

No. 705,336.

Patented July 22, 1902.

F. M. FURBER.
DISPENSING CAN.

(Application filed Apr. 17, 1902.)

(No Model.)

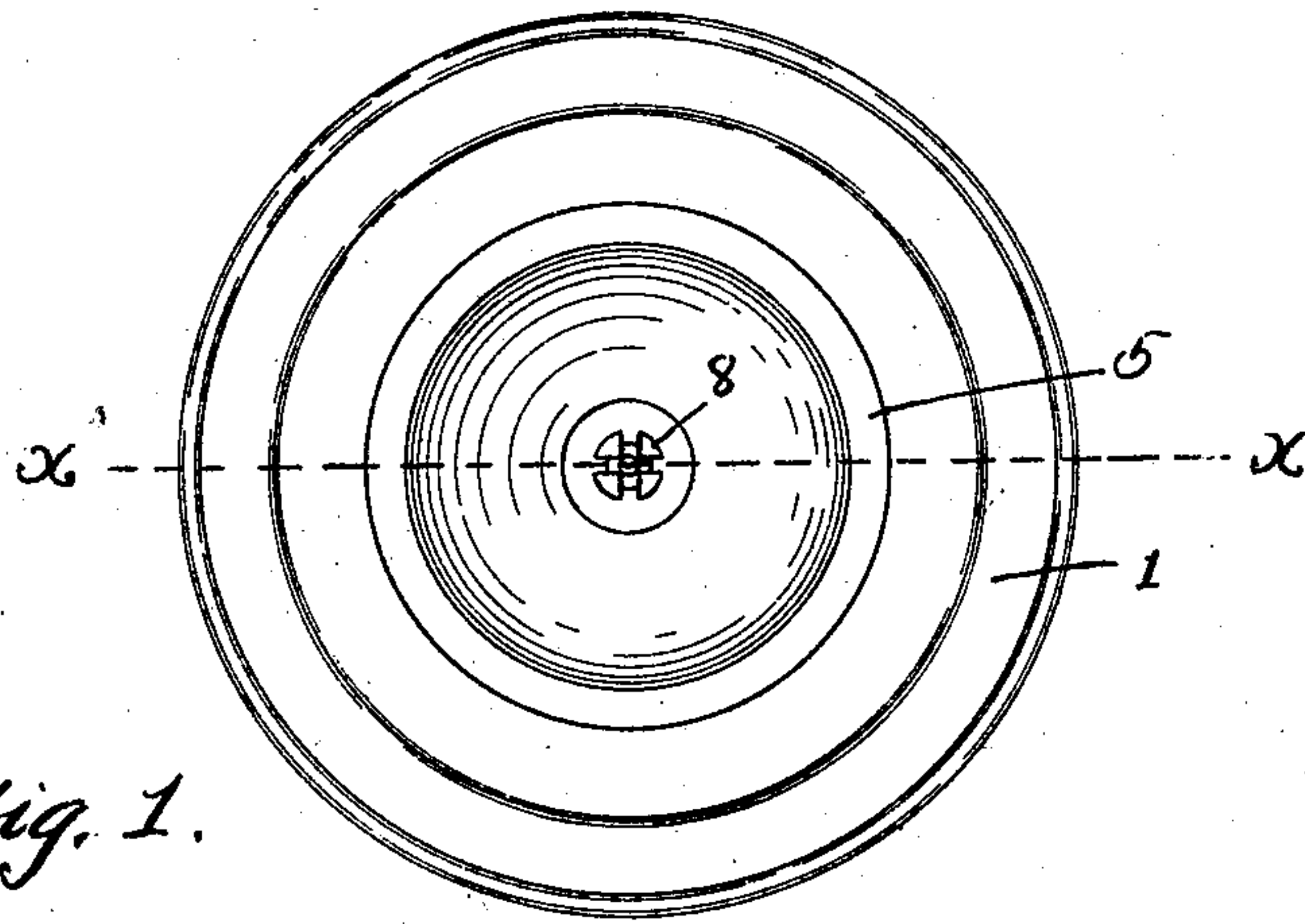


Fig. 1.

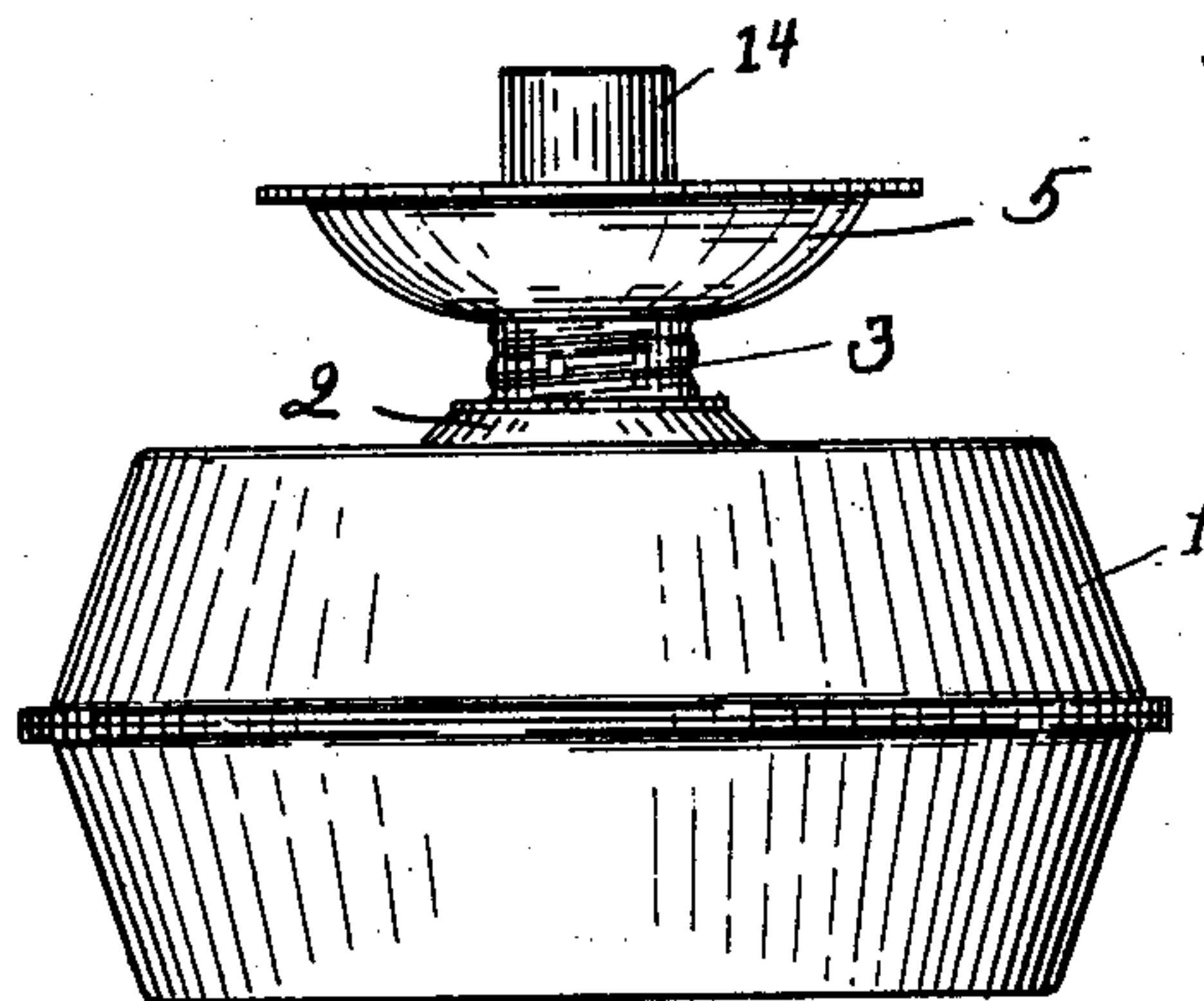


Fig. 2.

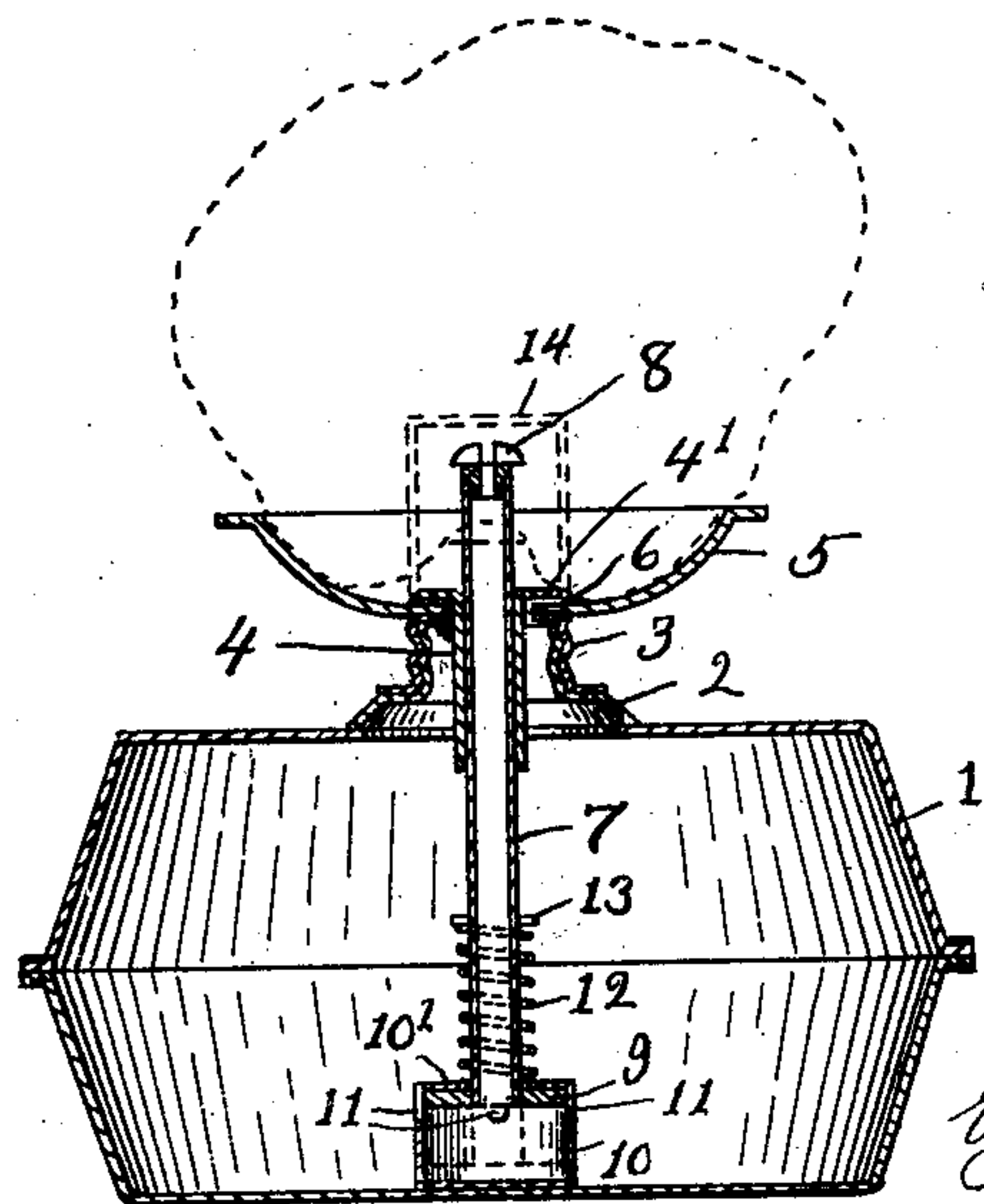


Fig. 3.

Witnesses:
H. B. Davis.
J. L. Hutchinson.

Inventor:
Frederick M. Furber
by Noyes & Kaminian
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK M. FURBER, OF HAVERHILL, MASSACHUSETTS.

DISPENSING-CAN.

SPECIFICATION forming part of Letters Patent No. 705,336, dated July 22, 1902.

Application filed April 17, 1902. Serial No. 103,336. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK M. FURBER, of Haverhill, county of Essex, and State of Massachusetts, have invented an Improvement in Dispensing-Cans, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 In shoe-factories it is customary to use benzin or naphtha extensively in cleaning the uppers of shoes and removing cement therefrom, and it has been a common practice to saturate the cleaning sponge or cloth by dipping it into an open dish containing the cleaning liquid. This method of saturating the sponge is objectionable on account of the highly-inflammable nature of benzin or naphtha and consequent danger from fire, and, moreover, much of the liquid is wasted by evaporation and by reason of the cleaning-sponge being too completely saturated therewith.

25 The object of my invention is to provide a tightly-closed can for containing the cleaning liquid, which is provided with means for expelling a measured quantity thereof, so as to partly saturate a sponge or cleaning-cloth without wasting the liquid. On account of the well-known characteristics of benzin and naphtha it is impracticable to employ rubber or other packing material in a can for this purpose which would be exposed to the action thereof, and it is also impracticable to have any joints in the can below the level of the liquid therein which are not made tight by solder.

30 I accomplish the above-named object and fulfil the above-mentioned requirements by producing a can which is tightly closed at the top and has a reciprocating tubular nozzle which extends vertically through the top of the can, the lower end of said nozzle being provided with a liquid-expelling device which is immersed in the liquid of the can and is provided with an inlet through which the liquid may pass, so that a measured quantity thereof will be contained in said expelling device, which will be expelled when the nozzle is pressed downwardly. I further provide

the discharge end of the nozzle with a plurality 50 of outlets which are adapted to distribute the liquid throughout the sponge when it is pressed upon the nozzle to reciprocate the same and expel the liquid. I further provide a liquid-receiving cap on the top of said can, 55 which is adapted to collect superfluous liquid not absorbed by the sponge and return the same directly to the can.

For a more complete understanding of my invention reference is now made to the accompanying drawings, in which—

Figure 1 is a plan view of my device; Fig. 2, a side elevation, and Fig. 3 is a central cross-section thereof.

60 The main body 1 of the can is provided with a screw-threaded neck 2, which is tightly soldered to said body. A cap 3 is threaded to said neck 2, and said cap is provided with a guide-tube 4, which extends therethrough and has a circumferential flange 4' at its upper end. A liquid-receiving cup 5 is interposed between the top of said cap and said flange 4', said tube passing through a central aperture in said cap and cup. The cup is soldered to the top of the cap, and the upper 75 side of the flange is soldered at one side to the inner side of the cup. The tube is also soldered at one side to the cap, so that a small passage 6 will be provided, which leads from the cup to the can, through which liquid discharged into the cup 5 may flow back into the can. It may be observed that in practice it is simply necessary to leave a small part of these joints unsoldered, as benzin will readily pass through an unsoldered joint. 85

A tubular nozzle 7 is arranged in the guide-tube 4 and is adapted to reciprocate freely therein. The upper end of said nozzle is provided with a tip 8, which is threaded into the end of the nozzle, and said tip has a longitudinal passage into which a series of slots 90 across the outer end of the tip lead. The tubular nozzle 8 passes through and has secured to its lower end an annular piston 9, and said piston is arranged within a cylinder 10, said cylinder being in the form of a cup which is closed at the bottom and is provided with a top 10', through which the nozzle 7 95

passes. Said cylinder is also provided with inlets 11 near its top. A spring 12 is interposed between the top 10' of the cylinder and a pin or collar 13, which is fixed on the nozzle 7, said spring acting normally to hold the piston 9 against the under side of the top 10', and the relative thickness of the piston and the size of the apertures 11 being such that the liquid in the can may readily flow into the cylinder 10 when the piston is in its normal position. The bottom of the cylinder rests on the bottom of the can, so that when the nozzle is pressed downwardly the spring 12 will be compressed and the piston forced down to the lower end of the cylinder.

The operation of my device is obvious, as the user simply presses a sponge or cleaning-cloth down on the protruding end of the nozzle, pressing the nozzle and piston down to the dotted position shown in Fig. 3. As soon as the piston passes below the inlets 11 the liquid therein will be confined, so that it will be forcibly expelled through the tubular nozzle 7 and will be discharged through the tip at the upper end thereof. As the sponge will then be pressed down upon the tip of the nozzle, as indicated by dotted lines in Fig. 3, at the time the liquid is discharged therethrough, it will absorb the discharged liquid more or less completely. The slots in the tip of the nozzle provide a series of discharge-passages, which cause the liquid to be discharged in different directions into the sponge, greatly increasing the extent of saturation of the latter. If any of the benzine thus discharged should not be absorbed by the sponge, it will fall into the liquid-receiving cup 5 and will then be conducted back into the tank, so that there will not be any inflammable liquid exposed to the open air for an appreciable length of time, thus avoiding loss by evaporation and danger of fire by the ignition of the escaping fumes. When the pressure on the top of the nozzle is removed, the spring 12 will return it to its normal position, so that the liquid in the can will again run into the cup or cylinder and fill the same.

It will be seen that the cylinder and piston perform the function of a liquid-expelling device which is adapted to discharge a measured quantity of liquid through the nozzle each time the latter is pressed down to its limit. The size of the cylinder is obviously made to suit ordinary requirements when used as above described.

To fill the can, the liquid may either be poured into the cup 5 or the cap 3 may be unscrewed and the nozzle and cylinder be withdrawn from the can, when the cap and cup are removed, so that the can may be readily filled through its neck.

When not in use, a cap 14 (shown in Fig. 2) may be placed over the nozzle, said cap fitting over the edges of the flange 4'.

From the foregoing description it will be apparent that I have produced a simple de-

vice which overcomes the objections and fills the requirements above referred to.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for the purpose described comprising a closed can, a liquid-receiving cup above said can, a reciprocating tubular nozzle in said can the discharge end of which extends through the bottom of said cup, means operated upon reciprocation of said nozzle for expelling the liquid therethrough, and a discharge-passage leading from the bottom of said cup to the can, substantially as described.

2. A device for the purpose described comprising a closed can, a reciprocating tubular nozzle which extends through the top thereof, a piston secured to the lower end of said nozzle, a relatively fixed cylinder in which said piston is located having an unobstructed inlet thereto at its upper end, and being closed at its lower end, a spring which is interposed between said piston and cylinder and normally holds said piston above said inlet, substantially as described.

3. A device for the purpose described comprising the closed can, a spring-pressed tubular nozzle which is adapted to reciprocate through the top of said can, a liquid-expelling device which is connected to the lower end of said nozzle, a cup which is arranged on the upper end of said can, and through the bottom of which said nozzle protrudes, and a liquid-tight connection between the bottom of said cup and the top of the can which completely encircles the aperture through which said nozzle passes, substantially as described.

4. A device for the purpose described comprising the closed can, a spring-pressed tubular nozzle which is adapted to reciprocate through the top of said can, a liquid-expelling device which is connected to the lower end of said nozzle, a circular cup which is arranged on the upper end of said can and through the middle of the bottom of which said nozzle extends, a liquid-tight connection between the bottom of said cup and the top of the can which encircles the aperture through which the nozzle passes, and a discharge-passage which leads from the bottom of said cup to said can within said connection, substantially as described.

5. A device for the purpose described comprising a can, a screw-cap for closing the top thereof, a cup which is secured to the top of said cap, a tubular guide which is secured to and passes through said cap, a spring-pressed tubular nozzle which is arranged in said guide, the upper end of the nozzle being located in said cup and the lower end in said can and a liquid-expelling device which is connected to the lower end of said nozzle, substantially as described.

6. A device for the purpose described comprising the closed can, a tubular nozzle which passes through the top of said can and is

guided to reciprocate in an upright position
therein, a cylinder which rests on the bottom
of said can, said cylinder being closed at its
lower end and provided with a spring-support
5 and inlets to the can at its upper end, a pis-
ton in said cylinder, said nozzle extending
through said support and piston and being
secured to the latter, a stop on said nozzle
and a spring interposed between said stop and

said spring-support, substantially as de- 10
scribed.

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

FREDERICK M. FURBER.

Witnesses:

LOUIS H. HARRIMAN,
J. L. HUTCHINSON.