

(No Model.)

2 Sheets—Sheet 1.

E. L. STREAM.
DISINFECTING APPARATUS.

No. 417,113.

Patented Dec. 10, 1889.

Fig. 1.

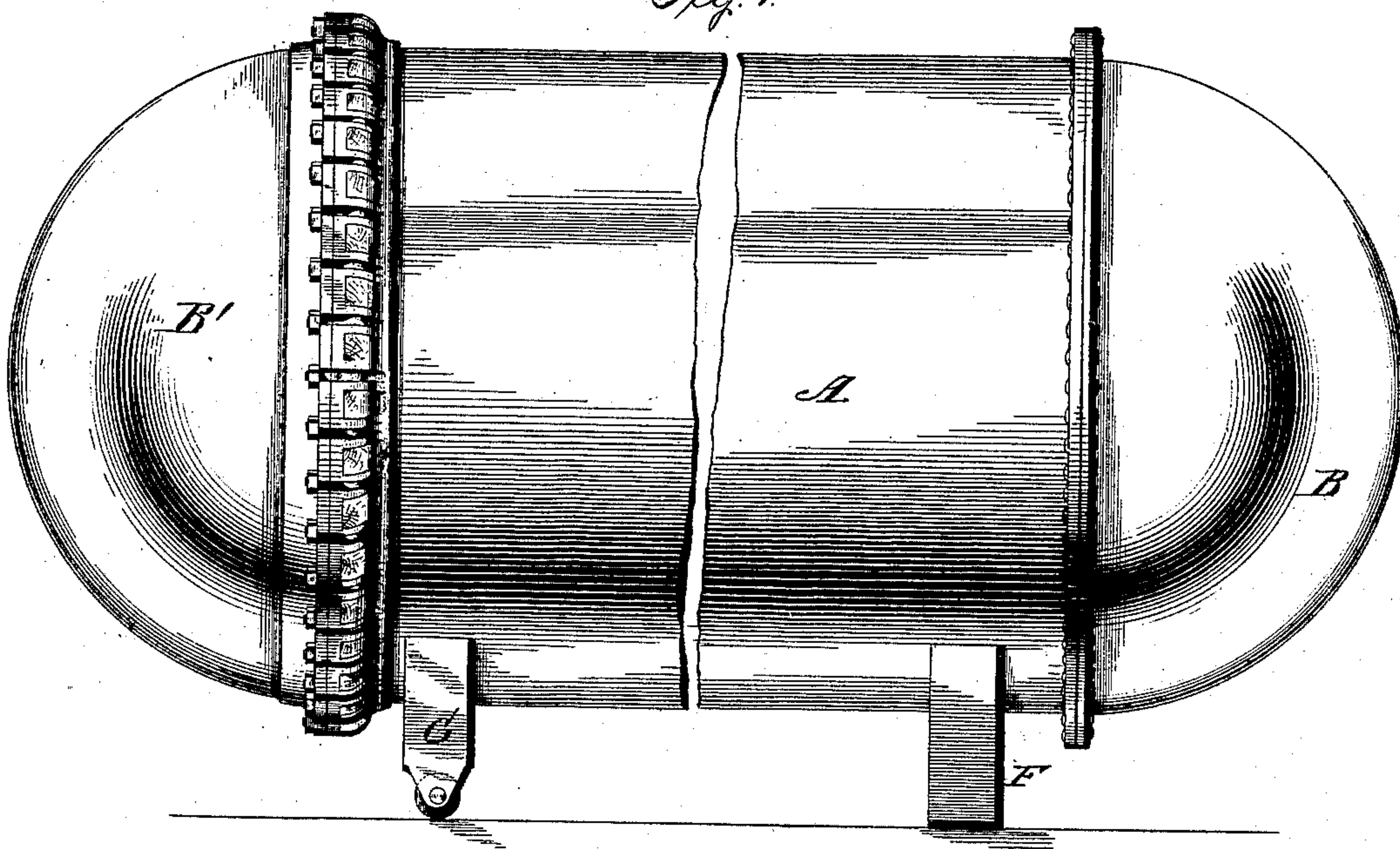
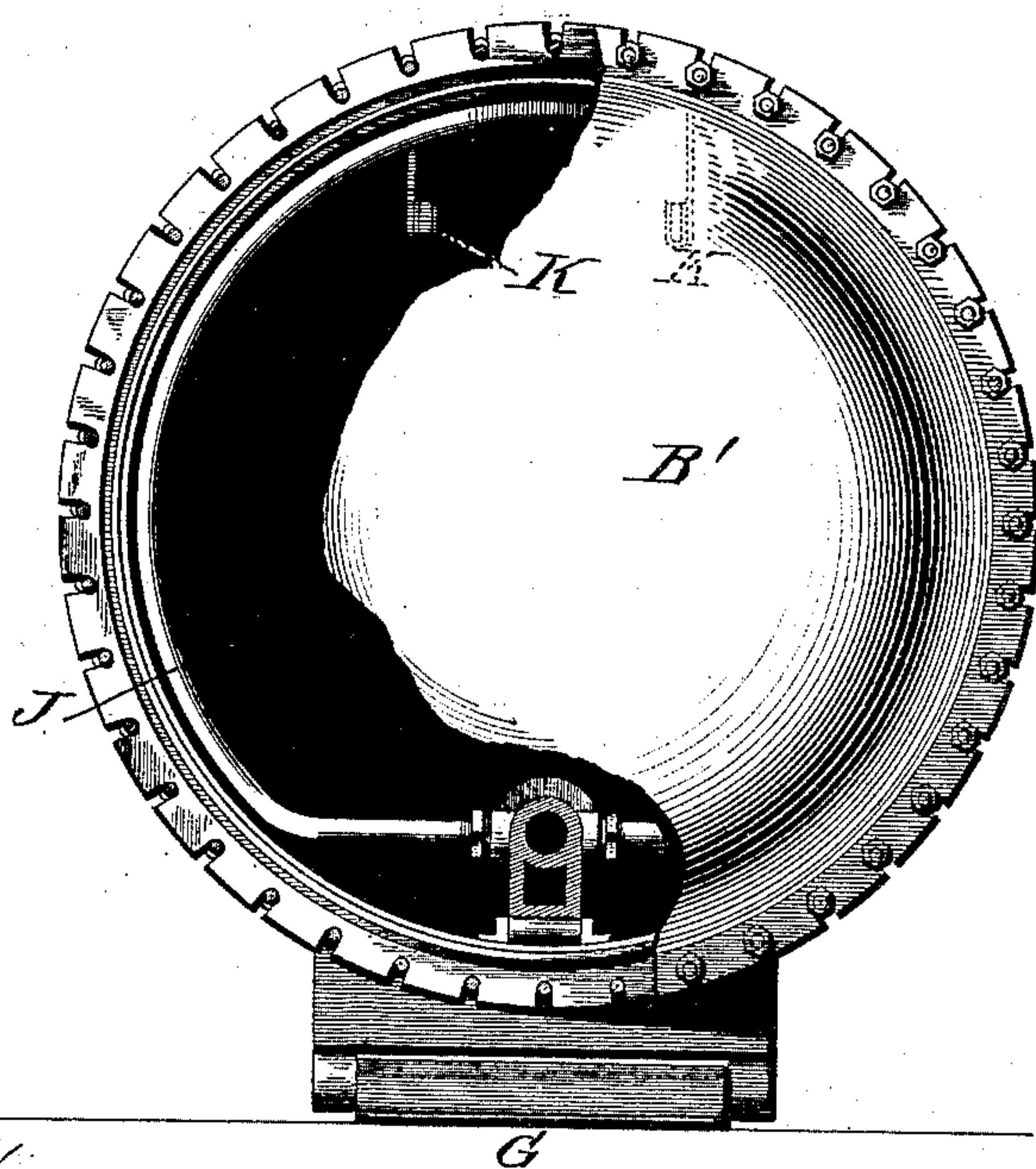


Fig. 2.



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per Cha. J. Fowler,
Attorney

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Fig. 3.

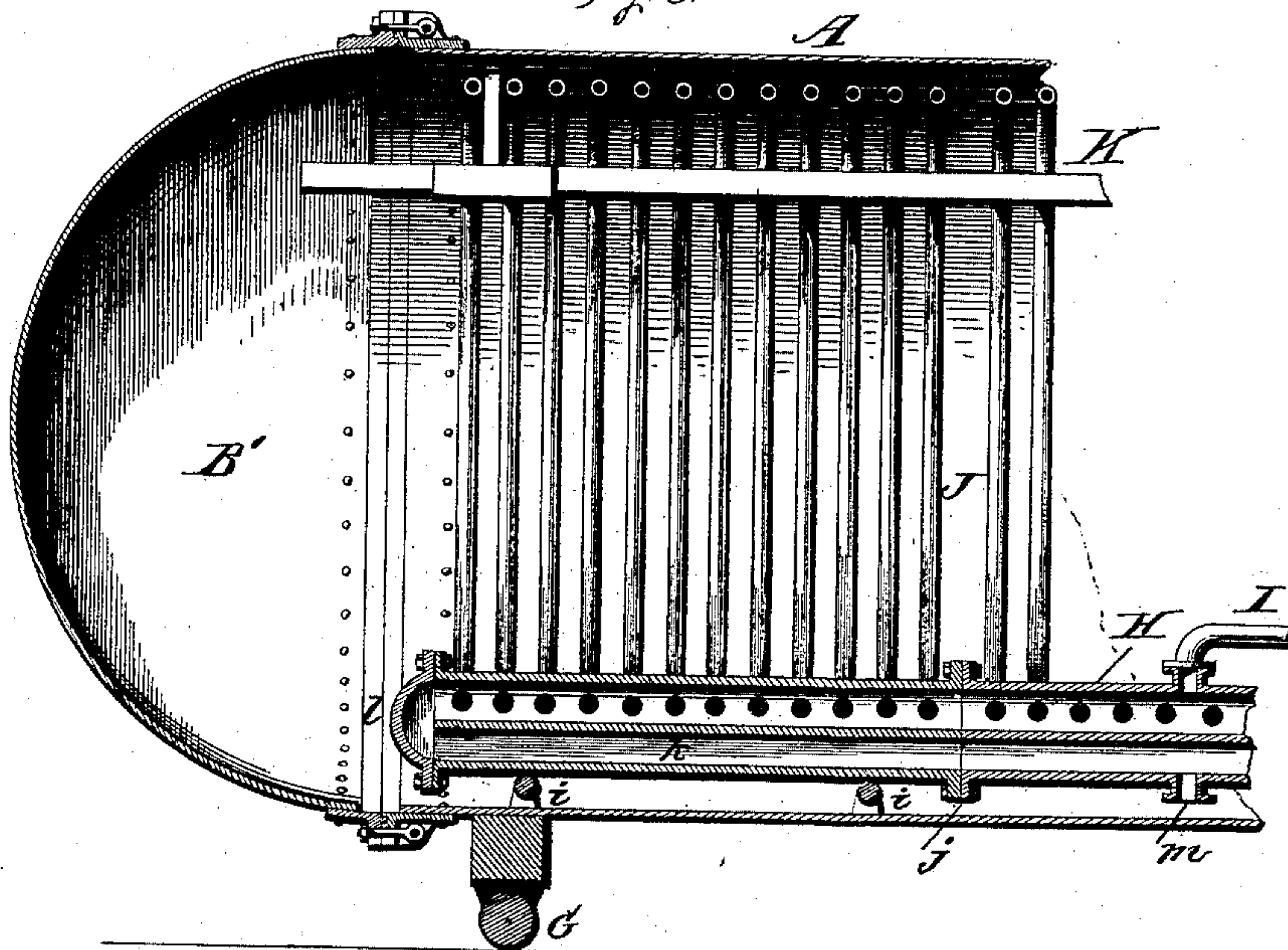


Fig. 4.

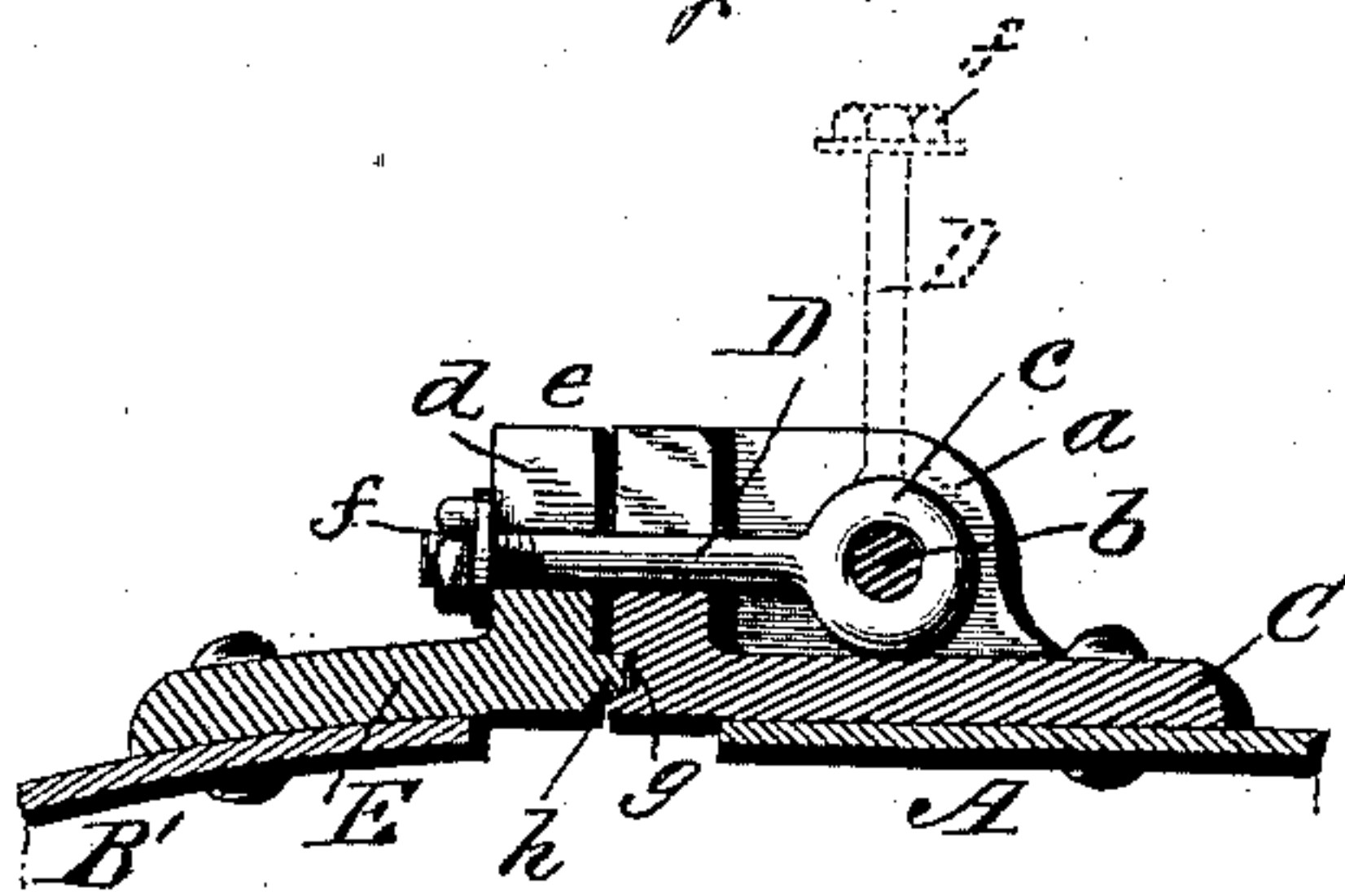


Fig. 5.

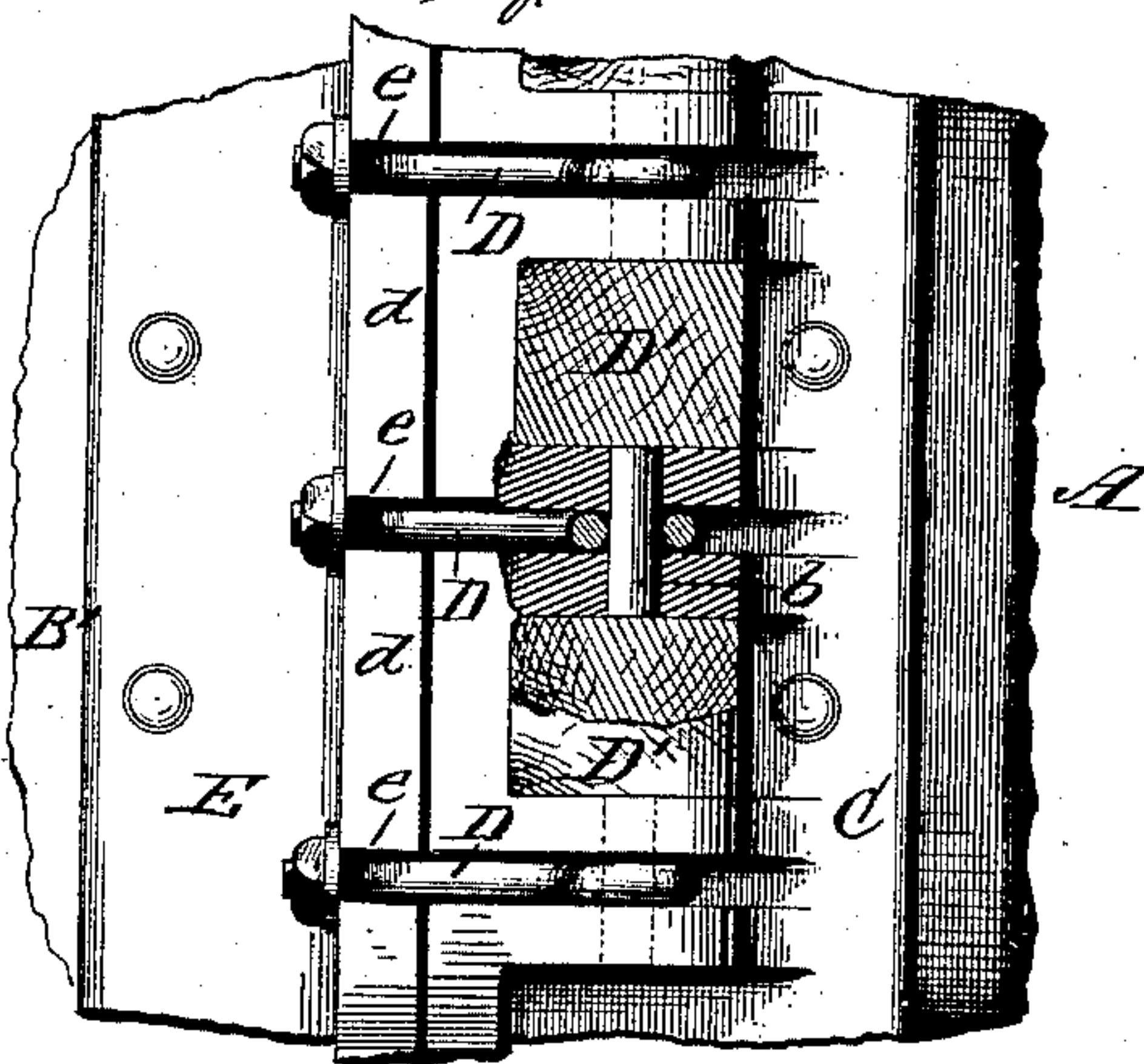
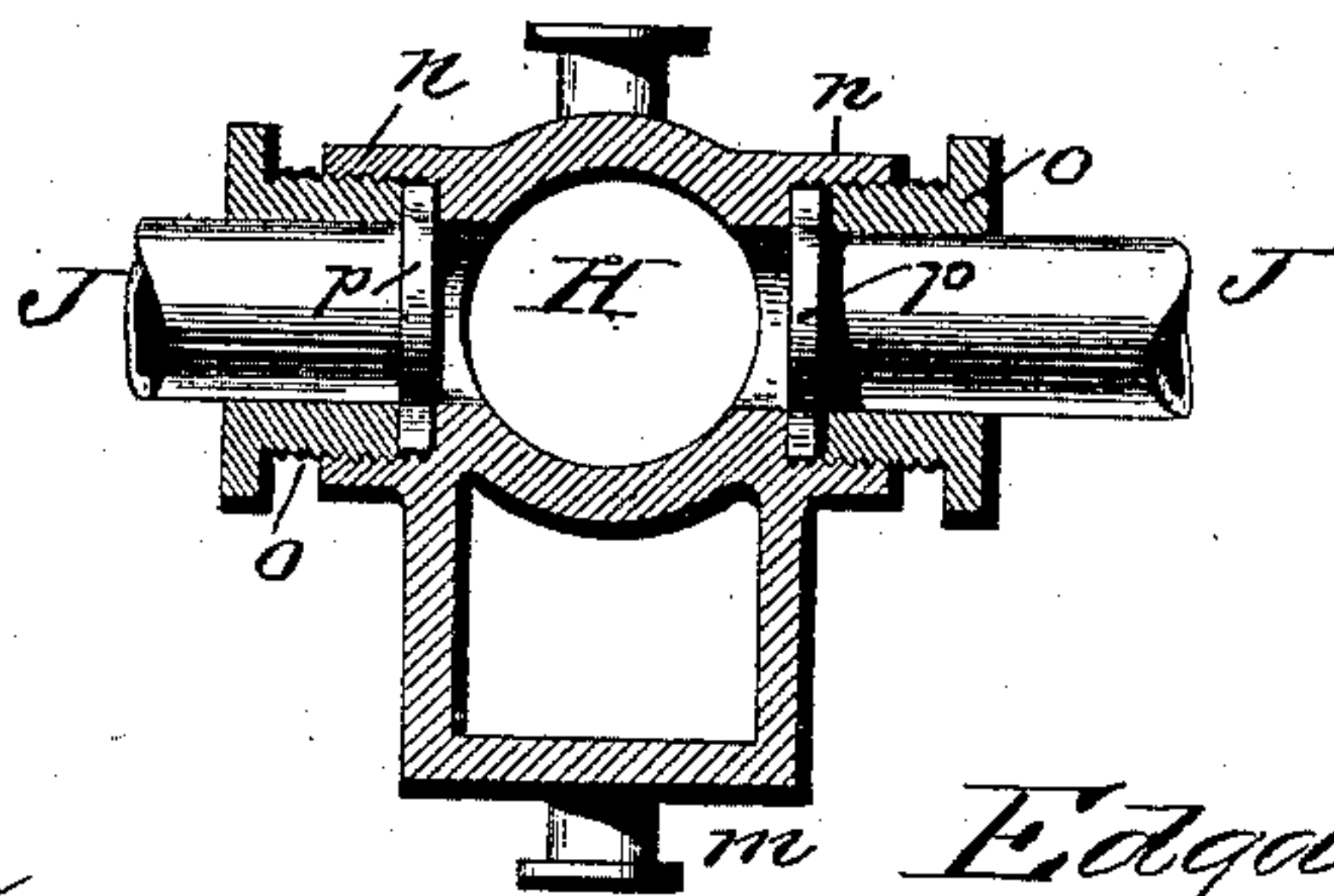


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDGAR LOUIS STREAM, OF NEW ORLEANS, LOUISIANA.

DISINFECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 417,113, dated December 10, 1889.

Application filed June 26, 1889. Serial No. 315,588. (No model.)

To all whom it may concern:

Be it known that I, EDGAR LOUIS STREAM, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Disinfecting Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in disinfecting apparatus, designed more particularly for use upon vessels for the purpose of disinfecting merchandise and materials coming from countries where contagious or infectious diseases exist.

The object of the invention is to provide a device of this character in which may be maintained a fixed temperature and a fixed pressure for the purpose of disinfecting.

The novelty resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of an apparatus of this character constructed in accordance with my invention. Fig. 2 is an end view with the head broken away. Fig. 3 is a vertical central section through a portion of the same. Fig. 4 is a detail, partly in side elevation and partly in section. Fig. 5 is a side view, on an enlarged scale, showing the manner of connecting the head to the cylinder. Fig. 6 is an enlarged sectional detail, which will be more particularly referred to hereinafter.

Like letters of reference indicate like parts in the several figures where they occur.

Referring now to the details of the drawings by letter, A designates a cylinder of suitable material, preferably steel, and of such size as the circumstances require. I make the heads of this cylinder hemispherical to

avoid all bracing. One of these heads B is secured to the shell permanently, preferably by rivets passed through the flanges on the shell and head. The other head B' is connected to the shell in the following manner: Secured to the end of the cylinder A is a circular band or ring C, provided at suitable intervals with lugs *a*, between each two of which is pivoted a bolt D by means of a transverse pin *b*, each bolt having an eye *c*, through which the pin passes, and the end of the bolt being screw-threaded, as shown. In the space between each two sets of lugs I drive a block D', preferably of wood, against which the ends of the transverse pins bear, as shown in Fig. 5. By this arrangement, if it is at any time desired to remove any one of the bolts, it is only necessary to remove the block and then the pin can be readily removed, leaving the bolt free to be taken off. On the adjacent end of the head B' is secured a circular band or ring E, provided with lugs *d*; or, rather, a continuous flange at right angles to the ring, the said flange being provided at suitable intervals with openings *e*, to receive the ends of the bolts, as shown in Figs. 4 and 5. The bolts, after having been secured in place by the transverse pins, are turned down, as shown in Fig. 4, and then the nuts *f* are tightened, which draws the two parts together and forms a tight joint. By this arrangement the bolts are not detached from the cylinder when the head is removed; hence they are not liable to get lost or become misplaced.

In order to secure a more perfect joint between the cylinder and head, I form upon the outer face of the ring C a circumferential groove *g*, and on the adjacent face of the ring E a circumferential rib *h*, which, as the parts are drawn up by the bolts, enters the said groove, and thus forms a tight joint.

F is a suitable support for one end of the cylinder, the other end being mounted on a wheeled support G, so as to allow for expansion and contraction, whereby the expansion moves the cylinder in one direction only.

H is a manifold pipe arranged lengthwise within the cylinder, near the bottom thereof, and suitably supported on the roller-bearings *i* to provide for expansion and contraction.

This pipe is made in sections suitably connected together, as shown at *j*, by steam-tight joints, and at its inner end is provided with a suitable cap *l*. It is divided by the partition *k* into an upper and lower compartment, the lower compartment being a receptacle for the water of condensation, and provided with a suitable trap or outlet *m*.

I is a pipe connected with a suitable source of steam, (not shown,) and connected with the manifold pipe, as shown in Fig. 3.

Connected with the upper chamber of the manifold pipe at suitable intervals — say about six inches apart — are the circular pipes *J*, which extend within the cylinder, conforming to the shape thereof and arranged near the wall thereof. These pipes are made separate from each other, and each has its ends connected with the manifold pipe in the manner shown in Fig. 6, in which the opposite sides of the pipe are formed with bosses *n*, internally threaded, as shown, and *o* are stuffing-boxes screwed into said bosses, the ends of the pipes being provided with flanges *p*, against which the ends of the stuffing-boxes engage, suitable packing being employed, if necessary, to form a tight joint.

Suspended from the top of the cylinder are the racks *K*, designed to support articles to be disinfected.

In some cases I propose to use a pipe (not shown) introduced into the cylinder, and perforated so that live steam may be admitted into the cylinder.

The operation will be readily understood,

and as the invention resides in the peculiarities of construction a description of the operation is not deemed necessary.

It will of course be understood that the number of roller-bearings, both for the cylinder and the manifold pipe, will have to be varied according to the length of the same.

What I claim as new is—

1. The combination, with the cylinder and its ring formed with lugs, and the head and its ring provided with a flange, as shown, of the bolts formed with eyes, the transverse pins passed through said eyes and lugs, the nuts on the ends of the bolts engaging the flange on the ring on the head, and the blocks between the lugs on the ring on the cylinder and against which the ends of the transverse pins bear, substantially as shown and described.

2. In a disinfecting apparatus, the cylinder provided with the hemispherical head and fastening devices, as specified, and having a single divided manifold pipe sustaining circular heating-pipes substantially concentric with the cylinder, each pipe separate from the other, but having its ends connected to the manifold pipe, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDGAR LOUIS STREAM.

Witnesses:

FRANK ZENGEL,
JOHN MALLIN.