(No Model.)

F. B. NICHOLS & C. THOMSON.

METHOD OF MAKING RADIATING FLUES.

No. 286,219. Patented Oct. 9, 1883.

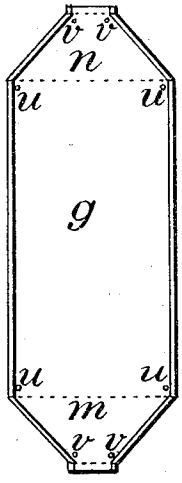


Fig. 1.

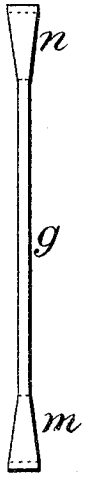


Fig. 2.

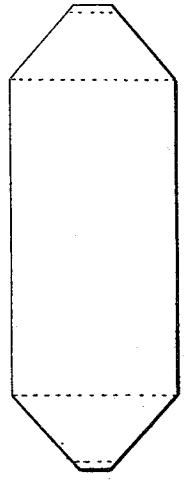


Fig. 3.

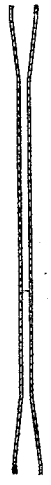


Fig. 4.

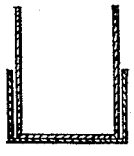


Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

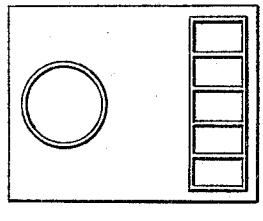


Fig. 9.

Witnesses:

Frederick Simmons.

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UNITED STATES PATENT OFFICE.

FREDERIC B. NICHOLS AND CATHCART THOMSON, OF HALIFAX, NOVA SCOTIA, CANADA.

METHOD OF MAKING RADIATING FLUES.

SPECIFICATION forming part of Letters Patent No. 286,219, dated October 9, 1883.

Application filed January 4, 1883. (No model.)

To all whom it may concern:

Be it known that we, FREDERIC BOOTH NICHOLS, a citizen of the United States, and CATHCART THOMSON, a subject of the Queen of Great Britain, both residing at Halifax, in the county of Halifax and Province of Nova Scotia, Dominion of Canada, have invented certain new and useful Improvements in the Method of Manufacturing Radiating Flues, of which the following is a specification.

Our invention relates to improvements in the mode of manufacturing thin flat flues with the peculiar form of draft-distributers specified in Letters Patent No. 267,362, issued to us November 14, 1882.

Heretofore great difficulty and expense have been incurred in constructing these flues by the usual methods of working sheet-iron; but by our improved method of manufacture they can be made with great rapidity, thereby reducing the cost one-half and producing a neater and better article. We attain these objects by the method of manufacturing or constructing shown in the accompanying drawings, in which—

Figure 1 is a vertical view of a radiating flue, *g*, and its draft-distributers *m* and *n*, on its longer horizontal axis, and Fig. 2 a corresponding view on its short horizontal axis. Fig. 3 is the shape to which the side pieces are cut that form the longer horizontal axis of *g m n*, and Fig. 4 is the shape to which they are bent to form both sides, as viewed in Fig. 2. Fig. 5 is an end section, drawn to full working size, showing the pieces that form the scabbard-joints for the short horizontal axis of the flat flue. Fig. 6 shows the shape of the inside piece before bending into trough form, and Fig. 7 the outside piece, before bending, that form the scabbard-joints for the short axis of the draft-distributers. Fig. 8 shows the inside piece of the vertical portion forming the scabbard-joint of the short horizontal axis of the flat flue before bending into the form shown in Fig. 5. Fig. 9 shows the form of nipples on the main flues of the complete apparatus.

The mode of manufacture is as follows: The broad pieces to form the flat sides of the flue are cut in the form seen in Fig. 3, and bent at the dotted lines to the obtuse angles seen in Fig. 4. Long strips, as shown in Fig. 8, are bent at the dotted lines, by a folding-machine, to the form of Fig. 5, the one for the inside piece being narrower in the trough portion and broader in the turned-up edges than the outer one, and having a tongue at each end. These are placed one within the other, and riveted or fastened together by some means in such manner as to leave equal spaces on each side just sufficient to slip the edges of the broad side pieces into them. The inner piece projecting beyond the outer one facilitates the entering of them. These should then be riveted at the points *u*, Fig. 1. Pieces cut in the form seen at Figs. 6 and 7, and bent at right angles at the dotted lines by a folding-machine, are placed one within the other, and fastened together in a similar manner to the previously-mentioned pieces, and slipped onto the broad pieces in the same manner, having first slipped the tongue in between the two pieces at the narrow end, which makes a tight joint and holds it in place, the broader end being riveted at the points *v*, Fig. 1. The upper and lower ends by these means are formed into nipples, that are fitted into the nipples shown in Fig. 9, when the whole is made up into the complete apparatus previously patented.

Having fully described our invention, what we claim is—

1. For the manufacture of a flat flue with its draft-distributers, two broad sides forming the longer horizontal axis, composed of sheet metal cut and bent in the form shown and specified, and placed vertically.

2. For the manufacture of a flat radiating flue, two vertical ends forming the short horizontal axis, each composed of two sheets of metal and bent at right angles on both sides to form long narrow troughs, the one having the broadest edges being placed within the other and fastened with rivets, or by other means, in such manner as to form tight scabbard-joints for containing and holding the edges of the broad vertical sides, all in the manner specified.

3. For the manufacture of the draft-distributers of the radiating flue, four pieces, each composed of two sheets of metal, cut broad at

one end and narrow at the other, each edge being bent at right angles and fastened one within the other in such manner as to form tight scabbard-joints for containing and holding the edges of the broad side pieces at top and bottom, where they are cut and bent at an angle, all in the manner and for the purpose herein specified.

4. For the manufacture of radiating flues with draft-distributers, two broad side pieces cut and bent in the form shown and specified, in combination with two long vertical pieces having scabbard-joints, and four sloping pieces each having scabbard-joints, all being fastened together by rivets or other means, all in the manner and for the purpose herein set forth.

5. A tongue on the ends of the inner sheets of the vertical scabbard-joints for the purpose of slipping between the two sheets of metal forming the sloping scabbard-joints of the draft-distributers, in the manner and for the purpose specified.

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