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PATENTED OCT. 27, 1903.

J. J. DE LANCEY.
DRAFT ATTACHMENT FOR LOCOMOTIVE BOILERS.

APPLICATION FILED MAR. 14, 1903.

NO MODEL.

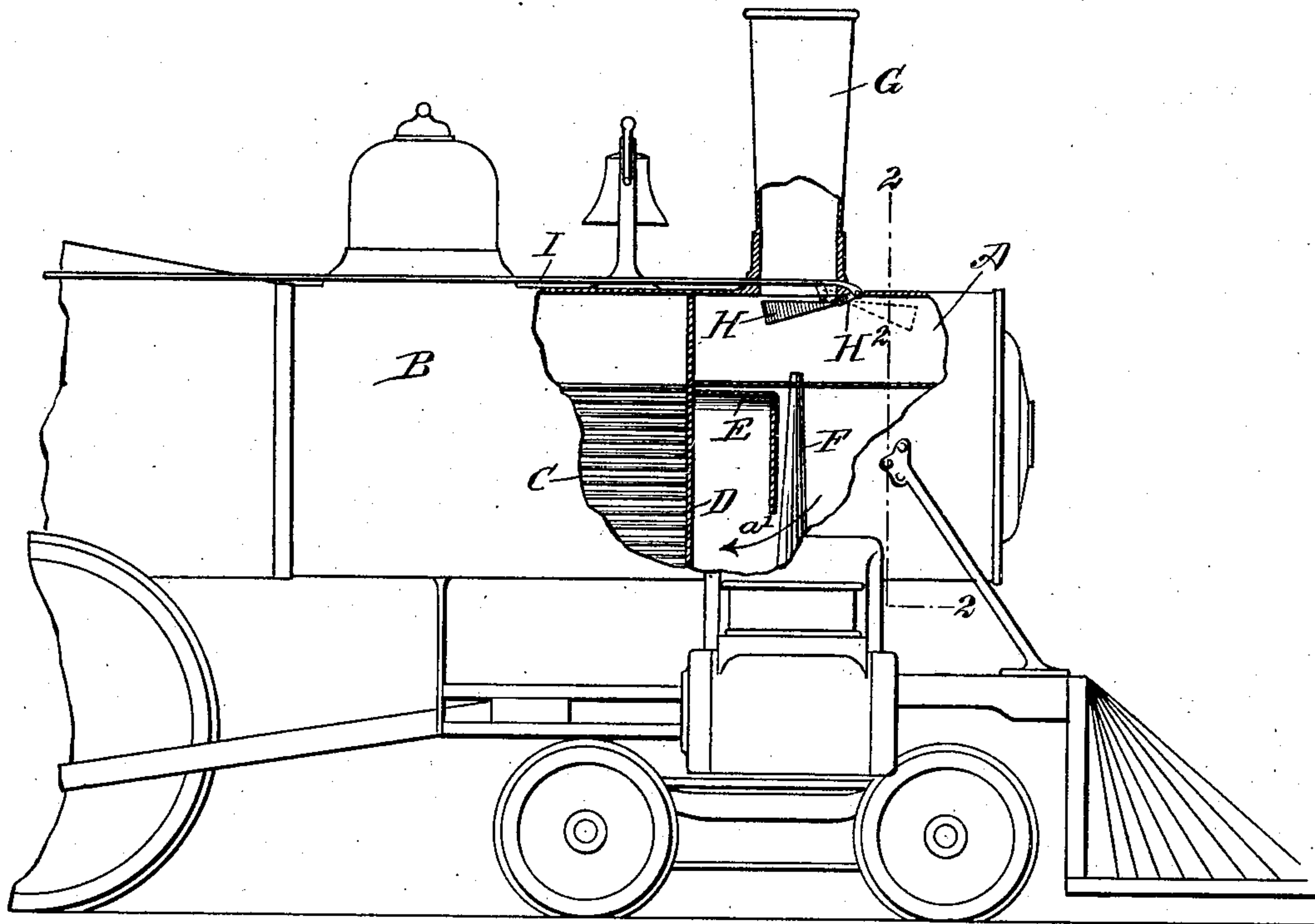


Fig. 1.

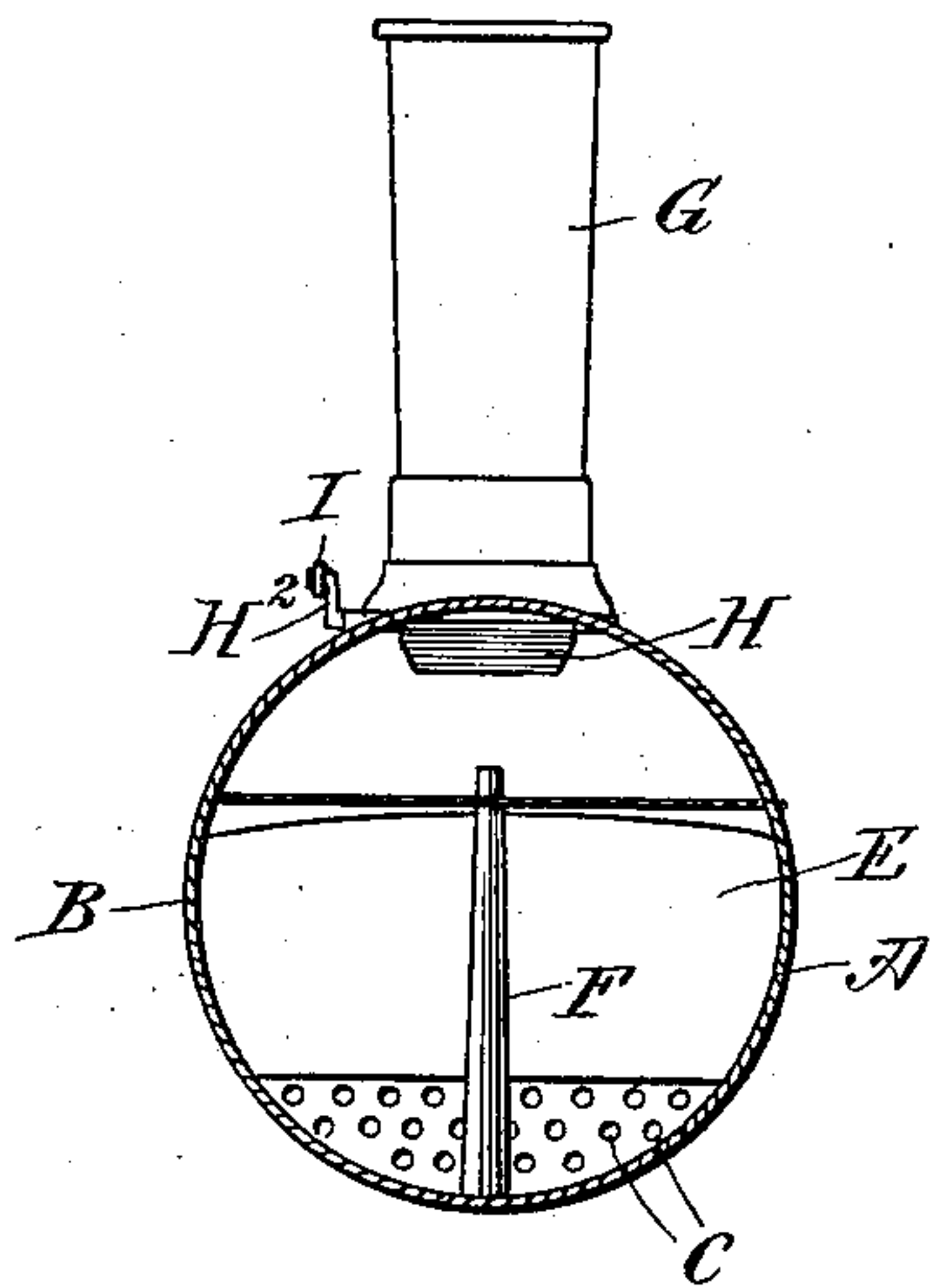


Fig. 2.

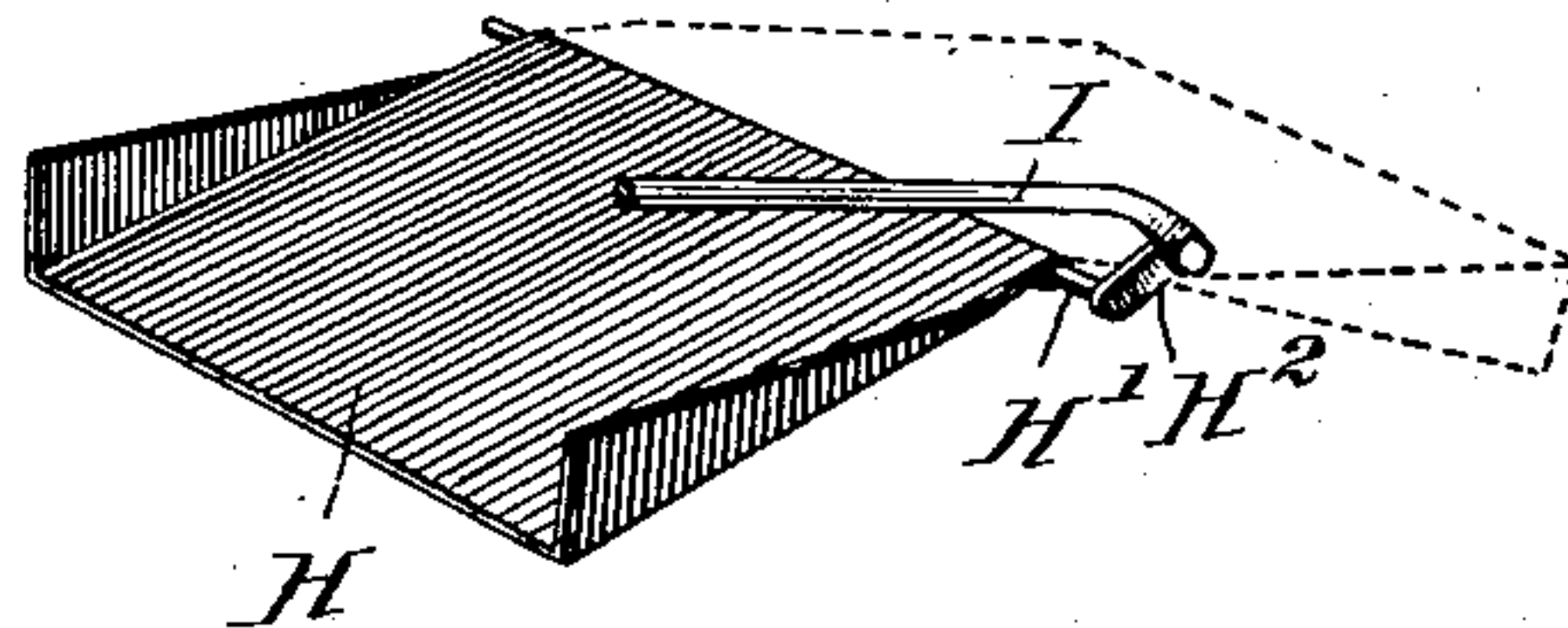


Fig. 3.

WITNESSES:

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DRAFT ATTACHMENT FOR LOCOMOTIVE-BOILERS.

SPECIFICATION forming part of Letters Patent No. 742,605, dated October 27, 1903.

Application filed March 14, 1903. Serial No. 147,778. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. DE LANCEY, a citizen of the United States, and a resident of Binghamton, in the county of Broome and State of New York, have invented a new and Improved Draft Attachment for Locomotive-Boilers, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved draft attachment for locomotive-boilers arranged for reversing the draft in the fire-box to permit of reducing the heat in the fire-box and extinguishing the fire therein in case of an emergency, such as the water in the boilers falling below the safety-level or the injectors failing to work or other causes liable to cause an explosion of the boilers.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied, parts being in section. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1, and Fig. 3 is a perspective view of the deflector.

Into the smoke-box A of a locomotive-boiler B lead the usual smoke-flues C for conducting heat and gases from the fire-box into the smoke-box A and into a cinder-chamber D, formed by a diaphragm E, preferably made L shape and located immediately in the rear of an exhaust-pipe F in vertical alinement with a smoke-stack G to allow the exhaust-steam from the engine to pass through the exhaust-pipe F into the smoke-stack G to create a draft in the smoke-box and in the flues C in the usual manner.

The passage of the exhaust-steam from the pipe F to the smoke-stack G may be closed, and for this purpose a deflector or valve H is provided, preferably in the shape of a wing hung on a shaft H', extending transversely and journaled in suitable bearings arranged in the smoke-box A. One outer end of the

shaft H' is provided with an arm H², connected with a rod I, extending into the cab of the locomotive to be under the control of the engineer. Normally the deflector H is out of the path of the exhaust-steam passing from the exhaust-pipe F to the stack G, and consequently the exhaust-steam has a free passage to the stack to create a draft in the flues C, as previously mentioned.

Now in case of an emergency, such as the water in the boiler falling below the safety-level or the injectors failing to work or other causes liable to injure the boiler or cause an explosion thereof, it is only necessary for the engineer to push the rod I forward, so that the deflector H is swung under the entrance-opening to the smoke-stack G, and consequently the exhaust-steam from the exhaust-pipe F now flows against the under side of the deflector and is consequently caused to flow from the smoke-box A into the chamber D in the direction of the arrow a' and from the said chamber D through the smoke-flues C in a rearward direction for the exhaust-steam to finally pass into the fire-box and squelch the fire therein, and thus quickly reduce the heat of the fire-box and relieve the steam-pressure in the boiler and avoid an explosion or injury to the boiler by the buckling of the crown-sheet or other parts.

It is understood that when the deflector is swung under the entrance-opening of the smoke-stack G and the exhaust-steam passes rearward into the fire-box, as described, then a suction action is had in the smoke-stack, whereby cold air is drawn into the smoke-box by way of the smoke-stack, and this cold air passes with the steam into the fire-box to reduce the heat therein.

When the engine is housed or at terminals and the fire is banked, then the deflector is also thrown in position under the entrance-opening of the smoke-stack to obstruct the natural draft to the stack, and hence the fire is kept in proper condition, fuel is saved, and there is no danger of generating surplus steam liable to blow off at the safety-valve.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A draft attachment for locomotive-boil-

ers, comprising a manually-controlled deflector, adapted to be interposed between the exhaust-pipe and the smoke-stack, to cause the exhaust-steam to travel through the smoke-flue in a rearward direction and into the fire-box, to squelch the fire therein, or to obstruct the natural draft of the locomotive when housed or at terminals, as set forth.

2. A locomotive-boiler having a smoke-box provided with a diaphragm, and a deflector, under the control of the engineer, mounted in the said smoke-box, to swing under the entrance end of the smoke-stack, whereby the exhaust-steam from the exhaust-nozzle is caused to flow under the said diaphragm into the smoke-flues, to finally pass into the fire-box and squelch the fire, the said deflector also serving to obstruct the natural draft of

the locomotive when housed or at terminals, as set forth.

3. A draft attachment for locomotive-boilers, comprising a movable device mounted in the smoke-box and arranged to be moved in position to obstruct the passage of the exhaust-steam to the smoke-stack and thereby reverse the draft, and operating means connected with said device and extending into the cab of the locomotive, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. DE LANCEY.

Witnesses:

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LUIE C. PHIPPS.