No. 738,088. PATENTED SEPT. 1, 1903.

S. M. VAUCLAIN & G. GREENOUGH.

FEED PIPE STRAINER.

APPLICATION FILED APR. 29, 1903.

NO MODEL.

Fig. 2.

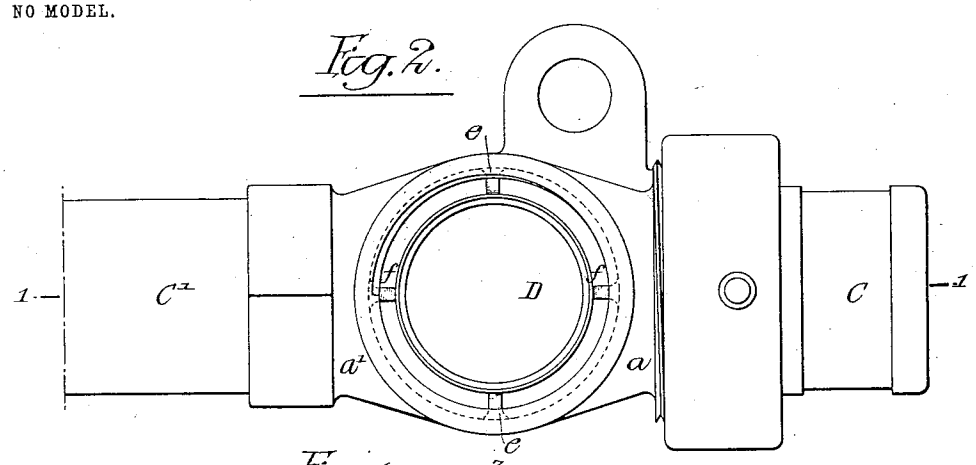


Fig. 1.

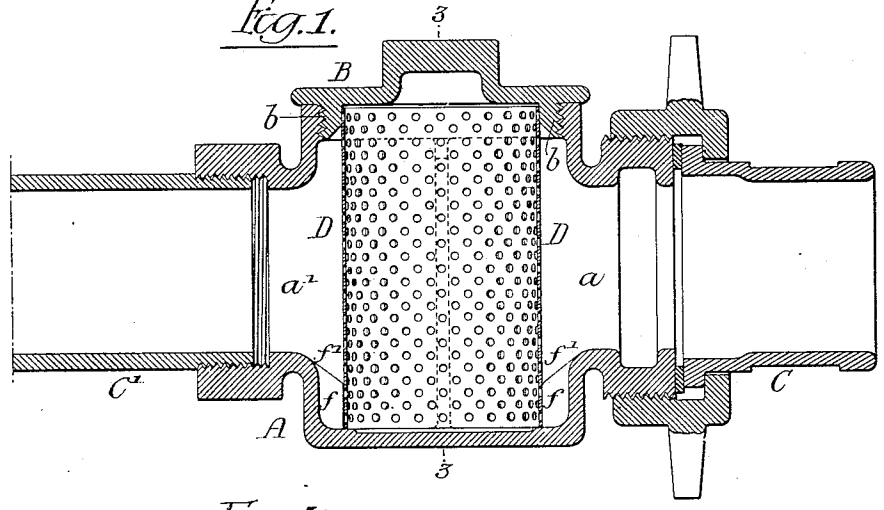
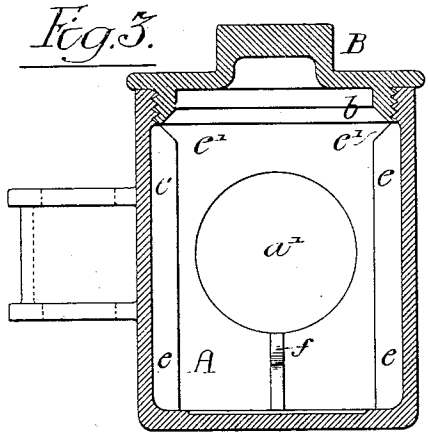


Fig. 3.



Witnesses:-
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

SAMUEL M. VAUCLAIN AND GRAFTON GREENOUGH, OF PHILADELPHIA, PENNSYLVANIA.

FEED-PIPE STRAINER.

SPECIFICATION forming part of Letters Patent No. 738,088, dated September 1, 1903.

Application filed April 29, 1903. Serial No. 154,872. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL M. VAUCLAIN and GRAFTON GREENOUGH, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Feed-Pipe Strainers, of which the following is a specification.

Our invention relates particularly to strainers placed in the feed-passage from a reservoir or other supply to a boiler, so as to strain the water before it enters the boiler.

Our invention is especially applicable for use in the pipe leading from the water-tank of a locomotive to the boiler.

The main object of our invention is to so construct the strainer that it can be made of few parts and that the strainer proper can be readily removed and replaced in the casing; and a further object of the invention is to so construct the strainer that it will doubly strain the water passing through the casing.

These objects we attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of our improved strainer on the line 1 1, Fig. 2. Fig. 2 is a plan view with the cap removed. Fig. 3 is a transverse sectional view on the line 3 3, Fig. 1.

A is the casing, having an inlet-passage *a* and an outlet-passage *a'* in the present instance, and coupled to the casing is an inlet-nozzle C, to which the hose leading from the tender in the present instance is connected.

C' is a pipe leading from the casing. This pipe has a threaded end screwed into the threaded portion of the casing.

B is a cap having a screw-threaded flange *b*. The thread of this flange meshes with an internal thread in the casing.

D is a strainer, made in cylindrical form and perforated, as shown. The size of the perforations may vary according to the use for which the strainer is intended. This strainer is preferably of an even diameter throughout and can be readily withdrawn from the casing after the cap B is removed. The strainer is considerably less in diameter than the casing, so that almost the entire surface of the strainer is utilized.

Vertical ribs *e e* are formed on each side of the casing and extend up to the flange of the cap B. These ribs form partitions separating one half of the casing from the other, so that the water must pass through first one side of the strainer then through the other before it can escape to the boiler. Thus it is doubly strained.

f f are ribs which are formed in the bottom of the casing only and in connection with the ribs *e e* hold the lower portion of the cylindrical strainer in a central position. The flange *b* of the cap extends over the upper end of the strainer. Consequently the strainer is held rigidly in the casing when the cap is applied; but as soon as the cap is removed it can be readily taken out and cleaned.

As this strainer is often situated in a position not always accessible, it is desirable that the parts should be made so that the strainer can be readily placed in position in the casing and that it will fit in the casing only in one position. Therefore we incline the upper edges *e'* of the ribs *e* and the upper edges *f'* of the ribs *f*, and we also bevel the flange *b*, so that if the strainer when placed in position strikes the beveled edges of the ribs *e* and *f* it will be guided by the beveled portions, so that it will assume a central position, and when the cap is applied its beveled flange will draw the upper end of the strainer also in a central position.

It will be seen that our improved strainer consists only of three parts, one of which is the casing, the others the detachable strainer and the cap. There are few parts to handle, and the strainer can be placed in the casing in only one way.

The great difficulty with several strainers on the market at the present time is the fact that they are complicated and that the strainer-plate can be placed in a wrong position in the casing, so that it will not strain the water flowing through it.

While our invention is especially applicable to the straining of water passing from the water-tank to a locomotive-boiler, it can be used for straining any liquid for any purpose without departing from our invention.

We claim as our invention—

1. The combination of a casing having inlets and outlets opposite each other, a cylindrical

strainer so mounted in the casing that the liquid passing from the inlets to the outlets will be doubly strained, substantially as described.

2. The combination of a casing, having inlet and outlet openings at each side, an opening at one end, a cap closing said end, the casing being closed at the opposite end, a cylindrical strainer mounted between the two ends of the casing and so situated that it will doubly strain the liquid passing from the inlet to the outlet of the casing, substantially as described.

3. The combination of a casing having inlet and outlet passages, a strainer less in diameter than the internal diameter of the casing, and a rib on each side of the casing extending toward the strainer, substantially as described.

4. The combination of a casing having inlet and outlet passages, one opposite the other, a cylindrical strainer mounted in the casing between the two passages, vertical ribs on the casing extending to the strainer, and a removable cap having a flange overlapping the end of the strainer, substantially as described.

5. The combination of a casing having inlet and outlet passages, a cylindrical strainer mounted in the casing, the diameter of the strainer being less than the internal diameter of the casing, ribs extending the full height of the casing and toward the strainer, short ribs in front and back of the strainer at the base of the casing, a flanged cap closing an opening in the casing through which the strainer is inserted, the cap and ribs centering the strainer within the casing, substantially as described.

6. The combination in a casing having inlet and outlet passages opposite each other, a cylindrical strainer having its axis at right angles to a line drawn through the inlet and outlet passages, internal ribs on each side of the casing forming partitions separating the casing into two sections, an opening for the removal of the strainer, and a cap closing the opening, the said strainer being so situated that it will double strain the water passing through the casing, substantially as described.

7. The combination of a casing having inlet and outlet passages, and an opening, a cap for said opening, a cylindrical strainer mounted in the casing and removable through the opening, side ribs forming a partition separating the casing into two parts, short ribs in the base of the casing, both the side ribs and short ribs having their upper surfaces beveled, substantially as described.

8. The combination of a casing having inlet and outlet passages, an opening, a flanged cap closing said opening, side ribs on the casing and end ribs in the bottom of the casing, a cylindrical strainer held in central position by the ribs at the lower end, and a flanged cap at the upper end, the flange of the cap and the ends of the ribs being beveled, substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

SAMUEL M. VAUCLAIN.
GRAFTON GREENOUGH.

Witnesses:
JAS. H. M. HAYES,
R. H. SANFORD.