

(No Model.)

E. T. WEYMOUTH.  
INDIRECT RADIATOR.

No. 258,967.

Patented June 6, 1882.

FIG. 1.

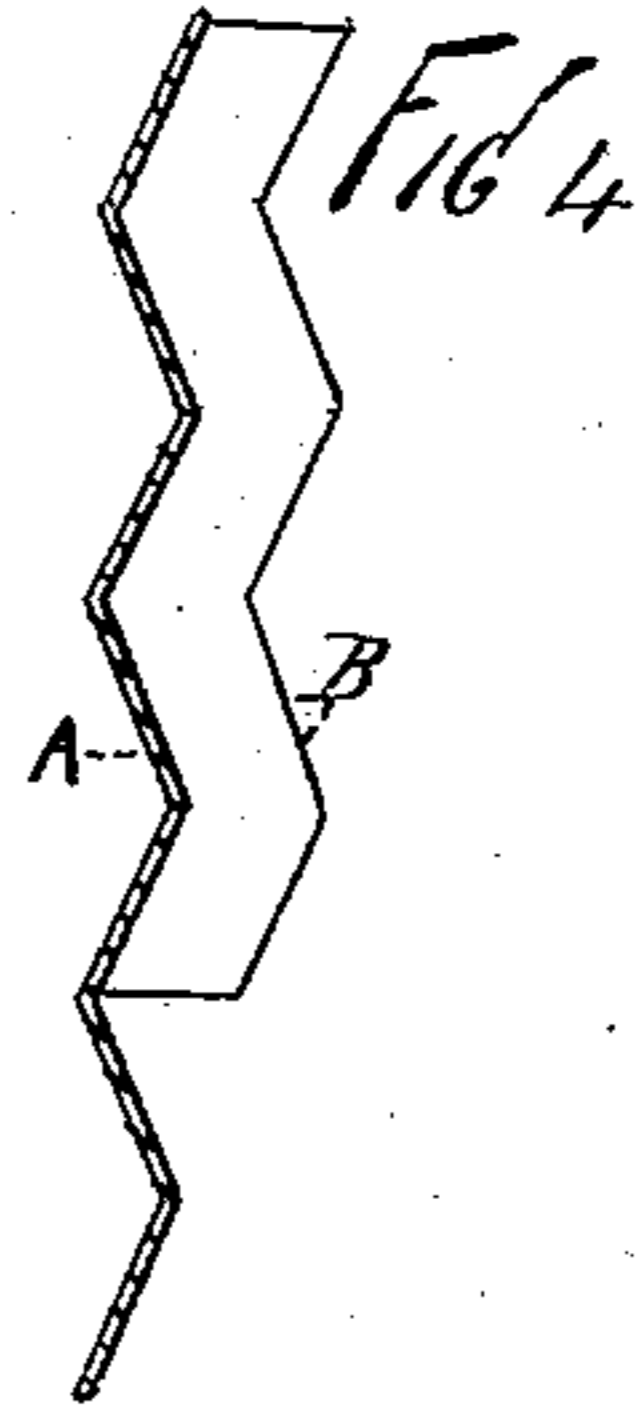
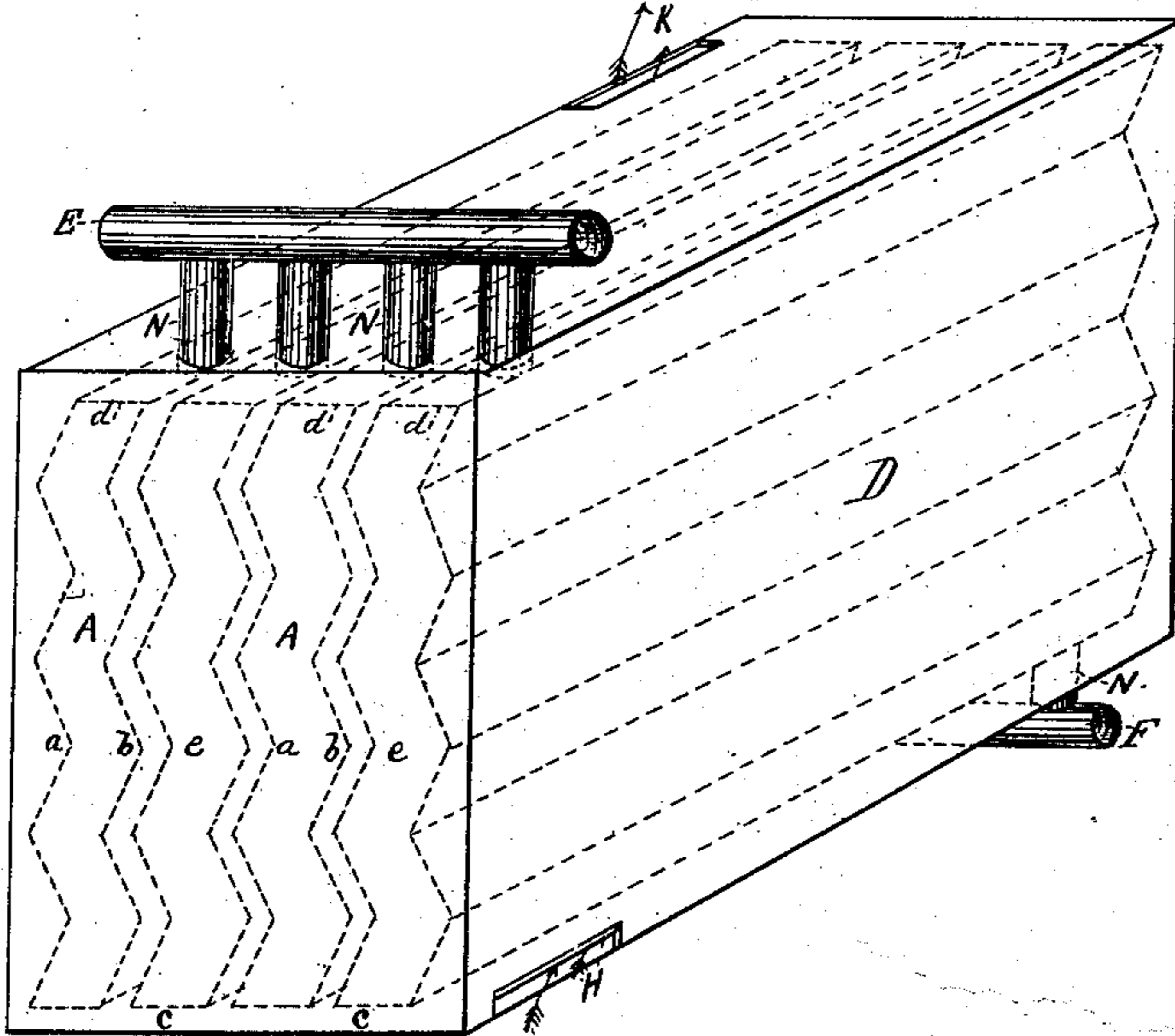


FIG. 2.

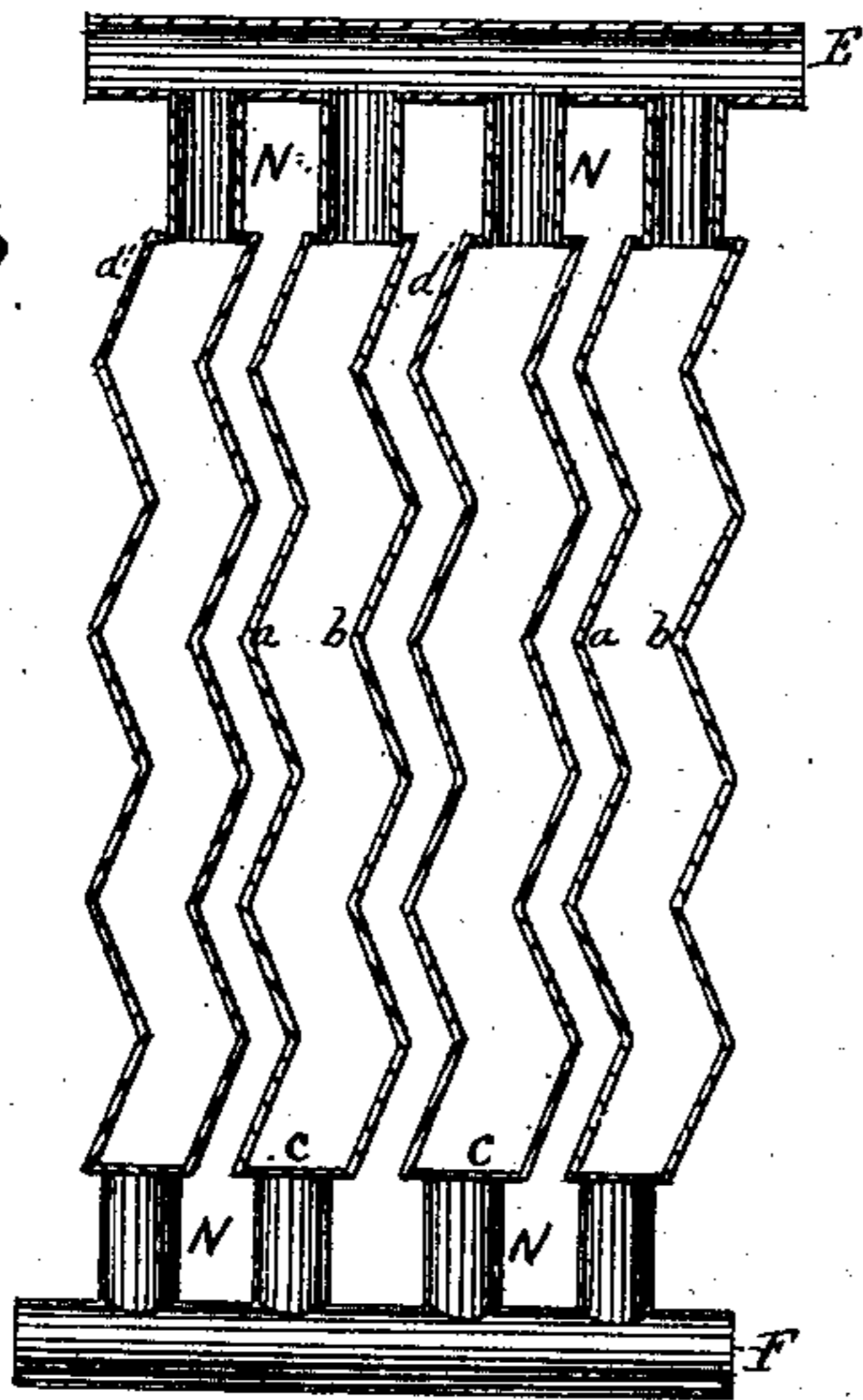
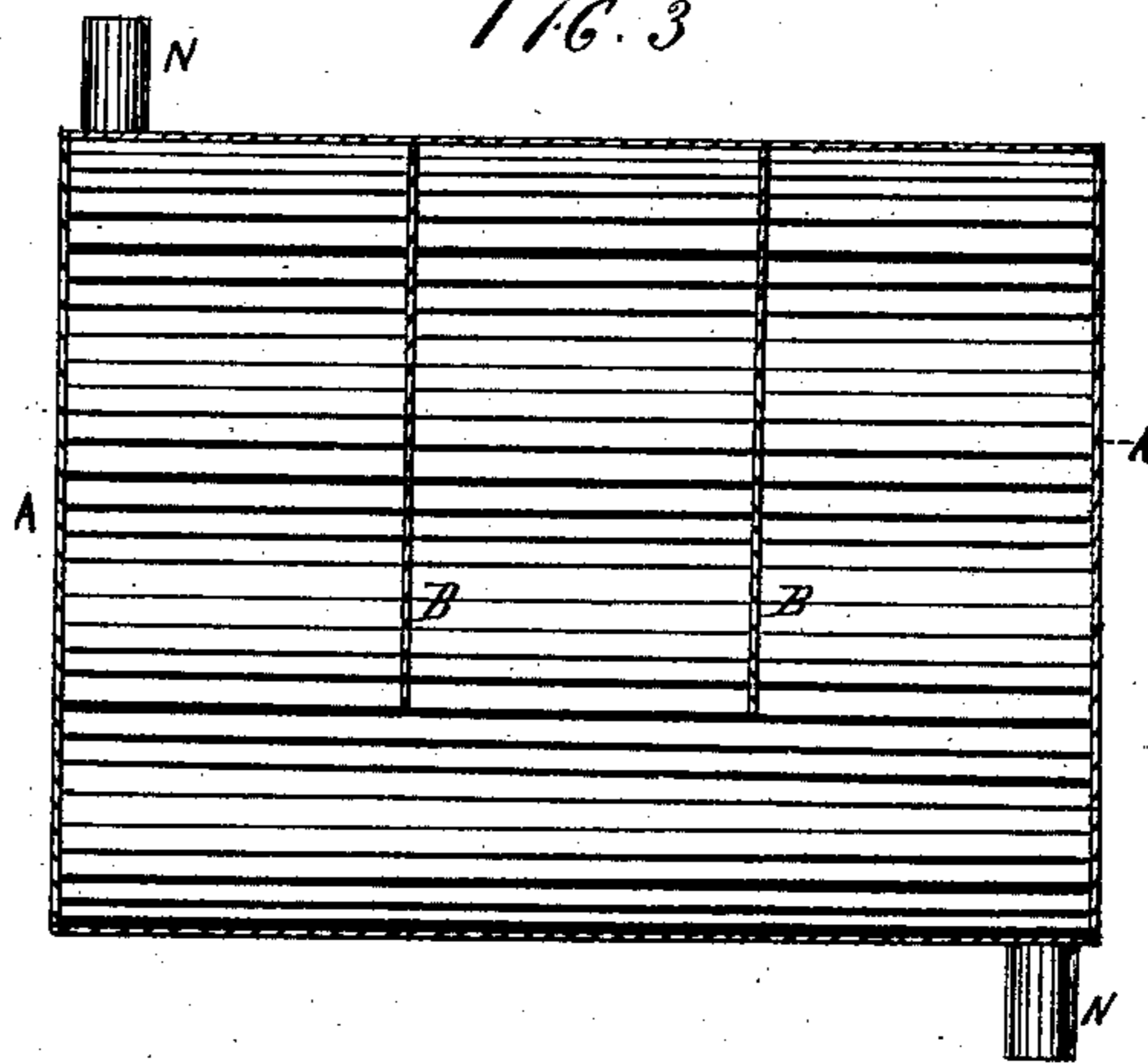


FIG. 3.



ATTEST-  
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# UNITED STATES PATENT OFFICE.

ELISHA T. WEYMOUTH, OF BROOKLYN, NEW YORK.

## INDIRECT RADIATOR.

SPECIFICATION forming part of Letters Patent No. 258,967, dated June 6, 1882.

Application filed January 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ELISHA T. WEYMOUTH, a citizen of the United States, and a resident of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Indirect Radiators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to indirect radiators for heating buildings by steam, where the radiators for heating are placed inside of a draft-box; and the object of my invention is, first, to increase the heating or radiating surface and reduce the space occupied by the radiator; second, to prevent the air as it is being heated from passing in a straight line in a smooth current between the surfaces of the radiator. I attain these objects by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of a draft-box, wherein the air is heated in passing through it on its way to the registers, the dotted lines showing the radiator in position inside. Fig. 2 is a cross-section of four sections of the radiator. Fig. 3 is a plan view of one side of one section of the radiator, showing the partitions B B inside. Fig. 4 is a section of the side of one section of the radiator, and a plan view of one of the sections B B.

Similar letters refer to similar parts in the different figures.

A A are sections of a radiator, with corrugated surfaces on both sides of each section, the corrugations on each side being of the same form and depth, the corrugations on one side being the reverse of those on the other side, having the same distance between each part, as shown in the sectional view in Fig. 2. Each part or section A of the radiator is complete of itself, forming a corrugated square or rectangular box, with an inlet-pipe for the steam, as shown at E in Figs. 1 and 2, and an outlet-pipe for the steam, as shown at F in Figs. 1 and 2. Each part or section A of the radiator being a duplicate or fac-simile of the others, when they are placed together a short distance apart, as shown in Figs. 1 and 2, a space is formed between the sections of a uniform width throughout. The two sides *a b* of each section are held

together by a narrow flat top, *d*, bottom *e*, and ends *e e*. Each section has, in addition to the top, bottom, ends, and corrugated sides, two partitions, B B, extending from the top of the section nearly to the bottom of the inside of the section, as shown in Figs. 3 and 4, which prevents the steam, when allowed to enter one of the sections A A of the radiator, from making a direct and unobstructed passage from the inlet steam-pipe E to the outlet steam-pipe F, thus breaking the current or passage of the steam and causing it to heat all surfaces of the radiator equally. Having a corrugated surface on the sides of each section A, and a partition inside, holding the sides together, a very strong radiator is made, being much more capable of withstanding a great pressure of steam than where the sides are flat and without partitions.

Having constructed the sections of the radiator as heretofore described, each section is joined to the inlet steam-pipe E by a right and left threaded nipple, N, as shown in Figs. 1, 2, and 3, and the other corner of each section is joined to the outlet steam-pipe F by a right and left threaded nipple, N, as shown in Figs. 1, 2, and 3. The number of sections in the radiator will depend on the size of the room to be heated, the same being added to as the occasion may require. When the requisite number of sections have been joined together, as described, they are placed in the draft-box D, as shown in Fig. 1, leaving a space between the bottom of the draft-box D and the bottom of the radiator-sections A A, into which space the air to be heated enters, as shown at H in Fig. 1. This draft-box D has also a space between its top and the top of the radiator-sections A A, as shown in Fig. 1. The air to be heated enters the box at H in Fig. 1, passes upward and between the radiator-sections, and passes into the flues at K, as shown in Fig. 1. The sections A A of the radiator having the uneven surfaces on their approximating sides causes the current of air, in its passage upward, to deflect from the surface of one section to the surface of the other section, and the reverse, continuously. By this motion all parts of the current of air are caused to come in contact with the entire surfaces of the radiator-sections, while the radiator-sections A A, being of one

uniform thickness, and the steam coming in contact with all parts of said radiator-sections, a uniformity of heat and heating-surface is presented to the air in its passage.

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

1. In a steam-radiator of the character herein set forth, the similar sections A A, each hav-  
10 ing corrugated sides *a b* and partitions B B, the right and left threaded nipples N N, the inlet-pipe E and the outlet-pipe F, the several parts being arranged and combined substan-  
15 tially in the manner and for the purposes set forth.

2. In a steam-radiator of the character herein set forth, the similar sections A A, each hav-

ing corrugated sides *a b* and partitions B B, the right and left threaded nipples N N, the inlet-pipe E and the outlet-pipe F, and the box  
20 or casing D, provided with the air-inlet H at the bottom and the air-outlet K at the top, the several parts being arranged and combined substantially in the manner and for the pur-  
25 poses and objects named.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

ELISHA T. WEYMOUTH.

Witnesses:

F. W. HANAFORD,

GEO. O'BRIEN.