

- [54] **ROLL PAPER DISPENSER** 2,944,749 7/1960 Maier..... 242/55.2
- [75] Inventors: **John Ira Thomson; Ralph T. Hensley**, both of Lansing, Ill.
- [73] Assignee: **The Raymond Lee Organization, Inc.**, New York, N.Y. ; a part interest
- [22] Filed: **Feb. 7, 1972**
- [21] Appl. No.: **224,081**
- [52] U.S. Cl. 242/55.2, 242/129.5
- [51] Int. Cl. B65h 49/00, D01h 7/16
- [58] Field of Search 242/55.2-55.53, 242/129.5, 68.3; 225/46, 51

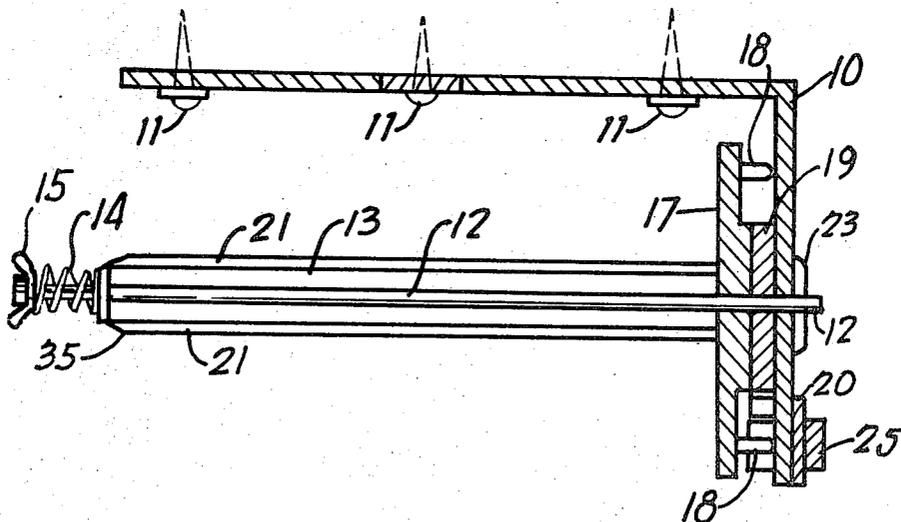
Primary Examiner—Leonard D. Christian
Attorney, Agent, or Firm—Howard I. Podell

[57] **ABSTRACT**

A roll paper dispenser for paper towels and toilet paper in which the roll is directly inserted or removed from an open end of the rotatable spindle, being retained on the spindle by ribs which are slightly over-size the internal diameter of the paper roll. Provisions are made for regulating the frictional torque of the spindle by means of an adjustable compression spring. Provision is also made for permitting the spindle to rotate freely or to be completely restrained from further rotation, by means of a sliding lever which either clears, or interferes with projecting pins on a disc fastened to the end of the spindle.

- [56] **References Cited**
- UNITED STATES PATENTS**
- 1,207,280 12/1916 Currie..... 242/55.2
- 1,825,822 10/1931 Rundell..... 242/55.2

3 Claims, 9 Drawing Figures



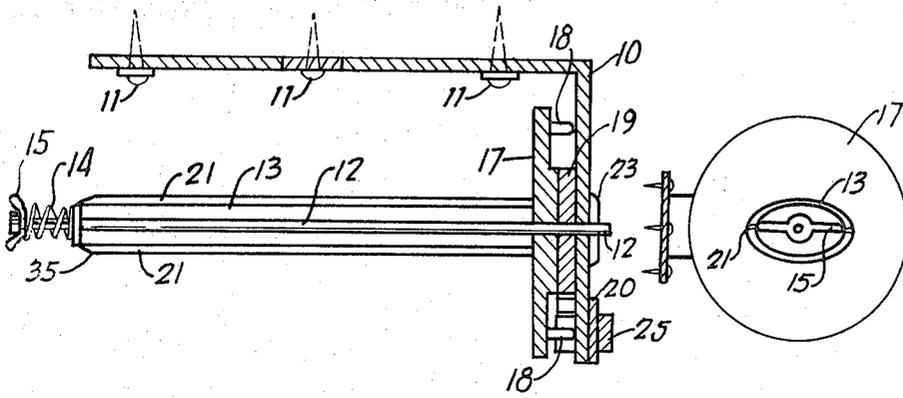


FIG. 1.

FIG. 2.

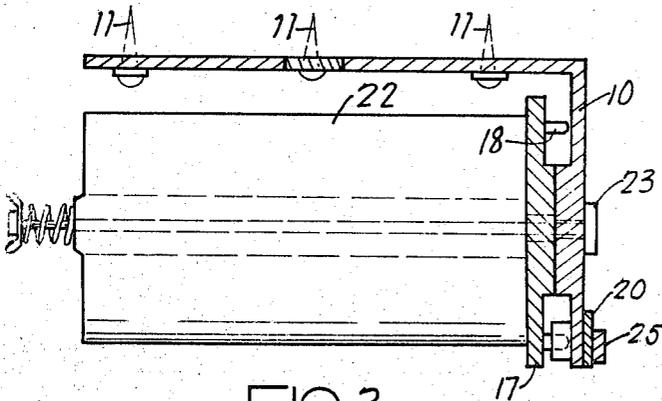


FIG. 3.

FIG. 4.

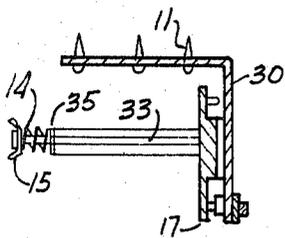


FIG. 5.

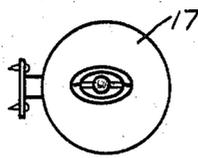


FIG. 6.

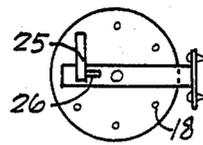


FIG. 7.

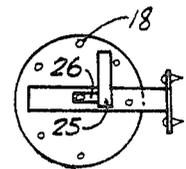


FIG. 8.

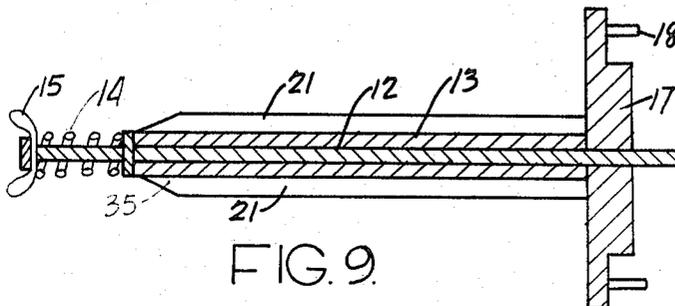


FIG. 9.

ROLL PAPER DISPENSER

SUMMARY OF THE INVENTION

This invention relates to an improved dispenser for roll paper products such as paper towels and toilet paper.

In our invention, the spindle shaft supporting the roll of paper is entirely supported on one end, permitting the roll to be slid on or off the other end of the shaft as required.

A further object of our invention is the provision for regulating the frictional torque of the rotating spindle and means for permitting either continuous rotation of said spindle or for limiting continued rotation of the spindle.

The spindle supporting the paper roll is fabricated with two projecting longitudinal ribs spaced diametrically opposite each other, such that the paper roll is forced over said ribs when it slid onto the spindle. The cross-section of the tubing supporting the paper roll is forced into an elliptical shape so as to hold the paper roll tightly on the spindle.

The rotating spindle tube which fits over a fixed rod, said fixed rod being fastened at one end to the structure of the dispenser holder, and threaded at the other end. The spindle is freely mounted over this fixed rod and secured to it by a compression spring tightened by a wing nut. The degree of compression of said spring by the adjustable wing nut determines the rotating frictional torque of the spindle. The inner end of the rotating spindle is fastened to a disc with projecting pins, which interferes with a slidable yoke on the dispenser frame in one position of said yoke so as to prevent rotation of the spindle. With the slidable yoke in the unlock position, the projecting pins on the spindle disc clear the yoke, permitting the spindle and the paper roll fastened to it to rotate freely.

DESCRIPTION OF THE DRAWINGS

The objects and features of the invention may be understood with reference to the following detailed description of an illustrative embodiment of the invention taken together with the accompanying drawing in which:

FIG. 1 is a cross-section of a plan view of the dispenser in the empty condition;

FIG. 2 is an end view of the dispenser taken from the free end of the spindle;

FIG. 3 is a cross-section of a plan view of the dispenser with a roll of paper fastened;

FIG. 4 is an end view of the dispenser taken from the fixed end of the spindle;

FIG. 5 is a plan view of a dispenser of toilet paper;

FIG. 6 is an end view of the dispenser shown in FIG. 5 from the free end of the spindle;

FIG. 7 is an end view of the dispenser, shown in FIG. 5, from the fixed end, with the spindle locked;

FIG. 8 is an end view as shown in FIG. 7 with the spindle in the free rotation mode; and

FIG. 9 is a cross-section of a plan view of the dispenser spindle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now descriptively to the drawing in which similar reference characters denote similar elements throughout the several views, FIG. 1 illustrates the dispenser frame 10. Frame 10 is of L shaped construction, and is adaptable to be fastened by nails 11 or screws to a vertical wall. A fixed axle shaft 12 is fastened to the frame 10 and to washer 23.

The open end of axle 12 is threaded permitting clamping hollow spindle 13 to the axle 12 by means of compression spring 14 and wing nut 15 as shown in FIG. 9. The relative tightness of compression spring 14 determines the frictional torque of rotation of the spindle, and of spindle disc 17 which bears against washer 19.

Projecting ribs 21 are set diametrically opposed to each other on spindle 13 so as to wedge against the inner diameter of paper roll 22 as shown in FIG. 2, and FIG. 3. These ribs 21 assure that the paper roll 22 will rotate together with spindle 13.

A series of pins 18 project from the surface of spindle disc 17, pins 18 being set at a uniform radial distance from the center of the spindle disc 17. Spindle 13 is tapered at the open end 35 so as to simplify the task of centering a roll 22 of paper when it is placed on the spindle 13.

As shown in FIG. 4, a sliding yoke member 25 rides in slot 26 of frame 10. Yoke member 25 is located so as to interfere with the rotation of pins 18 of spindle disc 17, in the locked mode. When yoke 25 is slid to its opposite position, yoke 25 clears pins 18 permitting spindle 13 to rotate freely.

FIG. 5 and FIG. 6 illustrates a dispenser 30 with a shorter spindle 33 for accepting rolls of toilet paper.

As shown in FIG. 7, yoke 25 is located in the locked position in slot 26 so as to interfere with pins 18 on spindle disc 17.

The free running position of spindle 13 is illustrated in FIG. 8, with yoke 25 being located in slot 26 so as to clear pins 18.

Since obvious changes may be made in the specific embodiment of the invention described herein, without departing from the scope thereof, it is indicated that all matter contained herein is intended to be interpreted in an illustrative sense and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A roll dispenser for paper products which permits addition or removal of the paper roll over an open end of the roll spindle, with means to adjust the frictional rotational torque of rotation of the paper roll, means to prevent or to permit rotation of the paper roll, and means to fasten said dispenser to a vertical wall.

2. The combination recited in claim 1 in which the roll spindle is rotatably fastened to a fixed axle, only one end of said fixed axle being fastened to the dispenser frame.

3. The combination recited in claim 2 in which longitudinal ribs project above the surface of the spindle, so as to create frictional resistance between the spindle and a roll of paper which is pushed over said spindle and said longitudinal ribs.

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