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DRY PRODUCT DISPENSER MEANS

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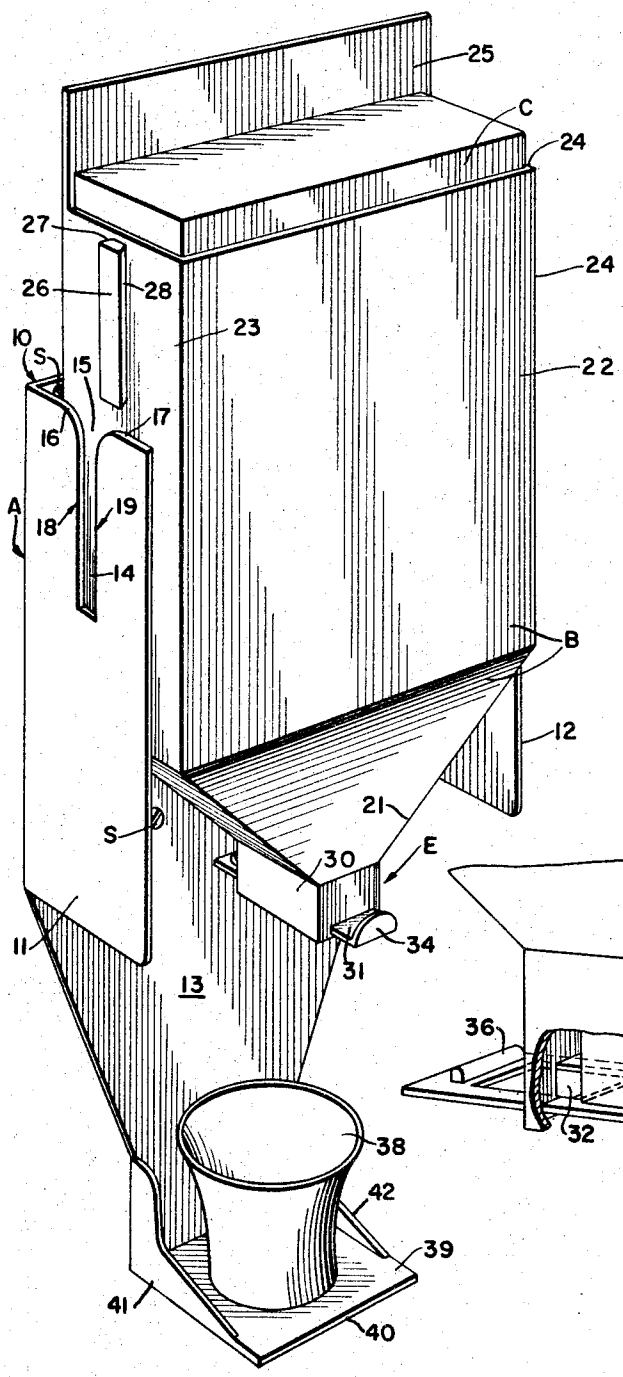


FIG. 1.

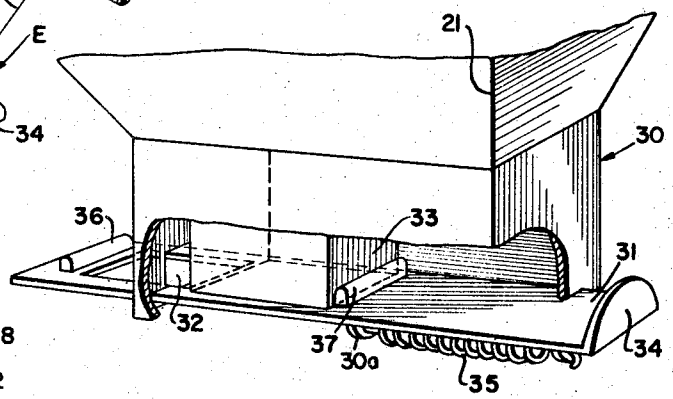


FIG. 2.

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DRY PRODUCT DISPENSER MEANS

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ABSTRACT OF THE DISCLOSURE

A dispenser for powdered material from the original package with a walled holder for the package, a hopper below the package to direct the package contents by gravity to a valve for discharge of the powdered material into a receiving area without spillage of the powder laterally of the hopper.

My invention relates to dry product dispenser means, such as for detergent powders, soap flakes and the like, although in some instances the dispenser may be used to dispense granular products of any kind, such as coffee, sugar and the like.

More particularly my invention relates to dispenser means consisting of a combined holder and dispenser with a valved discharge end for an original cardboard package filled with a dry product, one end of which may have been opened and inverted therein, said package holder and dispenser being mounted in a bracket secured to a vertical surface so the dispenser valve at the discharge end of the dispenser may be operated, and an adjacently mounted shelf for support of a measuring cup positioned thereon in a suitable position to receive a desired quantity of the detergent as it flows through the dispenser valve from the open end of the inverted package in the combined holder and dispenser.

One object of the invention is to provide convenient and useful dry storage of an original dry product container or carton.

A second object is to provide efficient and easy dispensing of dry powdered products, such as detergent powders, soap flakes and the like from a conveniently positioned wall mounted unit near to washing apparatus, such as a dishwasher or other automatic washing machine.

A third object is to provide a substantially accurate predetermined valve controlled discharge of dry deterggent and the like to an integrally connected measuring area comprising a shelf with a measuring receptacle thereon for collecting a quantity apropos to a known wash cycle.

A fourth object is to provide a dispenser of high utility and attractive appearance and of extremely light weight and flexible material assembled in a desirable flexible and vibrationless construction.

A fifth object is to provide, in combination, a detergent holder and dispenser which prevents spilling and precludes undesirable wetting and moisture contamination of the detergent prior to actual use thereof.

The above and other objects and advantages of my present invention will appear more fully hereinafter from a consideration of the detailed description which follows, taken with the accompanying drawings wherein several novel features thereof are illustrated. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not intended as a definition of the limits of the invention.

In the drawings, wherein like reference characters refer to like parts throughout the several views:

FIGURE 1 is a perspective view of my invention including a novel wall mounted bracket, a dispenser and valve unit combination mountable therein with a usual cardboard detergent package in the dispenser inverted and opened at its inverted end so its contents may be dispensed by gravity through the valve unit; and

FIGURE 2 is a partial view in side elevation of the novel detergent dispensing valve arrangement at the bottom portion of the dispenser.

Generally the present dispenser device includes a novel wall bracket A; a novel dispenser B adapted to receive an original cardboard package C filled with a dry product, such as a dry detergent and hold the same in an inverted dispensing position, to permit gravity flow of the dry package contents from the package through a novel valve assembly E at the lower part of the dispenser into a measuring cup supported below the valve on a shelf connected with the wall bracket.

Wall bracket

Now with particulamr reference to FIGURE 1, the wall bracket A comprises a sheet **10** of suitable resiliently flexible material, such as a flexible plastic, although any light weight thin sheet material, such as aluminum or tin plate may be used. This sheet **10** is fabricated into the preferably integral formation of the wall bracket A by forming it with substantially right angled longitudinal side walls **11** and **12**, which are preferably yieldably flexible. These walls are transversely spaced to provide the boundaries along longitudinal edges of a rear wall or plate **13**, which continues to extend downward for formation into a measuring cup support shelf to be hereinafter described in more detail. This backing plate **13** is formed adjacent each upper and lower corner thereof with a fastener opening, whereby the bracket A may be fastened, for example, by a screw S to a wall or other suitable vertical surface.

Each yieldably movable side wall **11** and **12** of the bracket A is formed intermediate the width thereof with a slot **14**. Each slot is open at the peripheral edge of each respective wall in the provision of an open portion or mouth **15**. These mouth portions of each side wall are defined at their respective entry portions by spaced rounded lips **16** and **17**, which smoothly blend into the elongated spaced side edges **18** and **19** of the material forming the respective side walls **11** and **12**, see FIGURE 1.

Thus the bracket A is formed to serve as a receiving channel bounded with flexible resiliently yieldable side walls **11** and **12** for receiving the novel detergent dispenser B, which is detachably and operatively associated therewith.

Detergent Dispenser

The detergent dispenser B comprises a detergent package holding body with a funnel-shaped lower section **21** and with an upper rectangular section **22**. The upper section has side walls **23** and **24** and is open at the top with a rear wall extension **25**.

The extension **25** provides a guide surface and facilitates the insertion of an inverted opened original detergent package C into the open top portion of the dispenser body section **22** and also the subsequent withdrawal of the empty package after its contents have been dispensed through the valve portion E of the dispenser. Also, in addition to being a guide the extension or flap **25** serves as a shield to protect the wall or support surface for the dispenser from being soiled by a user's greasy fingers and the like after the dispenser B and detergent carton are mounted in the bracket A as hereinafter described and likewise keeps the wall from being rubbed and marred with repeated usage.

The upper side walls **23** and **24** of the rectangular section **22** are each respectively formed with elongated dove-

tail longitudinal lug members **26**. Thus the dovetail shape of each elongated lug has a specific coactive function with the side edges of its respective mating slot **14** in cooperation with the same action of the dovetailed lug and its mating slot on the opposite side wall of the dispenser B. For example, when the respective dovetail lugs **26** are simultaneously inserted at the mouths **15** into their respective slots **14**, the inward slant of the sides **27** and **28** of each lug, see FIGURE 1, serve to produce a cam-like action to provide an inward pulling force of the flexible and movable sides **11** and **12** of bracket A toward each other, inwardly toward the side walls **23** and **24** of the detergent dispenser B. This results in a firm and snug supporting connection between the side walls of the bracket A and the open bottom dispenser body B, to thereby prevent any undesirable vibration rattles between the bracket A and the wall mounted dispenser unit B. Such vibrations usually develop from the noise and vibration of any adjacent washing apparatus or other mechanical causes of vibrations, such as may develop from automatic refrigerators and the like.

The dispenser body B in the lower extremity at its lower funnel-shaped section **21** is formed with a flow valve housing **30** open at the bottom. In this open bottom housing is mounted a novel valve plate **31** formed with an outlet flow opening **32**, see FIGURE 2, in a suitably offset flat surface portion of the plate. The plate **31** is mounted in aligned transverse slots formed in the mid-section of the flow valve housing **30**, so as to be suspended and guided for reciprocation under the open end of a gravity flow outlet chute **33**, see FIGURE 2, whereby the outlet flow opening **32** in the valve plate **31** may be manually selectively positioned with its slot into and out of registry with the outlet chute **33**.

The manual operation of the valve plate is facilitated by the upstanding handle **34** formed by the tab on one end of the valve plate and a pull outwardly on the handle is against the biasing action or resistive action of a coil spring **35** suitably secured at the forward end to the forward underside of the valve plate **31** and at the rearward end to an apertured L-shaped lug **30a** secured to a side portion of the valve housing **30** fixed relative to the valve plate **31**. This lug **30a** is generally shown in FIGURE 2.

Also, as a guide and control of the valve plate to open position there is provided an upstanding stop **36**. This stop may be formed from the material of the plate itself at the aft end of the valve plate slot, while at the fore end of the slot the valve plate **31** is similarly formed with an upstanding stop **37** adapted to engage the lower edge of the forward wall of the outlet chute **33**, when the valve plate **31** is biased by the normal compression of the spring **35** into the closed non-flow position, see FIGURE 2.

Thus the valve housing **30**, the valve plate **31** and the upstanding stops **36** and **37** provide a gate valve arrangement for manual control of the flow of dry detergent from the container C and from the flow chute **33** into a suitable measuring receptacle **38**. For example, see FIGURE 2, which shows one example of a measuring cup **38** normally positioned on a shelf **39** preferably formed integrally with the lower part of bracket plate **13** in a position below the open bottom of the valve housing **30**.

The shelf **39** is preferably of a similar matching material to the bracket A and integral therewith, but in some instances may be separate. Preferably the entire assembly is made of plastic with no metal parts except for the securing fasteners or screws S and the gate valve spring **35**. The shelf **39** is formed with an unobstructed leading edge **40** and with side triangular walls **41** and **42** with their respective apices adjacent the edge **40**, whereby the cup **38** is reasonably safe from lateral displacement and reduces the chances of the measuring cup falling from the shelf.

Assembly, loading and operation

The assembly of the present invention has been described hereinbefore in detail. However, prior to assembly or to the mounting of the loaded dispenser B in the wall bracket A, it is intended that a detergent carton C be end opened, and inserted with the opened end toward the funnel portion **21** of the dispenser B. With the detergent carton C thus positioned in the dispenser B, the same is turned so the carton C is inverted and mounted in the side wall **12** and **13** of the wall bracket A as shown in FIGURE 1.

A brief summary of the preparation for the operation of the assembled unit is as follows:

First, the box top of a detergent carton A is removed entirely;

Second, the dispenser B is held over the open top of the container A with the valve assembly facing up;

Third, the dispenser B is then manually made to slide over the detergent carton A inclosing it completely;

Fourth, the thus assembled dispenser and carton are inverted with the valve assembly downward;

Fifth, the dispenser is placed in the bracket A attached to the wall;

Sixth, the measuring cup is placed on the shelf under the valve assembly;

Seventh, the valve handle is pulled outward of the valve assembly and dry detergent, soap or the like flows into the measuring cup;

Eighth, the lever or valve handle is released and the spring returns the valve plate to cut off the detergent flow into the measuring cup when the required amount has entered the cup.

Without further description it is believed that the advantages of the present invention over the prior art is apparent and while only one embodiment of the same is illustrated, it is to be expressly understood that the same is not limited thereto as various changes may be made in the combination and arrangement of the parts illustrated, as will now likely appear to others and those skilled in the art. For a definition of the scope or limits of the invention, reference should be had to the appended claims.

What is claimed is:

1. A combination holder and dispenser for dry product means from their original package comprising a wall bracket formed with a rear wall and spaced side walls, said side walls being flexible and formed with vertical slots, and a dispenser unit comprising a rectangular package receiving portion and a lower funnel portion, said package receiving portion having means engageable in said slots, a gate valve assembly at the mouth of the funnel portion, and a shelf below said valve assembly for a receiver cup when said dispenser is mounted in said bracket.

2. A combination holder and dispenser as described in claim **1**, wherein said shelf is formed as an integral part of said rear wall of said bracket, said wall being relatively longer than said dispenser whereby said shelf is spaced below said valve assembly.

3. A combination holder and dispenser as described in claim **1**, wherein said shelf comprises an unobstructed leading edge and lateral side triangular walls with their respective apices adjacent said edge.

4. A vertically supported dry product dispenser for detergent packages and the like comprising a package holder portion and a lower funnel portion, a discharge valve in said funnel portion, a bracket for mounting said walled package holder portion of the dispenser vertically with the funnel portion and the said discharge valve downward, and a spring connected to said valve to bias and return said valve from an open position to a closed position, said package holder portion including side walls and wherein said bracket includes movable side walls, each side wall of said package holder portion and of said bracket having respective connection means adapted to mate with each

other to thereby effectively mount said dispenser vertically in said bracket in package dispensing position, the said mating means of the respective dispenser and the wall bracket being dovetail lugs and having elongated receiving slots and wherein said side walls of said bracket are moveable by the shape of said lugs of the side walls of the dispenser as they engage in the said slots of the side walls of the bracket.

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