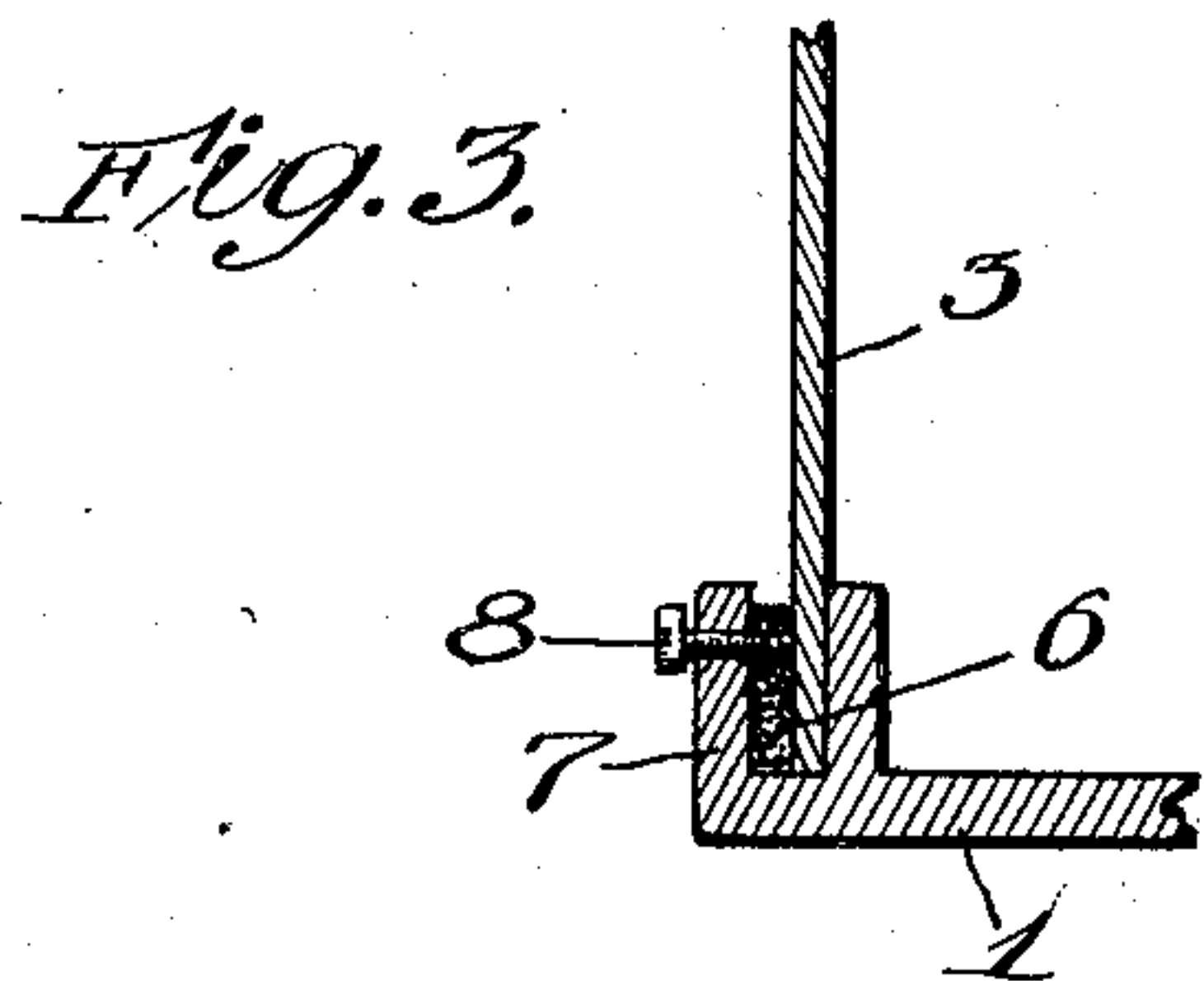
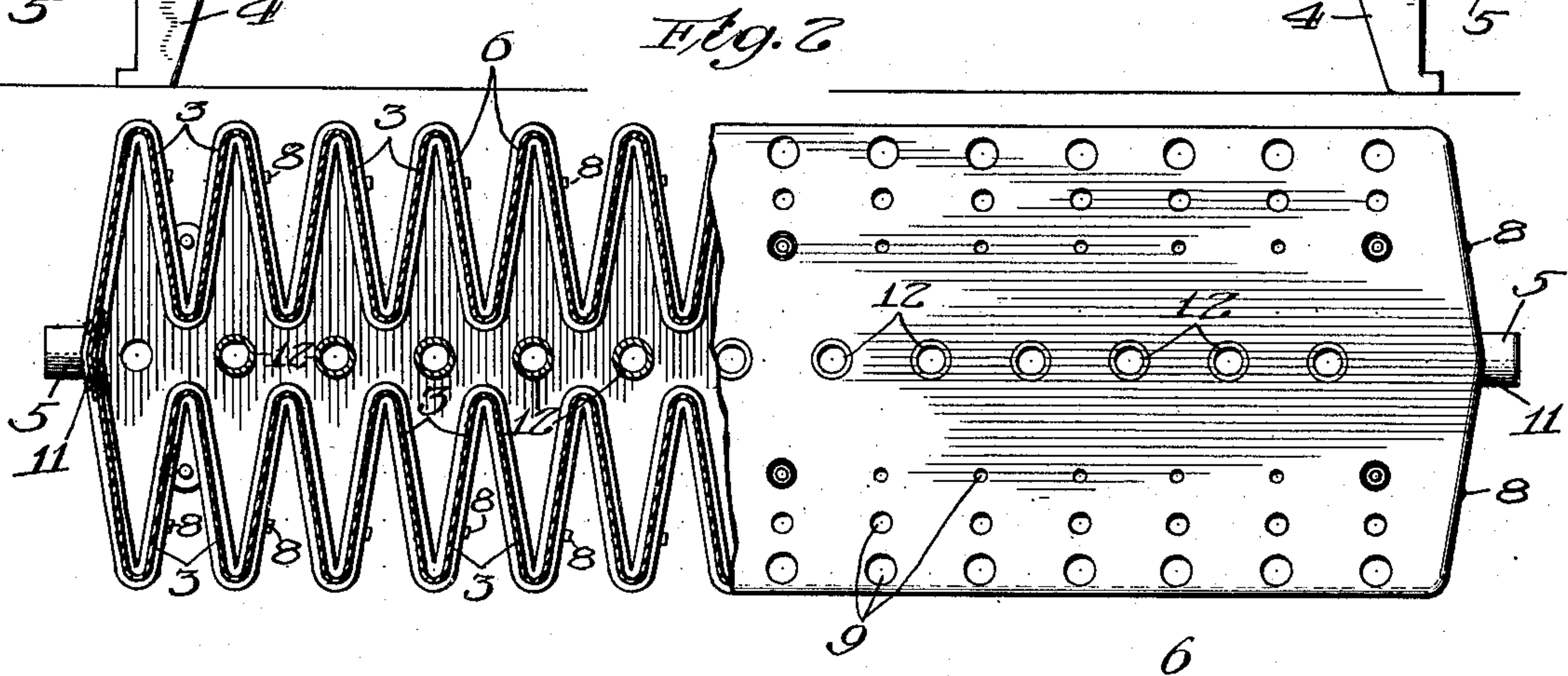
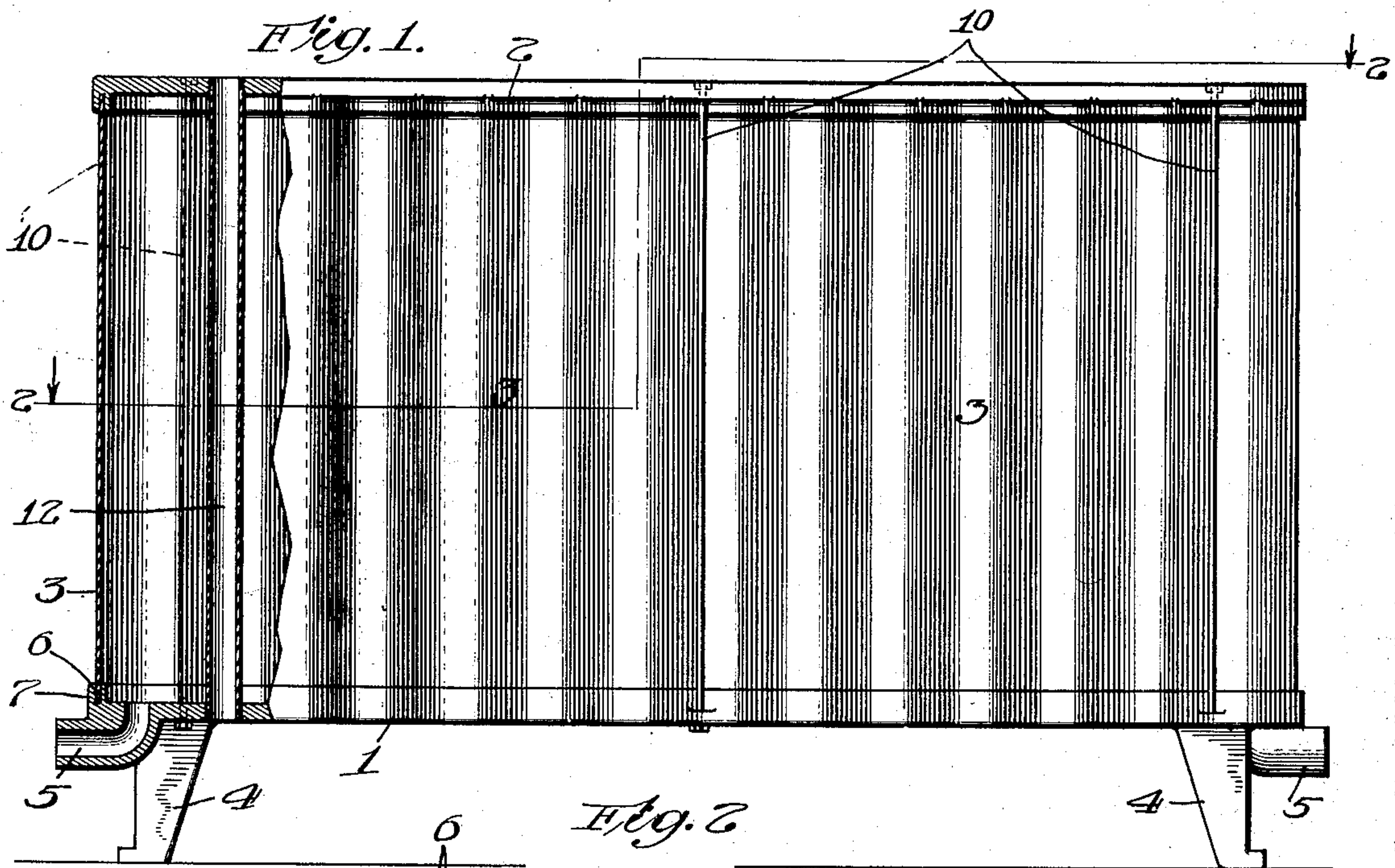


No. 891,540.

PATENTED JUNE 23, 1908.

A. HARRISON.
RADIATOR.

APPLICATION FILED JULY 25, 1904.



Witnesses:

Robert H. Weir
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Inventor:

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UNITED STATES PATENT OFFICE.

AMOS HARRISON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-FOURTH TO ROBERT H. WALCH,
OF CHICAGO, ILLINOIS.

RADIATOR.

No. 891,540.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed July 25, 1904. Serial No. 218,171.

To all whom it may concern:

Be it known that I, AMOS HARRISON, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Radiators, of which the following is a description.

My invention relates to that class of devices known as radiators, employed in the usual heating systems in which a vapor at comparatively high temperature is conducted to them by suitable pipes, and the surrounding atmosphere is warmed or heated by radiation therefrom.

The object of my invention is to economically produce a durable and practical structure of the kind described of high efficiency and which may be economically constructed and sold at a very moderate price.

To this end it consists in the novel construction, arrangement and combination of parts herein shown and described and more particularly pointed out in the claims.

In the accompanying drawings wherein like or similar reference characters indicate like or corresponding parts:

Figure 1 is an elevation of my device with a portion of one end in section to show the preferred arrangement and construction. Fig. 2 is a plan view of my device with one end shown in horizontal section on line 2—2 of Fig. 1; and Fig. 3 is a detail showing the preferred method of attaching the sides to the top or bottom.

In the preferred form shown in the drawings my device consists of three principal elements, a bottom plate 1, a top plate 2, and a shell 3 disposed between the top and bottom plates and attached to each by means of a suitable joint. The bottom plate 1 is provided with suitable legs or supports 4—4 and with one or more tubular parts 5—5 for attaching conducting pipes in the usual manner. These parts may either be formed integral with the bottom plate or they may be made separately and united thereto in any preferred manner.

In the drawings two parts 5 are shown for attaching pipes to my device adapting the same for use with a two pipe system but it is obvious that in a single pipe system, the radiators are preferably connected by a single pipe to the mains and hence only one part 5 is required.

The bottom plate 1 is preferably zigzag in

outline conforming to the convolutions of the sides 3 and is provided near its margin with a grooved channel 6 for the reception of the lower end of the sides. The channel is continuous and of sufficient width to receive the side 3 and suitable calking material which may be of copper, soft iron or other equivalent material for the purpose. In practice the shell 3 is placed in position in the groove and the calking strip forced into the space between the side 3 and the outer wall 7. Set screws 8 extending through the wall 7 and binding in the packing or plate may be employed at proper intervals to firmly bind the parts together, or equivalent means for the same purpose may be employed.

The top plate 2 is preferably regular in outline and is provided on its lower surface with a corresponding groove for the reception of the upper end of the side plates 3. The parts may be secured together substantially as set forth in reference to the bottom 1 or any preferred method may be employed for the purpose.

In the preferred construction the top plate 2 is substantially rectangular in outline and that part lying outside the convolutions of the sides 3 is provided with perforations 9 permitting a free circulation of air there-through. If desired stove rods 10 may be employed extending from the top to the bottom to secure the parts together in proper relative position.

The side or shell 3 is preferably formed of two sheets of metal provided with vertical corrugations giving increased radiating surface, with the marginal edges positioned in the grooves as described, and suitably connected together at their ends 11 by rivets or other suitable means.

If it is desired to increase the radiating surface any desired number of tubes 12 may be arranged to extend between the top and bottom plate within the space inclosed by the shell 3, the extremities to the tubes being secured in any preferred manner in suitable openings in the top and bottom plates so that air may freely circulate through the tubes. As is well known the coldest air in a room is the air nearest the floor. By providing a base or bottom plate having a zig-zag edge which conforms to the shape of the face of the shell the ready passage of air from beneath the radiator to the spaces between the V shaped projections of the shell, is permitted.

If the base plate were rectangular in form like the top plate the air could not readily flow up the faces of the shell and through the holes in the top plate.

5 Having thus described my improvement, it is obvious that many immaterial modifications may be made without departing from the spirit of my invention, hence I do not wish to be understood as limiting myself to
10 the exact form and construction shown.

After having thus described my invention what I claim as new, and desire to secure by Letters Patent is:

1. In a radiator the combination with a
15 corrugated shell of a top plate and a bottom plate, said shell being supported between said plates and the perimeter of the bottom plate conforming to the outline of the face of the shell, to thereby permit the passage of
20 cold air from beneath the radiator to the surface of the corrugated shell.

2. In a radiator the combination with a sheet metal shell formed with a succession of V shaped corrugations, of a top plate and a
25 bottom plate, said shell being supported between said plates and there being grooves formed in said plates which conform in outline to the edges of the shell, the perimeter of the bottom plate conforming in outline to
30 the face of the shell to thereby permit the ready passage of cold air from beneath the radiator to the surface of the shell.

3. In a radiator the combination with a sheet metal shell formed with a succession of
35 V shaped corrugations, of a top plate and a

bottom plate, said shell being supported between said plates and there being grooves formed in the said plates for the reception of the edges of the shell, the perimeter of the bottom plate conforming in outline to the
40 faces of the shell to thereby permit the ready passage of cold air from beneath the radiator to the surface of the shell and a plurality of radiating pipes located within the shell and connecting said plates, said pipes being open
45 to the atmosphere both at the top and bottom.

4. In a radiator the combination with a sheet metal shell formed with a succession of V shaped corrugations, of a top plate and a
50 bottom plate, said shell being supported between said plates, and there being grooves formed in said plates for the reception of the edges of the shell, the perimeter of the bottom plate conforming in outline to the face
55 of the shell to thereby permit the ready passage of cold air from beneath the radiator to the corrugated surface of the shell and the top plate being substantially rectangular in form and having openings formed there-
60 through outside of the grooves that receive the edges of the shell.

In testimony whereof, I have hereunto signed my name in the presence of two (2) subscribing witnesses.

AMOS HARRISON.

Witnesses:

BURTON U. HILLS,
CHARLES I. COBB.