

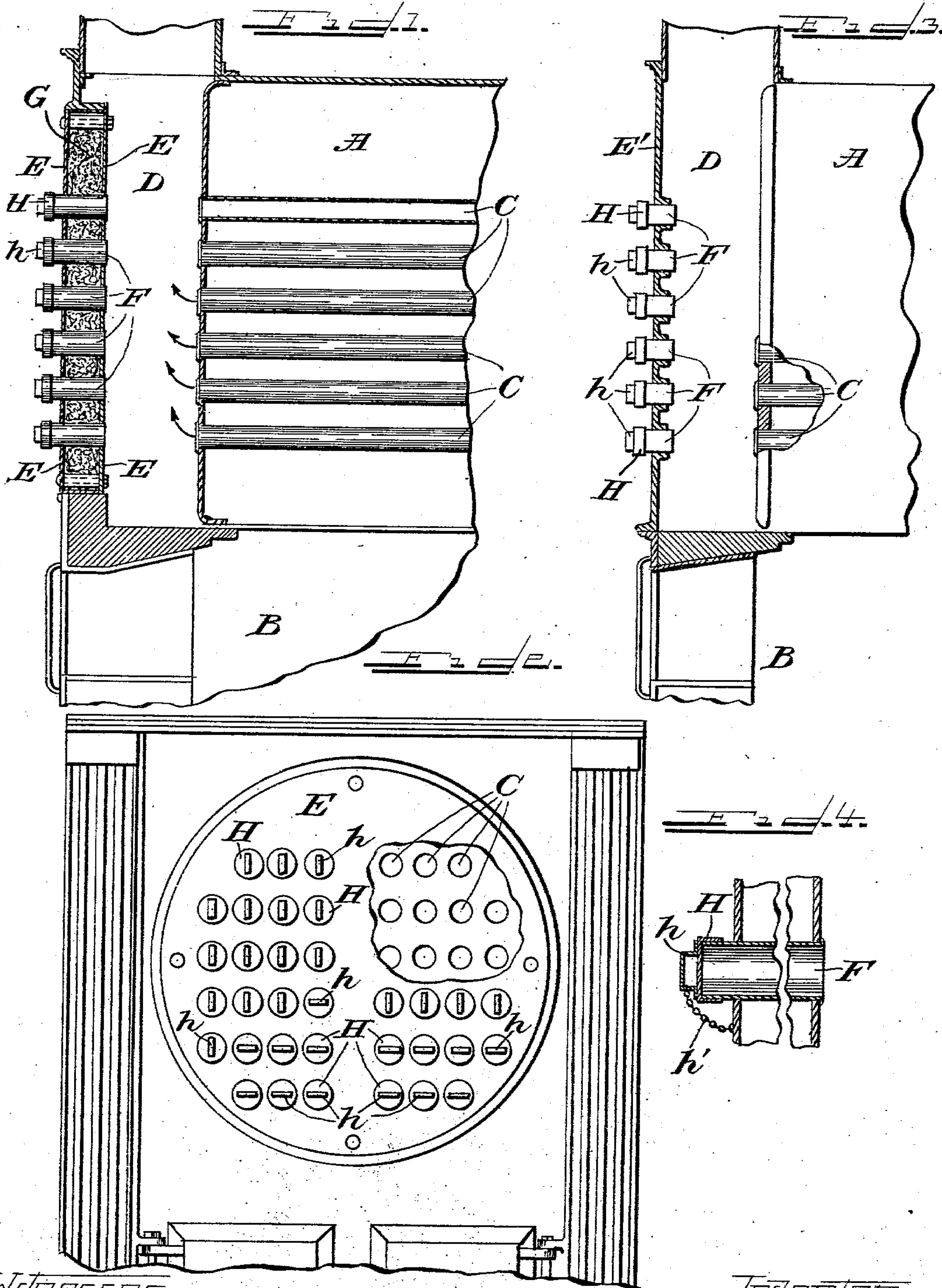
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R. EISENMANN.
BOILER FRONT.

(Application filed July 31, 1901.)

(No Model.)



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RICHARD EISENMANN, OF CHICAGO, ILLINOIS.

BOILER-FRONT.

SPECIFICATION forming part of Letters Patent No. 715,466, dated December 9, 1902.

Application filed July 31, 1901. Serial No. 70,341. (No model.)

To all whom it may concern:

Be it known that I, RICHARD EISENMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Boiler-Fronts, of which the following is a specification.

My invention relates to improvements in boiler-fronts, in either the permanent setting of the boiler or in the flue-doors for boilers.

The object of my invention is to provide a simple, inexpensive, and convenient means for affording access to each of the boiler-flues separately and successively, so that the flues may be cleaned one at a time without affording any considerable opening for the ingress of cold air and the consequent reduction of heat in the flues and in the uptake. This and such other objects as may attend the use of my invention are attained by the devices shown in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view through a portion of a boiler fitted with my improved device. Fig. 2 is an end view of the same with part of the boiler-front broken away. Fig. 3 is a longitudinal sectional view showing a modified form of my device. Fig. 4 is an enlarged detail of one of the boiler-front tubes.

Like letters of reference indicate the same parts in the different figures of the drawings.

A is a boiler provided with the usual fire-box B, flues or fire-tubes C, and the uptake D. Beyond the forward end of the boiler itself is the boiler-front E, which is usually provided with one or more doors through which access may be had to the boiler and flues for purposes of cleaning, repair, &c. Where these doors are used and are thrown open to enable the fireman to clean the boiler-tubes, there is of course an inrush of cold air through said doors which interferes with the draft of the furnace and cools the flues or fire-tubes, thereby resulting in a quick reduction of steam-pressure. Because of these undesirable results it is found in actual practice that the cleaning of the flues is frequently postponed as long as possible, and soot, scale, and the like accumulate within the tubes, materi-

ally reducing their efficiency, and so interfering with the steam-producing capacity of the boiler.

It is a matter of common knowledge that a boiler can be kept in the most efficient condition if without interfering with its operation and steam-producing power the flues can be cleaned as often as once a day. To permit of this frequent cleaning of the flues without materially interfering with the operation of the boiler, I provide the boiler-front with a number of cylindrical openings or short tubes F. These tubes are located so as to register approximately with corresponding flues or fire-tubes C. In the preferred embodiment of my invention these tubes are mounted in a boiler-front, consisting of plates E E, clamped together. The space between these plates may be packed with asbestos G or similar heat-insulating material, although this is not essential. Each of the tubes F is provided with a cap H, which may be made or stamped out of a single piece of metal, so as to fit snugly over the end of the tube F. Of course, if desired, these caps may be attached to the tubes by screw-threads, bayonet-joints, or the like; but I do not find this necessary, and the simple stamped caps are less expensive and answer every purpose. I prefer to provide the caps with handles h, and, if desired, the caps may be attached to the boiler-front by chains h'.

In using my device, as the fireman starts to clean the boiler-flues the caps should all be set with their handles or similar indicating devices in one position. Removing the cap from any given tube F the fireman may insert his flue-cleaning tool through the tube F so uncovered and into the corresponding flue or fire-tube C. It will be observed that as it is only necessary to uncover one of the tubes F at a time this will leave such a small opening for the ingress of cold air that the draft and operation of the boiler will not be materially affected, especially as the flue-cleaner will largely fill the tube F, and will thereby still further reduce the inlet for cold air. After the flue has been thoroughly cleaned and the cleaner withdrawn the cap H will be replaced upon the tube F and may be turned to such

a position that the changed position of the handle *h* would indicate that that particular tube has been cleaned. The fireman may so proceed from flue to flue, and if his work is interrupted at any time he can tell by the handle *h* which flues have been cleaned and where it is necessary to resume his work.

Fig. 3 shows a modified form of my invention, in which my improved flue-front consists of a single plate *E'*, provided with the short tube *F*, as before.

My device is simple of construction, is easily operated, is not easily gotten out of repair, and may be inexpensively constructed and quickly and cheaply repaired when necessary.

If desired, my flue-cleaning tubes may be mounted directly in the usual flue-doors, so that whenever it is necessary to get at the boiler for purposes of repair and for other

reasons the flue-doors may be thrown open in the usual manner.

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

The herein-described improvement in boilers comprising a boiler-front provided with a series of perforations, short tubes fitted in said perforations, combined with closures for the outer end of said tubes, said closures comprising a separate cap for each tube, the caps being rotatably mounted on the tubes, and a handle carried by each cap to facilitate the placing in position and removal of the caps, said handles serving as means for indicating the condition of the fire-tubes of the boiler, substantially as described.

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