Feb. 23, 1971 G. R. SHELLEY 3,565,500

HOLD DOWN ROD FOR DISHES AND THE LIKE

Filed May 27, 1968

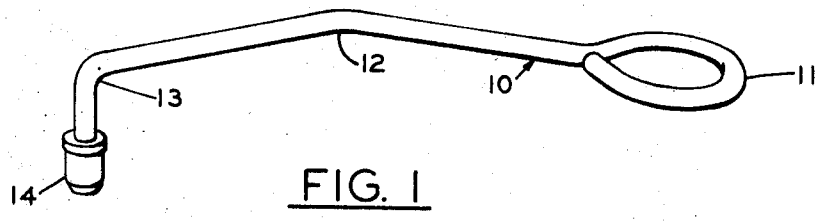



FIG. 1

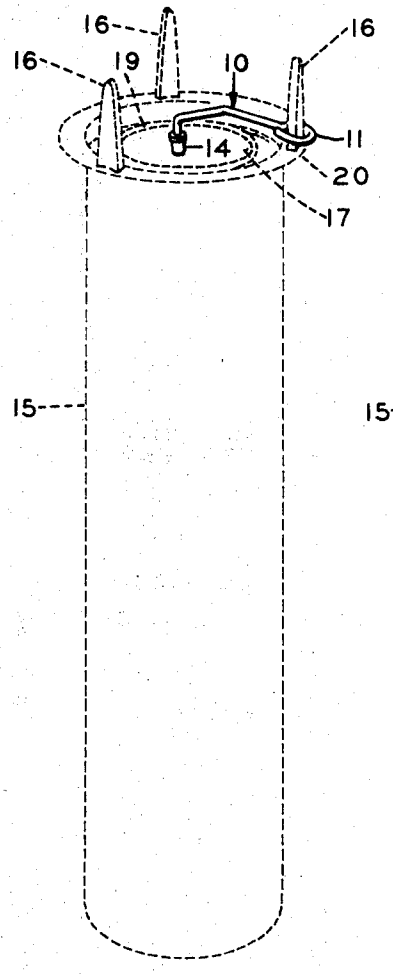



FIG. 2

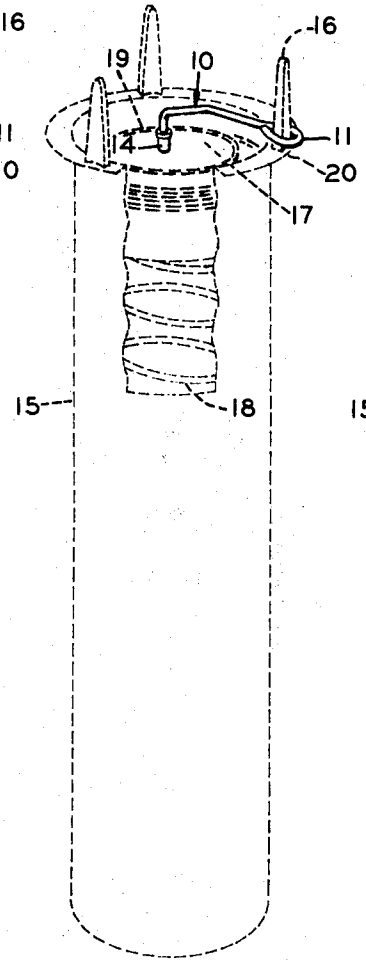



FIG. 3

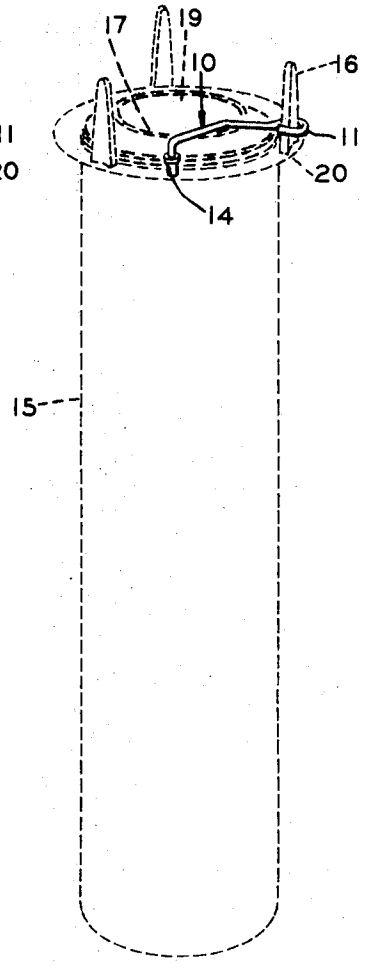



FIG. 4

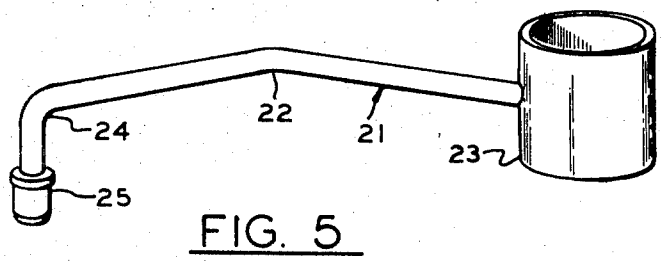



FIG. 5

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United States Patent Office 3,565,500 Patented Feb. 23, 1971



3,565,500

# HOLD DOWN ROD FOR DISHES AND THE LIKE

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Filed May 27, 1968, Ser. No. 732,280
Int. Cl. A47f 1/00
U.S. Cl. 312—71 2 Claims

## ABSTRACT OF THE DISCLOSURE

A hold down rod for preventing articles, such as dishes, which are stored in stacks and automatically dispensed, from jumping out or bouncing while being transported.

## BACKGROUND OF THE INVENTION

### (1) Field of the invention

This invention relates in general to automatic dish dispensers and in more particularity to a hold down rod for holding dishes in a stationary position. It is common today in restaurants, cafeterias, hospitals, institutions, etc., to automatically dispense dishes from a self-leveling dispenser in which a spring loaded mechanism always keep the top dish or article in a position ready for use.

Some self-leveling dispensers are built into portable carts and others are permanent installations in counters.

With dispensers in portable carts the most common problem is retaining the dishes in stacks while being transported or conveyed. Sudden stops or movements will cause the dishes to bounce out of the dispenser.

A common problem with built-in counter type heated dispensers is that of holding the top dish or dishes within the heated area.

The problem of dust collection is eliminated by holding the dishes below the top of the dispenser in both portable and stationary dispensers.

### (2) Description of the prior art

There has been an article dispenser proposed in which an electric motor moves the dishes upward against a hold down member. An example of this type of device is shown in the patent of Haag 3,167,369.

There have been several types of hold down members for limiting the upward movement of various objects such as tennis balls, bobbins, etc. Examples of these devices are shown in patents to Maves 2,879,122 and Nelson 2,966,280.

## SUMMARY OF THE INVENTION

It is the primary object of this invention to provide a hold down rod for dishes or articles which are placed in stacks.

A further object is to provide a hold down rod which may be easily attached to and detached from the guide post of a dispenser. Most dish dispensers are equipped with guide posts to which a hold down rod according to my invention can be attached.

Another object of my invention is to provide a hold down rod to prevent the movement of dishes from the heating area of a heated dish dispenser.

A still further object of my invention is to provide a hold down rod which may be swung or laterally rotated about the guide post of the dispenser when it is desirable to remove dishes from the dispenser. The hold down rod does not have to be removed but may remain attached to the dispenser guide post.

Further features, objects, and advantages will either be specifically pointed out or become apparent when, for a better understanding of the invention, reference is made to the following written description taken in conjunction with the accompanying drawing.



## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a hold down rod according to my invention;

FIG. 2 is a perspective view of a hold down rod as it appears in use on a dish dispenser with the dish dispenser being shown in dotted line to more clearly illustrate the invention;

FIG. 3 is a view similar to that illustrated in FIG. 2 with parts broken away to show the interior of the dish dispenser and with the top plate turned upside down to hold the dishes within the heated area and in a position where they will not be subjected to the collection of dust thereon;

FIG. 4 is a perspective view similar to that of FIG. 3 with the hold down rod rotated out of hold down position about the guide post; and

FIG. 5 is a modification of the hold down rod employing a cylindrical member.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, the embodiment shown in FIG. 1 is a hold down rod **10** having a loop **11** located at one end. Obtuse angle **12** is formed in the midsection of the hold down rod and another obtuse angle **13** is formed near the end of the hold down rod opposite the loop **11**. A resilient foot **14** is attached to the end of the hold down rod and will be in contact with the dishes or articles being dispensed.

FIGS. 2 and 3 illustrate how the hold down rod **10** is attached to a guide post **16** of dispenser **15** and FIG. 3 also illustrates how the articles or dishes are leveled in the dispenser **15**. Spring **18** is contained within the dispenser **15** and forces the articles or dishes **17** upwardly with the spring acting against the force caused by the weight of the dishes.

The dishes push upwardly against resilient tip **14** and in so doing, the outside end of loop **11** of hold down rod **10** presses against the flange **20** of dispenser **15**. The contacting of loop **11** with flange **20** takes some of the pressure off of the guide post **16** thus eliminating the possibility of breaking off the guide post.

It will be noted that dish **17** is shown in FIGS. 3 and 4 as being turned upside down with resilient foot **14** contacting the bottom **19** of the plate. When plate **17** is placed in an upside down position, it holds the other dishes down farther into the dispenser **15** thus assuring that all of the dishes are within the heating area. It also places the dishes far enough down into the container to prevent dust from settling around the edges thereof.

FIG. 4 illustrates how hold down rod **10** may be rotated about guide post **16** to permit removal of dish **17** from dispenser **15**. Hold down rod **10** does not have to be removed from guide post **16** when article or dish **17** is being removed from dispenser **15**. By pushing down on the article or dish **17**, the grip of loop **11** on guide post **16** is released and hold down rod **10** can then be easily rotated out of working position about the guide post **16** without being removed.

FIG. 5 illustrates a modification of my invention in which a cylindrical member **23** is used for attachment to guide post **16** instead of a loop **11** such as hold down rod **10** provides.

In this modification hold down rod **21** has a cylindrical member **23** on one end thereof and a resilient foot **25** on the opposite end thereof. An angle **22** is formed in the midsection of the rod **21** and a second angle **24** is formed near the end of the rod which holds resilient foot **25**.

In operation the cylindrical member **23** is placed over guide **16** and the upward force of dish **17** against resilient foot **25** will cause cylindrical member **23** to tilt until the

longitudinal axes of the cylindrical member and the guide are at an angle to each other. When this occurs, the rod **21** is held firmly in position in relation to guide **16**.

It will be apparent that there has been provided a new and novel means for holding stacked articles in position within a dispenser and a means to prevent the articles from bouncing out when the dispenser is moved.

It should be understood, of course, that the foregoing disclosure relates to only one preferred embodiment of my invention and that it is intended to cover all changes and modifications of the examples of the invention herein chosen for the purpose of this disclosure which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

**1.** A hold down rod for a dish dispenser including a receptacle having a mouth toward which dishes are urged when placed in the receptacle, the receptacle having an upstanding post adjacent said mouth capable of receiving a mounting member, said hold down rod comprising a shank portion extending generally horizontally from said post toward said mouth, a mounting portion at one end of said shank portion forming at least part of a loop embracing said post loosely and tiltable relative to said post to grip the same and thus retain said rod, and a tip portion at the other end of said shank portion extending downwardly, said tip portion normally being positioned over said mouth to retain dishes in said receptacle but said rod being shiftable sideways to swing said tip portion to one side of said mouth to clear the dishes.



**2.** In a dish dispenser including a receptacle having a mouth toward which dishes in the receptacle are urged when placed therein, the receptacle having an upstanding post adjacent said mouth capable of receiving a loop member, the combination therewith of a hold down rod mounted on said post and extendable over said mouth for holding down a stack of dishes when provided in said receptacle, said hold down rod including a shank portion extending generally horizontally from said post, a loop portion at one end of said shank portion fitting relatively loosely on said post and tiltable relative to said post to grip the same and thus retain said rod, and a tip portion at the other end of said shank portion at an angle thereto, said tip portion normally being positioned over said mouth to retain dishes in said receptacle but said rod being shiftable sideways relative to said post to swing said tip portion to one side of said mouth for releasing the dishes.

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