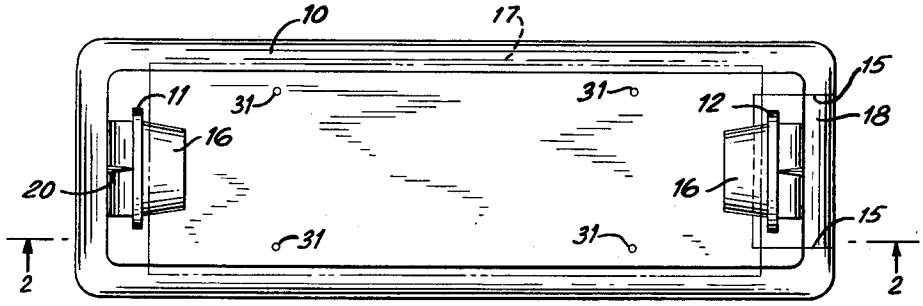
May 7, 1963 P. S. CURRY 3,088,686

PAPER-TOWEL RACK

Filed Aug. 7, 1961

Fig. 1



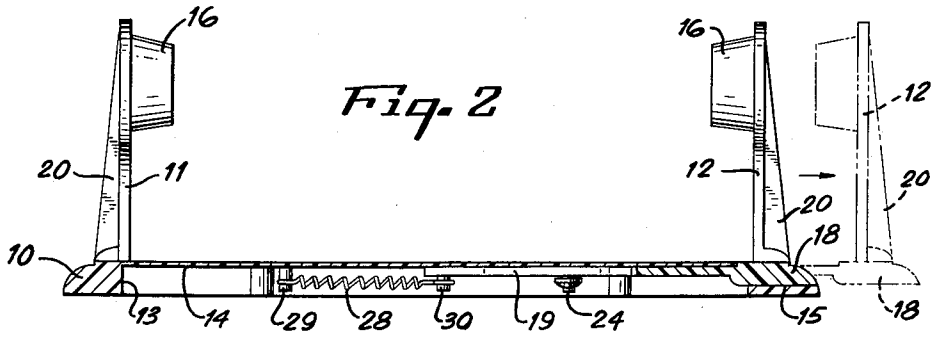
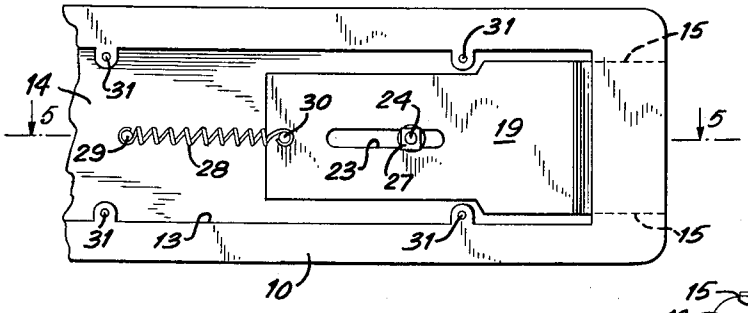


Fig. 2

Fig. 3



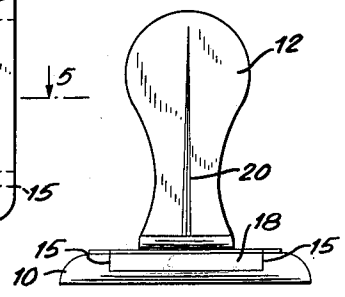


Fig. 4

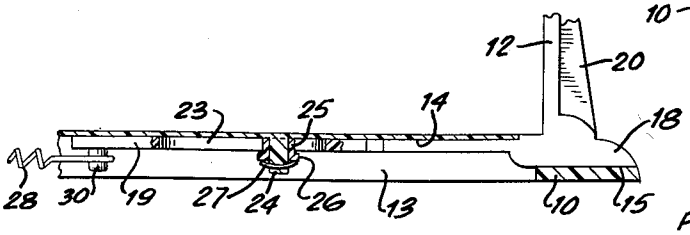


Fig. 5

INVENTOR.
PERCY S. CURRY

BY
Frederick Breitfeld
ATTORNEY

United States Patent Office

3,088,686
Patented May 7, 1963

3,088,686

PAPER-TOWEL RACK

Percy S. Curry, Bland, Bland County, Va.

Filed Aug. 7, 1961, Ser. No. 129,606
4 Claims. (Cl. 242—55.2)

This invention relates to a rack or holder for supporting a roll of paper towels, or the like, so that the latter is rotatable about its longitudinal axis.

It is a principal object of the invention to provide such a rack which is extremely sturdy, easy to use, and inexpensive to manufacture.

The rack comprises in general a pair of posts adapted to rotatably support a paper-towel roll between them. The posts are mounted on a base, one of them being fixed to the base and the other movable with respect to the base in a direction toward and away from the fixed post. The movable post is spring biased toward the fixed post. When it is desired to insert a paper-towel roll between the posts, the movable post is pulled away from the fixed post in order to enlarge the distance between them, the roll is aligned with the posts, and the movable post is released in order to permit it to return to its normal position under the influence of the spring whereby the roll will be supported between the posts.

An important feature of this invention is the means provided for guiding the relative movement of the posts. The movable post is provided with a tongue slidable within the base of the rack. The tongue is slotted and during the assembly of the rack parts, the tongue is positioned so that a pin fixed to the base projects through the slot. A headed bushing is then inserted into the slot around the pin to prevent the separation of the tongue and movable post from the base. The dimensions of the bushing are so chosen that it fits rather closely against the tongue to insure straight line movement of the tongue and movable post with respect to the base in order to avoid jamming of the parts. On the other hand, the fit of the bushing is loose enough to permit free and easy movement of the movable post. Furthermore, use of the headed bushing as an expedient for guiding the movement of the parts makes the cost of manufacture low since the part itself is inexpensive to fabricate and its assembly with the remainder of the rack may be effected easily and quickly.

A further feature of the invention, and one which greatly reduces its cost of manufacture, is the fact that it may be fabricated of just three molded plastic parts, exclusive of the spring and a unit for retaining the bushing on the pin. The three parts are the integrally formed base and fixed post, the integrally formed tongue and movable post, and the bushing. All of these parts may be made by an inexpensive molding operation and are adapted to be assembled speedily and with ease.

Other objects and advantages of the invention will be apparent from the following description in which reference is made to the accompanying drawings.

In the drawings:

FIG. 1 is a top plan view of a paper-towel rack made in accordance with the present invention;

FIG. 2 is a vertical cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a fragmentary bottom plan view of the rack;

FIG. 4 is an end elevational view of the rack; and

FIG. 5 is fragmentary cross-sectional view along the line 5—5 of FIG. 3.

The rack chosen for illustration comprises generally a base **10**, and two upstanding posts **11** and **12** located on the front face of the base at either end thereof. Each of the posts carries a tapered support member **16** adapted to fit into the ends of the cardboard tube upon which a roll of paper towels **17** is generally wound. The roll **17** is thereby rotatably supported between the posts. If desired, each of the posts **11** and **12** may be provided with a strengthening rib **20**.

The post **11** is fixed to the base **10** and may, if desired, be made integral therewith. Thus, if the parts are made out of plastic, the post **11** and base **10** may be molded as a unit in a single operation. The post **12**, on the other hand, is independent of the base **10**.

The rear face of the base **10** is formed with a hollowed-out region **13** having a top wall **14**. At the end opposite the post **11**, the base is provided with a channel **15** communicating with the hollowed-out region **13**. In insert **18** is located in the channel **15** and presents a tongue **19** extending into the region **13** adjacent to the top wall **14**. The post **12** is fixed to the insert **18**, and, if desired, these two elements together with the tongue **19** may advantageously be formed as a unit of plastic in a single molding operation.

The width of the tongue **19**, at least in the region closest to the insert **18**, is preferably made about equal to the width of the channel **15** for a reason which will be mentioned hereinafter. The tongue **19** is provided with a central slot **23**, extending longitudinally with respect to the tongue, which accommodates a pin **24** projecting rearwardly from the top wall **14**. Also located within the slot **23** is a bushing **25**, surrounding the pin **24**, having an enlarged head **26** (see FIG. 5). The internal diameter of the bushing is about equal to or slightly greater than the diameter of the pin **24** so that the bushing may be slipped over the pin easily while leaving a minimum of play between the pin and bushing. The external diameter of the bushing is about equal to or slightly smaller than the width of the slot **23** in the tongue **19** so that the tongue will be able to slide freely past the bushing while at the same time leaving a minimum of lateral play between the tongue and bushing. It will be seen, therefore, that if the tongue is moved in a direction away from the fixed post **11**, it will be guided at two points along its length, i.e. within the channel **15** and by the bushing **25**, and will thereby be constrained to move along a straight line path. The fact that the tongue is confined at two points also adds to the sturdiness and stability of the device, and eliminates the possibility of jamming of the tongue during its movements.

The head **26** of the bushing has a diameter larger than the width of the slot **23**, and the head is spaced from the opposite end of the bushing a distance about equal to or slightly greater than the thickness of the tongue **19**. As a result, when the end of the bushing **25** is in contact with the top wall **14**, the head **26** will maintain the tongue **19** parallel to the top wall **14** and yet permit free movement of the tongue. A spring steel nut or clamp **27** is fixed to the pin **24** behind the bushing **25** in order to prevent the bushing from sliding off the pin.

A tension spring **28** mounted between a stud **29** projecting from the top wall **14** and a stud **30** projecting from the tongue **19** tends to urge the tongue, insert **18**, and post **12** into their normal positions shown in FIGS. 1, 3, 5, and in solid lines in FIG. 2. When it is desired to insert a roll of paper towels into the rack, the post **12** is pulled in the direction of the arrow in FIG. 2, into the position shown in dot-dash lines, against the force of the spring **28**. Sufficient spacing is thus created between the members **16** to permit the roll to be conveniently placed in a position of axial alignment with the members **16**. The post **12** is then released and the spring **28** draws it back toward the post **11** whereby the members **16** enter the hollow ends of the roll **17** and rotatably support it.

It should be pointed out that the elements within the hollowed-out region **13** do not project past the rear face of the base **10**. Consequently, this face can be placed flush against a mounting surface and the rack secured to the surface by fastening means which pass through the holes **31** in the base.

It will be noted that the present rack comprises just five parts, three molded plastic parts and two inexpensive fittings. One plastic part includes the base **10**, post **11** (with its member **16** and rib **20**), pin **24**, and stud **29**. The second part includes the post **12** (with its member **16** and rib **20**), insert **18**, tongue **19**, and stud **30**. The third plastic part is the bushing **25**. The two fittings are the nut **27** and spring **28**. All these parts are inexpensive to fabricate and assemble thus making the rack extremely inexpensive to manufacture.

The invention has been shown and described in preferred form only and by way of example and many variations may be made therein which will still be comprised within the spirit of the invention. It is understood, therefore, that the invention is not limited to any specific form or embodiment except insofar as such limitations are expressed in the appended claims.

What is claimed is:

1. A rack for supporting a roll of paper towels comprising an elongated base, a pair of posts mounted on the front face of said base and adapted to hold a paper-towel roll between them, one of said posts being fixed to the base and the other movable with respect thereto in a direction toward and away from said fixed post, the rear face of said base formed with a hollowed-out region having a top wall, said base having a channel at one end communicating with said hollowed-out region, a tongue secured to said movable post extending through said channel into said hollowed-out portion, said tongue having an elongated slot disposed longitudinally with respect to the direction of movement of said movable post, a pin projecting from said top wall through said slot, means secured to said pin for guiding the movement of said tongue, and a tension spring mounted between said top wall and said tongue for constantly urging said movable post toward said fixed post, said guide means comprising a bushing surrounding said pin, the internal diameter of said bushing being about equal to the diameter of said pin and the external diameter of said bushing being about equal to the width of said slot, and including means fixed to the pin near its free end for preventing axial movement of said bushing with respect to said pin.

2. A rack according to claim 1 wherein said bushing has an enlarged head spaced from the opposite end of the bushing a distance about equal to the thickness of said tongue.

3. A rack according to claim 2 wherein the width of said tongue is about equal to the width of said channel.

4. A rack according to claim 3 wherein said tongue, pin, bushing, and tension spring are all disposed entirely within said hollowed-out region whereby the rear face of said base may be mounted flush with respect to a flat supporting surface.

References Cited in the file of this patent

UNITED STATES PATENTS

809,303	Holt	Jan. 9, 1906
1,702,971	Jeffress	Feb. 19, 1929
2,092,587	Olson	Sept. 7, 1937