(No Model.)

G. W. R. POLLOCK.

RADIATOR.

No. 494,888. Patented Apr. 4, 1893.

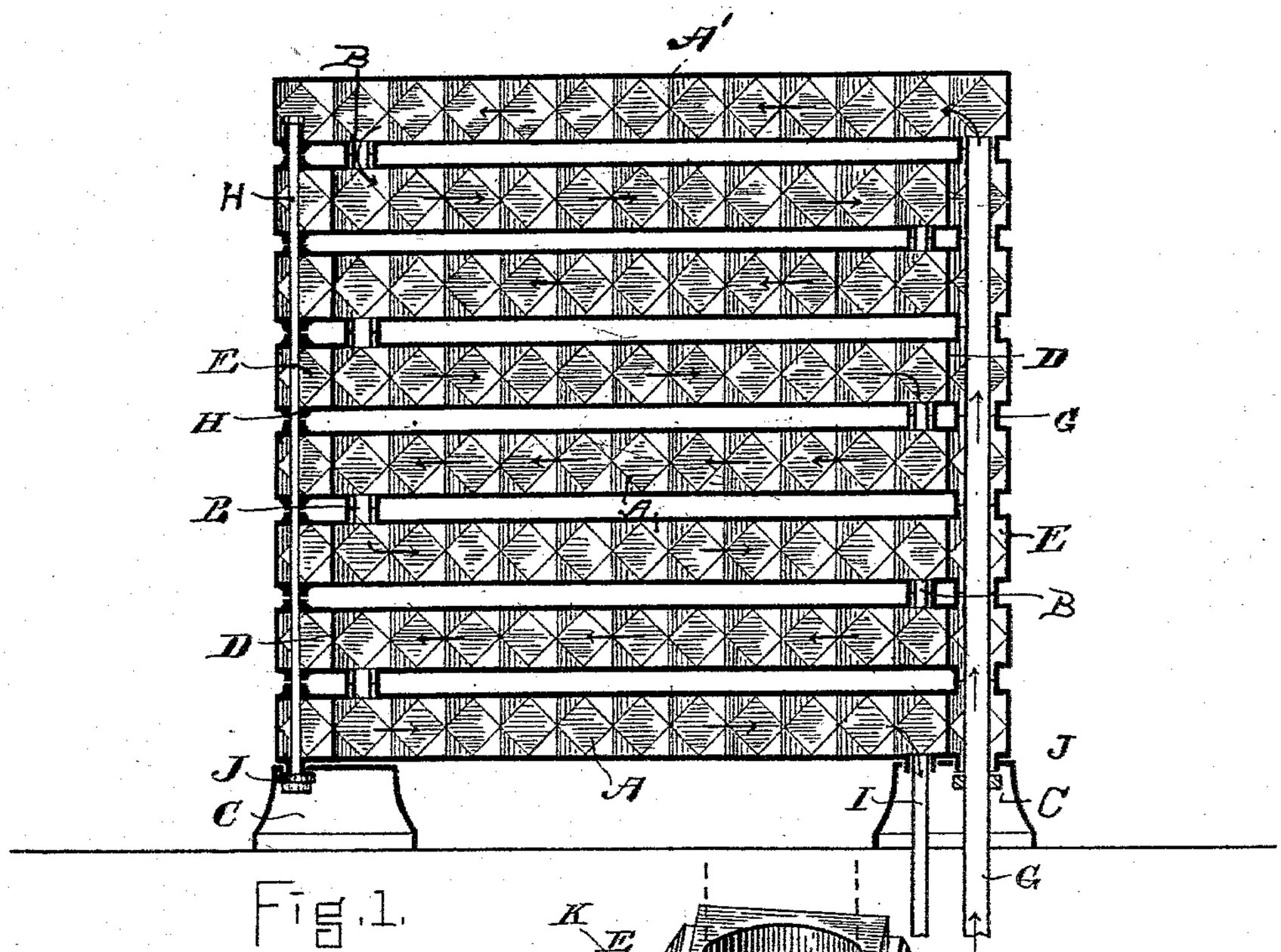


Fig. 1.

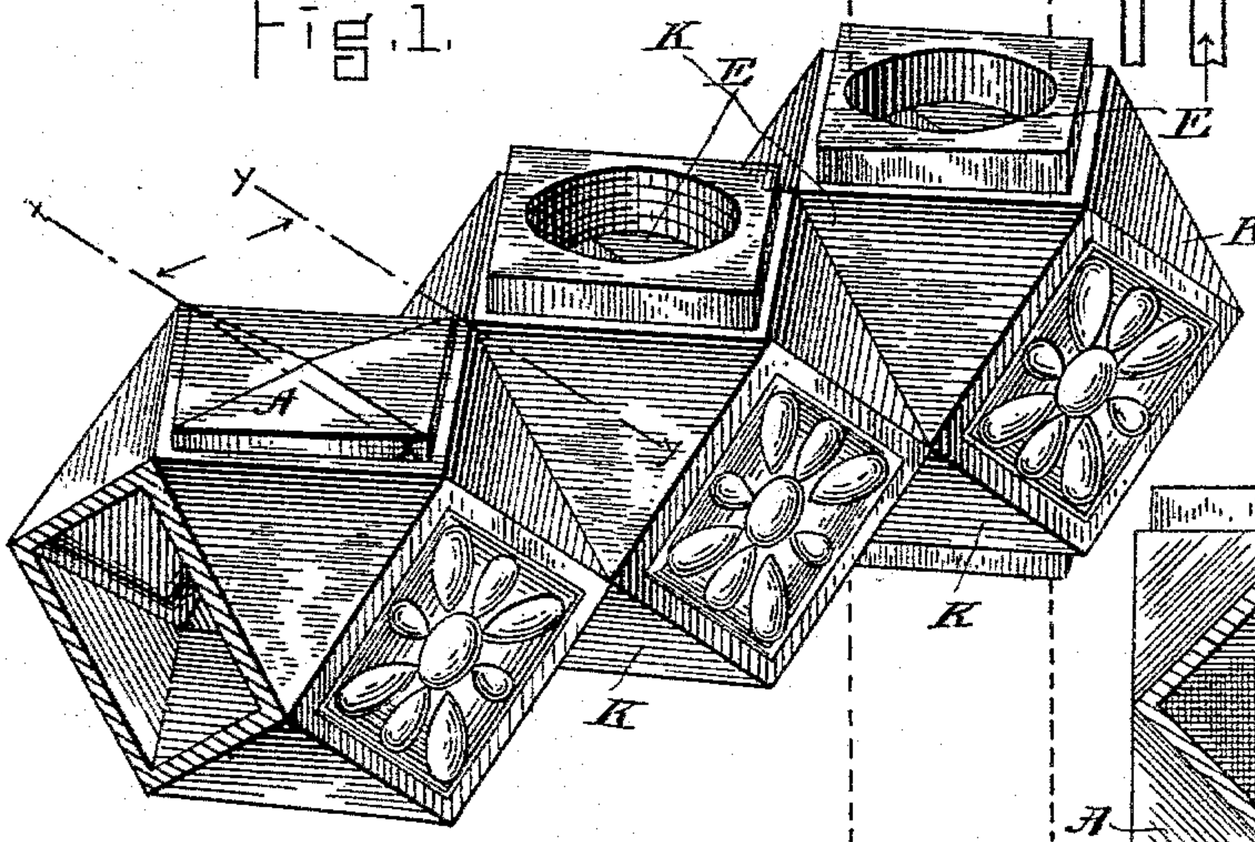
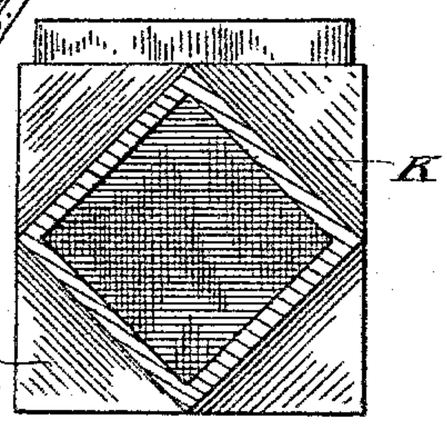


Fig. 2.



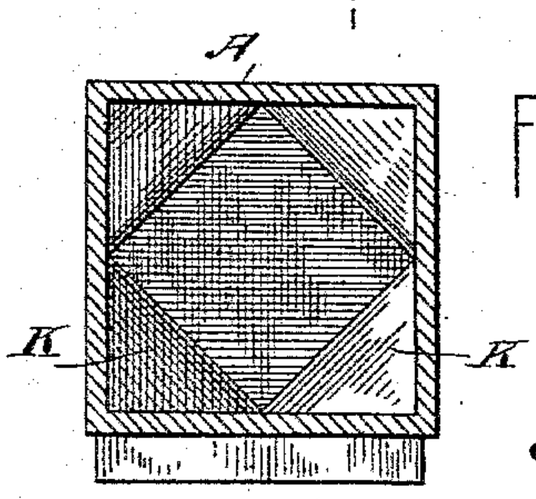


Fig. 3.

WITNESSES.
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UNITED STATES PATENT OFFICE.

GEORGE W. R. POLLOCK, OF LYNN, MASSACHUSETTS.

RADIATOR.

SPECIFICATION forming part of Letters Patent No. 494,888, dated April 4, 1893.

Application filed July 14, 1888. Serial No. 279,938. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. R. POLLOCK, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Radiators, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of this invention is to provide a steam or hot-water radiator of improved construction and increased radiating capacity, yet ornamental in external appearance and readily freed from accumulating dust. My radiator is made up of a succession of hollow horizontal sections placed one above another, united in a vertical plane by nipples alternately placed to enforce a zigzag circulation, and supported as a series by a continuous inlet pipe and a connecting rod.

The novel features of the apparatus are hereinafter described and especially referred to in the appended claim.

In the drawings, Figure 1 is a vertical section of one of my radiators, representing the internal construction and the arrangement of the parts. Fig. 2 is an enlarged detail, in perspective, and Fig. 3 shows it in two transverse sections taken on vertical planes through lines *x*—*x* and *y*—*y*, Fig. 2.

A A A are the hollow sections of which the radiator is composed, consisting of cast metal shells supported a short distance apart and horizontally one above another.

B B B are tubular nipples interposed between and screwed into the adjacent sections, alternately, near the ends of their steam or water spaces, so as to make a continuous zigzag passage for the fluid, from top to bottom of the series. The lowermost section rests, at each end, upon a suitable hollow foot C. Each section, except the upper one A′, is peculiar in having, near each end, a transverse solid partition D cutting off from its hollow interior two chambers E. Through these dry air-chambers pass continuous vertical connections uniting the several parts A firmly, in addition to the union effected by the nipples. These connections as shown in Fig. 1 and indicated in parallel, vertical dotted lines, Fig. 2 consist of the inlet pipe G, at one end, and the tie-rod or bolt H at the other end, each running up through one series of chambers and screwed tightly into a thickened boss in the lower side of the upper section, and each furnished with a tightening nut J below the lower section, within the foot C. The outlet pipe I will be located near the inlet pipe when the radiator is made up of an even number of sections. As the steam or hot water has no access to the chambers E there is no occasion for a close fit around the pipe G and rod H, and hence absolute exactness of alignment of the sections, as united by the nipples, is not essential. The pipe and rod are nearly or quite concealed within the successive chambers. The exterior of the radiator sections as shown is of a form to present a large amount of radiating surface, so as to be most effective as a heater. The shells A are substantially square in cross-section with a succession of deeply-sunken notches K along the four corners of each. Each notch is therefore like a sunken diamond made up of two triangular facets meeting in the line of their greatest depression, and together presenting much more surface for radiation than would the section if unnotched. The effect of the notching is to form on the two sides and the top and bottom of each section a succession of squares meeting at their corners and bounded by the edges of the successive triangular facets, and to make of each section an integral series of bulbs, each showing four square faces and eight triangular facets. The horizontal square faces at the top of the upper section form a convenient support on which to rest a vessel containing any substance to be heated. I am accustomed to ornament the side faces or squares by suitable figures projecting therefrom about as illustrated in Fig. 2.

I claim as my invention—

In a radiator, the hollow sections A connected as shown, and each formed with transverse partitions D and air-chambers E at the ends, in combination with the inlet pipe G passing upwardly through one series of chambers to deliver hot water or steam to the top section A′, and with the tie rod or bolt H passing through the other chambers, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 17th day of May, A. D. 1888.

GEORGE W. R. POLLOCK.

Witnesses:

A. H. SPENCER,

B. MARVIN FERNALD.