No. 621,296. Patented Mar. 14, 1899.

H. DEITZ.
STOPPER OR CLOSURE.

(Application filed Mar. 4, 1898.)

(No Model.)

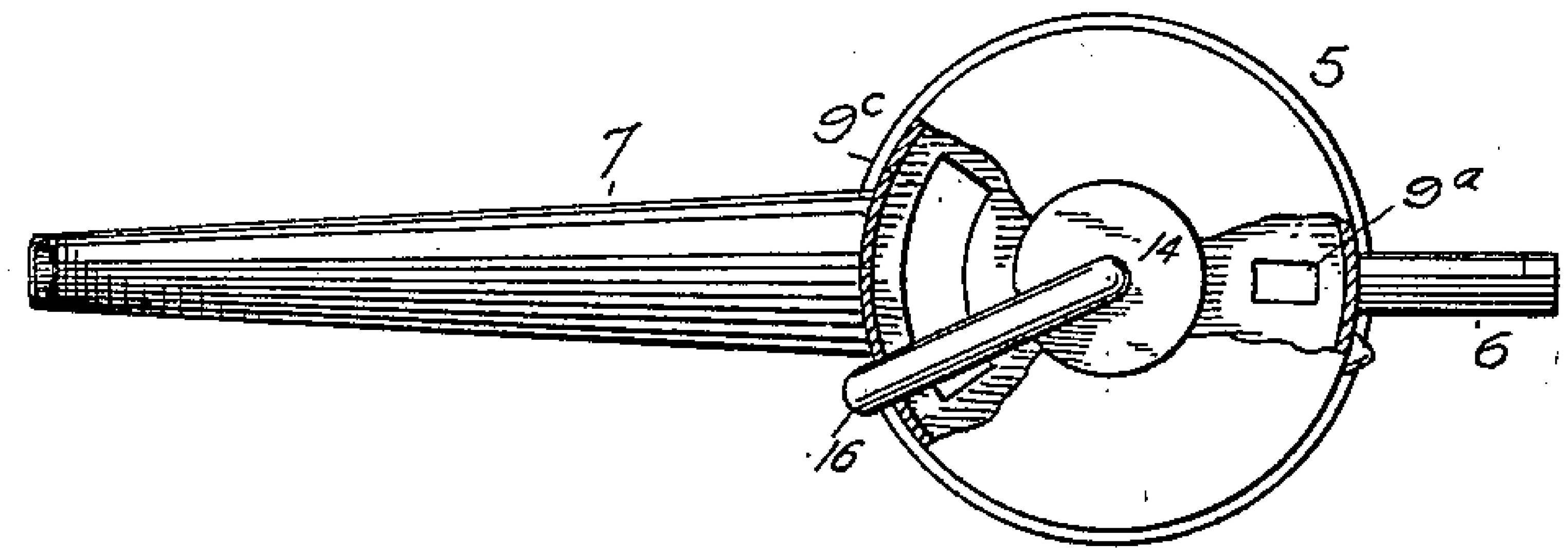

FIG. 1

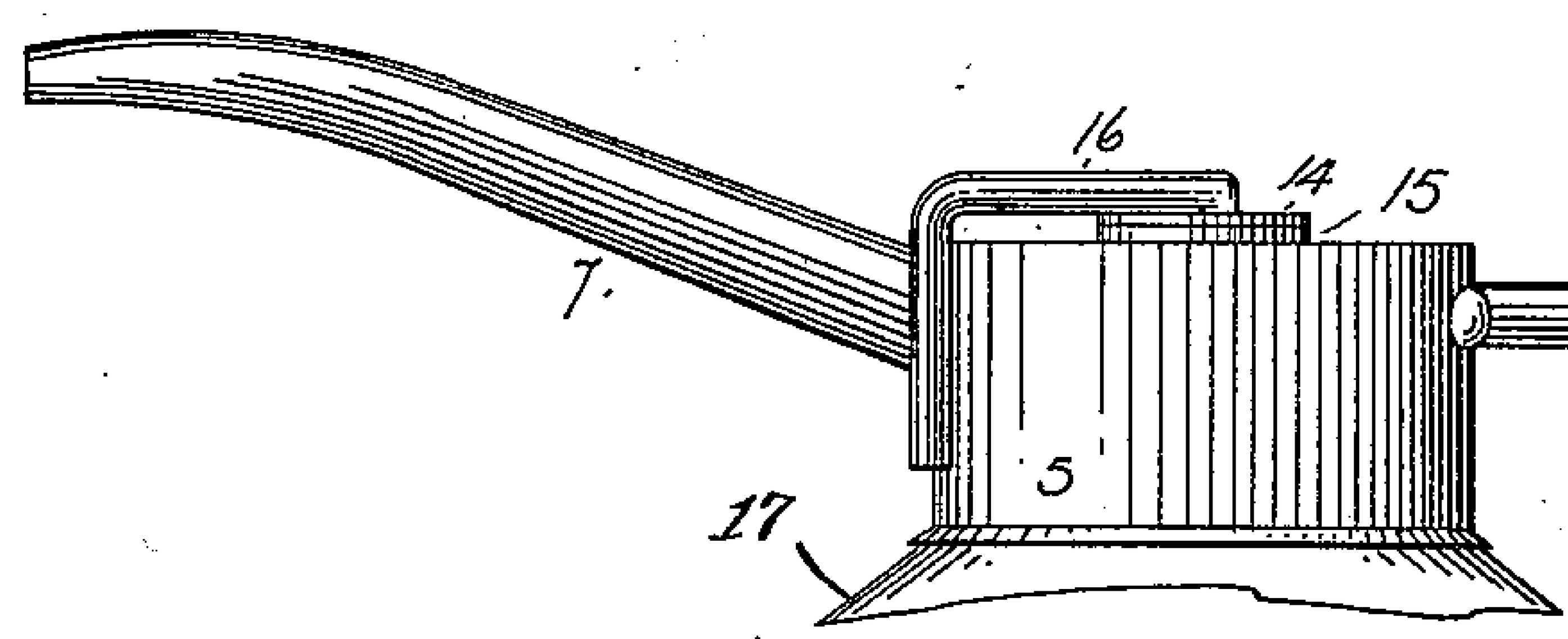

FIG. 2

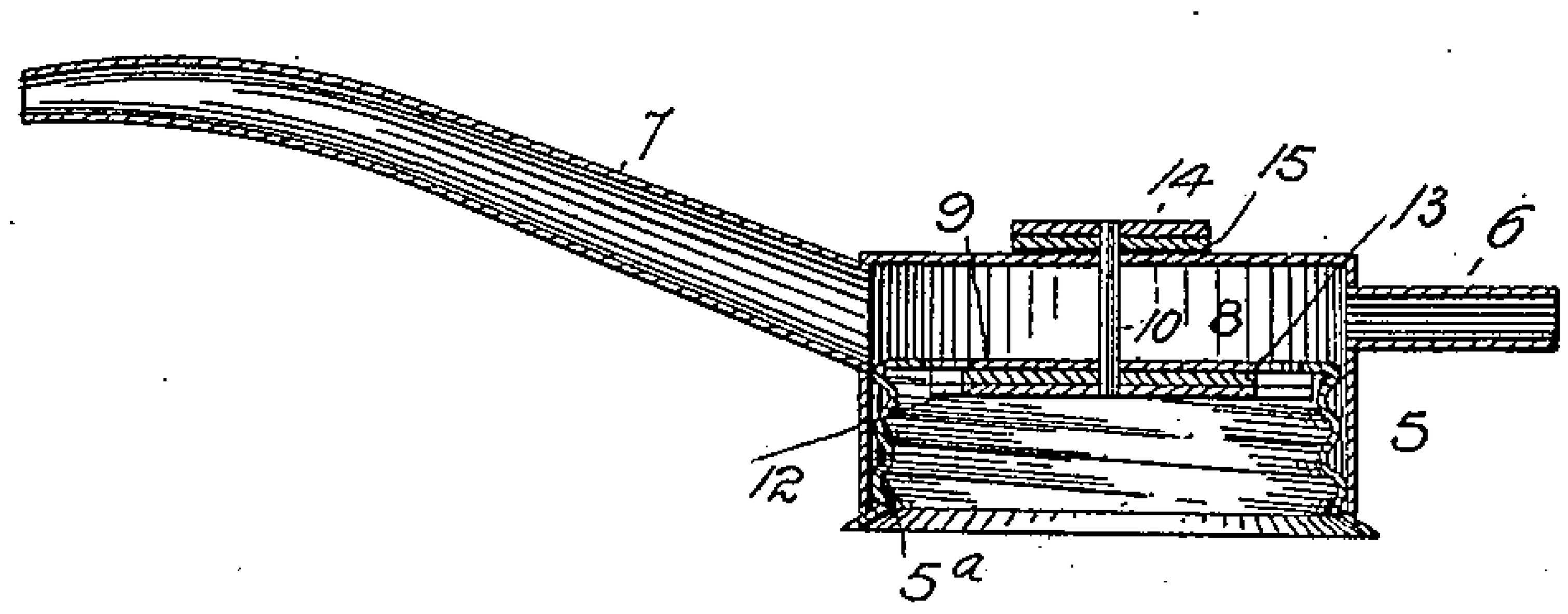

FIG. 3

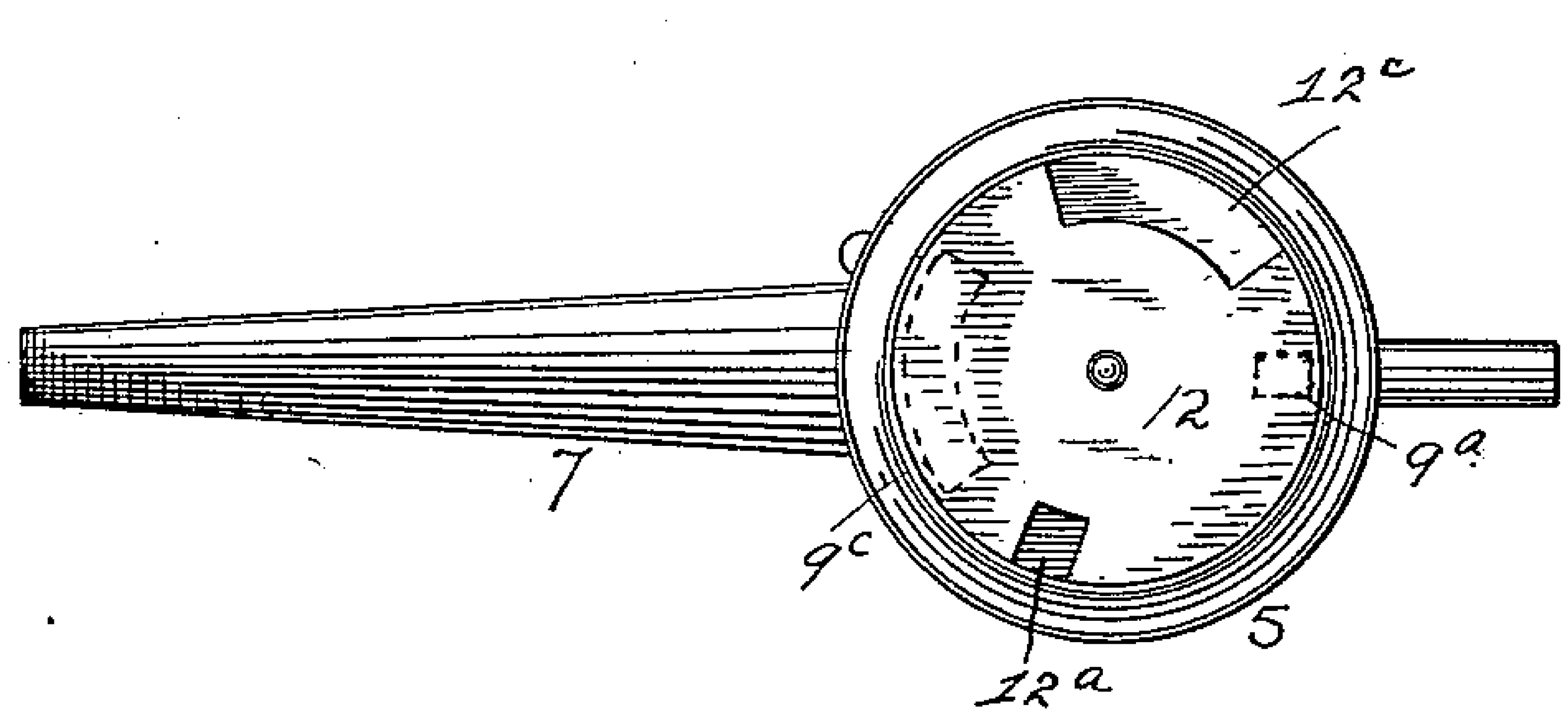

FIG. 4

Witnesses
Edith Himsworth

By his Attorney

Inventor
Henry Deitz

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY DEITZ, OF DENVER, COLORADO, ASSIGNOR TO THE DEITZ MANUFACTURING COMPANY, OF SAME PLACE.

STOPPER OR CLOSURE.

SPECIFICATION forming part of Letters Patent No. 621,296, dated March 14, 1899.

Application filed March 4, 1898. Serial No. 672,493. (No model.)

To all whom it may concern:

Be it known that I, HENRY DEITZ, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Stoppers or Closures; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in stoppers or closures adapted for use with cans or receptacles for holding oils or other liquids.

The nature of the invention is such that the can to which it is applied may be thoroughly vented for pouring purposes, but tightly closed against the escape of either gas or liquid except during the pouring operation.

To these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a top or plan view of my improved device. Fig. 2 is a side elevation of the same applied to a can which is broken away, except a small portion at the top. Fig. 3 is a vertical section taken through the device, showing the valve-disk open. Fig. 4 is an underneath view of the device, showing the valve-disk in the closed position.

Similar reference characters indicating corresponding parts in these views, let the numeral 5 designate the outer wall of the cap or closure, whose upper portion is provided with a vent-tube 6 and a pouring or escape tube or spout 7. Both of these tubes communicate with a chamber 8, formed in the upper part of the cap and separated from its lower portion by a horizontal diaphragm 9, in which are formed a vent-port 9^a and a liquid-escape port 9^c. These ports are located adjacent the tubes 6 and 7, respectively, the said tubes being oppositely located at the extremities of a diameter passed through the cap 5. Centrally journaled in the top of the cap and the diaphragm 9 is a spindle or stem 10, to whose lower extremity is attached a valve-disk 12, having ports 12^a and 12^c, adapted to register with the ports 9^a and 9^c in the diaphragm 9. Between the disk 12 and the said diaphragm is placed a packing-washer 13, whose function is to make the closure perfectly tight against the escape of either gas or liquid when the valve-disk is turned, so that the ports 12^a and 12^c do not register with the ports 9^a and 9^c or to the position shown by dotted lines in Fig. 4. To the top of the stem 10, where it protrudes above the cap, is attached a small disk 14, between which and the top of the cap is located a packing-washer 15.

To the disk 14 is attached a crank-arm 16, whose outer extremity is bent downwardly against the outer wall of the cap. This crank-arm is employed in turning the valve-disk 12 for the purpose of opening and closing the ports of the cap.

The portion of the cap below the diaphragm is interiorly threaded, as shown at 5^a, whereby it is adapted to screw upon the projecting exteriorly-threaded nozzle of the ordinary can.

The use of my improved device is very simple. When liquid is to be poured from the can, which I will designate by the numeral 17, (see Fig. 2,) it is only necessary to turn the disk 13 so that the ports 12^a and 12^c therein shall register with the ports 9^a and 9^c, respectively, in the diaphragm 9. The liquid will then flow freely through the port 9^a and out of the spout 7, while the air will enter the can by way of the tube 6 and the port 9^a. To close the cap, it is only necessary to reverse the movement of the valve-disk, whereby the ports 12^a and 12^c are closed.

Having thus described my invention, what I claim is—

1. A closure of the class described, comprising a cap having a diaphragm located therein below the top of the cap and forming a chamber in its upper portion, said diaphragm being provided with two ports, a liquid-escape opening and a vent-opening communicating with the said chamber, a revoluble valve-disk engaging the diaphragm and apertured to register with the openings in the diaphragm, a stem journaled in the top of the cap and the diaphragm, the valve-disk being attached to

the lower extremity of the stem, a packing-disk attached to the stem and engaging the cap on the outside, and exterior means attached to the stem for actuating the same and adjusting the valve-disk for the purpose set forth.

2. A closure consisting of a cap adapted to be connected with a can or other receptacle, said cap being provided with an apertured diaphragm located below and forming a chamber in the top of the cap, a spout communicating with said chamber, a vent-opening also communicating with the chamber, a valve-disk apertured to register with the aperture in the diaphragm, the disk being located below the diaphragm, a packing-washer interposed between the diaphragm and the disk, a valve-stem passing through the chamber of the cap and journaled in the top of the cap and the diaphragm, the valve-disk being attached to the stem and a crank-arm attached to the protruding extremity of said stem and bent down against the wall of the cap which forms a guide therefor.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY DEITZ.

Witnesses:
A. J. O'BRIEN,
EDITH HIMSWORTH.