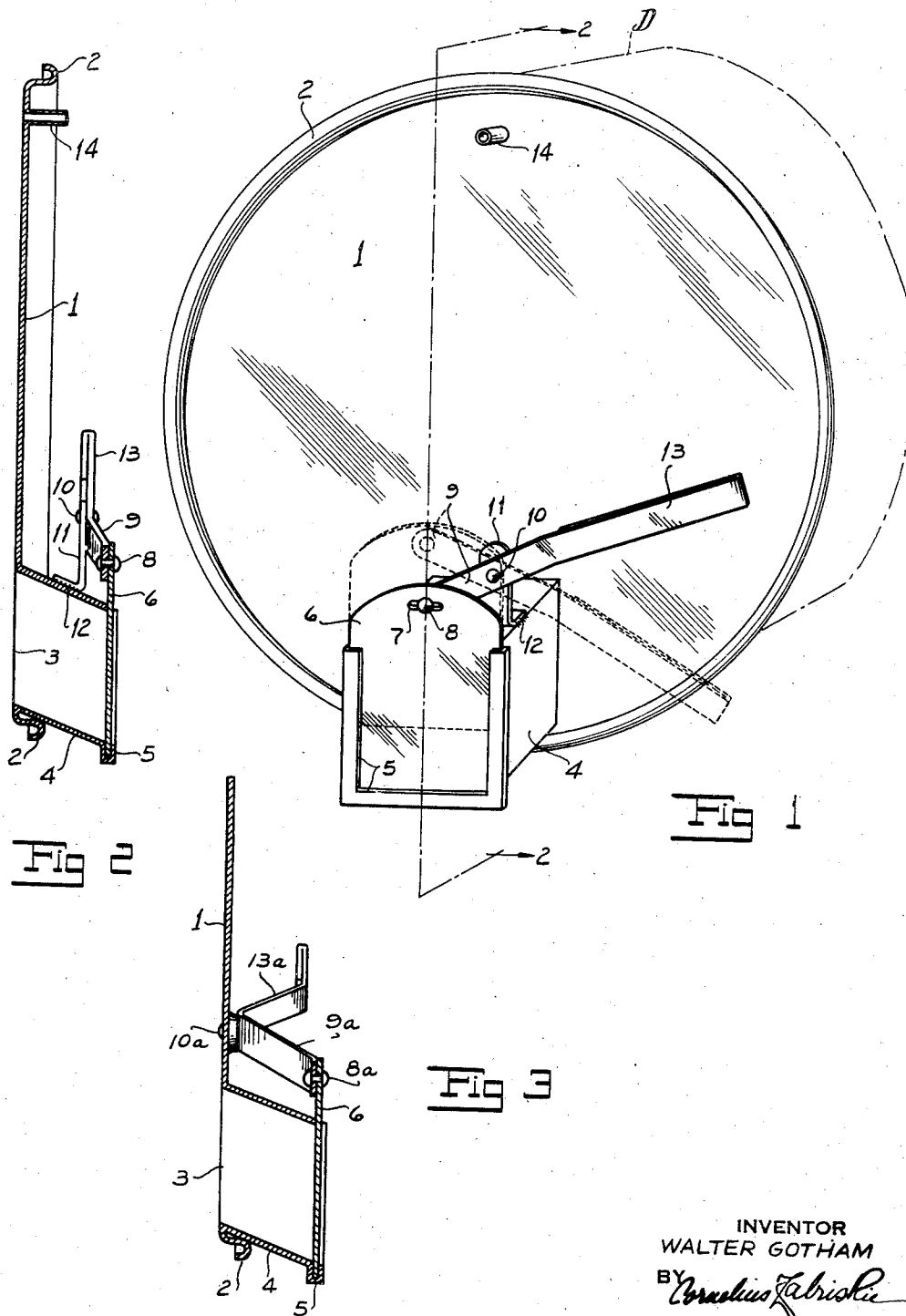


Aug. 16, 1949.

W. GOTHAM
DISPENSING DRUM COVER

2,479,347

Filed June 4, 1946



INVENTOR
WALTER GOTHAM
BY *Conelius Fabris*
ATTORNEY

UNITED STATES PATENT OFFICE

2,479,347

DISPENSING DRUM COVER

Walter Gotham, Union, N. J., assignor to Nuodex Products Co., Inc., Elizabeth, N. J., a corporation of New York

Application June 4, 1946, Serial No. 674,218

1 Claim. (Cl. 222—505)

1

This invention is a cover adapted to be associated with drums containing chemicals and chemical compositions of viscous, stringy and sticky nature and to permit, through the use of this cover, the dispensing of such materials in desired quantities in an efficient, economical and thoroughly practical manner.

Chemical compositions of the character referred to are generally shipped in conventional drums, sealed by covers held in place by detachable locking rings. These drums contain from 10 to 60 gallons of the material and it is the usual practice to remove the cover and dip out such quantities as may be required from time to time. This practice is convenient for low viscosity liquids but viscous and stringy materials cannot be satisfactorily removed in this way. When, for example, one attempts to remove portions of a highly viscous rubber composition from a drum, by the use of a spatula or paddle, this material is found to be so stringy that it is necessary to cut off or separate the dipped material from that which is to remain in the drum and if a fairly large quantity is thus dipped out, the cutting off thereof may and frequently does require the aid of another man.

For these and other well recognized reasons, the removal of highly viscous liquids and mobile pastes from drums has long constituted a serious problem for which no satisfactory solution has been provided.

The object of the present invention is to greatly simplify the removal of portions of said materials from the drum by a single workman and without requiring the arduous labor that has heretofore attended such operation.

All of the materials of the character specified are mobile and will flow under the influence of gravity. The present invention utilizes this property, by the provision of means which will permit, when the drum is resting upon its side, a controlled flow of the material from the drum and with the provision of means for cutting off this flow at the will of the operator.

In one of its preferred forms, the present invention provides a supplementary drum cover which may be substituted on the conventional drum after a filled drum has been received by the user. The conventional cover is first removed by releasing the usual locking ring and the supplementary cover is then placed in position on the drum and locked firmly in place by returning the locking ring to the drum. Positioned adjacent the periphery of this supple-

2

mentary cover is an outlet opening, registering with an outlet spout positioned on the exterior of said cover and at the outer end of this outlet spout, which projects well beyond the surface of the cover, is a gate in the nature of a slide valve. This gate is made relatively thin, so that its lower edge is in effect a cutting edge. The gate is guided for vertical sliding movement in channel guides extending in parallel relation vertically along the lateral edges of the spout and it projects above the spout and is there connected to the work arm of a lever fulcrumed either on a bracket carried by the spout or on a fulcrum pivot carried by the cover itself. The power arm of the lever is bent to extend into accessible position to be grasped by the operator and manipulated to raise or lower the gate.

The supplementary cover is substituted for the conventional cover while the drum is in upright position and thereafter the drum is tilted onto its side, either manually or by the use of a chain hoist or otherwise so that the material in the drum will flow against the inner surface of the supplemental cover and tend to exit through the spout, but the discharge of this material will be normally precluded by the closed gate. However, when it is desired to withdraw any portion of such material, the operator may manipulate the lever to open a gate and allow the material to slowly flow from the spout by gravity in a rather heavy viscous ribbon which may be cut off at any time by the operator through mere operation of the lever to close the gate. In practice, it is convenient to place the receptacle into which the material is to be discharged, upon a scale and to discharge successive quantities of the material into such receptacle until the desired exact weight required has been thus dispensed. This can be readily accomplished by the present invention for the gate may be operated to discharge little or much of the material as may be required.

A very important feature of this invention resides in the simplicity of its structure and mode of operation. It requires no arduous work on the part of the operator, can be readily manipulated by one person, and there is neither dipping out nor dipping back, as is required under prior procedures.

The supplementary cover is preferably provided near its periphery and at a point diametrically opposite from the spout with a vent through which air may pass into the interior of the drum to displace the material drawn therefrom. In dealing with some materials, this vent hole may be connected with an appropriate source of an

3

inert gas, e. g., carbon dioxide, so that such inert gas may be admitted to the drum in lieu of air which would tend to oxidize materials which it may be desired to protect against such oxidation. With this arrangement the materials in the drum are kept fresh and free from deterioration, because the gate will normally seal the drum against the entrance of air or of other extraneous matter.

Features of the invention, other than those adverted to, will be apparent from the hereinafter detailed description and claim, when read in conjunction with the accompanying drawing.

The accompanying drawing illustrates different practical embodiments of the invention, but the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a perspective view of a dispensing cover embodying the present invention, showing a portion of an associated drum in phantom, the conventional locking ring being omitted in the interest of clearness.

Figure 2 is a diametric section taken on the line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 2, but illustrating a modified form of the invention.

By reference to Figs. 1 and 2, 1 designates the auxiliary cover provided with a peripheral channel section 2 to fit over the open end flange of a conventional drum D and to be locked in place against said flange by the usual locking ring. The body of the cover 1 is shown flat or plane, although it may be annularly or radially corrugated, domed or otherwise shaped as desired. The outlet opening is shown at 3, with the juxtaposed exterior spout 4, illustrated as made of sheet metal and welded to the cover. The spout is preferably sloped, as shown, and at its outer margin, it is provided around its bottom and side edges with a channel 5 in which a relatively thin metal gate 6 is mounted for vertical sliding movement. The gate projects somewhat above the spout and is provided therein with a transverse slot 7 through which projects a rivet 8, carried by the free end of the work arm 9 of a lever of the first class. This lever is fulcrumed on a rivet 10 carried by a bracket 11, shown as welded to the top wall of the spout at 12. The power arm 13 of the lever extends into convenient position for manipulation, as clearly shown in Figs. 1 and 2. The closed positions of the lever and gate is shown in full lines in these figures. The dotted line showing of these parts correspond to the open position of the gate.

The lever is shown as made from strip stock with the power arm end thereof returned upon itself to provide a more comfortable hand grip. The vent opening hereinbefore referred to is indicated at 14, as a vent tube and this tube may, in practice, be threaded if desired.

In Figure 3 the structure is the same as in the preceding figures except that the fulcrum 10a of the operating lever is carried by the body of the

4

cover and the lever is bent between the work arm 9a and the power arm 13a to permit of such a pivotal mounting. 8a indicates the pivotal connection to the gate 6.

The gate fits with a fairly snug fit in the channel guides 5 in both cases so as to preclude leakage and at the same time produce an efficient cut off of the material when the gate is closed.

In the preferred forms of this invention, the cover with its dispensing outlet is in the nature of a supplementary cover adapted to replace the conventional drum cover on drums shipped with such a conventional cover. It is within the purview of this invention, however, to incorporate the invention within the cover which is associated with the drum during shipment and the invention is therefore not to be limited merely to use as a substitute or supplementary cover. Likewise the supplementary cover has been shown without the conventional threaded bung. In practice it may be provided additionally with such a bung and the vent tube may be carried by the bung.

The foregoing detailed description sets forth the invention in its preferred practical forms, but the invention is to be understood as fully commensurate with the appended claim.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

In an assembly of the character described, a supplementary drum cover adapted to fit the open end of a standard size drum and to be used to dispense materials from successive drums of that size, said cover having an outlet opening near the periphery thereof, a rectangular outlet spout fixed to the outer surface of said cover, said spout projecting outwardly beyond the surface of said cover and registering with said outlet opening, guides of channelled cross section along the lateral edges and across the bottom edge of the outer end of said spout, a gate vertically slidable in the lateral guides and having a close fitting sliding fit therewith and with the bottom guide, a manually operable lever mounted on a fixed pivot carried by the cover and pivotably connected with the gate to open and close the latter, and a normally sealed vent opening in the cover to permit air to displace the material withdrawn through the spout.

WALTER GOTHAM.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
435,465	Taylor	Sept. 2, 1890
752,586	Pitts	Feb. 16, 1904
1,655,533	Campagna	Jan. 10, 1928
2,260,666	Hoffman	Oct. 28, 1941
2,357,421	Murray	Sept. 5, 1944