

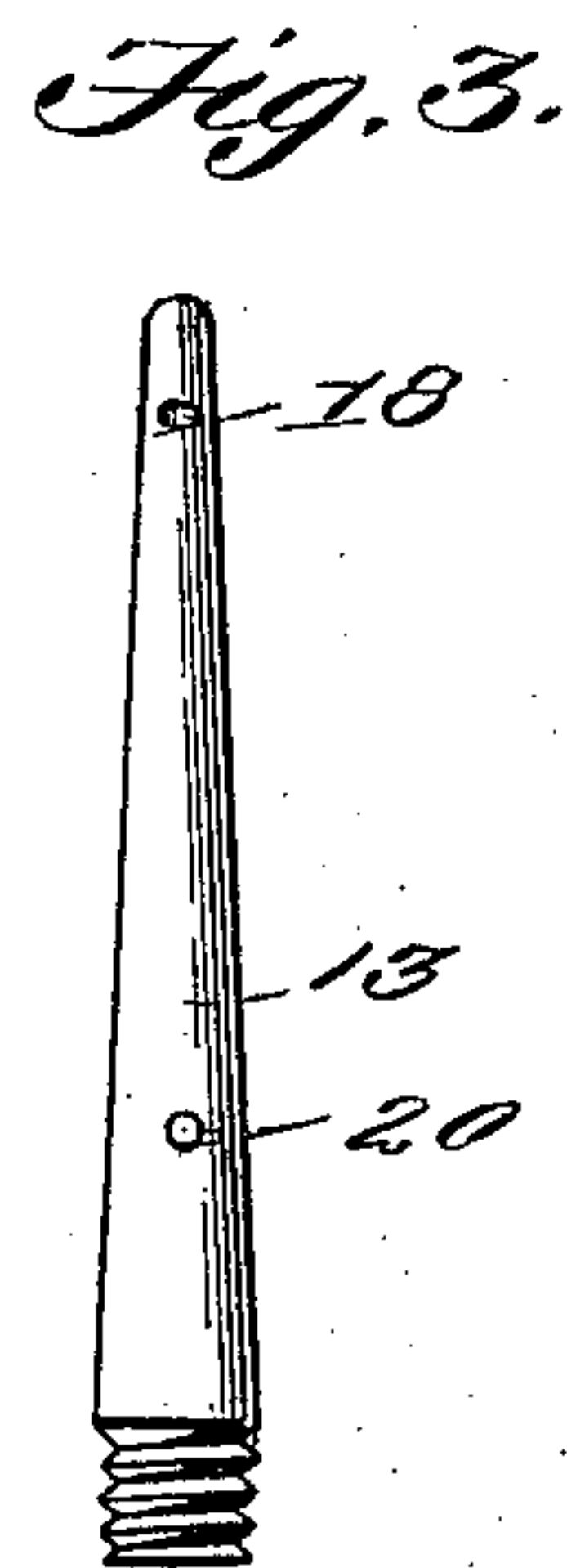
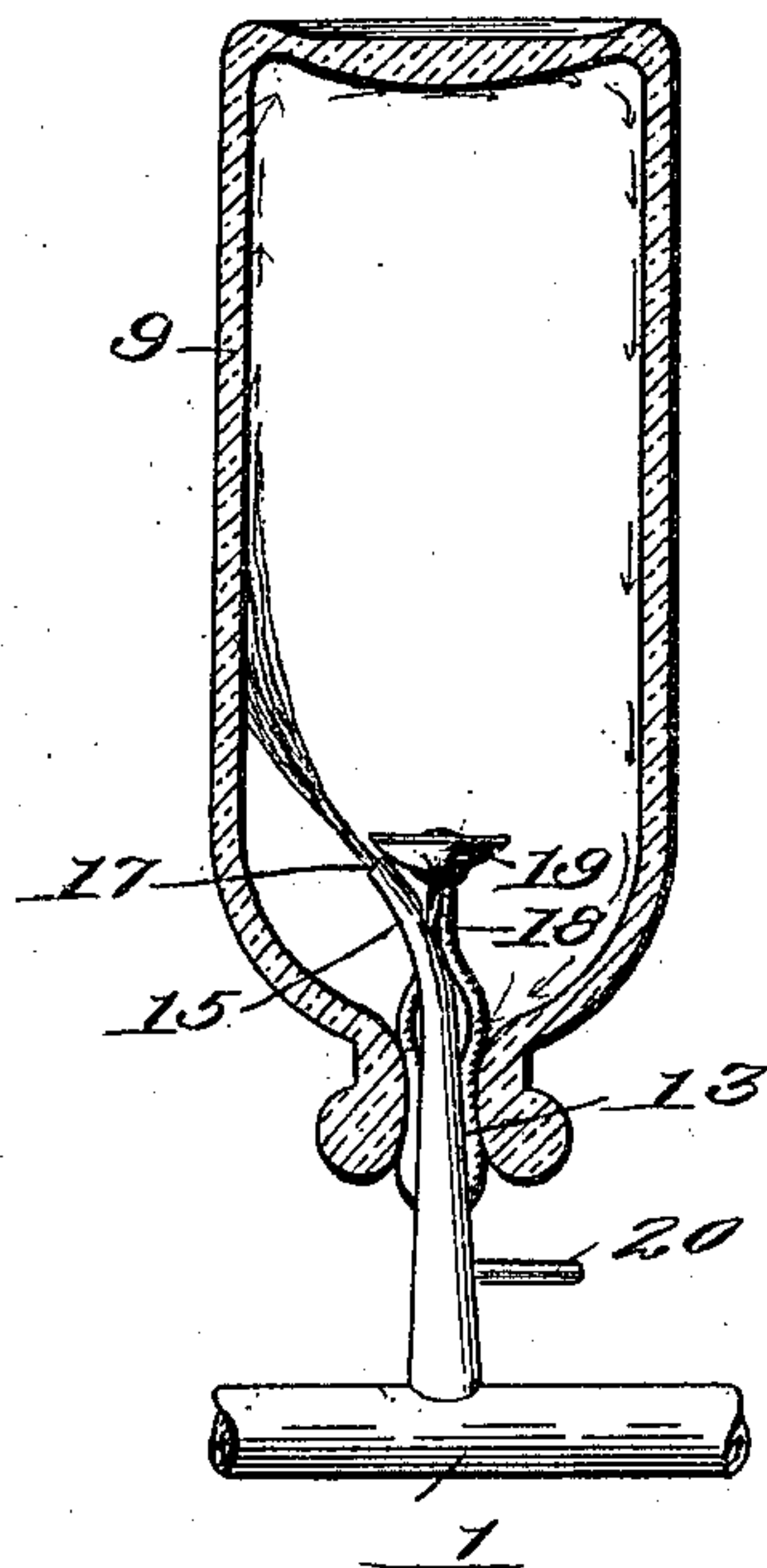
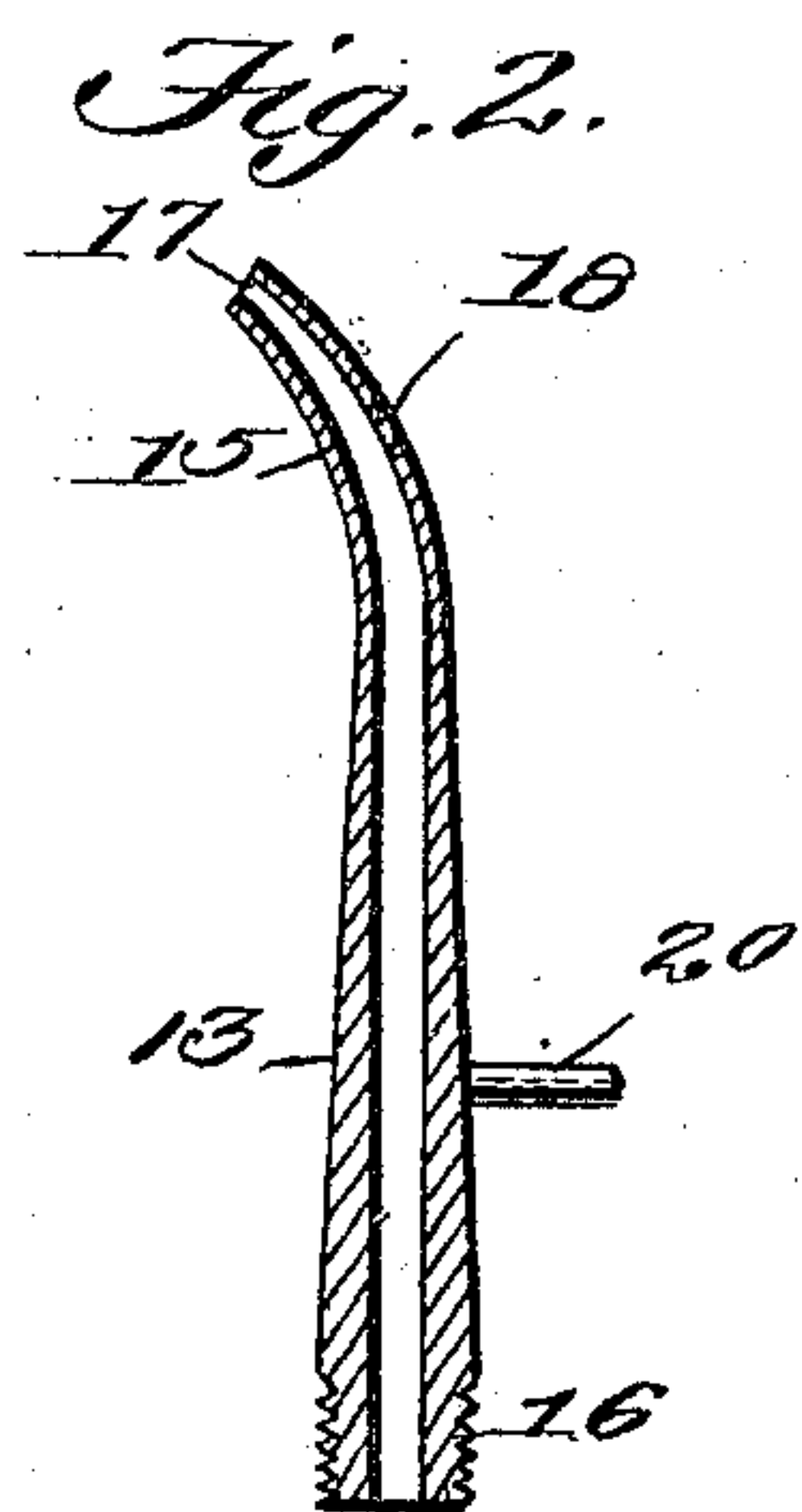
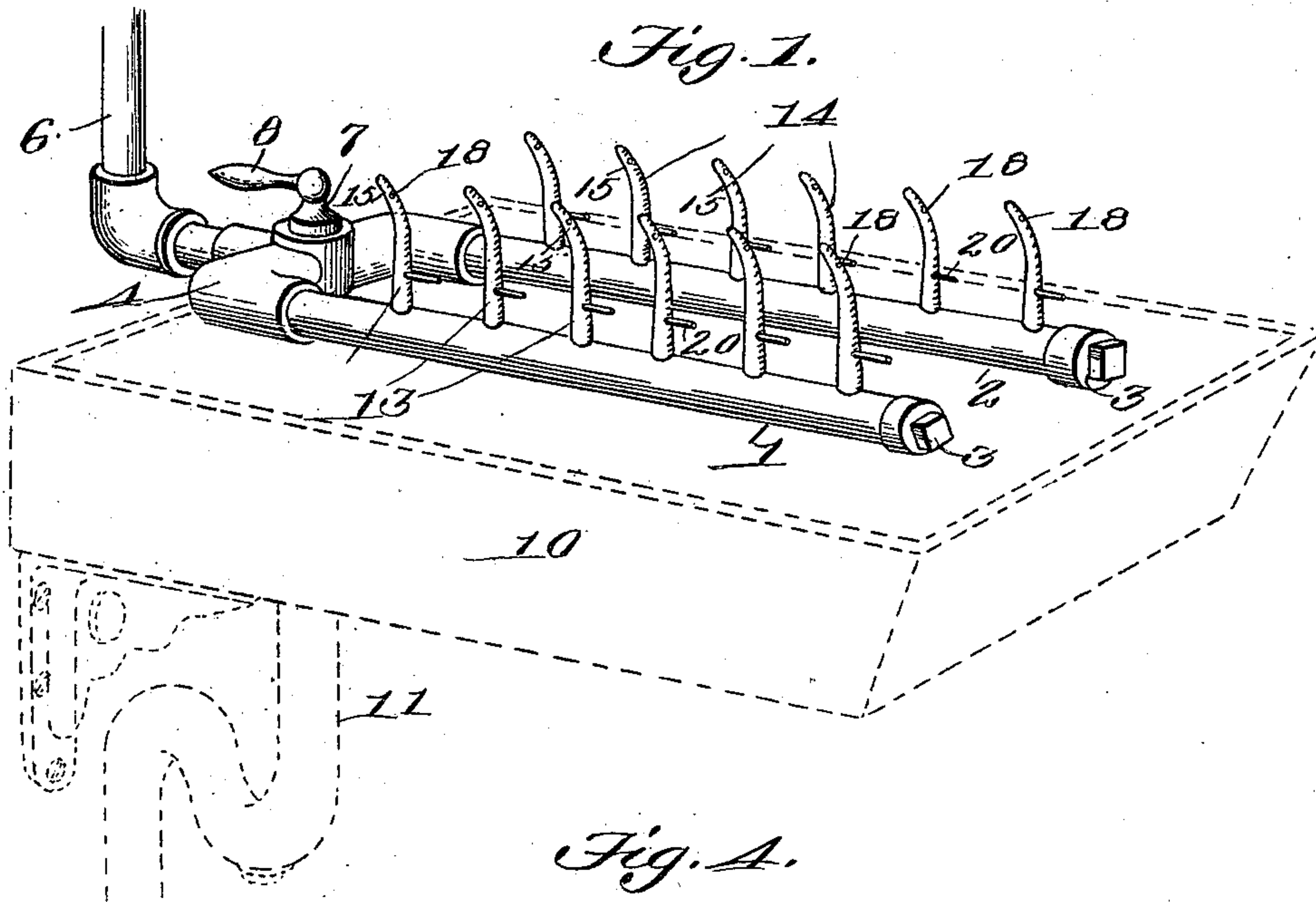
No. 684,112.

Patented Oct. 8, 1901.

L. C. SEARS.  
BOTTLE WASHER AND RINSER.

(Application filed Apr. 13, 1901.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LEONARD C. SEARS, OF SOUTH OMAHA, NEBRASKA.

## BOTTLE WASHER AND RINSER.

SPECIFICATION forming part of Letters Patent No. 684,112, dated October 8, 1901.

Application filed April 13, 1901. Serial No. 55,734. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD C. SEARS, a citizen of the United States, residing at South Omaha, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Bottle Washers and Rinsers, of which the following is a specification.

This invention relates to certain new and useful improvements in bottle washers and rinsers; and is particularly adapted for washing and rinsing bottles provided with patent stoppers, although the same is applicable for washing and rinsing bottles and jars of various kinds with or without stoppers.

The invention aims to construct a washing apparatus employed for the washing and rinsing of bottles and jars of various kinds, particularly bottles provided with patent stoppers, with means to project the washing or cleansing medium entirely around the inner face of the sides and bottom of a bottle or jar as well as against the stopper within the bottle for cleaning it.

The invention further aims to construct a washing apparatus of the above character to overcome more than the one handling of the bottles or jars during the washing and rinsing operation, and, furthermore, to provide means so that the passage of the cleansing medium will be continuous through the apparatus and that as fast as a jar or bottle is cleaned the cleaning medium therefor will be discharged and not employed for further washing and rinsing operations.

The invention further aims to construct a washing and rinsing apparatus for bottles, jars, and the like which shall be extremely simple in its construction, strong, durable, efficient in its use, and comparatively inexpensive to set up; and it consists of the novel combinations and arrangements of parts herein-after more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claim hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a perspective view of my improved apparatus, showing the same mounted upon a suitable receptacle to receive the cleansing medium. Fig. 2 is a vertical section of one of the spraying-nozzles. Fig. 3 is an elevation thereof. Fig. 4 is an elevation of one of the spraying-nozzles with a bottle mounted thereon, showing the course of the cleansing medium within the bottle and against the stopper thereof.

Referring to the drawings by reference-numerals, 1 and 2 denote the supply-pipes for the cleansing medium. These pipes may be of any preferred form of construction and are closed at one end by the caps 3.

The pipes 1 and 2 are connected together at their opposite ends by means of the union 4, having the cleansing-medium-feed pipe 6 suitably secured thereto, the feed-pipe 6 being in communication with a suitable source of supply. Mounted within the union 4 is a two-way cock 7 for supplying the cleansing medium alternately to the pipes 1 and 2. The cock 7 is provided with a suitable handle 8 to permit of operating it.

The supply-pipes 1 and 2 are adapted to be mounted upon a suitable receptacle during the washing and rinsing operation. The latter is adapted to receive the cleansing medium after it is discharged from the bottles or jars during and after the cleansing or rinsing operation. The receptacle 10 is provided with a suitable tap or discharge-pipe 11 for running off the cleansing medium.

Each of the pipes 1 and 2 has secured thereto a series of spraying-nozzles 13 14, respectively. These nozzles are constructed with a curvilinear upper end 15 and a screw-threaded lower end 16, the latter being secured to the pipe for connecting the nozzle thereto. The nozzles are each further provided with a suitable discharge-passage 17 for the cleansing medium, the lower end of said passage opening into the respective pipe for the nozzle, and the upper or discharge end of the passage is adapted to open into the bottle or jar when they are being cleaned. The upper end of the passage extends in a curvilinear manner, so the cleansing medium will be projected therefrom upwardly at an inclination. Each of the nozzles is further provided, in the side thereof near the outlet of the discharge-pas-



sage 17, with an upwardly-extending inclined auxiliary discharge-passage 18, communicating at its inner end with the discharge-passage 17 as well as extending therefrom in an opposite direction. The nozzles 13 and 14 are each provided with a pin 20 at a suitable distance from the discharge end thereof for the neck of the bottle to rest on, preventing bottles that do not have stoppers from slipping down on the top far enough to prevent the water from running out. The nozzles are formed with a curvilinear upper end, so that the cleansing medium when discharged from the passage 17 will strike the side of the bottle near the shoulder thereof with an upward slant, then pass to the bottom of the bottle, across the same, and down the side and be discharged through the mouth of the bottle. At the same time a portion of the cleansing medium will be projected through the auxiliary passage 18 against the stopper 19 of the bottle, thereby cleaning it.

The operation of the apparatus is as follows: Assuming that the pipe 6 is connected to a cleansing-medium supply and that upon the end of each of the nozzles 13 14 is mounted a bottle to be cleaned, the upper end of the nozzle projecting toward the inner face of the side of the bottle, the cock 7 is then turned so that the cleansing medium will pass into the pipe 1 and be discharged therefrom through the nozzle into the bottle. The course of the cleansing medium from the nozzles is as follows: It will strike the side of the bottle near the shoulder thereof with an upward slant, then pass to the bottom of the bottle, across the same, and down the side and be discharged from the bottle through its mouth. The foregoing is the course of the cleansing medium as it is discharged from the nozzle through the passage 17. As the cleansing medium is projected through the passage 17 it will also be projected in an opposite direction through the auxiliary passage 18 and against the stopper within the bottle, thereby cleaning it. When the bottles upon the pipe 1 have been cleaned, the cock 7 is then turned so that the cleansing medium will be supplied to the pipe 2 for cleaning the bottles upon the nozzles 14. The operation of cleaning the bottles upon the nozzles 14 is the same as that in connection with the nozzles 13. During the cleansing of the bottles upon the nozzles 14 the bottles upon the nozzles 13 which have been cleaned are removed and a new lot of bottles to be washed are placed upon the nozzles 13. The foregoing operation can be repeated as often as necessary or until all of the bottles have been washed.

A particular advantage from the foregoing operation is that a lot of cleaned bottles may be removed from one series of nozzles and an uncleaned lot mounted upon the nozzles during the washing or cleansing of the lot of bottles upon the other series of nozzles.

A further advantage obtained by the em-

ployment of the apparatus is that it does away with more than one handling of the bottles—that is to say, as in the ordinary method of cleaning bottles it is necessary to wash them, then put them into a clean water and shake them out of it, and then if the water is polluted put them through a third water and then let them drain. Consequently the dirt in the water will in most cases dry on the bottle. With the washing apparatus herein shown the water that is discharged out of the tubes to clean the bottles or jars after contacting with the latter falls into the receptacle and is then discharged. Consequently the polluted water or cleansing medium is not employed again. At the same time only one supply of water or cleansing medium is necessary. By this arrangement a great saving in time is obtained and the washing of the bottles is accomplished by about one-half the help, and particularly no dirt, water, or cleansing medium will dry on the bottles. Providing the nozzles with the auxiliary discharge-passage will permit of the washing and rinsing of the stopper within the bottle, which, to the applicant's knowledge, has not been before accomplished. This also prevents the stopper from getting foul in a little while and prevents nauseating from drinking out of the bottle. Furthermore, the washing and rinsing of the stopper not only keeps the same clean, but prevents the same from decaying.

It is thought the foregoing as well as other advantages can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and it will be noted that various minor changes may be made in the details of construction without departing from the general spirit of my invention.

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

In a washing and rinsing apparatus for bottles, a supply means for the cleansing medium, and a nozzle communicating with said supply means and provided with a curvilinear upper portion, said nozzle having a discharge-passage extending entirely therethrough with the upper portion formed in a curvilinear manner and an auxiliary discharge-passage in the curvilinear portion extending in substantially a vertical direction, said passages adapted to project the cleansing medium against the inner surface of the bottle and the bottle-stopper, substantially as herein shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEONARD C. SEARS.

Witnesses:

M. L. SEARS,

CHAS. W. SEARS.