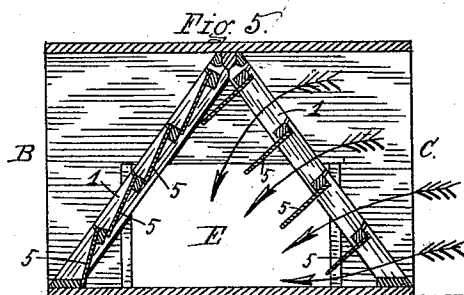
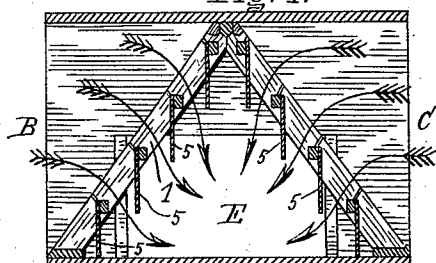
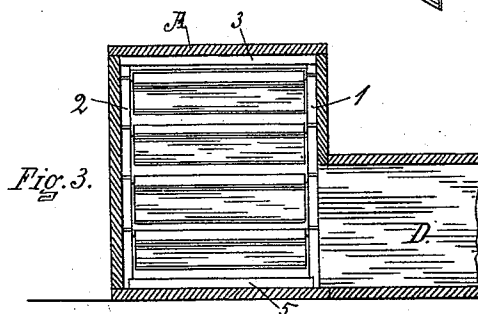
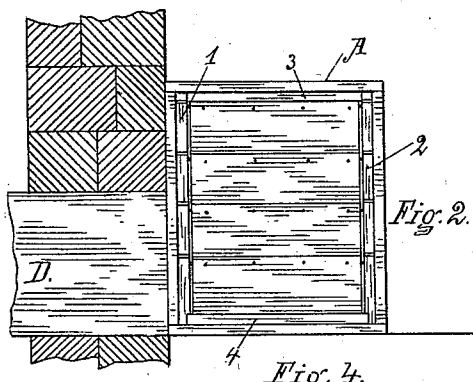
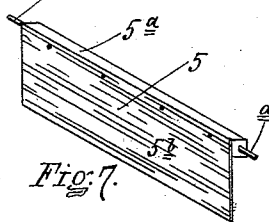
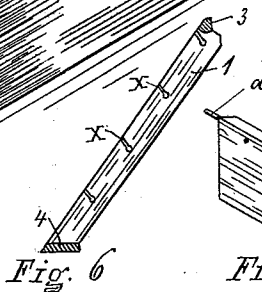
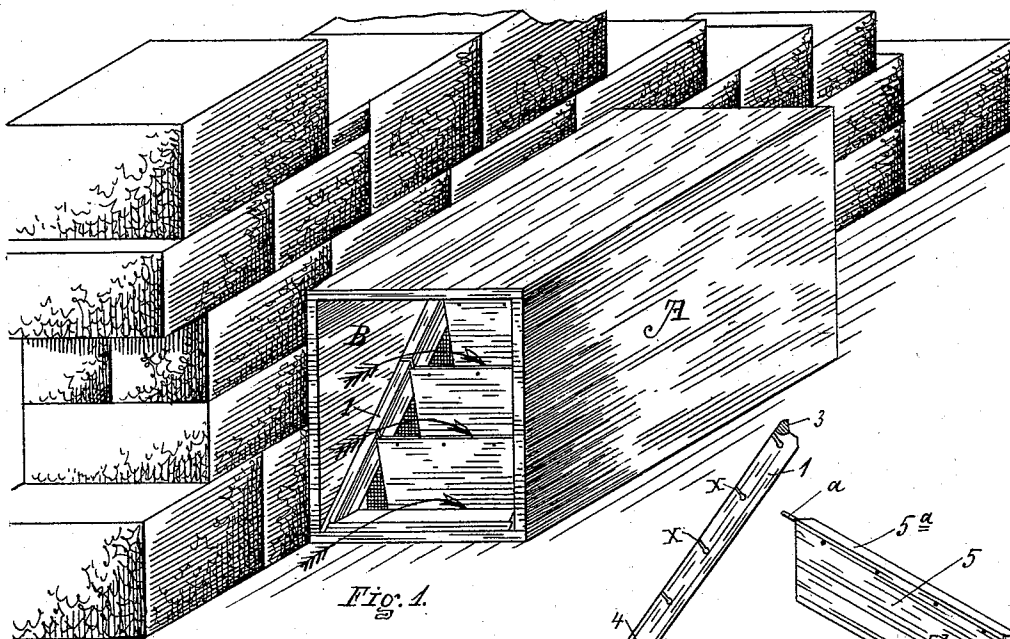


(No Model.)

W. H. ELWELL.
FURNACE ATTACHMENT.

No. 532,452.

Patented Jan. 15, 1895.



WITNESSES.
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UNITED STATES PATENT OFFICE.

WILLIAM H. ELWELL, OF SALISBURY, NEW YORK.

FURNACE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 532,452, dated January 15, 1895.

Application filed July 21, 1894. Serial No. 518,288. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ELWELL, of Salisbury, in the county of Herkimer and State of New York, have invented a certain new and useful Improvement in Hot-Air-Furnace Attachments; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and the letters and figures of reference, marked thereon, which form a part of this specification.

Heretofore an objectionable feature in the use of hot air furnaces for heating purposes has been a loss of a large portion of warm air during windy weather, which makes its escape on account of suction caused by wind blowing past the end of the cold air box or duct, as usually constructed.

Figure 1 shows my furnace attachment in perspective and located adjacent to a building wall through which the cold air duct passes in the usual manner. Fig. 2 shows an end view of the attachment. Fig. 3 shows a vertical central cross section. Fig. 4 shows a longitudinal section with the valves in normal position. Fig. 5 shows the same with a heavy current of air entering from one side only. Fig. 6 shows details of the frame in which the valves are hung. Fig. 7 shows a single valve removed.

The device consists of a box-like body A having four sides and open ends as shown at B and C. The cold air duct D connects with an opening E in one of the sides and extends to the hot air furnace in the usual manner of such cold air supply ducts. In each end of the body are provided frames consisting of supporting bars 1 and 2 with top and bottom cross bars 3 and 4. These frames may be removably secured in the body by nails or screws. In the inclined supporting bars 1 and 2 the valves 5 are mounted on pivots *a—*a** in each end thereof. The valve consists

preferably of a comparatively heavy rod or bar 5^a extending across one side of the valve, giving strength to the valve, and a light thin body portion 5^b, easily actuated by the currents of air. The pivotal points of the valves being in the inclined supporting pieces cause the valves to stand normally in partially opened position and the width of the valve and arrangement of pivotal points are such that the pivotal edge of the valve will act as a stop to the swinging edge of the next higher valve. The bottom frame-bar 4 acts as a stop for the lower valve of each series. The valve bearings in one or both of the supporting bars 1 and 2 may be slotted out to the upper side of the bar, as shown at *x*, to allow the valves to be removed.

In use, the valves under normal condition, hang suspended in partially open position as shown in Fig. 4, allowing air to enter freely from both ends of the device, as indicated by arrows in Fig. 4; but, when affected by a heavy current of air coming from one direction, the valves on that side are opened to their full capacity, and those on the opposite side closed, as shown in Fig. 5. In case the current of air should come from the opposite direction to that shown in Fig. 5, the valves would automatically adjust themselves to the reversed conditions.

What I claim as new, and desire to secure by Letters Patent, is—

The combination in a furnace attachment, of a body having open ends, an outlet opening between the ends, a series of automatic inwardly opening valves supported on horizontal pivots at each open end, the several valves of each series being pivoted in different horizontal and vertical planes and standing normally in open position, substantially as set forth.

WM. H. ELWELL.

Witnesses:

S. H. ELWELL,
F. E. FOSTER.