

(No Model.)

J. GROSSMANN & G. KLIEMAND.
NON-FILLABLE BOTTLE.

No. 539,867.

Patented May 28, 1895.

Fig. 1.

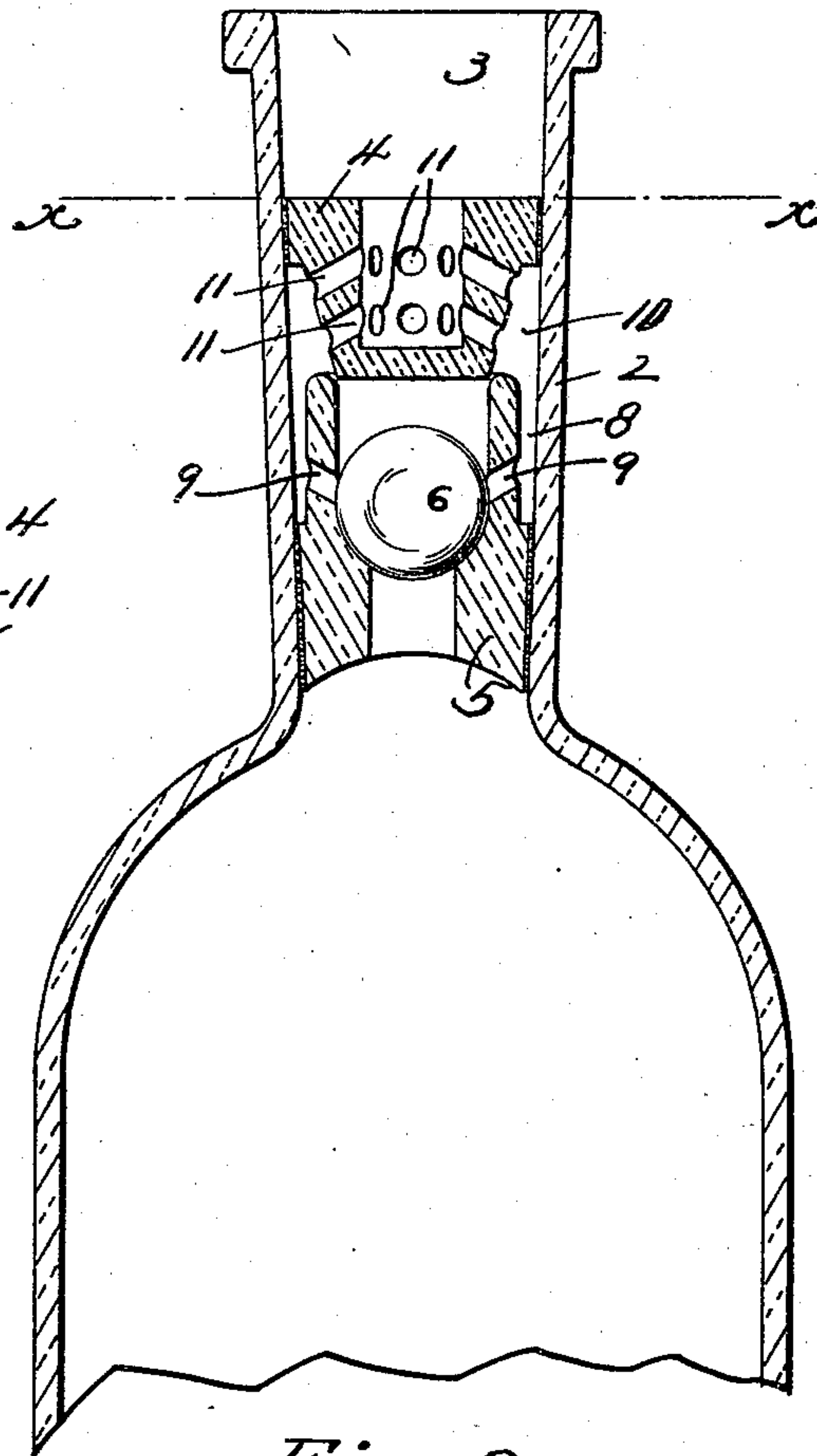


Fig. 3.

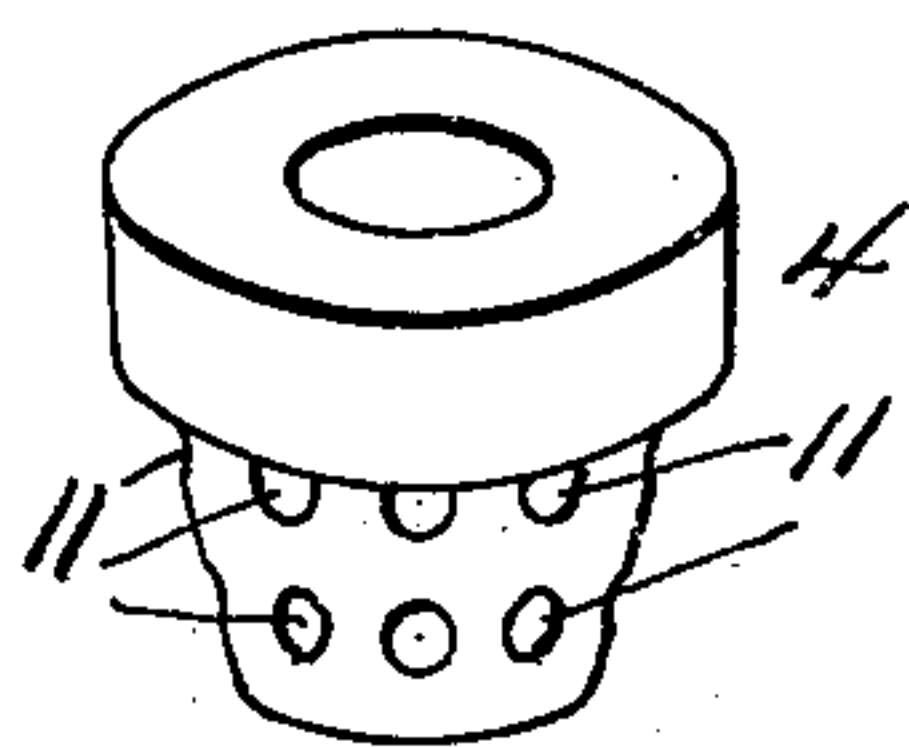


Fig. 4.

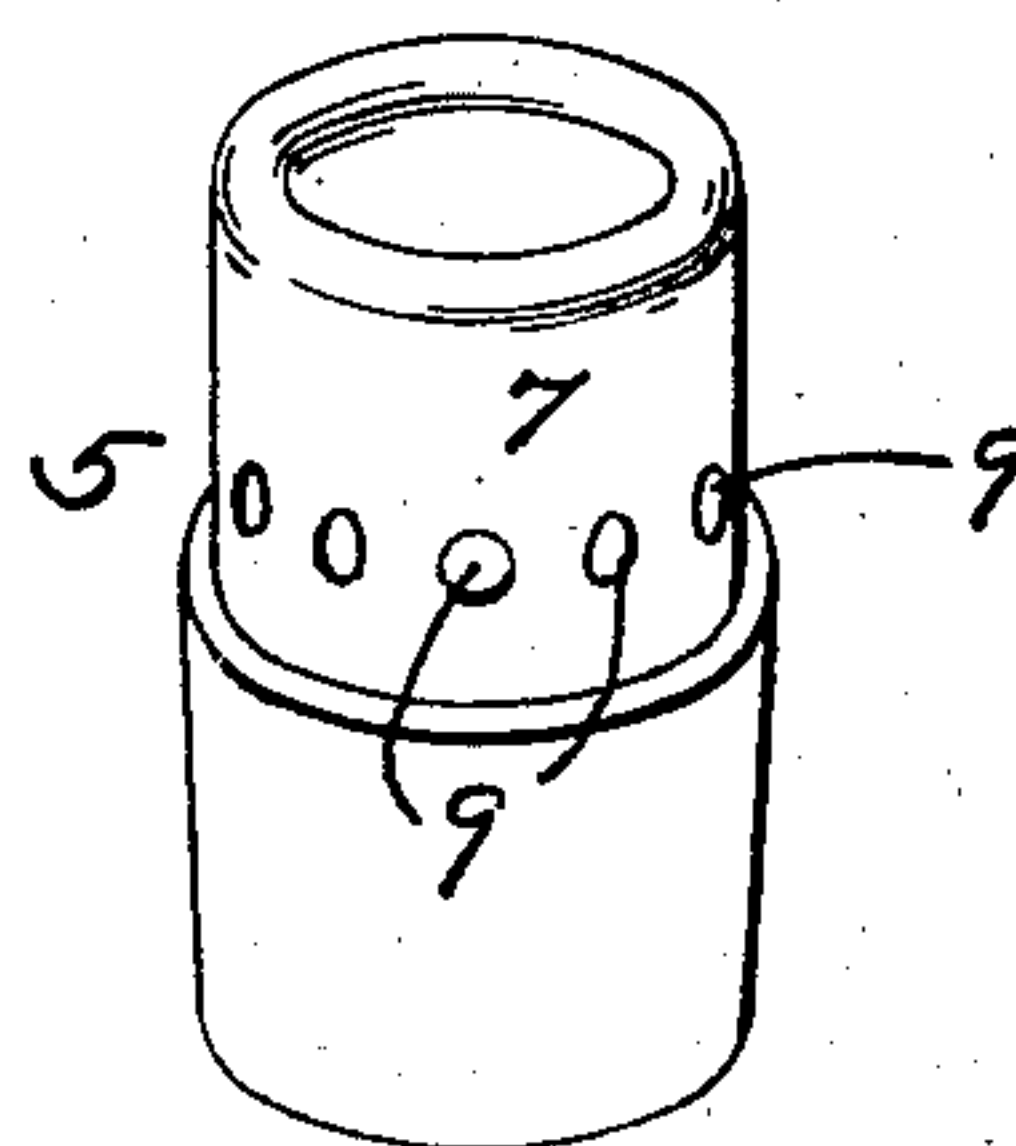
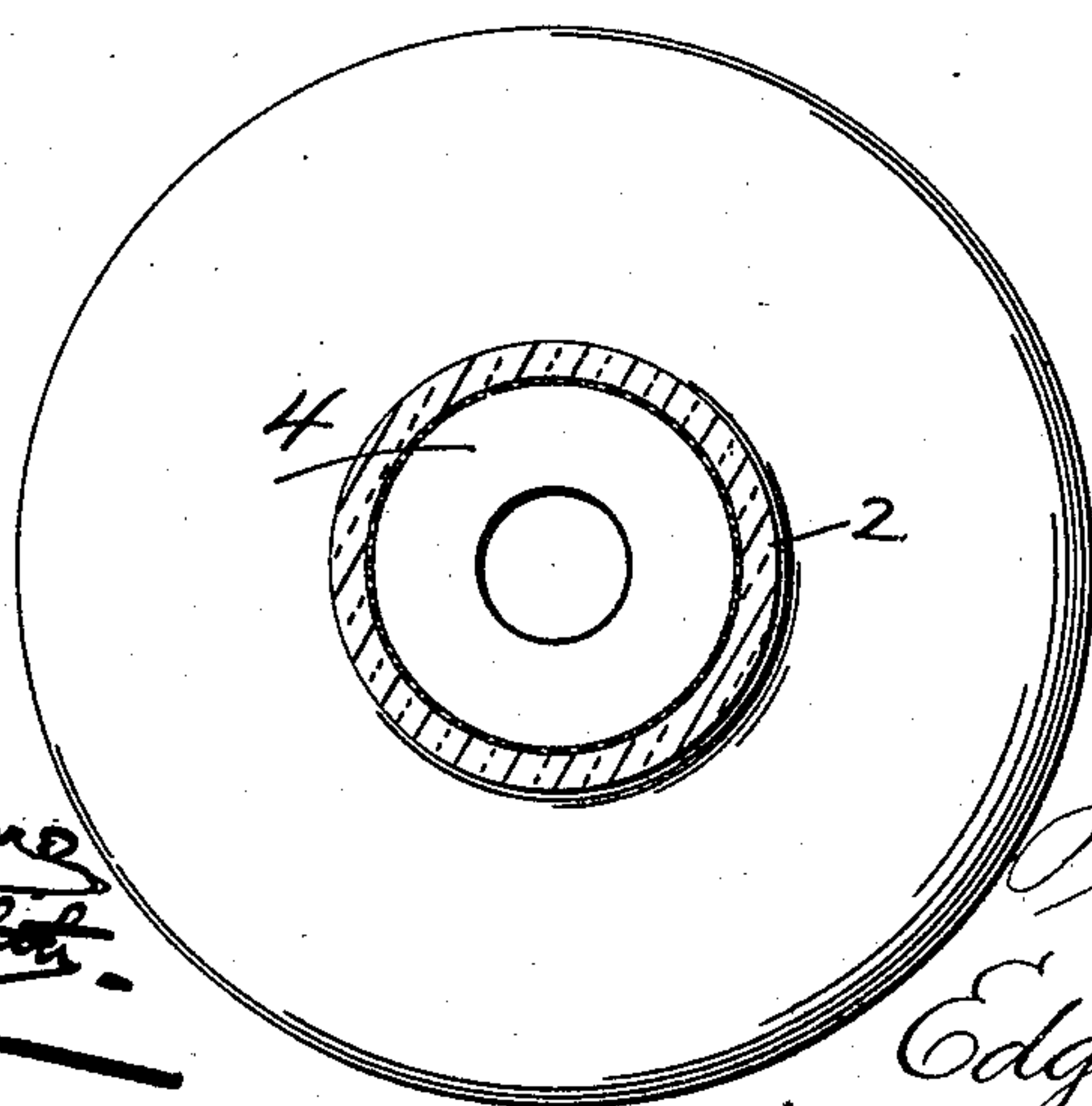


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN GROSSMANN, OF WEST HOBOKEN, NEW JERSEY, AND GEORGE KLIEMAND, OF DAVID'S ISLAND, NEW YORK.

NON-FILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 539,867, dated May 28, 1895.

Application filed March 4, 1895. Serial No. 540,435. (No model.)

To all whom it may concern:

Be it known that we, JOHN GROSSMANN, of West Hoboken, in the county of Hudson and State of New Jersey, and GEORGE KLIEMAND, of David's Island, in the county of Westchester and State of New York, citizens of the United States, have invented certain new and useful Improvements in Non-Fillable Bottles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts in all the figures.

This invention relates to non-fillable bottles, and the object thereof is to produce a non-removable stopper or device so constructed that when the bottle has been once filled and emptied of its contents it cannot be again refilled, whereby we provide against certain frauds frequently practiced upon the proprietors or manufacturers of certain forms of liquors, cordials, medicines, &c., which usually bear the distinctive marks of the proprietors or manufacturers, by parties so inclined, who, after the bottles have been once emptied of their original contents, simply refill them with an article of the same general class, of their own manufacture, or with a cheap or worthless article of the same general class, of any manufacture, and represent the same to be the original article. This object we accomplish by means of the construction disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 represents a central vertical section of a bottle-neck provided with our improvements, said improvements being also partly in section; Fig. 2, a transverse section on the line $x\ x$ of Fig. 1, and Figs. 3 and 4 perspective views of portions of our non-removable stopper.

Referring to the drawings, the numeral 2 designates the neck of a bottle, which is preferably slightly contracted from the end or nozzle 3 downward, as clearly shown in Fig. 1. Within this neck is placed our improved stopper, which consists of two hollow plugs, as 4 and 5, and a ball valve 6, said parts being constructed and combined in the following manner: The lower plug 5 is tubular in form,

and provided with a lower portion, slightly contracted downwardly and adapted to closely fit the neck of the bottle, and an upper portion 7, of less diameter than the lower portion, whereby, when the plug is in position an annular chamber 8 is formed between the upper part of the plug and the neck of the bottle. The upper part of the bore of the plug 5 is much larger than the continuation thereof in the lower part, which admits of forming a circular or convex valve-seat, adapted to receive the ball valve 6, which is placed in the upper enlarged part of said bore, which is also in communication with the annular chamber 8, around the upper part, by means of upwardly inclined or directed ports or passages 9. The upper plug 4 is preferably of the general form of the frustrum of a cone, the base being directed upward and adapted to closely fit the interior walls of the neck of the bottle and the lower end thereof being adapted to fit and rest upon the upper end of part 5, as clearly shown in Fig. 1. By means of the conical form of the plug 4 an annular chamber 10 is formed between the same and the walls of the neck similar to the annular chamber 8 formed by the upper part of the plug 5. This plug 4 is also provided with a central bore, open at the top and closed at the bottom, and in communication with the annular chamber 10 by means of ports 11.

The parts are assembled in the following manner: The plug 5 is first inserted, the lower portion thereof being coated with some form of plastic cement, which, when set, will hold the parts firmly together. The ball valve 6 is then placed upon its seat and the top plug 5 placed in position, as shown in Fig. 1. This plug is also secured in the manner similar to that for securing plug 5. I do not limit myself, however, to any means of accomplishing this object, as they may be secured in position in any manner known to those skilled in the art of glass working.

After the bottle has been filled and the non-removable stopper placed in position as above described, the discharge nozzle may be closed by a plug or cork in the usual manner, it being always understood that the bottle must be filled before the non-removable stopper is placed in position.

The bottle having been filled and the non-removable stopper placed in position and it being desired to discharge the contents of the bottle the operation is as follows: The plug
5 or cork is removed and the bottle held in the usual position to admit of the outflow of the contents thereof. In this position the ball-valve 6 will leave its seat and drop forward upon the end of the plug 4, when the contents
10 of the bottle will flow out through the lower central bore in the plug 5 and the ports 9 into the annular chambers 8 and 10, from which they will pass through ports 11 into the central bore of the plug 4, from which they will
15 be discharged in the usual manner, and this operation may be repeated or continued until the bottle is emptied of its contents.

If, now, an attempt be made to refill the bottle, the valve 6 will be reseated in any po-
20 sition in which the bottle can be held to admit of pouring liquids thereinto, and no fluids of any form can pass into the bottle, and this operation of the valve would be the same, as will be observed, in any position in which the
25 bottle could be held, and the construction of the plugs 4 and 5 and the ports connecting with the interior thereof is such as to absolutely prohibit any tampering with the valve or the introduction of any instrument by which the
30 seating thereof can be prevented during the operation of filling.

It will thus be seen that we accomplish the object of our invention by means of a device
35 simple in construction, application and operation, and which will not materially add to the cost of the bottle, and which is not liable to get out of order and fail to effect or produce the results required.

Having thus fully described our invention,
40 what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the neck of a bottle, of two plugs, the lower one of which is provided with a bore having a valve-seat, and
45 a ball-valve adapted to be seated thereon, and with ports in the sides thereof, communicating with said bore above the valve-seat, and an annular chamber surrounding the upper end of said plug, the upper plug being also pro-
50 vided with a central bore, the lower end of which is closed, and supported upon the top of the lower plug and closing the bore therein, said central bore being also in communication with an annular chamber surrounding the
55 same by means of ports or openings, and the said chambers surrounding the lower plug, substantially as shown and described.

2. The combination, with a bottle neck, of a non-removable stopper consisting of two parts
60 or portions, one of which is located above the other and in communication therewith, the lower portion being provided with a central bore extending through the same, the upper part of which is enlarged and the lower end
65 of the enlarged portion being provided with a valve-seat adapted to receive a ball-valve, the upper portion being supported upon said

lower portion and closing the upper end of the bore therein, and provided with a central bore closed at the lower end, the bores of each
70 portion being in communication by means of ports formed in the sides thereof, which communicate with annular chambers surrounding said plugs, which chambers are also in communication, substantially as shown and de-
75 scribed.

3. The combination, with the neck of a bottle, the walls of which are contracted inwardly from the top to the bottom thereof, of a non-removable stopper consisting of two portions
80 or plugs supported one above the other, the lower of said plugs being adapted at its lower end to fit the walls of the neck of the bottle and having its upper end contracted, forming an annular chamber around the same, the
85 upper plug having its upper end adapted to fit the neck of the bottle and the lower end contracted, forming an annular chamber around the same, said lower plug being provided with a central bore extending through
90 the same and having a valve-seat adapted to receive a ball valve, and ports forming a communication with the bore above the valve-seat and with the annular chamber surrounding the upper portion of the plug, and the up-
95 per plug being also provided with a central bore closed at the lower end, and ports forming a communication between the same and the annular chamber surrounding the lower end of the plug, said annular chambers being
100 also in communication and the upper end of the bore in the lower plug, being closed by the lower end of the upper plug, substantially as shown and described.

4. The combination, with the neck of a bottle, of a non-removable stopper consisting of
105 two portions or plugs, one supported above the other within the bottle-neck, the lower of said plugs being provided with a central bore and a valve-seat adapted to receive a valve,
110 and the upper of said plugs being provided with a bore closed at the bottom, each of said plugs being contracted at their adjacent ends, forming annular chambers which communi-
115 cate with each other, said annular chambers being also in communication with the bore in the upper plug, by means of ports in the sides thereof, and with the bore in the lower plug by means of ports above the valve-seat, in
120 the sides thereof, and the upper end of the bore in the lower plug being closed by the lower end of the upper plug, whereby the bottle may be emptied of its contents but cannot be refilled, substantially as shown and de-
125 scribed.

5. The combination, with the neck of a bottle the walls of which are contracted from the top downward of a non-removable stopper
130 consisting of two portions or plugs, one supported above the other, the lower portion being so shaped at its lower end as to closely fit the neck of the bottle and contracted at its upper end to form an annular chamber between it and the neck, and provided with a

central bore, the upper portion of which is enlarged, and having a valve-seat at its lower end adapted to receive a ball valve, and being in communication by means of ports or passages in the side walls thereof above the valve-seat, with the annular chamber, the upper portion or plug, the upper end of which is adapted to fit closely within the neck of the bottle, being also provided with a central bore, the bottom of which is closed, and the lower walls being contracted and forming an annular chamber, in communication with the central bore by means of ports or passages therein, said annular chambers being also in com-

munication, and the upper end of the central bore in the lower plug, being closed by the lower end of the upper plug, substantially as shown and described. 15

In testimony that we claim the foregoing as our invention we have signed our names, in the presence of two witnesses, this 2d day of March, 1895. 20

JOHN GROSSMANN.
GEO. KLIEMAND.

Witnesses:

C. H. SCHLOTT,
ADAM KIRTINGER.