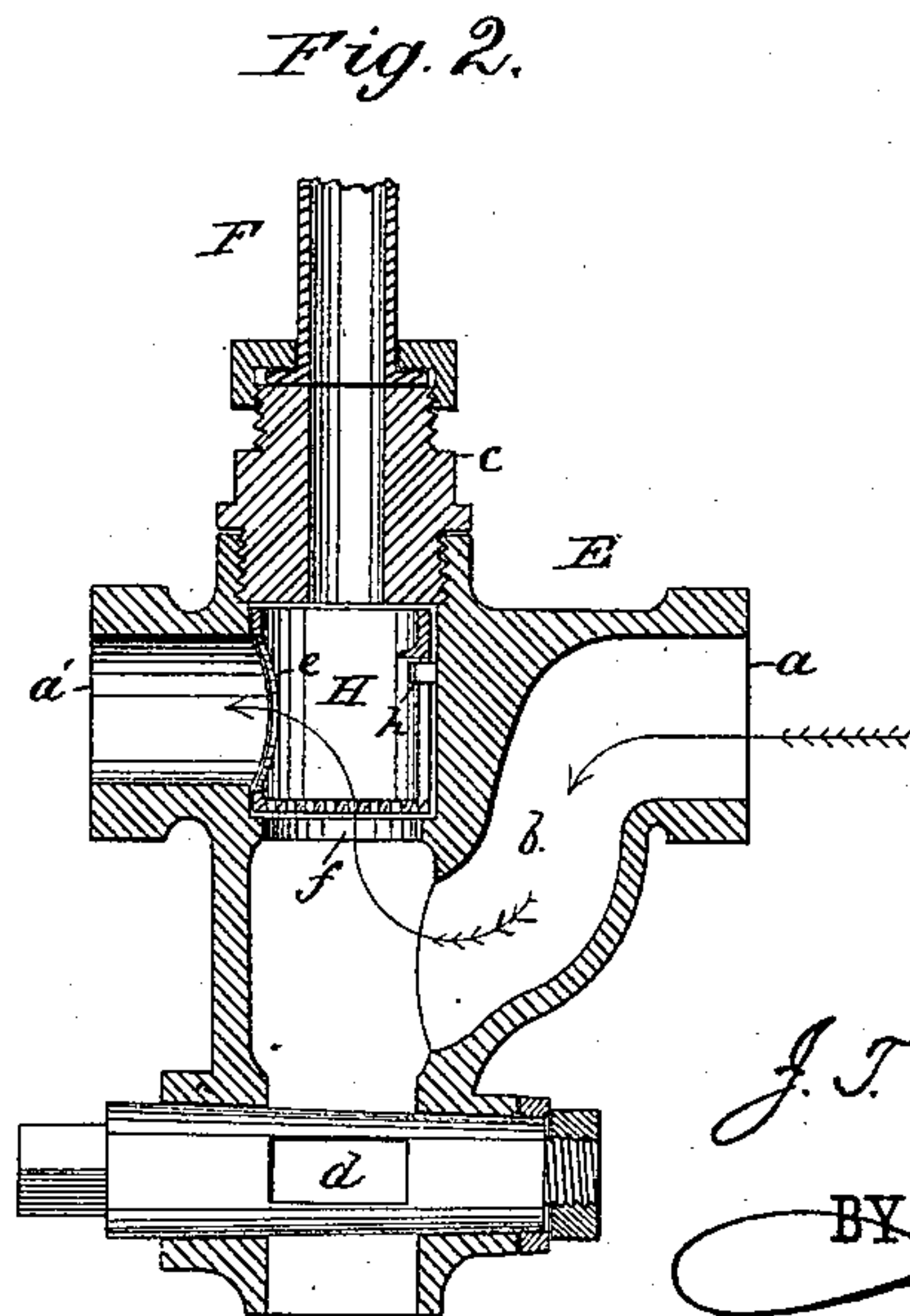
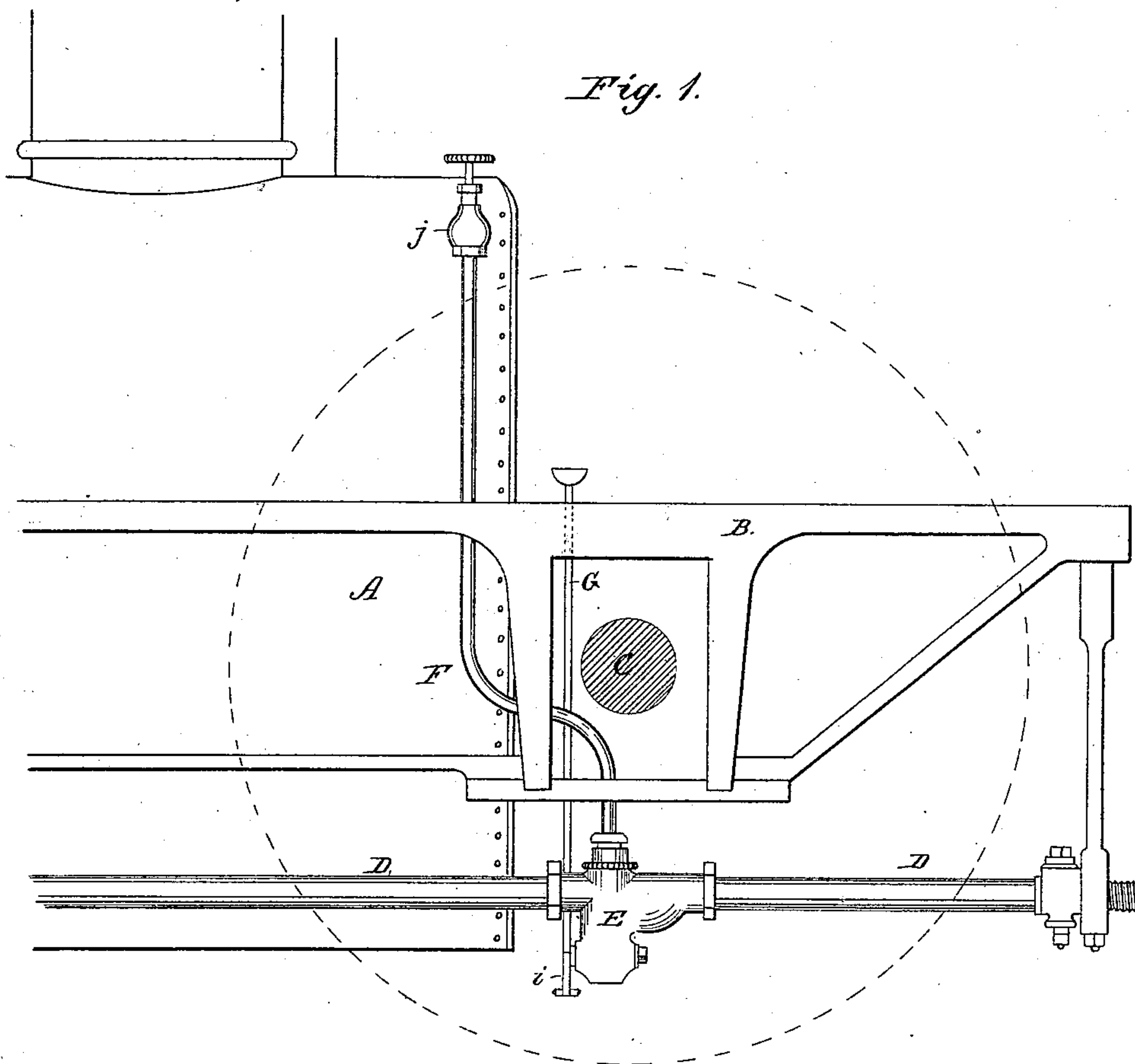


J. T. BRYANT.  
Feed-Water Cleaner.

No. 217,577.

Patented July 15, 1879.



WITNESSES:  
*W. W. Hollingsworth*  
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ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JAMES T. BRYANT, OF RICHMOND, VIRGINIA.

## IMPROVEMENT IN FEED-WATER CLEANERS.

Specification forming part of Letters Patent No. 217,577, dated July 15, 1879; application filed April 12, 1879.

*To all whom it may concern:*

Be it known that I, JAMES T. BRYANT, of Richmond, in the county of Henrico and State of Virginia, have invented a new and Improved Means for Cleaning Strainers for Feed-Pipes of Locomotive-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the device, showing its relation to the adjacent parts of the locomotive. Fig. 2 is an enlarged sectional view of the device.

In the strainer employed for the feed-water on its way from the tank to the boiler an accumulation of sediment sooner or later occurs upon one side of said strainer, which in obstructing the passage of the water limits the supply of water fed to the boiler by the pumps, and, as this limited supply may involve serious consequences, it is desirable to provide some efficient means for cleaning the strainer without removing it.

The object of my invention is to provide such a construction of strainer as will permit it to be cleaned without removal by any of the agencies at hand, such as air, steam, or water; and to this end it consists in a strainer-case arranged in the path of the water on its way to the boiler, which strainer-case has a vertical chamber containing a strainer with inlet and outlet orifices of the same diameter as the vertical chamber, opening one above and the other below the strainer, and also a discharge-outlet and plug-valve, located on the opposite side of the strainer from the pipe leading to the pump from said strainer, and an independent pipe communicating with the chamber above the strainer, so that when a current of steam or air is forced by said independent pipe through the strainer in reverse direction to the flow of the water the sediment is removed from the strainer and discharged outwardly upon the ground, as hereinafter fully described.

In the drawings, A represents the rear end of a locomotive-boiler; B, the truck-frame or housing, in which, in suitable bearings, is ar-

ranged the axle C of the rear wheels. D is the feed-water pipe, suspended at its rear end by a hanger, and having at the end a hose coupling or connection for the water-pipe from the tank. At its forward end the pipe communicates through the pump or injector (not shown) with the boiler. In this pipe is located my improved strainer-case and strainer, as shown at E. This strainer-case is constructed with coupling-joints at *a a'*, which give continuity to the pipe, and also with a dip or bend, *b*, a pipe-connection, *c*, at the top, and a discharge-plug, *d*, at the bottom, the casing of said device being formed of a single casting, and the inlet and outlet orifices being of substantially the same diameter as the vertical chamber formed therein. In the vertical chamber of the casing is arranged a cup-shaped strainer, H, having a foraminated bottom and an opening, *e*, in one side registering through the outlet *a* with the pipe D. This strainer-cup is supported upon a seat, *f*, in the said chamber, and is held in place by the screw-cap *e*, constituting the connection for a right-angular pipe, F, in such a manner as to be easily removable when said pipe is disconnected. To prevent this strainer-cup from turning, which would throw its opening *e* out of registration with the pipe D, a slot is cut in the side wall of the cup, and a lug, *h*, formed upon the wall of the casing, so as to project through said slot. To one end of the discharge-plug *d* is attached a crank-arm, *i*, and this is pivoted to the lower end of a lift-rod, G.

Now, when the water passes from the tank through the pipe D to the pump it will be seen that it passes down the bend *b*, and then up through the foraminated bottom of the strainer, and thence out laterally through the hole in the side of the strainer to the pump or injector, and any sediment which accumulates will be deposited upon the lower side of the strainer-cup and in the trap formed thereunder. Now, when it is desired to clean this strainer it is only necessary to raise the lift-rod G and admit steam to the pipe F through valve *j*.

The first action, it will be seen, opens the discharge-plug, and the second allows a blast of steam to blow violently through the strainer



in the reverse direction to the flow of the water, which effectually cleans off the strainer and discharges all of the accumulated sediment through the plug *d* upon the ground.

In making use of my invention I do not confine myself to the use of a blast of steam for this purpose, as an air-blast or current of water may be employed.

What I claim is—

1. A strainer-case having an inlet and outlet orifice, a vertical chamber containing a strainer of substantially the same diameter as said inlet and outlet orifices, and interposed between the same, in combination with a discharge-valve, located below the strainer, and

an independent pipe communicating with the space above the strainer, substantially as shown and described.

2. The strainer-case *E*, having connections *a a' c*, curved conduit *b*, and a discharge-plug at the bottom, in combination with the cup-shaped strainer, the pipe *F*, and the lift-rod *G*, substantially as described.

The above specification of my invention signed by me this 7th day of April, 1879.

J. T. BRYANT.

Witnesses:

SOLON C. KEMON,  
CHAS. A. PETTIT.