Dec. 7, 1965 G. A. RIEBEL 3,221,929

PAPER TOWEL DISPENSER

Filed June 22, 1962 2 Sheets-Sheet 1

FIG. 1

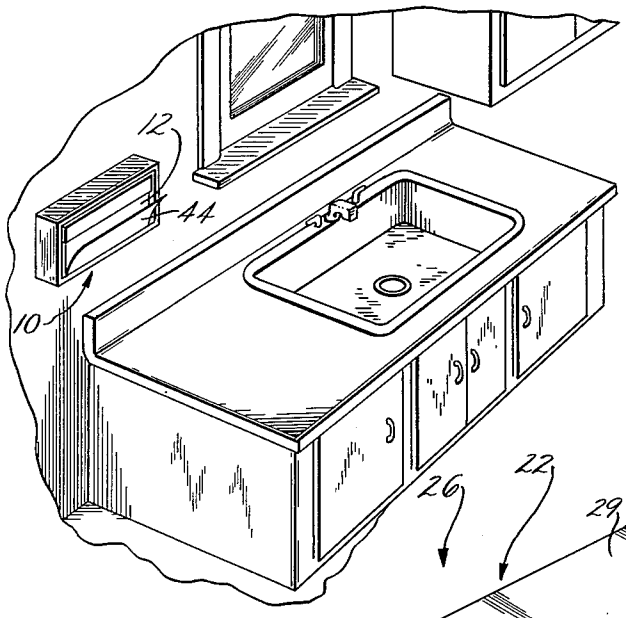

FIG. 2

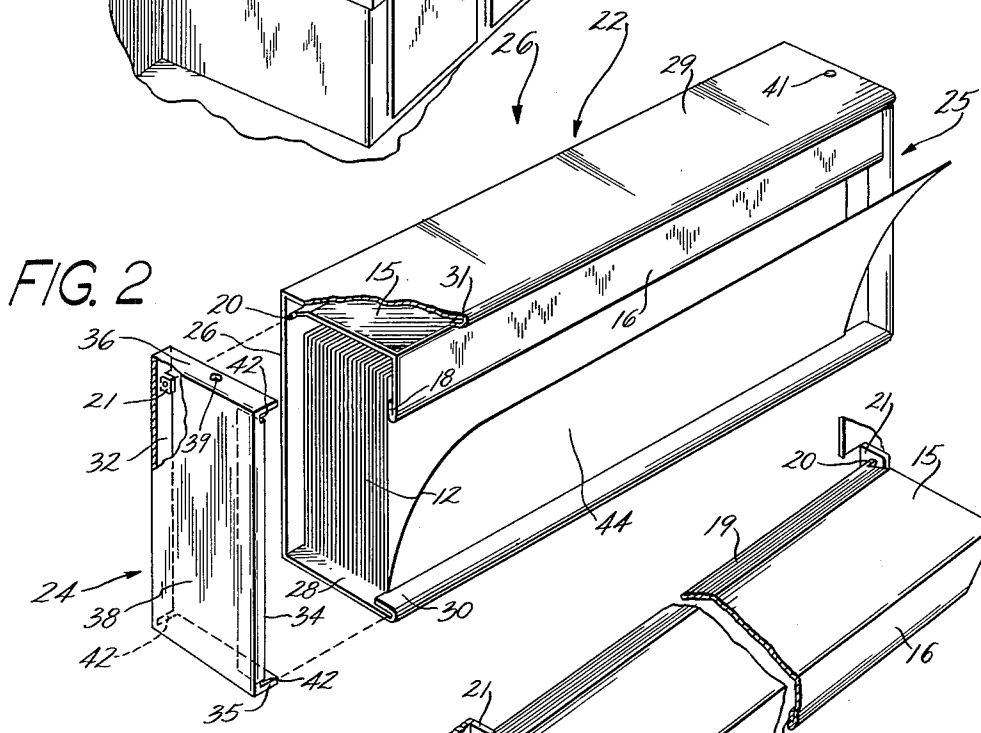

FIG. 3

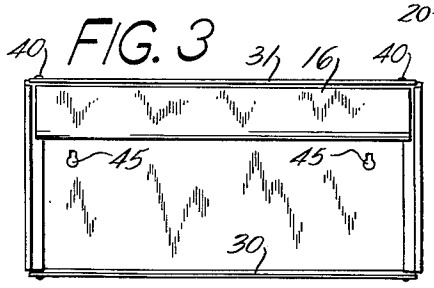

FIG. 4

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PAPER TOWEL DISPENSER

Filed June 22, 1962 2 Sheets-Sheet 2

FIG. 5

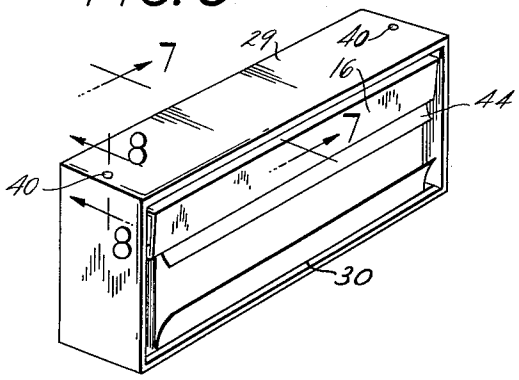
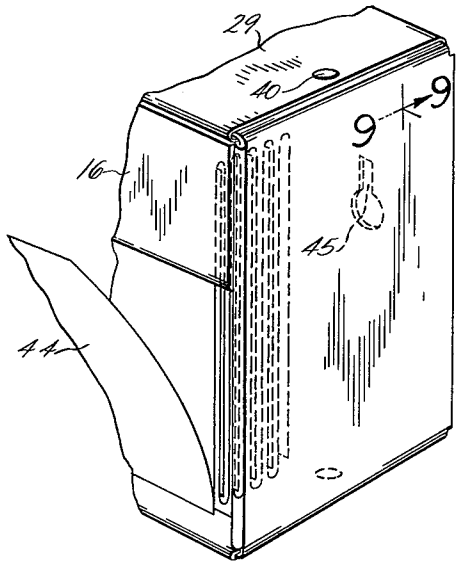


FIG. 6



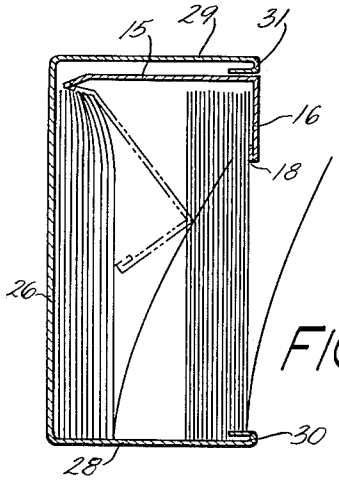


FIG. 7

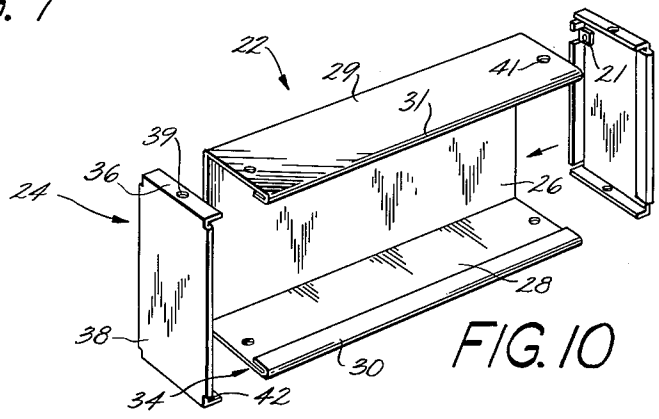


FIG. 10

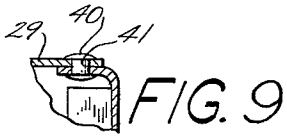


FIG. 9

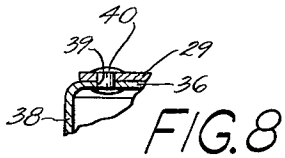


FIG. 8

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PAPER TOWEL DISPENSER

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Filed June 22, 1962, Ser. No. 204,452
2 Claims. (Cl. 221—63)

The present invention relates to a paper towel dispenser.

Heretofore, generally in kitchen usage and other domestic usages, kitchen toweling and other absorbent paper toweling have been dispensed from rolls. The rolls are perforated at sequential stations so that various pieces can be pulled off. One problem is that oftentimes in removing a sheet, one pulls two or three sheets, or if the hand is wet, one gets only a handful of paper. The dispensers for folded paper towels, on the other hand, have proved large and bulky, and have found their principal employment in public washrooms, manufacturing plants, and other commercial installations. For a long time there has been a distinct need for a small, inexpensive, and easy to operate dispenser for folded toweling of the commercial variety.

In view of the foregoing, it is the primary object of the present invention to provide a dispenser for folded absorbent paper toweling which is readily adaptable for household usage. An ancillary object of the invention is to teach a unique method for dispensing toweling which permits the same to be dispensed along a horizontal axis, and yet eliminates the necessity for a plurality of complex spring and other type structural members.

A more related object to the present invention looks to the development of a dispenser which can be fabricated from four metal stampings, and accordingly be fabricated in volume at an irreducible minimum of labor expense.

Still another object of the present invention is to provide a dispenser with a gravitationally actuated holding means which also serves to permit the sequential removal of the paper towels. A related advantage looks to the provision of such a device which can readily accommodate itself to a wide variety of stack thicknesses of the towels placed into the dispenser unit.

Still another advantage of the present invention lies in the method for dispensing toweling which virtually eliminates the possibility of tearing by the mechanism itself.

Further objects and advantages of the present invention will become apparent as the following description proceeds, taken in conjunction with the accompanying illustrative drawings in which:

FIG. 1 is a perspective cutaway view of a portion of a modern kitchen disclosing the dispenser illustrative of the present invention as installed therein.

FIG. 2 is a perspective, partially cutaway, partially exploded view of the dispenser shown in FIG. 1 illustrating one configuration of paper toweling in place.

FIG. 3 is a front elevation in smaller scale from that shown in FIG. 2 of the dispenser without any towels in place.

FIG. 4 is a perspective, partially broken view of the retainer mechanism illustrating its detailed construction and associated hinged relationship with the balance of the dispenser.

FIG. 5 is a perspective view in enlarged scale from the dispenser as shown in FIG. 1.

FIG. 6 is an enlarged perspective broken view of the right end of the dispenser shown in FIG. 5 illustrating the mounting means and portions of the release mechanism.

FIG. 7 is an enlarged transverse sectional view taken along section line 7—7 of FIG. 5 illustrating the progressive orientation of the retaining means as towels are sequentially removed from the stack within the dispenser.

FIG. 8 is an enlarged cutaway sectioned view taken along section line 8—8 of FIG. 5 illustrating one means of joining portions of the dispenser sheet metal construction.

FIG. 9 is an enlarged broken sectioned view taken along section line 9—9 of FIG. 6.

FIG. 10 is an exploded perspective view illustrating partially diagrammatically how the dispenser housing is fabricated out of three sheet metal pre-formed units in conjunction with the retainer illustrated in FIG. 4.

Referring now to FIGURE 1, it will be seen that there is illustrated a typical kitchen **11** in which a dispenser **10** illustrative of the present invention has been installed. The dispenser contains a towel stack **12**, and extending therefrom is an individual paper lead flap **44** which is grasped by the housewife or other persons in the kitchen in order to remove paper toweling one by one from the dispenser **10**. The retainer **14** holds the paper towels in place, and is gravity actuated to achieve this function. In addition, the retainer **14** may be lifted when the last towel has been removed, and a new stack of towels put in place. Indeed, it is not even necessary to wait until all of the towels are removed if a new supply is deemed desirable.

Referring now to FIGURE 2, the detailed construction of the dispenser **10** will become more apparent. There it will be seen that the retainer **14** is a generally L-shaped member in cross-section (see also FIG. 4), having a back **15** and a retainer grip portion **16**. The grip portion **16** depends from the retainer back **15**, and has a contact edge which is a reversely bent portion **18** of the sheet metal forming the retainer grip **16**.

The retainer **14**, as stamped from its sheet metal blank, is provided with an offset hinge base **19** at its rear portion, from the ends of which extending hinge pins **20** are provided. As best illustrated in FIG. 4, the hinge pins are inserted into hinge ears **21**, from which gravity will permit the retainer to drop downwardly. The offset hinge base **19** is provided in order that the retainer back **15** may butt flush against the housing as will be detailed hereinafter.

As indicated above, and also as shown in FIG. 10, the entire dispenser may be formed from four elements. The principal element is the channel back **26** and its associated base flange **28** and top flange **29**. The housing **22** has its left end **24** and right end **25** which in turn contain the hinge ears **21** for the attachment of the retainer **14**. Referring now to FIG. 2, it will be seen that the left end and right end **24**, **25** are mirror images of each other. For purposes of illustration the left end will be described in detail. It will be seen that the left end **24** has a rear edge **32**, a front edge **34**, a bottom **35**, and a top **36**. These elements are folded to create the general configuration of a rectangular box with the edges having a shallow depth for the box. The rear edge **32** is cut away at its upper portion and deformed in order to define the hinge ear **21** (see also FIG. 4). The front edge **34** is reversely folded. End edge slots **42** are provided in the left end **24** and the right end **25** in order to accommodate portions of the channel back **26**. The channel back **26**, in turn, is formed with a base flange **28** and top flange **29** which terminate respectively in the reversely folded base flange edge **30** and reversely folded top flange edge **31**.

By proportioning the ends and the channel back along with the retainer properly, the entire unit may be prefitted together and held in place as with rivets **40**. It will be noted that an end top rivet hole **39** is provided in the left and right ends **24**, **25**, and mating top flange rivet holes **41** are provided to receive the rivet. The same

general technique is employed with the end bottom **35** and the base flange **28**. In this fashion the entire unit can be assembled with four rivets. It will be appreciated, of course, that in high speed production appropriate jigs might be made in order to spot weld the assembly, and that other mechanical equivalents may be employed different from the hinge construction as illustrated herein. In order to conveniently mount the dispenser **10** on a kitchen wall or elsewhere for its suitable usage, keyhole slots **45** are provided in the channel back **26** so that by mounting screws in the wall at appropriately spaced positions, the unit can be slipped in place on the wall, and yet readily removed from mounting elsewhere, or for facilitating the insertion of the paper towels.

The method

While there has been described a mechanism for carrying out the method of removing paper toweling above, it should be understood that a method is also contemplated as a portion of the present invention.

The method contemplates employing a stack of regularly spaced and folded paper towels **12** as illustrated, each of which stacks has a paper lead flap **44**. The method is practiced by placing the toweling in an axis so that it will be removed and deplete the stack horizontally, rather than vertically as is generally accepted in the "Kleenex" type dispenser. In order to retain the toweling in position, a gravity actuated retaining means is provided which restrains the stack of toweling in a horizontal direction against a back surface.

The toweling is similarly restrained from longitudinal and lateral movement. The left end and right end **24**, **25** of the dispenser **10** as illustrated are examples of such restraining means. Additionally, the base flange **30** of the dispenser **10** as shown serves to constrain the same along its lateral axis. The retainer **14** is illustrative of the type of gravitational pressure which can be applied to restrain the stack of paper toweling from removal or dislodgement along the horizontal axis of dispensing. It will be appreciated also, however, that other gravity inspired devices might be employed. For example a pendulum type construction swiveled from a point well above the dispenser housing could be provided with fingers which would reach in and position themselves to restrain movement of the toweling along its horizontal axis. Similarly, the restraining means, rather than being in the configuration of left end **24** and right end **25**, could readily be yieldable spring members with a horizontal portion which would engage all portions of the toweling.

Thus it is evident that the method may be practiced by other constructions than that shown and described.

While one embodiment of the dispenser of the invention has been shown and described, various alternatives and equivalents are contemplated as within the scope of the present invention. Such constructions have been alluded to in part above, but others will become apparent to one skilled in the art upon inspection of the description contained here. Similarly, alternatives and equivalents of the method may also be contemplated, as illustrated above. All such alternatives and equivalents are considered contemplated by the present invention, and the structure as shown and described in detail has been shown for purposes of illustration and not limitation.

I claim:

1. A dispenser comprising, in combination, a rectangular box-like housing; said housing having a back, two ends, a top and a base member for said housing, all such members being either perpendicular or parallel with at least one other housing portion and defining an open front portion; and a towel retainer, said towel retainer having an elongate back and an elongate rectangular depending gripping member, all said members being rigid and non-resilient, the retainer back having a hinge edge in remote, spaced, parallel relation with the gripping member, and non-resilient hinge means securing the retainer adjacent the housing back on the retainer's hinged edge and in parallel spaced relation with the housing base member with the retainer back abutting the housing top, whereby a gravitational releasable grip is effected between the retainer and a plurality of stacked folded sheets with the folds along a horizontal axis for the sequential individual release of each of such stacked folded sheets.

2. The dispenser of claim **1** having a reversely folded flange running the length of its bottom front portion to selectively serve as an additional retaining means for the stacked folded sheets.

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