

(No Model.)

J. C. ANDERSON & F. H. LATIMER.

BOILER ASH PAN.

No. 315,215.

Patented Apr. 7, 1885.

Fig. 1.

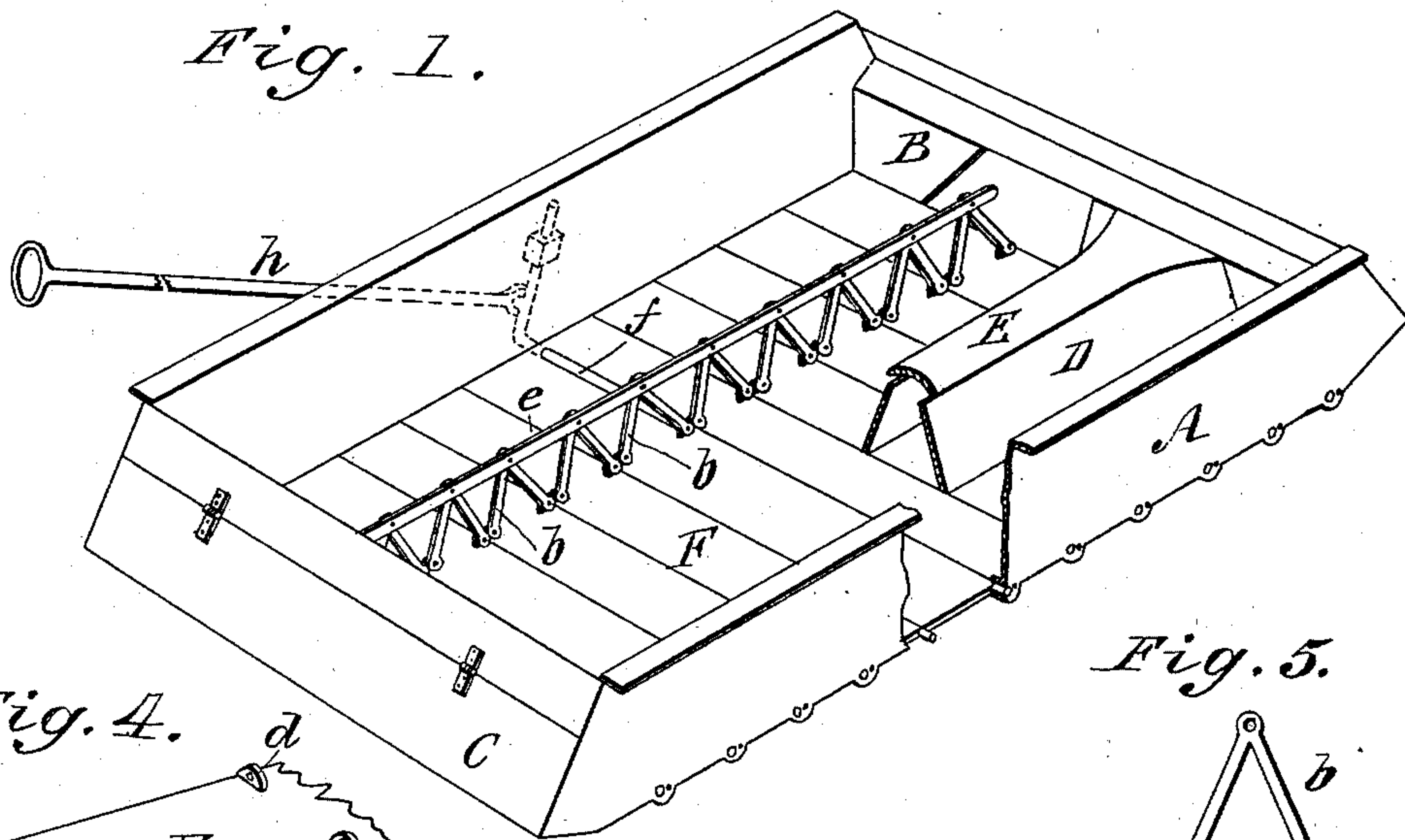


Fig. 4.

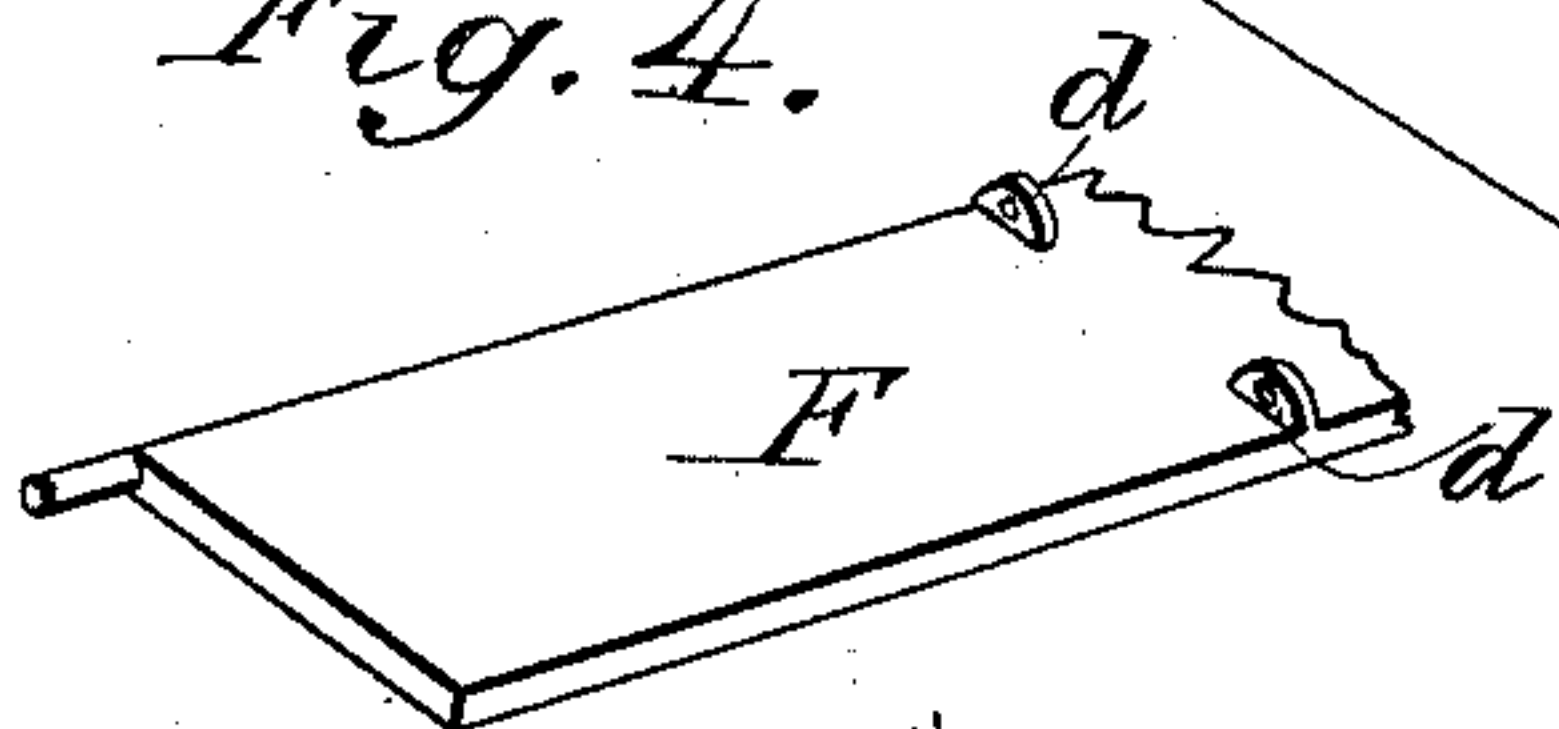


Fig. 5.

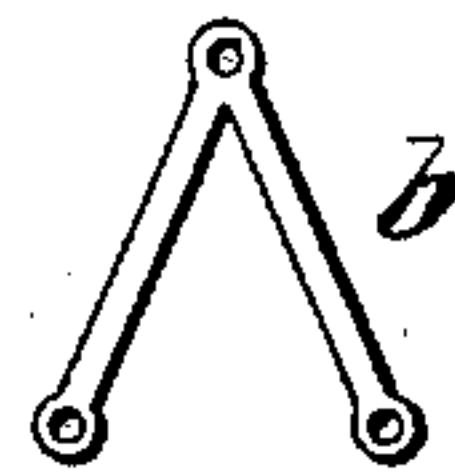


Fig. 2.

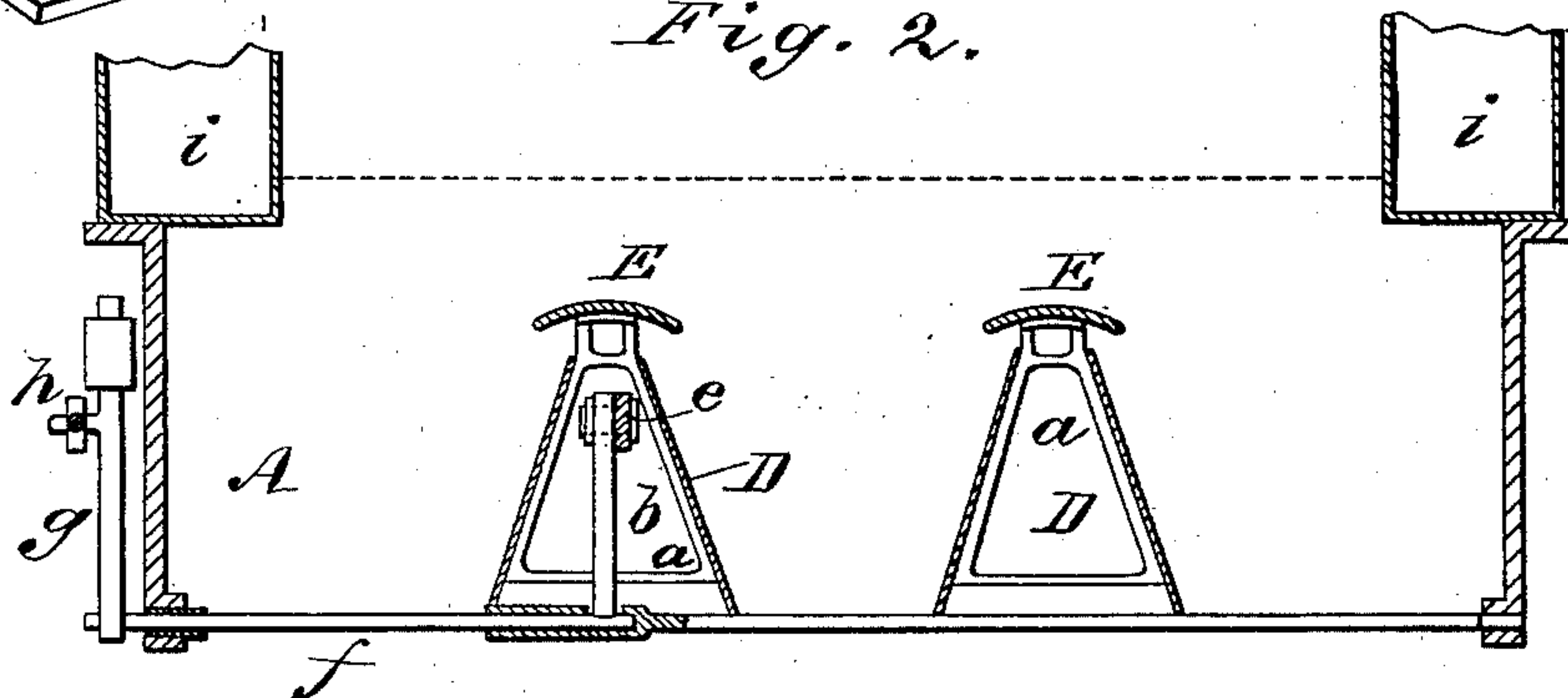
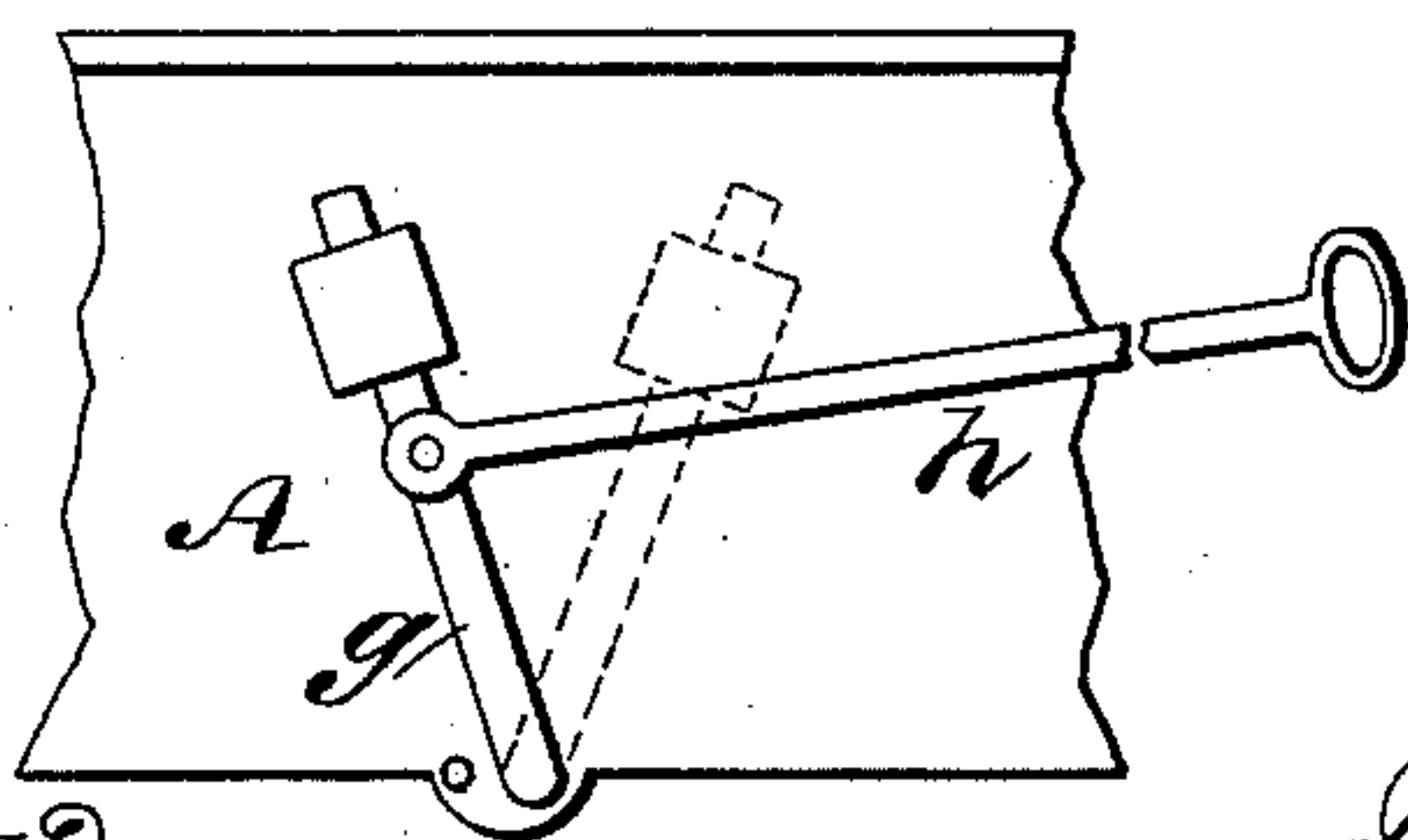


Fig. 3.



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JAMES C. ANDERSON AND FRANK H. LATIMER, OF WINNIPEG, MANITOBA,
CANADA.

BOILER ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 315,215, dated April 7, 1885.

Application filed September 13, 1884. (No model.)

To all whom it may concern:

Be it known that we, JAMES C. ANDERSON and FRANK H. LATIMER, both of Winnipeg, in the Province of Manitoba and Dominion of
5 Canada, have invented new and useful Improvements in Boiler Ash-Pans, of which the following is a full, clear, and exact description.

Our improvements relate to ash-pans of locomotive and other boilers, and have the object to insure an even draft of air and its distribution where most effective. To that end we employ air-chambers and with them slats that can be closed to form a tight bottom to
15 the pan, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of an ash-pan with our improvements, one air-chamber and a portion of the other being removed. Fig. 2 is a cross-section of the pan, and Fig. 3 is a
25 detail side view showing the lever for operating the slats. Fig. 4 is a perspective view of one slat, and Fig. 5 is a detail view.

A is the pan, formed with air-chambers B at its ends, to which air is admitted by dampers C.

D are the air-chambers, extending from end to end of the pan and connected at their ends to the partitions, forming the spaces B. The ends of chambers D are preferably made flaring to increase the draft. The sides of chambers D are formed by sheet-metal plates, strengthened by internal brackets, *a*, that also serve to support hoods E, above the open tops of the chambers.

F are slats journaled at their ends in the sides of the pan, so as to swing upward against the lower edge of the pan, and thus form a tight bottom thereto, and also to swing down for discharge of ashes. To each slat a braced
45 arm, *b*, is attached by lugs *d* on the slat, Fig. 4, and the several arms *b* are jointed at their upper ends to a rod, *e*. A rock-shaft, *f*, connected to rod *e*, forms the axis at one end of one middle slat and extends through the side
50 of the pan, where it is provided with a lever or handle, *g*, carrying an adjustable weight.

h represents a rod for working the lever from a convenient place. The object of the weight is to throw the lever over to either side from a vertical position to open and close the slats; 55 but, if desired, the closing may be done automatically whenever the lever is left free. The arms *b* and rod *e* are within one air-chamber, D, for protection, and there may be a second set in the other chamber, if desired. The air-
60 chambers D insure an even distribution of the air under the fire and a supply of air to the fire near the water-spaces of the boiler, (shown at *i*,) where the fire is most effectual. The draft is partially warmed from the ashes 65 in the pan, and, being also more evenly distributed under the grate-bars, lessens their liability to warp; but the incoming air does not strike the hot cinders, and so is not deprived of its oxygen nor mixed with carbonic-acid 70 gas. The hoods, besides spreading the air, keep out ashes and cinders from the air-chambers, and hence a strong draft will not carry up fine ashes, which have a tendency to choke the fire. 75

The slats F may be opened in starting a fire. Usually they are to be kept closed to retain the ashes until a suitable place for discharge is reached. The slats serve to exclude snow from the pan, and if left open accidentally 80 they would be closed by contact with a snow-bank and retained by the weighted lever.

We are aware that it is not broadly new to provide an air-supply pipe located beneath the grate-bars of a furnace with a deflector, 85 and we do not claim such as of our invention, broadly.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 90

1. The combination, with the ash-pan, of air-chambers D, extending from one end of the pan to the other, and hoods E, supported above and extending the entire length of said chambers, substantially as set forth. 95

2. The combination, with the ash-pan A, provided with transverse end air-spaces and dampers B C, of the longitudinal air-chambers D, connected at their ends with the spaces B, and having the hoods E, supported above 100 them throughout their entire length, as described.

3. The combination, with the ash-pan, of the air-chambers D, provided with the strengthening-brackets *a*, extending above their uppersurface, and the hood E, supported
5 by said brackets.

4. The combination, with the ash-pan A, of the slats F, journaled at their corners in the sides of the pan, and lugs *d* on the said slats, rod *e*, Λ -shaped arms *b*, connecting the rod *e*
10 and the slats, as shown, and the operating-shaft *f* and lever, all constructed and arranged substantially as set forth.

5. The combination, with an ash-pan, of the hinged slats F, fitted for operation by arms *b* and rod *e*, contained in the air-chamber, as
15 specified.

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