

J. M. BROWER.
JOURNAL BOX.

No. 38,808.

Patented June 9, 1863.

Fig. 2.

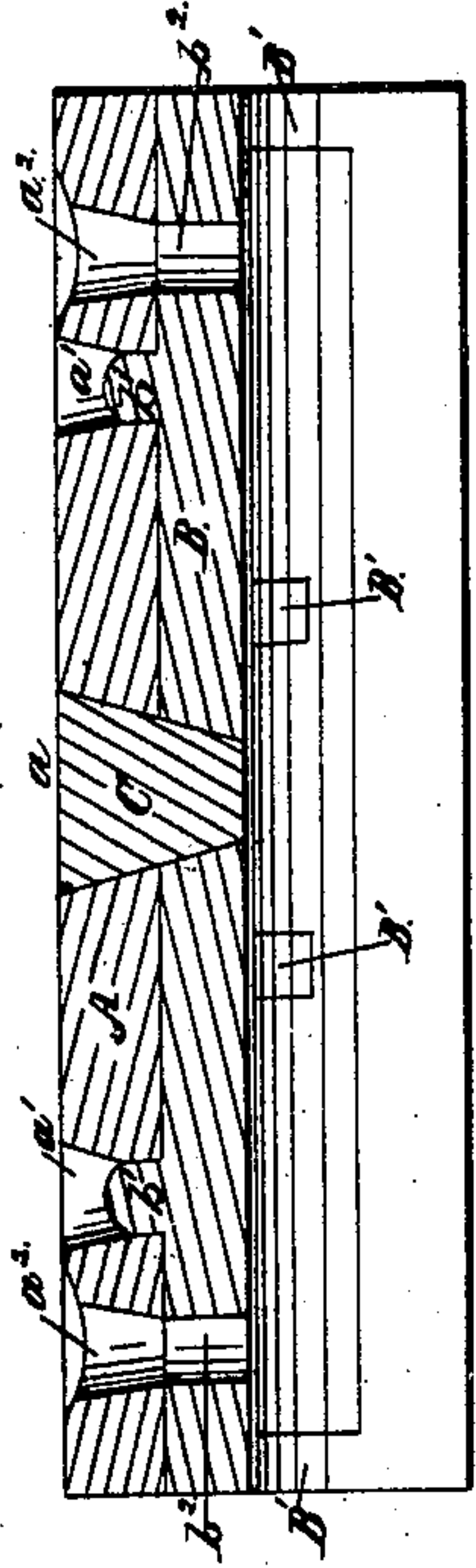


Fig. 3.

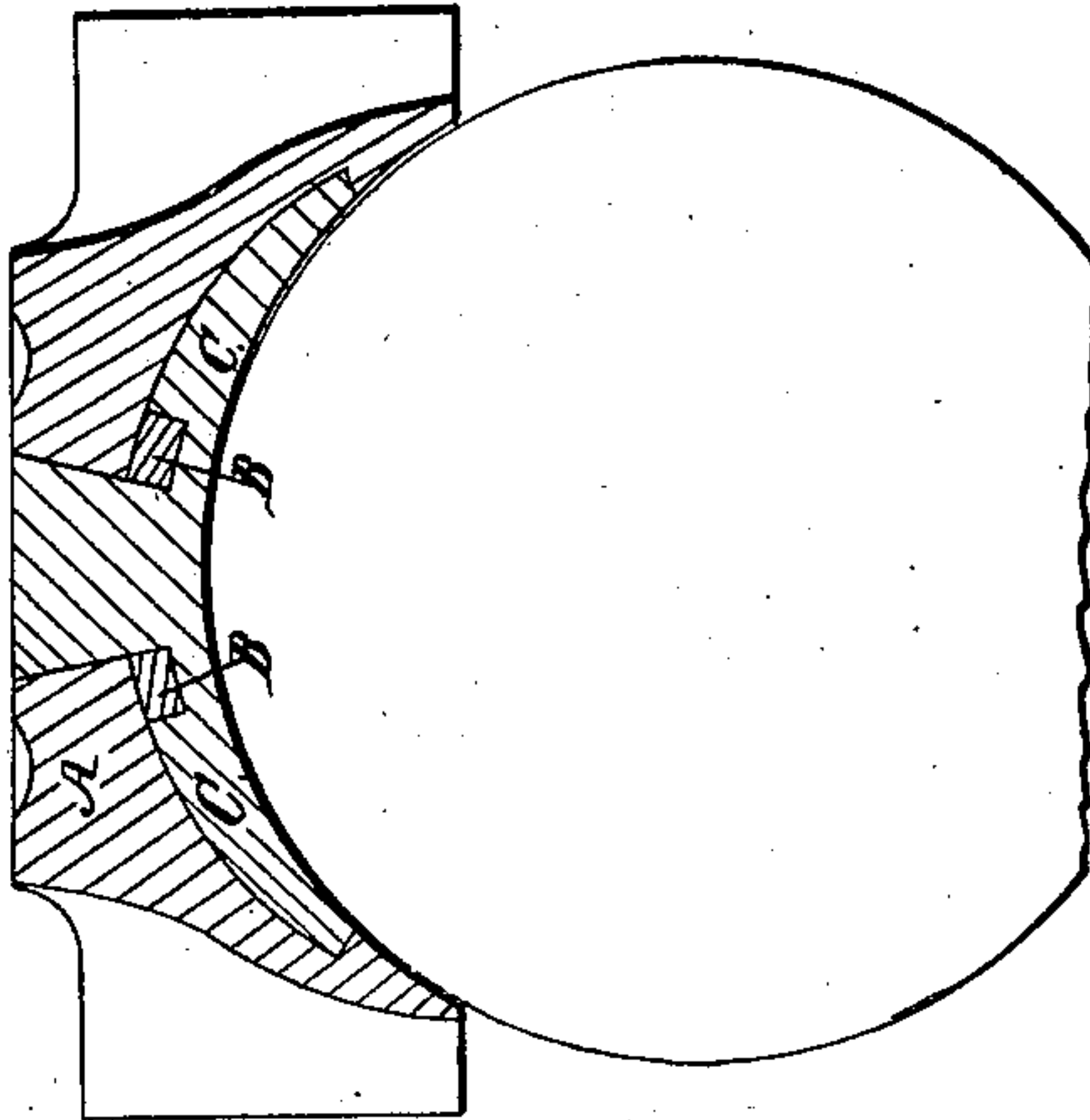
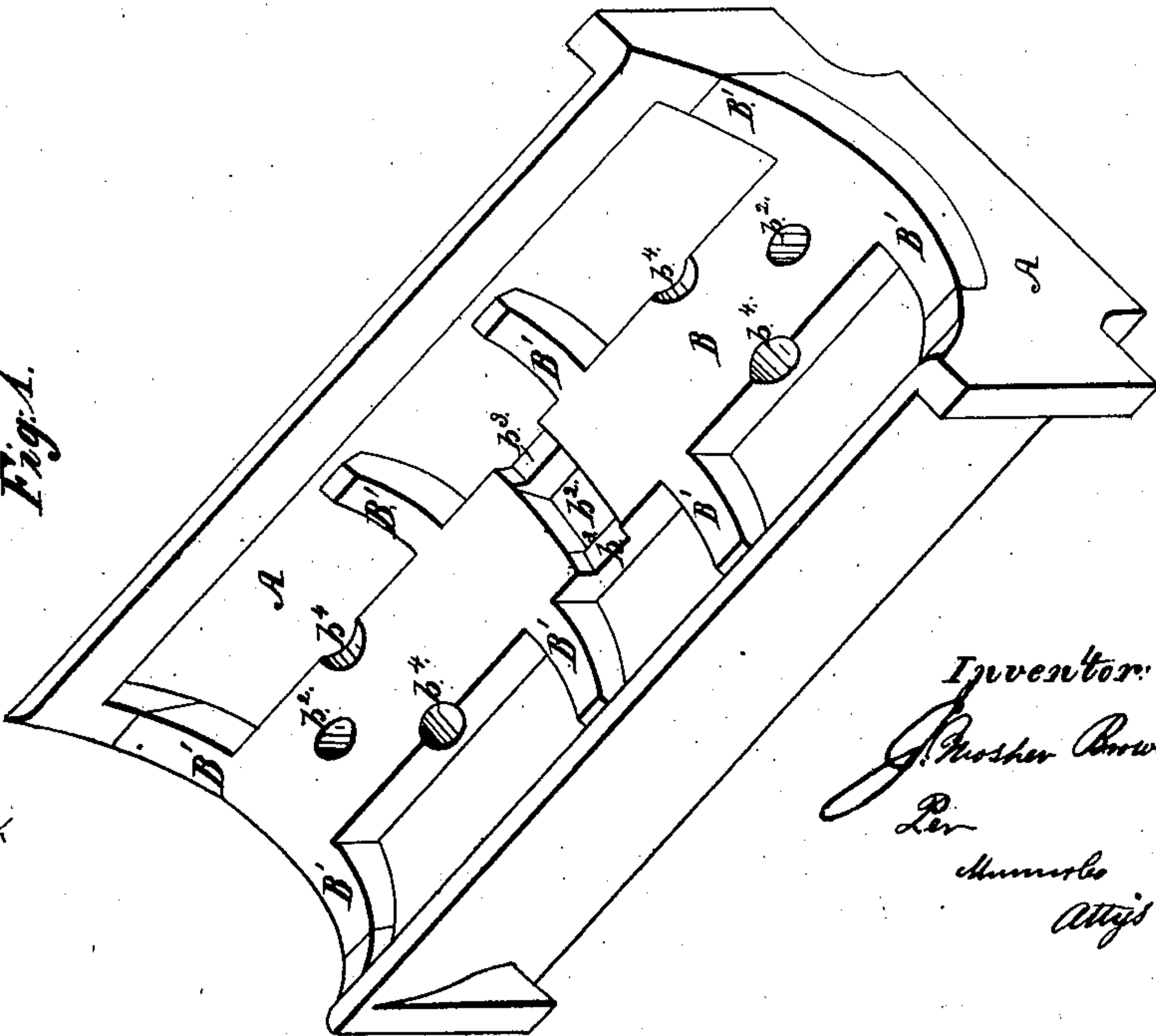


Fig. 1.



Witnesses:

Edmund Knight
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Inventor:

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Per
Charles
Atty.

UNITED STATES PATENT OFFICE.

J. MOSHER BROWER, OF SYRACUSE, NEW YORK.

IMPROVED JOURNAL-BOX.

Specification forming part of Letters Patent No. 38,808, dated June 9, 1863; antedated February 28, 1862.

To all whom it may concern:

Be it known that I, J. MOSHER BROWER, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Journal-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved journal-box in an inverted position previous to filling. Fig. 2 is a vertical longitudinal section of the complete box at $x x$, Fig. 3. Fig. 3 is a vertical transverse section of the same at $y y$, Fig. 2.

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

The object of my invention is to produce a journal-box combining the respective advantages of hard and soft metal—to wit, durability, permanence of form, ease of running, and non-liability to heat.

The subject of the invention is a journal box composed of iron, brass, and soft metal, formed and combined as hereinafter explained, so that the soft metal shall bind the whole firmly together and preserve the brass from attrition, and the brass preserve the soft metal from being hammered out of form, while the iron constitutes an outer shell or frame for the attachment and support of the bearing-surfaces.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents an outer shell of cast-iron provided with perforations $a a' a^2$, and formed as represented in the drawings.

B is a rib of brass, fitting longitudinally within the shell A, and formed with a number of lateral arms, B' , fitting the concavity of the same. The said rib has projections b' , fitting within the perforations a' of the shell, and perforations b and b^2 corresponding with the respective perforations a and a^2 .

b^3 are channels extending on each side of the central aperture, and b^4 cavities formed on the sides of the rib, for purposes hereinafter explained.

The iron shell and brass rib are first cast in the respective forms represented in the draw-

ings, and being placed in the position shown in Figs. 2 and 3, over a cylindrical object the size of the journal, the soft metal is run in from the back through the central aperture, a b , and, flowing through the channels b^3 , fills the spaces between the arms B' , extending over the ends of the said arms and into the cavities b^4 , forming a smooth concave surface and securing the brass rib firmly in position.

The apertures a^2 b^2 are for the purpose of lubrication, and remain open, not being reached by the soft metal.

In the use of this journal box the soft metal preserves the brass from attrition, and the brass preserves the soft metal from being battered out of shape by the hammering action, which occurs in an especial degree in the journals of car-axles. The soft metal also, by filling the various cavities which taper upward in size, effectually secures the brass rib in position until it is worn out.

I do not restrict myself to any specific composition of soft metal, but have used the following compound with good success—namely: lead, ten pounds; block-tin, one pound; antimony, one-half pound, and bismuth one-half ounce. The cost of this is but little over one fourth that of Babbit metal, and with the support of the brass rib proves equally efficacious. It will therefore be seen that my invention greatly reduces the cost of soft-metal bearings.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the iron shell or case A, the brass rib formed of a longitudinal central portion, B, and lateral arms B' , and the soft metal filling C, filling cavities in the said rib and locking the whole firmly together all as hereinbefore explained, and for the objects stated.

The above specification of my improvement in journal-boxes signed this 15th day of July, 1861.

J. MOSHER BROWER.

Witnesses:

OCTAVIUS KNIGHT,
L. W. BENDRÉ.