

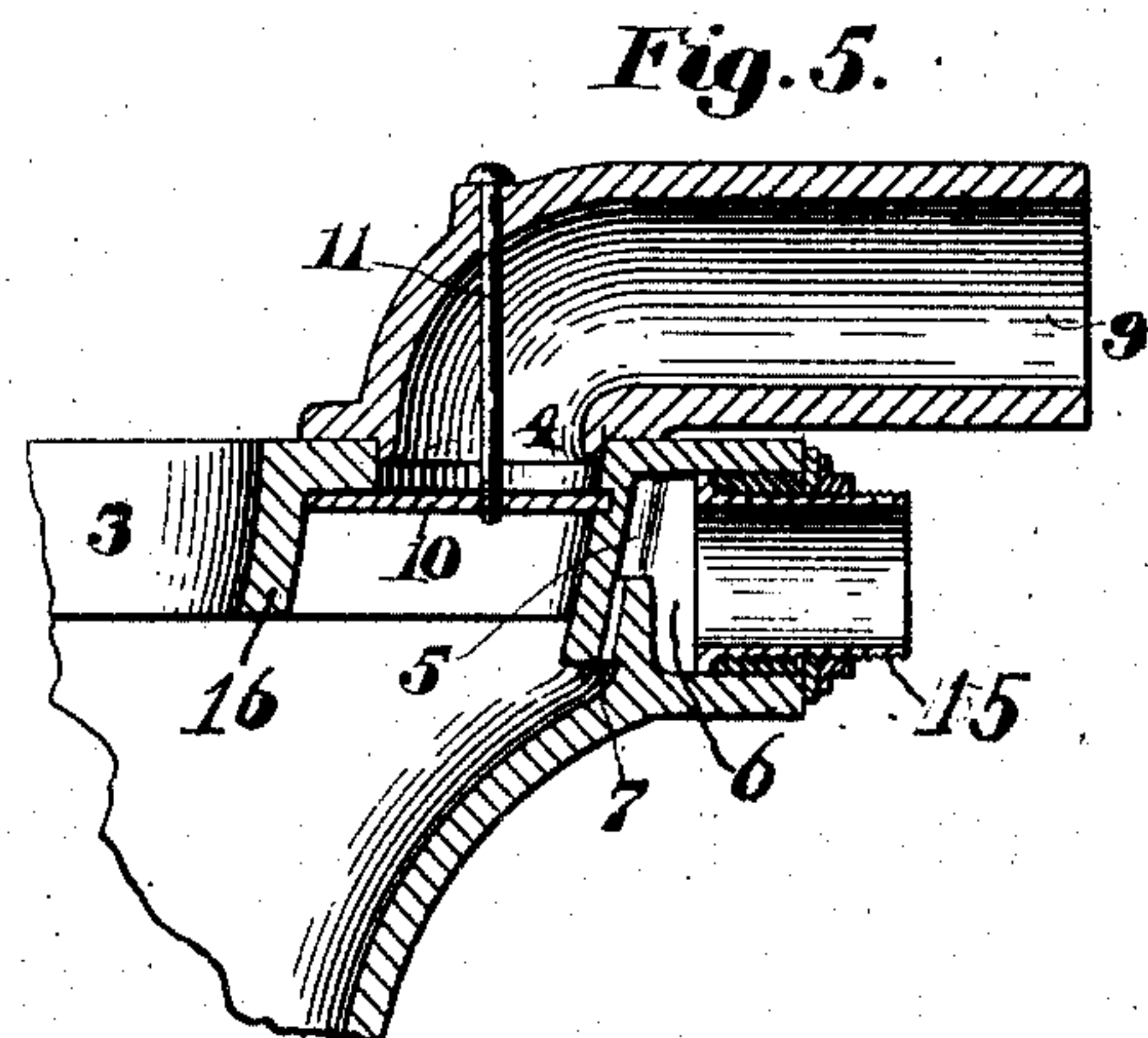
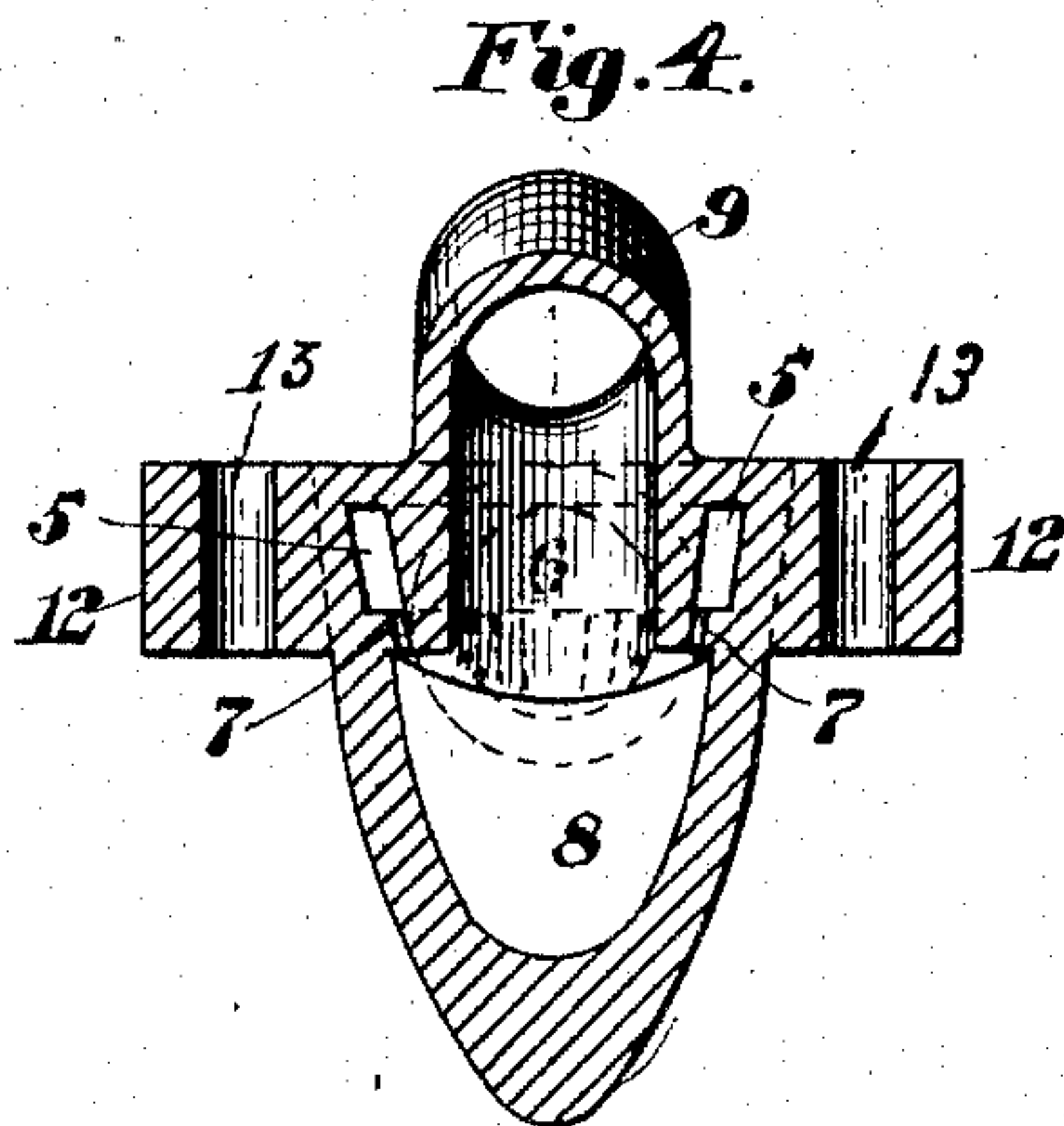
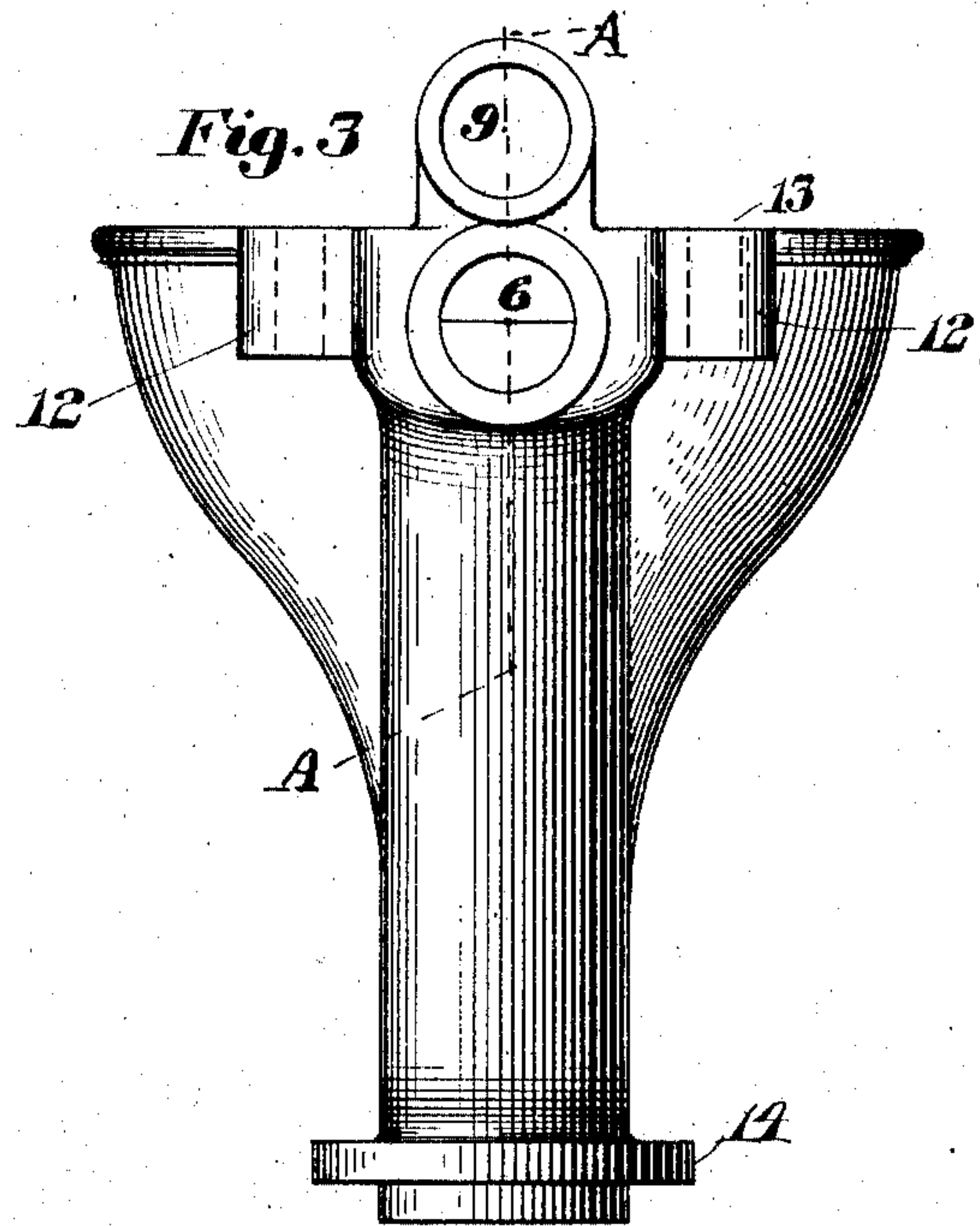
No. 864,390.

PATENTED AUG. 27, 1907.

J. H. STEVENS.
WATER CLOSET.

APPLICATION FILED NOV. 6, 1901.

2 SHEETS—SHEET 2



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. STEVENS, OF CAMBRIDGE, MASSACHUSETTS.

WATER-CLOSET.

No. 864,390.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed November 5, 1901. Serial No. 81,231.

To all whom it may concern:

Be it known that I, JOHN H. STEVENS, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Water-Closets, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to water closets and especially to the construction of the earthenware portion thereof and it consists in certain novel features of construction, arrangement, and combination of parts which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings is a sectional side elevation of a water closet bowl embodying my invention, the cutting plane of the sectional portion being on line A—A on Fig. 2. Fig. 2 is a sectional plan of the same, the cutting plane of the lower or sectional half of said view being on line B—B on Fig. 1. Fig. 3 is a rear elevation of the same. Fig. 4 is a vertical section on line C—C on Fig. 1 looking toward the right of said figure, and Fig. 5 is a partial vertical section of the same on line A—A on Figs. 2 and 3, and illustrating a modification of the construction of the ventilating pipe.

Heretofore water closet bowls which were provided with flushing rims have generally been constructed with a flushing passage and orifices therefrom extending entirely around the seat-receiving opening without extending around the air duct or ventilating passage, the result of which was that after the closet had been used and the water was turned on to flush the closet, the water discharged into the bowl, nearly or entirely prevented the escape of the foul odors through said ventilating duct or passage, the sheet of water passing downward in front of said duct, nearly closing the same, at the very time when the contents of the bowl are being agitated and the ventilation is most needed. Another objection is that when little or no flushing of the inclined surface of the wall of the rearward extension of the bowl, from which the ventilating passage opens, takes place, due to the small spraying orifices arranged at the extreme rear and in the center of said extension, said inclined surface, which was readily seen from the front of the bowl, soon became unsightly by reason of dust and dirt accumulating thereon on account of the draft of the ventilating duct when the water is shut off.

The object of my present invention is to overcome or reduce to a minimum these objections and at the same time maintain the full capacity of the ventilating duct when the flushing water is being discharged into the bowl, without increasing the length of the closet from front to rear.

To obtain these desirable ends I constructed the earthenware closet as illustrated in the accompanying drawings in which 1 represents the bowl proper provided with the discharge passage 2 preferably arranged directly beneath the rear edge of the seat receiving opening thereof. The bowl 1 is provided with an inwardly projecting flange or rim 3 and with the ventilating passage communicating with the top of said flange outside of the circle of said seat-receiving opening passing through said flange, as shown. The flange or rim 3 has formed therein the water passage 5 which extends around the front and sides of the bowl proper, and around the sides and rear of the extension 8 from which the ventilating passage 4 opens and communicates with the interior of the water supply passage 6 on opposite sides thereof, as shown in Fig. 2. The flushing passage 5 is provided with a series of flushing orifices 7 of varying size arranged at short intervals apart throughout the entire length of said passage and extending through its bottom wall into the interior of the bowl and its rearward extension is in close proximity to the inner surfaces of said bowl so as to thoroughly flush the whole interior surface of the closet without interfering with free action of the ventilating duct.

The ventilating pipe 9 which covers the ventilating passage 4 and extends at any desired angle therefrom, is preferably formed integral with the bowl, as shown in Figs. 1, 2 and 3, but it may be made separate therefrom, if desired, and secured thereto in any desired position by the cross-bar 10 and clamping bolt 11, as shown in Fig. 5.

The bowl 1 has formed thereon two integral ears 12—12, one on each side of its rear portion outside of the flushing passage 5, each having formed therethrough a vertical opening 13 to receive the fixed portions of the seat hinge, or a bolt therefor not shown. A flange 14 is formed around the base of said bowl by which it is supported in an upright position when set in place in a well-known manner. The water inlet passage has been fitted therein so as to form a liquid tight joint therewith, in any well-known manner, a metal bushing 15 the outer end of which is threaded to receive the water supply pipe, not shown, said bushing being shown in Figs. 1 and 5 only.

By extending the flushing passage 5 around the front and sides of the seat-receiving opening and sides and rear of the extension 8 without extending it around the rear of the bowl proper between the seat-receiving opening and the ventilating opening above the rearward extension 8 a chamber is formed between the inclined surface of the extension 8 and the curtain 16 which extends between two points of the inner wall of the flushing passage 5 between the seat-receiving opening 4. A considerably greater area of ventilating space is thus secured than can be obtained when the flushing passage 5 extends around the rear of the bowl between

said seat opening and the ventilating opening without increasing the length of the closet from front to rear, and as the flushing orifices 7 are distributed evenly throughout the entire length of said passage 5, a thorough flushing of all parts of the closet is secured without in the least obstructing the escape of the foul odors through the ventilating passage when the flushing water is in full operation.

While the invention is illustrated as applied to a closet the discharge from which is directly beneath the rear edge of the seat-receiving opening, it is obvious that my invention may be applied to closets of different forms without departing from the principles of this invention.

15 Having thus described my invention, I claim:

1. A water-closet having a single annular duct or passage extending entirely around the upper portion thereof just beneath the top plate through which the flushing water is supplied to the bowl through a series of discharge orifices arranged at intervals throughout its length, and a seat opening and a ventilating opening both cut through said top plate within the perimeter of said passage.

2. A water-closet provided with a top plate and having a single annular duct or passage extending entirely around the upper portion thereof just beneath said plate through which the flushing water is supplied to the bowl, a seat opening cut through said top plate, means for securing a seat to said top plate, and a ventilating opening also cut through said top plate within the perimeter of said passage but outside the limits of said seat portion in combination with a pipe extending upwardly from said ventilating opening and horizontally with its lowest portion above the upper level of said top plate.

3. In a water-closet, the combination of a water-supply passage extending entirely around the upper portion of said closet just beneath the top plate with a supply nozzle communicating therewith, a seat opening in the front of said top plate, a ventilating passage opening upward through the top plate of said closet, between said seat opening and said water-supply passage, and a series of discharge orifices arranged at intervals through the bottom of said water-supply passage throughout the entire length of said passage.

4. The combination in a water-closet, of a seat opening in the front portion of the upper surface thereof, a ventilating passage opening upward through the top plate of said closet at one side of said seat opening, an annular flush-water passage extending entirely around the upper portion of said closet outside of said seat opening and the ventilating opening, a water-supply nozzle communicating with said flush-water passage, a pendent curtain between the seat opening and the ventilating passage, and means communicating between said flush-water passage and the closet bowl throughout the entire length of said passage.

5. A water-closet provided with a flushing passage ex-

tending entirely around the seat opening thereof, a water-supply nozzle communicating with said passage, and a ventilating pipe communicating with the interior of said closet within the bounds of said passage and extending therefrom at a level above the top of the bowl.

6. A water-closet provided with a continuous flushing passage extending entirely around the upper portion thereof and communicating throughout its length with the interior of the bowl, a water-supply nozzle communicating with said passage, a chamber interposed between said passage and the seat opening at only one side of and in the same plane with the latter and communicating with the interior of the closet, and a ventilating pipe communicating with said chamber.

7. A water-closet bowl provided with an inwardly projecting flange at the top thereof having therein a flushing passage communicating throughout its length with the interior of the bowl and within the bounds of which said flange is provided with a seat opening and a ventilating opening side by side extending therethrough.

8. In a water closet provided with a seat opening and a ventilating opening in the top plate thereof and having a flushing passage extending around the sides and front of said seat opening and communicating with the interior of the bowl, of two rearwardly projecting conduits or passages communicating with the flushing passage on opposite sides of said ventilating opening and joining at the rear of said opening, said conduits or passages communicating with the interior of the bowl by means of a series of discharge orifices arranged at intervals throughout their length, and a water supply inlet communicating with said conduits or passages.

9. A water closet bowl having side walls which flare outwardly as they approach the top and which terminate at the top in an inwardly projecting flange provided with a continuous flushing passage communicating with the interior of the bowl throughout its length by a plurality of small orifices, the inner walls of said flange forming a seat opening and said flange having formed therein between said flushing passage and said seat opening a ventilating opening.

10. A water closet bowl having side walls which flare outwardly as they approach the top and which terminate at the top in an inwardly projecting flange provided with a continuous flushing passage communicating with the interior of the bowl throughout its length by a plurality of small orifices at the juncture between said inwardly projecting flange and said side walls, the inner walls of said flange forming a seat opening and said flange having formed therein between said flushing passage and said seat opening a ventilating opening.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, on this twenty ninth day of October, A. D. 1901.

JOHN H. STEVENS.

Witnesses:

N. C. LOMBARD,

H. E. LOMBARD.