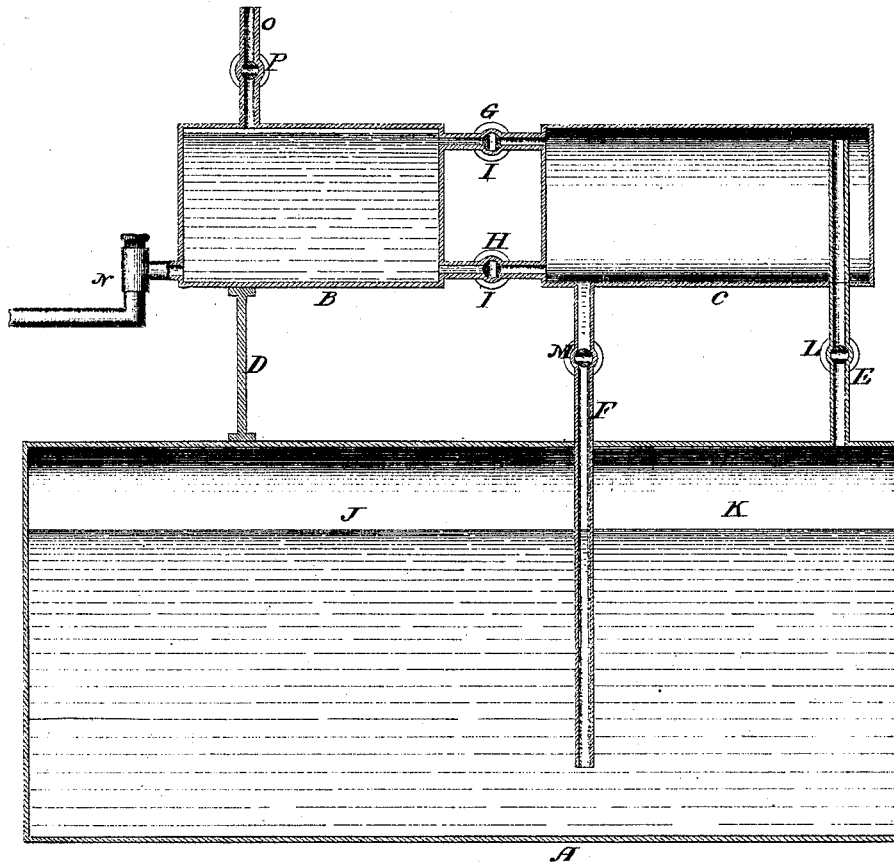


A. R. Young,

Boiler Feeder.

No. 108,423.

Patented Oct. 18. 1870.



Witnesses:
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AUGUSTUS R. YOUNG, OF RED WING, MINNESOTA.

Letters Patent No. 108,423, dated October 18, 1870.

IMPROVEMENT IN BOILER-FEEDERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, AUGUSTUS R. YOUNG, of Red Wing, in the county of Goodhue and State of Minnesota, have invented a new and improved Boiler-Feeder; and I do hereby declare that the following is a full, clear and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The purpose of my invention is to utilize the steam of locomotives, now blown off and wasted.

I will first describe my invention in connection with all that is necessary to a full understanding thereof, and then clearly point it out in the claim.

The drawing represents a longitudinal, vertical, and sectional view of my improved attachment to a locomotive-boiler.

K is a boiler.

B is a feed-water chamber, connected by pipe N with a reservoir.

O P is a valved air-pipe.

G I, H I, M F, and L E are valved pipes.

C is a steam-chest, where the waste steam from the locomotive is conveyed through pipe E.

The mode of operation is as follows:

When the locomotive is at a station waiting for the hour of starting, and after she has got up steam to the desired pressure, (as she is obliged to do,) she blows off at the valve, and thus wastes the steam, and, consequently, the fuel required to produce it.

Instead of this I open the cock L, and gather the superfluous steam into the chest C.

When a sufficient quantity has been obtained, I open the cocks I I, (communicating with the feed-water chamber B,) shut cock M, and cause the steam and water to have free circulation in both of the chambers. In this manner the steam imparts its heat to the feed-water, and becomes rapidly condensed.

The water is then further heated by the steam conveyed thereto, until the cock M is opened. Then it is allowed to be conveyed to the boiler.

I employ the steam to create a vacuum, to bring the cold water from the reservoir to the feed-water chamber B, and also to force the water into the boiler, but, as these are old and well-understood expedients, it is unnecessary to explain them in detail.

Having thus described all that is necessary to a full understanding of my invention,

What I esteem as new, and desire to protect by Letters Patent, is—

The combination, with a boiler, K, and feed-water chamber B, of the waste-steam-chamber C, applied to a locomotive, as and for the purpose described.

AUGUSTUS R. YOUNG.

Witnesses:

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