

(No Model.)

2 Sheets—Sheet 1.

H. POLAK & H. LOWE.
APPARATUS FOR CURLING AND SETTING SILK, FELT, AND OTHER
HAT BRIMS.

No. 322,004.

Patented July 14, 1885.

Fig. 1. (Old.)

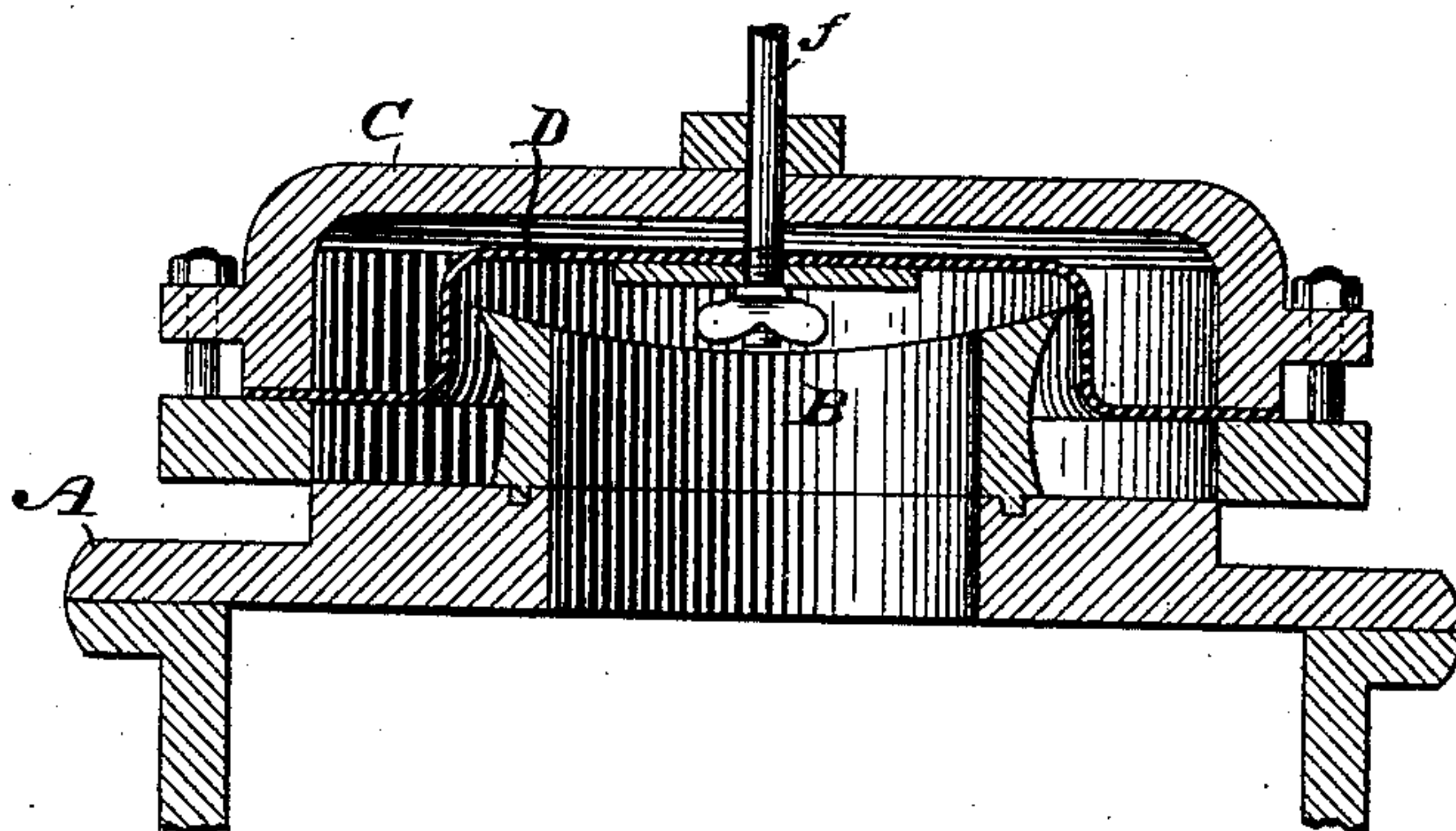


Fig. 4. Press. (Old.)

Fig. 2. (Old.)

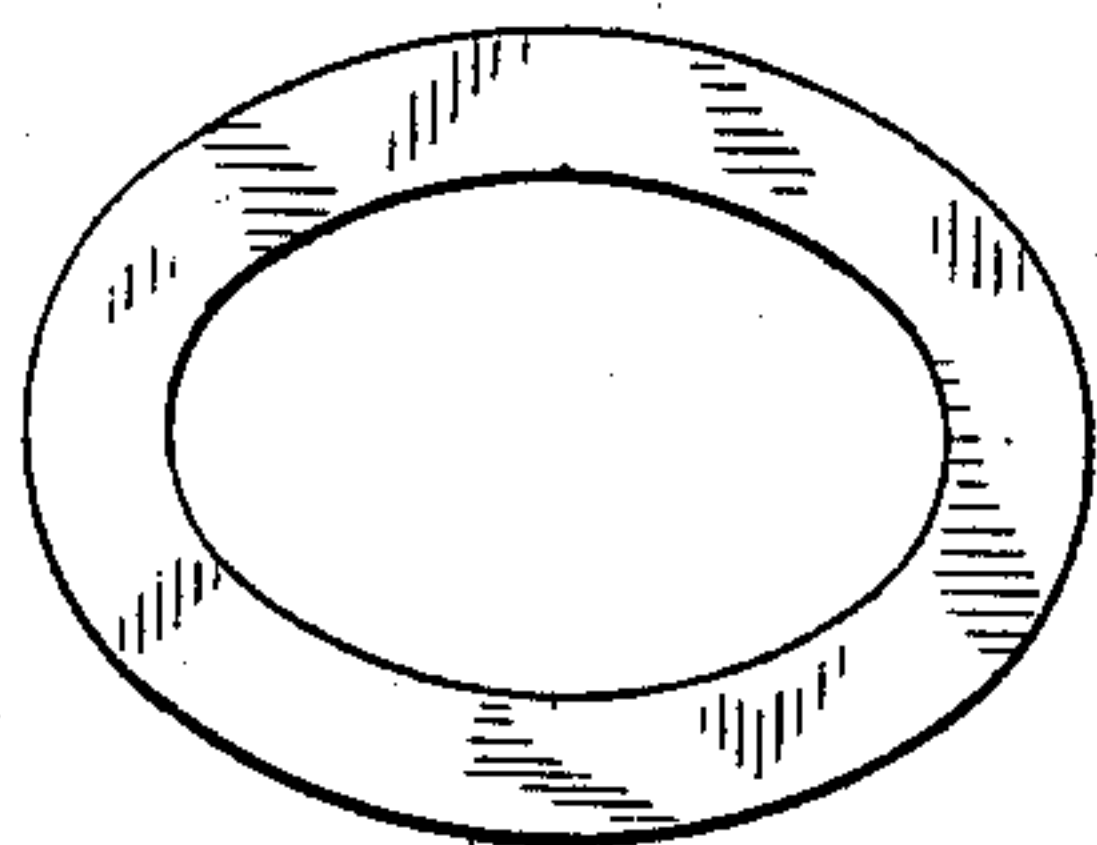
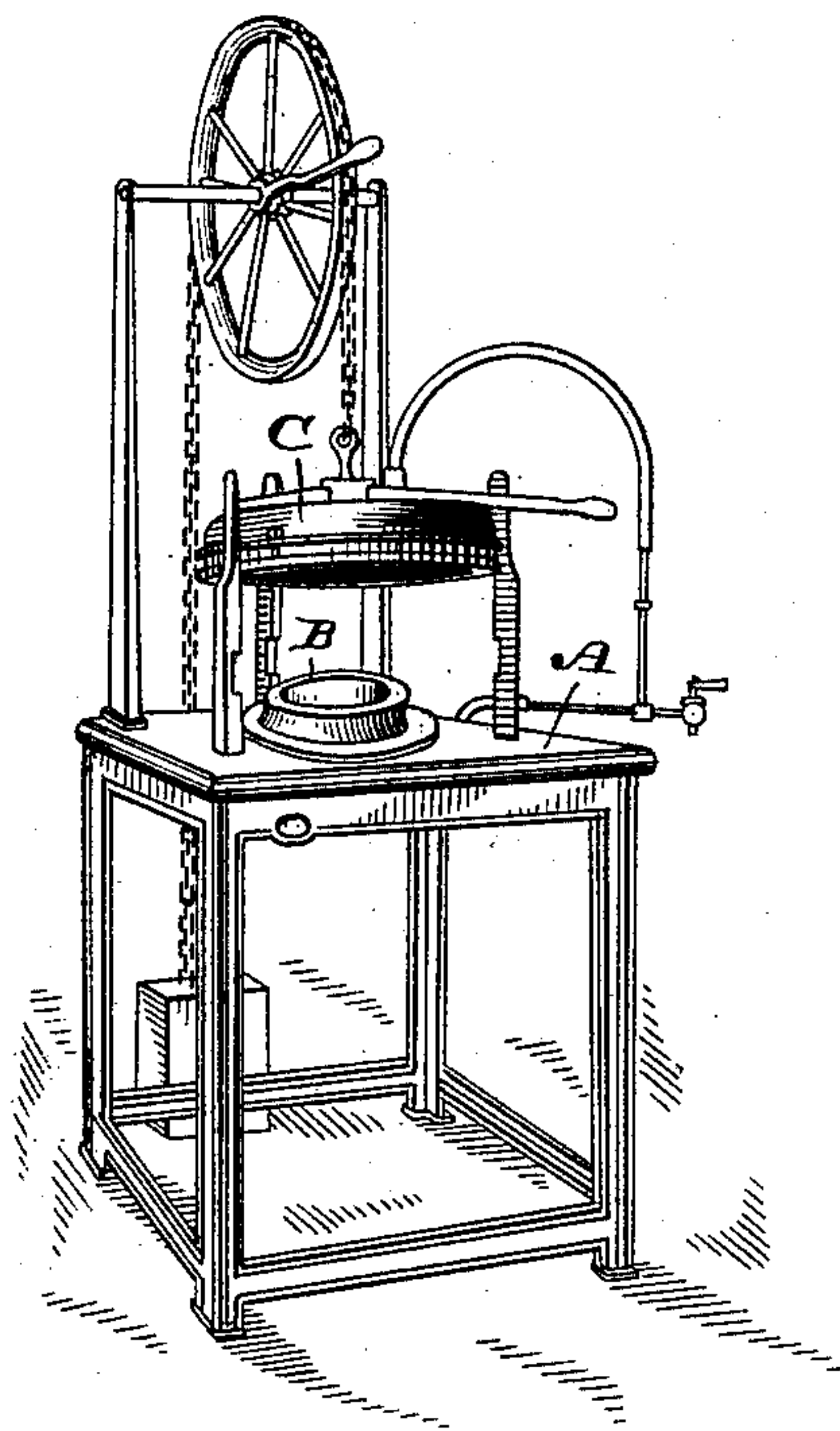
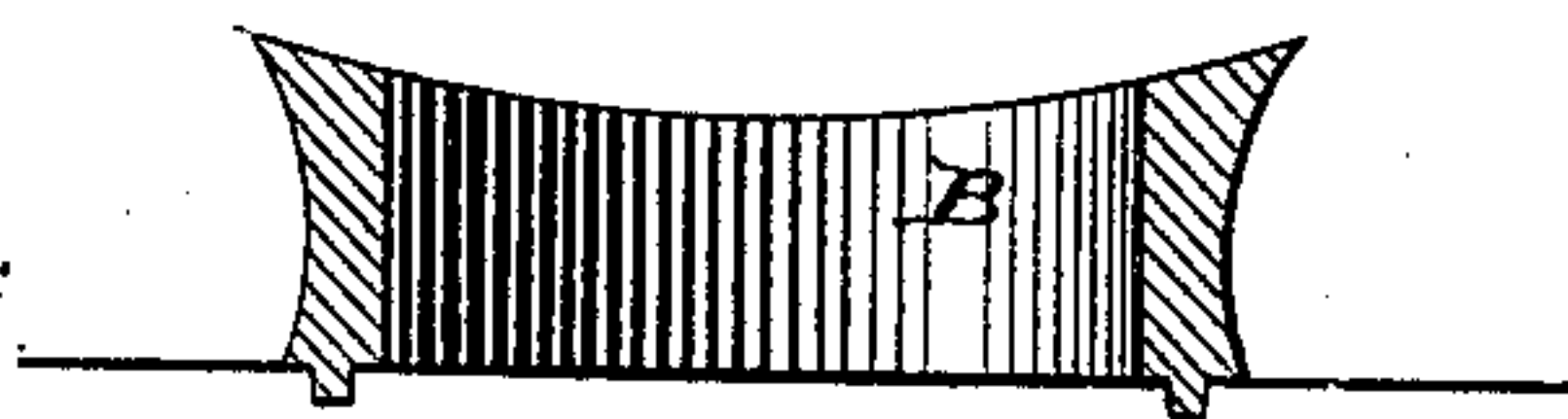


Fig. 3. (Old.)



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2 Sheets—Sheet 2.

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Fig. 5.

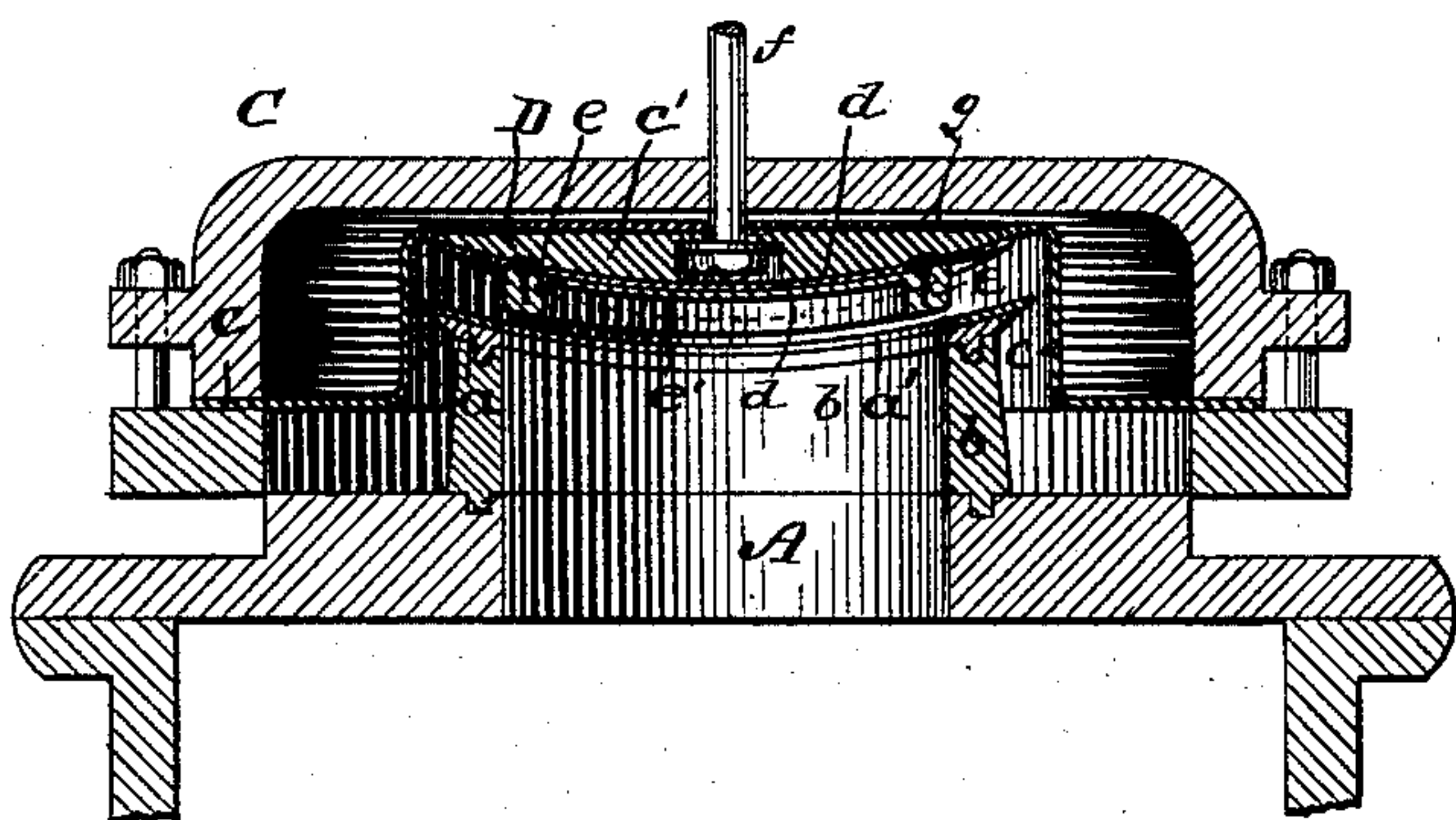


Fig. 8.

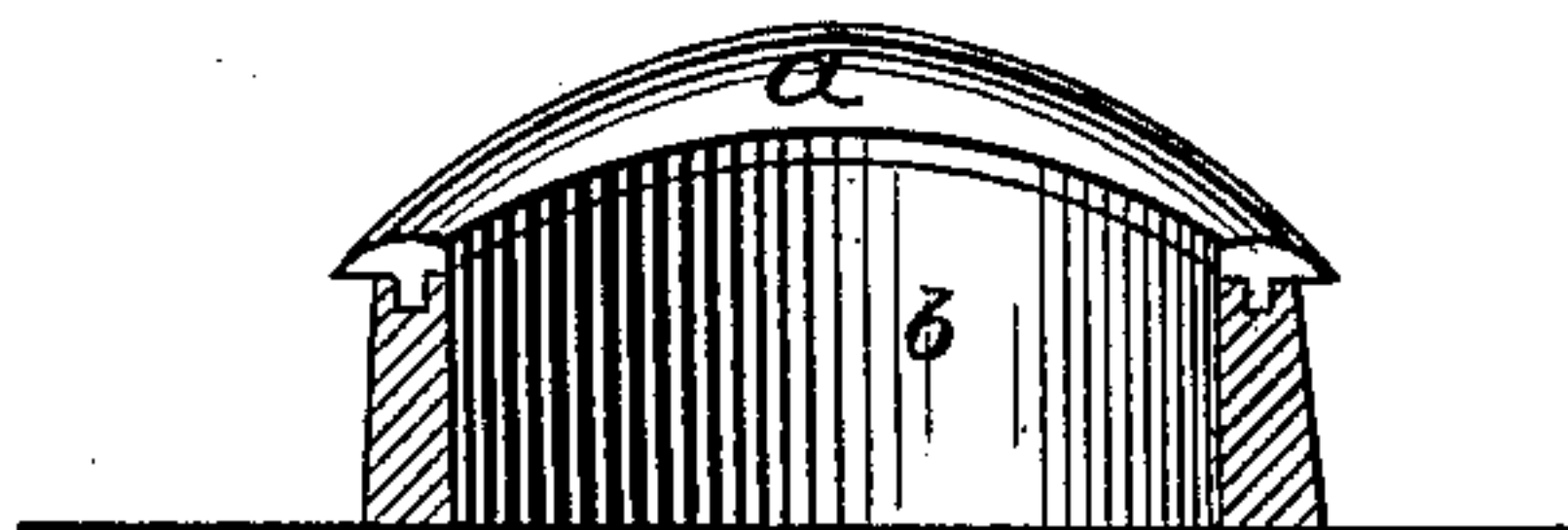


Fig. 6.

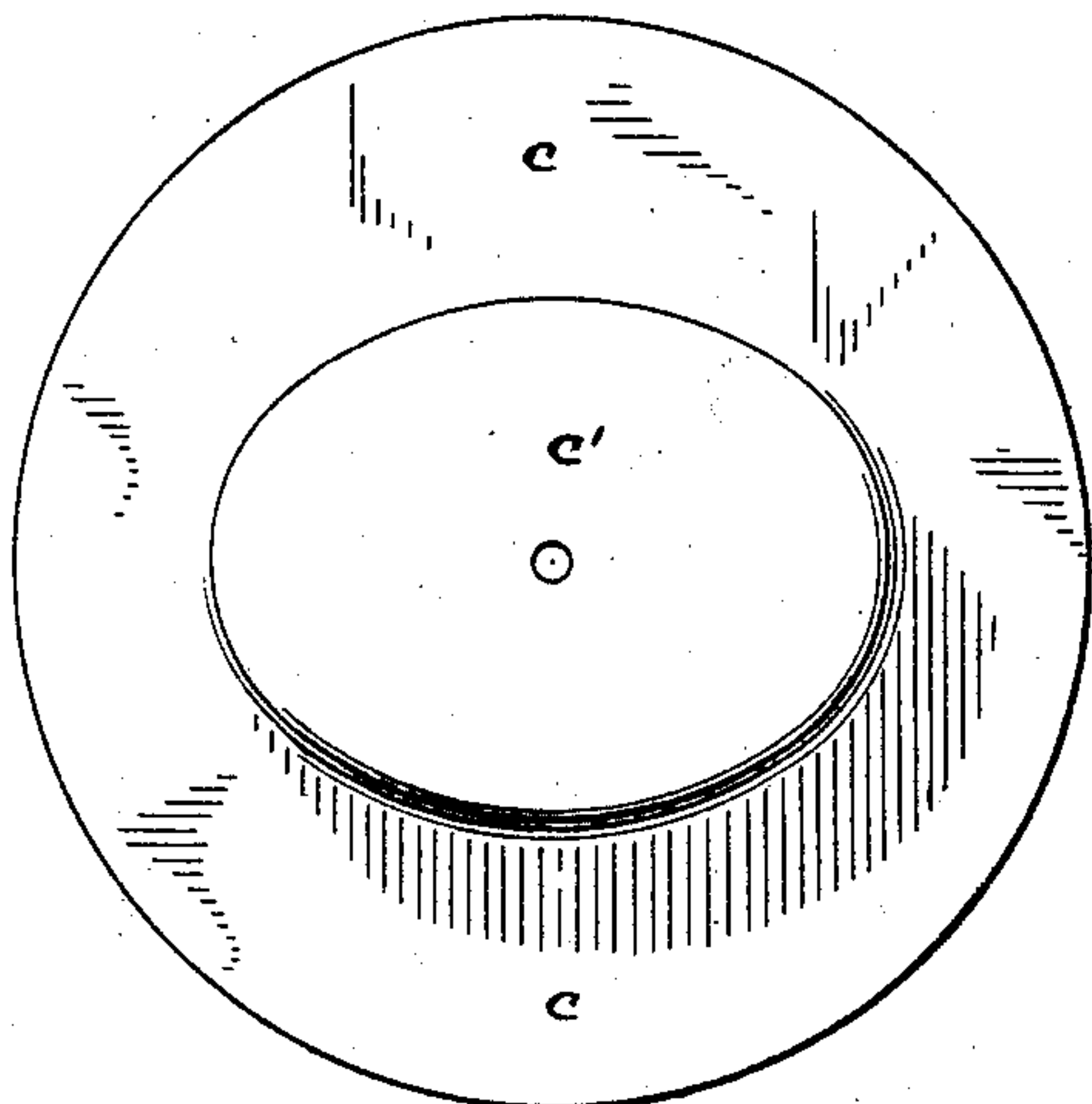


Fig. 9.

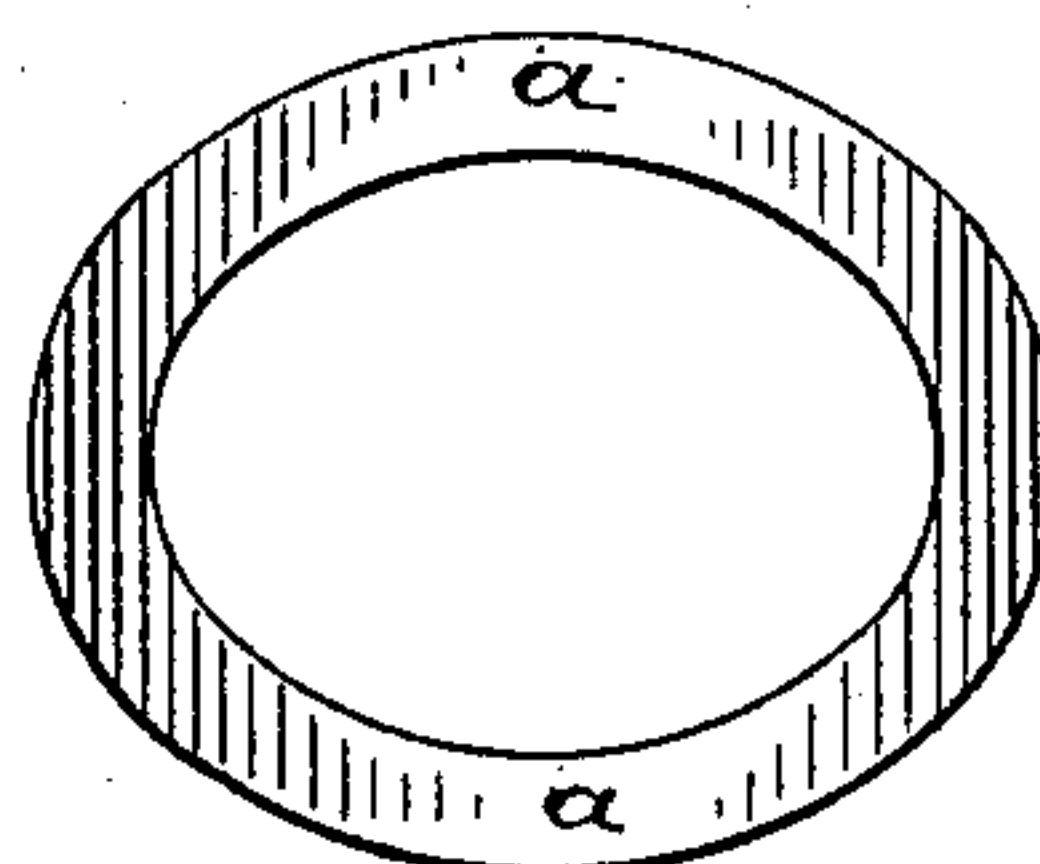


Fig. 10.

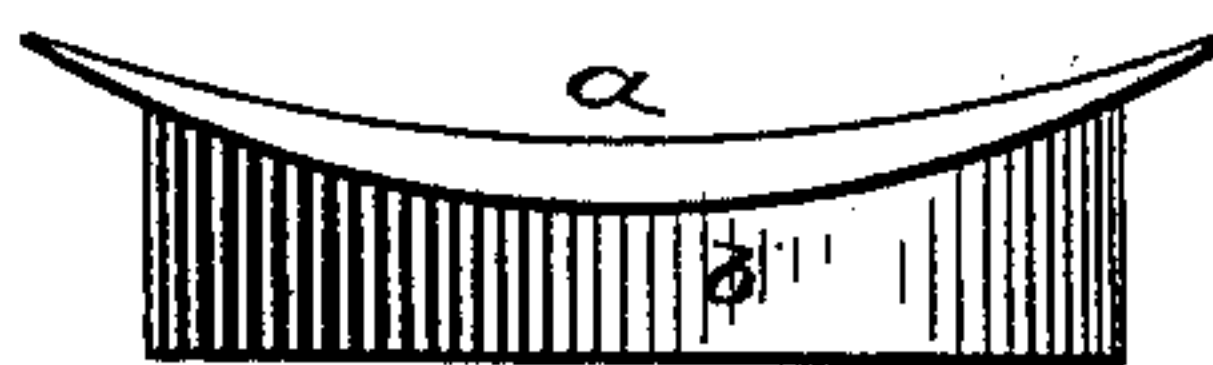


Fig. 7.

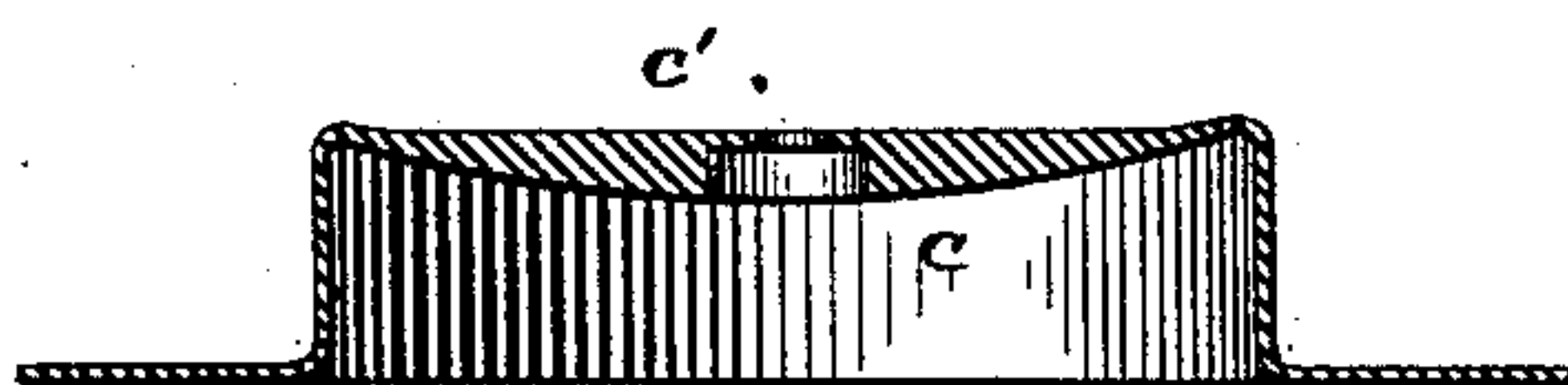
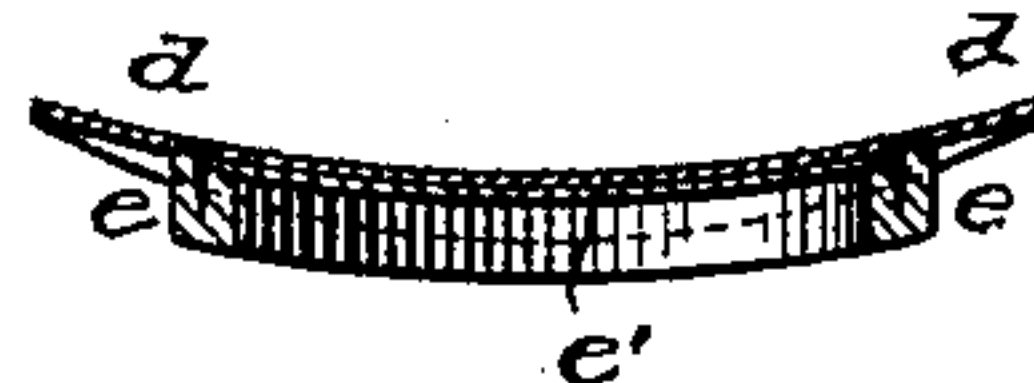


Fig. 11.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRI POLAK AND HENRY LOWE, OF HYDE, COUNTY OF CHESTER,
ENGLAND.

APPARATUS FOR CURLING AND SETTING SILK, FELT, AND OTHER HAT-BRIMS.

SPECIFICATION forming part of Letters Patent No. 322,004, dated July 14, 1885.

Application filed July 11, 1884. (No model.) Patented in England February 26, 1884, No. 3,938.

To all whom it may concern:

Be it known that we, HENRI POLAK and HENRY LOWE, subjects of the Queen of Great Britain and Ireland, residing at Hyde, in the county of Chester, England, have jointly invented certain new and useful Improvements in Apparatus for Curling and Setting Silk, Felt, and other Hat-Brims, (for which we have obtained a patent in England, No. 3,938 of A. D. 1884, dated February 26, 1884,) of which the following is a specification.

The primary object of our improvements in apparatus for "curling" and "setting" hat-brims consists in effecting both results simultaneously and by one operation, whereby time and labor are saved, and a given quality of hats can consequently be more cheaply produced.

Our apparatus for performing said operations consists of an improved rubber bag and other devices fitted to work in the hydraulic press heretofore used for curling hat-brims, which has never before been adapted for what we term "setting," so far as we are aware, our improvements adapting the same to be readily and successfully used for performing both operations simultaneously, as aforesaid.

Two sheets of drawings accompany this specification as part thereof.

On Sheet 1, Figure 1 represents a vertical section of the movable dome of a hydraulic press with its appurtenances, as heretofore used for curling hat-brims. Figs. 2 and 3 are respectively a top view of the metallic brim-plate used therein, and a vertical section of its base detached; and Fig. 4 is a perspective view of the press opened as for introducing a hat, showing said base in position therein.

On Sheet 2, Fig. 5 represents a vertical section of the same press-dome fitted with our improved apparatus in place of its old india-rubber bag, brim-plate, and base. Figs. 6 and 7 are respectively a plan view and a longitudinal section of the improved india-rubber bag detached. Figs. 8 to 10, inclusive, are respectively a vertical cross-section, a plan view, and a side view of our improved brim-plate and its base; and Fig. 11 is a longitudinal section of our setting-plate and brow detached.

Like letters of reference indicate corresponding parts in the several figures.

In carrying out our invention we provide a hydraulic curling-press, Fig. 4, with a substitute for its old brim-plate, Fig. 2, and fit the press-top A with a substitute for its old brim-plate base B, Figs. 1, 3, and 4, and fit the superposed movable-dome or cover C of the press with a substitute for its ordinary india-rubber bag or diaphragm D, Fig. 1, as represented by Figs. 5 to 11, inclusive. Instead of said brim-plate, Fig. 2, we provide a metallic or wooden frame, *a*, Figs. 5, 8, 9, and 10, (in one or more pieces,) shaped to exactly correspond with the curl and set of hat-brim desired; and we mount this frame *a* upon a base frame, *b*, Figs. 5, 8, and 10, having an arched upper surface fitted to said frame *a*, while it is fitted at its lower edge to the press-top A as a substitute for said base B. If the frame *a* be formed in two or more pieces, a thin sheet of brass, *a'*, Fig. 5, may be fitted to the top of the frame to cover its joints, so that they shall not mark the hat-brim; but this is not considered essential.

Instead of the ordinary india-rubber bag or diaphragm, D, we fit the dome or cover C with an improved india-rubber bag, *c*, Figs. 5, 6, and 7, the inside of which is shaped to correspond with the arch of the hat-brim. Within this we affix a zinc plate, *d*, Figs. 5 and 11, or its equivalent in other suitable materials, corresponding in curl and set to the frame *a*; and to the under side of this setting-plate *d* we attach a hollow or annular brow, *e*, of wood or metal, of suitable shape, with, preferably, an oval plate, *e'*, of sheet-iron, covering its central opening at its top. This brow is designed to enter the hat, so as to keep the band thereof in shape, and said iron plate prevents the bag *c* under pressure from pushing said setting-plate *d* out of shape. The bag *c* is connected, as is customary, with the stem of the sliding or lost-motion bolt *f*, through the medium of which the dome D is lifted, so that the bag may be raised and a portion of the water above it discharged before lifting the dome. By making the bag with a thick central portion, *c'*, Figs. 5 and 7, we provide at once a substantial backing for the said plate *d*, and a hold for the nut-washer of said

bolt *f* above said plate, as shown in these figures, which facilitates preventing leakage at this point. A thin metallic plate, *g*, Fig. 5, affixed to the top of said central portion, *c'*, of the bag may be added to distribute the lifting-strain.

It will be apparent that when a hat is placed upon said frame *a* in the press, Fig. 4, and hydraulic pressure is applied in the usual manner above said improved india-rubber bag *c*, said plate *d* comes down on the hat-brim and presses the same upon said frame *a*, and thus, owing to the conformation of the several parts, the hat-brim, suitably softened in customary manner, is caused to partake of the exact form of said frame *a*, while the size and shape of its band are preserved by said brow *e*, and the curling and setting of the brim are thus accomplished simultaneously and at one operation, as aforesaid.

We are aware that it has been proposed to press the crowns and brims of hats simultaneously. This forms no part of our invention, which is exclusively applicable to apparatus for pressing hat-brims after the crowns have been otherwise formed.

Having thus described our said joint invention, we claim as new and desire to patent under this specification—

1. In a hydraulic hat-brim press, a frame shaped to exactly correspond with the required curl and set of brim and supported upon a correspondingly-arched base-frame, in combination with an india-rubber bag having an internal surface of corresponding shape provided with a setting-plate conformed to said frame, and a brow adapted to fit with-

in the band and preserve its size and shape, substantially as hereinbefore described, for simultaneously curling and setting hat-brims in the manner set forth.

2. The improved india-rubber bag *c*, with its central portion, *c'*, shaped internally to conform to the arch of the hat-brim, substantially as and for the purpose hereinbefore described.

3. The combination of the improved india-rubber bag *c*, having an internally-arched central portion, *c'*, the metallic setting-plate *d*, affixed to said arched portion of said bag, and the brow *e*, attached to said plate, substantially as and for the purpose hereinbefore described.

4. The combination of the improved india-rubber bag *c*, having an internally-arched central portion, *c'*, the metallic setting-plate *d*, affixed to said arched portion of said bag, the hollow brow *e*, attached to said plate, and the metallic plate *c'*, covering the opening of said brow, substantially as and for the purpose hereinbefore described.

5. The combination of the improved india-rubber bag *c*, having an internally-arched thick central portion, *c'*, the metallic setting-plate *d*, affixed to said arched portion of said bag, and the lifting-bolt *f*, having its hold in said thick central portion above said plate, substantially as and for the purpose hereinbefore described.

In witness whereof we affix our signatures in presence of two witnesses.

HENRI POLAK.
HENRY LOWE.

Witnesses:

JOHN G. WILSON,
WALTER GUNN.