

(No Model.)

E. G. HOFFMANN.
CASTER WHEEL.

No. 501,719.

Patented July 18, 1893.

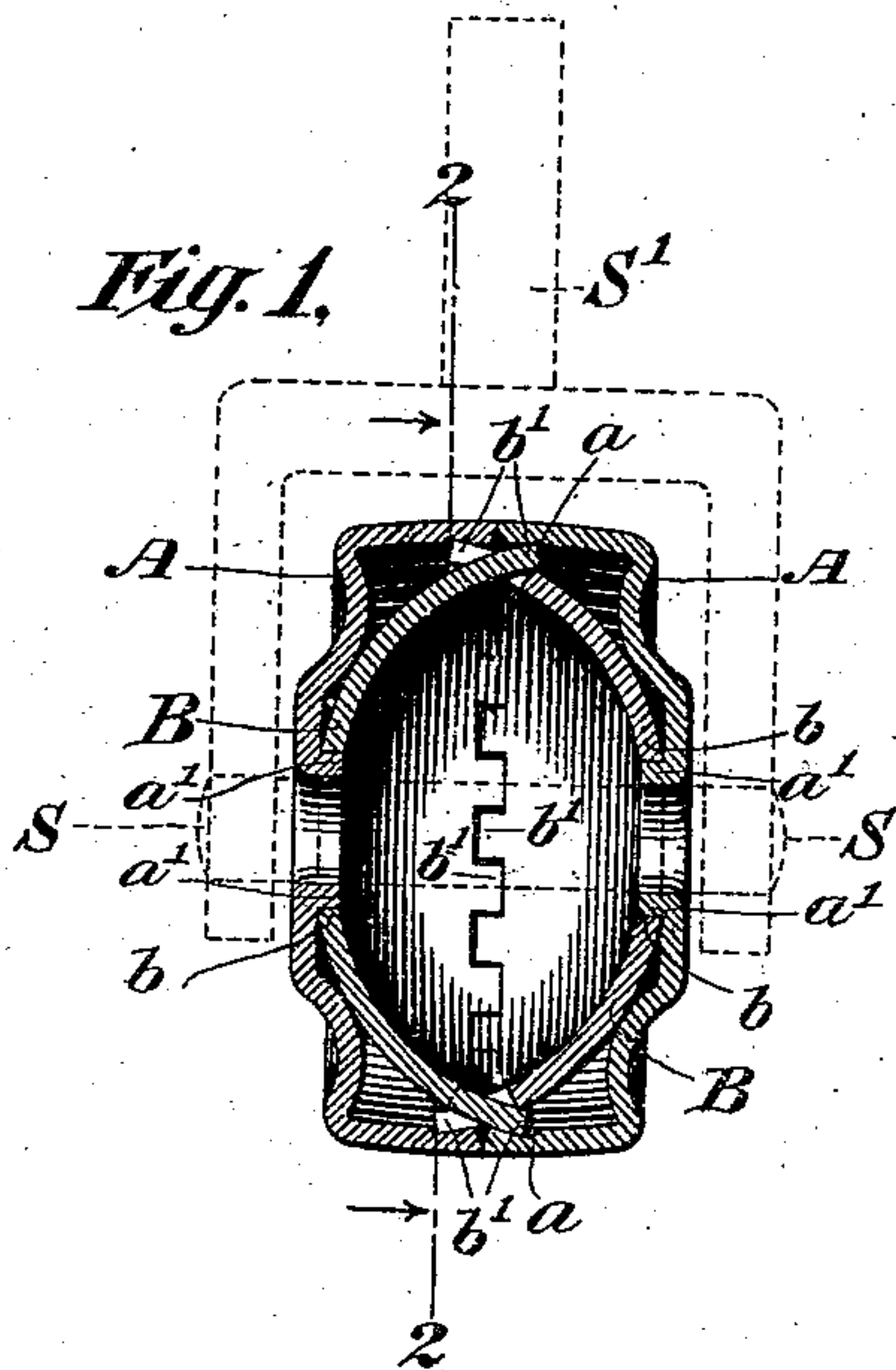


Fig. 2,

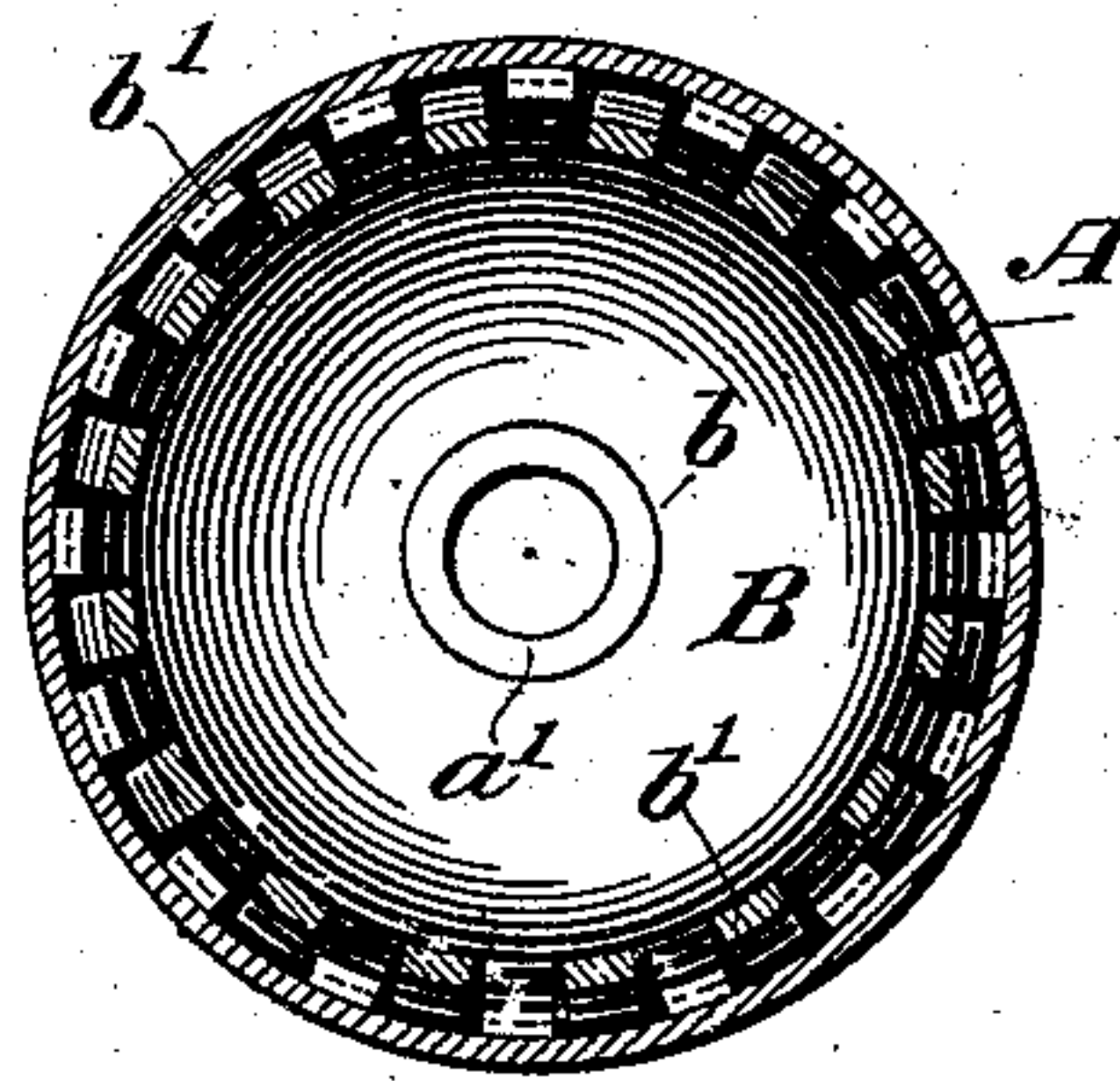


Fig. 3,

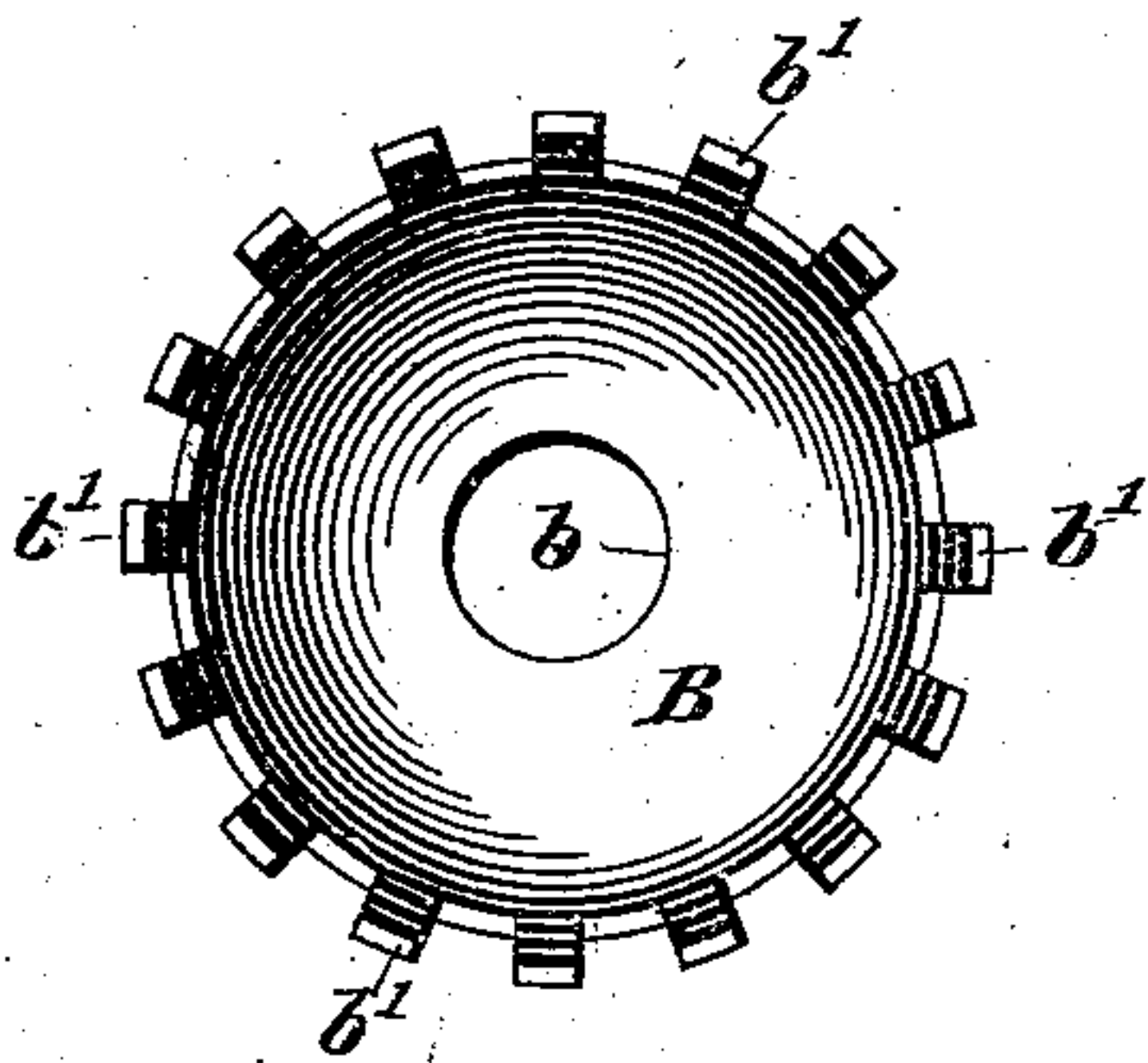


Fig. 5,

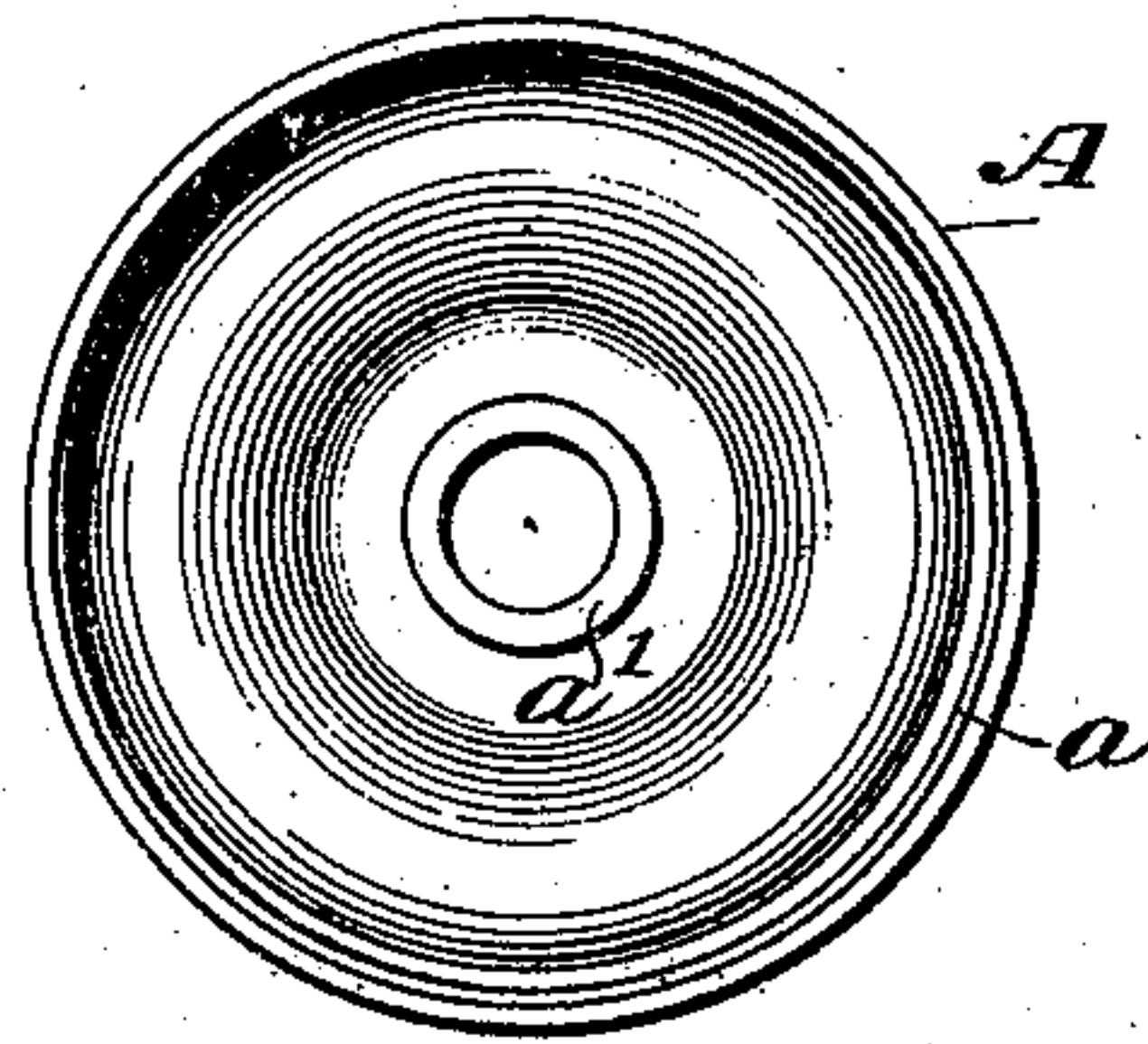


Fig. 4,

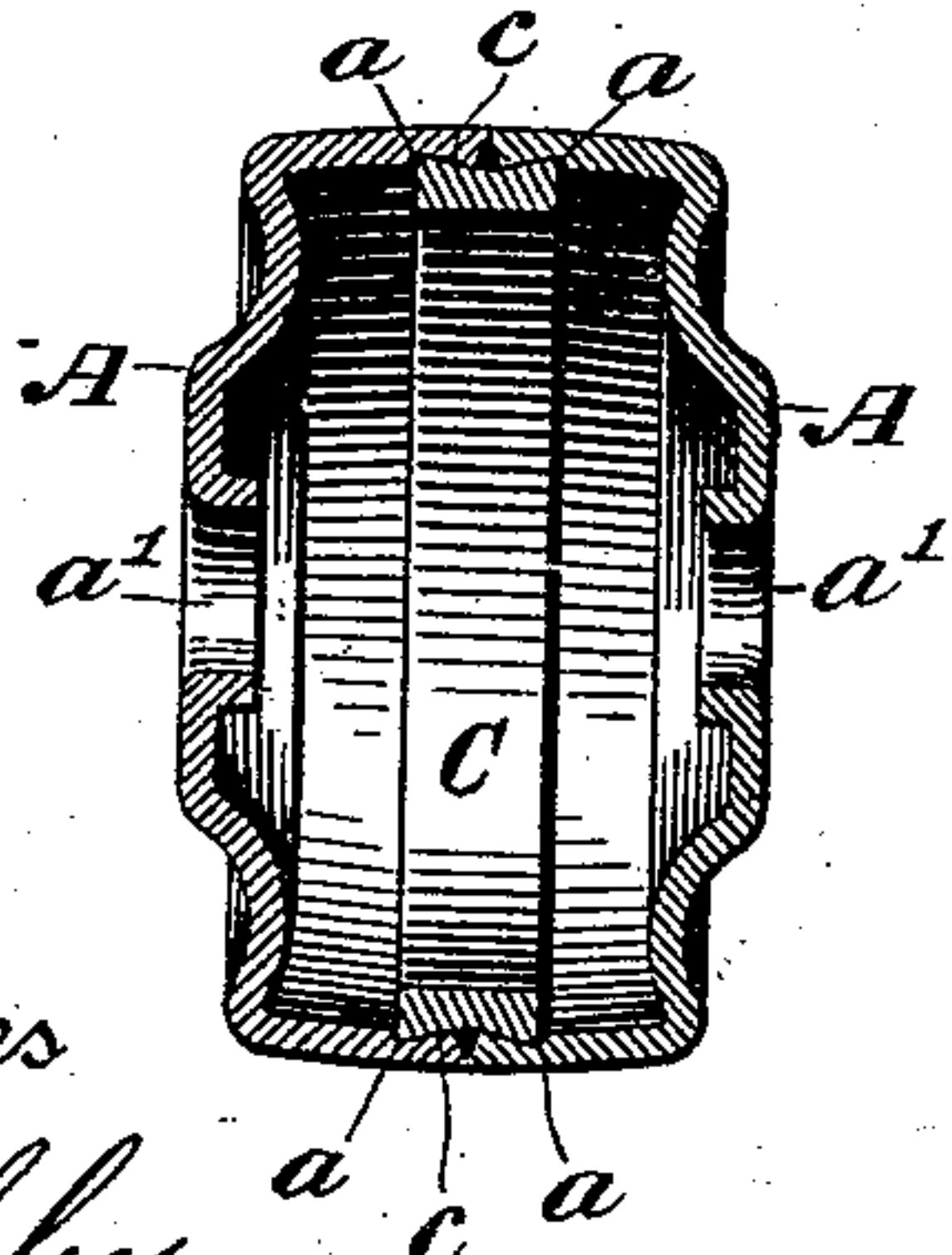
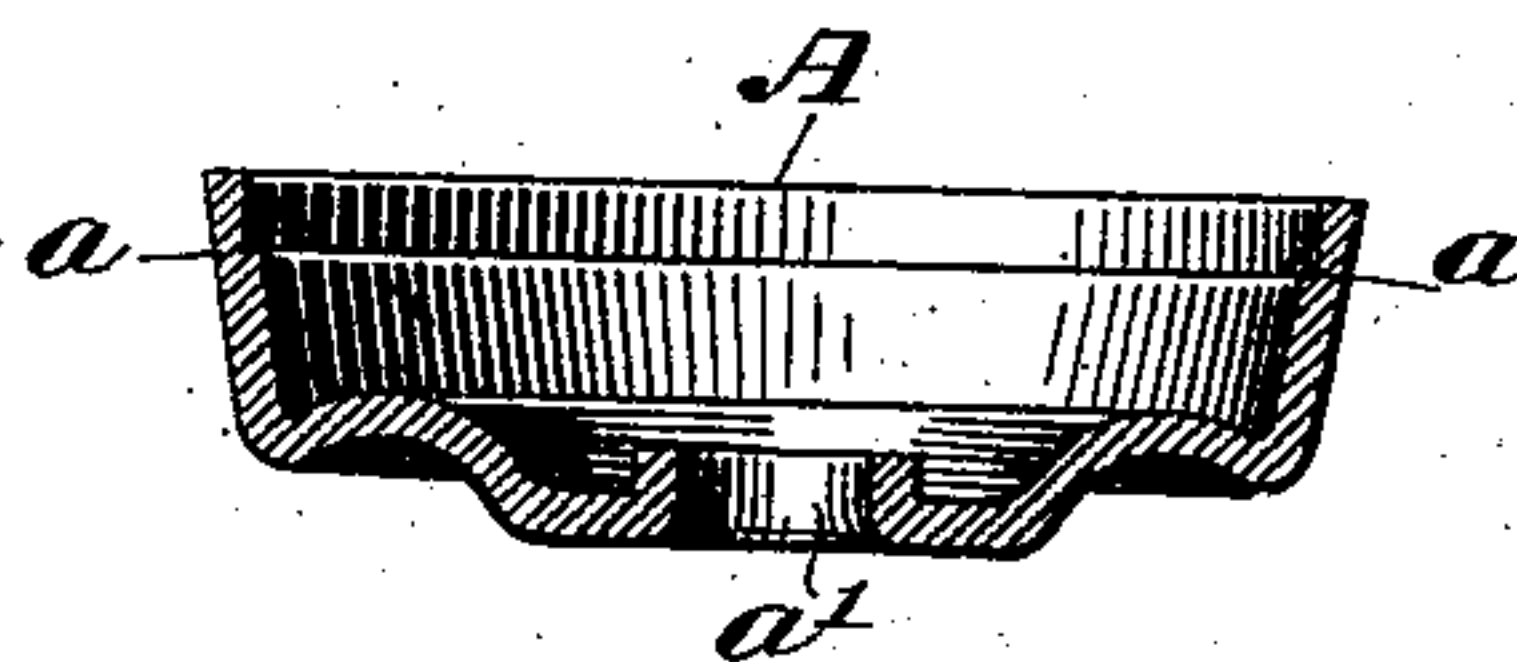


Fig. 6,



Witnesses

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UNITED STATES PATENT OFFICE.

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CASTER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 501,719, dated July 18, 1893.

Application filed December 13, 1892. Serial No. 454,985. (No model.)

To all whom it may concern:

Be it known that I, ERNEST GUSTAV HOFFMANN, a subject of the Emperor of Germany, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Hollow Wheels or Rollers, of which the following is a specification.

My invention relates to an improvement in the construction of hollow wheels or rollers, for any variety of use, but particularly for use as furniture casters; and the invention relates more particularly to hollow wheels or rollers which are made in separate sections and which are stamped up or struck together in suitable dies. It has heretofore been the practice to construct such wheels or rollers by stamping them out of metal plates in separate parts or halves which are provided with shoulders, and generally by recessing them in a lathe and then securing the separate parts thus made, by pressing or soldering together.

The object of the present invention is to do away with the necessity of all lathe work and solder, and to produce an equally strong roller or wheel, with much less thickness of shell or metal than is usually deemed necessary, and which at the same time can be much more readily put together, and in this way to effect a material economy in the original cost of production of such shell, on account of the employment of less material, as well as economy and ease in putting the parts together, and equally great strength and neatness in the finished roller.

The invention will be best understood by reference to the accompanying sheet of drawings in which—

Figure 1 is a vertical cross-section of the roller or wheel; Fig. 2, a vertical longitudinal section of the same; Fig. 3 a vertical view of a detail; Fig. 4, a vertical cross section of a slightly modified form; Fig. 5, a plan view of one of the cross-sections; and Fig. 6, a cross-section of one of the halves or parts of the shell or roller.

Similar letters relate to similar parts throughout the views.

In the drawings A A represent the two halves or parts which, when put together,

form the wheel in the manner shown in Fig. 1. These halves or parts are stamped up from sheets or disks of suitable metal; the dies from which the same are made, being so formed that the material near the edges to be joined, has an indentation or beveled groove, *a*, running around its inner face near the periphery; the external face of the wheel directly opposite said groove, being slightly inclined or tapered, as shown, so that when the two parts are placed together, the rolling surface is slightly tapering or wedge-shaped. The two halves thus formed may be held together as in either one of the constructions shown in Figs. 1, 2 and 3, or in that shown in Fig. 4. In the first construction, the halves or parts of the roller are held together by two circular metal disks B B, which are provided with the openings *b* at the center, passing the shoulders or lugs *a'*, formed upon the inner surfaces of the two halves or parts, as shown in Figs. 1 and 5. These disks are provided on their periphery with the teeth *b'*, which are so placed with reference to each other that when the two disks are placed together the teeth engage or interlock in the manner shown in Figs. 1 and 2, and their extremities project a certain distance beyond the outer disk surface. The disks are made of thick steel or other metal which will retain its resiliency and are of such diameter, and the extremities of the teeth *b'*, engage with the grooves or indentations *a* upon the inner edge of the halves or parts A, as shown in Fig. 1, and when the two halves A are pressed together and are forced through the die, the latter will press the indented rolling surface toward the center and thus cause the extremities of the teeth to be pressed firmly into the grooves *a a* and as a result, the two halves will be firmly held together, thus making a permanent hollow shell.

In the construction shown in Fig. 4, the two halves A A composing the shell are held together by an internal ring C, made of thin steel or other metal which will retain its resiliency, provided with a groove or V shaped depression *c* upon its periphery, and thus offering sharp points or edges fitting into and corresponding to the two beveled or wedge

grooves in the inner surface of the halves or parts A A, when the same are brought together. The internal ring C, and the two separate halves or parts A A are placed together as before, and on being forced through a die, the intended rolling surface will be compressed toward the center, and the two halves A A will be forced down upon and the sharp edges of the grooves will engage with the grooves *a a* in the halves or parts A A which will be firmly held by the internal ring, so forming as before a permanent hollow shell. The first of the two constructions above described will be found preferable, for the reason that by the use of the two conical shaped disks, the roller or wheel may be very materially strengthened. The roller or wheel may be mounted in any convenient manner. When used for casters a separate spindle S will be used, passing through the center in the manner shown in Fig. 1, the extremities passing through a frame S' if convenient.

I claim as my invention—

1. A wheel or roller composed of two metal halves or shells, and spring devices placed in the interior of said shells engaging with the

inner surfaces thereof, whereby the shells are held together, substantially as described.

2. A hollow wheel or roller composed of two hollow sections and two conical disks provided with interlocking teeth on their periphery, engaging with the inner surfaces of said sections, whereby the same are held together substantially as described.

3. The combination substantially as hereinbefore set forth of a hollow wheel or roller, composed of two hollow halves or shells, an indentation or beveled groove running around the inner face near the periphery of each of said shells, and spring devices in the interior of the shells engaging with the inner surfaces of the shells, by means of said beveled grooves, whereby the parts are held together.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 10th day of December, 1892.

ERNEST GUSTAV HOFFMANN.

Witnesses:

WILLARD PARKER BUTLER,
C. H. LUDINGTON, Jr.