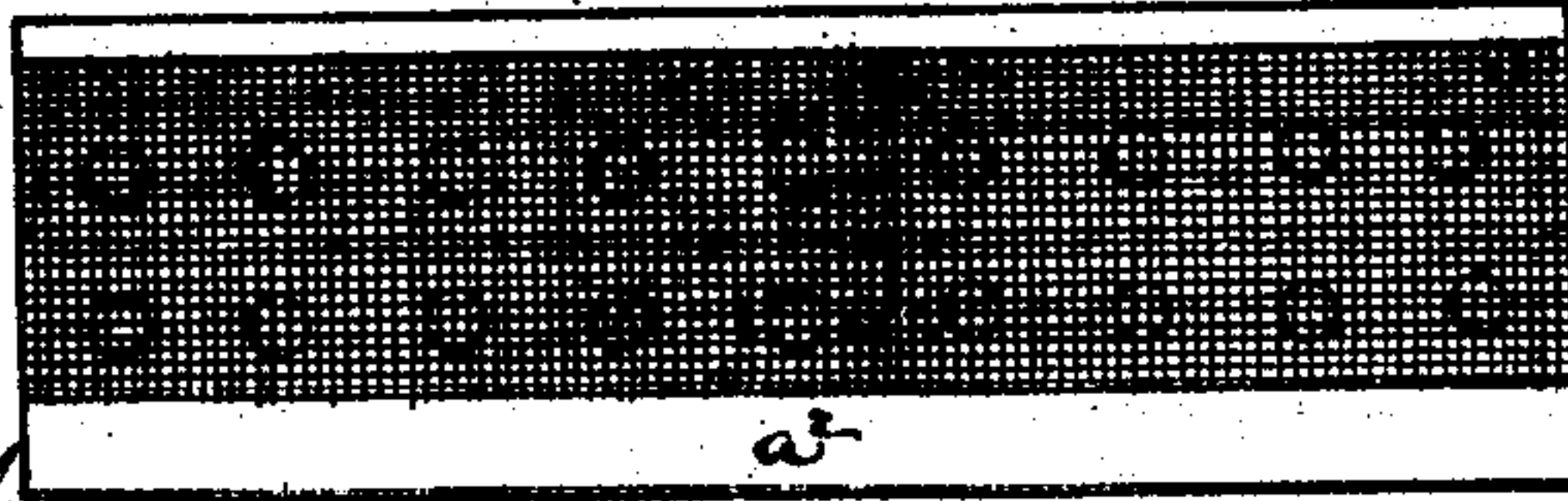
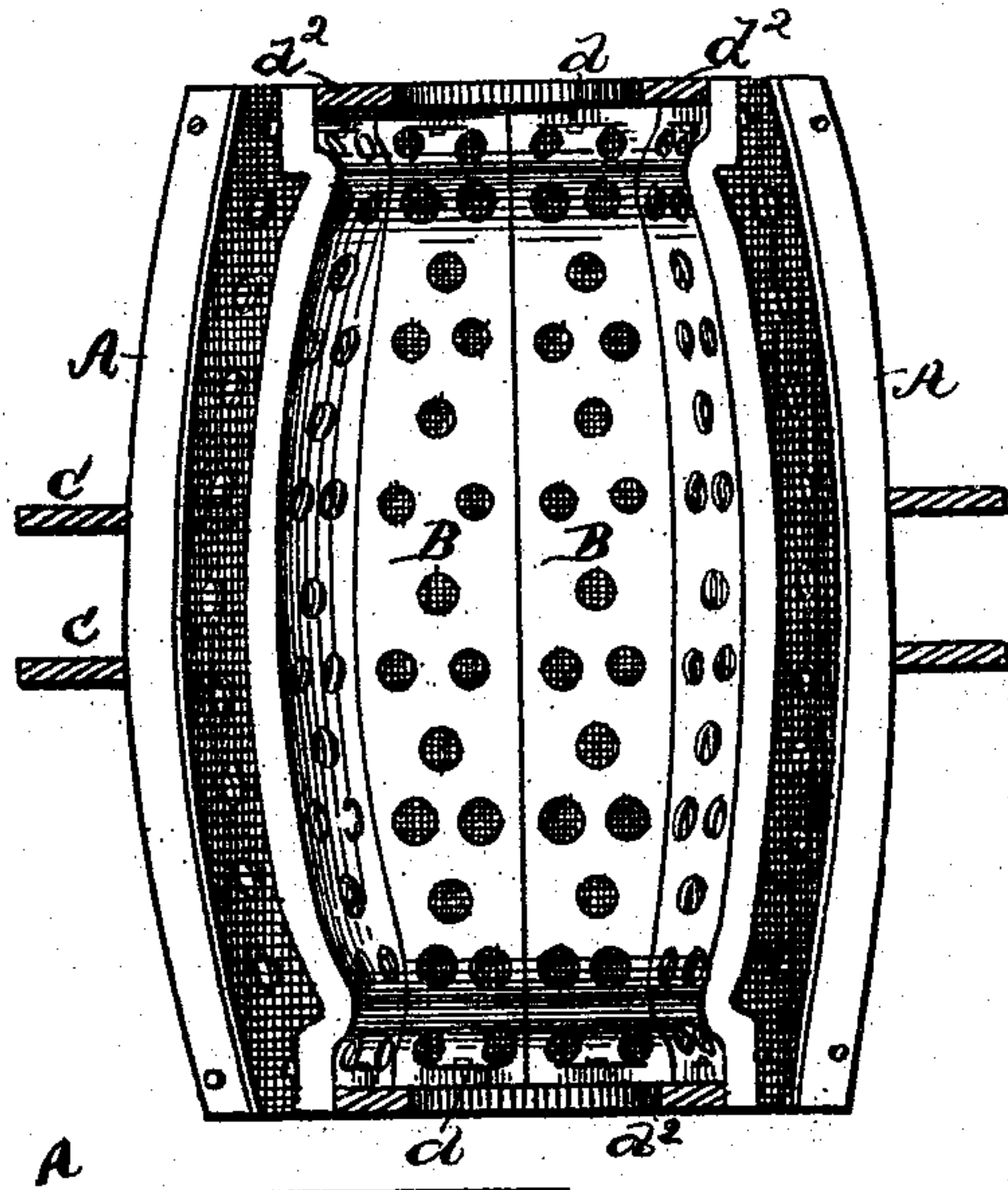
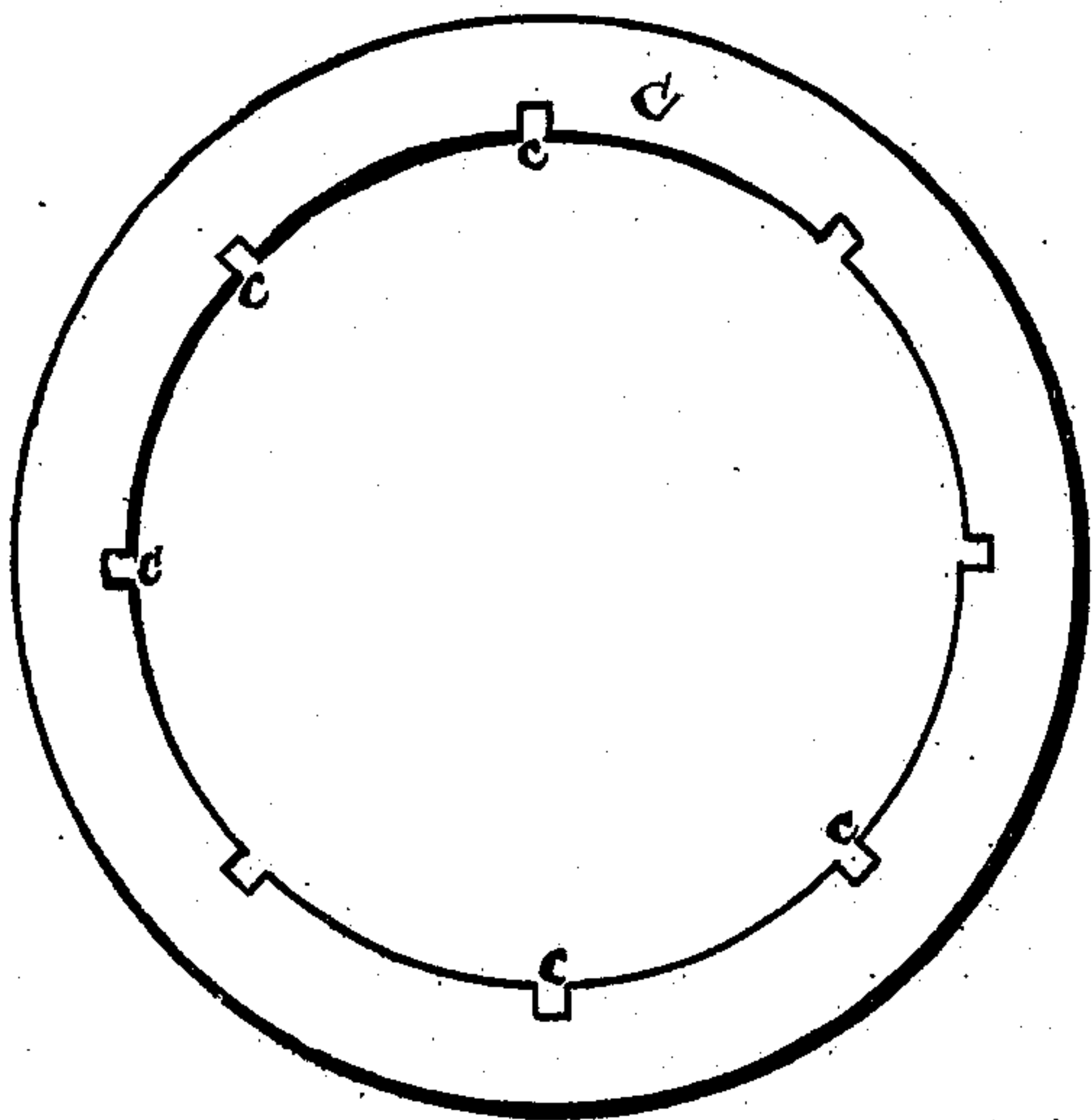
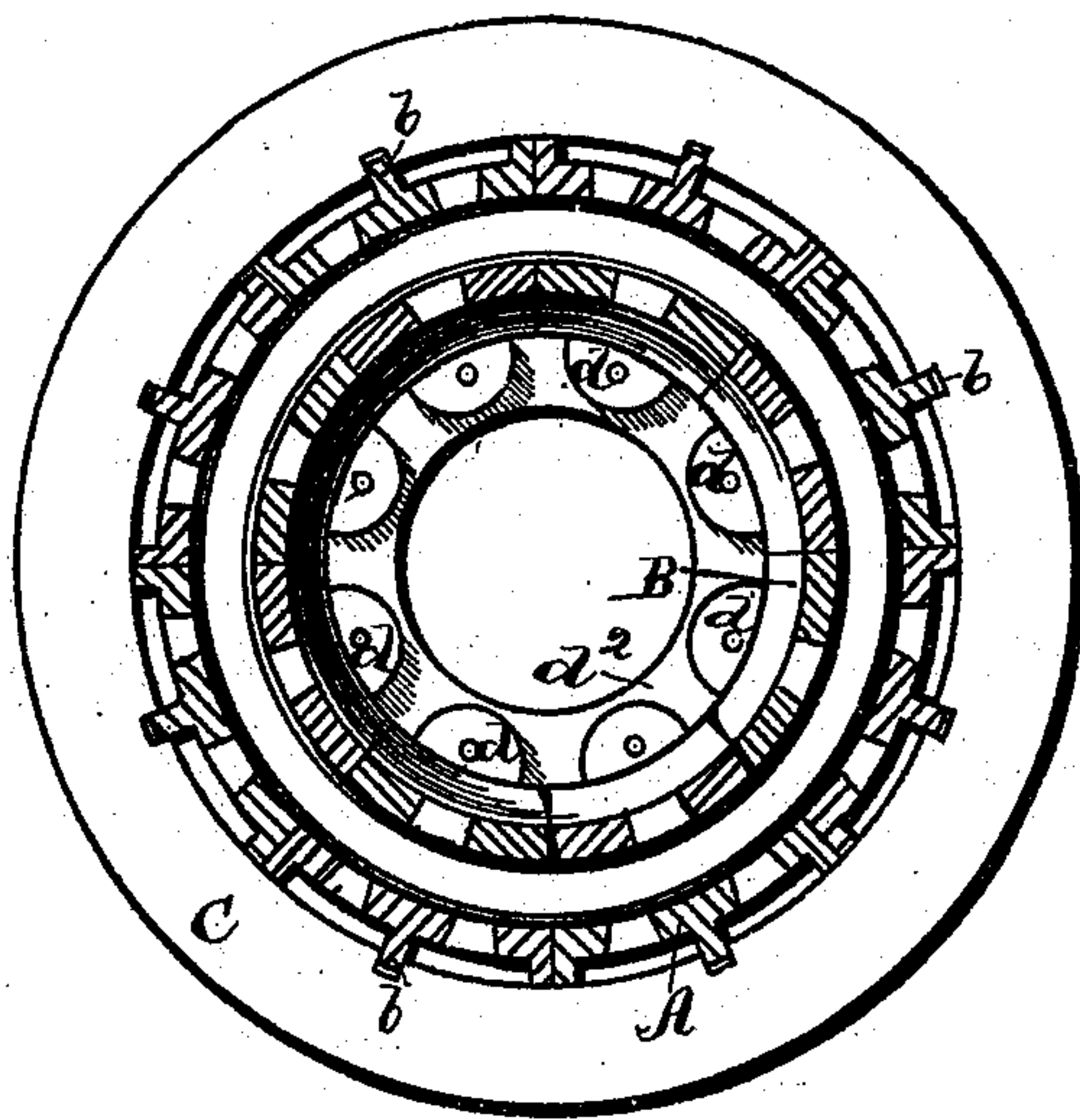
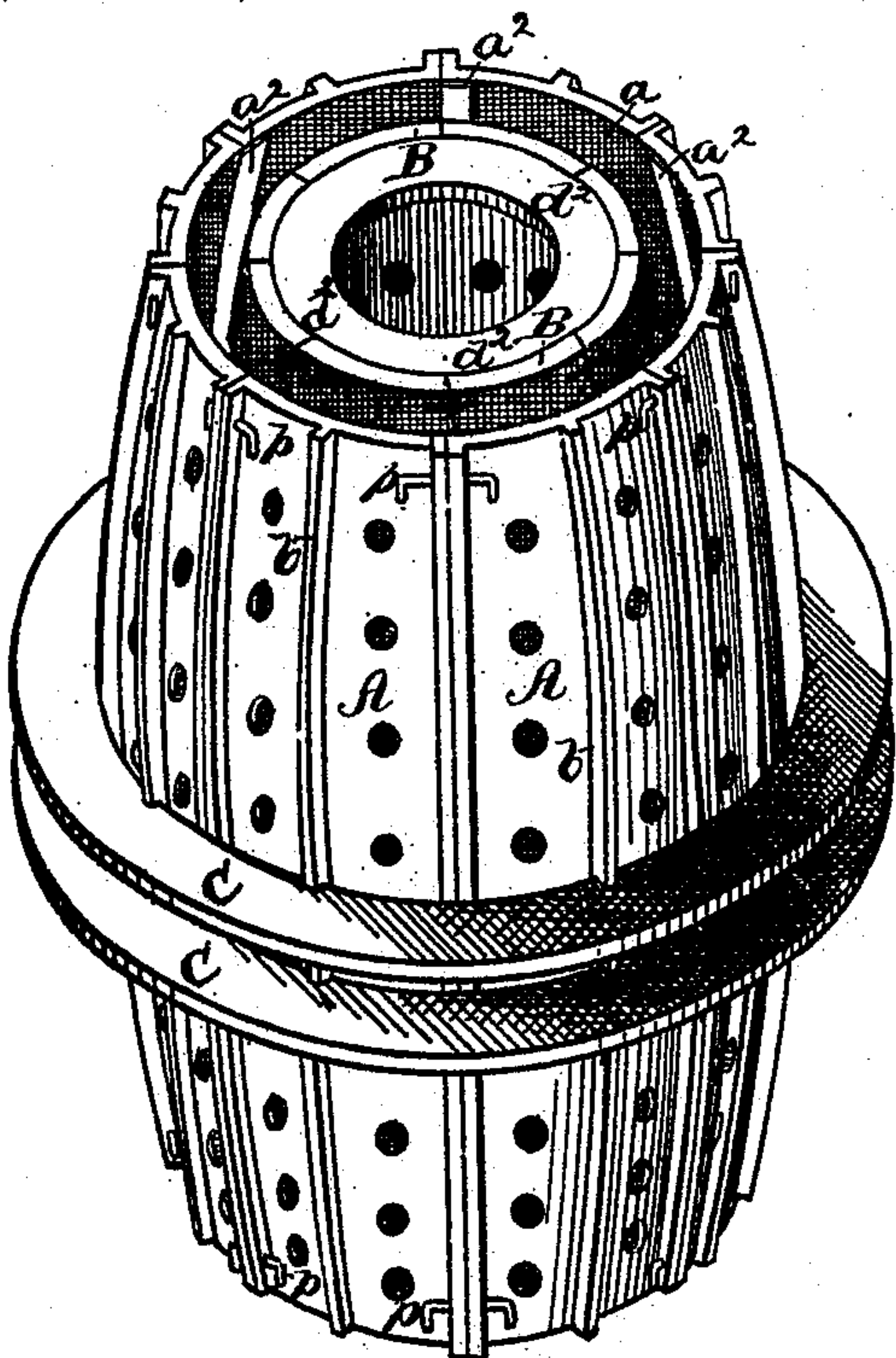


E. HUBBARD.

MOLDS OR PRESSES FOR MAKING PAPER BARRELS.

No. 172,856.

Patented Feb. 1, 1876.



WITNESSES:

Jos. J. Duhamel
Thomas. Byrne

INVENTOR

Eber. Hubbard.

PER

A. J. Abbot.

ATTORNEY.

UNITED STATES PATENT OFFICE

EBER HUBBARD, OF MEDINA, NEW YORK, ASSIGNOR OF ONE-HALF HIS
RIGHT TO IVES MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MOLDS OR PRESSES FOR MAKING PAPER BARRELS.

Specification forming part of Letters Patent No. 172,856, dated February 1, 1876; application filed
November 22, 1875.

To all whom it may concern:

Be it known that I, EBER HUBBARD, of Medina, in the county of Orleans and State of New York, have invented certain new and useful Improvements in Molds or Presses for Pulp Barrels, of which the following is a specification:

This invention has for its object the production of a barrel or other similar article of any convenient size, and composed of ordinary straw pulp, made of straw or other suitable raw material. To this end, therefore, the invention consists of a mold or form in which to compress the pulp into proper shape, which mold or press will now be described.

In the several figures of the drawing forming part of this specification, the letter A represents a number of staves, preferably of metal, which staves have such form given to them that when set up their interior surface shall have the form desired for the exterior of the barrel. B B are a number of staves or sections, which, when set up inside the staves A A, form a cone having an exterior form corresponding to that desired for the interior of the barrel. C C are rings, of which there may be two or more. These rings are passed over the ends of the staves A A in the manner of hoops upon a barrel, and by their pressure preserve the external form of the mold. The annular space between the staves A A and the sections B B being filled with pulp it can readily be seen that by driving the rings C C toward the center of the mold the pulp will be compressed into the desired shape.

The special structure of the several parts of the mold will now be described.

The number of the staves A A and sections B B may be as many as desired, and as each member of these two classes of staves A and B is a counterpart of its fellows a description of one member of each class will suffice for the whole number. The stave A is perforated, as seen in the drawing, and on its inside over the perforations is secured in any suitable manner a wire-gauze or similar device, *a*. Upon the inner edge of one side of the stave is secured a strip of thin metal forming a lap or rabbet, *a*². This rabbet prevents the pulp from being forced out between the staves as

the pressure increases, before the edges of the staves form a tight joint. Upon the back of the stave are three ribs, two of which form the edge of the stave A, and one is a central rib, *b*. Each end of the sections B is formed into an offset for giving a croze or some similar formation to the ends of the barrel when pressed into shape, and said sections are perforated and covered on their exterior surface with wire-gauze in the same manner as the interior surface of the staves A. The sections B are also provided with lugs *d*, which serve to steady the sections and assist in holding them together when setting them up before pressure is brought upon the mold by serving as supports for the rings *d*². One of the sections B has its edges beveled the reverse of the others, by which means it can be readily removed from the mold when the barrel is made, after which removal the other sections may be easily taken out also. The ring C is provided with slots or notches which notches guide it as it is forced upon the staves A A. These staves are also held together by wire pins *p p*.

The complete operation of the mold or press can now be understood. The staves and sections being all set up, as above described, and the annular space between them filled with any suitable pulp, the rings C C are forced over the staves A A by screw-power or by any other suitable power, when the pulp will be compressed, as the rings approach each other into the desired shape, the water contained in the pulp at the same time being forced out through the perforations in the staves and wire-gauze. The shaped pulp, still under pressure may now be subjected to any suitable drying process, the heat reaching it through the wire-gauze and the perforations in the staves, both from the inside and outside. When the shaped barrel is considered dry enough the rings C are removed from the staves A A. The staves thus released from pressure can readily be withdrawn, as above described, from contact with the barrel, and the barrel, as a complete article, is ready to be headed in any desired manner.

Having thus fully described this press mold as of my invention, I claim—

1. A mold for the fabrication, from straw pulp, of barrels and other similar articles, said mold being composed of an outer and inner set of perforated staves or sections, in the annular space between which sets of staves the barrel is formed under pressure from without exerted inwardly upon the outer staves or sections, in the manner substantially as hereinbefore described, for the purposes set forth.

2. The detachable perforated inner staves B B, provided with lugs *d*, in the manner substantially as hereinbefore described, for the purposes set forth.

3. The detachable perforated outer staves A A, provided with rabbets *a*² and exterior longitudinal ribs, in the manner substantially as hereinbefore described, for the purposes set forth.

4. The combination, with the outer and inner sets of staves A A B B, constructed substantially in the manner hereinbefore described, of the external rings C C, whereby suitable pressure is applied to said outer staves, and currents of air admitted between and around said sets of staves, all for the purposes hereinbefore set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EBER HUBBARD.

Witnesses:

ELLIS J. IVES,
FRED M. IVES.