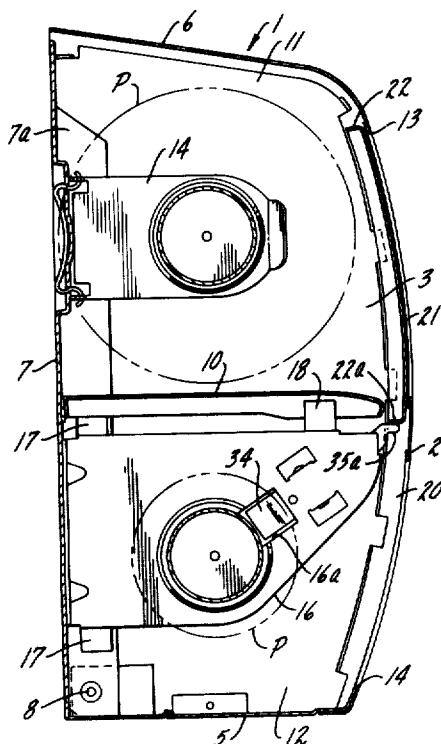
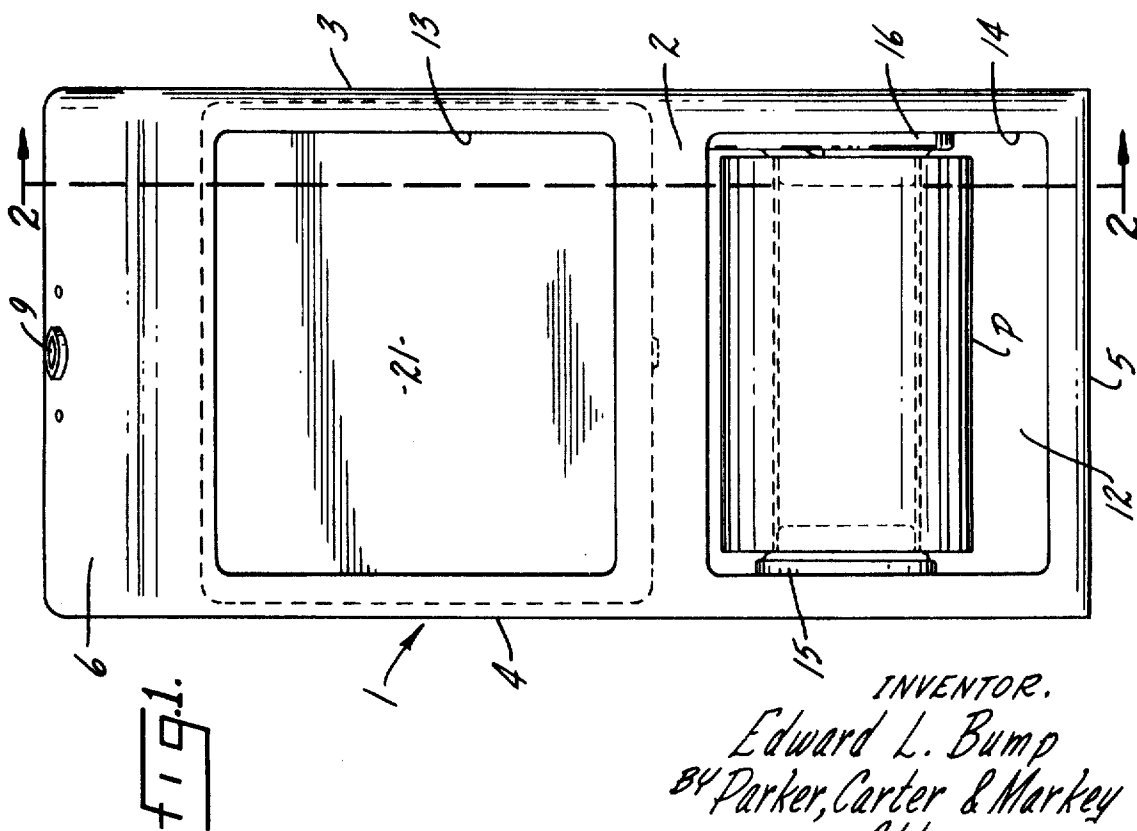
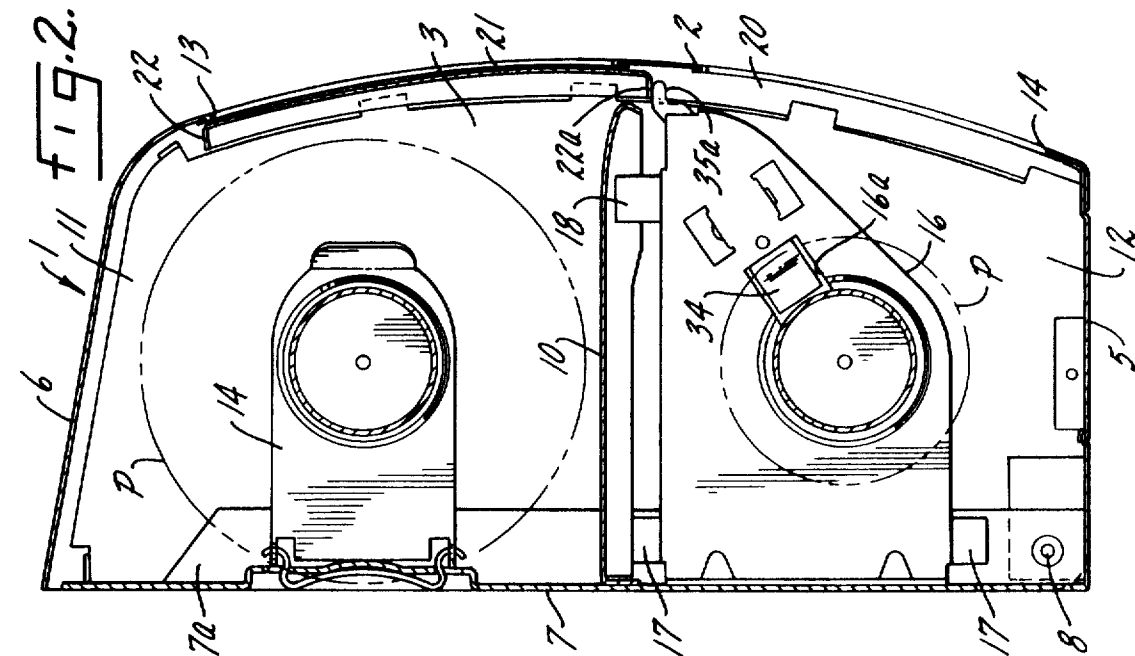
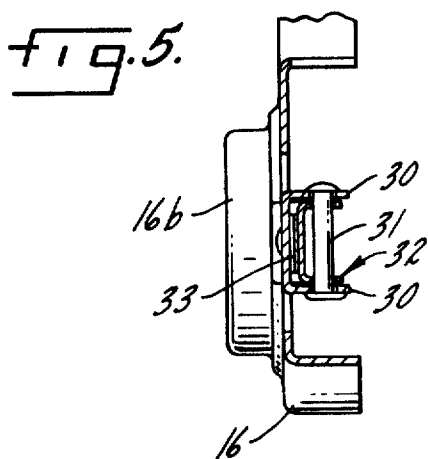
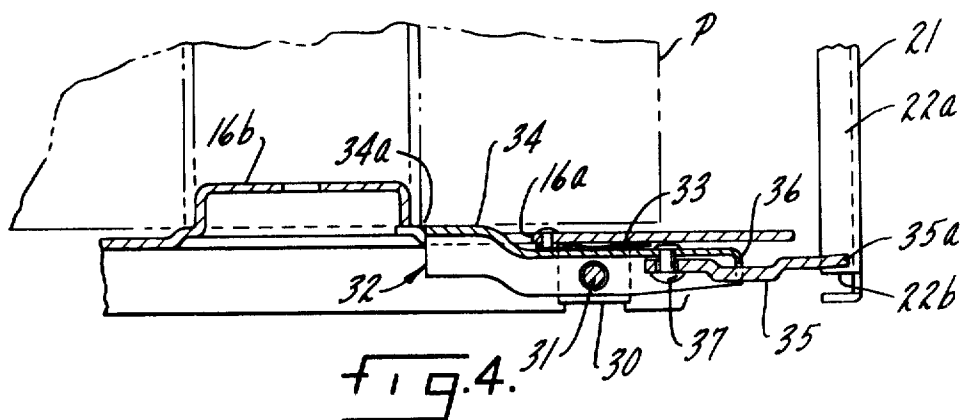
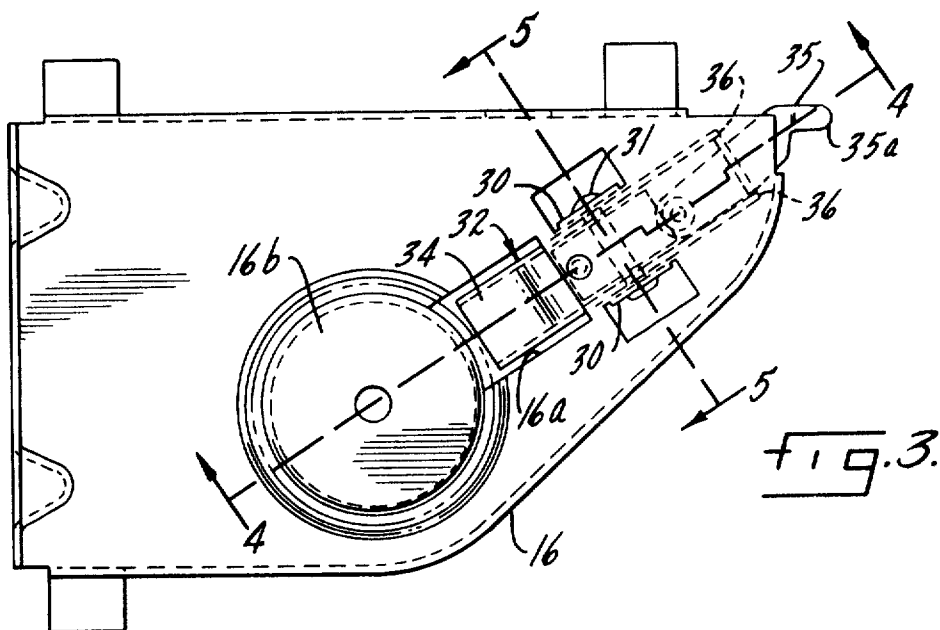


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ROLL PAPER DISPENSER

SUMMARY OF THE INVENTION

This invention relates to dispensers and particularly to a dispenser for at least two rolls of paper.

One purpose of the invention is to provide a dispenser having a door automatically movable from a position enclosing one of the rolls and exposing the other of the rolls to a position exposing said one roll and closing the compartment previously occupied by the other of the rolls.

Another purpose is to provide a dispenser usable with a wide variety of paper roll configurations and constructions.

Another purpose is to provide a dispenser for paper rolls having cores of varying designs.

Another purpose is to provide a dispenser for a plurality of rolls having a door automatically movable in response to depletion of paper from one of the rolls.

Other purposes may appear from time to time during the course of the specification and claims.

BRIEF DESCRIPTION OF THE DISCLOSURE

The invention is illustrated more or less diagrammatically in the accompanying drawings wherein:

FIG. 1 is a front elevation;

FIG. 2 is a view taken on the line 2—2 of FIG. 1;

FIG. 3 is a detail view in side elevation on an enlarged scale;

FIG. 4 is a view taken on the line 4—4 of FIG. 3; and

FIG. 5 is a view taken on the line 5—5 of FIG. 3.

Like parts are indicated by like numerals throughout the specification and drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and particularly to FIG. 1, the numeral 1 generally designates a shell having a forward wall 2, sidewalls 3, 4, a bottom wall portion 5 and a top wall portion 6. As may be best seen in FIG. 2, the portions 5 and 6 may constitute continuations of the forward wall 2, the portions 6 being forwardly, downwardly inclined and the forward wall 2 being generally curved in cross section. A back plate 7 is provided for attachment of the dispenser to a wall or similar support. The shell 1 is pivotally secured in any suitable manner, such as indicated at 8, to the back plate 7 and a suitable locking device 9 may be provided for retaining the shell 1 in the position shown on the back plate 7.

An intermediate cross or divider wall 10 is secured to back plate 7 and extends forwardly therefrom to divide the shell 1 into an upper compartment 11 and a lower compartment 12. Forward wall 2 has an opening 13 exposing the compartment 11 and an opening 14 exposing the compartment 12. A pair of roll-supporting brackets, such as the bracket 14 shown in FIG. 2, are yieldingly mounted on back plate 7 for removably carrying a paper roll in compartment 13. A similar bracket 15 is yieldingly carried on back plate 7 for retaining one end of a paper roll in compartment 12.

A bracket 16 is rigidly carried on back plate 7 and extends forwardly therefrom for carrying the opposite end of the roll in compartment 12. Bracket 16 may, for example, have ears 17 spotwelded to an inwardly directed flange 7a on the back plate 7 and bracket 16 may have an additional ear 18 spotwelded for example to a forward portion of the divider wall 10.

A pair of parallel tracks extend along the opposite sides of wall 2 in alignment with the windows or openings 13, 14, one of said tracks being shown at 20 in FIG. 2. Slidable in the tracks 20 is a door panel 21. It will be observed that the tracks 20 and door 21 have the curvature of front wall 2. Door 21 has a peripheral flange 22, the bottom flange portion 22a having notch or recess 22b adjacent one end thereof, as best seen in FIG. 4.

The control arm of the invention is illustrated in FIGS. 3, 4 and 5. The bracket 16 has ear segments 30 upset in parallel relationship for reception of pin 31 and control arm member 32 is pivotally mounted, intermediate its ends, on pin 31. A

leafspring 33 engages the arm 32 to urge its inner end portion 34 through an opening 16a in bracket 16 and toward the paper P shown in dotted lines in FIG. 4 on a roll supported on brackets 16 and 15. It will be observed that the inner edge of portion 34 is spaced slightly from the inwardly extending boss 16b of bracket 16 about which the conventional core of a paper roll is rotatably mounted, the spacing as indicated at 34a in FIG. 4, being sufficient to preclude engagement of the arm portion 34 with a core formed of material of greatest conventional thickness.

The opposite end of arm 32 from portion 34 pivotally carries a finger element 35. Arm 34 carries stop abutment portions 36 limiting the pivotal movement of finger 35, the finger 35 being pivoted as at 37 at one of its ends and having its opposite end extending beyond the arm 32. As may be best seen in FIGS. 2 and 4, the finger 35 has a curvilinear forward edge configuration 35a, the purpose of which will appear hereinbelow, the end of finger 35 extending into the plane in which lie the tracks 20 at a point intermediate the windows 13, 14.

The use and operation of the invention are as follows:

With lock means 9 disengaged and the shell pivoted about the pivot 8 away from the back plate 7, a roll of paper is mounted on brackets 14 in compartment 11 and a second roll of paper is mounted on brackets 15, 16 in compartment 12. The shell 1 is then closed on back plate 7 and lock means 9 engaged, the sidewalls 3, 4 of shell 1 precluding the outward movements of brackets 13, 14 or 15 and thus impeding theft of the rolls from the dispenser of the invention. Door 21 is then manually raised into its position closing window 13.

With a roll of paper on brackets 15, 16 the spring (not shown) of bracket 15 urges the roll toward bracket 16 and the paper on said roll urges the end pad portion 34 of arm 32 outwardly to hold the arm 32 in the position shown, for example, in FIG. 4. With the arm in said position, the finger end portion 35a is beneath the lower flange portion 22a of door 21 and the door will remain in its upper position closing the window 13 of compartment 11 and exposing compartment 12 for ready removal by the user of the paper from the paper roll in compartment 12.

As the paper is removed from the roll in compartment 12 to a predetermined minimum thickness, the end portion 34 is freed to move, under the urging of spring 33, into compartment 12 to move finger end portion 35a into alignment with slot 22b in flange portion 22a, at which point the door panel 21 under the influence of gravity, falls through track 20 into its second position, closing compartment 12 and exposing compartment 11 with the reserve or fresh roll of paper therein ready for use by the user. Wastage is controlled by positioning the inner edge of arm portion 34 immediately adjacent the outer circumference of the thickest expected core segment whereby the barest minimum amount of paper, if any, may remain on the core after arm 32 has pivoted in response to spring 33 and door 21 has closed compartment 12.

Door panel 21 may be manually raised from its lowermost to its uppermost position, the pivoting of finger 35 and shaping of edge 35a providing for camming of the finger 35 by door flange 22a as the door 21 is raised, the weight of finger 35 returning it to a door-retaining position when the flange 22a has bypassed the finger end portion 35a. The same result is achievable with substitution of a spring (not shown) for gravity with shell 1 repositioned, for example, in a horizontal arrangement.

Thus the invention is usable with varying roll paper designs having continuous or separable cores and having cores formed of material of varying thicknesses within those commonly and economically provided. So long as there is a reasonably usable quantity of paper remaining on the core in compartment 12, the door 21 will remain in its upper position, closing compartment 11. When, however, the paper has been substantially entirely depleted from the roll in compartment 12, the door 21 automatically moves to its second position, closing compartment 12 and exposing a fresh roll in compartment 11 for use.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A dispenser for at least two rolls of paper including a shell, a compartment for each of said rolls in said shell, a first window exposing one of said compartments, a second window exposing another of said compartments, a control arm pivotally mounted on said shell, means yieldingly urging an end portion of said control arm against the paper on a roll in one of said compartments, said arm including a latch finger portion extending into an area between said windows, a door slidable between a first position closing the window of said other compartment and exposing the window of said one compartment, and a second position closing said window of said one compartment and exposing said other compartment, said finger portion being positionable in engagement with said door to hold the same in said first position, said yielding means urging said arm and finger into a position disengaging said finger from said door to permit said door to move to said second position in response to depletion of paper from said roll in said one compartment below a predetermined level, said finger portion being pivotally mounted on said arm and including a camming surface whereby movement of said door from said second to said first position moves said finger por-

tion out of its door-retaining position upon passage therebeyond of said door, said finger portion being pivoted adjacent its rearmost end to said arm, said finger portion returning to said retaining position in response to gravity.

2. In a dispenser for rolls of paper, a shell, a compartment for each roll of paper in said shell, a door movable in said shell to cover one compartment and expose another compartment, a control arm for said door, said control arm having a portion engaging the paper on a roll in one of said compartments to hold said arm in a first position and means yieldingly urging said arm into a second position in response to depletion of paper from said last-named roll below a predetermined level, said arm including an arm portion pivoted intermediate its ends on said shell and a finger portion pivoted to the distal end of said arm portion.

3. The structure of claim 2 wherein said arm portion is pivoted about an axis spaced from the axis of said last-named roll and said finger portion is pivoted about an axis paralleling the axis of said last-named roll.

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