

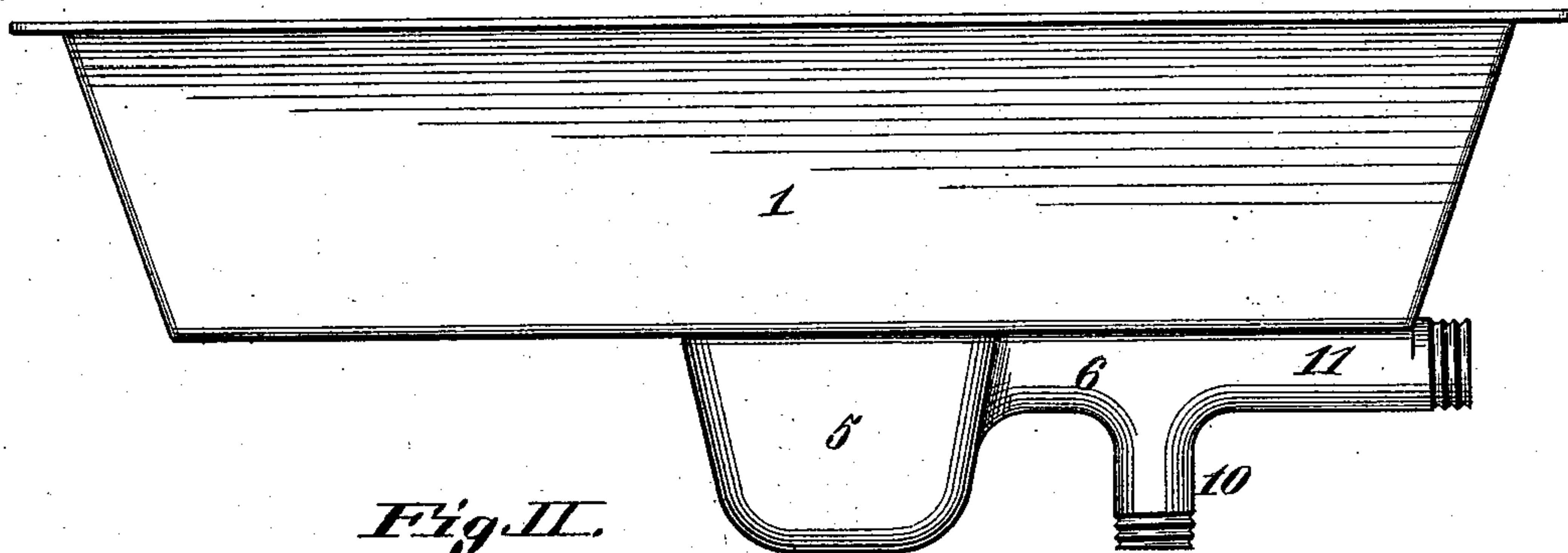
(No Model.)

J. JOHNSTON.  
COMBINED SINK AND TRAP.

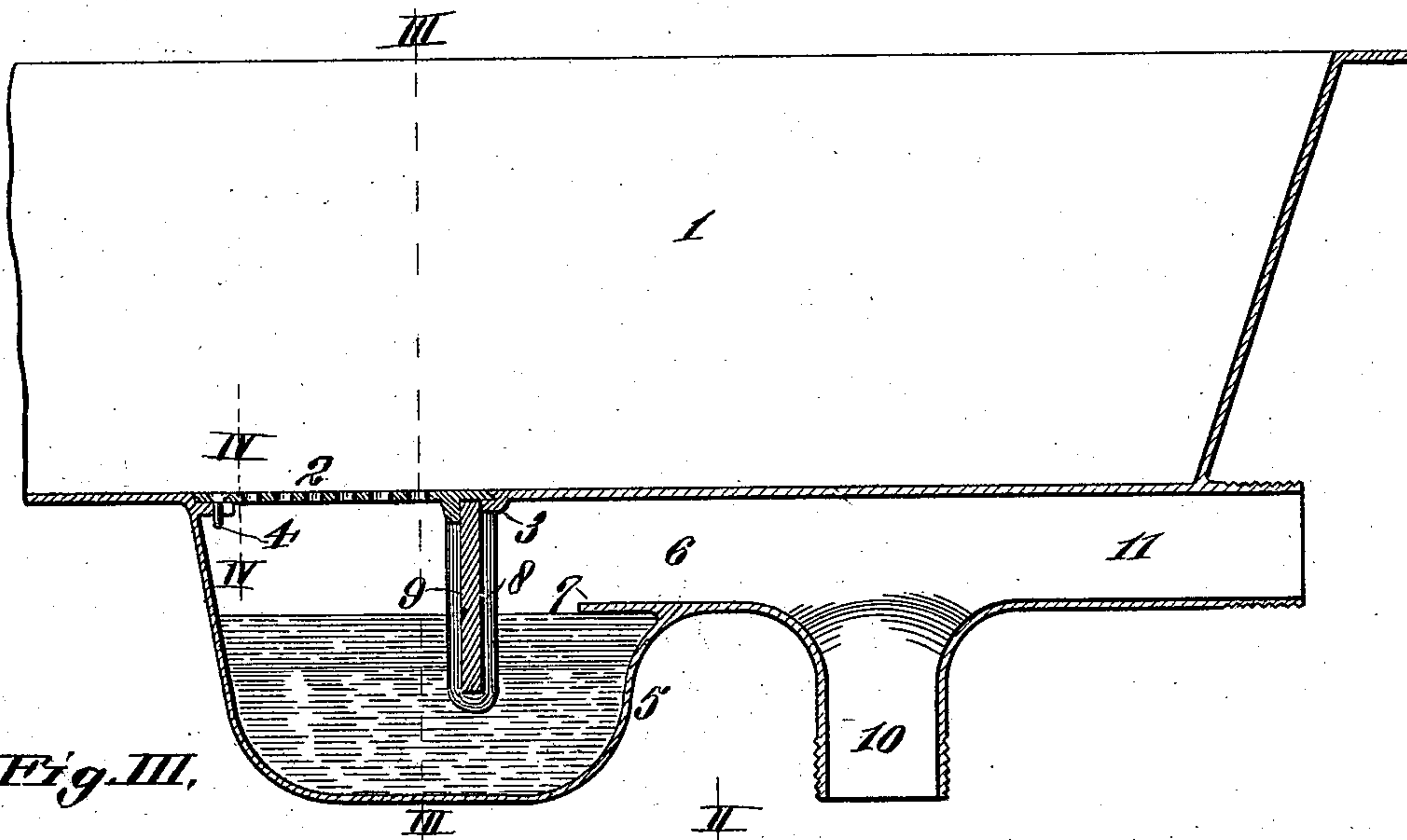
No. 555,485.

Patented Feb. 25, 1896.

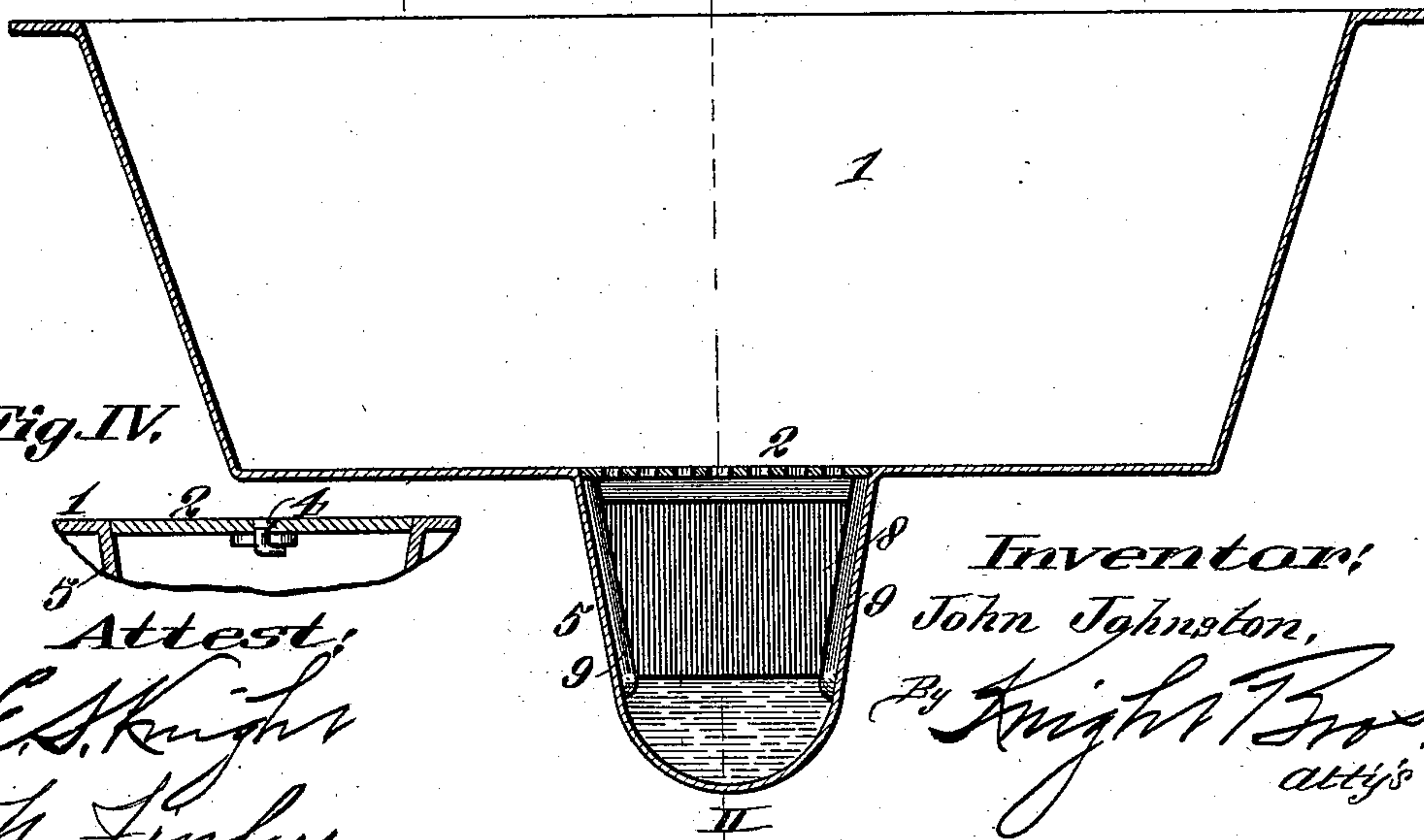
*Fig. I.*



*Fig. II.*



*Fig. III.*



*Fig. IV.*

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# UNITED STATES PATENT OFFICE.

JOHN JOHNSTON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO  
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## COMBINED SINK AND TRAP.

SPECIFICATION forming part of Letters Patent No. 555,485, dated February 25, 1896.

Application filed November 24, 1894. Serial No. 529,796. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN JOHNSTON, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in a Combined Sink and Trap, 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 a combined sink and trap; and it consists in features of novelty hereinafter described and pointed out in the claims.

Figure I illustrates a side elevation of my improved sink and trap. Fig. II is an enlarged vertical longitudinal section through the sink and trap, taken on line II II, Fig. II. Fig. III is a vertical transverse section taken on line III III, Fig. II. Fig. IV is a detail sectional view taken on line IV IV, Fig. II.

Referring to the drawings, 1 represents the sink, which is cast in one piece with the trap, the whole preferably being of cast-iron, though if found desirable any other suitable metal may be employed. In the center of the sink is a strainer-plate 2 that rests on lip 3 at one end and is provided at its opposite end with a bolt 4 by which it is secured in place.

5 is the bowl of the trap constructed with outward sloping sides, and 6 is the outlet of said bowl. At the side of the bowl adjacent to the outlet is a horizontal extension 7. This extension is provided for purpose of arresting all foreign substances escaping through the strainer-plate 2—such as grease, coffee-grounds, tea-leaves, &c.—and retaining them in the bowl, where they can be removed at any time. This extension 7 is also for the purpose of preventing the discharge of such foreign substances into the drain-pipe, which under ordinary means fouls and gradually closes up the drain and sewer pipes, causing the formation of dangerous gases, great inconvenience and expense in removing the same.

8 is a removable seal-plate constructed of any suitable material and is fitted in the bowl in guideways between ribs 9 on each side of the bowl.

10 is the drain or waste pipe.

11 is the vent-pipe that leads from the trap and outlet to any desired point to convey the

gases and fumes to the outer air. This vent-pipe 11 is specially placed in this position to conform to existing plumbing laws everywhere, which provide that sink-traps must be vented and the vent placed above or at the crown of the water seal.

The vent 11 is so placed in connection with waste-pipe 10 and bowl 5 as to effectively prevent siphoning of water out of the bowl into the drain or waste pipe as is at present very commonly the case where the vent-pipe is connected below the water seal.

The operation of this trap is as follows: When the water from the sink is allowed to flow through the trap, the trap will be filled with water and until the supply diminishes the water will flow through the trap. When the supply diminishes, the weight of the column of water in the waste-pipe will form a siphon, which will be instantly broken by the flow of air downward through the vent-pipe, and siphoning of the water seal is therefore impossible. The position of vent-pipe in reference to the waste-pipe and bowl is such that a draft or current of air flows upward through the vent carrying not only all gases from the waste-pipe, but also those that may be generated in the bowl.

With the construction of a sink and trap such as I have set forth the parts can be made very substantial, thus avoiding breakage, the outward and upward sloping construction of the bowl avoiding the difficulty of bursting in cold weather, as it allows for expansion of ice, and the interior of the trap is of ready access for the purpose of cleaning it and for the purpose of removing ice that may form in it in cold weather.

The means of preventing the entry of any foreign substances into the drain-pipe by the extension on side of bowl is a very important feature of my invention.

The result obtained by the combination of the vent and waste pipes and the bowl is of highest importance, as it not only effectually prevents siphoning, but is also a means of scientifically venting of the trap and is in strict compliance with sanitary plumbing laws.

I am aware that it is not broadly new to cast a sink and its trap-bowl integrally in one piece of metal. By my improved mode of combin-

ing and arranging these parts and the outlet, sewer-pipe, and ventilation-pipe in connection therewith, I am enabled to combine these also in the same casting in a form which renders the molding of the same entirely practicable.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combined sink 1, trap-bowl 5, outlet 6, ventilation-pipe 11 extending horizontally from the outlet, and the descending drain-pipe connection 10, cast integrally in

one piece of metal, as herein shown and described.

2. The combination of the sink 1, trap-bowl 5 extension-plate 7, drain-pipe 10 and ventilation-pipe 11 cast integrally as described and the removable seal-plate 8 tightly connected to the integral bottom of the sink as herein shown and described, for the purposes set forth.

JOHN JOHNSTON.

In presence of—

E. S. KNIGHT,  
N. FINLEY.