

A. A. STEVENSON.
MANUFACTURE OF WHEELS.

No. 494,903.

Patented Apr. 4, 1893.

FIG. 1.

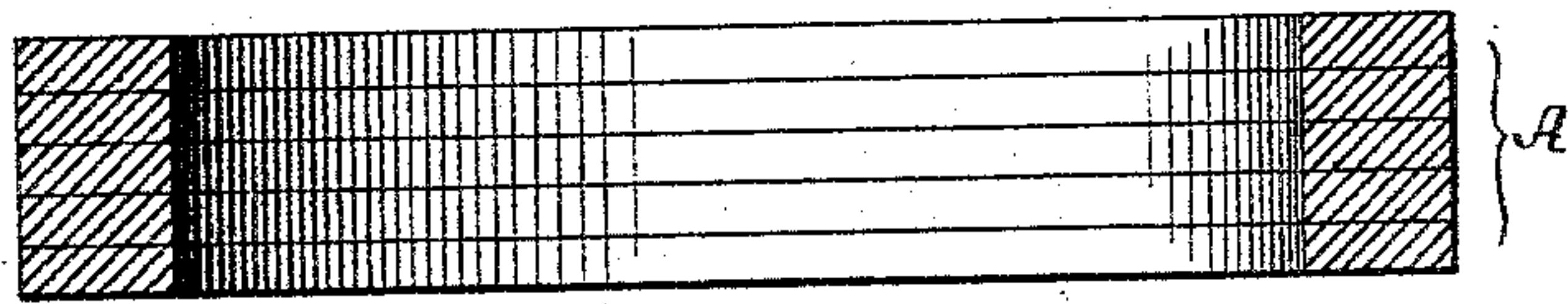


FIG. 2.

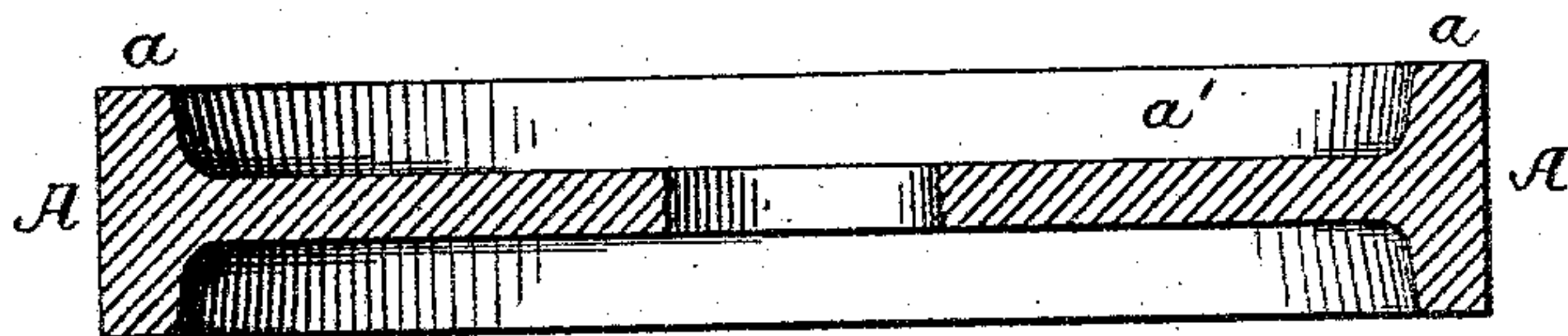


FIG. 3.

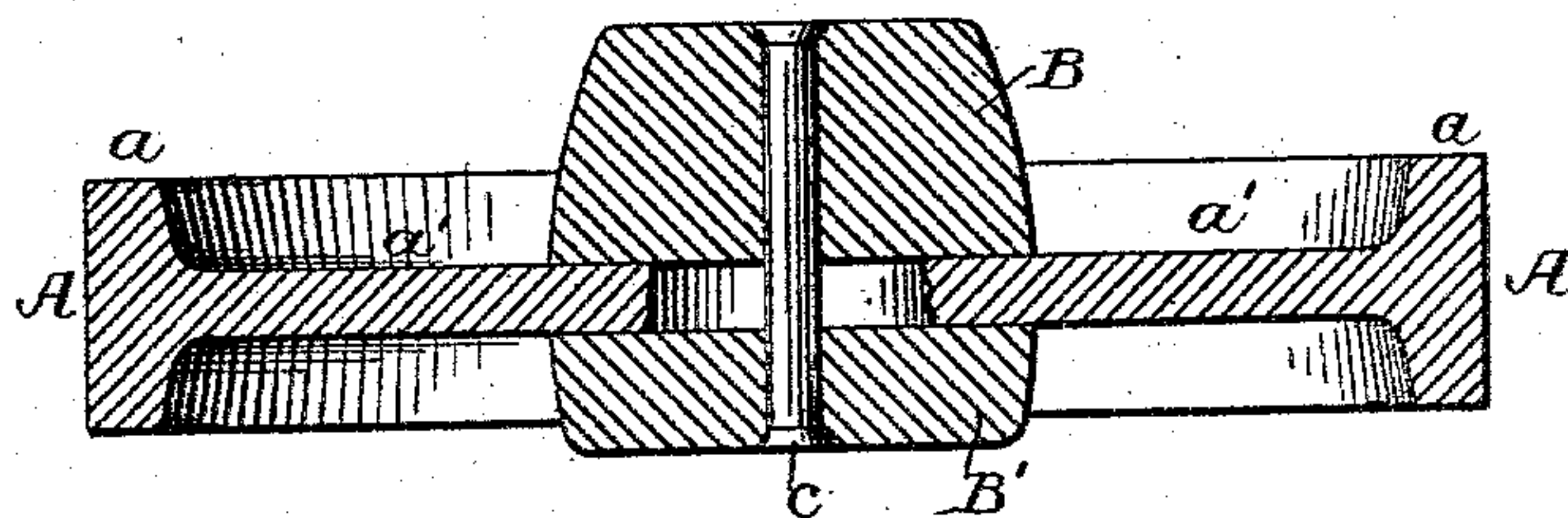


FIG. 4.

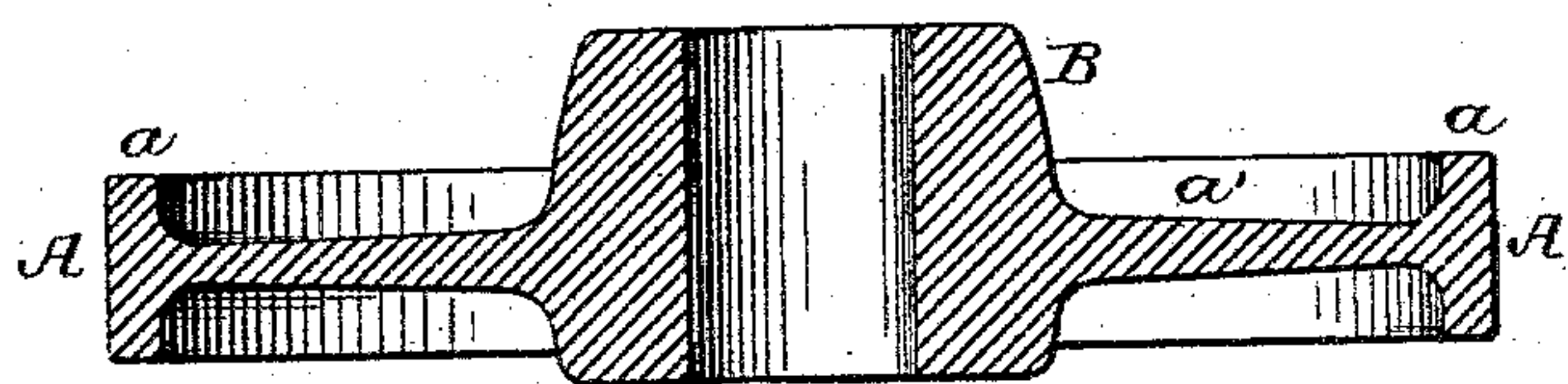


FIG. 5.

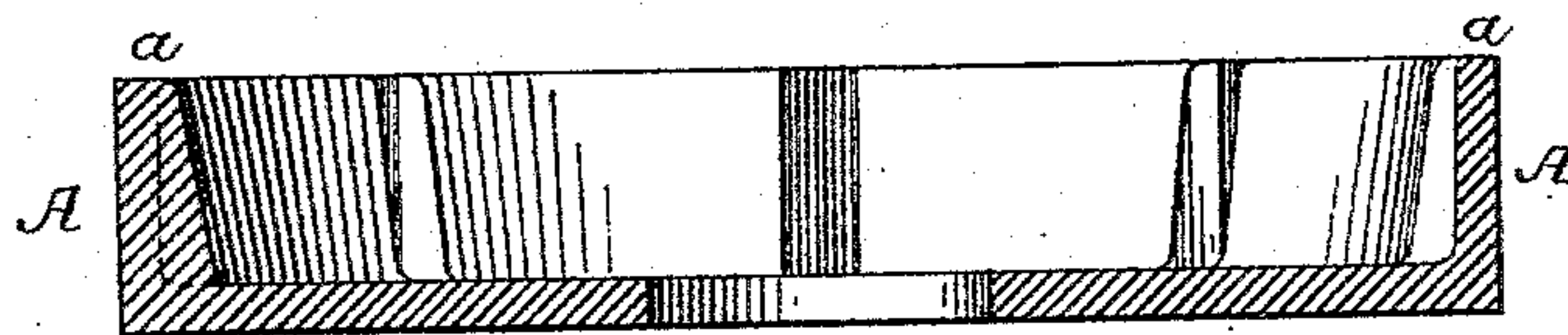
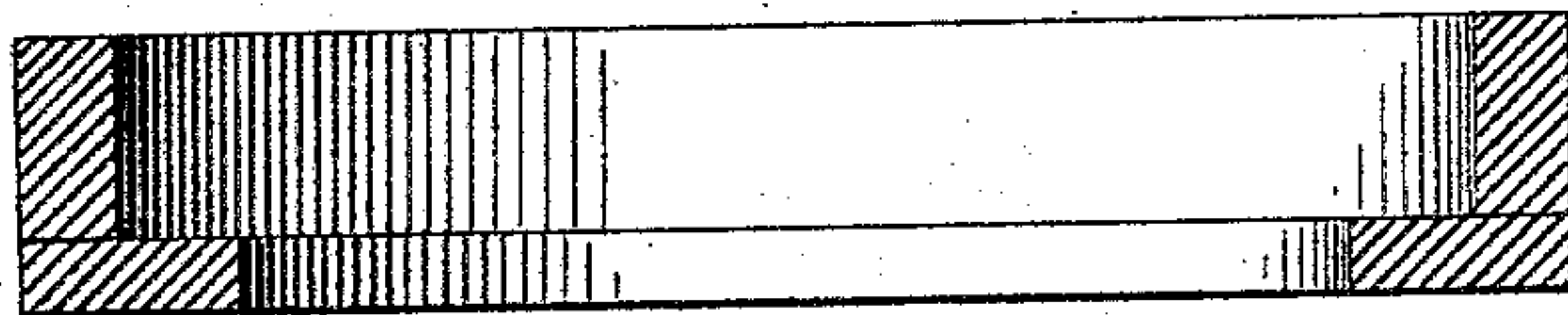


FIG. 10.



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Alex. Barkoff.

Inventor:
Archy A. Stevenson
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Hansen & Hansen

(No Model.)

2 Sheets—Sheet 2.

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FIG. 8.

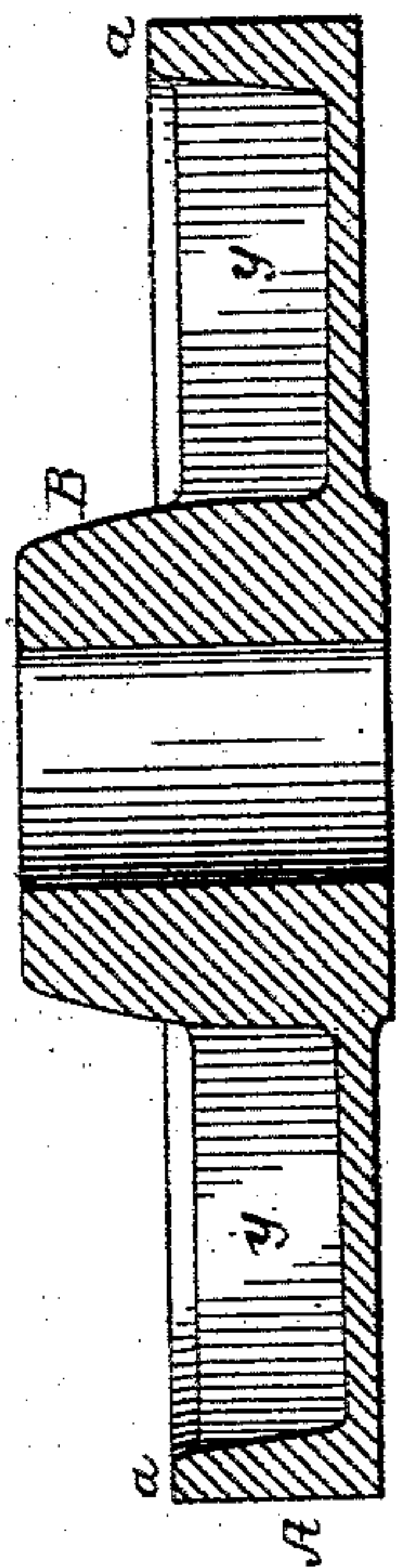


FIG. 9.

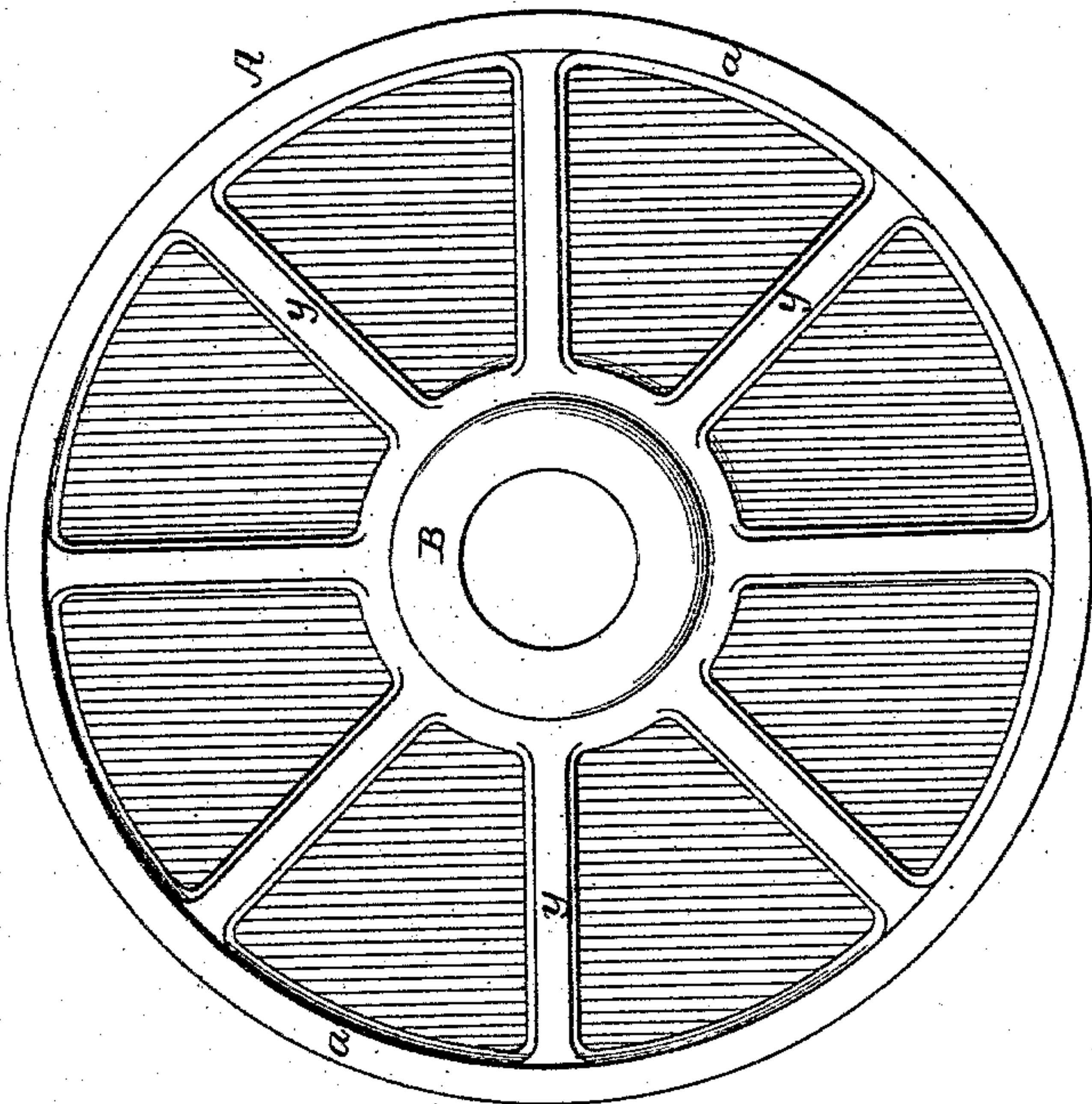


FIG. 6.

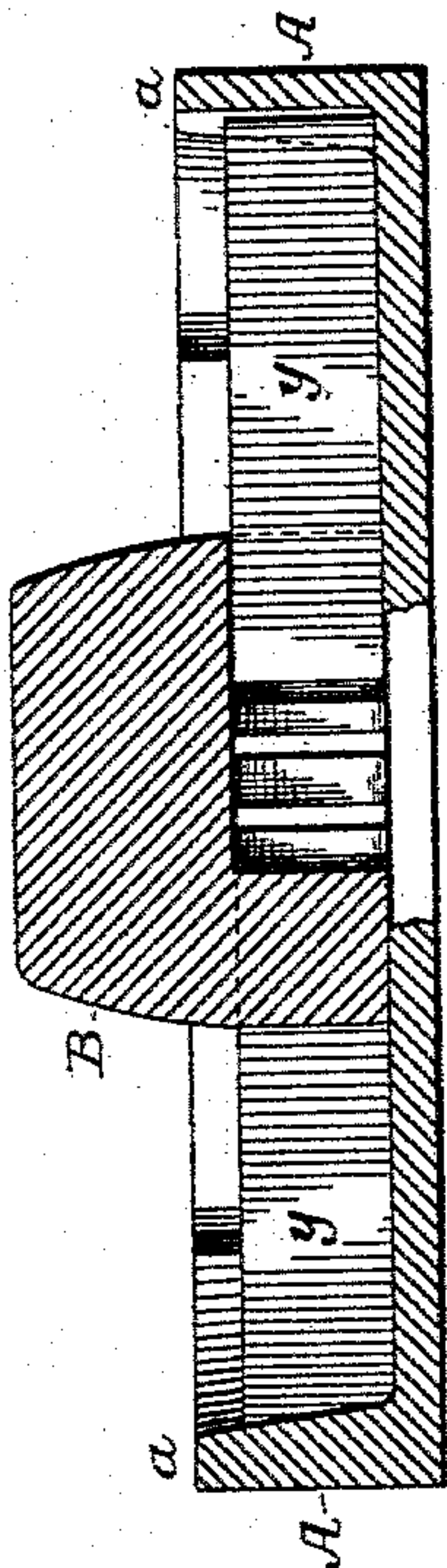
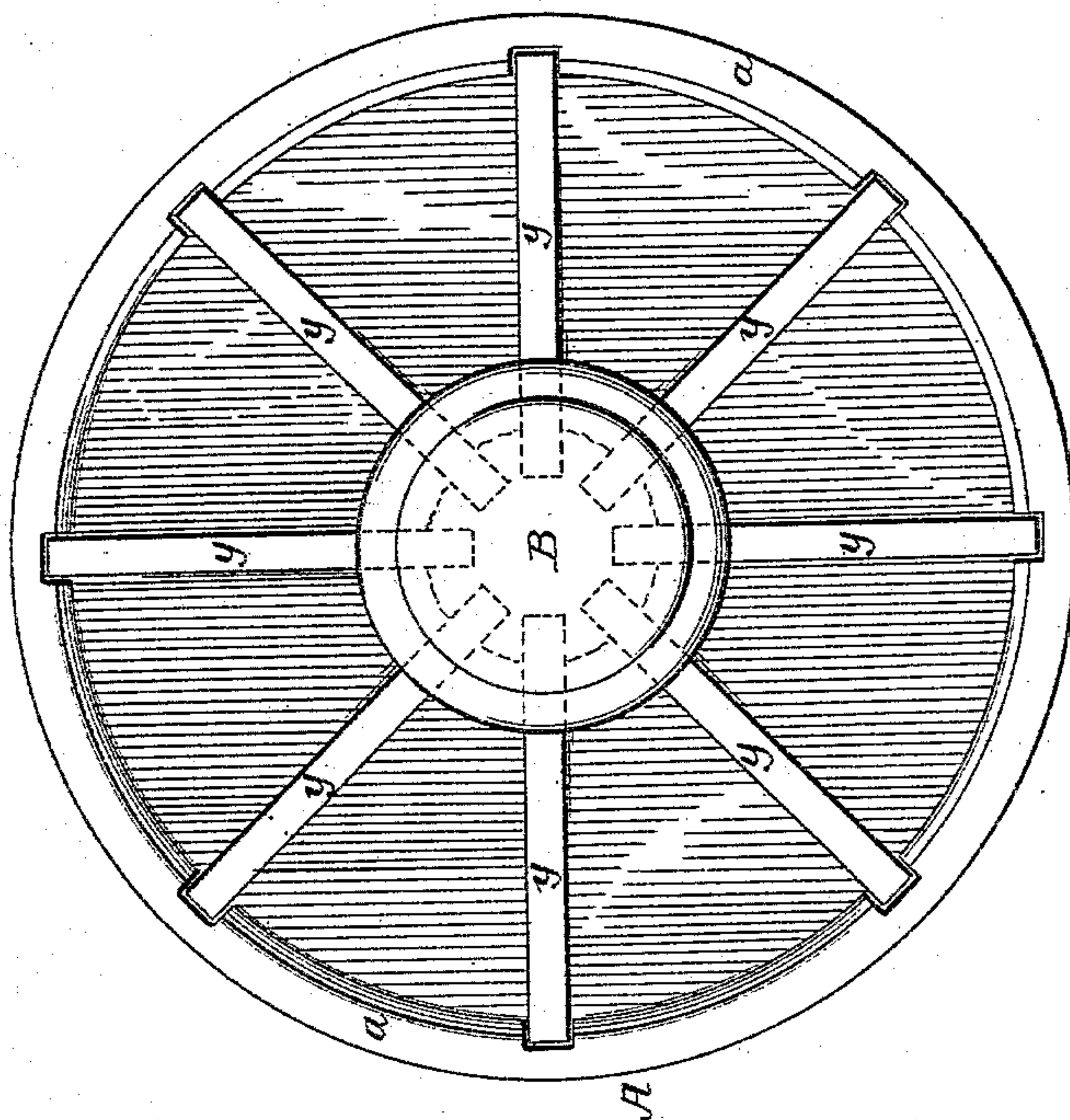


FIG. 7.



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UNITED STATES PATENT OFFICE

ARCHY A. STEVENSON, OF LEWISTOWN, PENNSYLVANIA.

MANUFACTURE OF WHEELS.

SPECIFICATION forming part of Letters Patent No. 494,903, dated April 4, 1893.

Application filed May 12, 1892. Serial No. 432,774. (No model.)

To all whom it may concern:

Be it known that I, ARCHY A. STEVENSON, a citizen of the United States, and a resident of Lewistown, Mifflin county, Pennsylvania, have invented certain Improvements in the Manufacture of Wheels or Wheel-Centers, of which the following is a specification.

The object of my invention is to manufacture wrought metal plate wheels either with or without spokes by forging in suitable dies, forming a unitary structure. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1, is a sectional view of the blank. Fig. 2, is a sectional view of the blank after being pressed in the first set of dies to form a central plate. Fig. 3, is a sectional view showing the hub attached to the blank. Fig. 4, is a sectional view of the finished wheel. Fig. 5, is a sectional view showing the plate at one side. Fig. 6, is a sectional view showing the hub and spoke sections mounted upon the blank shown in Fig. 5. Fig. 7, is a plan view of Fig. 6. Fig. 8, is a sectional view of the finished wheel made from the blank shown in Fig. 5. Fig. 9, is a plan view of Fig. 8; and Fig. 10, is a view of a form of ring blank made up of two sections, one section being wider than the other.

I will describe my invention first in relation to Figs. 1 to 4.

I preferably make the blank A from a series of rings, as shown in Fig. 1, and this blank A is made about the size of the wheel or wheel center to be formed. It is heated and placed between suitable dies, and so forged as to throw a web a' toward the center of the ring a forming what is known to the trade as a plate. The dies may be shaped so as to form this plate centrally between the two edges of the rim, as shown in Fig. 2, or may be shaped to form the plate at one side, as shown in Fig. 5, depending upon the character of the wheel to be produced. The metal as it is forced from the ring toward the center, is condensed as it nears the center, and consequently does not crack or split, as is the case when plates are made by forging metal from the hub. In the latter case the metal is expanded as the disk is enlarged, and consequently tends to

crack or tear, thus considerably weakening the plate. After the flange and plate have been formed as shown in Figs. 2 and 5, the hub section or sections B, B', are mounted upon the plate at the center in any suitable manner.

In Fig. 3, I have shown two hub sections B, B', one mounted on one side of the plate, and the other on the opposite side, and clamped to the plate by rivets c . This built up structure, as shown in Fig. 3, is then placed in suitable finishing dies and forged into the wheel shown in Fig. 4. Prior to this final forging, spokes may be introduced which are mounted between the hub and ring, as shown for instance in Fig. 7, and the whole forged together.

As remarked above, Fig. 5, illustrates a side plate wheel, and in this wheel spokes are preferably placed at one side, making a combined plate and spoke wheel. The die for forming the blank shown in Fig. 5, is so formed as to indent the inner periphery of the blank, forming recesses for the reception of the spokes and the hub section B is also recessed as shown in Figs. 6 and 7, to receive the inner ends of the spoke sections. The hub and spokes are mounted upon the plate as shown clearly in Figs. 6 and 7, and placed in suitable dies, and finally forged to form the complete wheel, as shown in Fig. 9. The plate may be dish or curved instead of flat, and the original blank may be made in some instances as shown in Fig. 10, in which a deep and narrow ring is combined with a wide and shallow ring, so as to conform more closely to the finished blank. The wide ring may be at one side as shown, or may be arranged at the center between two narrow rings, depending upon the wheel to be formed.

I claim as my invention—

1. A process herein described of making wrought metal wheels or wheel centers, said process consisting in forming a blank in the form of a ring, and forging said ring in such manner as to force the metal to project from its inner periphery, in the form of a plate, and then welding into said plate the hub section or sections, substantially as described.

2. A process herein described of making wrought metal wheels or wheel centers, said

process consisting in forming a blank in the
form of a ring, and forging said ring in such
a manner as to force the metal to project from
its inner periphery, in the form of a plate, and
5 forming recesses in the inner periphery of the
ring, mounting upon the plate the hub section,
and mounting between the said hub section
and recessed rim the spoke sections, which
enter the recesses in the rim, and finally weld-
10 ing and shaping the built up structure to form

a homogeneous wheel or wheel center, sub-
stantially as described.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

ARCHY A. STEVENSON.

Witnesses:

JNO. E. PARKER,
HARRY SMITH.