(No Model.)

J. C. ANDREWS & J. F. SUNDERLAND.

STEAM RADIATOR.

No. 255,071. Patented Mar. 14, 1882.

Fig. 1.

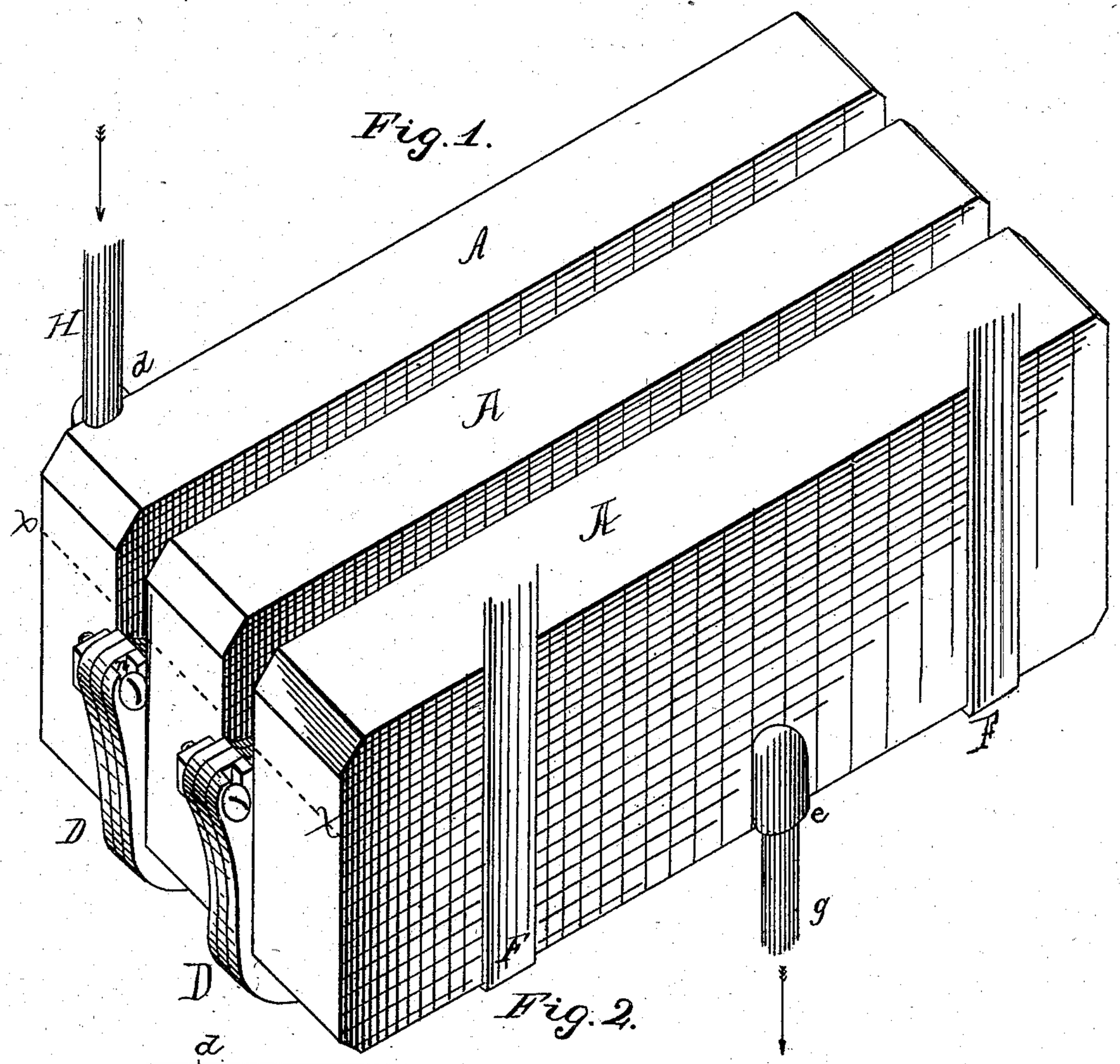


Fig. 2.

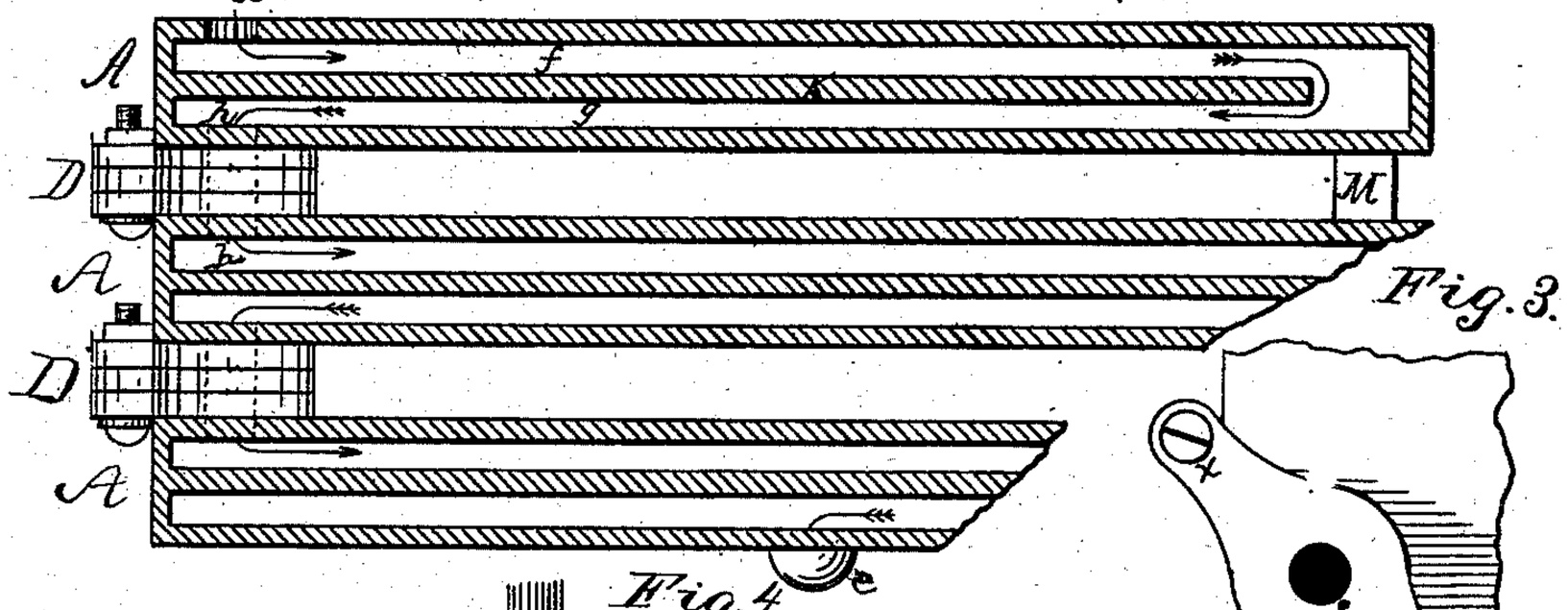
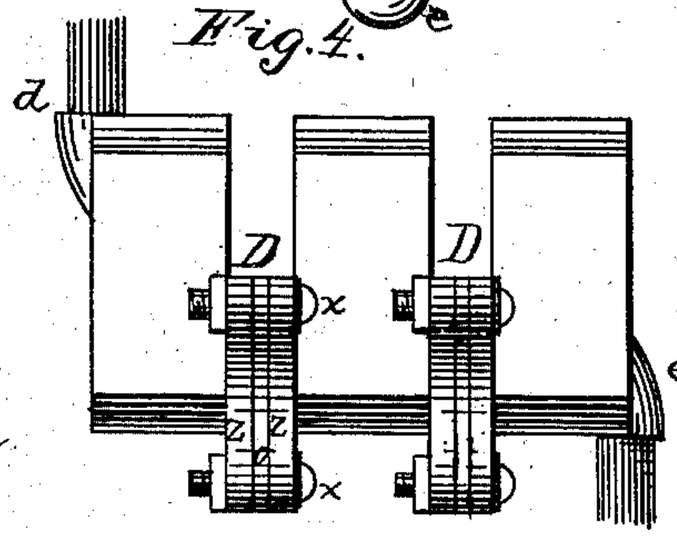


Fig. 3.

Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES C. ANDREWS AND JOHN F. SUNDERLAND, OF PHILADELPHIA, PA.

STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 255,071, dated March 14, 1882.

Application filed November 15, 1881. (No model.)

To all whom it may concern:

Be it known that we, JAMES C. ANDREWS and JOHN F. SUNDERLAND, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Radiators, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to steam-radiators; and it consists in the construction and arrangement of its several parts, as will be hereinafter fully set forth, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective of the radiator. Fig. 2 is a section cut by a horizontal plane passing through line *x x*. Fig. 3 is a side view of one of the joints; and Fig. 4 is an elevation of the front end, showing one edge of the joining plates.

In Fig. 1 the sections A form a radiator, which is fastened together by the joints D, the whole being supported by the straps F, hanging from brackets in the sides of the wall or from the ceiling. The word "section" in this sense means one of the parts A, which make up a set of radiators, and not a section cut through some part of the radiator. *d* represents the opening into the radiator which receives the pipe H. *e* is the outlet of the radiator into the pipe *g*.

In Fig. 2, *d* is a section of the passage into the radiator; *f* and *g*, the passages of the inside, formed by the thin partition *k*, running nearly to the back end of the inside of the section. The opening *h* leads into the joints D through *s*, and on into the other sections in the same way.

Fig. 3 shows the angle at which the joint is fastened to the radiator and the opening *s*, which coincides with apertures *h* in D, Fig. 2.

In Fig. 4 the joint D is composed of two metal plates, *z z*, riveted or cast to the sides of the radiator, and the packing O, fastened together by the bolts *x x*.

The notches *n* in the joint D, Fig. 1, may be made to more readily take out the bolts if they are longer than the width of the sections.

When fitted for use the steam enters the radiator by the pipe H, passing through *d* into and along the space *f* around the end of the vertical partition *k*, and back to the front end and out at *h*, thus completing the circulation all in the section A, and so on through the sections, and escapes at *e*.

One of the advantages of this improvement is the convenience with which any of the sections can be taken out and not disturb the others. The sections are joined only in front, and the workman, removing one, does not have to get in under or up behind the set to unfasten any bolts at the back part. Another advantage is that a single section can be used or more be added to the set if the number used is not sufficient to do the warming necessary. The rear ends of the sections are kept at the right distance apart by blocks, one of which is shown in Fig. 2 at M.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the radiators A A A, provided with centrally-arranged partitions *k*, joints D, consisting of the plates *z z*, having arms upon opposite sides and cast to the sections A, the washers *o* and bolts *x x*, and the blocks M, said washers and blocks being adapted to keep the sections separate and readily detachable from each other, as shown and described.

In testimony whereof we have affixed our signatures in presence of two witnesses.

JAMES C. ANDREWS.
JOHN F. SUNDERLAND.

Witnesses:
A. C. MORCK,
T. T. SUNDERLAND.