of toilet tissue, comprising a back member, parallel arms projecting out from said back member and spaced apart a distance slightly greater than twice the length of a paper roll, an arbor extending through said arms and adapted to hold two rolls between said arms, a blade projecting from said bracket and pressing into the side of a roll on said arbor to clamp said roll against rotation, and means including the clamped roll and blade for locking the arbor against axial movement relative to said arms, said locking means including a notch in said arbor in which a portion of one of said arms engages when a roll on said arbor is pressed by said blade.

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