

A. C. EDGAR.

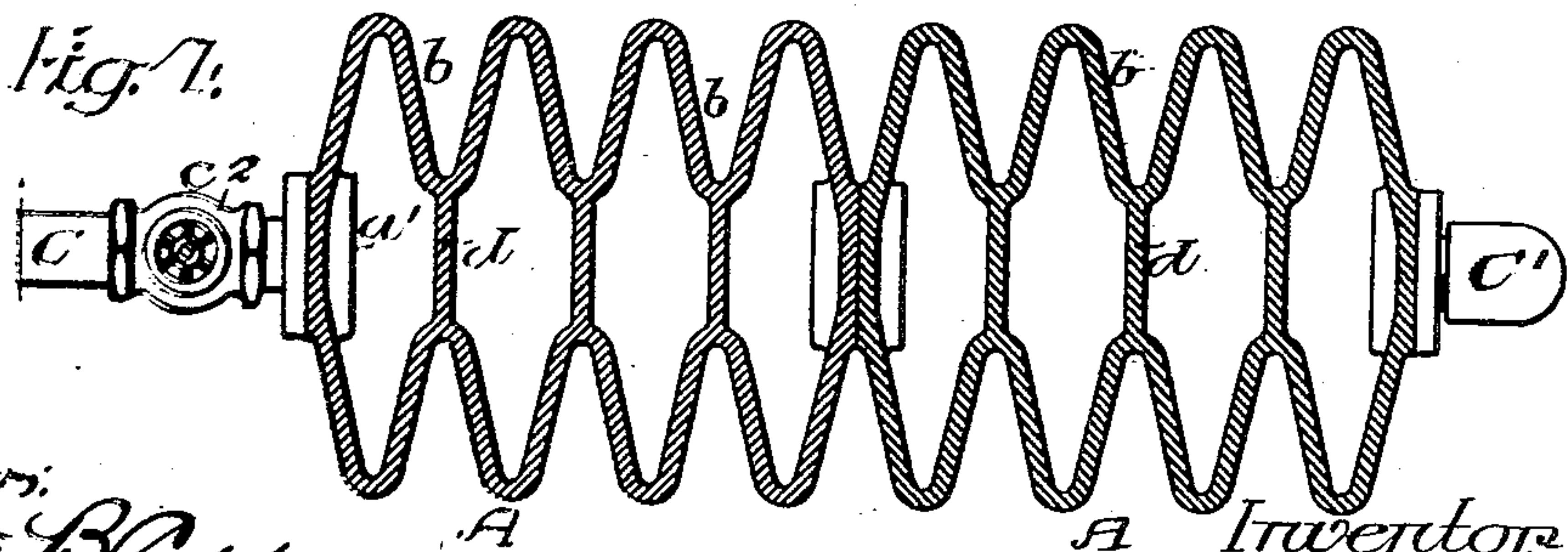
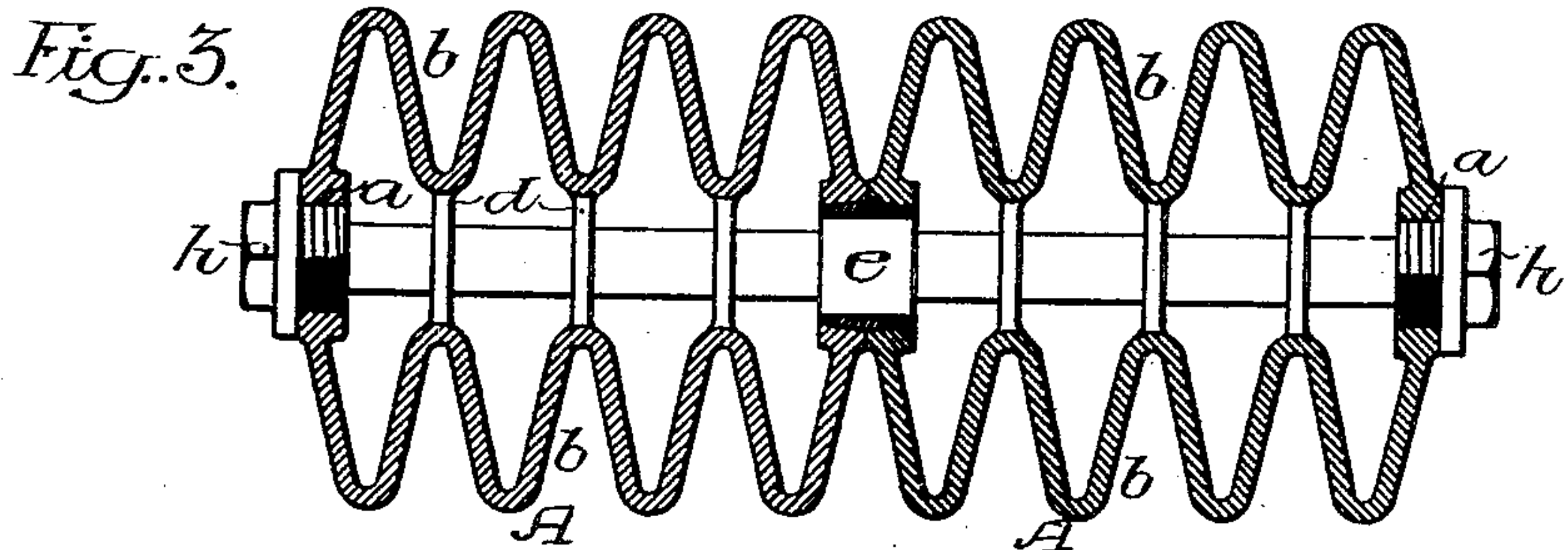
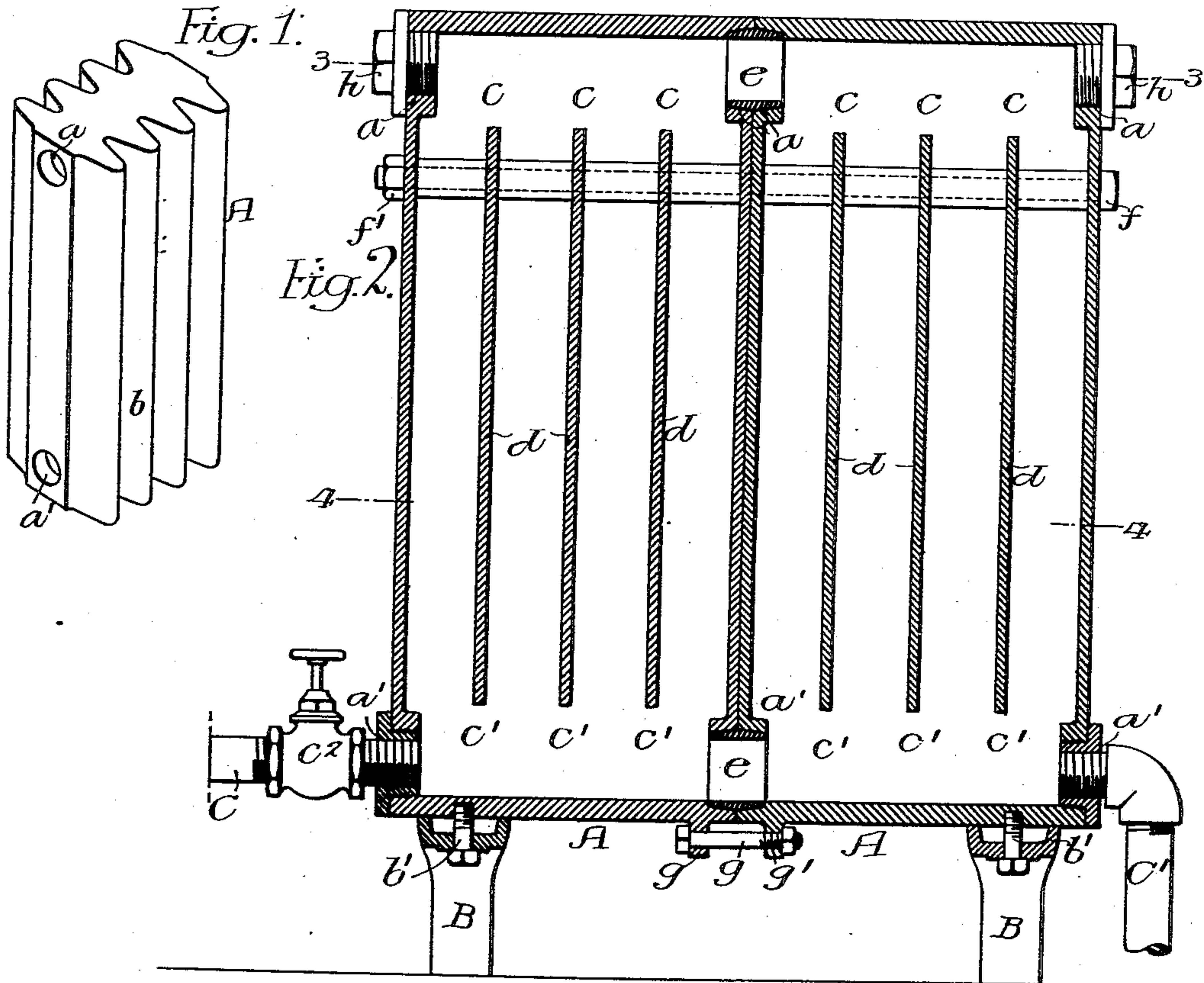
RADIATOR.

APPLICATION FILED JULY 17, 1908.

Patented Apr. 6, 1909.

2 SHEETS—SHEET 1.

917,423.



Witnesses:
Augustus B. Lopes
Walter Chism

Inventor:
Andrew C. Edgar
by his Attorneys:
Houson & Houson

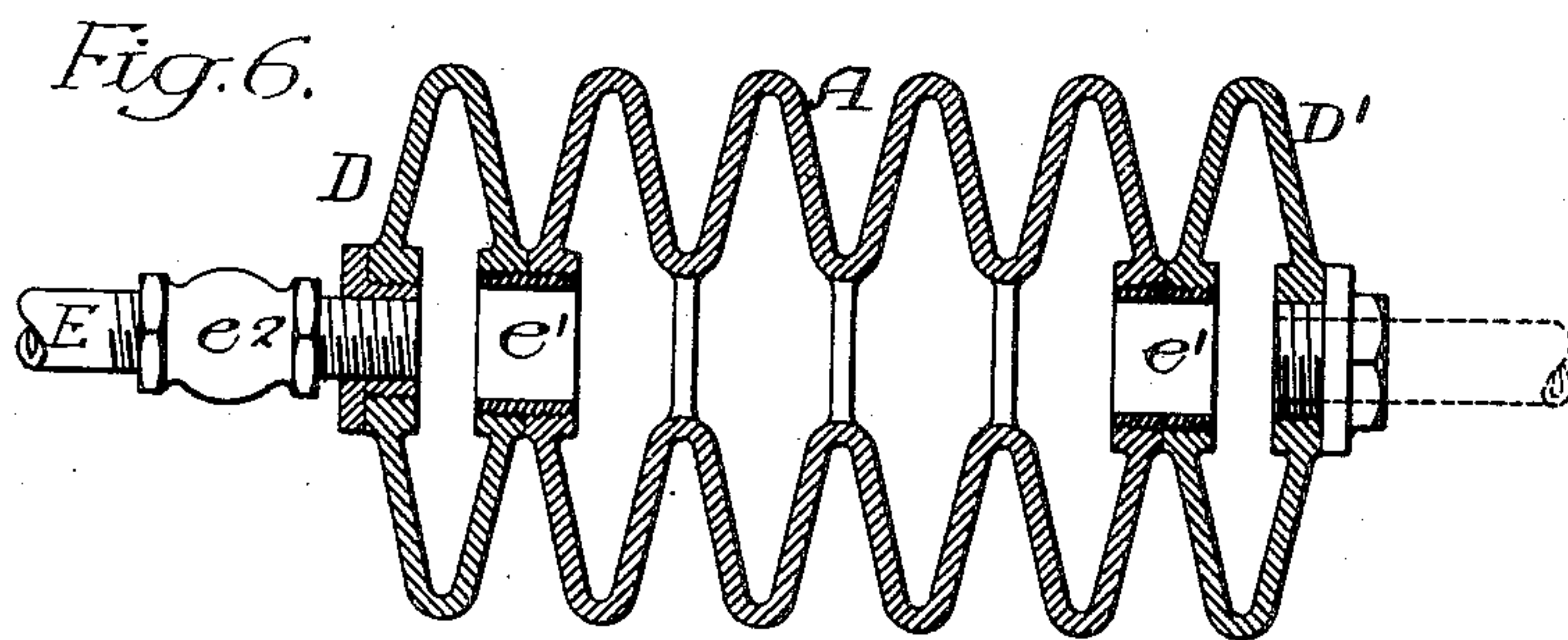
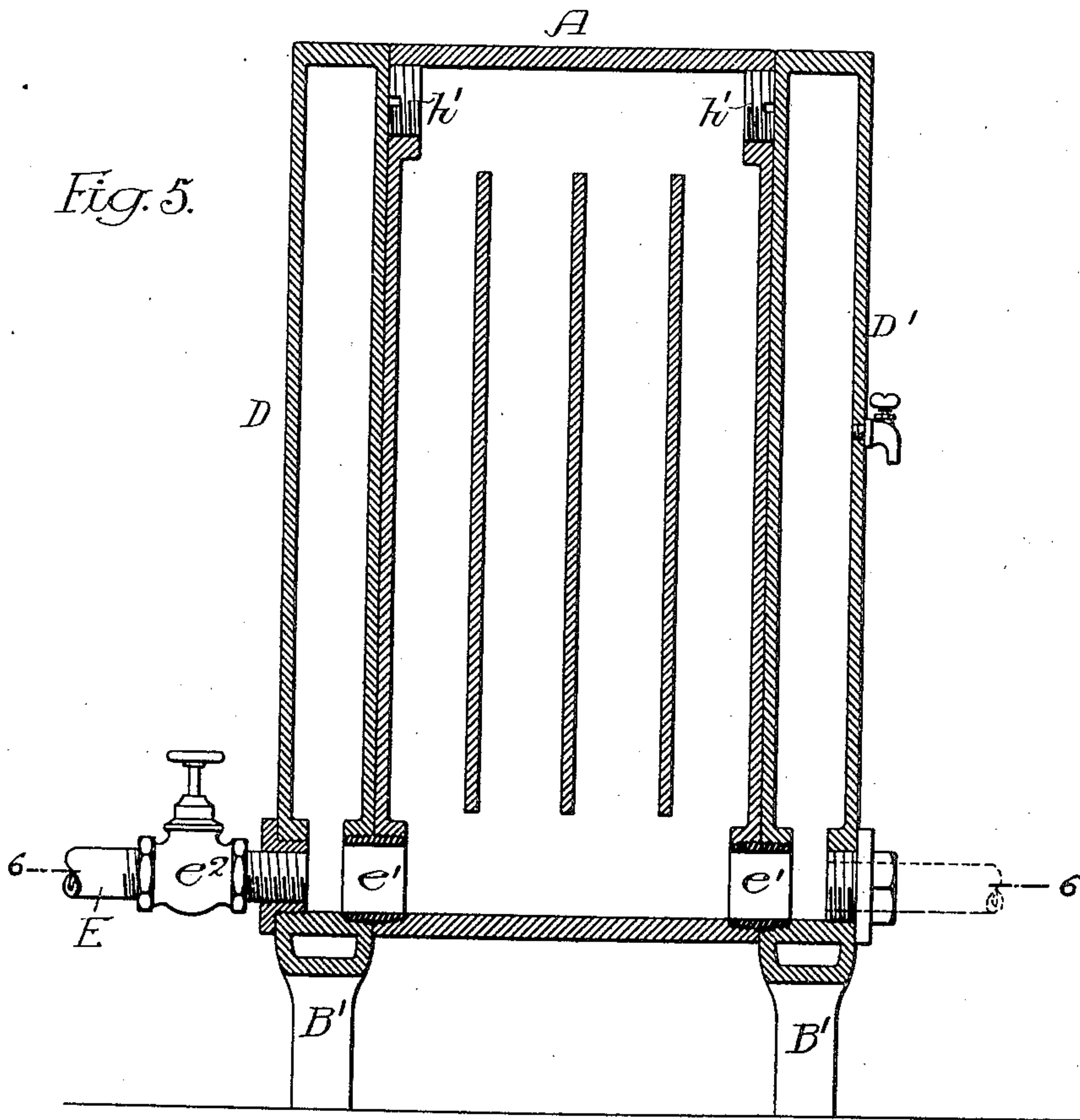
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UNITED STATES PATENT OFFICE.

ANDREW C. EDGAR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ABRAM COX STOVE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

RADIATOR.

No. 917,423.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed July 17, 1908. Serial No. 444,029.

To all whom it may concern:

Be it known that I, ANDREW C. EDGAR, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Radiators, of which the following is a specification.

The object of my invention is to design a radiator section which can be used either for hot water or steam; the section being made in multiple and each section being an integral casting.

In the accompanying drawings:—Figure 1, is a perspective view of my improved radiator section; Fig. 2, is a vertical sectional view illustrating two of my radiator sections coupled together for use as a hot water radiator; Fig. 3, is a sectional plan view on the line 3—3, Fig. 2; Fig. 4, is a sectional plan view on the line 4—4, Fig. 2; Fig. 5, is a vertical sectional view showing my invention adapted for use as a steam radiator; and Fig. 6, is an inverted sectional plan on the line 6—6, Fig. 5.

Referring in the first instance to Fig. 2, A, A are two sections of a radiator, each having openings *a* at the top at each end and openings *a'* at the bottom at each end. Each radiator section A is made as shown in cross section, Fig. 3, each side *b* of the section A is corrugated as shown, forming prominent ribs and deep grooves between the ribs, and the inner edges of each section are connected together by transverse partitions *d*; these partitions stop short of the top and bottom so as to form connecting channels *c* at the top and connecting channels *c'* at the bottom, thus while one compartment is separated from another by the partition *d* the steam or hot water is free to flow from one compartment to the other through the channels *c*, *c'*.

In Fig. 2, I have shown the radiator sections coupled together by tapered nipples *e*, *e* adapted to the openings *a*, *a'* at top and bottom of each radiator section. The bosses for the reception of the nipples project partly on the outside of the radiator and partly on the inside, as shown in Fig. 3, so that when the sections are assembled the corrugations are continuous and the radiator has the appearance of a single casting.

The sections may be secured together in any suitable manner. In Fig. 2, I have shown a tie rod *f* having a nut *f'* at one end, this rod passes through openings extending from one side of the radiator sections to the

other, but these openings do not communicate with the interior of the radiator section. The two radiator sections are coupled at the bottom, in the present instance by a bolt *g* passing through lugs *g'* depending from the radiator sections, but other means of fastening the sections together may be resorted to without departing from the main feature of the invention. The radiator sections A, A are supported in the present instance by the feet B attached to the sections by bolts *b'*.

The upper outside openings *a*, *a* of each radiator section are closed by plugs *h*, *h* and secured to one lower opening *a'* is a supply pipe C for hot water and this pipe is provided with a valve *c'*; while coupled to the lower end of the other section is a return circulating pipe C'. These pipes may be coupled in any suitable manner without departing from my invention. The hot water will pass into the first section of the radiator and at once travel to the top of the radiator section and through the nipples *e*, and the cooler water will pass from the lower portions of both radiator sections through the outlets C'.

When my invention is applied as a steam radiator then I attach two radiator sections D, D', one to each side of my improved radiator section A, either by screw coupling nipples *e'* or other attachments, as shown in Fig. 5; the openings in the upper portions of the radiator being closed by screw plugs *h'*. A steam pipe E having a valve *e'* is attached to one end of the radiator and when steam is admitted it first fills the section D, then enters the section A filling this section, and finally enters the end section D'; all the openings being at the bottom. This may be a one pipe system, as shown in the drawings, or there may be another pipe coupled to the section D', as shown by dotted lines in Fig. 5, if desired. In this instance the legs B' form an integral part of the end sections D, D' and there may be as many sections of my improved radiator as desired; all the intermediate sections being similar to that illustrated at A, Fig. 5.

In both hot water and steam the number of sections in the unit will depend upon the area to be heated.

Thus it will be seen by the above description that I am enabled to construct a radiator section which can be used in a system using either hot water or steam. When hot

water is used the sections are simply coupled up in any number as desired and the water supply and return either attached to the lower or upper portions of the sections.

5 When steam is used single end sections are used in connection with my improved radiator section, so as to insure the proper circulation of the steam in the radiator.

I claim:—

10 1. An integral radiator section made of cast metal, both sides of the radiator being corrugated forming vertical ribs with deep channels between them on the inside and outside, vertical, solid partitions uniting the
15 inwardly projecting ribs and stopping short of the top and bottom of the radiator section to form upper and lower circulating passages.

2. The combination in a radiator, of two

or more sections situated end to end, the side walls of said sections being corrugated forming vertical ribs with deep channels between them on the inside and outside and having vertical partitions uniting the inwardly projecting ribs and stopping short of the top and bottom to form upper and lower circulating passages, the corrugations being so formed that when the sections are coupled together the ribs and channels will be uniform throughout. 20 25

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses. 30

ANDREW C. EDGAR.

Witnesses:

JOS. H. KLEIN,
WM. A. BARR.