

No. 661,289.

Patented Nov. 6, 1900.

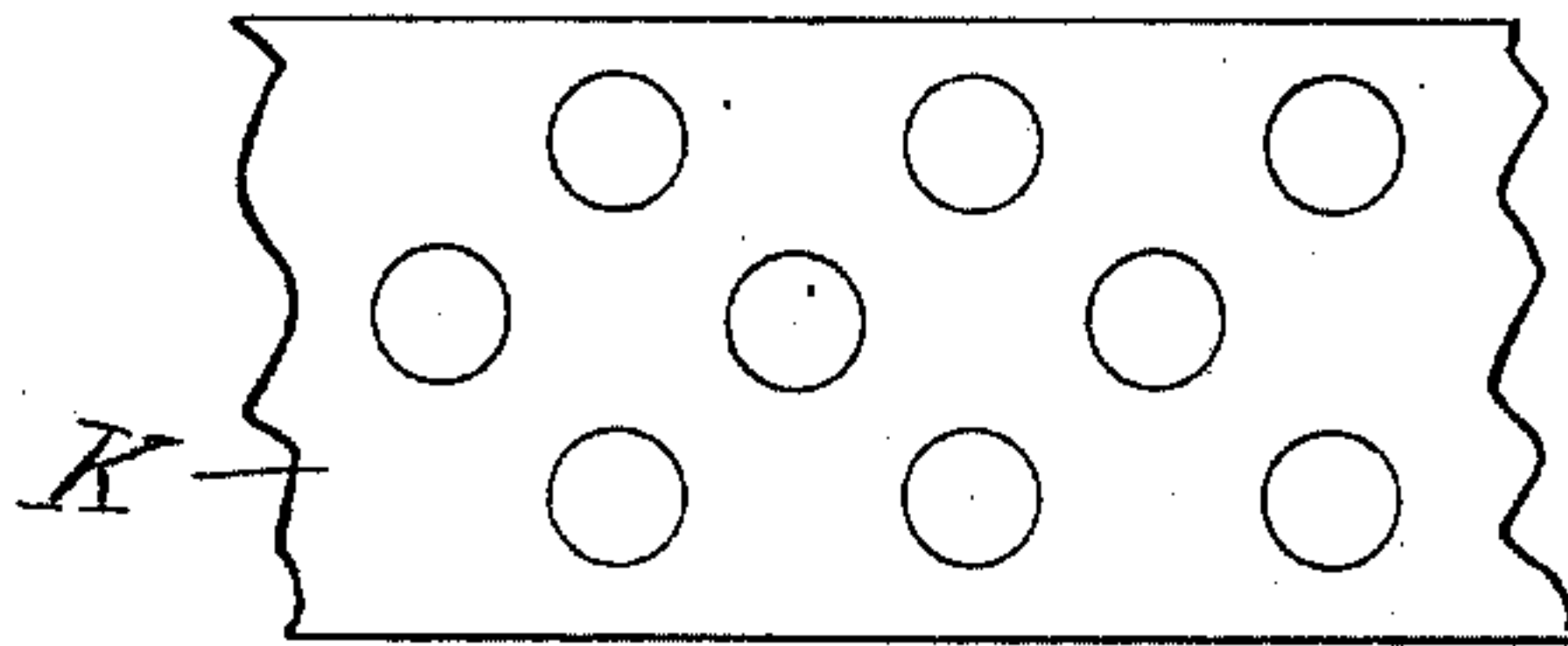
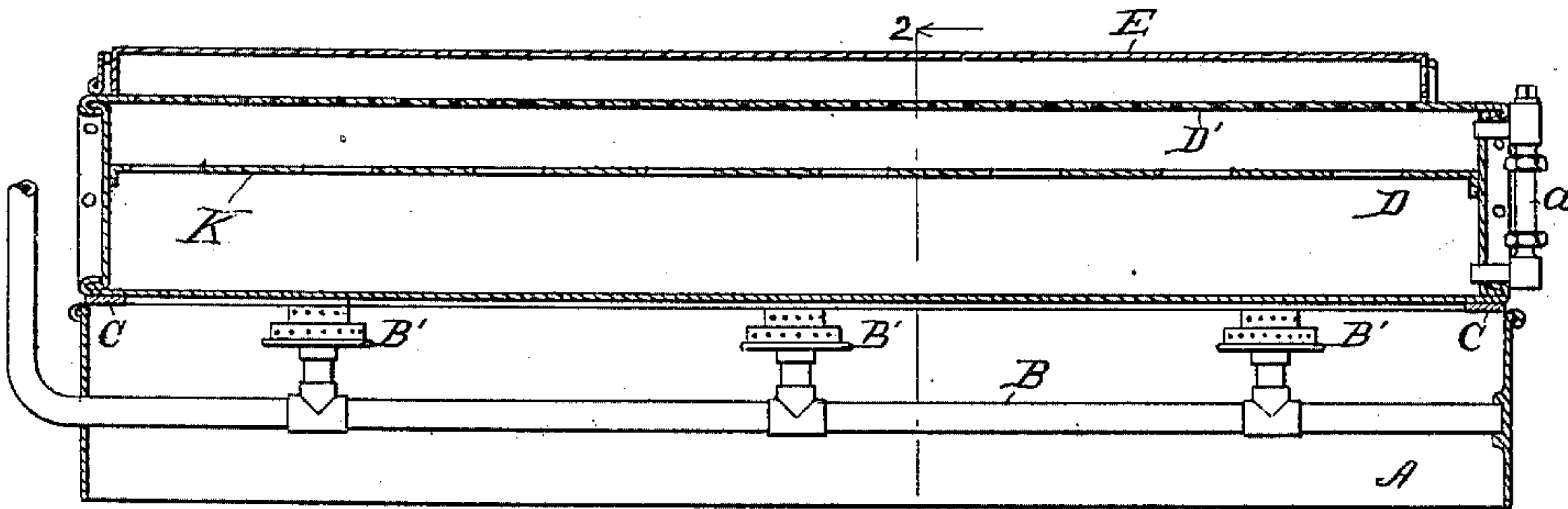
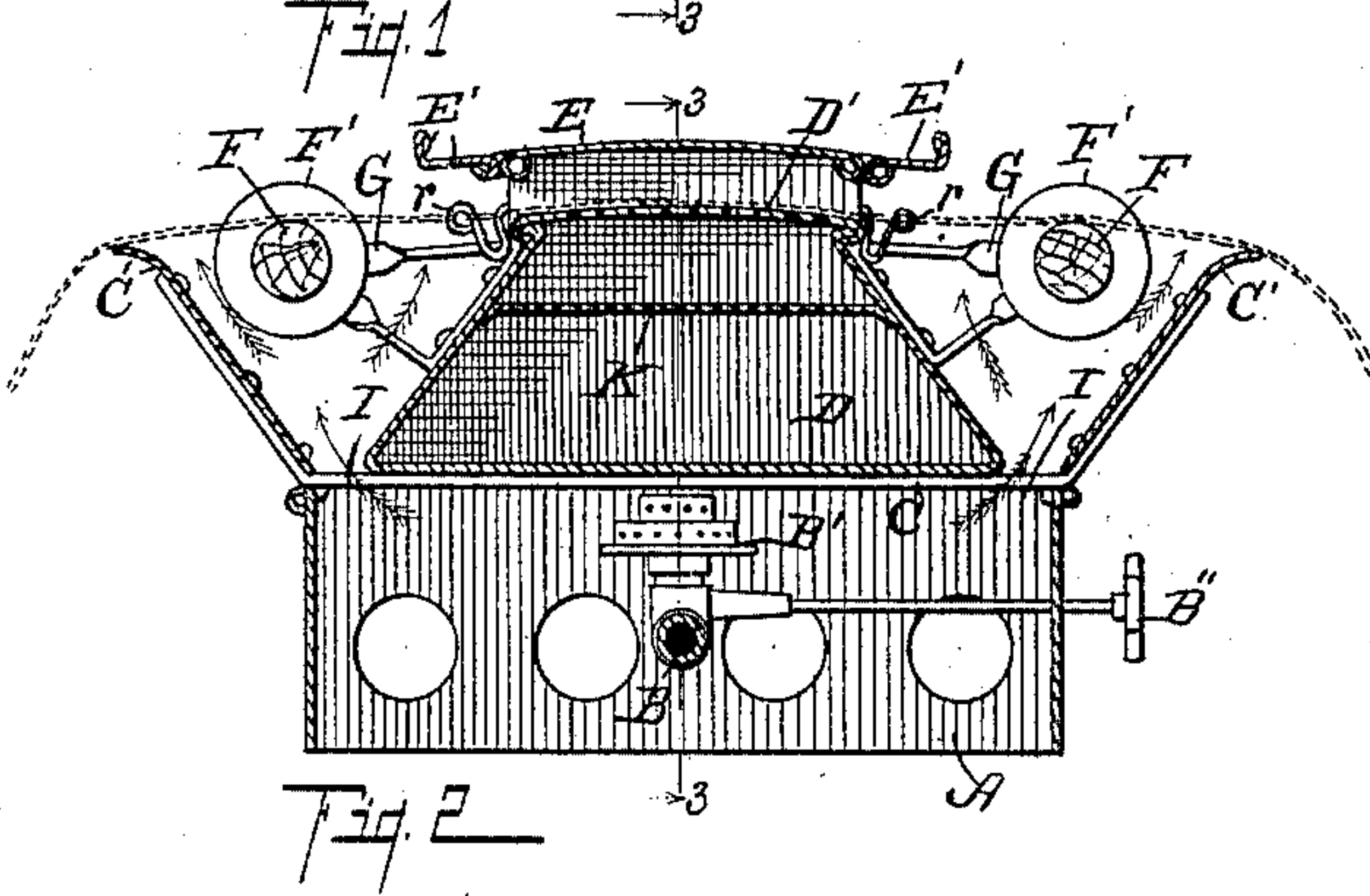
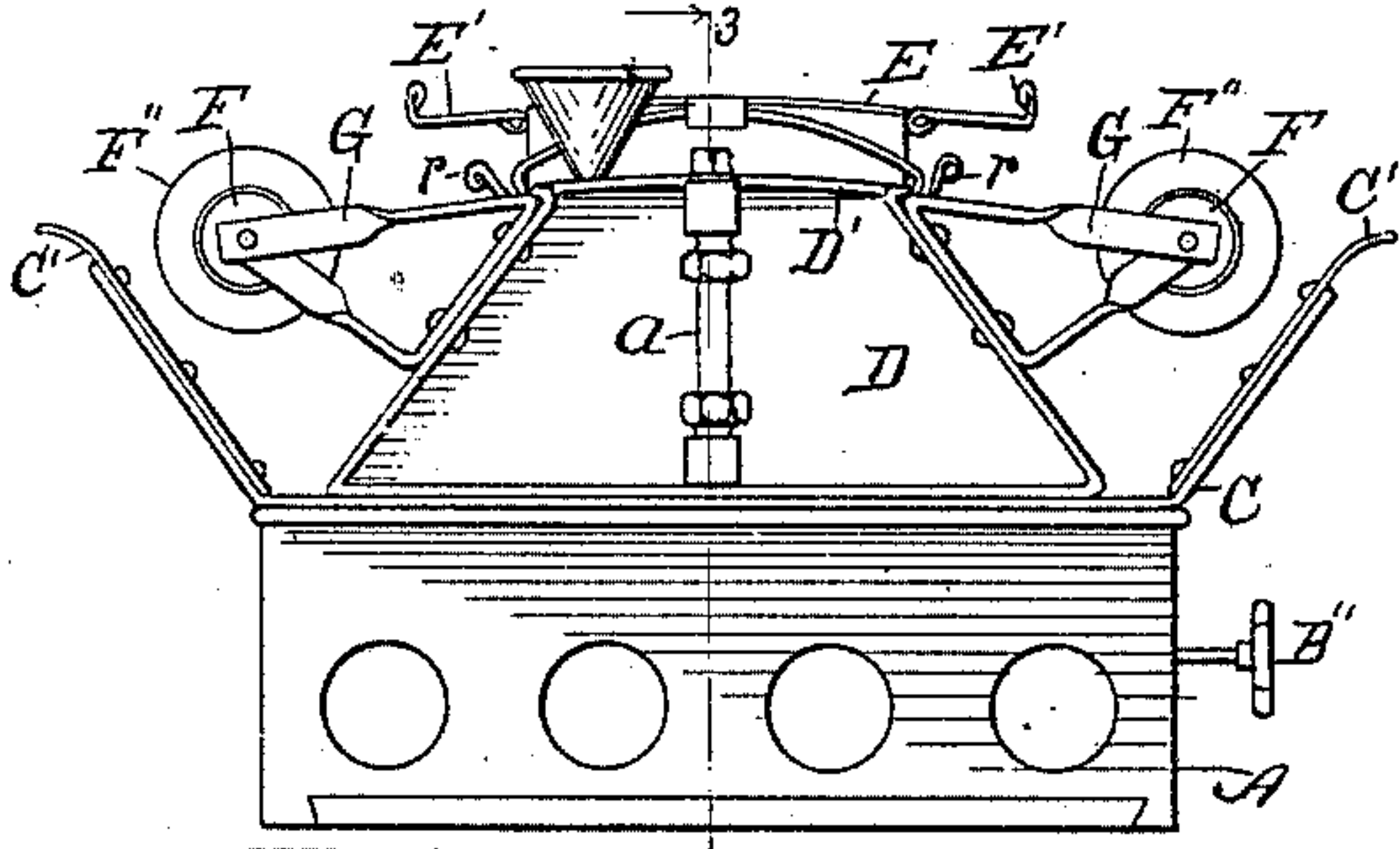
A. GARLAND.

APPARATUS FOR TREATING FABRICS.

(Application filed Dec. 22, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

Chas D Fuller
A. E. Birch

Inventor,

Arthur Garland
By Fred L. Chappell
Att'y.

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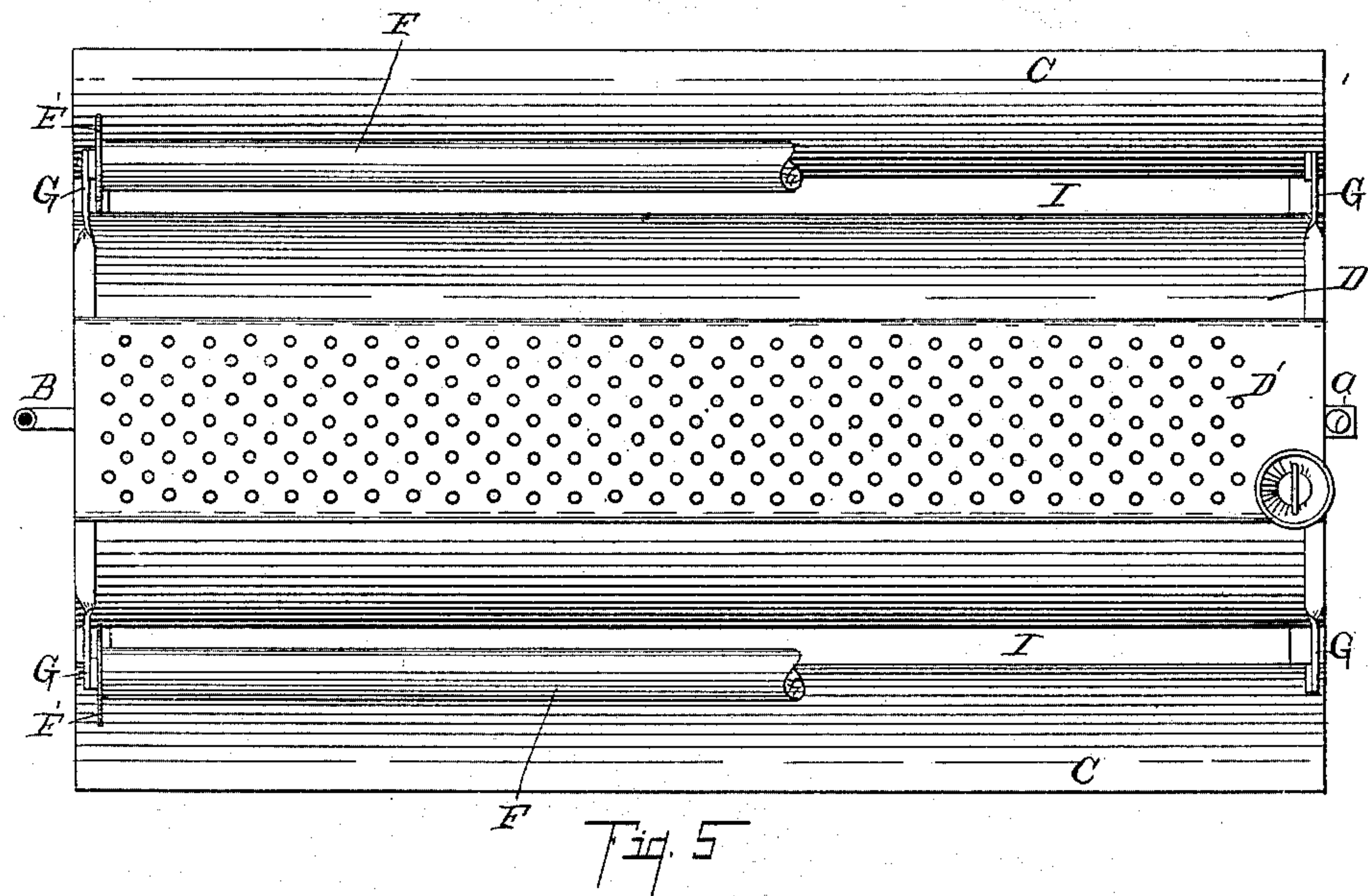
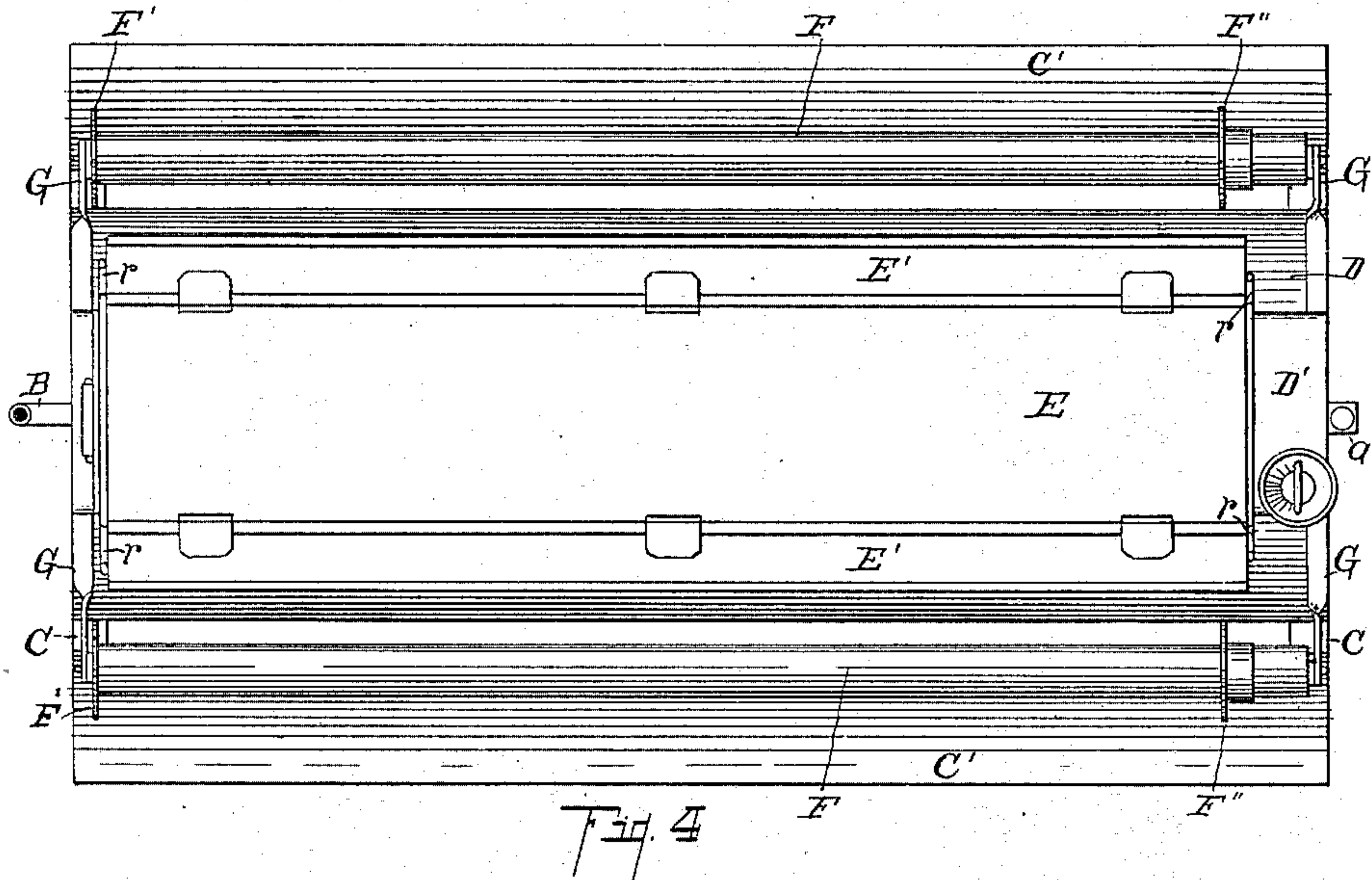
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UNITED STATES PATENT OFFICE.

ARTHUR GARLAND, OF HOWELL, MICHIGAN.

APPARATUS FOR TREATING FABRICS.

SPECIFICATION forming part of Letters Patent No. 661,289, dated November 6, 1900.

Application filed December 22, 1899. Serial No. 741,279. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR GARLAND, a citizen of the United States, residing at the city of Howell, in the county of Livingston and State of Michigan, have invented certain new and useful Improvements in Apparatus for Treating Fabrics, of which the following is a specification.

This invention relates to an apparatus for treating cloth. The apparatus is particularly intended for tailors' use, though it will be found useful in a variety of ways.

The objects of the invention are, first, to provide a simple and efficient means for sponging and shrinking cloth; second, to provide means for sponging and shrinking cloth which operates quickly and completely dries the cloth at a single operation; third, to provide a means for sponging and shrinking cloth that is inexpensive to manufacture, maintain, and operate and is easily portable and also one that can be quickly gotten ready for operation and use; fourth, to provide a means and apparatus for the purpose that shall avoid the necessity of any heavy manual labor in relation therewith; fifth, to provide an apparatus for the purpose that shall be fully effective in treating all fabrics and in which the cloth or fabric is not subjected to any strain or pressure to draw or force out of shape, and, sixth, to provide an apparatus of the class described which preserves and develops the finish and luster of the fabric or cloth to the fullest extent.

Further objects will definitely appear in the detailed description to follow.

I accomplish these objects of my invention by the devices and means described in this specification.

The invention is clearly pointed out and defined in the claims.

A structure embodying my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail end elevation of my improved apparatus. Fig. 2 is a detail sectional elevation of the same, taken on line 2 2 of Fig. 3. Fig. 3 is a detail sectional view on line 3 3 of Figs. 1 and 2, the heater being in full lines. Fig. 4 is a top plan view. Fig. 5 is a top plan view of the apparatus with the cover

removed as it appears when ready for use, the rollers being shown in broken section. Fig. 6 is a detail view of a portion of partition K, showing perforations.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is a casing open at the top, containing the heating means and supporting the tank and other parts of the structure. Perforations are in the wall to admit air to support combustion and cause a circulation.

B is a conductor-pipe for the combustible fluid or gas, and B' represents burners connected therewith.

C' C' are deflector-plates diverging from each side of the casing and are supported by suitable bars resting on said casing.

D is a tank, preferably of metal, having converging sides and a perforated top D'. A horizontal partition K, containing large apertures about an inch in diameter, extends across the tank at a considerable distance from the top. This serves to prevent moisture rising with the steam, so that nothing but dry hot steam is delivered through the perforated top D'.

E is a cover or lid for the tank, having hinged sides or wings E'. The cover is held in position on the tank by the spring-fasteners. On each side of the tank, secured thereto by suitable braces or brackets G, are rollers F, having guides F' F'', the latter of which is adjustable. On one end of the tank is a water-gage *a*.

In the operation of my device the tank D is partially filled with water to the desired point, as indicated by the gage *a*, the cover being in position with the wings closed. The frame C is placed upon the base A and the tank placed thereon. The whole is then placed upon a heater of any desirable kind, as gas, oil, or electric, and steam is generated within the tank. It will be noted that the sides of the tank and the diverging sides or wings C' form a chamber or space on either side of the tank, through which the heated gases of combustion must pass in escaping. When the desired amount of steam has been

generated, the cloth to be sponged or shrunk is passed onto one of the rollers F, where the heated gases escaping on that side of the tank thoroughly heat the same and open and expand its fiber. The fabric is then passed on over the perforated top of the tank, where steam is escaping under considerable pressure, where it is thoroughly steamed, the fabric being left in this position till the steam passes freely through the same over the entire space resting thereon and then over the roller and hot-air chamber on the opposite side, where it is quickly and thoroughly dried by the heated gases escaping on that side of the tank. The cloth is then ready for use. Where cloth is double or very heavy, it may be desired to treat both sides of the cloth, in which event it is passed over the apparatus the other side down. Fabrics thus treated retain all their natural finish, life, and luster, but are thoroughly shrunk and are not stretched or pressed out of shape in so doing.

The cover E should always be removed from my improved apparatus when cloth or fabric is being passed over it, because by so doing the heated steam passes readily through it, acting on the fibers, and does not condense to an appreciable extent to dampen the same. If it should be desired to make the cloth damp, the cover could be left on to act as a condenser to drive the wet steam back onto the cloth. This, however, is not desirable under any ordinary circumstances. In handling very light fabrics it will be found desirable to let them rest upon a web of muslin, the muslin and fabric being passed together over the apparatus.

When long webs are being treated, particularly of light material, the adjustable guides are useful in insuring the proper folding and delivery of the same.

I desire to state that the structure can be greatly varied in its details without departing from my invention.

While the tank shown is in the preferred form, it having a large surface exposed to the heat, thereby greatly facilitating the generation of steam, and the converging sides causing the steam to be delivered under considerable pressure, still the tank may be of any desired shape and still be effective. While the horizontal partition K serves a very useful purpose in this connection, I am aware that it is not an absolute essential, as I have used the apparatus without it.

While I prefer to construct the tank, the frame C, and the casing A separately, it is manifest that they might be united.

It will be observed from this description that my cloth sponging and shrinking device can be greatly varied in its details without departing from my invention.

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

1. In an apparatus for treating cloth, the

combination of a burner; a casing therefor open at its top; a tank centrally located on said casing so there shall be a passage on each side for the upward escape of heated gases from said burner; wings or deflectors to each side of said casing to guide the gases upward; and a perforated top for said tank all arranged and coacting together as described whereby a web of cloth in passing over said apparatus is first heated, then steamed and then heated again until dry, to properly shrink the same.

2. In an apparatus for treating cloth, the combination of a burner; a casing therefor open at its top; a tank centrally located on said casing so there shall be a passage on each side for the upward escape of heated gases from said burner; and a perforated top for said tank all arranged and coacting together as described, whereby a web of cloth in passing over said apparatus is first heated then steamed and then heated again until dry, to properly shrink the same.

3. In an apparatus for treating cloth or fabrics the combination of a tank suitably opened at the top; a burner or heater arranged underneath the same and so that the heated gases shall rise at the sides of the same; and means of guiding a web of fabric over the tank whereby it is first heated, and then steamed, and then heated and dried causing the fabric to properly shrink as specified.

4. In an apparatus for treating cloth or fabrics, the combination of a suitable steaming device containing perforations or apertures to force the steam through the cloth, and means in proximity thereto to deliver a current of heated gases through the fabric to dry the same.

5. In an apparatus for treating cloth, an apparatus divided into compartments through one of which pass heated gases the next steam, the next heated gases, and means of guiding a fabric over the same whereby it is first heated and then steamed and then heated and dried, so that the cloth is properly shrunk.

6. In an apparatus for treating cloth, an apparatus divided into compartments through one of which passes steam and the next heated gases, and means of guiding a fabric over the same whereby it is steamed and then heated and dried, so that the cloth is properly shrunk.

7. In an apparatus for treating cloth or fabrics, the combination of a suitable heater; a tank for the same having converging sides and a perforated top whereby the steam is collected and delivered under pressure and means of guiding a fabric over the top as specified.

8. In an apparatus for treating cloth or fabrics, the combination of a suitable heater; a tank for the same having converging sides and a perforated top whereby the steam is collected and delivered under pressure, a

horizontal partition in said tank with large apertures therethrough, and means of guiding a fabric over the top as specified.

9. In an apparatus for treating cloth, the combination of a tank D having a broad base and converging sides and a perforated top D' extending to form a flange around the top of the said tank; a cover E to rest on said tank with springs *r* for engaging the flange around the top of the tank; adjustable wings E' to close down to each side for the purpose of covering the tank while the same is generating steam, as specified.

10. In an apparatus for treating cloth the combination of the casing A having suitable perforations in its sides; deflector-wings C' to each side thereof supported by bars C resting

ing across the top of same; a heater within said casing; a tank D resting centrally on said casing, so that there are spaces for the passage of air to each side, which said tank has converging sides and a perforated top D'; rollers F' with suitable adjustable guides F thereon, supported on brackets to each side of said tank, all coacting substantially as described for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

ARTHUR GARLAND. [L. S.]

Witnesses:

EDWARD J. DREWRY,
W. W. PAPWORTH.