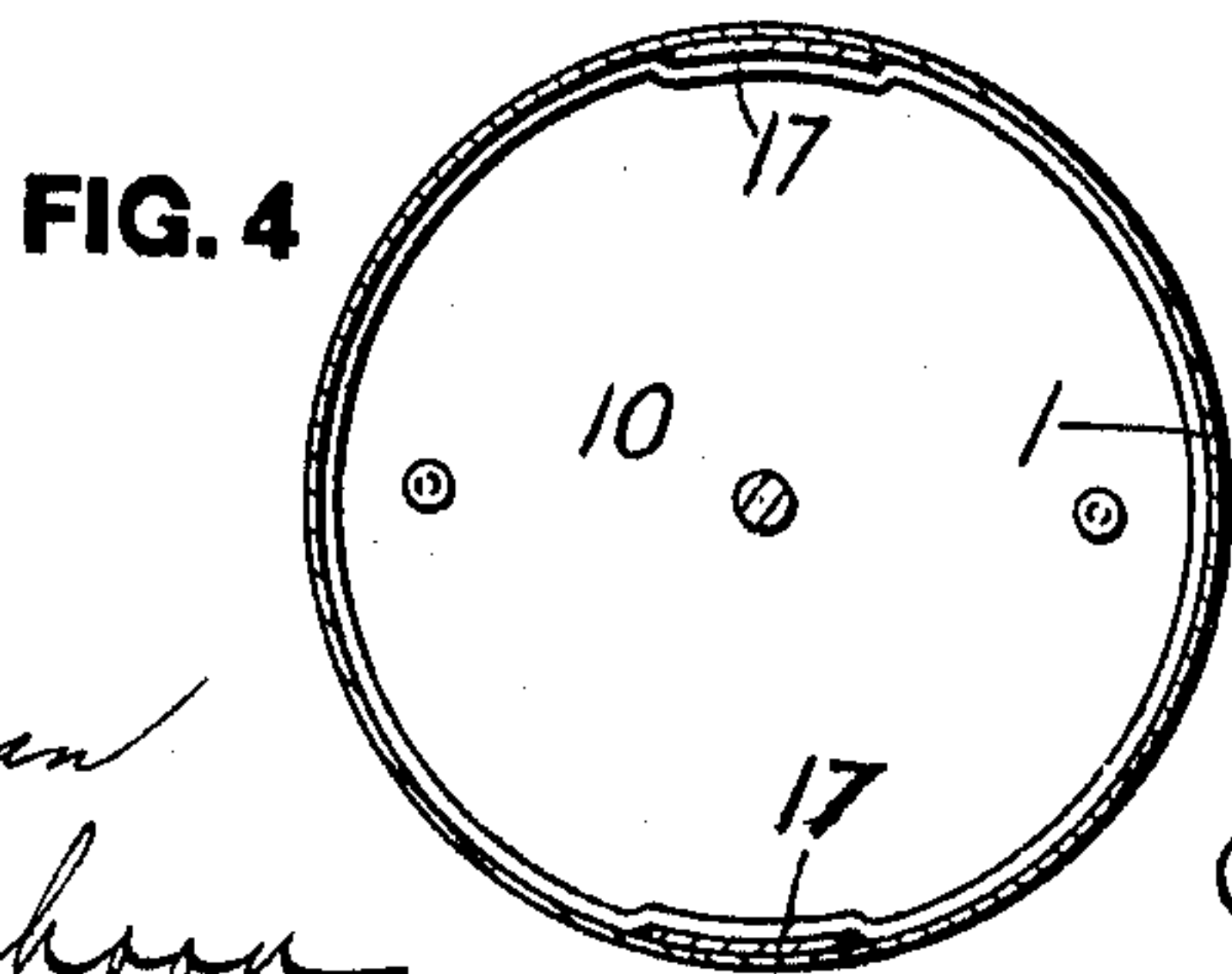
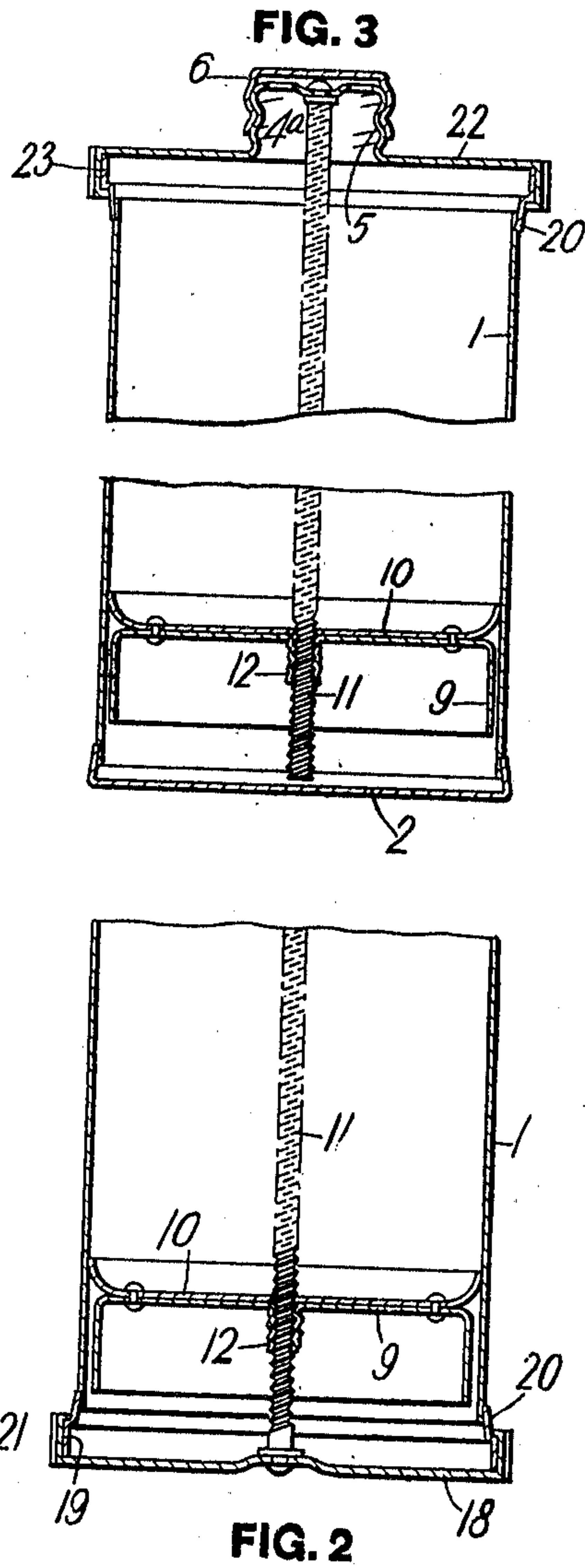
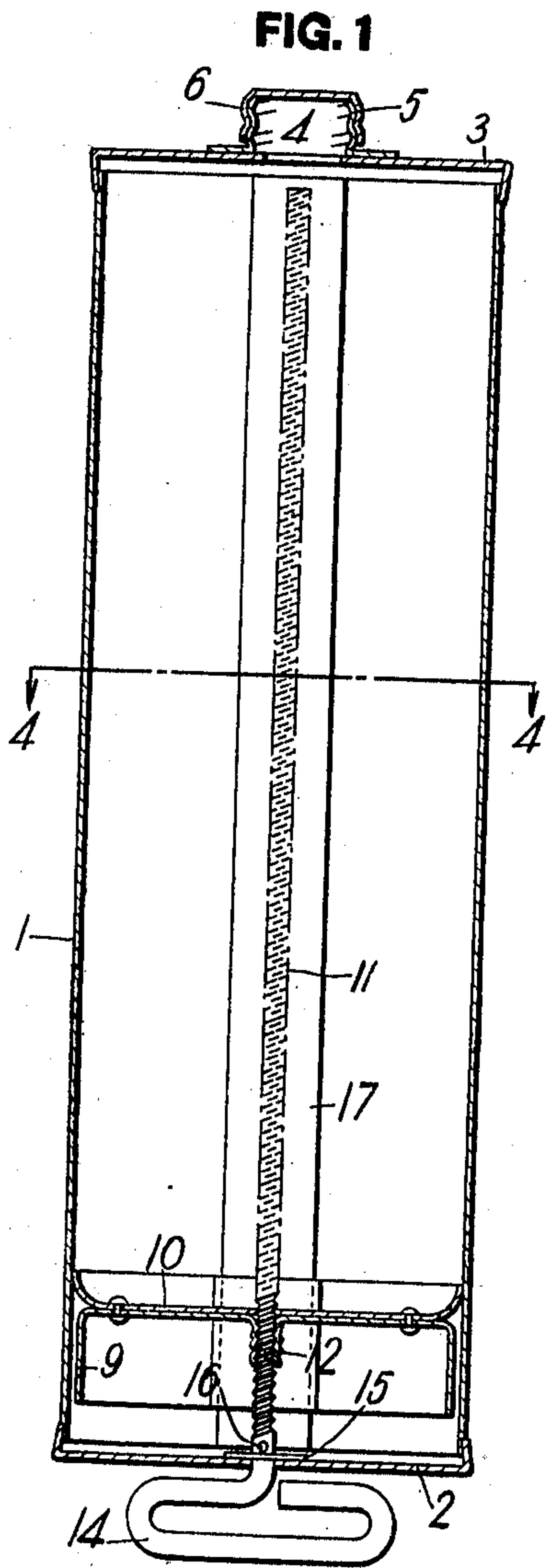


J. F. CRAVEN.
 RECEPTACLE FOR CONTAINING AND DISCHARGING SEMISOLID AND PASTY SUBSTANCES.
 APPLICATION FILED OCT. 14, 1910.

993,580.

Patented May 30, 1911.



WITNESSES

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RECEPTACLE FOR CONTAINING AND DISCHARGING SEMISOLID AND PASTY SUBSTANCES.

993,580.

Specification of Letters Patent. Patented May 30, 1911.

Application filed October 14, 1910. Serial No. 587,082.

To all whom it may concern:

Be it known that I, JAMES F. CRAVEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Receptacles for Containing and Discharging Semisolid and Pasty Substances, of which the following is a specification.

This invention relates to receptacles for containing storing, transporting and discharging semi-solid and pasty substances.

The device is intended more particularly for putting up lubricants in the form of grease and discharging the same into the grease cups of machines and for the purpose of enabling the grease to be supplied to the bearings without liability of dirt or grit entering the bearings with the grease and so as to prevent smearing up or soiling the machine or the hands of the workman. The invention, however, is not limited to this particular use, but is adapted for putting up in a substantially sealed condition any semisolid or pasty substance and delivering the same from the container in any desired quantity or quantities.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawing Figure 1 is a vertical section through one form of the device; Figs. 2 and 3 are similar views showing modifications; and Fig. 4 is a cross section on the line 4—4, Fig. 1.

The receptacle or container may be of any desired size or shape and may be constructed or built up in any desired way or from any desired material. As shown in the drawings the receptacle is formed by a substantially cylindrical tube 1 which may be of sheet metal or other thin material, and is shown as formed from paste or paper board. In Figs. 1 and 3 one end of this tube is closed by the head 2 which is shown as composed of sheet metal crimped onto the end of the paper tube. The other end of the receptacle shown in Figs. 1 and 2 is provided with a closure or head 3 which may be removable in order to enable the semi-solid or pasty substance to be filled into the receptacle, but is shown crimped onto the tube 1, as the receptacle can be filled and the head 3 then crimped onto the tube. The discharge orifice or opening 4 is shown as formed centrally of the head 3 by a hollow projection 5

threaded externally to receive a threaded cap 6 or similar means for closing the same. The threaded projection also serves for the attachment of a delivery spout if desired.

In the tube 1 is a movable piston or follower 9 provided with a cup leather 10 or other suitable means forming a close fit in the receptacle and being yielding so as to expand and keep a tight fit in the tube in case the latter expands under the pressure of forcing out the substance contained therein. The piston or follower is shown as stamped up from sheet metal, but may if desired be a disk of wood or other suitable material. In order to force the substance from the receptacle the piston is moved longitudinally in the tube toward the discharge orifice. The means for so moving the piston comprises a threaded rod 11 having engagement with a threaded opening 12 in the piston 9, and longitudinally immovable in the receptacle so that when rotated the piston is caused to move longitudinally.

Various arrangements may be provided for rotating the threaded rod. As shown in Fig. 1 the threaded rod projects through an opening in the head 2 of the receptacle and outside of the same is bent or otherwise suitably provided with a handle 14 by means of which said rod may be turned. The rod is held endwise immovable in the receptacle by means of washer 15 and pin 16 passing through the rod inside of the head 2. This washer and pin prevent the rod from being pushed outwardly due to the resistance of the substance against the piston 9 when the rod is turned, thereby compelling the piston 9 to travel toward the discharge orifice 4 and force the substance out of the receptacle. The piston 9 is prevented from rotating with the rod 11 by means of inwardly projecting means on the inner face of the tube engaging a groove in the piston. With a paper tube this is effected by pasting a strip or strips 17 on the inner face of the tube. With a sheet metal tube the usual seamed joint projecting inwardly as is usual, answers the same purpose. The handle 14 is the only part which projects beyond the casing, and this is of a substantial construction so that it cannot be readily injured in packing and transporting the receptacle.

Fig. 2 shows a modification wherein the threaded rod 11 is secured to a cap 18 whose edges are crimped around an external flange

or shoulder 19 on the end of the body, in a manner to permit said cap to be rotated but preventing the same from moving longitudinally of the body. In this form the body must either be formed of metal or other suitable resisting material, or a metal ring 20 provided with the flange or shoulder 19 must be crimped onto the tube 1. The annular edge of cap 18 is preferably knurled or milled, as at 21, to provide a good grip for the fingers. The cap 18 also serves as the closure for this end of the tube so that a separate head for this purpose is not necessary. The travel of the piston is effected by rotating the cap 18 which imparts rotary movement to the threaded rod 11 in the same manner as the handle 14 shown in Fig. 1.

Fig. 3 shows still another modification in which the threaded actuating rod 11 is secured to a cap 22 which is crimped around the outturned flange or shoulder 23 on the discharge end of the body and is rotatable thereon in the same manner as the cap 18 in Fig. 2. In this case also the body must either be formed of metal or other material to give sufficient strength to the flange 23, or said flange formed on a collar 20 which is crimped onto the end of the paper body. The discharge orifice 4^a in this case is formed through the cap 22, and the latter also preferably has the externally threaded projecting portion 5 for receiving a closing cap 6 and to also have a delivery nozzle screwed thereon.

In all forms of the device the substance is forced out of the receptacle by means of a longitudinal threaded rod engaging the piston and being itself longitudinally immovable in the receptacle. In the form shown in Figs. 2 and 3 there is no part which projects beyond the casing of the receptacle, and in Fig. 1 only the handle 14 projects in this manner. Consequently the receptacle can be safely packed, transported and stored.

In the form shown in Figs. 1 and 2 the material may be filled into the receptacle before the head 3 is crimped on, or through the discharge orifice 4. With the form shown in Fig. 3 the material may be filled into the receptacle by removing head 2 and the piston 9, and after the receptacle is full said piston may be forced in and rotated slightly until thoroughly engaged with the screw rod 11, after which the head 2 is crimped on; or if desired the cap 22 may be made removable.

With all forms of the device the receptacle is filled with the grease or other pasty or semi-solid substance at the factory and is practically hermetically closed or sealed so that it can be conveyed to the place of use without getting dirt or grit into the same. Any desired quantity of the substance can be forced out by rotating screw rod 11 the

necessary number of times. This can be easily effected so as to gage the exact amount of material required, and in doing so the grease or other substance cannot soil or smear up the machinery or the user's hands. The discharge is effected by merely holding the tube 1 with one hand and then rotating the screw either by turning the handle 14, cap 18, or cap 22, as the case may be. The contents of the receptacle are always contained in a tightly closed casing and therefore do not accumulate dirt, nor will they absorb odors from substances which are stored in the vicinity thereof.

The receptacle is intended to be used only once, being filled at the factory and thrown away when empty. Hence it must be at low cost, and necessarily must be made up of cheap and comparatively weak material and with minimum labor operations. A paper or pasteboard tube is therefore preferred for the body of the receptacle, or if sheet metal is used it will be of the thinnest gage. On account of the cheap construction of the receptacle the tube is liable to expand slightly, or assume a slight barrel shape under the pressure of forcing a stiff grease out of the same. The cup leather 10 or similar means is however expansible and in effect forms an expansible piston or follower so as to keep a tight fit against the inner wall of the tube and prevent the grease from wasting by escaping past the edge of the follower.

What I claim is:

1. A device of the character described, comprising a weak tubular receptacle provided at one end with a discharge orifice, a piston or follower in said receptacle arranged when moved to force the substance out of the discharge orifice and comprising a rigid member and a yielding member cupped toward the discharge orifice to maintain a close fit in said receptacle, a threaded member longitudinally immovable within said receptacle and operatively engaging said piston, and turning means on said member exterior of said receptacle.

2. A device of the character described, comprising a weak tube closed at one end by a head provided with a discharge orifice, a piston or follower in said receptacle arranged when moved to force the substance out of the discharge orifice and comprising a rigid member and a yielding member cupped toward the discharge orifice to maintain a close fit in said receptacle, a threaded member longitudinally immovable within said receptacle and operatively engaging said piston, and turning means on said member exterior of said receptacle at the end opposite the discharge orifice.

3. A device of the character described, comprising a weak tubular receptacle provided at one end with a discharge orifice, a

piston or follower in said receptacle arranged when moved to force the substance out of the discharge orifice and comprising a rigid member and a yielding member
5 cupped toward the discharge orifice to maintain a close fit in said receptacle, a threaded member longitudinally immovable within said receptacle and operatively engaging said piston, and a cap rotatable on the re-
10 ceptacle and endwise immovable on the receptacle and having the threaded member secured thereto.

4. A device of the character described, comprising a weak tube closed at one end by
15 a head provided with a discharge orifice, a piston or follower in said receptacle arranged when moved to force the substance

out of the discharge orifice and comprising a rigid member and a yielding member cupped toward the discharge orifice to main- 20
tain a close fit in said receptacle, a threaded member longitudinally immovable within said receptacle and operatively engaging said piston, and a cap rotatably but endwise immovable secured on the end of said tube 25
opposite the discharge orifice and having the threaded member secured thereto.

In testimony whereof, I have hereunto set my hand.

JAMES F. CRAVEN.

Witnesses:

F. W. WINTER,
SUE B. FRITZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
