

E. E. & P. J. VAN POOL.
 BASE BOARD RADIATOR.
 APPLICATION FILED MAY 4, 1910.

1,010,205.

Patented Nov. 28, 1911.

2 SHEETS—SHEET 1.

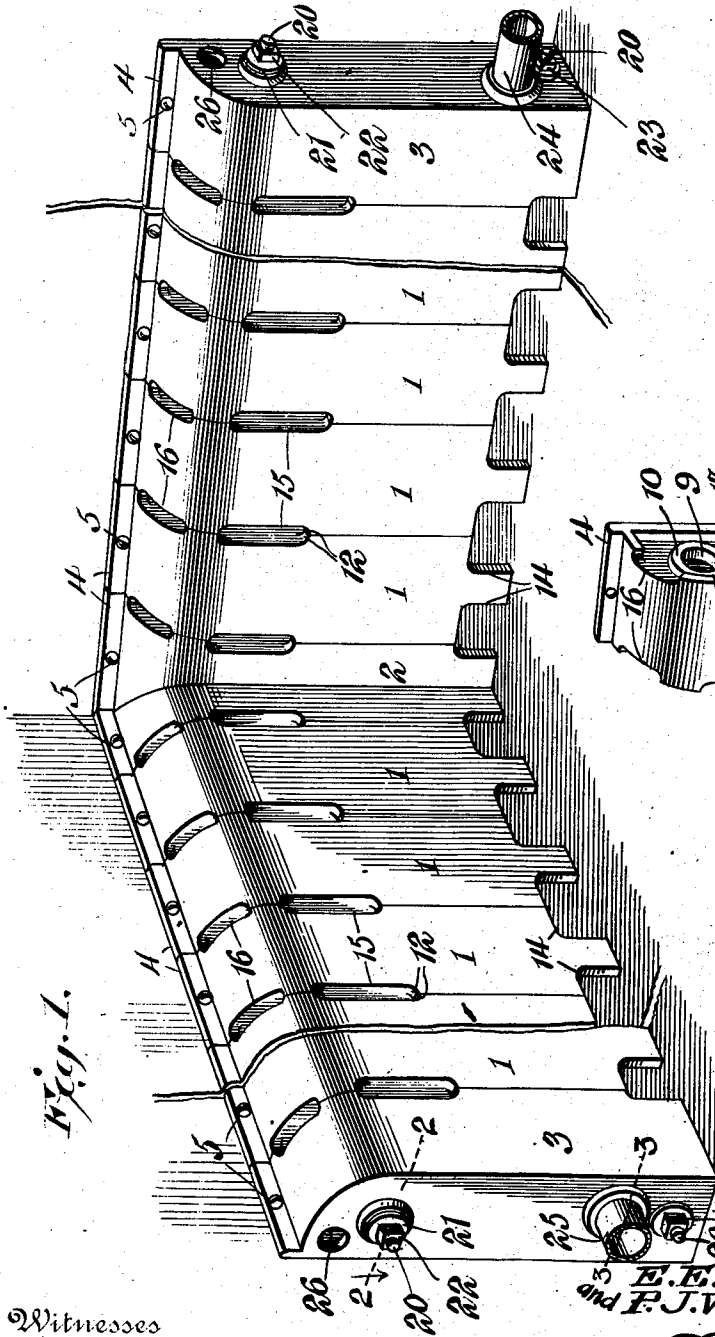


Fig. 1.

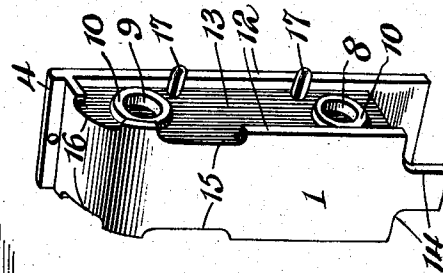


Fig. 6.

Witnesses

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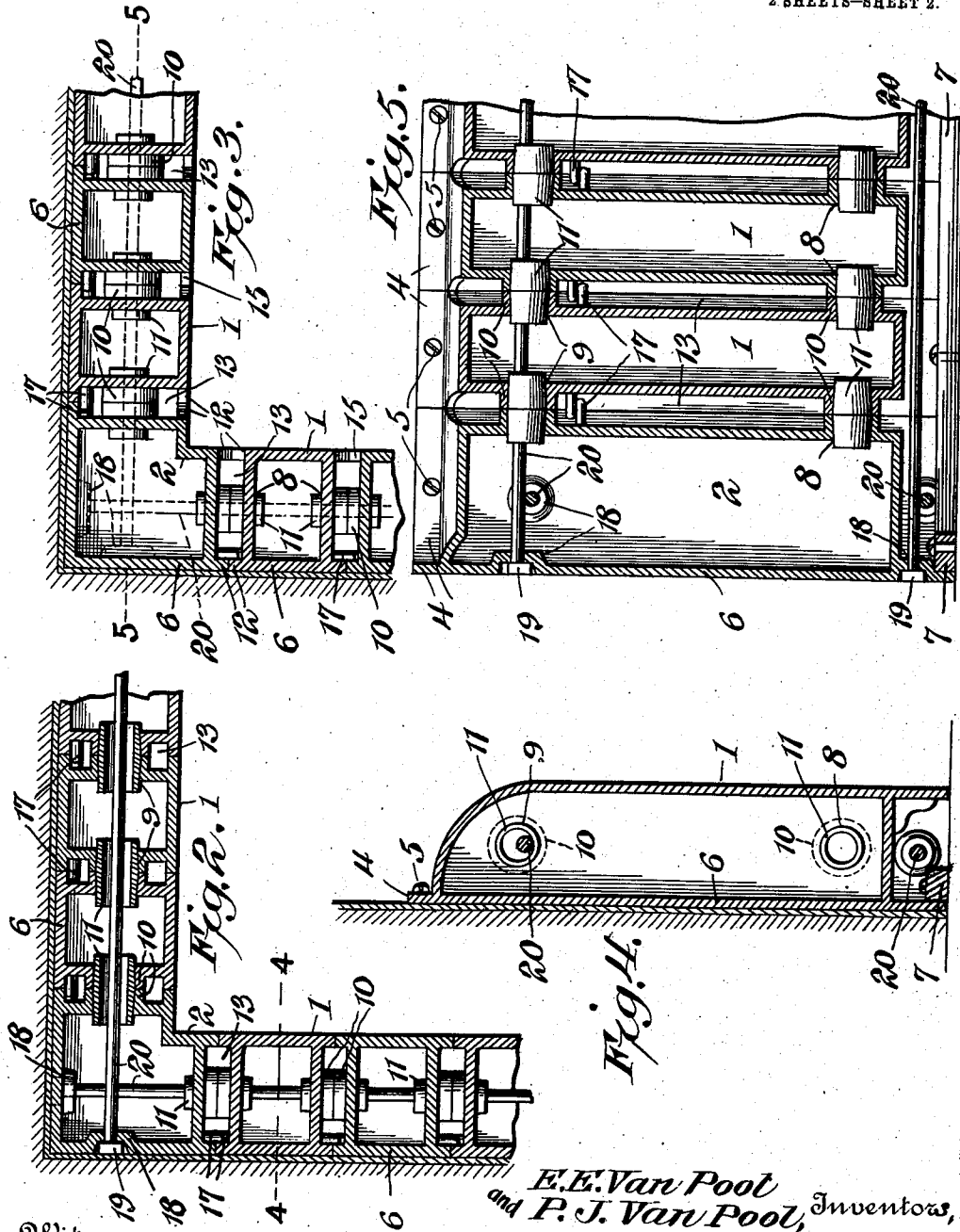
Attorney

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ELMER E. VAN POOL AND PERRY J. VAN POOL, OF JANESVILLE, WISCONSIN.

BASE-BOARD RADIATOR.

1,010,205.

Specification of Letters Patent.

Patented Nov. 28, 1911.

Application filed May 4, 1910. Serial No. 559,317.

To all whom it may concern:

Be it known that we, ELMER E. VAN POOL and PERRY J. VAN POOL, citizens of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Base-Board Radiator, of which the following is a specification.

This invention relates to devices for heating rooms and buildings, and the object of the invention is to provide a simple and efficient apparatus which may be used as a substitute for the ordinary base-board, and which will be so constructed that it may be arranged along the side of a room to any desired extent, and by which the room will be thoroughly heated without the presence of unsightly apparatus.

An apparatus embodying our invention is illustrated in the accompanying drawings, and the invention consists in certain novel features of the same which will be hereinafter first fully described and then particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a portion of a radiator showing the same fitted to the corner and two sides of a room. Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1. Fig. 3 is a similar view on the line 3—3 of Fig. 1. Fig. 4 is a vertical section on the line 4—4 of Fig. 2. Fig. 5 is a vertical section on the line 5—5 of Fig. 3. Fig. 6 is a detail perspective view of one of the intermediate sections.

In carrying out our invention, we provide a series of intermediate sections 1, corner sections 2, and end sections 3, which may be cast or formed of heavy sheet metal, or otherwise produced, as will be readily understood. All of these sections are provided at their upper ends with flanges 4 through which fastening screws 5 may be inserted into a wall to secure the radiator in position, and the back plates 6 of the sections are arranged to engage behind a lug or strip 7 secured to the floor so as to properly hold the sections against the wall. The several sections are provided with openings 8 and 9 near their lower ends and near their upper ends, respectively, to permit the passage of hot water, steam or other heating agent through the series of sections, and around these openings are formed annular flanges 10 which are adapted to fit together when the sections are placed in position to form

a radiator. In order to prevent leakage and to further maintain the several sections in their proper relative positions, slip nipples 11 are fitted in the openings 8 and 9 and provided with suitable packing in the usual manner. The corner section 2 and the several intermediate sections 1 are provided on their sides with flanges 12 so that a heating chamber or space 13 will be formed between adjacent sections, and in order to provide for the circulation of the air through these heating chambers or spaces, the front walls of the sections are cut away at their lower ends, as shown at 14, to provide an opening through which the cold air adjacent the floor of the room may flow into the heating chamber 13. Near their upper ends, the flanges 12 are recessed so that slots or openings 15 and 16 will be provided through which the air, rising through the heating chamber 13, may escape to raise the temperature of the room. On the front faces of the rear flanges 12, we provide lugs or pins 17 projecting laterally beyond the edges of the flanges so as to overlap the meeting flange of the adjacent section and thereby serve to maintain the sections in a true line against the wall of the room and to that extent facilitate the assembling of the sections. The corner section 2 is provided with the openings 8 and 9 on two of its meeting sides, but its meeting rear walls are not provided with such openings as it will, of course, not be desirable to permit the escape of the heating agent at the back of the section. In the back walls of the corner sections are bosses or countersunk projections 18 in which the heads 19 of screws or bolts 20 are seated. The upper securing bolts 20 pass through the upper nipples 11 and project through the end section 3 where they are equipped with a plug 21 and a nut 22 suitably packed in the opening in the end wall of the said section so that when the nut is turned home on the bolt, the several sections will be firmly secured together and the leakage of hot water or steam around the bolt will be prevented. The lower bolts or connecting rods 20 pass through the space between the floor and the bottoms of the several sections and are likewise secured to the end sections by suitable nuts 23, as will be readily understood. The openings 8 and 9 in the several intermediate sections are disposed preferably on the central vertical line of the sections, but in the end sections the lower

openings are disposed nearer the front walls of the sections in order to accommodate a supply pipe 24 and an exhaust pipe 25 and facilitate the fitting of the said pipes to the sections. The supply pipe may be provided with the usual valve for regulating or controlling the heat, although we have considered it unnecessary to illustrate such details. The end sections are also provided at their upper ends with openings 26 in which may be fitted an air vent valve of any preferred construction, as will be readily understood.

It will be readily seen from the foregoing description that we have provided a radiator which may be placed in any room and will not detract from the appearance of the room and will yet provide for thorough heating of the same. The several sections are secured in place against the wall of the room and any fireproof and heat-resisting material may be interposed between the back of the sections and the wall, as will be understood. When hot water, steam or other heating agent is admitted to the end section, such agent will rise in the same so as to fill it and will flow from the said section to and through the several intermediate sections to the opposite end section, from which it will escape and return to the furnace or other source of supply. The walls of the sections will thus be heated and the air immediately adjacent the same will be raised in temperature so as to rise from the floor and create a circulation within the room which will quickly result in heating the same. The openings provided by the peculiar construction of the front walls of the sections facilitate this circulation and increase the heating capacity, inasmuch as the side walls as well as the front walls of the several sections are utilized for heating purposes. It will be observed that the upper connecting rods or bolts pass through the nipples which permit the circulation of the heating agent through the several sections so that the forming of a large number of openings through the meeting walls of the sections is rendered unnecessary. Furthermore, the heads of the connecting rods or bolts are fitted in countersunk seats in the back walls of the corner sections so that they offer no obstruction to the fitting of the said sections closely against the wall. The end sections have their end walls formed without the projecting flanges and, consequently, may be fitted to the ordinary wood baseboard so that, should it be so desired, the radiator may be placed between two wooden sections of base-board or may be placed only in the corner of a room or otherwise disposed, according to the desires of the builder or the requirements of any particular location. In this manner, the radiator may be built in any desired capacity

so that it may be made to meet the exigencies of any climate without necessitating the presence in any room of an unsanitary or unsightly body which will occupy space within the room to the exclusion of furniture. The front walls of the radiator may be given any desired finish so as to harmonize with the finishing of the room in which it is located or to correspond to the furniture placed in the room. It will be observed that the surfaces of all the sections are all smooth so that the expense of manufacture will be minimized and, as the sections fit closely together and are of a regular contour, the radiator may be easily and cheaply installed. Furthermore, the exterior of the radiator is readily kept in a clean condition, since there are no exposed recesses in which dirt and dust may accumulate and which are difficult to clean. By the use of this baseboard radiator, the presence of cold corners or unduly warm spaces in a room will be overcome, inasmuch as the heat will be admitted to the room near the floor and will be evenly distributed thereover. The construction is such that a large expanse of radiating surface is provided for every lineal foot of the radiator. The radiator can, of course, be made to fit in peculiar angles and to fit curved surfaces as well as to fit square corners or straight walls. By arranging the inlet and outlet openings near the front walls, the supply and exhaust pipes are removed from the wall a sufficient distance to accommodate the collars placed around the said pipes to cover the openings in the floor through which the said pipes pass.

The back plate 6 of each section and the flange 4 are both in one plane and the radiator when installed may replace the baseboard in a room, so far as the radiator may extend. The projection of the radiator from the wall need not exceed about three inches or even less, so that the radiator will project into the room but little farther than does the baseboard and foot molding usually present in a room. There is no necessity of any change in an ordinary room other than the removal of the base-board, for the radiator is applied against the wall of the room flush with the face of the plaster if such be present, and no channeling of the walls or building of receptacles for the radiator is necessary. Moreover, the front and rear plates or walls of each radiator section, except the corner sections, are coextensive one with the other, the front wall being cut away at the bottom and at other points, so that when two radiator sections are abutted there is defined between them a chamber closed in by the front and rear plates or walls of the radiator section and the cut away portions at the bottom of the front wall of the radiator sections match, so that while the front of the radiator is

well supported by the downward projection of the front wall, there is ample space for the inflow of air to the lower end of the chamber between two adjacent radiator sections, and this air may then flow upward through such chamber and out through the matching cut away portions in the flanges formed by the lateral projection of the front wall beyond the body of the radiator section.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while we have described the principle of operation of the invention, together with the apparatus which we now consider to be the best embodiment thereof, we desire to have it understood that the apparatus shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what we claim as new, and desire to secure by Letters Patent, is:—

1. A heating radiator of substantially base-board height composed of sections each comprising a single casting having a back plate, a front plate spaced therefrom and of less height than the back plate, a top portion uniting the upper end of the front plate to the back plate below the upper end thereof to provide an upstanding flange, a bottom member uniting the lower portions of the front and back plates above the lower edges thereof, and side members uniting the front, back, top and bottom portions, the front portion, top portion and back portion having extensions beyond the side members, the extensions of the front and top members being recessed at spaced points along their outer edges, adjacent sections when united to form a radiator defining united air spaces between them below the bottom members, and between the side members, with openings defined by mating recessed portions, and the radiator so formed being adapted for installation without further disturbance of a finished building than the removal of a base-board, if present.

2. A base-board radiator composed of sections adapted to be united together in the form of a radiator, each section being of substantially base-board height with an un-

broken rear face adapted to replace a base-board without change in the structure of the wall of the room where the radiator is installed, the rear portion of each radiator section extending above the body of the section to constitute a flange for the passage of fastening means, and the lower edge of the rear portion of the section extending below the bottom of the fluid receiving chamber and providing an unobstructed member for engaging fastening means applied to the floor of the apartment where the radiator is installed.

3. A radiator of substantially base-board height composed of sections each having an unbroken, plain back member, a front member spaced therefrom with top, bottom and side members inclosing between the front and back members a chamber for the reception of a heating fluid, the front, top and back members having extensions in the direction of the length of the radiator, the extensions on the front and top members having cut away portions for the flow of air to the interior of the radiator and the escape of air therefrom and the extensions of the back member having lugs thereon projecting into overlapping relation each to the corresponding back extension of a mating radiator section, circulating connections between the chambers in the radiator sections provided for the reception of heating fluid, and tie rods for uniting the several sections.

4. A radiator section comprising a single casting composed of front and back members each having floor engaging edges, the front member being of less height than the back member and the latter being of substantially base-board height, a top member uniting the front and back members at a point below the top of the back member to provide an upstanding flange on said back member, and a bottom member and side members inset with relation to the corresponding portions of the front, back and top members and defining a chamber for the reception of a heating fluid, the margins of the front member and top member being cut away at spaced points.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ELMER E. VAN POOL.
PERRY J. VAN POOL.

Witnesses:

CLARA KINGMAN,
SILAS HAYNER.