

No. 723,110.

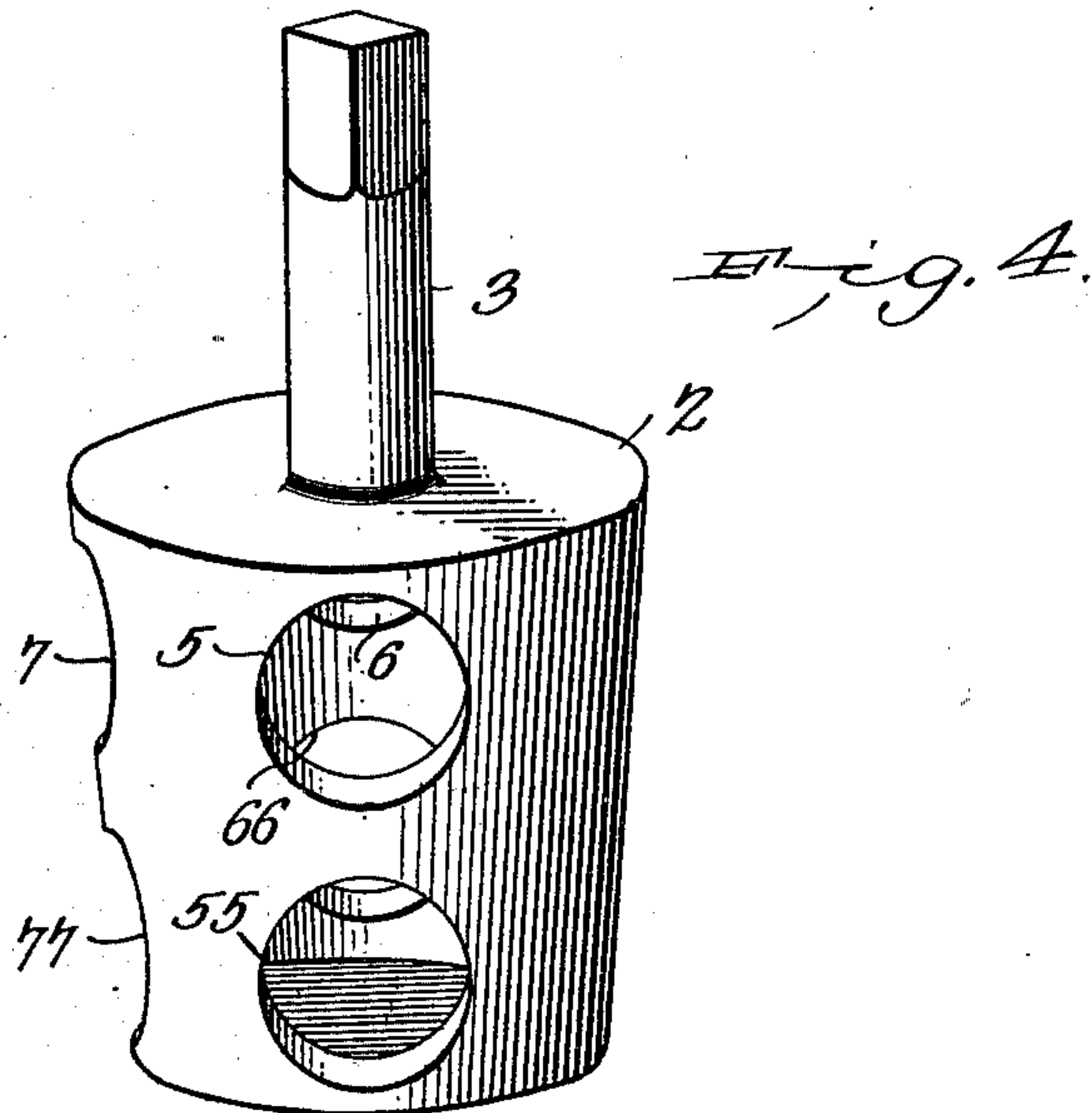
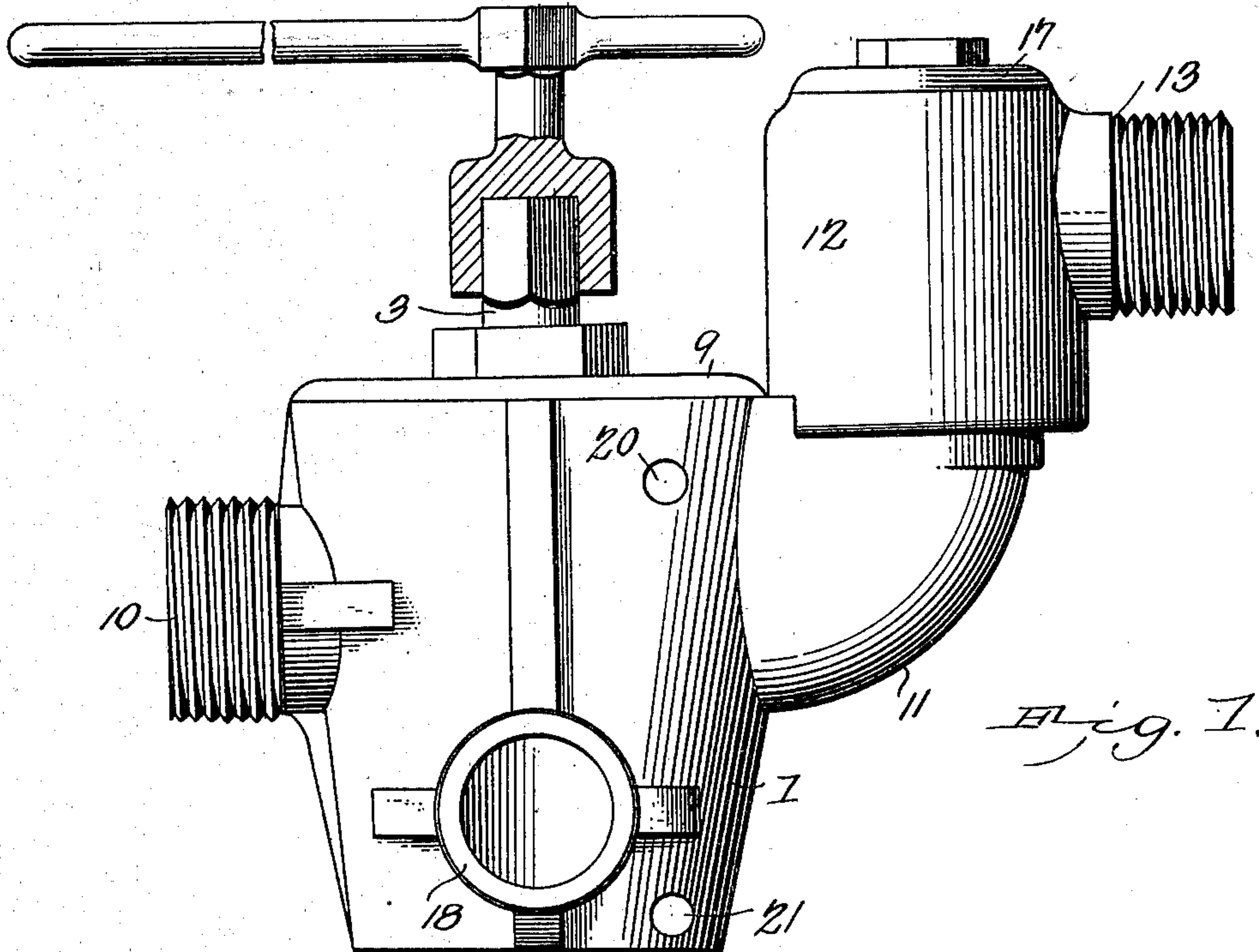
PATENTED MAR. 17, 1903.

W. G. WILMINGTON.
FEED WATER STRAINER AND CATCH BASIN.

APPLICATION FILED NOV. 14, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. H. Stewart
Wm. Bagger

W. G. Wilmington, Inventor;
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Attorneys

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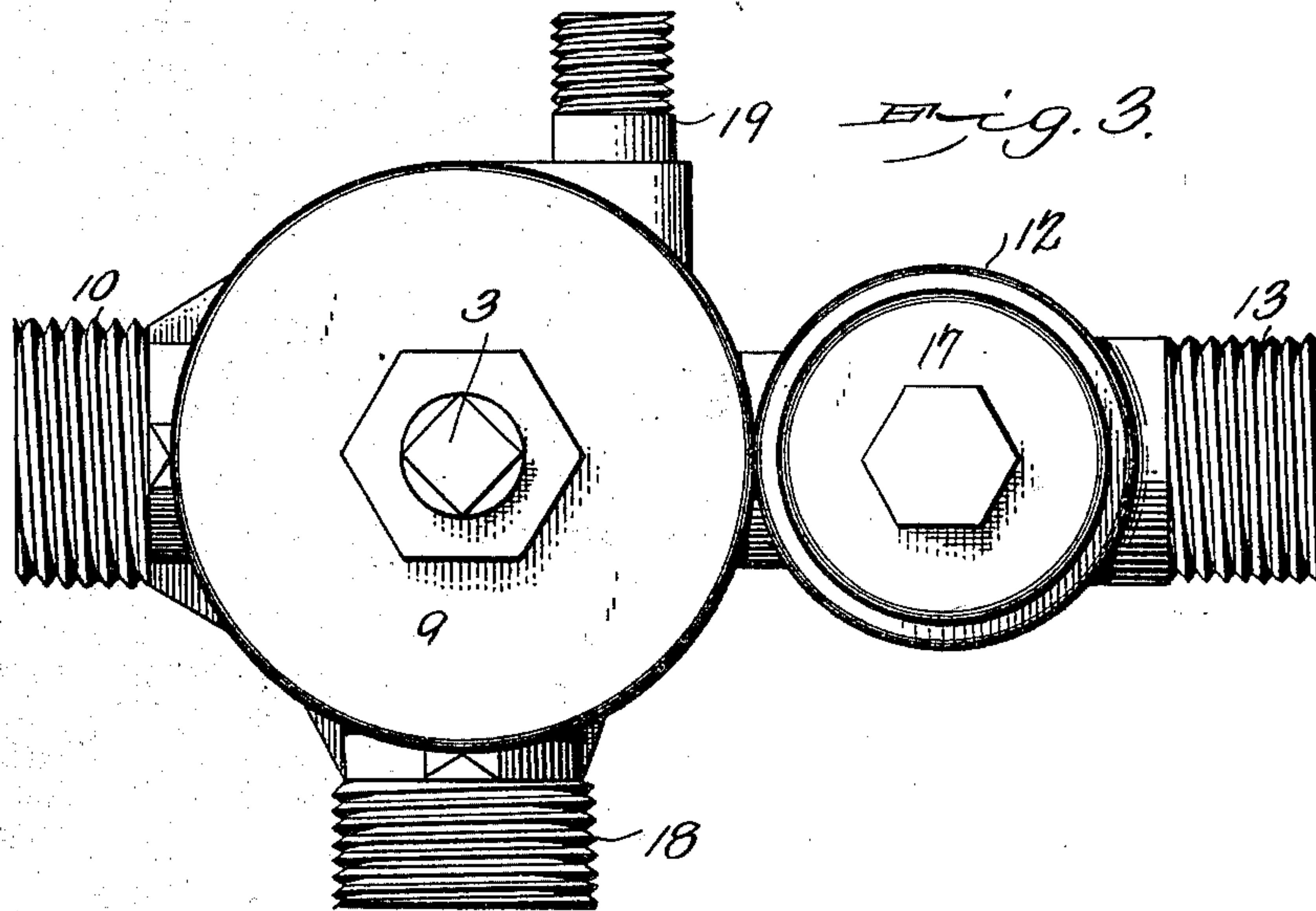
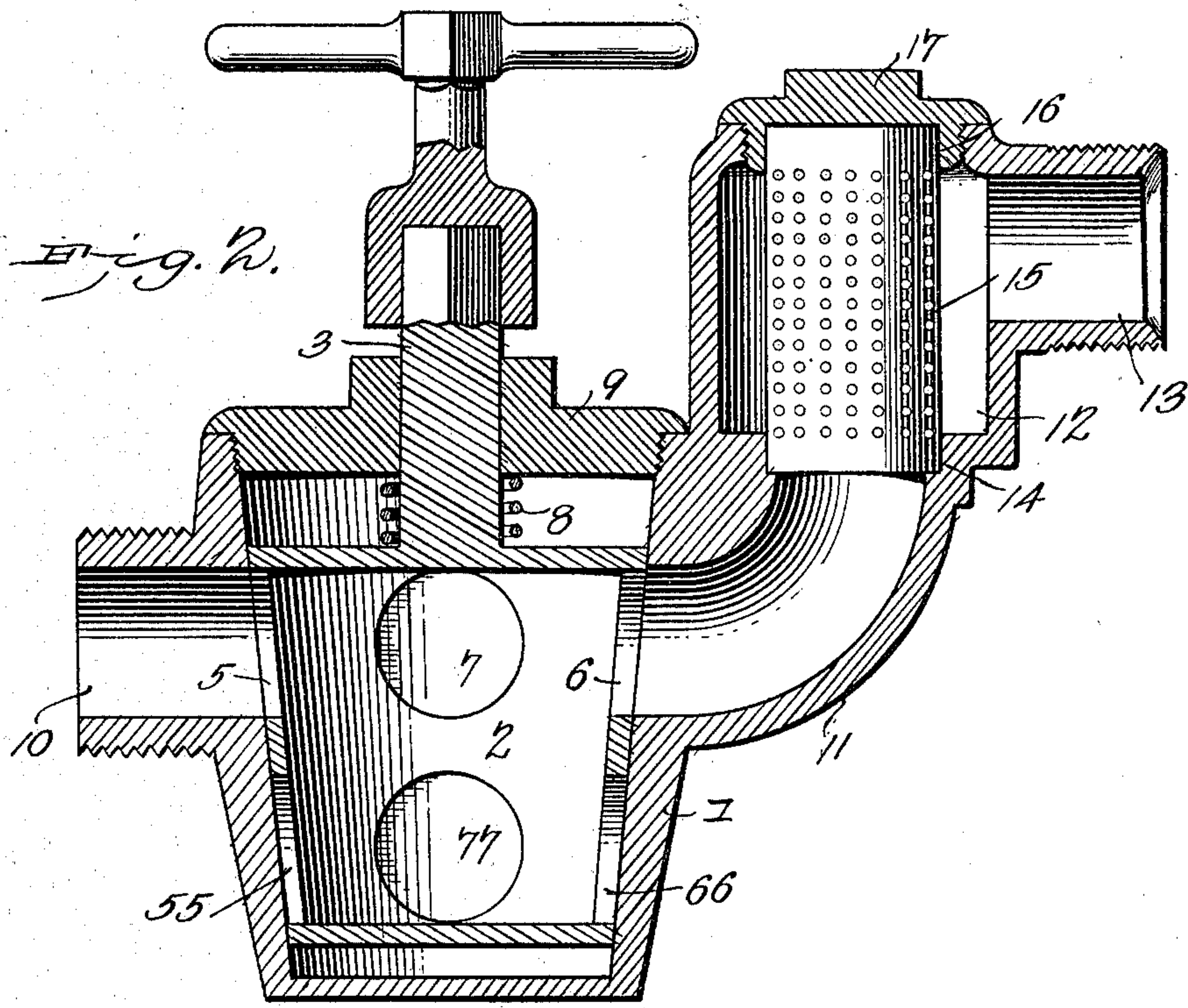
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UNITED STATES PATENT OFFICE.

WILLIAM GRANT WILMINGTON, OF BLOOMINGTON, ILLINOIS, ASSIGNOR OF
ONE-HALF TO WILLIAM T. WILLIAMS, OF BLOOMINGTON, ILLINOIS.

FEED-WATER STRAINER AND CATCH-BASIN.

SPECIFICATION forming part of Letters Patent No. 723,110, dated March 17, 1903.

Application filed November 14, 1902. Serial No. 131,407. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRANT WILMINGTON, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented a new and useful Feed-Water Strainer and Catch-Basin, of which the following is a specification.

This invention relates to devices for straining feed-water on its passage to the boiler; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency, which shall be capable of being used advantageously upon locomotives or upon stationary engines, and which shall be so constructed as to be readily cleaned at any time and under various conditions when it may be found necessary or desirable to do so.

With these and other objects in view the invention consists of the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a device constructed in accordance with the principles of my invention embodying the valve, strainer, and catch-basin. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a top plan view. Fig. 4 is a perspective view showing the valve detached from the casing.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The valve-casing 1 is provided with a seat for the tapering circular valve 2, which consists of a shell closed at its upper and lower ends and having an upwardly-extending stem 3. The wall or shell of the valve is provided on diametrically opposite sides with ports 5 55 and 6 66, the ports 5 and 6 being disposed above the ports 55 and 66, as will be seen in Fig. 4. An intermediate port 7 is disposed or formed in one side of the valve-shell between the ports 5 and 6 and another port 77 below the port 7 between the ports 55 and 66. The valve is held to its seats by means of a spring 8, coiled upon the stem 3, which extends to a cap-nut 9, which serves to com-

press the spring and to retain the valve in the casing. The latter is provided at one side thereof with an inlet 10, registering with the upper ports of the valve, and at the diametrically opposite side with an upwardly-curved branch 11, likewise registering with the upper valve-ports and terminating in the strainer-chamber 12, having a laterally-extending threaded outlet which connects with the injector. The chamber 12 is provided with a seat 14 for the cylindrical-strainer 15, the upper end of which has an additional seat 16 in a cap-nut 17, which forms a closure to the strainer-chamber and which may be removed when necessary to inspect or replace the strainer. The lower part of the valve-casing has a single outlet 18, registering with the lower valve-ports, said outlet being located intermediately between the inlet 10 and the branch 11. The opposite side of the valve-casing is provided with a screw-threaded plug 19, whereby it may be mounted in the desired position. Openings 20 and 21 are formed in the valve-casing above and below the valve for the drainage of leakage.

It will be understood that the valve-casing may be made in right and left hand patterns by simply reversing the relative positions of the outlet 18 and the plug 19.

I shall describe the operation of my invention in connection with a locomotive-boiler, which is practically the same as when it is applied to other purposes, except that the range of its utility is probably more extended. When the valve then is in the position illustrated in Fig. 2 of the drawings, there will be a passage open from the tank or cistern of the tender through the inlet 10, ports 5 and 6, branch 11, strainer 15, and outlet 13 to the injector, all foreign objects contained in the feed-water being intercepted by this strainer and caused to settle in the lower part of the valve, which constitutes the catch-basin. In cold weather a heater can be used to keep the valve from freezing while it is in this position. By turning the valve one-fourth revolution to the right the inlet 10 will be closed, the port 7 will register with the branch 11, and the port 66 will register with the outlet 18 in the valve-casing. The remainder of the ports will be closed. It will

be seen that the outlet 18 now communicates, through the passage 11, with the injector, in which position the steam-ram to the injector may be opened to blow back steam, which will blow all trash out of the strainer and catch-basin through the opening 18 to atmosphere and not back to the cistern. In this position of the valve a hydrant-hose may also be attached to the opening 18 for the purpose of filling the boiler. When the valve is turned from the position shown in Fig. 1 one-fourth revolution to the left, the port 7 will register with the inlet 10, the port 55 will be closed. When the valve is in this position, water may flow from the tank or cistern of the tender through the valve and through the opening 18, thus washing the catch-basin formed by the lower half of the valve free from trash or obstructions which may have accumulated therein. When the valve is in this position, the tank or cistern may also be filled by connecting the opening 18 with the hydrant-hose. When the valve is turned one-half revolution from the position shown in Fig. 1, the port 6 will register with the inlet 10, the port 5 with the passage 11, and the port 77 with the opening 18. When the valve is in this position, the cistern or tank-valve, which is not shown in the drawings, but which is the ordinary valve used to control the flow of water from the tank, must be closed, as this device is not intended to and does not take the place of said tank-valve. In this position the water will drain from the feed-pipe and the hose attached to the opening 18, as is frequently necessary to avoid freezing during cold weather.

The valve-stem may be provided with a key or handle whereby it may be conveniently operated, and said handle may be extended to form a lever by means of which the valve may be operated from the cab of the engine.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood.

The construction of the device is very simple and inexpensive and of such a nature as to impart a wide range of utility to the device.

In the construction of the device any suitable material may be employed, brass being preferred for the valve and casing, while the strainer is preferably made from sheet-copper.

The device may be made of different sizes and in right and left patterns to suit the circumstances under which it is to be employed.

While I have described the preferred form of my invention, I desire it to be understood that I reserve the right to any modifications which may be resorted to without departing from the spirit or scope or sacrificing the utility of my invention.

Having thus described my invention, I claim—

1. In a device of the class described, a valve-casing having openings or passages in opposite sides thereof, one of said passages being extended to form a strainer-chamber, and an intermediate opening disposed below the plane of the opposite openings, in combination with a valve-shell seated in said casing and having diametrically opposite upper and lower ports and intermediate upper and lower ports disposed one above the other between said diametrically opposite ports.

2. In a device of the class described, a valve-casing having diametrically opposite passages in the upper part thereof, one of said passages being extended to form a strainer-chamber and an intermediate opening in the lower part thereof, in combination with a valve-shell seated in said casing and having ports suitably disposed to register with the passages and opening of said casing, the lower part of said valve-shell constituting a catch-basin for matter intercepted by the strainer.

3. In a device of the class described, a valve-casing having a passage leading to the injector and enlarged to form a strainer-chamber, a strainer seated detachably in said chamber and a valve seated in the casing, said valve consisting of a shell adapted to retain matter intercepted by the strainer and provided in the lower part thereof with ports adapted to register with an opening in the casing through which such refuse matter may be discharged.

4. In a device of the class described, a downwardly-contracted valve-casing having diametrically opposite passages extending from the upper part thereof and an intermediate opening in the lower part thereof, in combination with a valve-shell seated in said casing and having ports suitably disposed to register with the passages and opening thereof and provided with an upwardly-extending stem, a cap-nut to the casing perforated for the passage of said stem and a spring coiled upon the latter between the cap-nut and the valve.

5. In a device of the class described, a valve-casing having passages connected respectively with a source of supply and with the boiler, the latter passage being enlarged to form a strainer-chamber, said casing being also provided with an intermediate opening below the plane of said passages and with drain-openings near its upper and lower ends, in combination with the valve-shell seated in said casing and provided with diametrically opposite upper and lower ports and with intermediate upper and lower ports disposed one above the other between said diametrically opposite ports, said valve-shell being seated in the casing between the drain-openings and provided with a stem extending through the cap-nut of the casing.

6. In a device of the class described, a valve-casing having an upwardly-extended passage enlarged to form a strainer-chamber and a passage extending laterally from the latter,

said strainer-chamber being bored to form a seat, in combination with a cap-nut to said chamber likewise bored to form a seat and a cylindrical strainer mounted in said chamber
5 between the seats of the latter and of the cap-nut.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM GRANT WILMINGTON.

Witnesses:

JAS. G. BEESLEY,
D. H. NUSBAUM.