

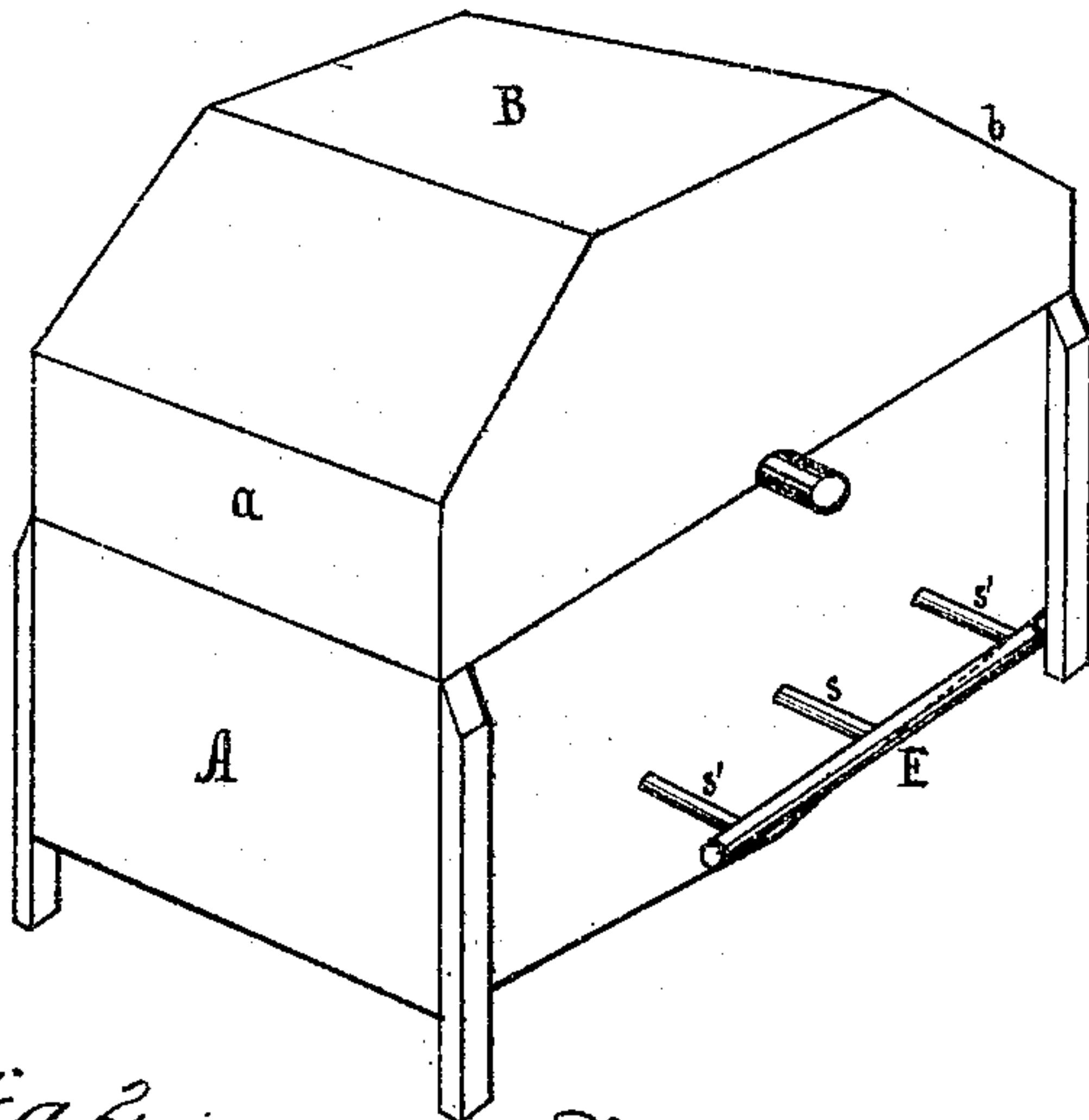
J. G. MASSEY.

FEATHER-RENOVATOR.

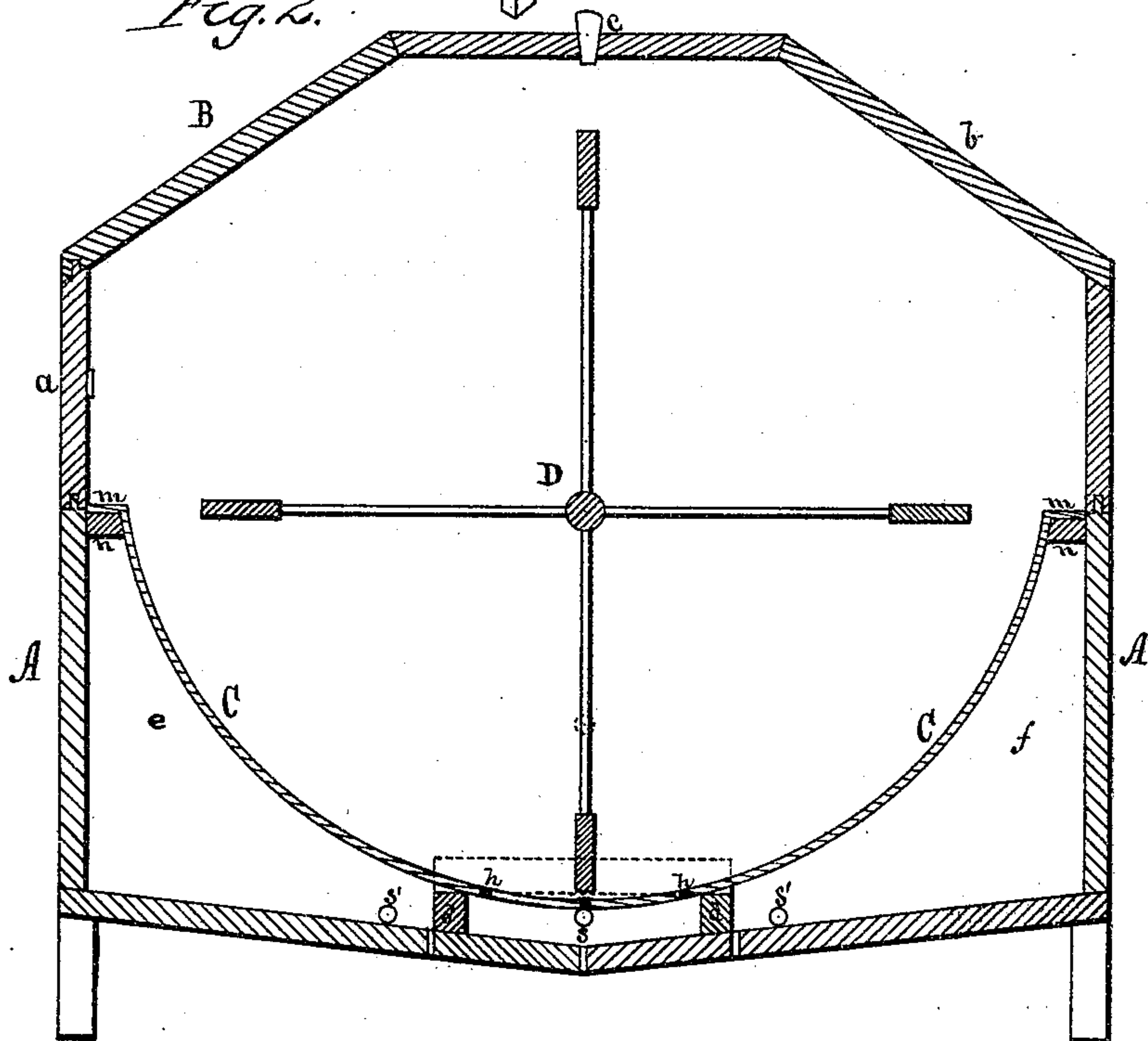
No. 179,582.

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*Fig. 1.*



*Fig. 2.*



WITNESSES

*Gas A. Miller*  
*R. H. Steele*

INVENTOR

*John G. Massey*  
*R. H. Steele*

Attorneys

# UNITED STATES PATENT OFFICE.

JOHN G. MASSEY, OF LA FAYETTE, INDIANA.

## IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. 179,582, dated July 4, 1876; application filed April 5, 1876.

*To all whom it may concern:*

Be it known that I, JOHN G. MASSEY, of La Fayette, in the county of Tippecanoe and State of Indiana, have invented a new and valuable Improvement in a Feather-Renovator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation showing a perspective view of the outside of my device. Fig. 2 is a vertical and longitudinal middle section of the same.

My invention is a feather-renovator; and consists in the novel construction, arrangement, and operation of the same, embracing the following elemental features: An outer steam-tight chest, suitably covered, and supported by suitable legs; another like chest or vessel, so supported within said outer chest that there shall be inclosed spaces between the shells of said outer and inner chests, both inside and outside of a rectangular frame, which crosses from side to side within and upon the bottom of said outer chest; a fan, revolving within said inner chest upon a shaft crossing the sides of both of said chests; and, finally, a three-branch pipe, to convey steam, by the center pipe, into the said space within said rectangular frame, and by the other two branches, respectively, into the corresponding spaces between the said shells and outside of said frame, all of which is hereinafter more fully described, and illustrated by the accompanying drawings, in which the same letters designate identical parts of my device in the different figures, respectively.

The letter A represents said outer chest, made of any material so as to be steam-tight, of suitable size and capacity, supported suitably upon legs, and when covered over to have a suitable form or shape like the one shown. The letter B represents said cover, fittingly resting and kept in place upon the upper edges of the chest A, and inclosing in common both said outer and inner chests, as shown. Said cover is provided with the sliding door *a* to make a passage from, and, with

hinged door *b*, to convey feathers into, the inside of the machine. Said cover has also a suitable hole and stopper or valve, *c*, made in its top to give vent to superfluous steam. The bottom of the said outer chest A inclines downward from each end to the middle, as shown, being suitably pierced with holes to carry off the water collected from the condensed steam. It also supports upon its inner surface the aforesaid rectangular frame *d*, which consists of two suitable bars of wood, crossing from one side of said chest to the other, at a suitable and equal distance apart, and match-jointed together by similar end bars at right angles with the former. Said frame *d* supports said inner chest C, and when the bottom of said chest rests upon the inner edge of the top of said frame, the latter is completely covered over, and a suitable space, *e*, between the bottoms of the said two chests is tightly inclosed, as shown. Said inner chest or vessel C consists of a metallic semi-cylindrical bottom, with corresponding inclosing-sides, its upper rectangular edge bent into horizontally-projecting flanges or lips *m*, which latter, being suitably braced by wooden ribs, form a steam-tight inclosing-cover, as shown, to the alternate and corresponding spaces *f*, between the shells of the chests, and on each side of the said inclosed space *e*. The bottom of said chest C is pierced with two or three rows of suitable holes *h*, to communicate only from said space *e* into the chest C.

The letter D represents a fan, consisting of the usual arms and vanes, rotating by an axle-shaft, passing through, and supported by, the sides of both the said inner and outer chests, and fittingly revolved within said chest C and the cover B.

The letter E represents the said three-branch pipe, which is of the usual material, and of suitable size, and so arranged with suitable stop-cocks that the center branch pipe *s* shall convey steam into the chest C, through the inclosed space *e* and the holes *h*, while the other branch pipes, *s'*, are closed; and again, while the center pipe, *s*, is closed, the two other pipes, *s'*, shall each, respectively, convey steam into the said spaces *f*.

The operation of my device is as follows: The cover B being carefully secured in place,



and the fan D set to revolving by any of the usual means, the feathers to be cleaned and renovated are placed within the chest C through the door *b*, and when a suitable quantity has been thus placed, and the door tightly closed, steam is introduced, as aforesaid, through the center pipe *s*. When the said feathers have been thus sufficiently cleansed and renovated, the steam is shut off from the chest C, and introduced through the pipes *s'* into the spaces *f*, which steam, being inclosed and prevented from escaping into the chest C, serves to heat the air and dry the whirling feathers within said chest, until they are ready to be whirled out of the machine, through the door and passage *a*, into an adjacent cooling-room.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction and arrangement of the outer chest A, the rectangular frame *d*, and the removable inner chest C, provided with the braced flanges *m*, to form the inclosed spaces *e* and *f*, substantially as and for the purposes specified.

2. The steam branch pipes *s* and *s'*, in combination with the said inclosed spaces *e* and *f*, the holes *h*, the rotating fan D, and the common cover B, provided with the doors *b* and *a*, substantially as and for the purposes specified.

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

JOHN G. MASSEY.

Witnesses:

JOSEPH HUBLER,

ARABELLA MASSEY.