

No. 735,591.

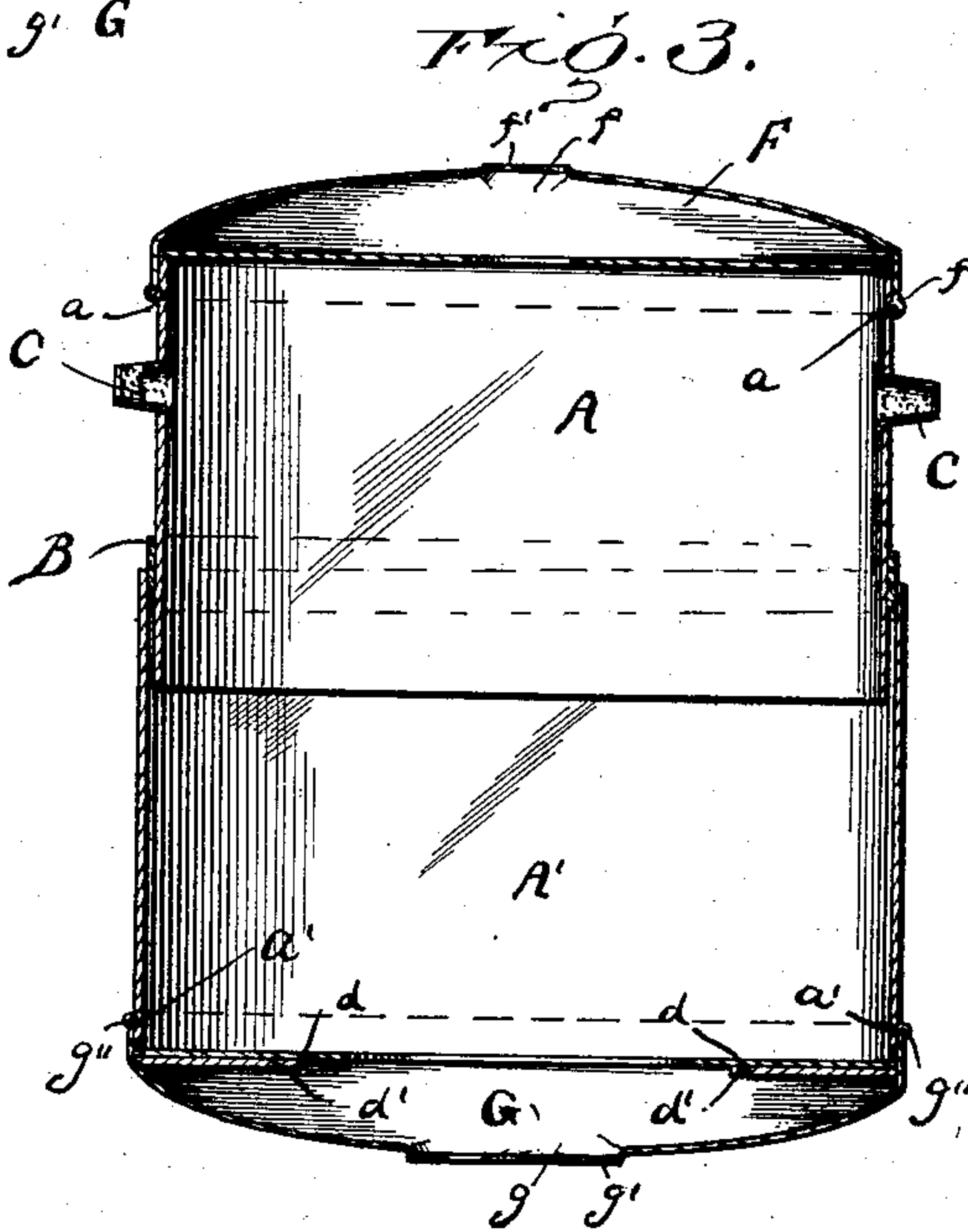
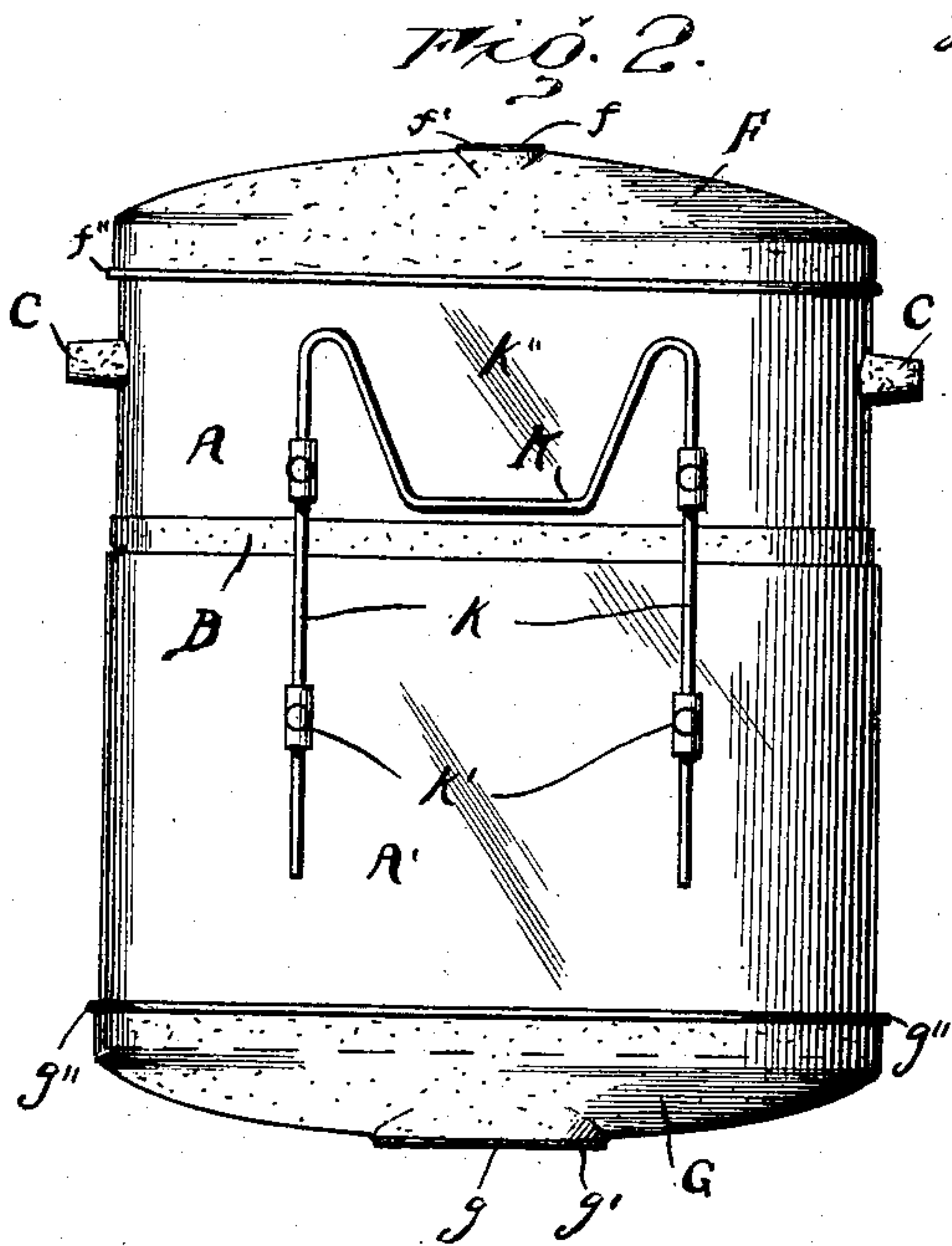
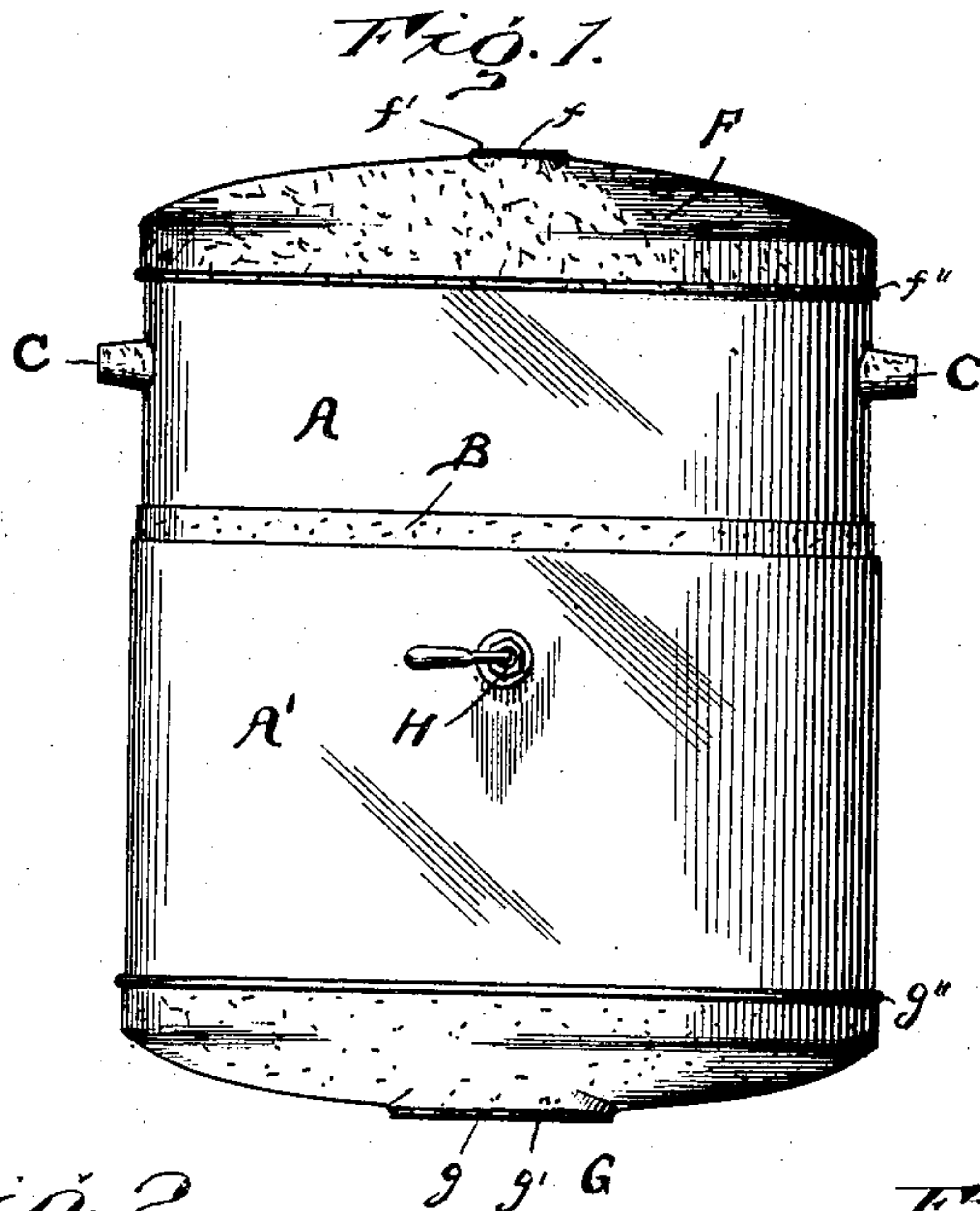
PATENTED AUG. 4, 1903.

L. H. RICHARDS.  
DEPURATOR.

APPLICATION FILED OCT. 4, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

*A. B. Williams*  
*J. Burch.*

By

Inventor  
*Lloyd H. Richards.*  
*Royal E. Burnham,*  
Attorney

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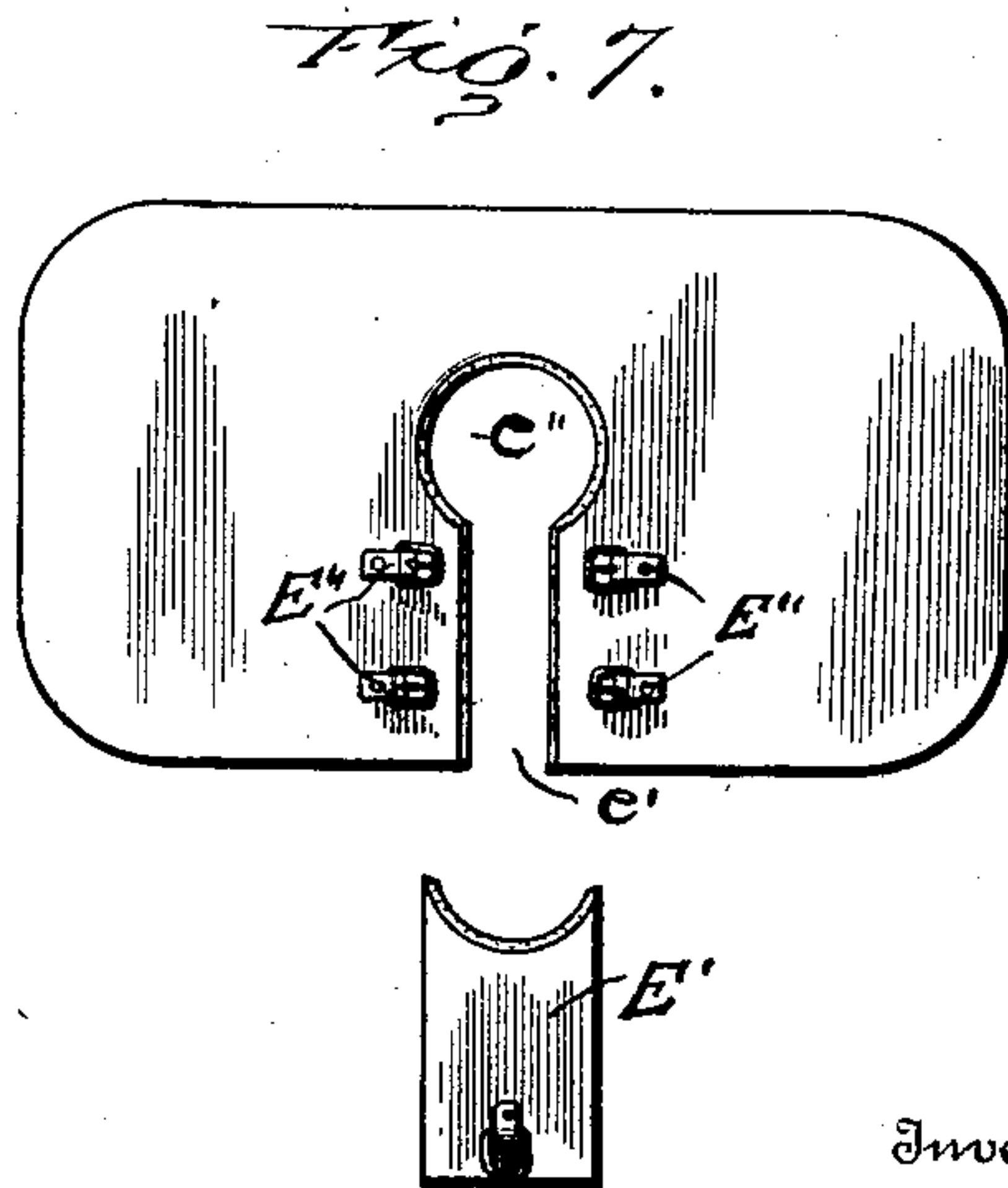
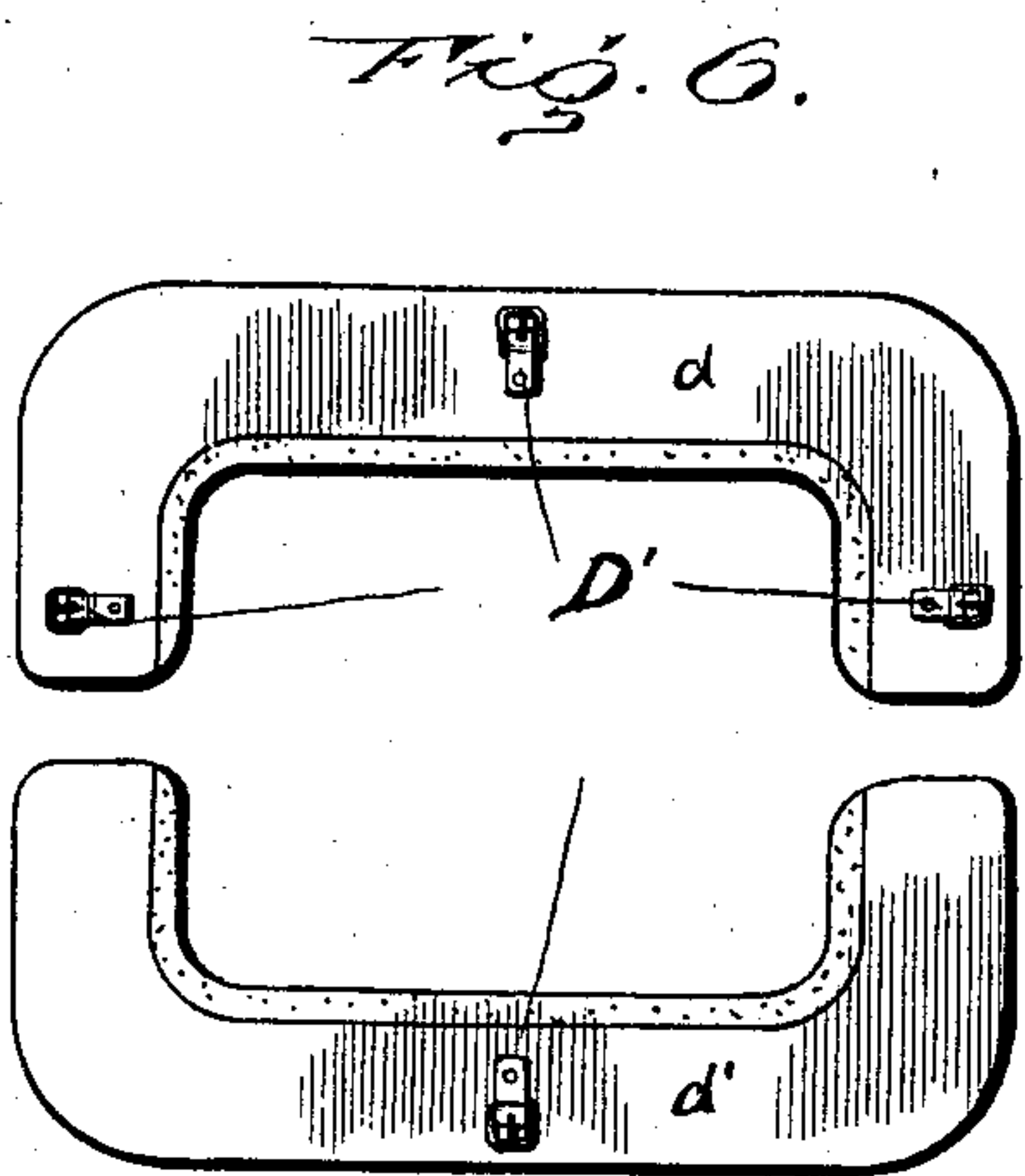
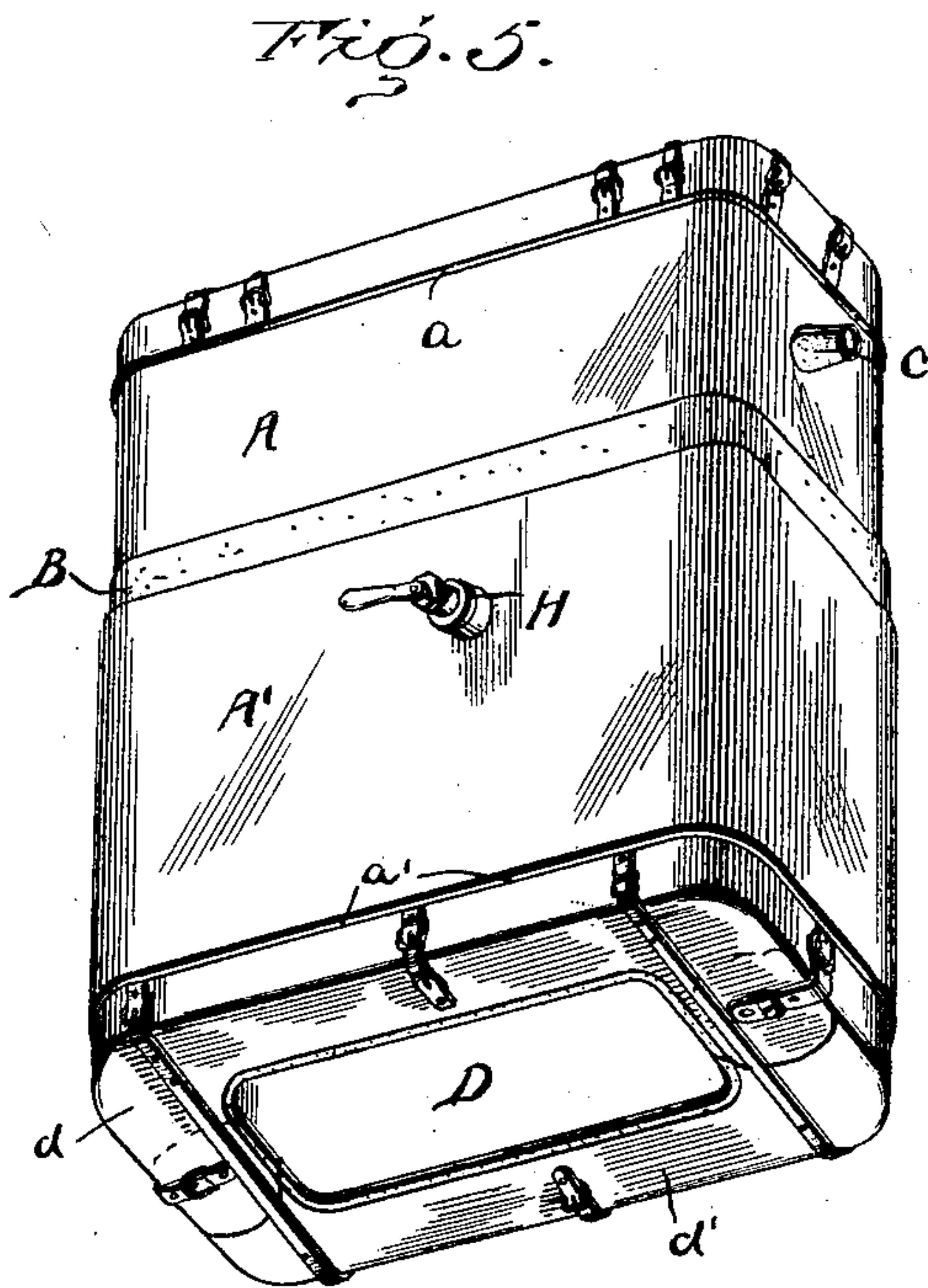
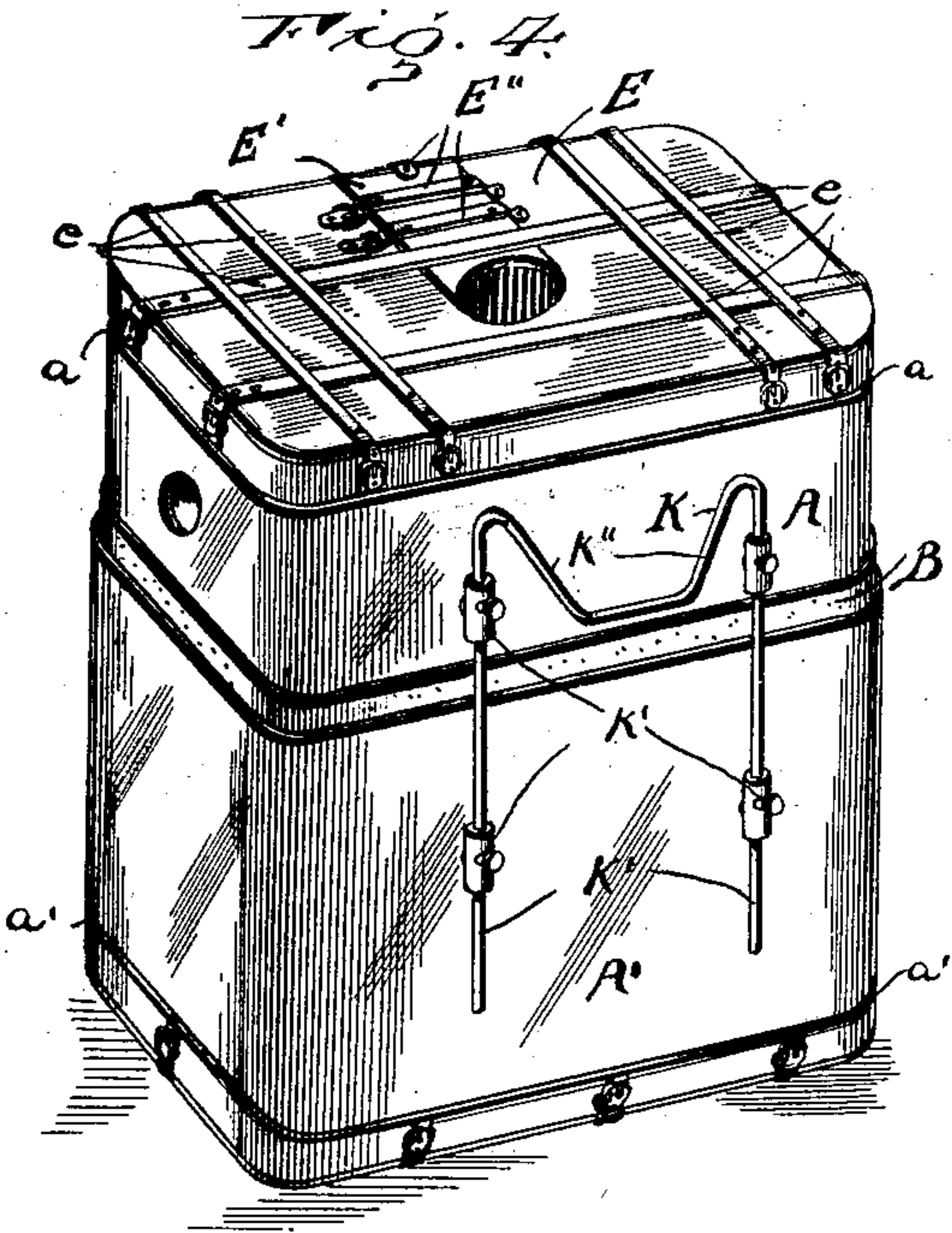
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NO MODEL

2 SHEETS—SHEET 2.



Witnesses

A. B. Williams  
J. Burch.

By

Inventor

Lloyd H. Richards.  
Royal E. Burkham,  
Attorney



# UNITED STATES PATENT OFFICE.

LLOYD H. RICHARDS, OF EL PASO, TEXAS.

## DEPURATOR.

SPECIFICATION forming part of Letters Patent No. 735,591, dated August 4, 1903.

Application filed October 4, 1902. Serial No. 125,929. (No model.)

*To all whom it may concern:*

Be it known that I, LLOYD H. RICHARDS, a citizen of the United States, residing at El Paso, in the county of El Paso and State of Texas, have invented certain new and useful Improvements in Depurators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved vacuum apparatus for medicinal purposes; and it has for its object the provision of a hollow casing designed to be secured around the body or the parts to be treated in a manner which will be as nearly as possible air-tight, in combination with means for exhausting the air from within the chamber in the casing to create a vacuum therein surrounding the body or parts being treated.

With the above-noted ends in view I have constructed a casing with separable sections to facilitate the adjustment of the casing to different sizes. The top and bottom of the casing are provided with closures possessing peculiar characteristics, as will more fully hereinafter appear, which enable the parts to be fitted securely around the body to prevent access of the external atmospheric pressure thereto. Instrumentalities are also provided for securing the apparatus to an extraneous support when in use to relieve the person of the burden incident to carrying the weight of the apparatus.

Novel details will be apparent from the appended detailed description when read in connection with the accompanying drawings, forming part thereof, and wherein a preferable embodiment of the invention is delineated for the purpose of illustration.

In the drawings like reference characters refer to corresponding parts in the several views, of which—

Figure 1 is a front elevation of the complete apparatus. Fig. 2 is a similar rear elevation. Fig. 3 is a vertical sectional view of Fig. 1. Figs. 4 and 5 are perspective views showing, respectively, the top and bottom closures of the casing, the yoke and skirt sections being removed; and Figs. 6 and 7 are detail views.

Referring now more specifically to the draw-

ings, A A' designate similar sections, the one telescoping with the other, so that they may be contracted or separated to form various sizes of casings. The general contour of these sections is immaterial, although I have found the shape shown to be practical and convenient—i. e., oblong in cross-section, slightly rounded at the ends. To form an air-tight joint between the sections irrespective of their position relative to each other, I provide at the edge of one of the sections, preferably the outer, an elastic belt or gasket B. According to the use to which the apparatus is put the upper section may or may not be provided with short sleeves C, the ends of which are provided with elastic, so that the same will closely embrace the arms of the user to prevent ingress of air for reasons heretofore given. The bottom of the casing is formed of two similar flat curved pieces  $\bar{d}$   $\bar{d}'$ , adapted to overlap at their adjacent ends, so that they may be readily adjusted to fit around the lower portion of the body, or the like, of the user, an opening D being formed by said pieces therebetween for the reception of the body. The pieces of the bottom may be of any desired material; but they are provided on their upper surfaces with rubber or other packing, against which the lower edge of the casing seats, the sections being bound to said edge through the medium of straps and buckles D', as will be apparent. The inner edges of the sections are faced with rubber arranged to contact with the body.

The top E of the casing is formed of the same material as the bottom, is faced on its under surface with a corresponding rubber or other packing, against which seats the upper edge of the casing, and the same is secured in place also by straps and buckles e. The top is cut away at one side, as at e', leading to a centrally-disposed neck-opening e''. The size of the opening is regulated by an adjustable corner-piece E', having an under surface of rubber overlying the cut-away portion e' of the top, in turn fastened against displacement by straps and buckles O'''. The neck-opening e'' is lined around its exposed inner edge with rubber or other packing material.

To add to the general appearance of the apparatus and further insure against the admission of air to the interior thereof, I provide



a yoke-section F and a skirt-section G, both formed of suitable non-porous flexible material, preferably a composition rubber fabric. These sections each have a central opening for the passage of the body and neck, said openings being represented at *f* and *g*, respectively, and they are formed with elastic edges *f'* *g'* surrounding the openings in order that the sections may adjust themselves to the user and make close contact. To secure the yoke and skirt sections in place, the inner edges of the same are also formed with elastic, as at *f''* *g''*, and said edges are arranged to fit into peripheral grooves *a a'* in the casing-sections A A'.

By the arrangement and construction described it will be seen that the various portions of the apparatus are readily adjustable and detachable for purposes of removal and otherwise and that when the same is properly applied to the body of the user the chamber within the casing and surrounding the body will be practically air-tight. To exhaust the air initially contained within the chamber to produce a vacuum therein, I provide one of the sections of the casing—in the present instance the section A'—with an exhaust-pump H, Fig. 1.

To support the weight of the apparatus when in use, the rear surface thereof is provided with a holder K, adapted to engage any convenient support. The user will ordinarily utilize the apparatus when seated in a chair, so the holder is of a character designed to engage over the back of a chair. Specifically, the same comprises two elongated vertical arms *k*, passing through guides or sleeves *k'* on the sections A A'. Each sleeve is provided with a thumb-screw adapted to impinge upon the arms *k* to lock the holder and sections in place after adjustment. At their upper ends the arms are connected to a depending approximately U-shaped portion *k''*, arranged intermediate of the same and adapted to slip over the back of a chair in an obvious manner.

It is to be understood that slight changes may be made in the construction and arrangement of the several parts of the apparatus without in the least departing from the spirit of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A vacuum apparatus comprising telescopic sections adapted to surround the body and arranged to be adjusted longitudinally the one within the other to vary the height of the apparatus, an air-tight connection between the sections, means whereby the air may be exhausted from the interior of the apparatus, and sleeves carried by the upper section, said sleeves being of elastic character, substantially as described.

2. A vacuum apparatus comprising telescopic sections, an air-tight connection between the sections, means whereby the air may be exhausted from the interior of the

apparatus, and a holder for supporting the weight of the apparatus while in use, substantially as described.

3. A vacuum apparatus comprising telescopic sections, an air-tight connection between the sections, means whereby the air may be exhausted from the interior of the apparatus, and a combined holder for supporting the weight of the apparatus when in use and lock for securing the sections in adjusted position, substantially as described.

4. A vacuum apparatus comprising telescopic sections, an air-tight connection between the sections, means whereby the air may be exhausted from the interior of the apparatus, and a combined holder for supporting the weight of the apparatus when in use and lock for securing the sections in adjusted position, the same comprising vertically-alined guides on the sections, arms passing through said guides, means for locking the arms in the guides, and means intermediate of said arms and carried thereby for attachment to a support, substantially as described.

5. A vacuum apparatus having an adjustable bottom comprising curved pieces adapted to overlap at their ends to form an opening of desired size therebetween, and means for securing the parts in position, substantially as described.

6. A vacuum apparatus having an adjustable bottom comprising curved pieces adapted to overlap at their ends to form an opening of desired size therebetween, means for securing the parts in position, and a packing secured to the inner surface and edges of the parts of the bottom, substantially as described.

7. A vacuum apparatus having a top provided with a central opening having a cut-away portion leading thereto, and means for adjusting the size of the opening comprising a top piece adapted to overliesaid cut-away portion, and means for securing said section in adjusted position, substantially as described.

8. A vacuum apparatus having a detachable top provided with a packing on its inner surface and with a central opening having a cut-away portion leading thereto, and means for adjusting the size of the opening comprising a top piece adapted to overliesaid cut-away portion, and means for securing said section in adjusted position, substantially as described.

9. A vacuum apparatus having a top provided with a central opening having a cut-away portion leading thereto, means for adjusting the size of the opening comprising a top piece adapted to overliesaid cut-away portion, suitable packing surrounding the central opening and the edge of the top piece, and means for securing said section in adjusted position, substantially as described.

10. A vacuum apparatus having a top provided with a central opening having a cut-away portion leading thereto, means for ad-



justing the size of said opening comprising a top piece adapted to overlie said cut-away portion, suitable packing surrounding the central opening and the edge and bottom surfaces of the top section, and means for securing said section in adjusted position, substantially as described.

11. A vacuum apparatus provided with yoke and skirt sections detachably secured thereto, each of said sections having an adjustable central opening, substantially as described.

12. A vacuum apparatus provided with yoke and skirt sections secured thereto, each

of said sections having an adjustable central opening, substantially as described.

13. A vacuum apparatus provided with an end section having a central opening and an elastic edge adapted to fit into a peripheral groove formed in the surface of the apparatus near said end, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

LLOYD H. RICHARDS.

Witnesses:

LEIGH CLARK,

MANFORD E. WILLIAMS.