

CHARLES G. FISHER.
Feed Water Apparatus.

No. 119,835.

Patented Oct. 10, 1871.

Fig. 1.

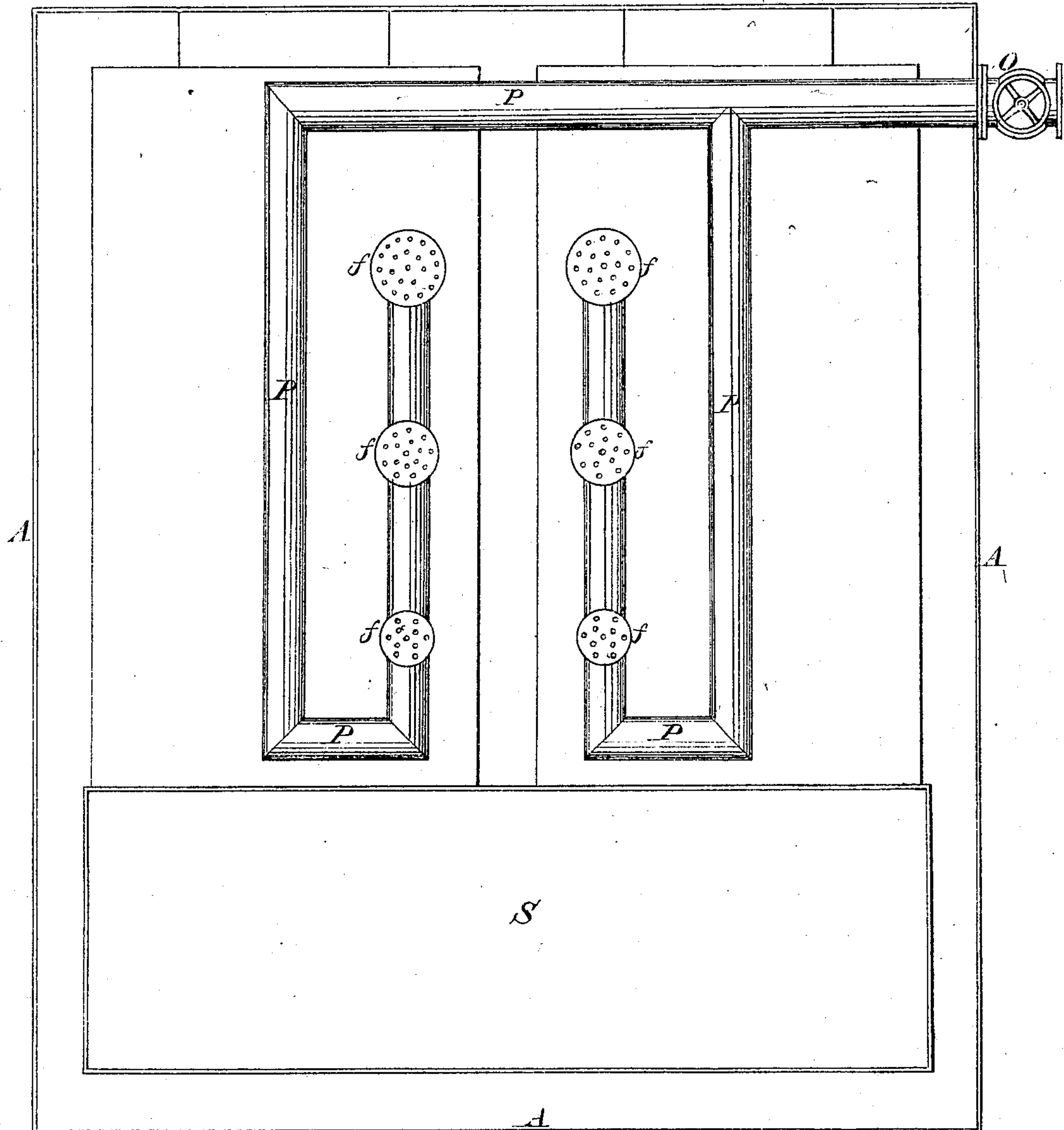
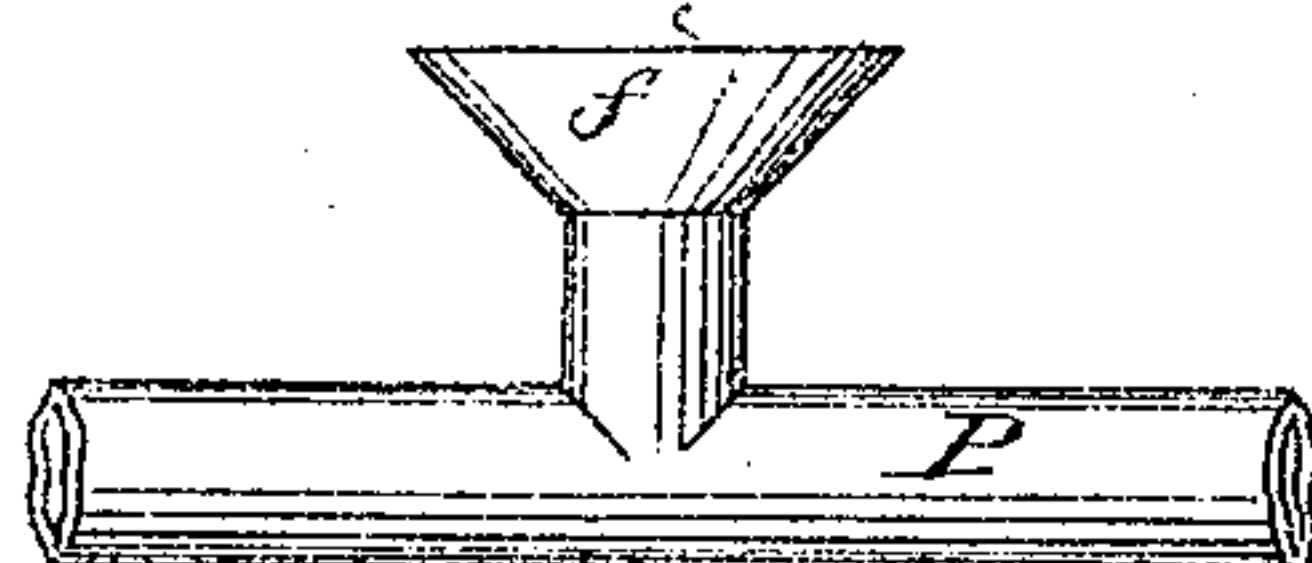


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES G. FISHER, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN FEED-WATER APPARATUS FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. 119,835, dated October 10, 1871.

To all whom it may concern:

Be it known that I, CHARLES G. FISHER, of Washington, in the county of Washington and District of Columbia, have invented an Improvement in Feed-Water Apparatus for Steam-Boilers, of which the following is a specification:

The nature of my invention consists in a feed-water pipe or pipes with a check-valve on that end nearest the feed-check valve proper, and, projecting through the shell of the boiler, is attached to such feed-check-valve on the outside of the boiler in any suitable manner. The pipe or pipes pass from the interior of the check-valve along the crown-sheet, and when near the smoke-box return, as shown in the drawing, or in any other desirable manner, and after so returning are fitted at intervals with distributors of any desirable capacity of delivery or of any proportionate size. Screens or slotted boxes may also be used in place of the distributors shown. These distributors deliver the water throughout the boiler at the same time, and at a very high temperature, thereby preventing contraction and expansion consequent to other modes of feeding. The objects of my invention are the prevention of too sudden contraction and expansion of steam-boilers, which conduce to weakness and rapidly wear the boiler out; also, to prevent feed-water from being supplied at too low a temperature by delivering the water at a high temperature. The accompanying drawing represents the apparatus as arranged in a boiler.

A is a steam-generator of common construction. S is a smoke-box; P P, the feed-pipes, either straight, serpentine, or coiled, or of any any other known form; *f f f*, the distributors, either of graduated or equal distributing powers, of the shape above or any other desirable form. The feed-water passes through the check-valves into the feed-pipes P P, and, as it passes along the crown-sheet, becomes heated to a high temperature, and in returning is delivered into the boiler through the distributors *f f*, which distribute it in all parts equally and at high temperature.

I do not restrict my invention to any given number of distributors, or to their sizes or shapes.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. The feed-water pipe or pipes P P, with distributor or distributors attached, when arranged as herein shown, substantially as and for the purpose described.

2. The combination of the feed-water pipes P P with distributors *f f* and feed-check-valve O, substantially as and for the purpose shown and described.

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

CHARLES G. FISHER.

Witnesses:

GEO. P. FISHER,
GEOSEPH B. TRACY.

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