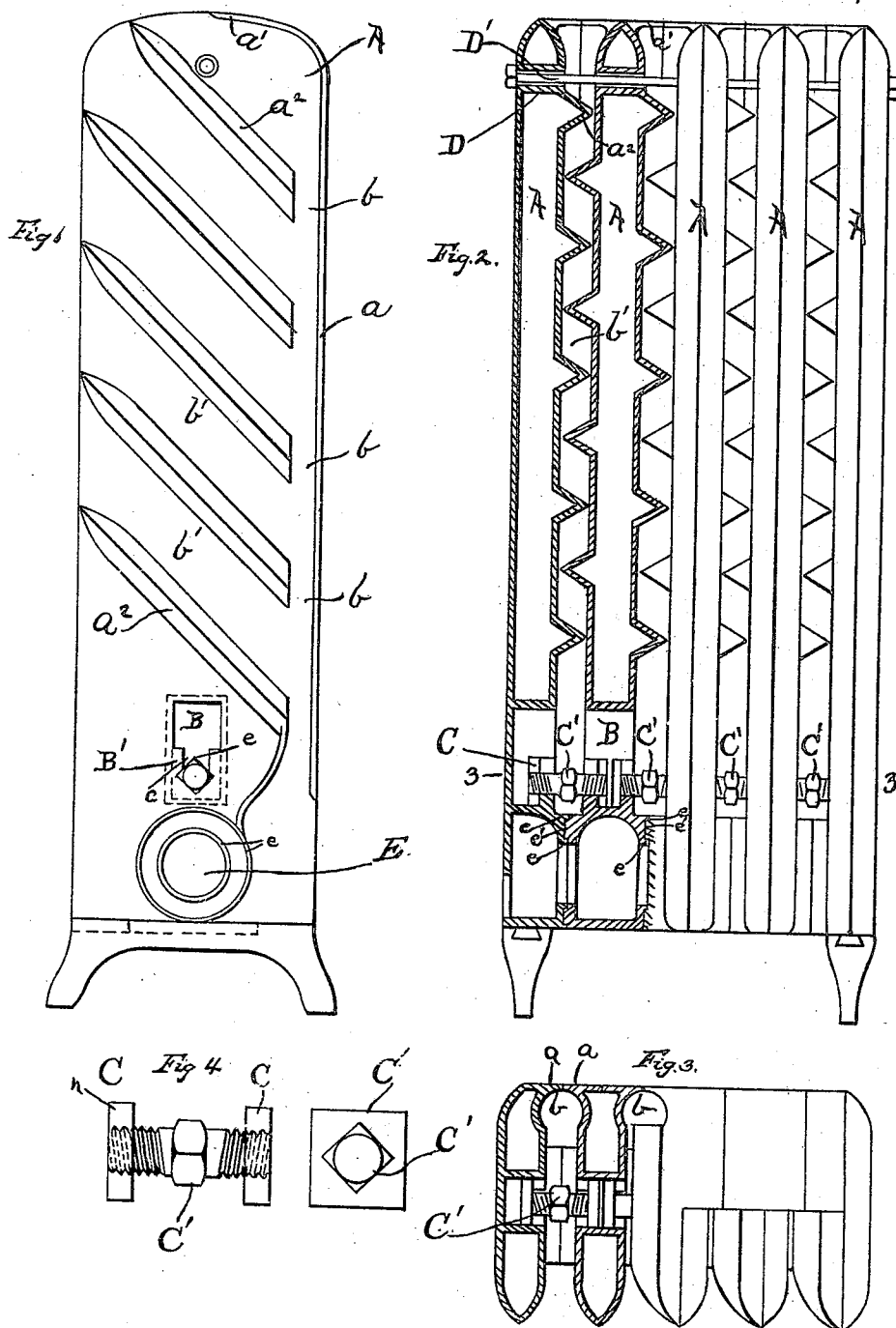


(No Model.)

J. WALTON.
STEAM RADIATOR.

No. 511,826.

Patented Jan. 2, 1894.



Witnesses
Joseph G. Straus
Annie M. Adams.

Inventor
John Walton
By his Attorney *John H. Whipple*

UNITED STATES PATENT OFFICE.

JOHN WALTON, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO MARY C. HOLLAND, OF SAME PLACE.

STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 511,826, dated January 2, 1894.

Application filed January 3, 1893. Serial No. 457,196. (No model.)

To all whom it may concern:

Be it known that I, JOHN WALTON, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Radiators, of which the following is a specification.

My invention relates to steam and hot water radiators formed of a series of sections; and the objects of my improvements are, first, to provide means for causing a draft from the floor at the rear bottom part of the radiator and deflecting the radiation toward the front, and, second, to provide improved means for connecting the loop sections together in the device. I attain these several objects by the means illustrated in the accompanying drawings in which—

Figure 1 is a detail showing in side elevation one of the radiator loops constructed according to my invention. Fig. 2 is a side view of a five-loop radiator containing my invention showing three loops in elevation and two in vertical section. Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2. Fig. 4 is a detail showing in enlarged side and end view the bolts and nuts for connecting the radiator loops at the bottom.

In the drawings, A designates the radiator sections made of cast metal. Said sections are hollow and are made oblong in cross section. At the rear, they have a flange *a* which extends down nearly to the bottom of the radiator and up to the top. At the top the said flange is curved over, as shown at *a'* to about the center of the section. The flanges *a* are placed on both sides of the interior or middle sections of the radiator and only on one side of the end sections so that when the sections are brought together the said flanges will meet and form a tight wall at the rear of these sections extending across the rear of the radiator from end to end so that the air can enter at the bottom through the openings formed between the sections below said flange and pass up to the forwardly curved part *a'* and be then deflected toward the front and away from the wall of the room in which the radiator is placed. The inner sides of said sections are provided with ridges *a²*, which extend from the front of the sections and in-

cline downward toward the flange *a* but stop before reaching said flanges so as to form a passage *b* between said flange and each of said ridges. The arrangement of said ridges *a²* on the various sections is such that when the sections are brought together, said ridges on one section will go between those on the opposite section so as to form a series of openings *b'* between the sections which are in communication with the passage *b* so that the air entering from the rear and passing up in front of the flange *a* through the passage *b* will be distributed into the opening *b'* and be thereby deflected toward the front of the radiator.

For the purpose of connecting the sections together in the radiator, I provide an opening B through the middle sections and through the inner wall of the end sections, which opening, at the top part thereof, is of sufficient dimensions to permit the nut C, of a connecting bolt C', to pass through the same. The bottom part of the said opening is provided with a flange B' covering the exterior thereof, which flange has a slot *c* into which the bolt will pass so as to let the nuts down behind said flanges B'. Said bolts C', are provided with right and left hand threads on their opposite ends and with an enlarged angular portion in the middle whereby by means of a wrench applied to said angular part said bolts can be turned for the purpose of drawing the sections together. At the upper part the sections are provided with openings D, through which a rod D' may be applied for securing said sections together at the top; said rod being of the usual construction and having a head on one end and a threaded nut on the other for clamping the sections together in the ordinary manner at the top. Communication between the hollow parts of said sections is afforded by an opening E of ordinary construction, which will permit the steam or water admitted into one of said sections, to pass and circulate through the radiator, in the different sections thereof, in the ordinary manner. In order to form a steam or water tight joint between the sections at the point of communication, the opening E on one section, is provided with concentric

flanges *e*, between which there is a recess into which a rubber or other elastic packing may be placed; and the opposite section has a corresponding projection *e'*, adapted to fit into
5 said recess so as to compress the packing and form a steam or water tight joint between the sections when the sections are drawn together by the screw bolts *C'*.

One of the advantages of this method of
10 connecting and securing the sections together is that the radiator sections may be more easily constructed by being cast with all their parts ready for connection without drilling any holes in the same or their finish what-
15 ever, the screw bolts being of uniform construction, being easily prepared and being ready for use so that the radiator can be set up or taken down with greater facility and

less expense than any prior construction with which we are acquainted. 20

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

In a radiator, the combination of a series of radiator sections provided with openings 25 *B*, and the flanges *B'*, having slots *c*, and screw bolts provided with right and left threads at opposite ends adapted to said slots and nuts *C* adapted to said openings arranged to operate substantially as and for the pur- 30 pose specified.

JOHN WALTON.

Witnesses:

ANNIE M. ADAMS,
WM. R. GRISWOLD.