

No. 861,465.

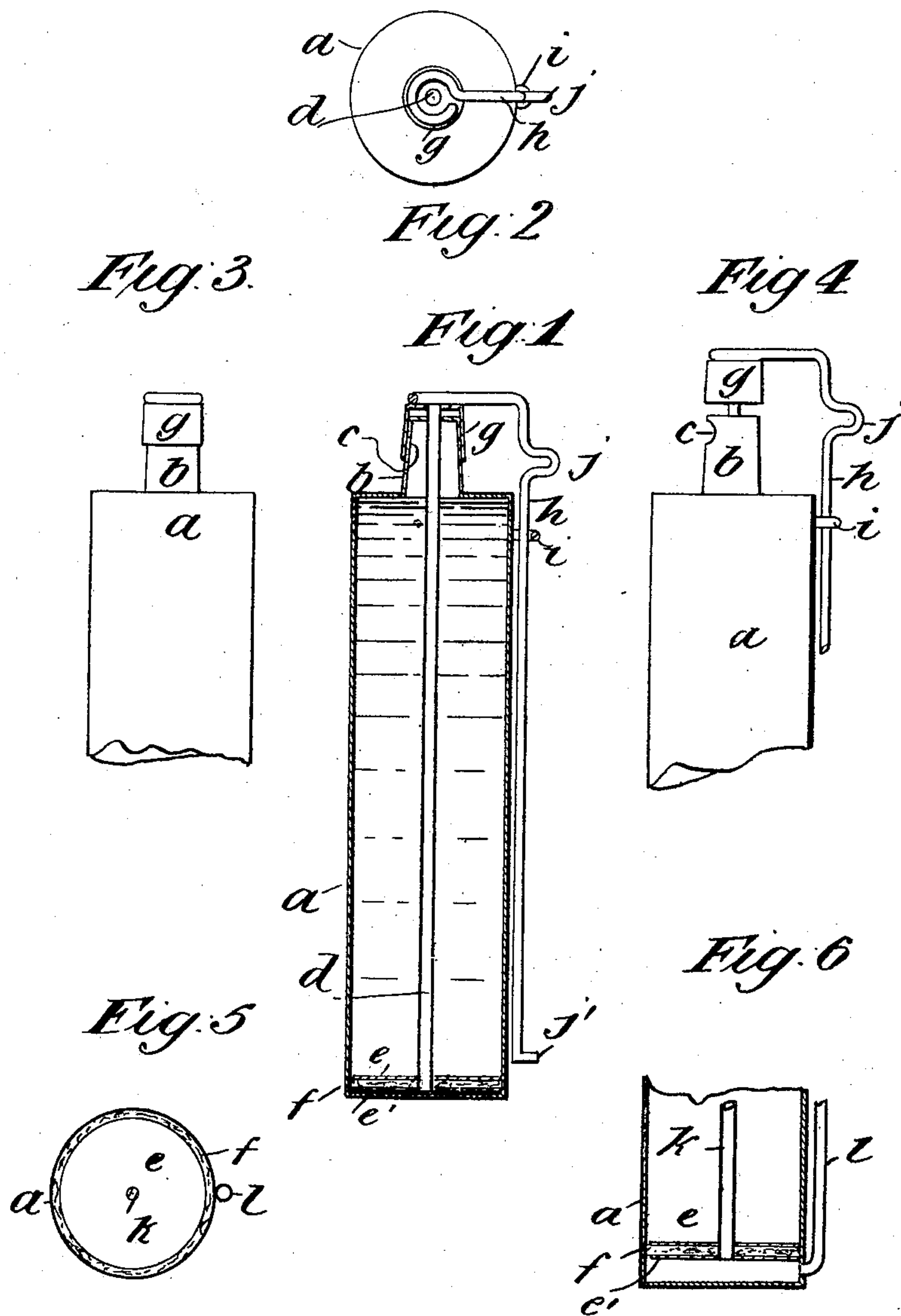
PATENTED JULY 30, 1907.

F. R. JAMES.

RECEPTACLE OR CONTAINER FOR VISCOUS, SEMIFLUID, OR LIKE SUBSTANCES.

APPLICATION FILED AUG. 3, 1906.

2 SHEETS—SHEET 1.



Witnesses:

*Harry Fleischer*  
*H. D. Penny*

Inventor:

*Frederick Reesor James*  
By his Attorney,  
*F. H. Richards*

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Fig. 8

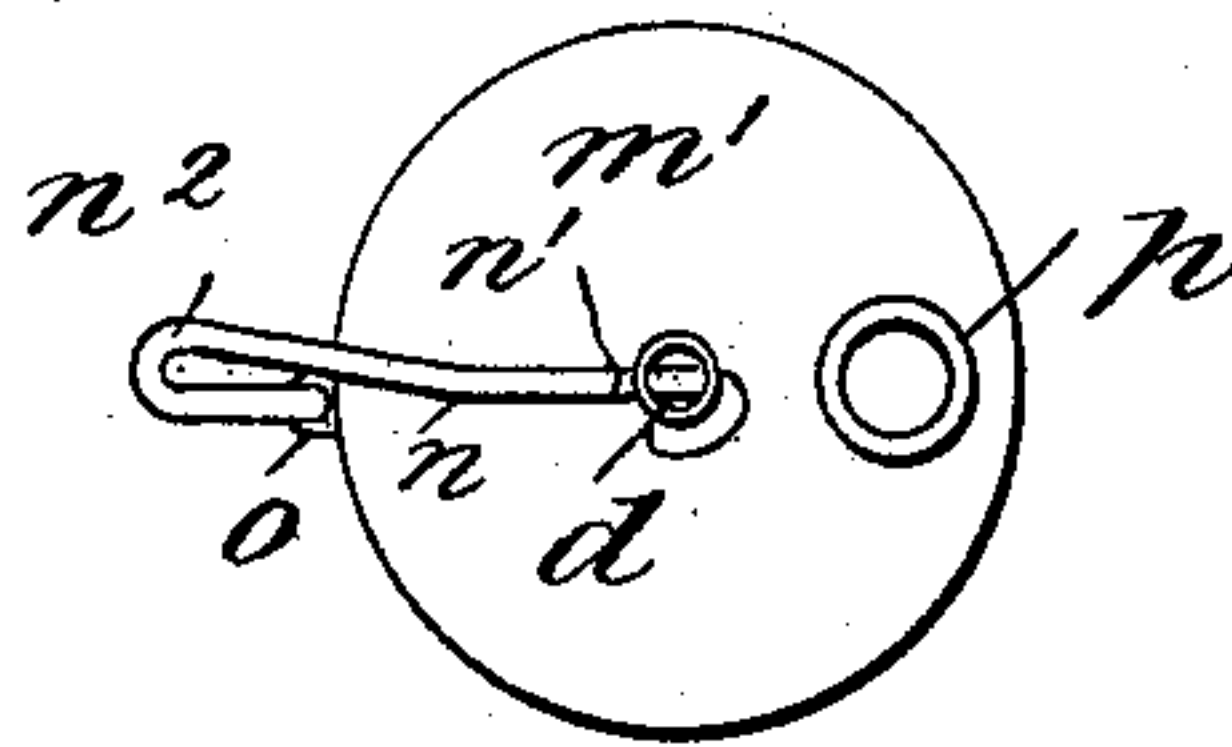


Fig. 9

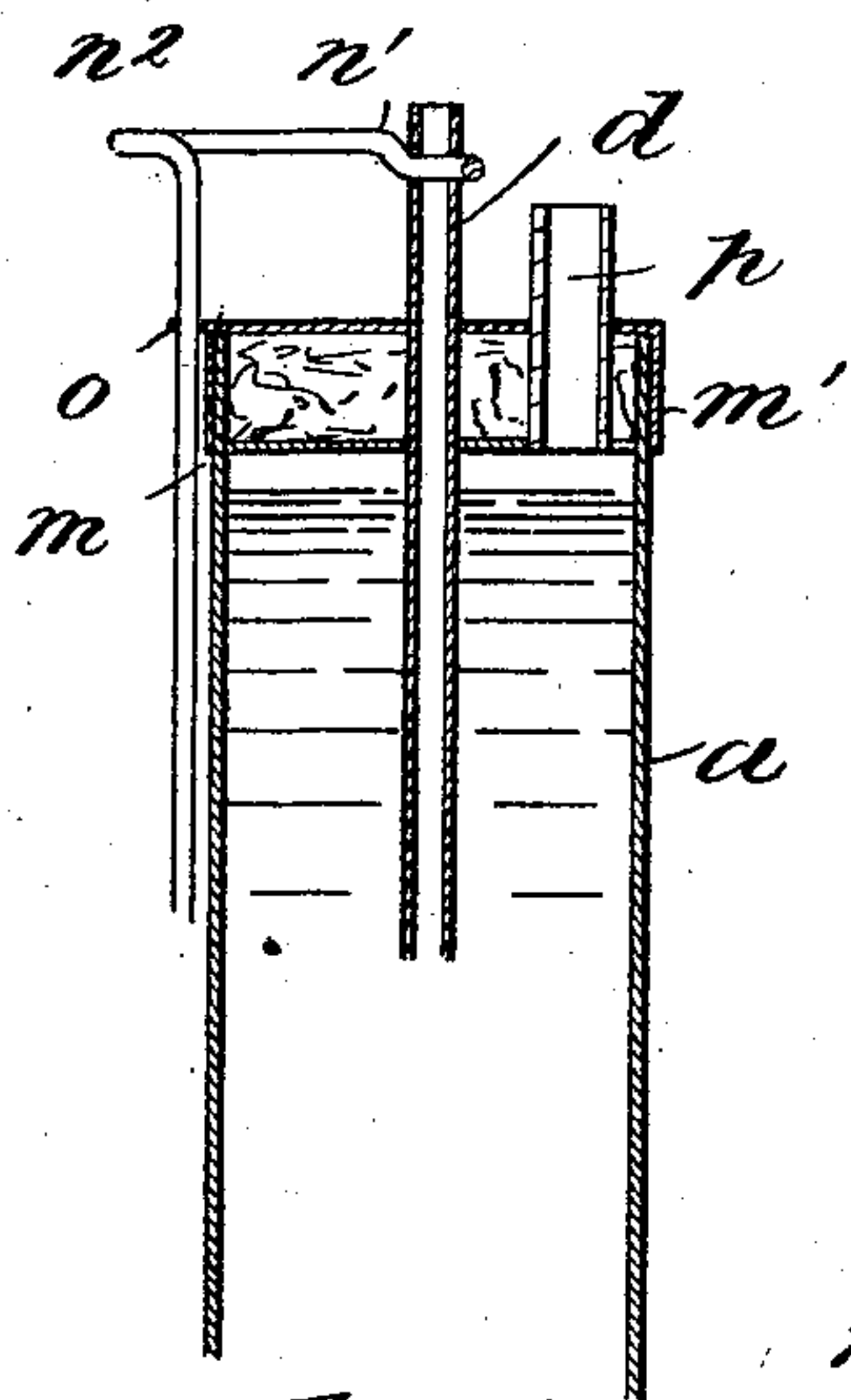


Fig. 7

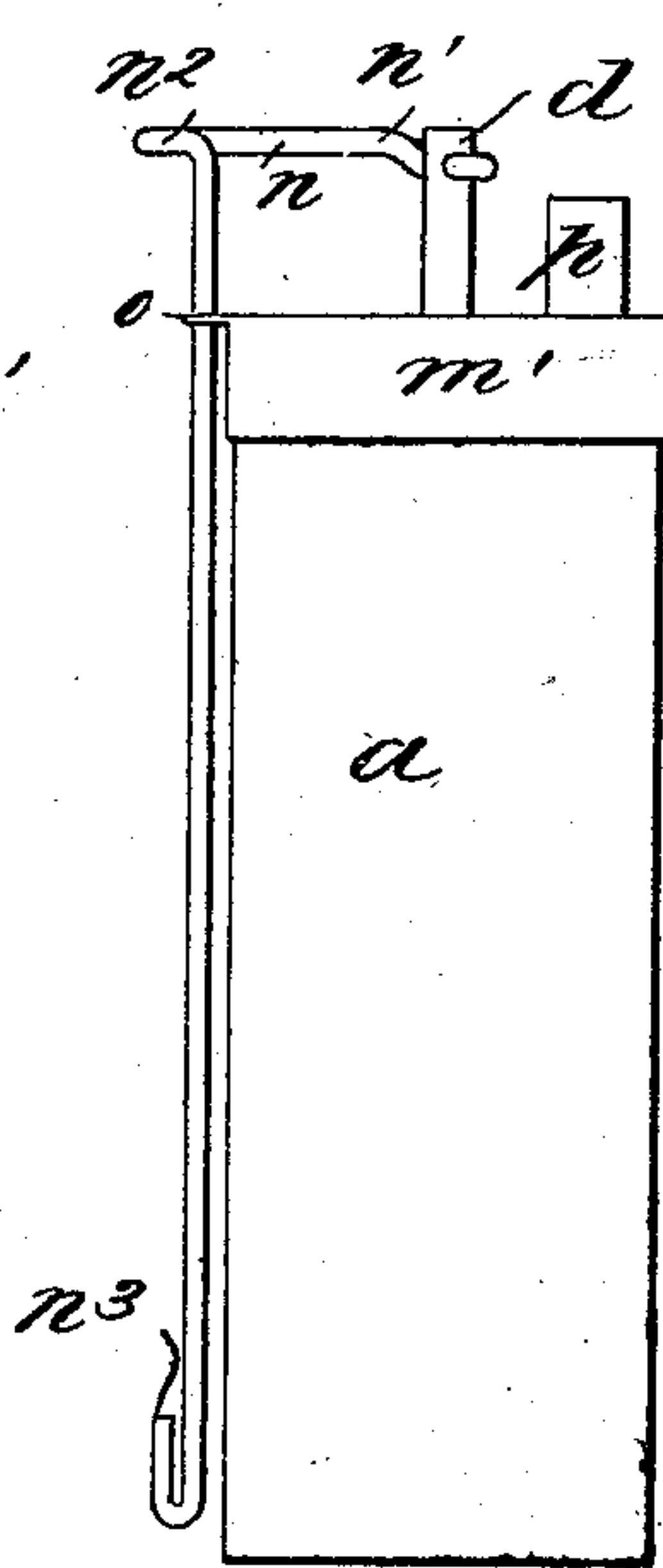


Fig. 10

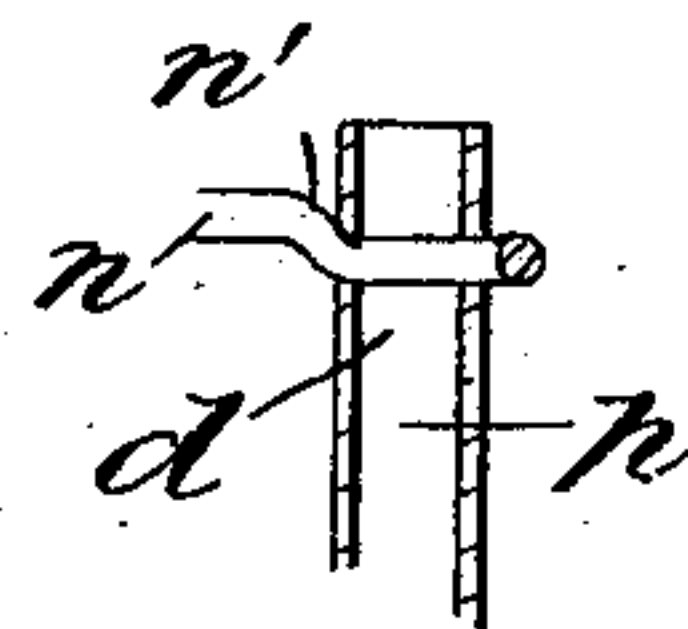
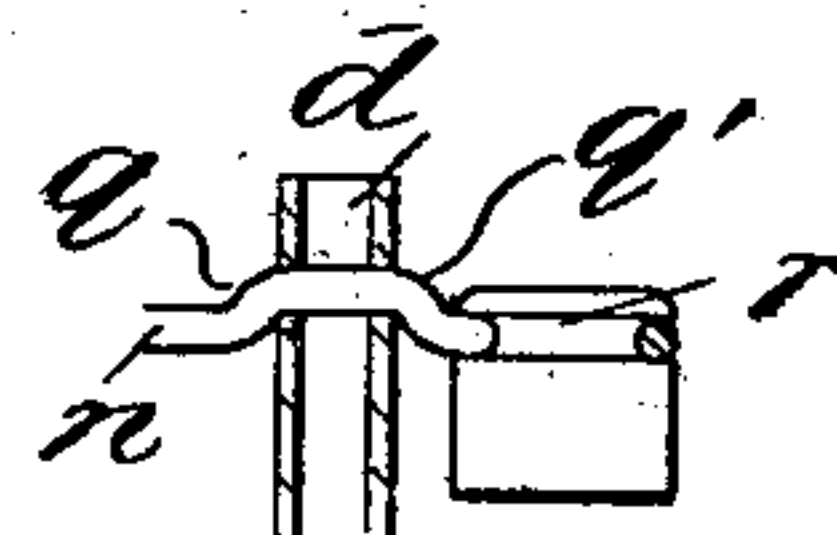


Fig. 11



Fig. 12



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By his Attorney,

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# UNITED STATES PATENT OFFICE.

FREDERICK R. JAMES, OF LONDON, ENGLAND.

RECEPTACLE OR CONTAINER FOR VISCOUS, SEMIFLUID, OR LIKE SUBSTANCES.

No. 861,465.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed August 3, 1906. Serial No. 329,044.

To all whom it may concern:

Be it known that I, FREDERICK REESOR JAMES, a subject of the King of Great Britain and Ireland, residing in London, England, have invented certain new and useful Improvements in Receptacles or Containers for Viscous, Semifluid, or Like Substances, of which the following is a specification.

This invention relates to an improved receptacle or container for viscous, semi-fluid or like substances and it has for its object to provide a container for these and like substances that shall be free from the disadvantages attending the employment of the collapsible tubes heretofore usually employed. With tubes of the kind just above referred to, it is necessary before the contents can be discharged, that a cap or cover be first removed, thus requiring the use of both hands, the one holding the tube while the other is employed in removing or replacing the said cap. Further, the appearance of such tubes when partly empty is very unsightly, and the body thereof is apt to become smeared with the contents, which in addition to rendering it unpleasant to the touch, causes the hands to become soiled. Again, with devices of this nature the amount of the contents discharged is not readily regulable.

It is the object of the present invention to provide a container free from these defects in which the uncapping or capping of the discharge orifice and the discharge of the contents can be effected by the use of one hand only. The construction, moreover, is such that the receptacle at all periods presents a neat and attractive appearance. With a device constructed in accordance with this invention the smearing of the contents upon the body is also avoided so that it may be freely handled without soiling the hands, any slight excess of the substance extruded being drawn back into the container when the cap is replaced.

In order that the invention may be the better understood, drawings are appended in which:—

Figure 1. is a longitudinal section of a form of container constructed in accordance with the present invention. Fig: 2. is a plan. Fig: 3. is a front elevation of the upper end of the receptacle with the discharge orifice closed. Fig: 4. is a side elevation with the discharge orifice open. Figs: 5 and 6. are respectively a sectional plan and elevation showing an alternative arrangement of air supply to the underside of the piston for expelling the contents of the receptacle. Fig: 7. is an elevation of a modified form of receptacle in which the cap for the discharge is dispensed with. Fig: 8. is a plan. Fig: 9. is a section. Fig: 10. is an enlarged sectional view of a detail of construction. Fig: 11. is a plan of a further modification. Fig: 12. is an enlarged sectional view of Fig: 11.

Referring to the accompanying drawings, *a* indicates the body of the receptacle formed in the present instance of sheet metal although as aforesaid, if desired, glass or other suitable substance may be employed. The body as shown is of a circular cross section but it may if desired present any other cross sectional outline, for example, square, oval, or triangular. The receptacle is closed and at its upper end is provided with a tubular extension or neck *b* having a discharge aperture *c* upon one side.

Passing through the upper closed end of the extension *b* is a tube *d* to the lower end of which is secured a piston formed in the present instance of two plates *e e'*, of a diameter somewhat less than that of the interior of the receptacle, between which is disposed a disk of leather, felt or other suitable material *f*, the whole forming a piston adapted to work freely within the receptacle. The tube *d* is open at its upper and lower ends so that air is admitted to or expelled from the underside of the piston in order to permit it to be readily reciprocated. The upper end of the tube *d* passes through and is secured to a cap *g* of such dimensions as to allow it to more or less closely fit the end of the extension *b* the depth of the cap being such that when the piston is in its lowest position the discharge aperture *c* is fully covered. In order to raise or lower the piston, a vertical rod or bar *h* is provided which rod or the like is bent at its upper end at a right angle to its body and is secured to the cap *g* aforesaid. The rod is arranged parallel with and upon the outside of the receptacle, a guide such as *i* being provided. To facilitate the manipulation of the rod, projections such as *j j'* may be provided upon it. In use the receptacle is grasped in the hand and the rod *h* is pressed upwards by the thumb raising the cap attached thereto and uncovering the discharge aperture *c*. At the same time that the above operations are effected the piston within the receptacle is raised, causing the contents to be discharged through the aperture *c* when it may be applied directly to the surface or the like to be treated. Upon the depression of the rod *h* and the consequent downward movement of the piston secured to tube *d*, the material within the neck or extension *b* is forced backwards by the entering air, leaving the aperture *c* free and returning the cap *g* into its position covering the said aperture.

Instead of arranging the air supply as shown in Figs: 1 and 2. I may substitute for the tube *d*, a rod such as *k* Figs: 5 and 6 to which the piston is secured and provide an air supply for the underside of said piston arranged upon the outside of the tube as shown at *l*. The air admission tube may, however, be arranged inside the body of the container or where the body is of



sufficient substance, a channel may be formed therein to serve as an air supply. It is, however, obvious that the arrangement of the air supply as also the arrangement generally of the device, may be so varied as may  
5 be found in practice to be convenient.

In some cases I may dispense with the cap *g* under which circumstances it is possible to greatly simplify the construction of the device. A device such as just referred to is illustrated in Figs: 7 to 10. on reference  
10 to which it will be seen that the receptacle *a* is at its upper end closed by means of a cork or the like *m* through which passes the tube *d* carrying the piston, an outer cover or lid *m*<sup>1</sup>. being provided, such lid being preferably formed of metal. The tube *d* at its upper  
15 end is perforated for the passage of the end of the wire *n* which wire is bent after being passed through the tube and encircles it as shown. A shoulder *n*<sup>1</sup>. is formed by bending the wire upon the opposite side of the tube so that the displacement of the wire is prevented. The wire *n* is bent as shown at *n*<sup>2</sup>. to form a  
20 finger piece and the body of said wire passes through a guide *o* formed upon the cover *m*<sup>1</sup>. The lower end of the wire is also bent as shown at *n*<sup>3</sup>.

*p* indicates the discharge neck which passes through  
25 the cork. It will be observed that in the device just described the joints between the various parts are effected without the aid of solder and consequently the cost of production is considerably reduced. With this last mentioned object in view I may provide for the  
30 employment of a cap for the neck *p* such cap being secured to the end of the actuating wire *n* in the manner shown in Figs: 11 and 12 where it will be seen that a shoulder *q* *q*<sup>1</sup>. is formed upon each side of the tube so that the longitudinal displacement of the wire is  
35 prevented. The cap is secured by causing the end of the wire to encircle the upper end of the said cap which is recessed at *r* for this purpose.

It is obvious that instead of bending the wire to prevent its displacement that the said wire may be flattened thus increasing its width and preventing its  
40 passage through the aperture in the tube.

Having now particularly described and ascertained the nature of my said invention, and in what manner

the same is to be performed, I declare that what I claim is:—

1. A receptacle for the purpose specified comprising a hollow body closed at each end, a piston working within said body, means for operating said piston means for admitting air to the underside of said piston, a discharge orifice and a cap or cover for said orifice so arranged that the movement of the operative means for the piston causes said cap or cover to open or close the said orifice. 45 50

2. A receptacle or container for viscous, semi-fluid or like substances comprising a hollow body closed at each end, a piston working within said body, means for operating said piston, means for admitting air to the underside of said piston, a neck provided with a discharge orifice and a cap or cover for said orifice secured to the operative means for the piston. 55

3. A receptacle or container comprising a tubular body having closed ends, a piston operating in said body, a discharge orifice in one of the ends, means for admitting air for the opposite end portion of the body, and means operatively connected with the piston to close the orifice when the piston moves in one direction and to open the orifice when the piston moves in the opposite direction. 60 65

4. A receptacle or container comprising a tubular body closed at each end, a neck provided with a discharge opening, a piston rod fast to the piston, and a closure secured to the piston rod and arranged to control the orifice in the neck. 70

5. A receptacle or container comprising a tubular body closed at each end, a neck projecting from an opening in one end, an air inlet for the other end portion of the body, a hollow piston rod secured to the piston and extending through said neck, said neck having its outer end closed and provided with a lateral opening, and a cap member secured to the piston rod and arranged to slide on the said neck to close its orifice. 75

6. A receptacle or container comprising a tubular body closed at each end, a neck projecting from an opening in one end, an air inlet for the other end portion of the body, a hollow piston rod secured to the piston and extending through said neck, said neck having its outer end closed and provided with a lateral opening, a cap member secured to the piston rod and arranged to slide on the said neck to close its orifice, an operating rod connected with said cap and extending along the outer portion of the body, and a guide for said operating rod. 80 85

In witness whereof I have affixed my signature in the presence of the two undersigned witnesses. 90

F. R. JAMES.

Witnesses:

JOHN JAMES WRIGHT,  
CHARLEY WOODIN.