

June 17, 1930.

C. T. DRAPER

1,765,062

SHEET METAL GREASE DRUM AND METHOD OF USING SAME

Filed Nov. 20, 1924

2 Sheets-Sheet 1

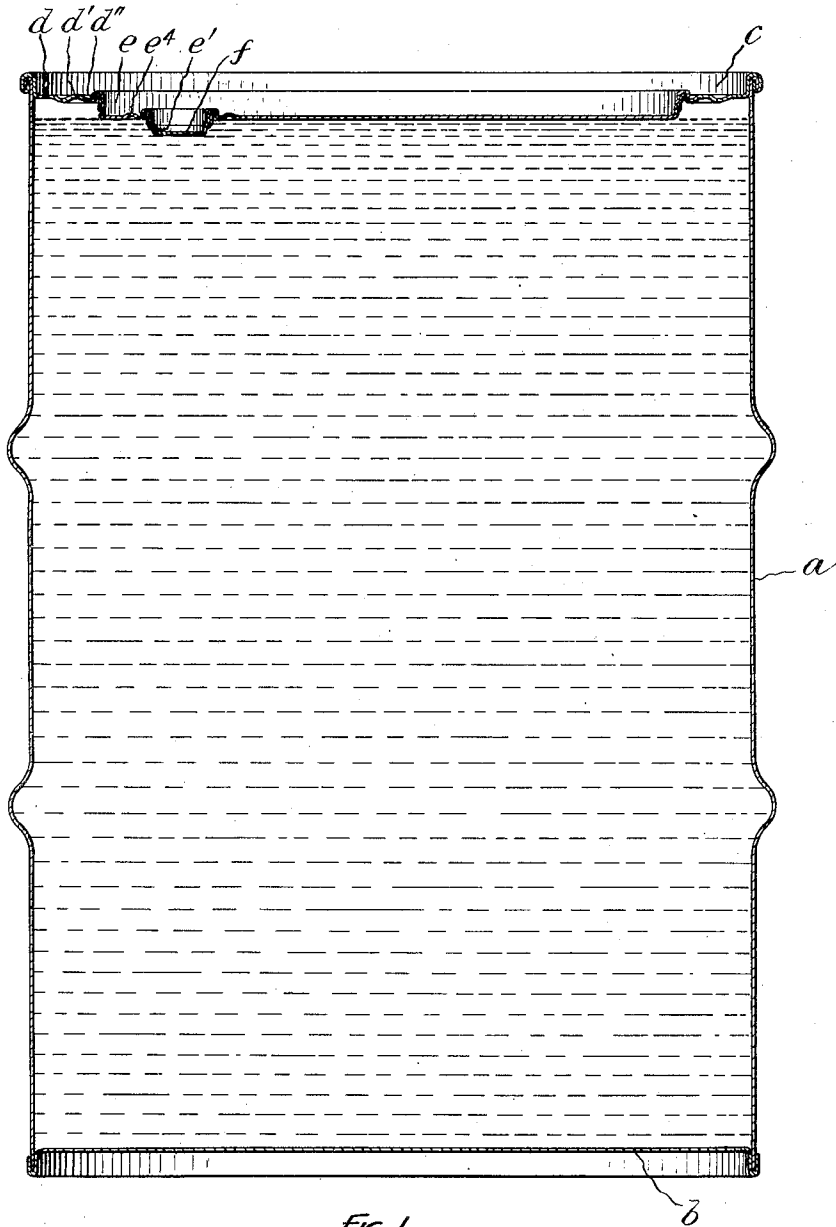


FIG. 1.

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2 Sheets-Sheet 2

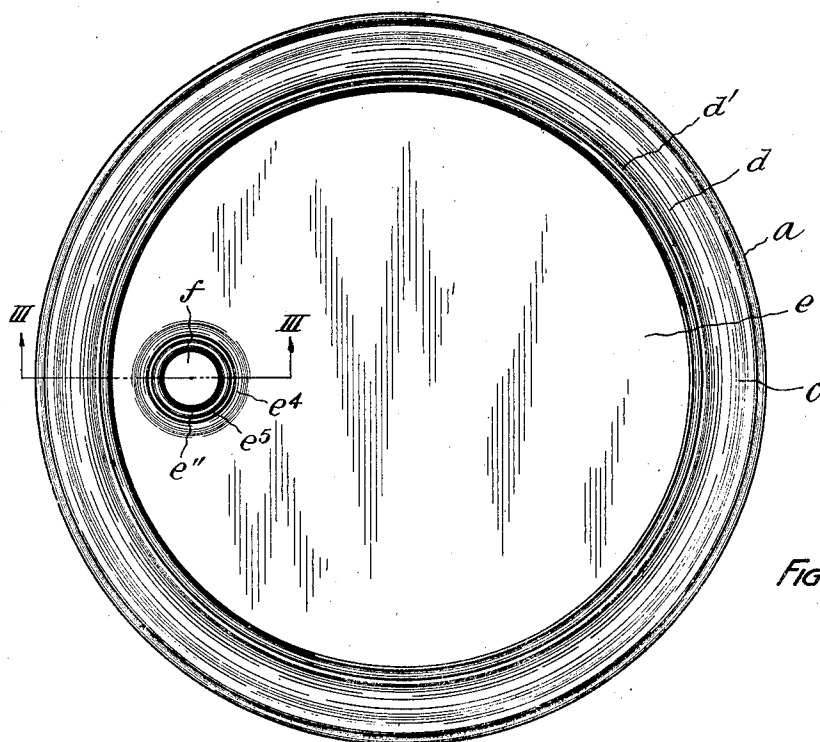


FIG. 2.

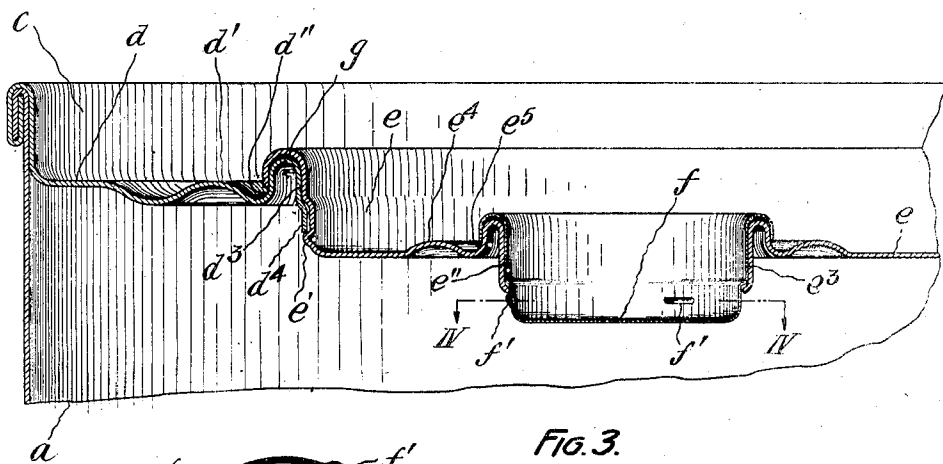


FIG. 3.

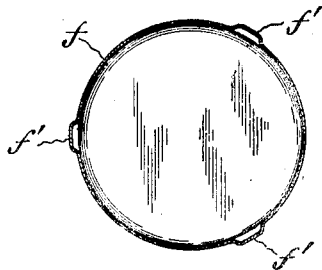


FIG. 4.

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UNITED STATES PATENT OFFICE

CHARLES T. DRAPER, OF CLEVELAND, OHIO, ASSIGNOR TO THE DRAPER MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO

SHEET-METAL GREASE DRUM AND METHOD OF USING SAME

Application filed November 20, 1924. Serial No. 751,141.

My invention relates to improvements in sheet metal grease drum and method of using same, and has for its object the provision of a sheet metal receptacle capable of sustaining the usual factory tests while affording convenience and expedition in filling, shipping and handling semi-solid substances.

Products such as heavy grease and those which are semi-solid at ordinary temperatures require a shipping container that permits practically the entire head to be removed in order that the particular product may be dipped from the container as required for use. Hitherto it has been impossible to apply the air pressure test to sheet metal drums intended for this general use, since the removable head must be temporarily inserted until the drum has been filled. Accordingly, I have improved upon the head construction of the sheet metal drum by providing a closure therefor which contains a separate filling opening, but is sealed into the head of the drum at the factory and properly tested before shipment. Preferably the seat for the closure is suitably reinforced or stiffened, while the main and auxiliary closure members preferably are provided with temporary locking and sealing means.

The details of construction and the mode of testing and use may best be explained by making reference to the accompanying drawings, wherein:

Figure 1 is a somewhat diagrammatic view in vertical section of a sheet metal grease drum embodying my improvements,

Fig. 2 is a plan view of the head thereof,

Fig. 3 is a fragmentary sectional view on line III—III, Fig. 2, but upon a materially larger scale, and

Fig. 4 is a transverse sectional view of the closure for the filling opening on line IV—IV, Fig. 3.

Throughout the several figures of the drawings I have employed the same character of reference to indicate similar parts.

Referring initially to Fig. 1, there is shown conventionally a sheet metal drum comprising the body portion *a* having a lower head *b* and a composite upper head *c* seamed thereto at each end. As my invention is applied to and comprises structural features relating to the composite upper head, reference may now be made to the enlarged figures of the drawings.

Therein it is shown that the upper head comprises three separate members, to-wit, an annular rim portion *d* seamed to the upper edge of the drum or body *a*, a head closure member *e* fitting within said rim member upon a seat provided therefor and normally sealed and locked in position, and a secondary closure member *f* for the filling opening provided in said head closure member.

Two corrugations *d'* and *d''* are provided in the annular portion *d*, which respectively serve to stiffen the same and afford a frictional seat *d³* of sufficient rigidity for maintaining a seal throughout the area of the rim and periphery of closure member *e*. This member is of such size and form that it must be inserted at the factory by suitable mechanism which will insure a seal at the gasket *g* when the locking lugs *e'* engage beneath the edge of the downturned rim *d⁴*. This permits the application of air pressure at the filling opening *e''* provided in said member so that the integrity of the seal may be tested in the usual manner.

This filling opening, in turn, is guarded by a secondary closure member *f* having locking lugs *f'* which engage beneath the edge of the friction seat *e³* which is reinforced by the corrugations *e⁴* and *e⁵* surrounding the same. The secondary closure member may be partially inserted when the drum has been satisfactorily tested, but without engaging its locking lugs, so that it may be removed for the purpose of filling the drum.

The filling operation usually is accomplished by heating the grease so that it will flow readily through the filling opening until it has reached approximately the level shown in Fig. 1, whereupon the drum may be completely sealed for shipment by inserting the closure member *f* as shown in Fig. 3. The drum and contents are now in condition for storage and shipment.

When it is desired to use the contents, however, the factory seal of the head closure member is broken by prying it from its annular seat and thereby opening substantially the entire head of the drum. The grease or other solidified material may then be dipped or cut from the volume contained within the drum as needed for immediate use.

Accordingly, it will be understood from the foregoing description that my improvements provide a drum that is capable of the usual tests and one which will maintain the subsequently introduced contents intact until used. It may be explained that unusually efficient sealing means are required for insuring the integrity of the annular seal, approximating the entire head of the drum and of such large diameter. This I provide for at the factory, while the filling opening therein permits the drum adequate ingress for its contents.

Another important commodity, for which this type of container and closure is adapted, comprises certain paints having a relatively heavy pigment or body, such as iron compounds, which will settle out and become hardened or semi-solid at the bottom of the container. At present a much more expensive agitator drum commonly is used for this class of paints, but it is quite unnecessary and may readily be substituted by the instant construction. The removable closure opening substantially the entire head of the so-called grease drum herein disclosed, permits the hardened materials to be reached with a paddle and the paint may be stirred to uniform consistency prior to dipping out the amount desired for immediate use. However, it will be apparent that the foregoing merely are illustrative of numerous uses to which the present improvement may be placed.

Having now described the preferred embodiment of my invention and its advantageous mode of use, I claim as new and desire to secure by Letters Patent the following:

1. A sheet metal drum having one end substantially open near an annular U-sectioned seat, a closure member therefor having a coacting U-sectioned rim forcibly engaged over said seat and sealed in tested air-tight relation thereon; said closure being provided with an inwardly rimmed opening, and a secondary closure member fitting within said opening having intermediate ribs taking above or below the rim to afford non-sealing and sealing positions therefor, substantially as set forth.

2. A sheet metal drum having a sectional sealing head at its open end provided with an annular U-sectioned seat, a closure member therefor having a coacting U-sectioned rim forcibly engaged over said seat and

sealed and tested in air-tight relation thereon forming a semi-permanent, non-replaceable cover; said closure being provided with an inwardly rimmed filling and testing opening, and a secondary closure member having intermediate ribs alternatively taking above or below the rim of said opening to afford non-sealing and sealing positions for the secondary closure member, substantially as set forth.

In testimony whereof I do now affix my signature.

CHARLES T. DRAPER.