

No. 843,846.

PATENTED FEB. 12, 1907.

G. T. REED.
VACUUM CREATING DEVICE FOR JARS, &c.
APPLICATION FILED JUNE 30, 1906.

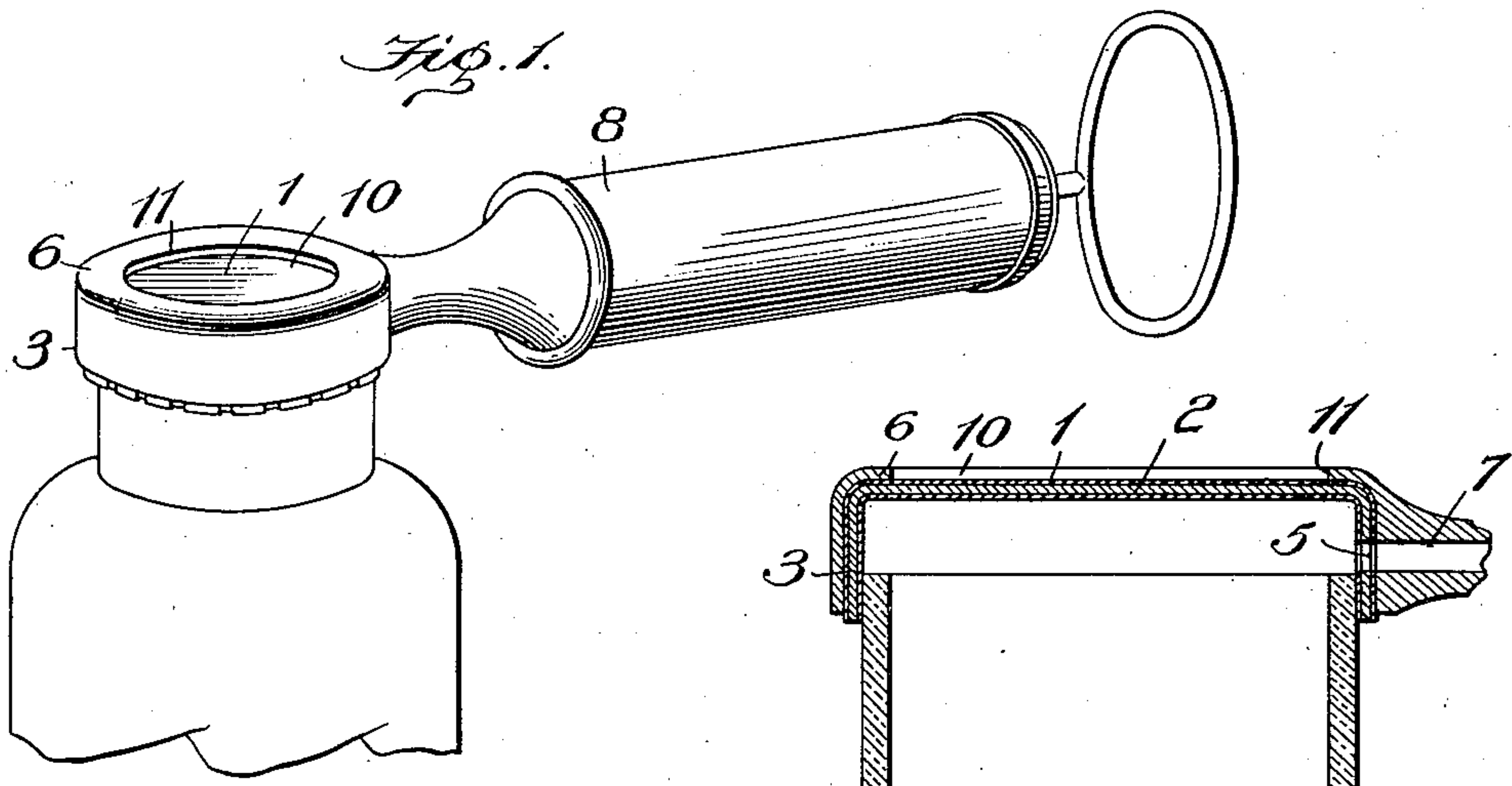


Fig. 4.

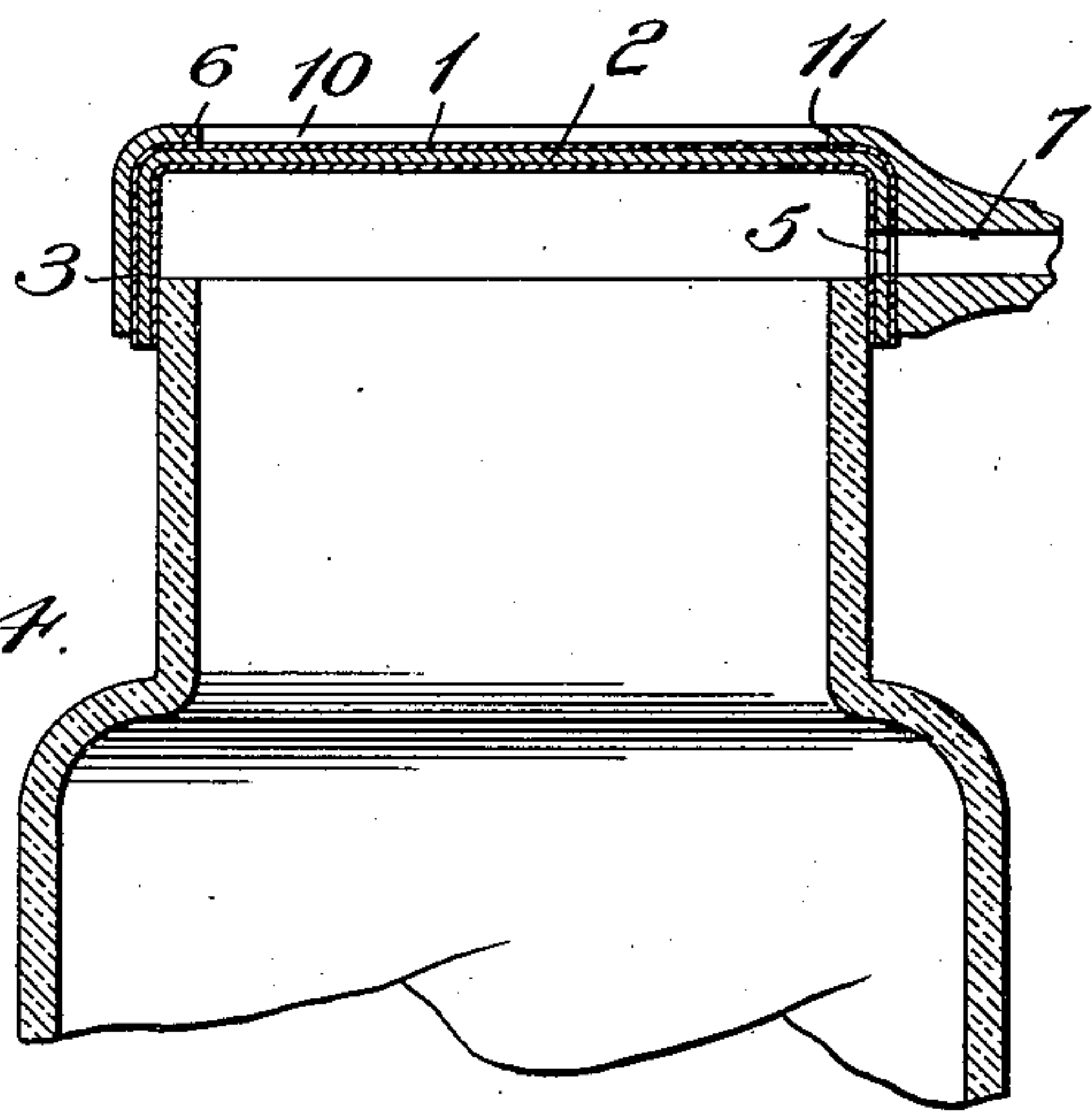


Fig. 2.

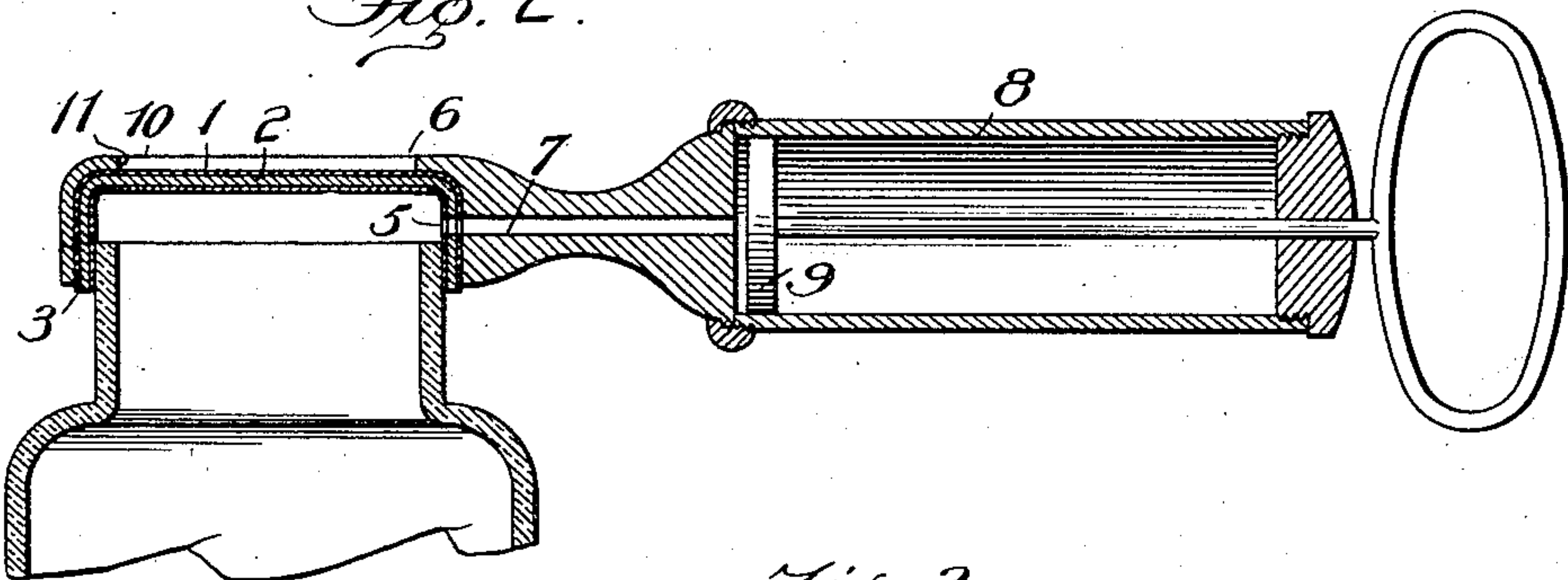
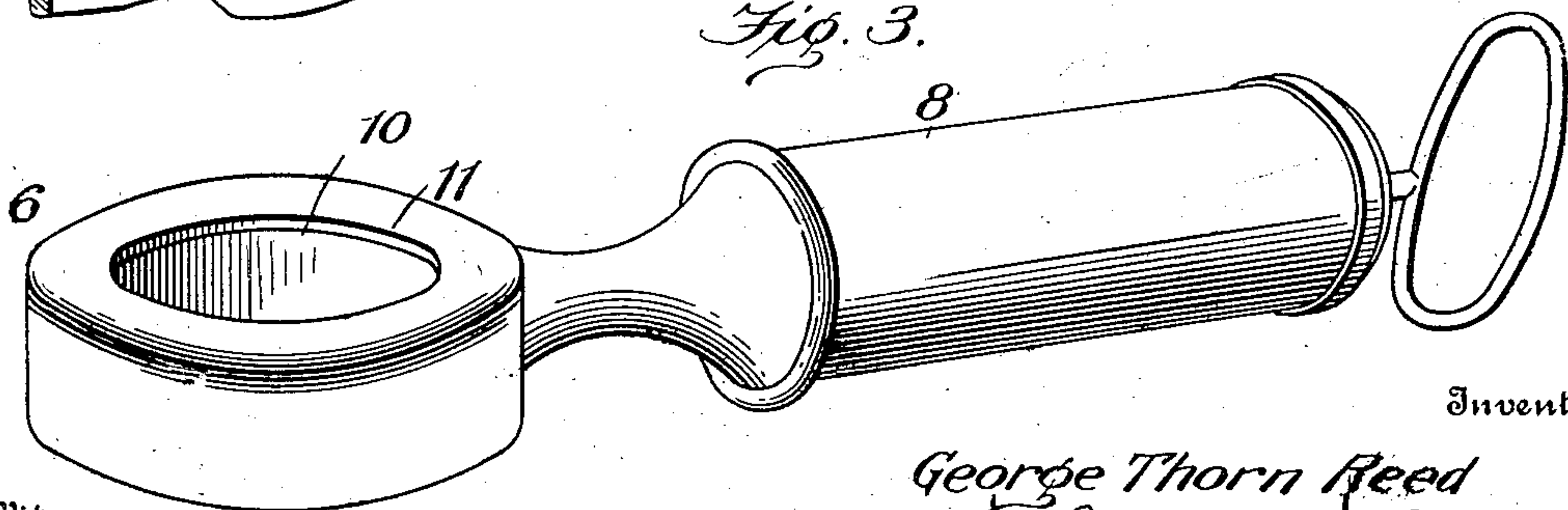


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE T. REED, OF BALTIMORE, MARYLAND, ASSIGNOR TO CONTINENTAL JAR AND BOTTLE STOPPER COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF WEST VIRGINIA.

VACUUM-CREATING DEVICE FOR JARS, &c.

No. 843,846.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed June 30, 1906. Serial No. 324,185.

To all whom it may concern:

Be it known that I, GEORGE THORN REED, a citizen of the United States, residing at the city of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Vacuum-Creating Devices for Jars and other Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

For the preservation of the contents of jars and other vessels closed by a sealing-cap I have produced a device whereby a vacuum is created within the vessel distinguished from the process now practiced and known as the "vacuum-receiver" process, by a mechanical operation in which an air-pump is employed in direct communication with the interior of the vessel through an orifice in a sealing-cap closure by which the vessel is rendered air-tight while the vacuum is being created.

My invention provides a quick, cheap, and effective means of exhausting the air from the vessel to preserve the contents from decomposition by an operation of the air-pump while the vessel is sealed by the cap and by a sealing provision of the air-pump itself with the cap-closure.

The accompanying drawings illustrate my invention, and, referring to these drawings, Figure 1 shows in perspective an air-pump as it is applied to a sealing-cap closure to extract the air from the sealed vessel. Fig. 2 is a longitudinal section of the air-pump as it is applied to the sealing-cap of a vessel in the operation of extracting the air therefrom. Fig. 3 shows in perspective the air-pump having an elastic hood whereby it is applied to the sealing-cap closure in the operation of extracting the air from the vessel. Fig. 4 shows in vertical section, enlarged, the elastic hood and its pump connection with the sealing-cap closure in the position the pump occupies for extracting the air from the sealed vessel.

I have shown my vacuum-creating pump as applied to the sealing-closure of a jar; but obviously it may be applied for use with jelly-glasses and with bottles, and these I shall designate as "vessels."

To carry out my invention, which resides

in the means for creating a vacuum in the filled vessel, I will first describe a sealing-cap which is a necessity in using my vacuum-pump.

Any suitable sealing-cap closure may be used, but I prefer a cap composed of a sheet of metal and a layer or sheet of wood-pulp rendered sanitary with paraffin-wax, which is caused to penetrate the fiber, making it proof against moisture and acids, rendering it adhesive, and giving it compactness of body, the two placed together, the metal uppermost, and pressed into cup or cap form, producing thereby a two-ply closure of metal and of fiber, both preferably of the same area and forming at the same operation a band with the fiber pressed and forming a lining which by its adhesive function is caused to stick to every part of the metal to unite the separate bodies and cause the fiber lining to act with a yielding cushioning effect when the cap is placed on the neck of the vessel to be sealed. The cap thus produced is treated on its inner or fiber side or wall with one or more coats of pure paraffin-wax, which causes the cap to adhere to the walls of the vessel to seal it and to hold the cap in place.

In order to apply the vacuum-creating device to the sealing-cap, it is provided with an orifice about one-eighth of an inch, which passes through the band and through the lining about mediate of the width of the band, and the cap having been adjusted on the filled vessel so that its orifice will be just above the edge of the mouth of the vessel to open communication of its interior with the outer air the pump is then applied to the orifice to extract the air from the vessel, creating a vacuum therein. The sealing of the orifice is then effected while the pump is still applied by pressing down the cap to carry its orifice below the edge of the vessel, and thereby cutting off communication with the interior of the vessel and establish a vacuum therein. For this purpose I have designed a pump having an elastic hood, adapted to inclose the sealing-cap and form a sealing-joint therewith, so that communication with the pump can only be had through a channel in the pump in communication with the orifice in the sealing-cap closure. For this purpose I prefer to make

the tube or barrel 8 of the pump of hard rubber and the hood 6 of soft rubber, so that when the hood is forced upon and over the sealing-cap closure the channel of the pump 5 will register with the orifice in the cap, so that when the piston 9, the normal position of which is at the limit of its inward stroke, is drawn to the limit of its outward stroke the air will be pumped out of the vessel and 10 its cap set to its closed and sealed position, pressure being applied for this purpose to the top of the metal cap through an opening 10, formed by an inward rim 11 of the hood, so that it overhangs the cap.

15 The importance of providing the pump with the soft-rubber hood is that it contracts and forms a tight-fitting seal around the outer wall of the metal cap and around the orifice therein, so that no air can be 20 drawn into the pump except that drawn from the filled and sealed vessel.

The length of the pump-tube is sufficient to cause the stroke of the piston to act effectively in drawing all the air from the vessel 25 and that during the exhaustion of the air the communication between the pump-chamber and the chamber of the vessel is cut off by pressing the cap sealing-walls upon its seat to carry the orifice in its wall below the edge 30 of the vessel and thus seal it, when the pump-hood is removed.

It is important to note that when the orifice in the rubber hood is in registering relation with the orifice in the sealing-cap closure 35 the hood will seal the junction of the walls around the orifice and the pump-channel, so there can be no leak at the point at which the air is extracted from the vessel.

In this depression of the cap the hood is carried with it after the orifice in the cap is 40 closed by the wall of the vessel.

I claim—

1. For creating a vacuum in vessels, the combination with a sealing-cap, having an orifice in its wall, an air-pump having an 45 elastic hood adapted to yieldingly envelop the sealing-cap and having an orifice adapted to effect communication with the pump and with the orifice in the sealing-cap.

2. The combination with a sealing-cap 50 having a circumferential band pierced with an orifice, of an air-pump terminating in an elastic hood adapted to yieldingly envelop the sealing-cap and having an orifice adapted to register with the orifice in said cap, said 55 hood having a top rim overhanging the sealing-cap to expose its top whereby communication with the pump-chamber and with the chamber of the vessel is effected by the registering orifices and cut off by depressing 60 the cap carrying with it the pump-hood whereby the air is extracted and the vessel sealed before removing the air-pump.

3. Means for extracting air from vessels consisting of a sealing-cap and an envelop- 65 ing-hood for said cap, the hood and the cap having registering orifices, and a pump having a channel in communication with the orifice in the hood.

In testimony whereof I have signed my 70 name to this specification in the presence of two subscribing witnesses.

GEORGE T. REED.

Witnesses:

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