

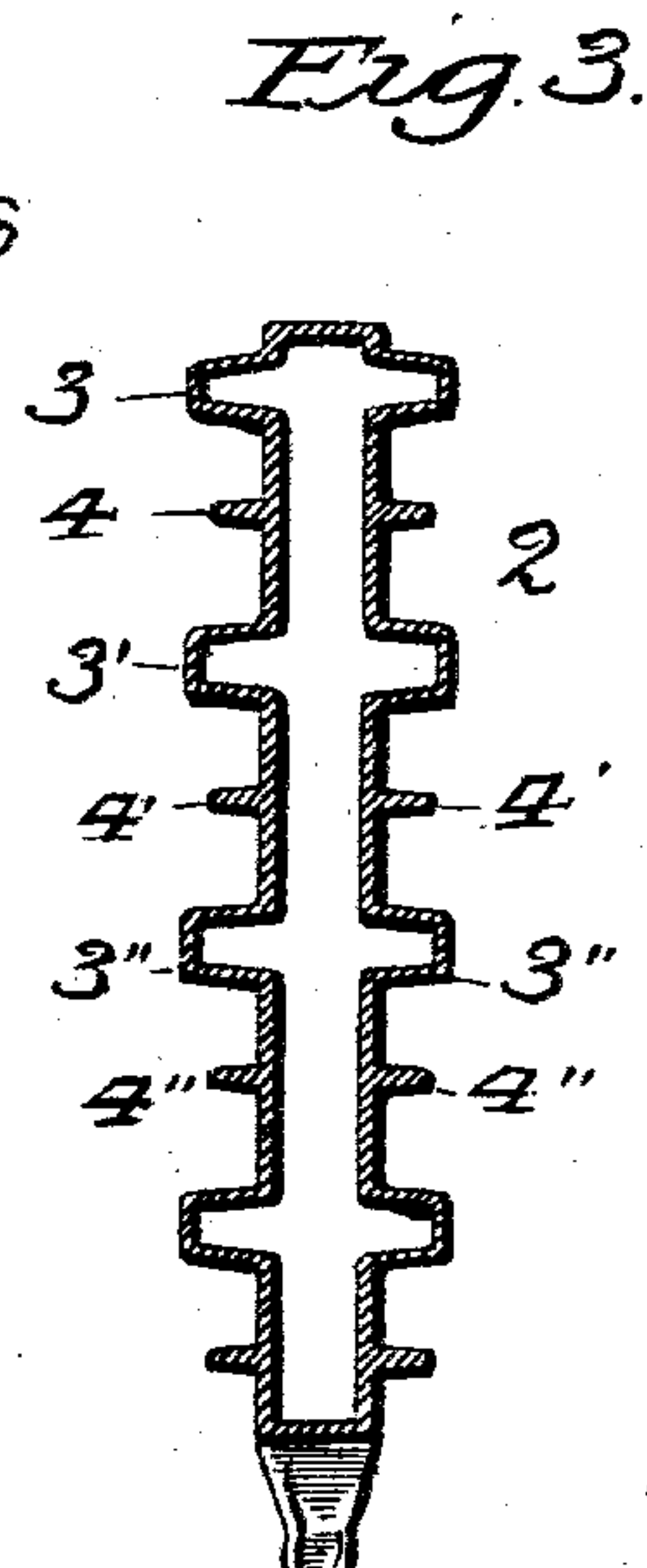
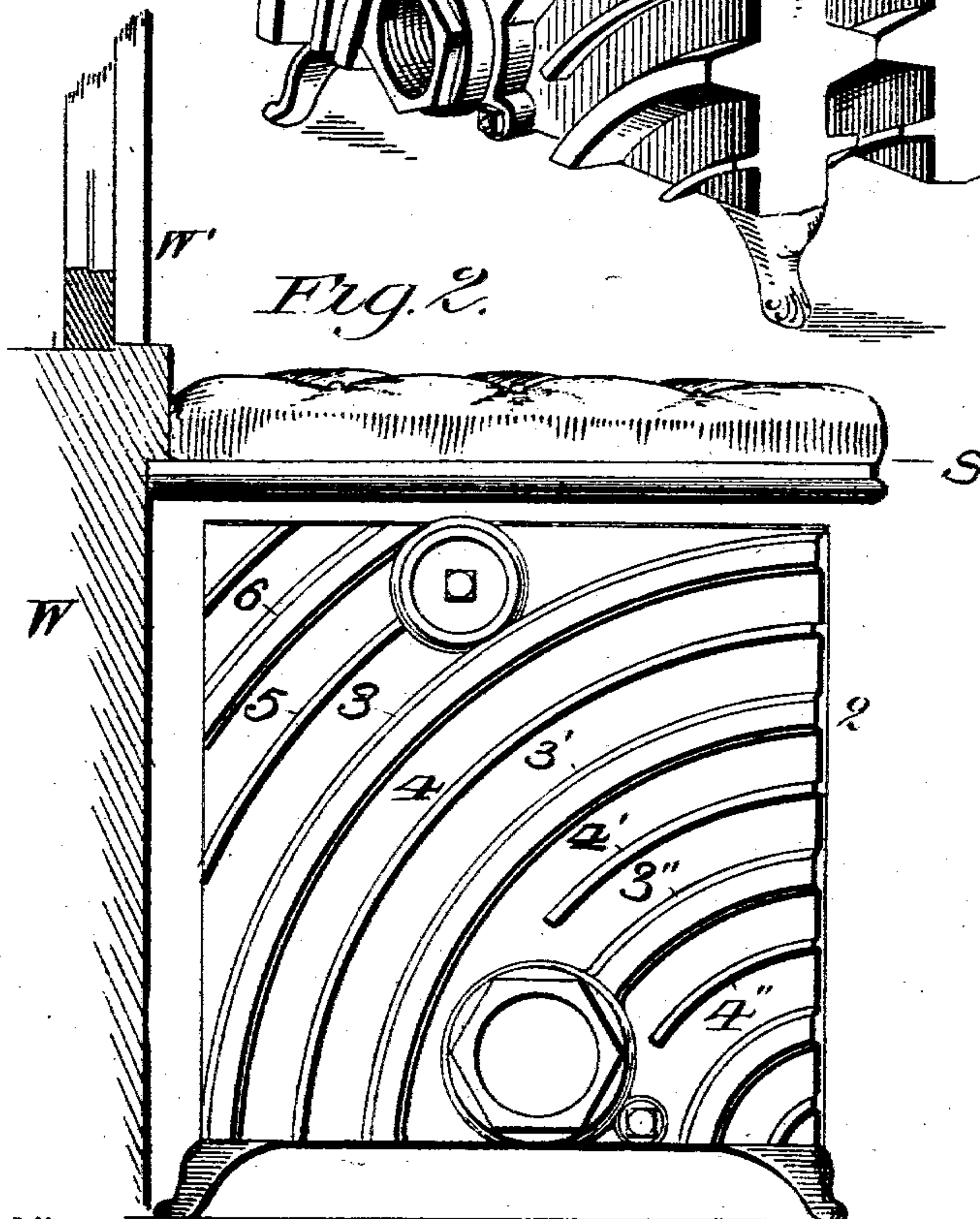
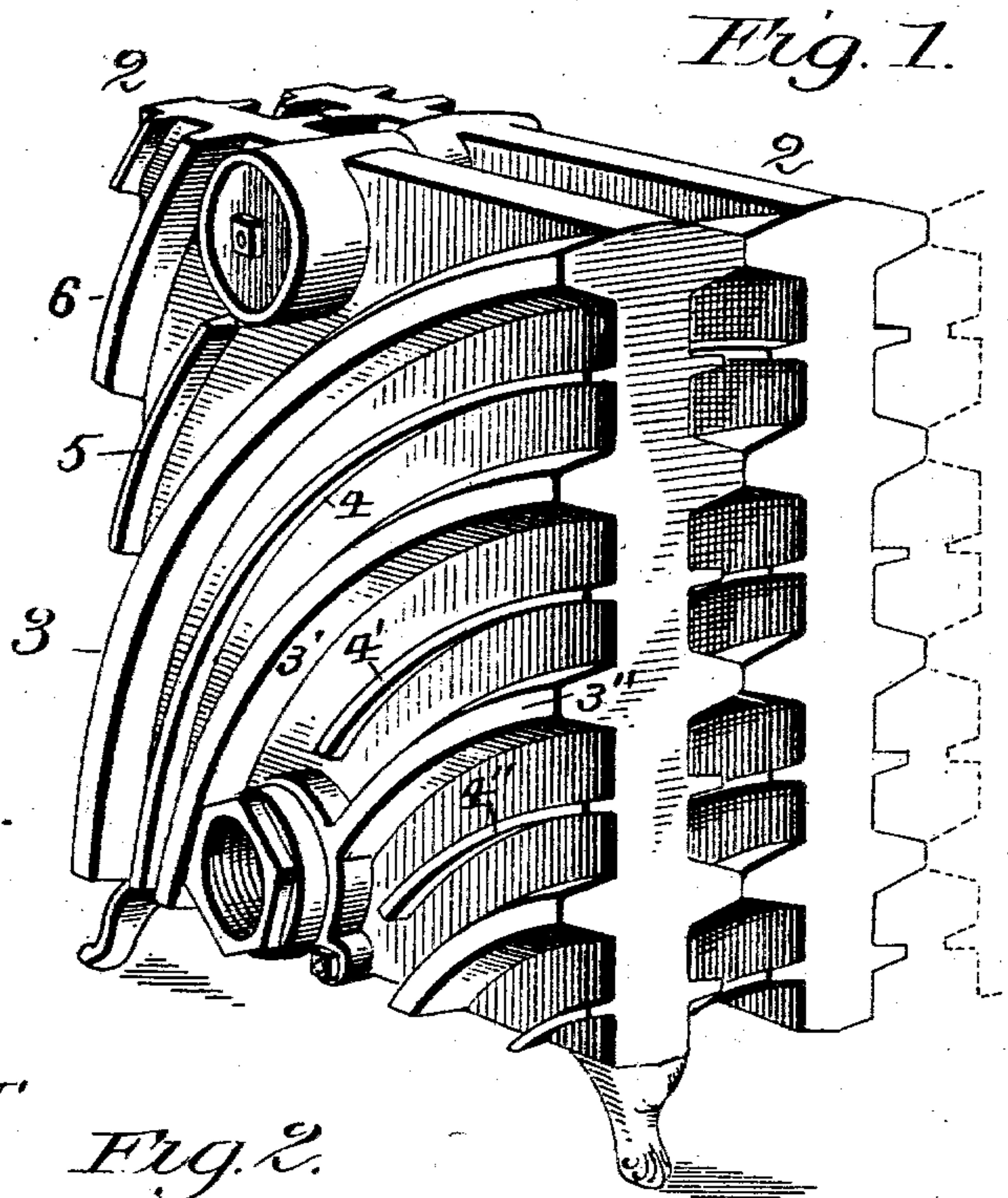
No. 629,223.

Patented July 18, 1899.

C. F. WALTHER.
STEAM OR HOT WATER RADIATOR.

(Application filed Sept. 7, 1898.)

(No Model.)



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STEAM OR HOT-WATER RADIATOR.

SPECIFICATION forming part of Letters Patent No. 629,223, dated July 18, 1899.

Application filed September 7, 1898. Serial No. 690,426. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WALTHER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Steam or Hot-Water Radiators; and I do hereby declare that the following is a full, clear, and exact description of the invention.

My invention relates to steam or hot-water radiators adapted to be placed and used under window-seats—that is, the permanent seats which are now commonly built directly below and in front of windows; and it has for its object to make such radiators more efficient heaters than are those of the styles now in vogue and at the same time so direct the air which is heated that it shall be discharged directly out into the room rather than upward against the underside of the seat.

The invention consists of a radiator made up of sections which are formed with external ribs or flanges arranged in a peculiar manner to accomplish the object of the invention, as will be hereinafter pointed out.

Figure 1 of the accompanying drawings is a perspective view of a radiator embodying my invention. Fig. 2 is a vertical sectional view taken between two of the sections. Fig. 3 is a cross-sectional view of one of the sections.

The seats which I have referred to cannot, for comfort, be more than eighteen inches high or above the floor upon their upper surfaces. About two inches are usually required for the woodwork of the seat, leaving but sixteen inches clear for the radiator. A radiator to be at all efficient should be at least fourteen inches high, so that at most there are but two inches of space between the radiator and the under surface of the seat, which is found to be too little for the ready escape of the air when the entire body of heated air is directed and discharged straight upward, and hence the circulation of the air between the radiator-sections is impeded. The arrangement of air-directing ribs or flanges which I have devised causes the air which is taken in at the bottom of the radiator to be directed outward into the room before it reaches the seat.

In the drawings, S indicates the seat, which is built out from the wall W below the win-

dow W'. The radiator is formed of a number of hollow sections 2, united by suitable couplings and having steam or hot-water connections, which need not be shown or described, as they form no part of this invention. The sections 2 are preferably about square in outline and are provided upon their side faces with air-directing ribs or flanges arranged so that all of the air which enters between the radiator-sections from below shall be directed out into the room without coming in contact with the seat, while the air which may enter between the sections from the space next the wall, which is relatively small in amount, shall be directed forward or toward the edge of the seat, though it is allowed to escape into the space between the radiator and the seat. The arrangement of ribs which best secures this result is that shown. An upward curved rib 3, starting at the lower rear corner of the section, crosses the side face of the section to the upper outer corner, the curve of this rib being sufficiently great to cause much more than one-half of the outer face of the section to be included on its concaved side. A number of other ribs 3', 3'', and 4, 4', and 4'' are arranged parallel with this curved diagonally-arranged rib 3, the spaces between all these ribs opening at the front edge of the radiator into the room and at their opposite ends into the space below the radiator.

The upper inner portions of the sides of the radiator-section, the portions on the convex sides of the ribs 3, are provided with ribs 5 and 6, which incline upward and forward, the spaces between these ribs opening at their inner lower ends into the space between the wall and the radiator and at their upper ends into the space between the radiator and the seat.

It is to be understood that the ribs upon the opposing sides of adjacent sections come opposite to each other, as represented in Fig. 1. I prefer that the ribs should be of two kinds, one set being hollow, so that they inclose a steam-space, as represented by the ribs 3, 3', and 3'', (see Fig. 3,) while the other ribs 4, 4', and 4'' are solid, merely fins or thin flanges of the metal of which the sections are composed. These two forms of ribs should be alternately arranged to secure the best re-

sults. The style of ribs may, however, be changed without departing from the spirit of my invention so long as they are properly shaped and arranged.

5 I am aware that it is not new, broadly considered, to provide the sections of radiators adapted to be placed alongside of a wall with inclined ribs, which serve to direct the heated air outward from the wall into the
10 apartment, and hence I do not claim a radiator so constructed; but the arrangement which I have invented and shown herein is I believe novel and possesses advantages over anything of which I have knowledge.

15 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A radiator formed of sections adapted to be connected together in series and provided
20 on their adjacent faces with air-directing ribs or projections, such ribs being arranged as described, whereby practically the entire body of air taken from beneath the radiator is projected forward into the apartment, and
25 is brought into contact with considerably more than half the heating-surfaces of the radiator-sections, such ribs consisting, as to each face, of a main rib, 3, extending from

the lower rear corner of the section to the upper forward corner thereof with an upward
30 curve, and a series of ribs substantially parallel with the said main rib extending from the bottom edge of the radiator-section to the front edge thereof, and another series of ribs
35 extending from the back edge of the radiator-section to the top edge thereof, substantially as set forth.

2. A radiator formed of sections provided on their adjacent faces with air-directing ribs, the ribs of each section consisting of a diagonally-disposed main rib extending from the
40 lower, rear corner to the upper, outer corner of the section, a set of ribs substantially parallel thereto extending from the bottom edge of the radiator-section to the front edge thereof, 45
and another set of ribs extending from the rear edge of the section to the top thereof, the said two sets of ribs being upon opposite sides of the diagonally-disposed main rib, in
50 combination with a seat arranged above and close to the top of the radiator, substantially as set forth.

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Witnesses:

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