

No. 661,931.

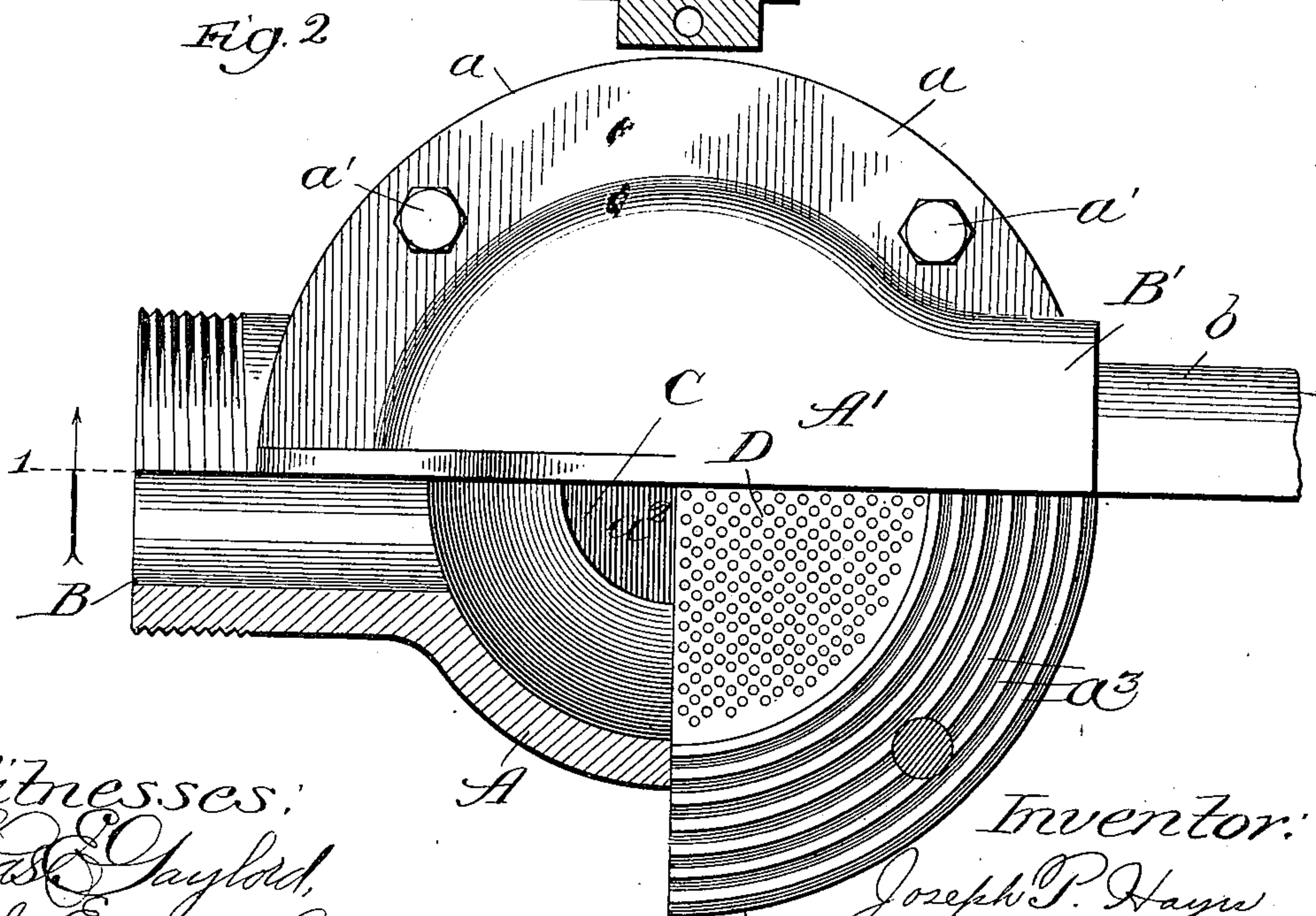
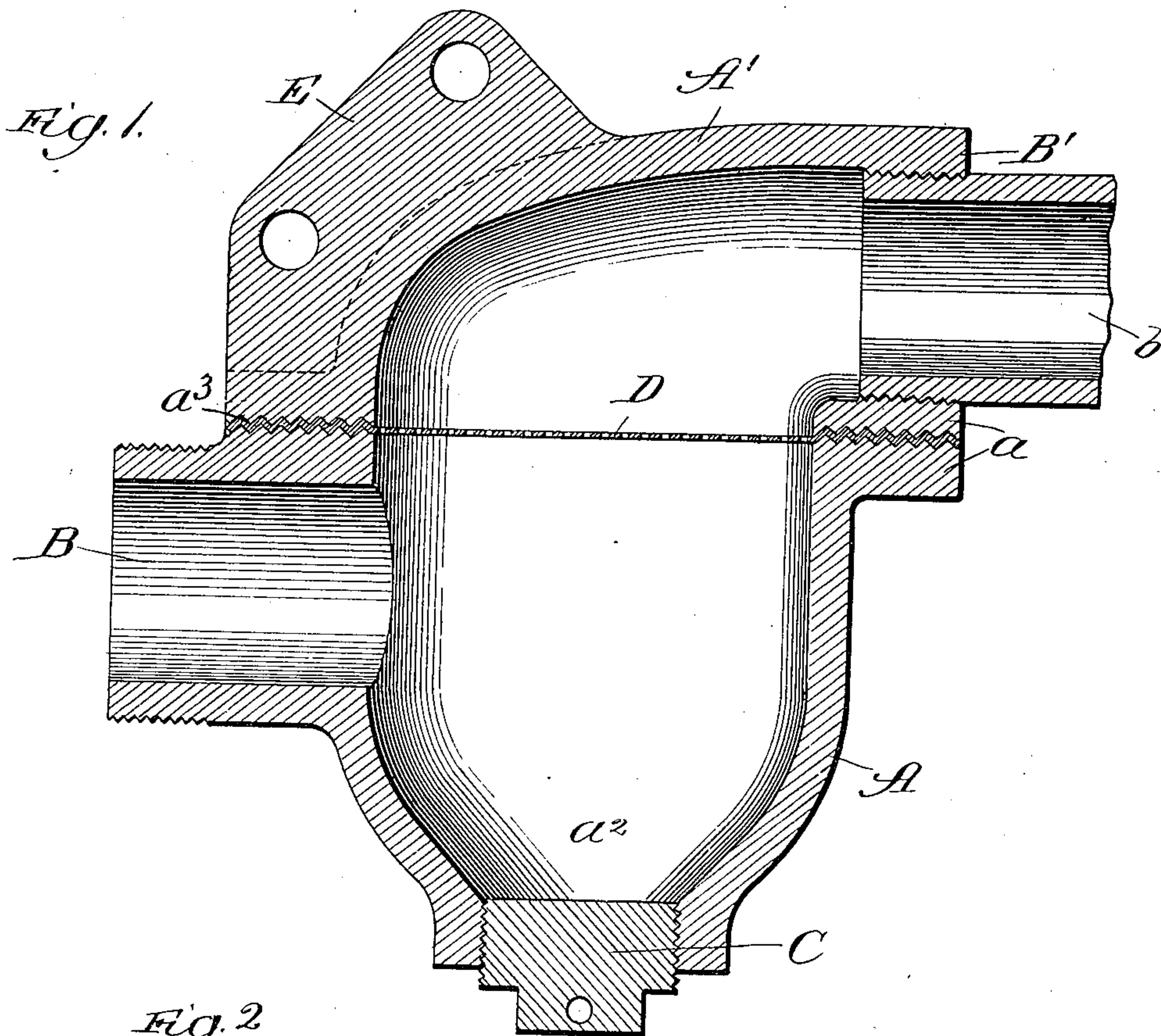
Patented Nov. 13, 1900.

J. P. HAYES.

FEED WATER STRAINER FOR LOCOMOTIVES.

(Application filed Mar. 3, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH P. HAYES, OF MOBERLY, MISSOURI.

## FEED-WATER STRAINER FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 661,931, dated November 13, 1900.

Application filed March 3, 1900. Serial No. 7,186. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH P. HAYES, a citizen of the United States, residing at Moberly, Randolph county, Missouri, have invented certain new and useful Improvements in Feed-Water Strainers for Locomotives, of which the following is a specification.

My invention relates to that class of strainers which are adapted to be used in connection with a feed-water tank or strainer of a locomotive to intercept particles of foreign matter and prevent them from passing from the feed-tank to the injector of the locomotive-boiler, all of which will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient feed-water strainer for a locomotive; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation taken on the line 1 of Fig. 2, and Fig. 2 a plan view shown partly in section.

In the art to which this invention relates it is well known that the water as supplied to the tanks for locomotives is full of impurities—that is, full of pieces of coal and other sediments—which it is desirable to remove from such water in as economical a manner as possible before it passes through the injector into the locomotive. Various devices have been provided to accomplish this result, all of which are more or less defective in that they are complicated and comparatively expensive to build, and, further, that they do not remove all of the sediment or particles.

To obviate the above objections and provide a simple, economical, and efficient feed-water strainer for a locomotive is the principal object of my invention.

In describing and illustrating my invention I have only shown and described those parts which I consider to be new and in such a manner as to disclose the invention and enable those skilled in the art to practice the same, leaving out of consideration all the other and well-known parts which, if shown and described herein, would only tend to prolixity, confusion, and ambiguity.

In constructing a strainer in accordance

with my improvements I prefer to make a body portion composed of two parts—A the main or bowl-shaped portion and A' the cap or upper portion. These parts are formed separately and provided with flange portions  $\alpha$ , arranged in a horizontal plane and adapted to be secured together by means of bolts or cap-screws  $\alpha'$ . The lower part or bowl-shaped portion is provided with an inlet B, adapted to receive a pipe or hose, which in turn is secured with the feed-water tank. The cap portion is provided with an outlet B', to which an outlet-pipe  $b$  may be secured and attached to the injector of the locomotive. The inlet-opening of the bowl-shaped portion is arranged a considerable distance above the bottom of the same, so that as the water enters into the bowl it will pass across the same, contact the walls thereof, and form a sort of eddy which will permit the sediment and large heavy particles to settle in the bottom portion of a waste-chamber  $\alpha^2$ . The bottom portion of the chamber is provided with an opening in which is inserted a plug C, which may be taken out whenever it is necessary to withdraw the sediment and foreign particles.

It is desirable that the sediment, large and heavy particles, should be prevented from passing out through the outlet-pipe, and in order to accomplish this result a strainer D is provided, preferably formed of a disk of perforated copper, which is secured in position between the two parts of the strainer, as shown particularly in Fig. 1. It will be noticed that this strainer is in a horizontal plane—that is, the same plane as the inlet and outlet pipes are arranged in—so that the foreign particles do not directly contact the strainer. This arrangement of the parts permits the strainer to be kept measurably clean and prevents the sediment which has been deposited from being continually stored up.

In securing the perforated or reticulated strainer portion proper in position I prefer to provide the plane surface of each of the flanges with a series of corrugations  $\alpha^3$ , into which the outer portion of the strainer may pass, which when clamped in position acts as a gasket.

In order to increase the efficiency of the complete strainer, it is desirable that it be secured to some portion of the locomotive at a



point considerably below the feed-water tank and below the injector. This arrangement is desirable for the reason that the strainer will be connected with the feed-water tank  
 5 by means of a hose and with the injector by means of a pipe, so that if the connection between the strainer and the tank should rot and foreign particles should enter they would be carried into the strainer and separated  
 10 from the water. In order to accomplish this result, I prefer to provide the cap portion of the strainer with an upwardly-projecting lug E, which lug should be provided with a strap (not shown) and connected with the under  
 15 side of the end beam of the locomotive, thus insuring the keeping of the strainer at a point below the feed-water tank and the cleansing of all water as it passes from the feed-water tank to the injector.

20 I have not thought it necessary to show either the feed-water tank or the locomotive, as the simple description thereof which I have hereinabove given will enable those skilled

in the art to understand the exact position at which the mechanism is to be secured and 25 the advantages thereof.

I claim—

In a strainer of the class described, the combination of a body portion made in two parts the lower or main portion provided with an 30 inlet-opening, a waste-chamber below the inlet-opening and a screw-plug for opening and closing the waste-opening of the waste-chamber the upper part provided with an outlet-opening, and a lug for securing the strainer 35 to the end beam of a locomotive, and a piece of perforated or reticulated material forming the strainer proper secured in position and in a horizontal plane between the two parts of the body portion, substantially as de- 40 scribed.

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Witnesses:

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