Feb. 4, 1936. F. E. WILLIAMSON 2,029,804

DEVICE FOR CATCHING CROWN CORKS AND LIKE BOTTLE CLOSURES

Filed Dec. 12, 1934

FIG. 1.

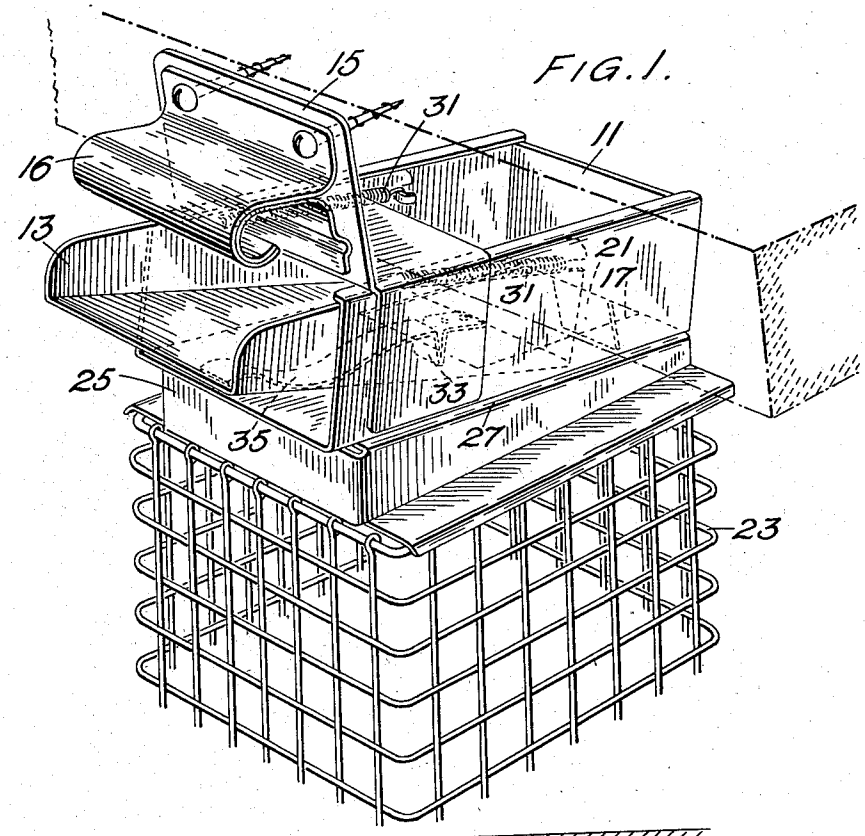
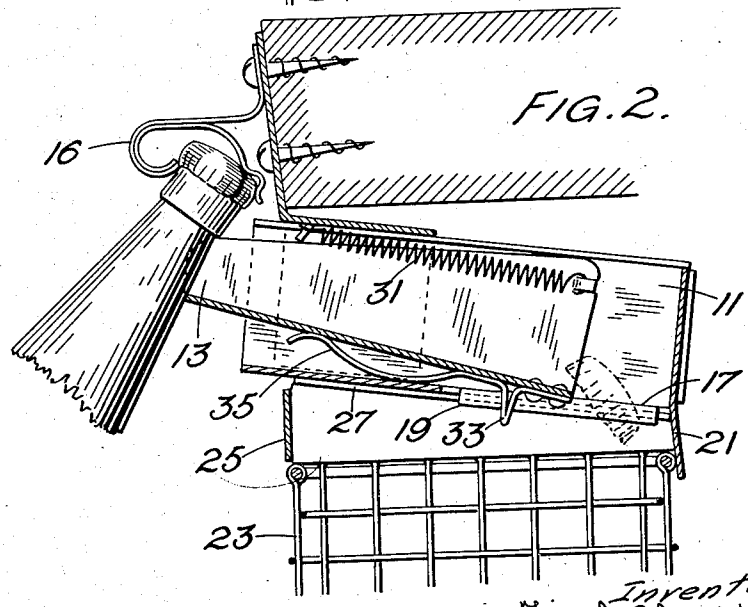


FIG. 2.



Inventor,
Frank Edward Williamson
Per Peck & Peck Attys

Patented Feb. 4, 1936 2,029,804

UNITED STATES PATENT OFFICE

2,029,804

DEVICE FOR CATCHING CROWN CORKS AND LIKE BOTTLE-CLOSURES

Frank Edward Williamson, Reigate, England

Application December 12, 1934, Serial No. 757,222
In Great Britain February 23, 1934

6 Claims. (Cl. 65—46)

This invention relates to a device for catching crown corks and similar closures upon their removal from bottles and is particularly suitable for use in conjunction with contrivances, for removing the closures, such as are commonly secured to counters, bars and the like. Metal-wire baskets fixed under the closure-removing contrivances are not entirely satisfactory. The basket fails to catch a proportion of the closures and generally projects in an inconvenient manner so that it soon becomes knocked and damaged or useless. It is important, however, that an efficient device should be furnished for the purpose of catching these closures which are a source of damage to the floor and of danger to persons who tread upon them.

According to the invention a device for the purpose set forth consists of an inclined chute leading to a conveniently disposed receptacle for the bottle-closures and comprising a yielding part adapted to bear resiliently against the neck of the bottle during the removal of its closure. Preferably said chute is in two telescopically arranged parts one of which projects from the other to engage the neck of the bottle in a resilient manner during the removal of the closure. For example, the aforesaid chute part may be guided, to slide at its inner end in the fixed other part, resiliently supported at its outer end in said other part and connected to said other part by resilient means, for example, a tension spring, which tends to hold the first named part in the projecting position.

The invention will become more fully apparent from the following description, in conjunction with the accompanying diagrammatic drawing, of one device illustrative of the invention.

In the drawing,

Fig. 1 is a perspective view of the complete device with the bottom of the cage absent; and

Fig. 2 is a sectional elevation showing the device in use.

The device about to be described is formed as an inclined chute comprising two main sheet-metal parts disposed telescopically with relation to one another, namely, a trough-body 11 and a forward extension 13. The trough-body 11 has at its forward end an upward flange 15 by which it may be fixed to the front face of a shelf or the like, the trough-body extending rearwardly under the shelf and sloping somewhat downwardly. Fixed on the front of the flange 15 is a closure remover 16. The trough-body 11 has at its rear an aperture 17 in its bottom; at each side of the aperture 17 there is a rib 19 on the underside of the trough-body and at the rear is a depending stop 21.

A metal wire receptacle 23 has a sheet-metal top 25 provided with two runners 27 which engage with and slide upon the ribs 19; the stop 21 stops the receptacle 23 when it has been slid rearwardly sufficiently.

The forward extension 13 projects beneath the remover 16; it is mounted within the trough-body 11 so that its forward end inclines upwardly relatively to the trough-body. The extension 13 is normally held forwardly by tension springs 31, an abutment 33 limiting its forward movement by contact with the bottom of the trough-body. A leaf spring 35 on the bottom of the extension 13 normally holds the front of the extension upwardly, sliding upon the bottom of the trough-body; the sides of the extension are less deep at the front than at the rear.

The operation is as follows:—

The bottle is placed in position with its metal closure over the rearwardly-hooked edge of the remover; in this position the bottle neck engages the front edge of the extension 13 and may force it rearwardly as shown in Fig. 2. As the bottle is moved downwardly to effect the removal of the closure, the extension is pressed back into the trough-body. As the bottle is drawn forwardly on removal of the closure, the extension follows the bottle so as to ensure that the closure falls into the extension and slides down the same into the trough-body and thence through the aperture into the receptacle.

Alternatively, some of the advantages of the invention might be obtained by shortening the extension 13 and pivoting its bottom to the front of the trough-body 11; in that case either the springs 31 or the spring 35 might be eliminated since pivoting of the extension would both raise and retract it.

What I claim is:

1. Means for catching closures detached from bottles and for delivering such closures to a receptacle; comprising a contrivance for removing the closures from a bottle by relative movement of the bottle with respect to the contrivance; a relatively movable closure-receiving and delivering chute normally projected to a position to catch the closure dropping from the bottle and said contrivance, and into the path of the bottle for contacting and rearward propulsion by the bottle during the bottle movement to extract its closure; supporting means for said chute; and means for yieldingly maintaining said chute in

said normal projected position and for returning the same thereto.

2. Means for catching and delivering closures detached from bottles, comprising a normally-fixed device for removing the closure from a bottle by relative swinging movement of the bottle; a support; a chute for catching and delivering said detached closure, said chute being carried by and relatively movable with respect to said support and means yieldingly maintaining said chute normally projected into said path of movement of the bottle and in a position to catch the closure detached by said contrivance, said chute adapted to contact said bottle and be thereby propelled during said bottle movement, said means adapted to resist said chute propulsion and to return said chute to its said normal projected position.

3. A device for removing a closure from a bottle by relative swinging movement of the bottle while its closure is grasped by said device, in combination with a housing normally fixed with respect to said device; a chute carried by said housing and having a limited path of movement with respect thereto in the approximate direction of said bottle movement, for receiving closures falling from said device and for discharging such closures to a receptacle; and means for yieldingly maintaining said chute in and returning the same to said bottle path of movement for engagement with and propulsion by said bottle, said chute arranged to catch the closure detached during said bottle movement.

4. In a device for the purpose substantially as set forth, that includes a contrivance for removing bottle closures and a receptacle for the said closures mounted below and to the rear of the said contrivance; in combination, an inclined chute extending between said contrivance and said receptacle and opening into the latter at its lower end, supporting means in which the said chute is movably mounted, and spring means acting upon the chute to cause the upper end of the same to project below the contrivance in position for engagement with the neck of a bottle applied to the said contrivance and to yieldingly oppose movement of said chute with said neck.

5. In a device for use with a contrivance for removing bottle-closures, that includes a receptacle for such closures mounted below and to the rear of the said contrivance; in combination, an inclined chute extending from a point below said contrivance to the receptacle, a support in which said chute is slidably mounted for movement substantially in the direction of its length and resilient means acting upon the chute to cause the upper end of the same to project from said support in position for engagement by the neck of a bottle from which the closure is to be removed and to offer resilient resistance to sliding movement imparted to said chute by said bottle neck.

6. A device for use with a contrivance for removing bottle-closures, comprising an inclined chute in two telescopic parts and opening at its lower end for discharge to a receptacle, one part being a fixture and the rear end of the other part being slidably guided in it, resilient means acting between the two parts to cause the said other part to project from the said one part, and resilient means arranged to support the front end of the said other part.

FRANK EDWARD WILLIAMSON.