Dec. 12, 1967 CARL-GUSTAF BJORN CRAFOORD 3,357,346

DEVICE FOR COMPRESSION OF THE CONTENTS OF A CONTAINER

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FIG. 1

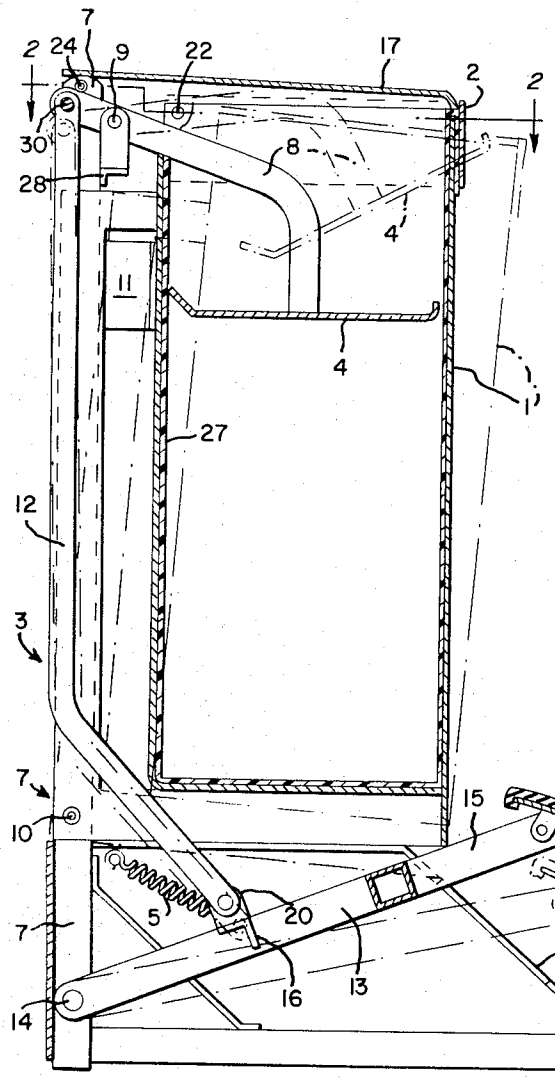


FIG. 2

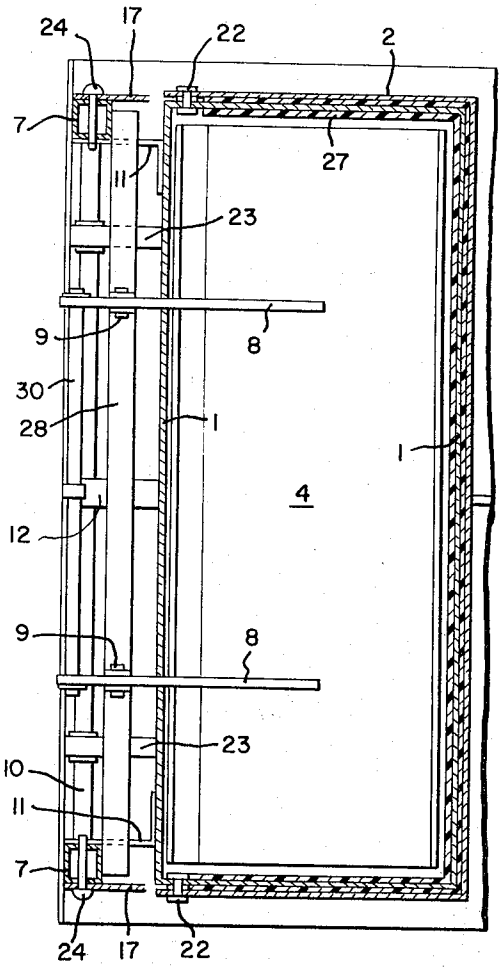


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FIG. 3

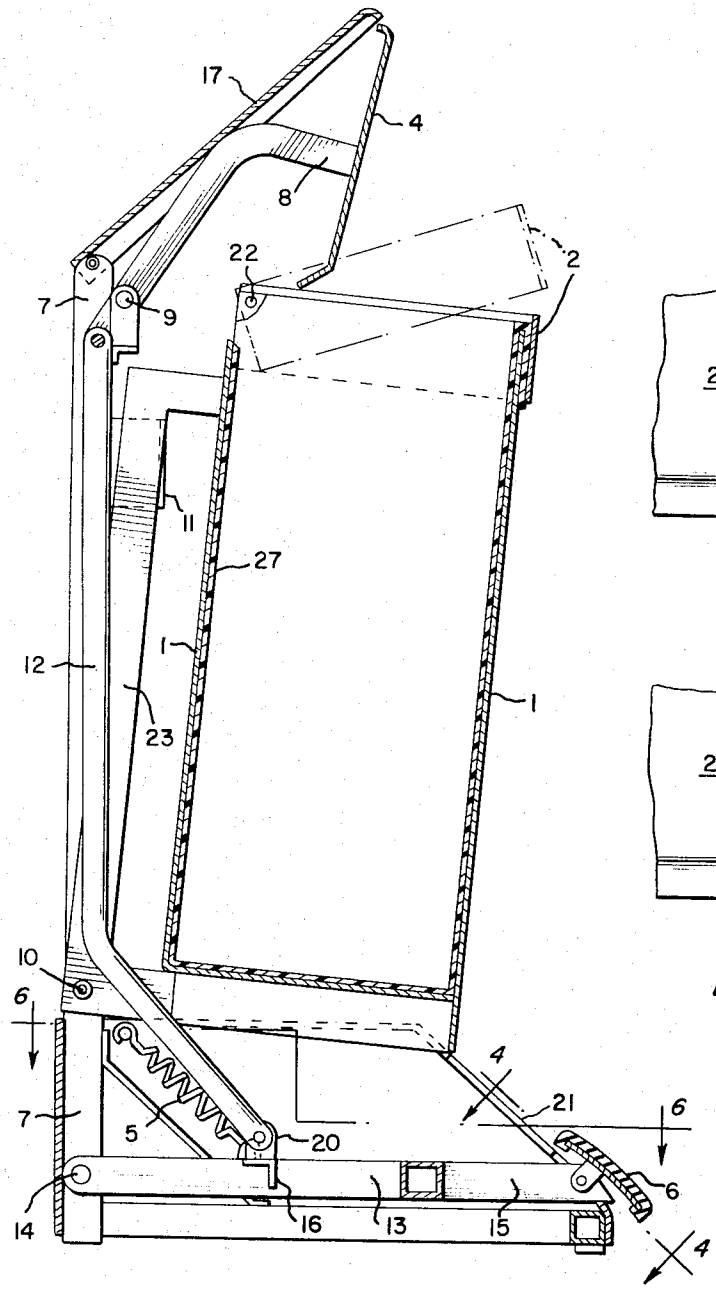
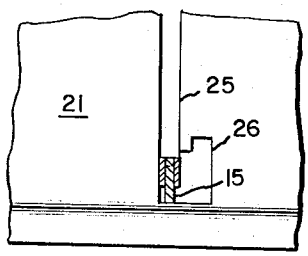



FIG. 4



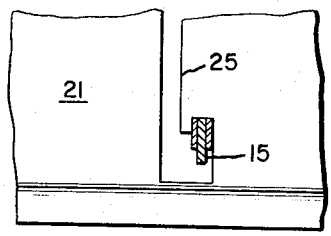




FIG. 5

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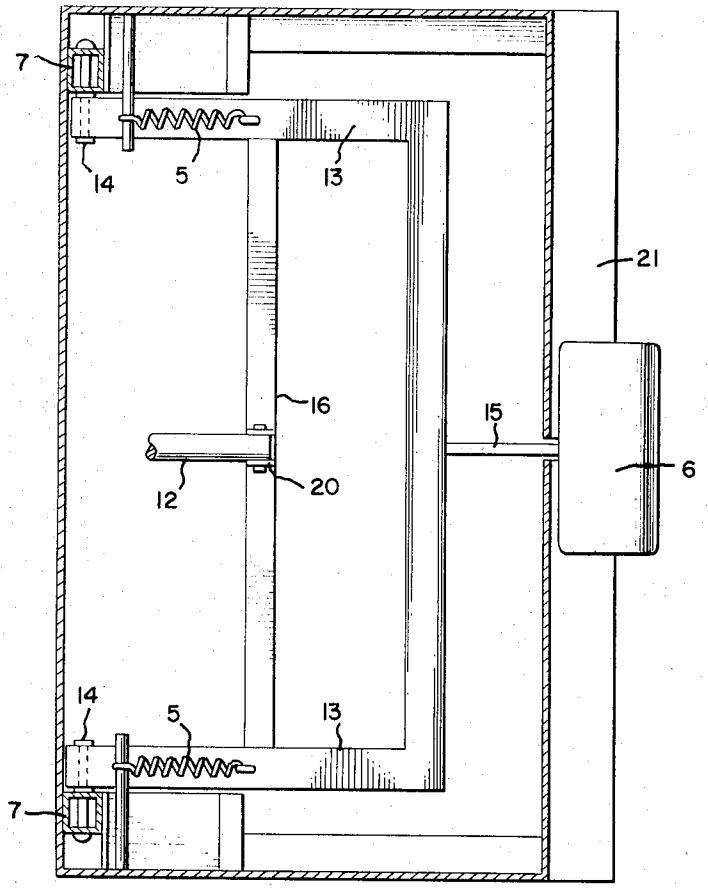
FIG. 6



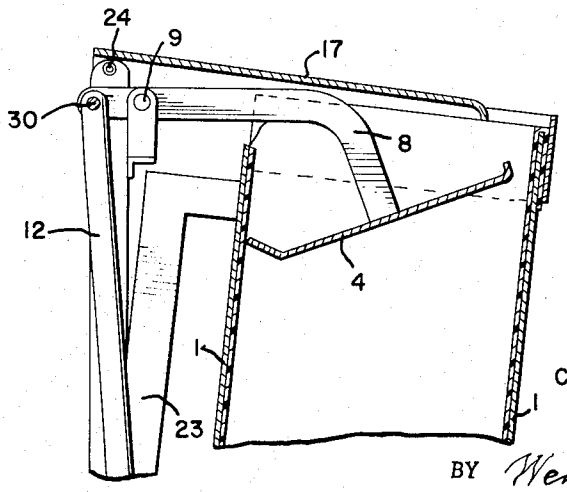




FIG. 7

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# DEVICE FOR COMPRESSION OF THE CONTENTS OF A CONTAINER

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6 Claims. (Cl. 100—226)

## ABSTRACT OF THE DISCLOSURE

A collecting container having a frame and a container pivotally mounted on the frame, an exchangeable inner bag for the container, a pressure plate pivotally mounted on the frame and means for moving the plate to a position above the container and to a position in the container for compressing the contents of the container. Spring means are provided for moving the plate inwardly in the container and means are provided acting against the action of the spring means to move the plate out of the container.

This invention relates to a collecting container for used paper towels and like articles.

An object of the invention is to provide an exchangeable inner container cooperating with a pressure plate which is adapted for operation via movement transmitting means to be moved between a position above the container and a position in said container for compression of the container contents.

A further object of the invention is to provide a pressure plate adapted to be moved under the action of spring means inwardly in a container to bring about the compression of the container contents and to be moved against the action of said spring means out of said container by an operating member being part of said movement transmitting means.

A further object is to provide a construction of the collecting container wherein the contents are effectively compressed and at the same time there is but very little risk that the device will be damaged by rough handling since the operating member need be actuated only by a force large enough to move the pressure plate out of the container against the action of the spring means. The collecting container according to the invention is therefore exceedingly well suited for use in public institutions such as hospitals.

With the above and other objects in view which will become apparent from the following detailed description, a preferred embodiment of the invention is shown in the drawings in which:

FIGURE 1 is a vertical cross-sectional view.

FIGURE 2 is a sectional view taken upon section line 2—2 of FIGURE 1.

FIGURE 3 is a vertical cross-sectional view illustrating the container in fully open position.

FIGURE 4 is a detail view illustrating the latch means.

FIGURE 5 is a similar view illustrating the position of the parts when in latched position.

FIGURE 6 is a cross-sectional view taken upon section line 6—6 of FIGURE 3, and

FIGURE 7 is a partial cross-sectional view illustrating the top of the container illustrating particularly the way in which the container is returned to vertical position after pivoting thereof as shown in FIGURE 3.

1 denotes the container proper which is adapted to accommodate an exchangeable inner container such as a bag or plastic container 27. Upon insertion in the collecting container 1 the upper edge of the bag 27 is folded about the container rim and retained thereon by means



of a collar 2 which is preferably pivoted at 22 to the container 1.

Arranged to cooperate with the container 1 is a pressure plate 4 which is operable by the transmitting means shown generally at 3 for compression of the container contents. The pressure plate 4 is movable between a position above the container 1 and a position inside it. When the pressure plate 4 occupies the position above the container, used paper towels or like articles can be put into the container 1, and after the container 1 has been filled to a certain extent the pressure plate 4 can be caused to take its position inside the container for compression of the articles therein.

According to the invention, the pressure plate 4 is adapted to be moved inwardly into the container 1 under the action of spring means 5 located at each side of the container as shown in FIGURE 6 to bring about the compression of the articles therein. The pressure plate is moved out of the container 1 against the action of the spring means 5 by an operating member 6 being a part of the transmitting means 3.

The device includes a stationary frame 7 for the transmitting means 3. Pivoted to the upper portion of the frame 7 at 9 are two arms 8 which carry the pressure plate 4 fixedly mounted at one end of said arms. When moved into and out of the container 1 the pressure plate 4 is imparted a pivoting movement about the pivot axes 9 of the arms 8. The pivots 9 are mounted upon a bar 28 fixed at its ends to the upper portion of the frame 7. In order that the container 1 shall adjust itself to the pressure plate 4 during the pivot movement thereof the container 1 has fixed to the back thereof two U-shaped support bars 23 and such bars 23 are pivoted to the lower portion of the frame 7 at 10. The extreme pivoted position of the container 1 is indicated by dash-and-dot lines. The highest position of the pressure plate 4 has been indicated in FIGURE 3. The container 1 is readily accessible in said position of the pressure plate.

The outward pivoting of the container 1 is limited by the frame 7 in that the lower front edge of the container 1 abuts the frame plate 21. The return pivoting of the container 1 is brought about by the spring means 5 when the pressure plate 4 is moved into the container 1. This occurs either by the pressure plate 4 engaging the container 1 or by the operating member 6 engaging it. The return pivoting is restricted by abutments 11 provided on the frame 7.

The arms 8 are two-armed levers which have the pressure plate 4 fixedly mounted at one of the ends thereof and have the other ends pivoting on a bar 30 fixed to the upper end of a substantially vertical rod 12 of the transmitting means 3, the lower end of the rod 12 cooperating with the operating member 6 which is in the form of a pedal.

The pedal 6 includes a substantially U-shaped portion 13 located within the lower part of the frame 7. At the free limb ends said U-shaped portion is pivoted to a transverse axis 14 in the frame 7. At the middle of its web the portion 13 has an arm 15 on which the pedal 6 is mounted. Each of the limbs of the U-shaped portion 13 cooperates with a coil spring 5 or the like. The coil springs collectively form the spring means 5 coacting with the pressure plate 4 and thus extend between the limbs of the U-shaped portion 13 and a fixed portion of the frame 7. A transverse member 16 in the form of an angle iron extends between the limbs of the U-shaped portion 13, and the lower inwardly bent end of the rod 12 is pivoted to the middle of said transverse member at 20.

A cover 17 is pivoted to the container 1 at 22 and operable by the arms 8 which are pivoted to the frame 7.

To facilitate exchanging the inner container or bag the device is suitably equipped with latch means adapted to latch the pressure plate **4** in the highest position thereof above the container **1** as shown in FIGURES 3, 4 and 5. The pressure plate **4** is unlatched for instance by moving the pedal **6** to its lowermost position through the slot **25** provided in the plate **21** of frame **7** and then laterally to engage the arm **15** in notch **26** of plate **21**. A reverse movement releases pedal **6**.

The invention is not restricted to the embodiment described above and shown in the accompanying drawing but permits of modification in several ways within the scope of the appended claims.

What I claim and desire to secure by Letters Patent is:

**1**. A collecting container for used paper towels and like articles comprising a frame, a container pivotally mounted on said frame, an exchangeable inner bag for said container, a pressure plate pivotally mounted on said frame, means for moving said plate to a position above said container and to a position in said container for compression of the container contents, said means including spring means for moving said plate inwardly in said container to bring about the compression of the container contents and means actuated against the action of said spring means to move said plate out of said container.

**2**. A collecting container as claimed in claim **1**, wherein said pressure plate is mounted on an arm pivoted to said frame for moving said plate in relation to said container, and said container adjusts itself to said pressure plate during the pivoting thereof.



**3**. A collecting container as claimed in claim **2**, wherein said arm is a two-armed lever which has said pressure plate fixedly mounted at one end thereof and the other end cooperates with the upper end of a substantially vertical rod connected to said means actuated against the action of said spring means.

**4**. A collecting container as claimed in claim **3**, wherein said means actuated against said spring means includes a substantially U-shaped portion hinged to said vertical rod positioned within said frame, said U-shaped portion being pivoted with its free limb ends to said frame and cooperating at its limbs with said spring means coacting with said pressure plate.

**5**. A collecting container as claimed in claim **1**, wherein a cover is pivoted to said container at the mouth thereof and is operable by said pressure plate.

**6**. A collecting container as claimed in claim **1**, wherein latch means are provided to latch said pressure plate above said container.


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