

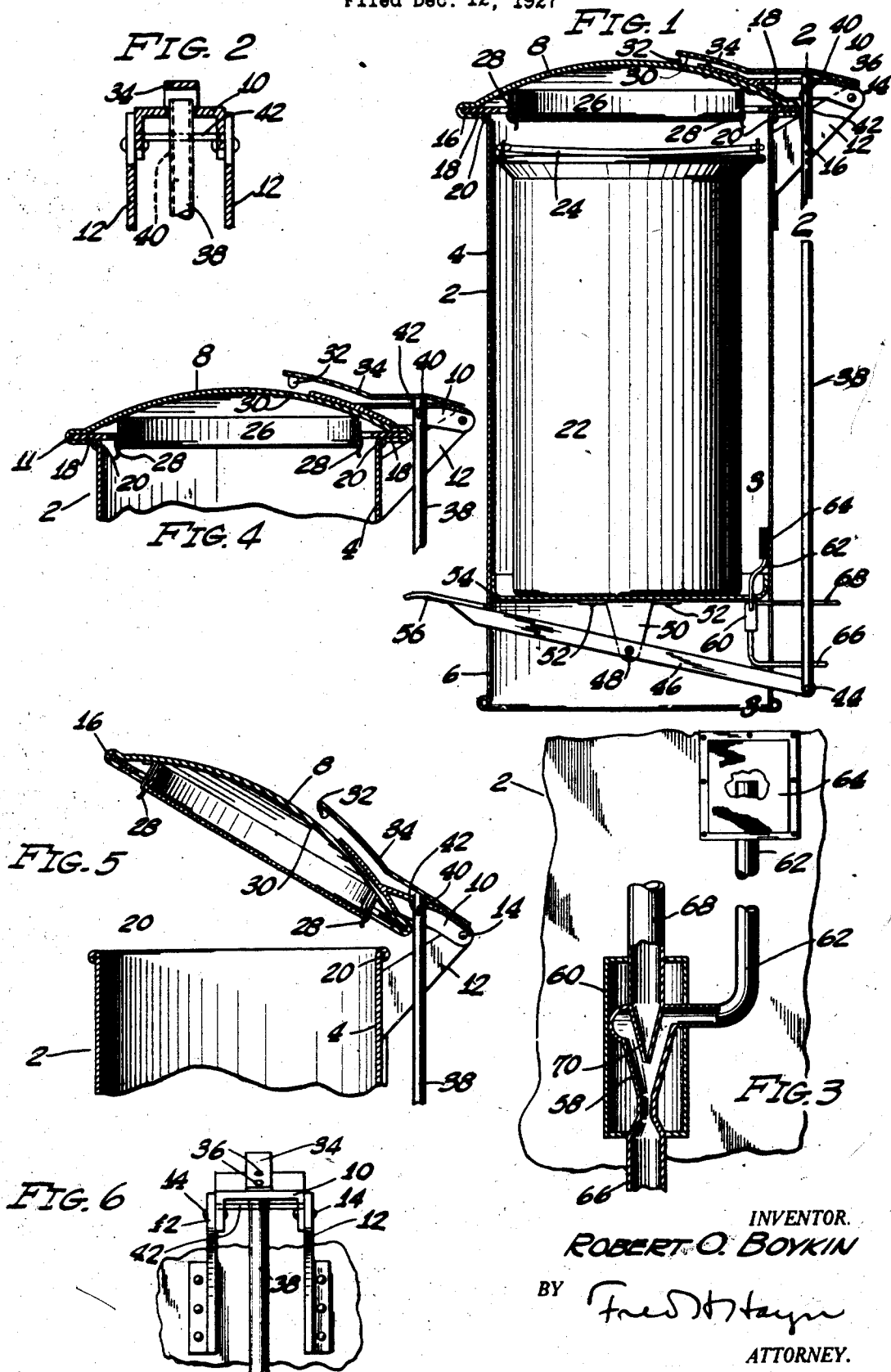
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HYDRAULIC PUMPING EJECTOR CONTAINER

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HYDRAULIC PUMPING EJECTOR CONTAINER.

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My invention relates to a pumping and ejecting mechanism and process for removing the liquid content and gases, odors and the like from certain materials, such as garbage or other materials, such as used in hospitals after and resulting from surgical operations or other medical treatment; in short, any material which it is desired to be dehydrated, reduced in bulk, and its odor or gases removed therefrom.

To this end, my invention has for an object to provide a container having a cover provided with means for rendering the said container fluid tight, in which the materials to be desiccated, reduced in bulk, dehydrated, and its odors and gases removed therefrom, are placed, a vacuum or pumping means, preferably in the form of a hydraulic ejector means, being associated with said container for subjecting the latter to vacuum conditions, means being also provided for breaking the vacuum and lifting said cover by mechanical means, said vacuum being preferably broken before said cover is lifted to facilitate the lifting thereof.

Further objects and advantages of my invention, as will hereinafter more fully appear, I attain by the novel process and mechanism described in the specification and illustrated on the drawings, forming a part of my application.

Reference is had to the accompanying drawings, in which similar reference characters denote similar parts. In the drawings,

Fig. 1 is a vertical cross-sectional view of the apparatus comprising my invention and illustrating the manner in which the process is effected,

Fig. 2 is a vertical cross-sectional view, taken on the line 2—2, Fig. 1, looking in the direction of the arrows,

Fig. 3 is an enlarged fragmentary cross-sectional view, taken on the line 3—3, looking in the direction of the arrows,

Fig. 4 is a similar view of the top of the container, showing the mechanism in position just as the vacuum has been broken, with cover or closure ready to be lifted,

Fig. 5 is a similar view showing the cover or closure lifted, and

Fig. 6 is a fragmentary end view of the top of the container, illustrating the hinged

connection of the cover or closure and its operating means.

Describing my invention more in detail, it is my object to provide a novel means and process for disposing in a sanitary manner of all materials which have objectionable odors and are likely to produce contamination if exposed to the atmosphere, it being possible to keep said materials for a long time without the slightest odor emanating therefrom; said materials may comprise garbage, the hydrous or other materials resulting from surgical operations, medical treatments and the like, such as the disposal of contaminated gauze, in short, any material dangerous to health.

To this end I provide a suitable container 2, comprising a casing 4, cast, stamped or otherwise formed as in practice preferred, said casing being provided with a support 6 of any desired configuration and structure, said casing being preferably made of metal.

The casing 4 of the container 2 is provided with a cover 8 hinged to said casing in any suitable manner as by the hinge member 10, shaped as shown, and pivoted to the standards 12, associated in any preferred way with said casing, a pin 14 being used to pivot the member 10 to said standards.

The cover 8 is preferably shaped as shown and provided with an inturned portion to house the gasket or packing means 18, preferably made of rubber, so that when said cover is closed under pressure a fluid tight joint with the casing 4 is had, it being impossible for any odors to escape. In fact, it has been demonstrated in practice that the foulest material, such as decaying garbage, can be maintained therein for weeks without the slightest odor emanating therefrom. The casing 4 may be provided at its top with a curled portion 20 to engage the gasket to insure a fluid tight joint. While the structure just described insures ease of manufacture with minimum expense, it will be clear that the cover may be packed, and rendered fluid tight in any preferred manner, and still remain within the province of my invention.

If desired, a separate and distinct container, such as the receptacle or pail 22, provided with the handle 24, may be used to house the materials to be desiccated, dehy-

drated and deodorized, said receptacle being provided with a removable cover 26. To insure that said cover will not be lost or mislaid, and for the sake of convenience, the cover 8 is equipped with a suitable holding device 28 of any preferred construction, in the present instance being merely a set of spring clips, any desired number being used.

Before the cover 8 is lifted, it is necessary to break the vacuum in the casing 4 to facilitate the lifting of said cover. To this end said cover may be provided with a perforation or opening 30, and a closure means 32 of suitable form and material is provided to hold said perforation or opening closed, a flat spring 34, being secured in any desired manner, as by rivets, 36, to the hinge member 10. See Figs. 1, 4 and 5.

The spring 34 holds the closure 32 in engagement with the hole or perforation 30, and some means must be provided to lift said spring so that the vacuum in the casing 4 may be broken. Such a means is shown at 38, which means may be a bar, pipe, rod or other member, slotted at 40, in which slot a pin or cross rod 42 is positioned, said pin being secured in any desired way to the hinge member 10.

The operating means 38 is pivoted at 44 to a lever 46, pivoted at 48, to the standard 50 associated in any preferred manner, as by rivets 52 to the bottom 54 of the casing 4, a foot pedal 56 being used to operate the lever 46. This structure comprises the combined vacuum breaking and cover lifting means.

The pumping or fluid ejecting means comprises a Venturi tube 58, housed in a suitable casing 60, preferably positioned near the bottom of the casing 4, said Venturi tube being preferably shaped as shown and in fluid connection with said casing by suitable pipe connections 62, the casing 4 being provided internally with a wire gauze 64 to prevent any solid materials from leaving said casing. The Venturi tube 58 has a connection 66 leading to the sewer or some other convenient point of discharge, and the pipe 68 leads to a water supply, which may be the city water main, said connection 68 terminating in a suitable flow nozzle 70, projecting as shown into the Venturi tube 58. See Fig. 3. Of course, suitable shut off valves may be provided as desired.

The operation of the mechanism and process should now be clear. The materials to be deodorized, dehydrated and reduced in bulk having been placed in the receptacle and the cover 8 closed, the spring 34 causing the closure 32 to close the opening 30. Water is now turned on in the pipe 68, the flow of the fluid being indicated by the arrows in Fig. 3, and the air is exhausted from the container 2, as indicated by the arrows, said water issuing from the nozzle 70 caus-

ing a depression at the contracted portion of the Venturi tube 58, the gases being conveyed with water to the sewer or some extraneous point. Only a small pressure flow of the water is needed, and all odors are removed from the container.

To open the container, all that is necessary is to depress the pedal 56 with the foot, causing the operating means 38 to be lifted, the upper end of which, due to the slot 40, first lifting the spring 34, as shown by the arrows, said spring assuming the position shown in Fig. 4, lifting the closure 32 away from the hole 30 and breaking the vacuum in the container, a further movement of the operating means 38, through the hinge portion 10, causing the cover to be swung to the position shown in Fig. 5. The receptacle 22 may be removed from the container, and covered by the cover 26, and another receptacle substituted.

While I have thus described my invention with great particularity, it will be clear that the same may be modified throughout a wide range. I accordingly do not propose to be limited to the exact details of construction shown and described, but reserve the right in practice to make any and all modifications thereof that fall within the scope of the appended claims.

I claim as my invention:

1. In a hydraulic pumping ejector container, a casing, means associated with said casing for supporting said casing, a cover for said casing, means associated with said cover for rendering said casing fluid tight, means associated with said casing for producing a partial vacuum, means for breaking the vacuum in said casing prior to the lifting of said cover, and mechanical means associated with said casing for operating said vacuum breaking means and for lifting said cover.

2. In a device of the class described, a casing, closure means associated with said casing for rendering said casing fluid tight, means associated with said casing for subjecting said casing to cold vacuum conditions, vacuum breaking means and combined means associated with said casing for operating the vacuum breaking means and lifting said closure means.

3. In a fluid ejecting means, a casing, a closure for said casing, means associated with said closure for rendering said casing fluid tight, a fluid ejector means associated with said casing for subjecting said casing to vacuum conditions, means for breaking the vacuum and mechanical means associated with said closure and said casing for first operating said means for breaking the vacuum in said container and then lifting said closure.

4. Combined vacuum breaking and cover lifting means for a hydraulic pumping eject-

tor container comprising a cover provided with a vacuum breaking opening, closure means for closing said opening, spring means associated with said closure means 5 for holding the same to said opening, and a mechanically operated means for first lifting said closure means and then lifting said cover.

5. In a device of the class described, a 10 casing, closure means associated with said casing for rendering said casing fluid tight, fluid ejector means associated with said casing for subjecting said casing internally to vacuum conditions, and vacuum breaking 15 means and combined means associated with said casing for operating the vacuum breaking means and lifting said closure means.

6. In a device of the class described, a 20 casing, closure means associated with said casing for rendering said casing fluid tight, means in fluid connection with said casing

for subjecting said casing to vacuum conditions, said means comprising a Venturi tube in fluid connection with said casing and an ejector nozzle projected into said tube, said 25 nozzle being adapted to receive a fluid under pressure so that said fluid will coact with said Venturi tube to subject said casing to vacuum conditions, and vacuum breaking means and combined means associated with 30 said casing for operating the vacuum breaking means and lifting said closure means.

7. In a device of the class described, a casing, closure means for rendering said casing fluid tight, means for subjecting said 35 casing to cold vacuum conditions, vacuum breaking means, and separate means for operating the vacuum breaking means and lifting said closure means.

In testimony whereof I have signed my 40 name to this specification.

ROBERT O. BOYKIN.