

(No Model.)

H. C. STIFEL.
WATER CLOSET.

No. 516,128.

Patented Mar. 6, 1894.

Fig. I.

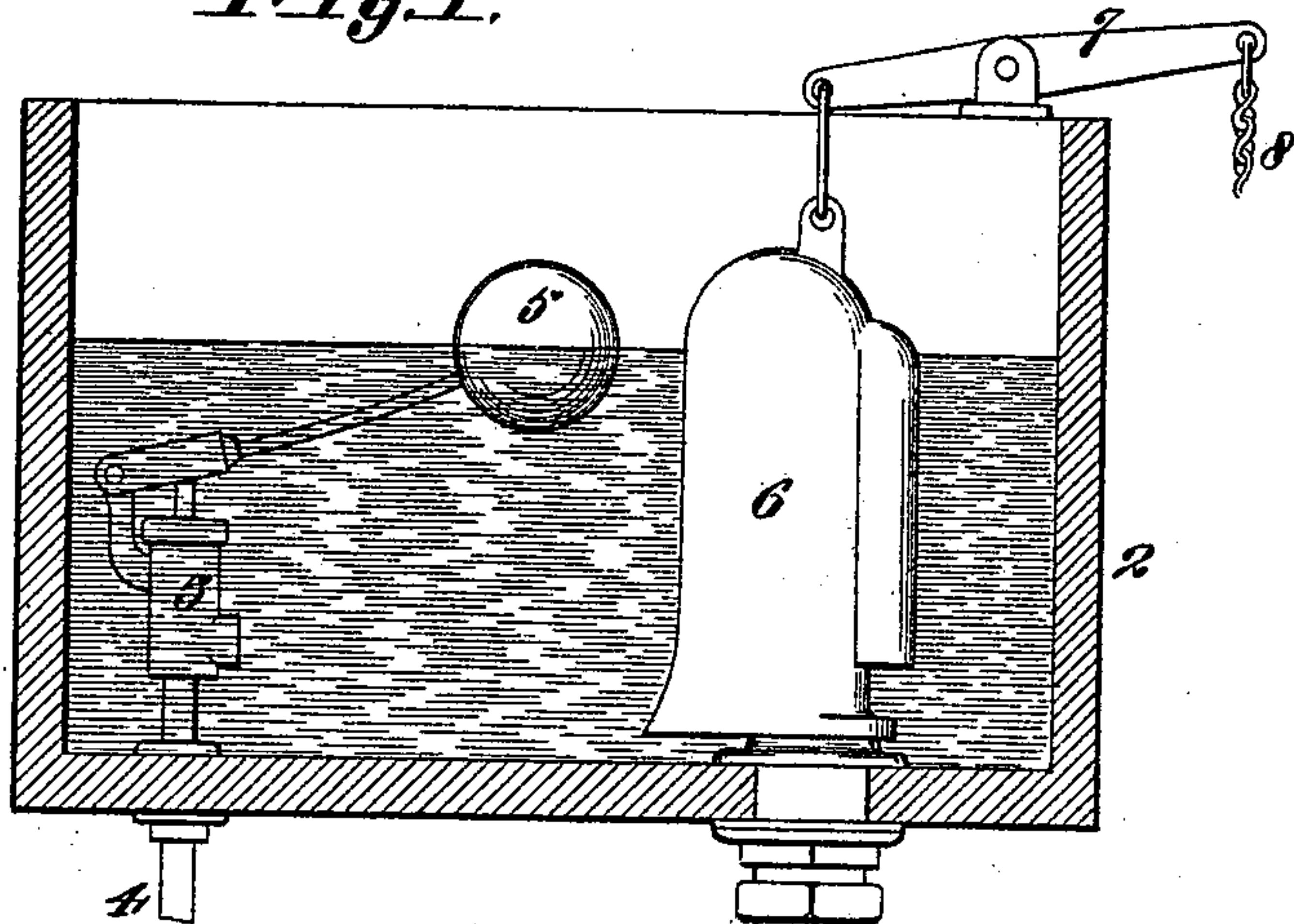


Fig. II.

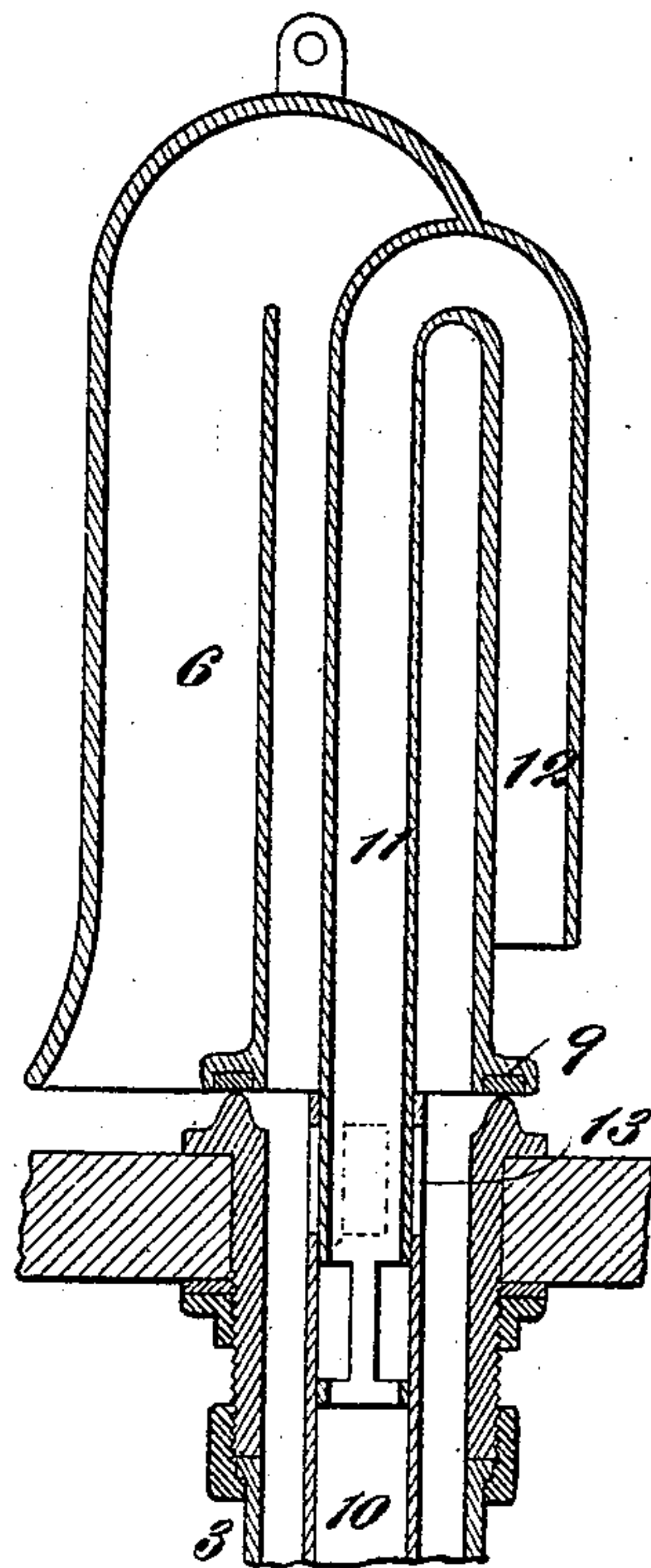
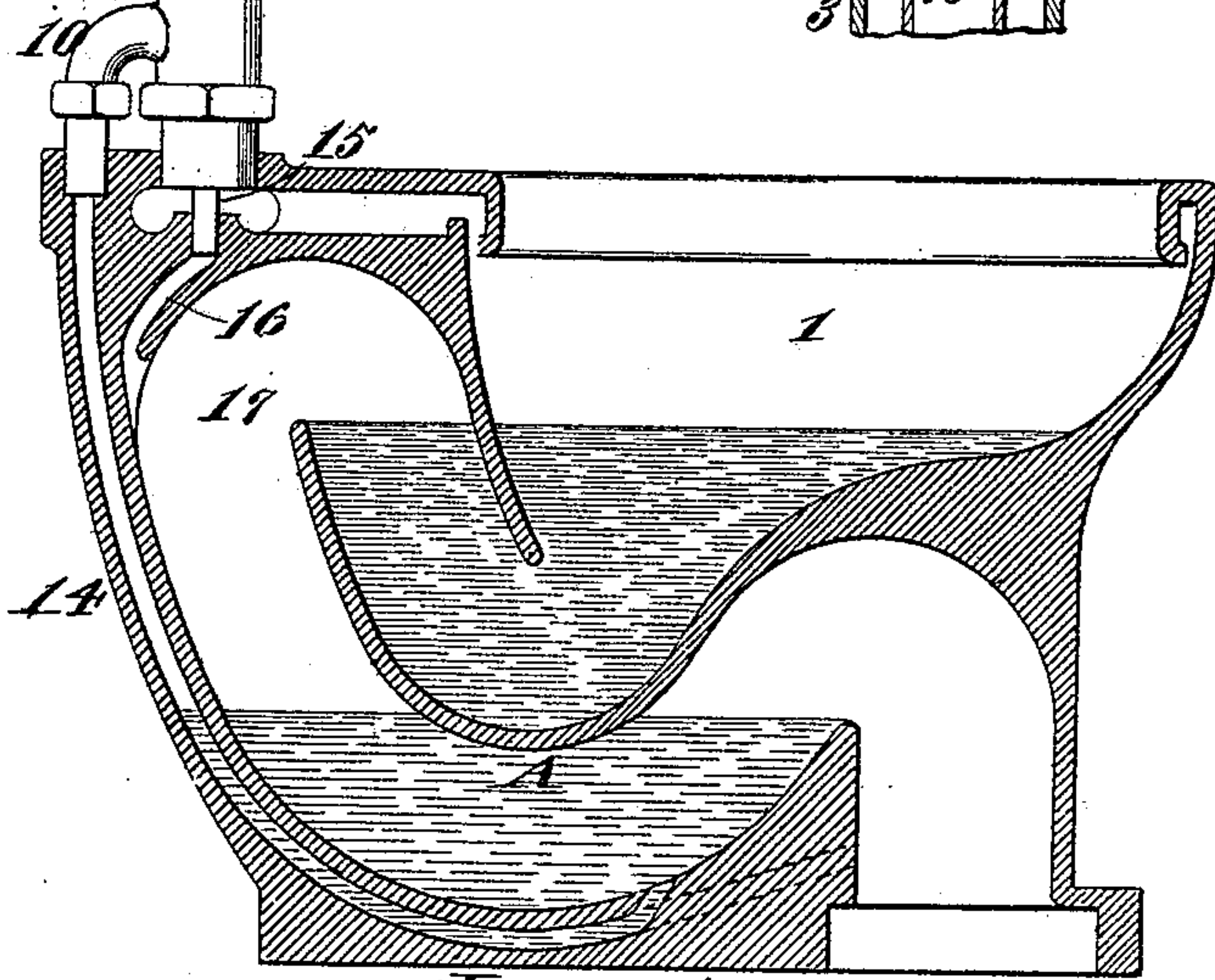
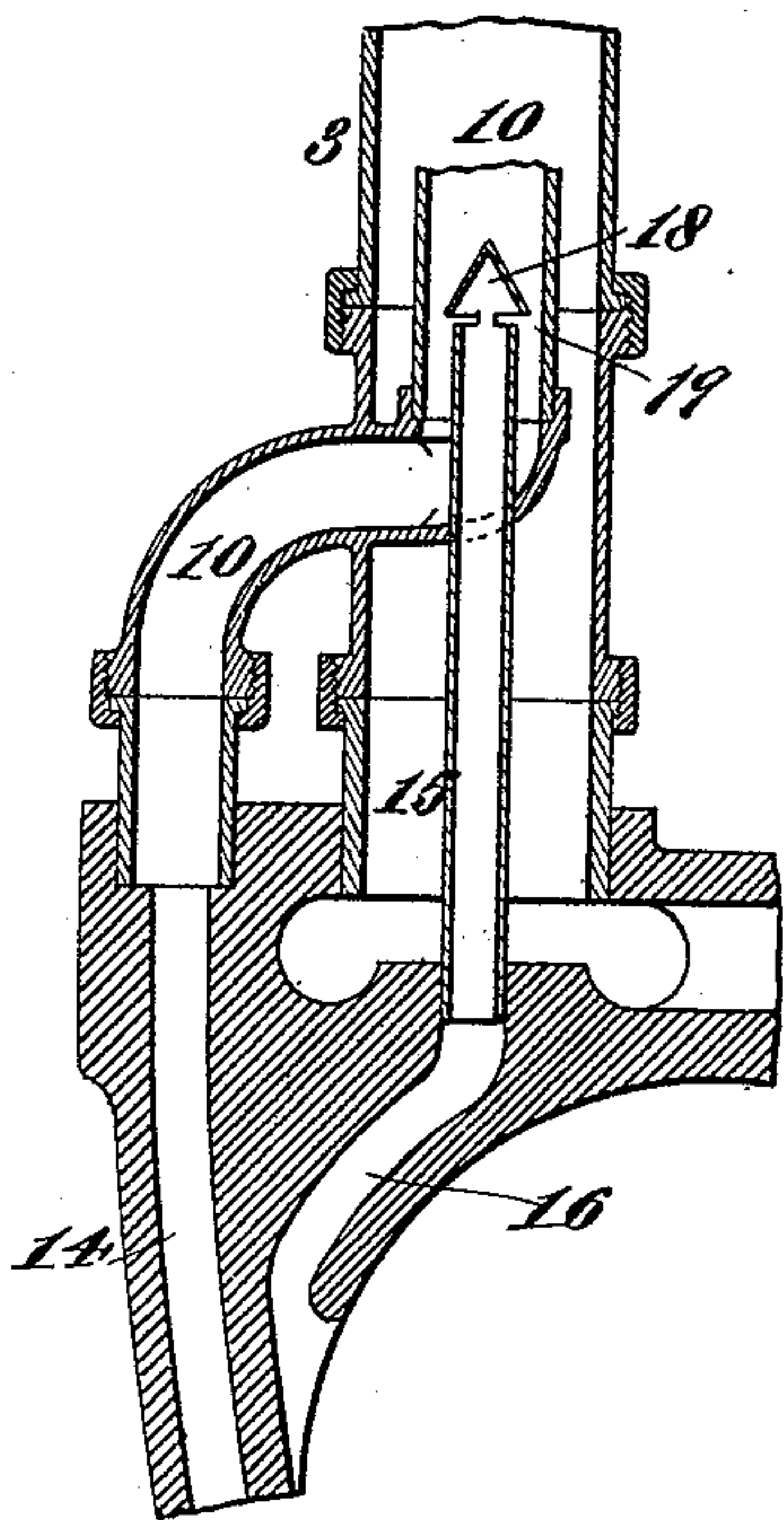


Fig. III.



Attest:
E. Knight
Benj. A. Knight.

Inventor:
Herman C. Stifel
By *Knight Bros*

attys

UNITED STATES PATENT OFFICE.

HERMAN C. STIFEL, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE STIFEL-O'NEIL HOME COMFORT CO., OF SAME PLACE.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 516,128, dated March 6, 1894.

Application filed March 17, 1893. Serial No. 466,481. (No model.)

To all whom it may concern:

Be it known that I, HERMAN C. STIFEL, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Water-Closets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to the siphonic type of water closets; and my invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is a vertical section of my improved closet; the discharge pipe and siphon of the tank being shown in elevation. Fig. II is an enlarged, vertical section of the upper end of the discharge pipe, and the tank siphon. Fig. III is an enlarged, vertical section, showing part of the bowl, the lower end of the discharge pipe, and the air pipe.

Referring to the drawings, 1 represents the bowl.

2 represents the water tank, and 3 the discharge pipe for carrying the water from the tank to the bowl.

4 is the supply pipe provided with the usual valve and float 5.

6 represents the siphon located within the tank 2, and communicating with the discharge pipe 3, and which may be moved to start the flow of water to the pipe 3, by means of the lever 7 and chain 8, the siphon having a seat 9 fitting on the upper end of the pipe 3.

10 is a combined water and air pipe, preferably located within the pipe 3, and having an extension 11, which is preferably located within the siphon 6, with its lower end extending into the pipe 10. The pipe 11 has a leg 12, outside of the siphon 6, and which is preferably shorter than the siphon, the leg 11 and pipe 9 may be cast in one part with the siphon 6.

13 represents slots or openings in the upper end of the pipe 10, which, when the siphon 6, with the pipe 11, is raised form a communication between the pipe 3 and the interior of the pipe 10, to admit the passage of water into the pipe 10, when the siphon 6 is raised.

The pipe 10 passes through the side of the pipe 3, preferably near the lower end of the latter, and communicate with a port or pas-

sage 14, which extends to the lower part of the bowl, and preferably beyond the vertical center A of the upper trap of the bowl.

15 represents a short pipe communicating through a passage 16 with the inter-trap chamber 17 of the bowl. The upper end of this pipe extends into the lower end of the pipe 10, as shown in Fig. III, and it is preferably provided with a conical end 18 beneath which is an opening 19.

The operation is as follows:—When the bowl is to be flushed, the siphon 6 is raised, admitting the water in the tank into the pipe 3, and opening a communication between the pipe 3 and the pipe 10, through the slots or openings 13, as specified. The portion of the water which passes through the pipe 10, and down over the conical end of the pipe 15 produces an upward current of air from the inter-trap chamber 17, through the pipe 15 to rarefy the air in the chamber 17, producing the siphonic action between the traps of the bowl. As soon as the siphon 6 has been raised, and the flow of water started, the siphon is lowered again, and the water passes from the tank through the siphon, and through the pipe 3. When the surface of the water in the tank has reached the lower end of the leg 12 of the pipe 10, 11, air enters the pipe 10 through the leg 12, and extension 11, breaking the siphon in the inter-trap chamber 17. The foul air that is drawn from the inter-trap chamber 17, in starting the flush, is conveyed into the discharge conduit of the bowl, through the pipe 10, and passage 14; no part of it being allowed to enter the room, either through the bowl, with which the pipe 10 has no connection, or by way of the tank, where the upper end of the pipe 10 is sealed by the water in the tank, and in this my invention differs from any construction heretofore made to my knowledge.

In other constructions the air drawn from the inter-trap chamber 17, either escapes through the pipe 3 and from the tank 2 into the room of the building in which the closet is located, or else it is carried back through the pipe 3 by the descending water into the upper part of the bowl from where, of course, a portion of it can escape into the room. With my present arrangement this foul air,

as it escapes from the pipe 15, is carried down through the pipe 10 and passage 14, into the discharge conduit of the bowl, and is forced directly into the soil pipe.

5 I prefer to extend the passage 14 beyond the point A of the upper trap of the bowl, as shown in Fig. I, so that as the air rises through the water it escapes therefrom on the soil pipe side of the lower trap, and any possibility of
10 a portion of the air escaping through the water of the upper trap is avoided, or if preferred the passage 14 might extend to the discharge opening of the bowl, as shown by dotted lines, Fig. I.

15 I do not wish to be limited to the form of device I have shown for starting the flow of water from the tank to the bowl, as means other than the siphon 6 provided with a seat 9, may be used.

20 I claim as my invention—

1. In a water closet, the combination of a bowl, a water tank, a discharge pipe connecting the tank to the bowl, a combined air and water pipe located within the discharge pipe
25 and communicating with the tank and with the discharge conduit of the bowl, and having a sealed upper end, and a pipe connecting the inter-trap chamber of the bowl with said combined air and discharge pipes between the
30 bowl and the tank whereby the foul air drawn from the inter-trap chamber of the bowl is carried directly into the discharge conduit of the bowl, substantially as set forth.

2. In a water closet, the combination of a
35 bowl, a water tank, a discharge pipe connecting the water tank to the bowl, a combined air and water pipe communicating with the tank, and with the discharge conduit of the

bowl, and having a sealed, upper end, and a short pipe extending from the inter-trap 40 chamber of the bowl into the lower end of said combined air and water pipe, and which is provided with a conical end beneath which it is open, substantially as and for the purpose set forth. 45

3. In a water closet, the combination of a bowl, a water tank, a discharge pipe connecting the water tank to the bowl, an air pipe located within the discharge pipe and communicating with the discharge conduit of the 50 bowl through a passage in the bowl, and a pipe connecting the inter-trap chamber of the bowl with the lower end of said air pipe, and which is provided with a conical end beneath which it is open, substantially as and for the 55 purpose set forth.

4. In a water closet, the combination of the bowl, a water tank, a discharge pipe connecting the tank to the bowl, a siphon located in the water tank above the discharge pipe, an 60 air pipe located within the discharge pipe and having a telescope extension passing through said siphon, and having a short leg outside of the siphon, and a pipe connecting the inter-trap chamber of the bowl with the lower 65 end of said air pipe; said air pipe having slots or openings in its upper end to admit water when said siphon is raised, and said air pipe communicating through a passage with the lower part of the bowl, substantially as and 70 for the purpose set forth.

HERMAN C. STIFEL.

In presence of—

E. S. KNIGHT,

BENJN. A. KNIGHT.