

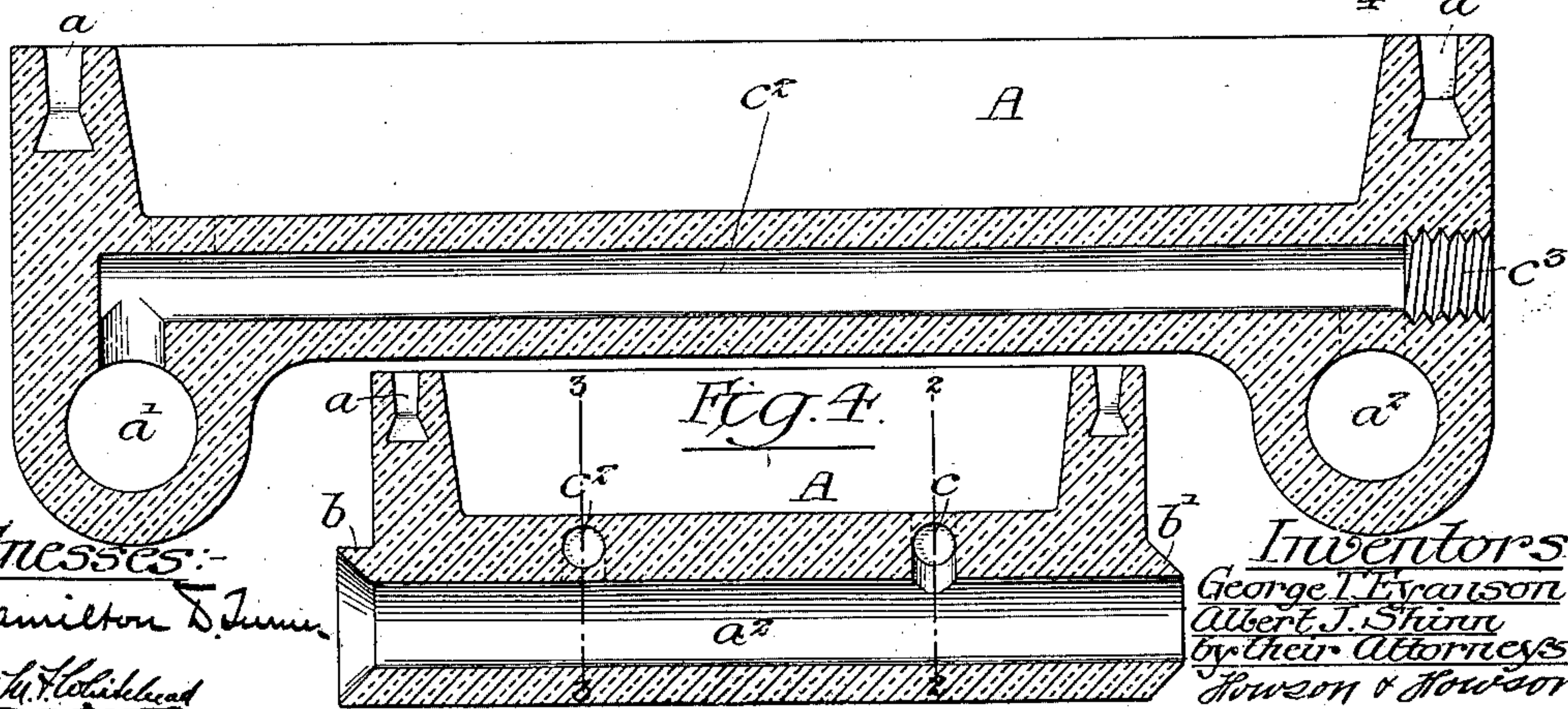
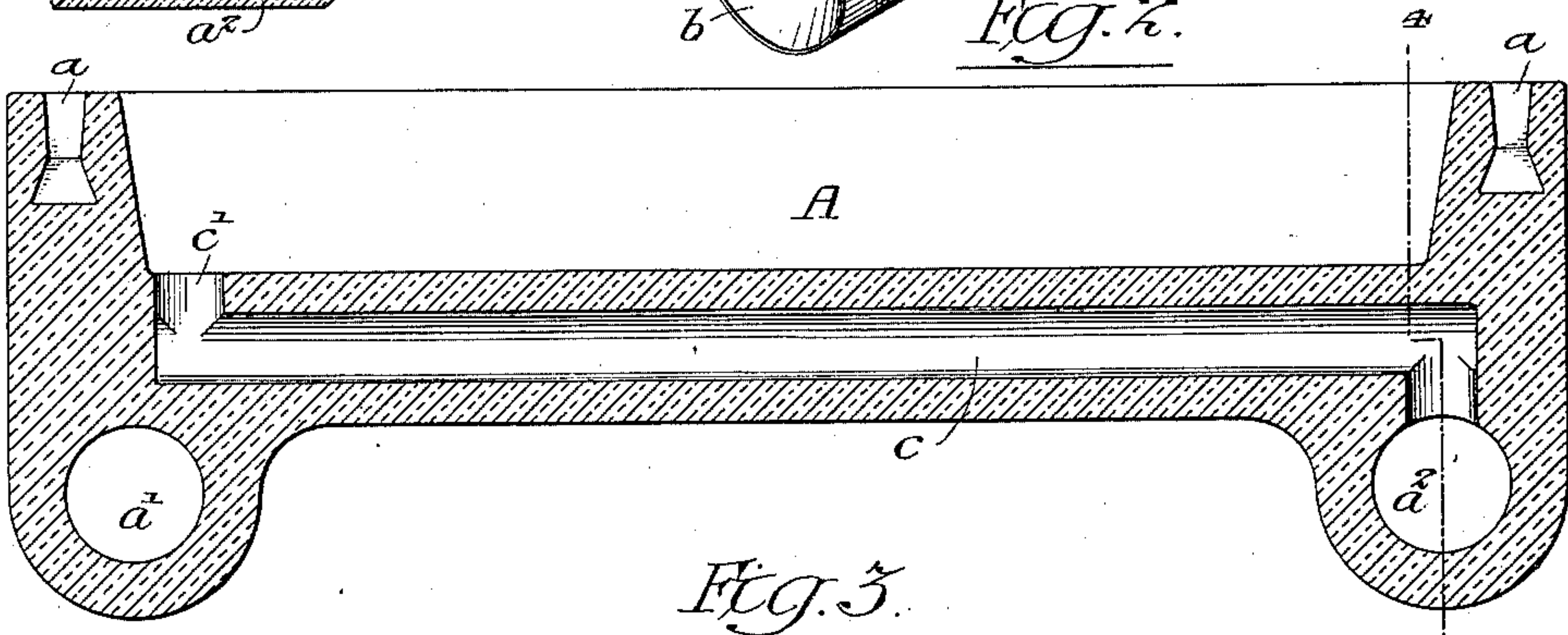
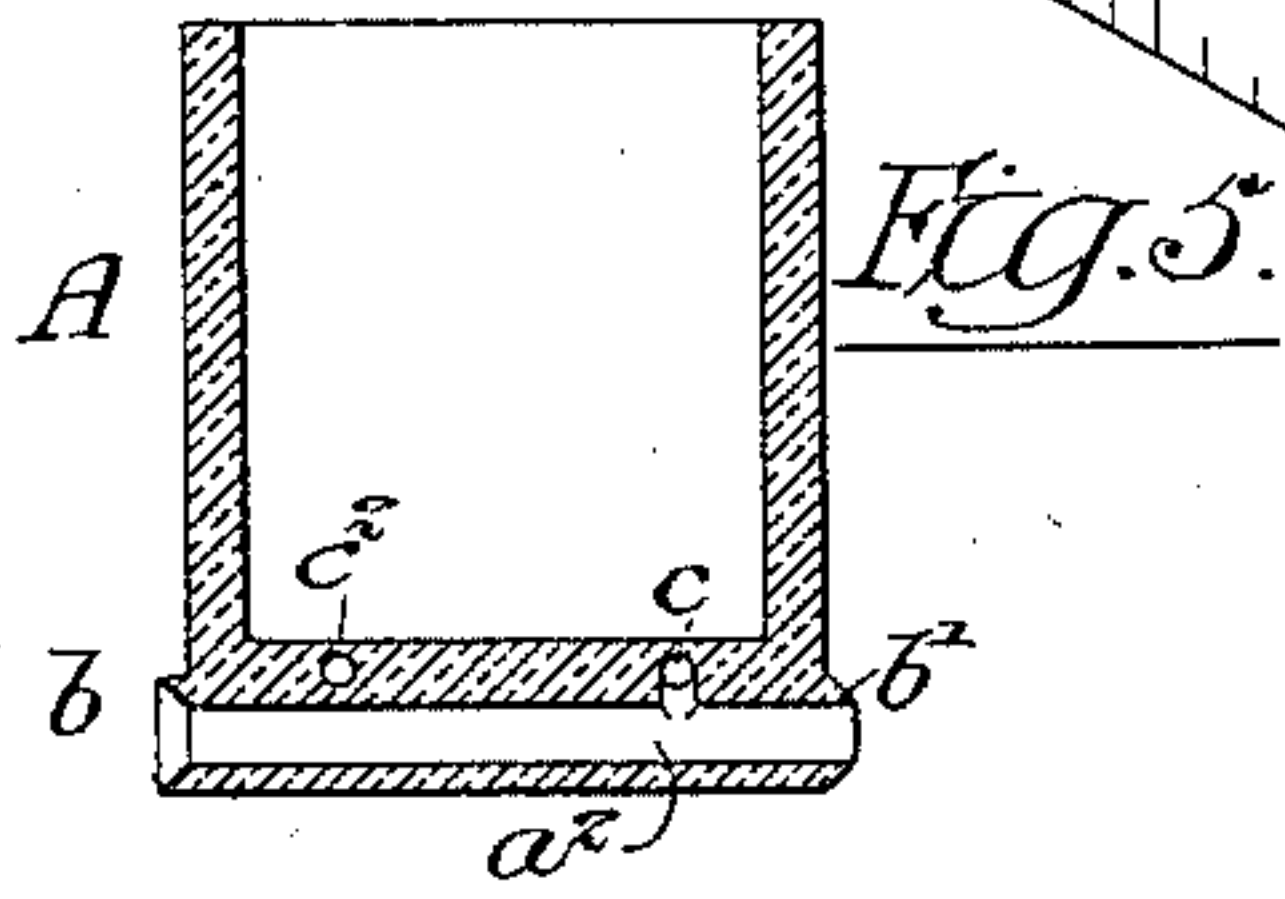
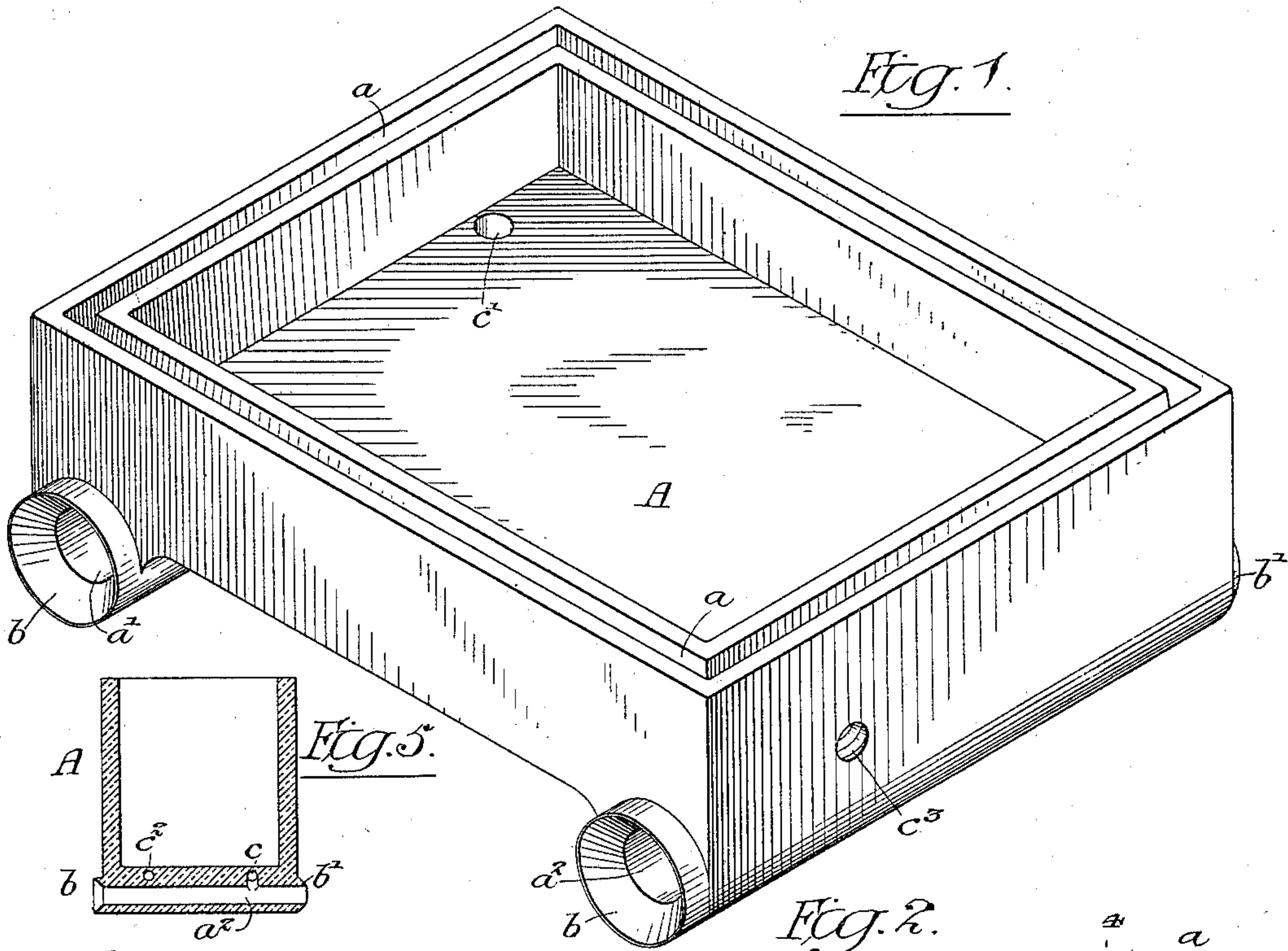
No. 673,249.

Patented Apr. 30, 1901.

G. T. EYANSON & A. J. SHINN.
BASE FOR BATTERY CELLS.

(Application filed Dec. 4, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE T. EYANSON AND ALBERT J. SHINN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO HERMAN J. DERCUM, TRUSTEE, OF SAME PLACE.

BASE FOR BATTERY-CELLS.

SPECIFICATION forming part of Letters Patent No. 673,249, dated April 30, 1901.

Application filed December 4, 1900. Serial No. 38,690. (No model.)

To all whom it may concern:

Be it known that we, GEORGE T. EYANSON and ALBERT J. SHINN, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Channeled Bases for Battery-Cells, of which the following is a specification.

Our invention relates to certain improvements in battery-cells, and more particularly to an improved form of channeled base for the same.

The object of our invention is the provision of a bottom or base piece for use in battery-cells, which has comparatively long channels running in it through which liquid or liquids may be made to flow to the interior of the battery-cell from a source of supply, the said channels being comparatively small in caliber and the columns of liquid contained therein being of correspondingly high resistance. This object we attain as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our improved base-piece. Fig. 2 is a longitudinal sectional view taken in a vertical plane through the line 2 2, Fig. 4. Fig. 3 is a longitudinal sectional view taken in a vertical plane through the line 3 3, Fig. 4. Fig. 4 is a transverse sectional view on the line 4 4, Fig. 2; and Fig. 5 is a sectional view of a complete battery-cell, having channels communicating with the interior.

In the drawings, A is the preferred form of our improved base for battery-cells and may be constructed of any insulating material unacted on by the chemicals used in batteries—as, for example, porcelain, hard rubber, celluloid, glass, &c. This base is dish-shaped, having undercut grooves *a a* in its upper edges for the reception of the casing of the cell proper. These grooves are made dovetailed in section, as shown, for the purpose of better retaining the cement or metallic filling for making a tight joint between the cell-casing (not shown) and the base-piece.

Two main channels—in the present instance *a'* and *a''*—extend through the body of the base, preferably as far apart as the dimensions of the said base will allow and running

parallel with each other and with the sides of the same. In the present instance we have shown these channels in semicylindrical supporting projections on the bottom of the base; but it will be understood that we may, if desired, do away with these projections and run the channels through any part of the base or through projections thereon. At the ends of these channels coupling projections *b b* and *b' b'* are formed, as shown in Figs. 1 and 4, one set, as *b' b'*, being made conical in form, and the other set, as *b b*, having a correspondingly-tapered recess. In use, a number of cells, with bases of the form shown, are arranged side by side, the parts *b'* of one base fitting into the recesses in the parts *b* of the one next it, there being washers of some chemical resisting material at the coupling between each cell and the whole series of cells being clamped together. A secondary channel *c* connects at one end with the main channel *a''* and after running the length of the base communicates with the space inclosed by the sides of the base at *c'*. A second channel *c''* communicates at one end with the main channel *a'* and after running through the length of the base opens at *c''* at the side of the same, the hole *c''* being preferably threaded. In the completed container the channel *c* opens into one compartment of the cell, and the channel *c''* communicates with the other, preferably by means of a projecting chamber from said cell, which connects with the thread in the opening *c''*.

In operation a series of cell-bases would be clamped together, as explained above, and the channels *a'* and *a''* would be connected to reservoirs containing the electrolytes for the battery. By air-pressure or other convenient means the liquids would be made to flow through their appropriate tubes, that from one reservoir entering the space communicating with the opening *c'* and that from the other entering the space communicating with the opening *c''*.

Since the liquids used in batteries are invariably comparatively good conductors of electricity, as ordinarily constructed cells supplied with liquid from reservoirs would be short-circuited upon themselves by the col-

umns of liquid in the supply-tubes and would soon become exhausted. By our improved construction, however, this objection is almost entirely obviated, for, as shown, the liquid supplied passes through long channels of small caliber, and the conducting-columns so formed have an exceedingly-high resistance. This being the case, the current leaking through the columns of liquid and uselessly expended is reduced to a minimum, being so small as to be practically negligible.

While the base shown has channels adapted to supply liquid to two sets of compartments, it will be understood that we may construct the said base with a sufficient number of channels to supply liquid to three compartments, or, if desired, to but one set.

It will be further noted that while the article described above is ordinarily used as the base or bottom piece of a battery-cell it may with but slight modification have its sides extended, as illustrated in Fig. 5, to form a complete cell with the channels running through its sides or base.

We claim as our invention—

1. A base for a battery-cell, having upwardly-projecting sides, a recess in said sides for the attachment of a cell-casing and channels running through the base, substantially as described.

2. A base for a battery-cell having sides which form a dish-shaped receptacle, recesses in the said sides for the attachment of a cell-casing, and a channel in the base communicating with the interior of the same, substantially as described.

3. A dish-shaped base for a battery-cell, main channels running through the body of the same, and secondary channels of comparatively small caliber communicating with the said main channels and having openings at points on the base comparatively remote from the main channels, substantially as described.

4. A base for a battery-cell, having a main channel running therethrough, and a secondary channel communicating with the main channel and opening at a point on the base comparatively remote from said main channel, substantially as described.

5. A dish-shaped base of insulating material for a battery-cell, two main channels running through the body of the same, a comparatively long, contracted secondary channel connecting one of the main channels with the interior of the base, and a second comparatively long, contracted channel communicating with the second main channel and opening at one side of the base, substantially as described.

6. A base or bottom piece for battery-cells, having channels running through it, a tapered projection at one end of each channel and a projection at the opposite end of the same, said projection having a tapered recess in it adapted to receive a projection similar to that at the other end of the channel, substantially as described.

7. A rectangular base or bottom piece for a battery-cell having sides, undercut recesses in said sides, main channels running through the base and a supplementary or secondary channel connecting one of the main channels with the interior of the base, a second supplementary channel connected to the second of the main channels and opening at the side of the base, and projections at the ends of the main channels for connecting a number of bases together, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE T. EYANSON.
ALBERT J. SHINN.

Witnesses:

WM. A. SHRYOCK,
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