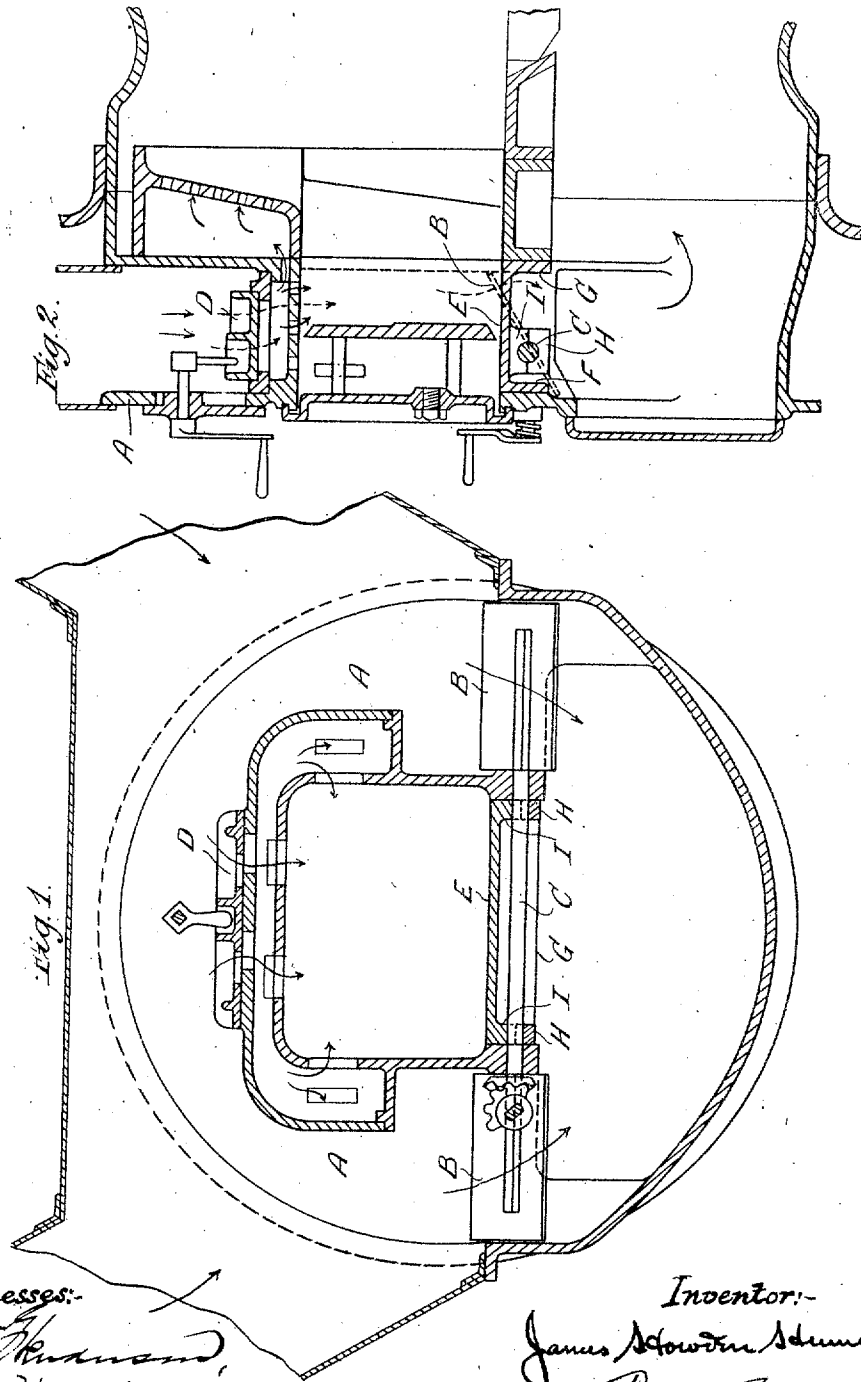


J. H. HUME.
 FURNACE FRONT.
 APPLICATION FILED SEPT. 25, 1911.

1,019,155.

Patented Mar. 5, 1912



Witnesses:
S. J. Henderson
S. J. Henderson

Inventor:-
James Howard Hume,
 By *Calvin Cabot* Atty.

UNITED STATES PATENT OFFICE.

JAMES HOWDEN HUME, OF GLASGOW, SCOTLAND.

FURNACE-FRONT.

1,019,155.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed September 25, 1911. Serial No. 651,252.

To all whom it may concern:

Be it known that I, JAMES HOWDEN HUME, a subject of the King of the United Kingdom of Great Britain and Ireland, and residing at Glasgow, Scotland, have invented a certain new and useful Improvement in Furnace-Fronts, of which the following is a specification.

This invention relates to improvements in furnace fronts for marine or land boilers of the cylindrical, multitubular, Lancashire, Cornish, water-tube or other kinds, more particularly of the well-known Howden type of furnace front used in forced draft installations and it consists in an improved construction in which the base portion of the firing entrance of the front is so arranged that it can be readily removed to permit the necessary volume of air to be supplied to the furnace through the intermediary of the usual side air-control valves when liquid fuel is to be employed in lieu of coal.

The furnace front, on which the present invention is an improvement, is shown and described in U. S. patent to Howden, No. 923,178, dated June 1, 1909.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a part elevation part vertical section and Fig. 2 is a cross section showing a furnace front fitted with a removable base portion as aforesaid.

Referring to the drawings, the furnace front A is of usual construction having side air-supply valves B mounted on a rotatable spindle C and having an upper air supply valve D; but, according to the invention, the base portion E of the front at the firing entrance is made portable so that, on removal of the said base, a gap or opening is formed, whereby the necessary volume of air from the side valves B to support combustion will be able to pass to the furnace, so that liquid fuel may be advantageously employed.

The air supply from the air trunk or upper supply pipe is controlled by the upper valve D from which the air flows as denoted

by the arrows. When liquid fuel is to be burned the removable base portion E is taken out to afford a more ready flow of air to the furnace from the ports controlled by the lower side valves B, as above indicated.

In the instance shown, the base portion E is provided with front and rear flanges F and G and is mounted on the valve spindle C, caps H cooperating with end lugs I on the base to secure it in position.

What I claim is:—

1. In a furnace, the combination with valves B located at the sides of the lower part of the furnace front with a space or gap between them, said valves serving to control or regulate a forced-draft supply of air to the furnace, of an upper valve controlling the inlet of the air from above, a removable base portion located in the said space or gap between said valves B at the firing front of the furnace and which removable base portion may be taken out, when desired, to permit the necessary volume of air to be supplied to the furnace when liquid fuel is to be employed.

2. In a furnace, the combination with valves B located at the sides of the lower part of the furnace front, with a space or gap between them, said valves serving to control or regulate a forced draft supply of air to the furnace, of an upper valve controlling the inlet of air from above, a rotatable spindle on which said valves B are mounted, a removable base portion located in the said space or gap between said valves at the firing front of the furnace and having front and rear depending flanges, by which it is fitted in place, and also having portions in which said spindle is rotatively mounted, so that said spindle may removably secure said base portion in place.

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

J. HOWDEN HUME.

Witnesses:

WALLACE CRANSTON FAIRWEATHER,
THOMAS BISHOP GRAHAM.