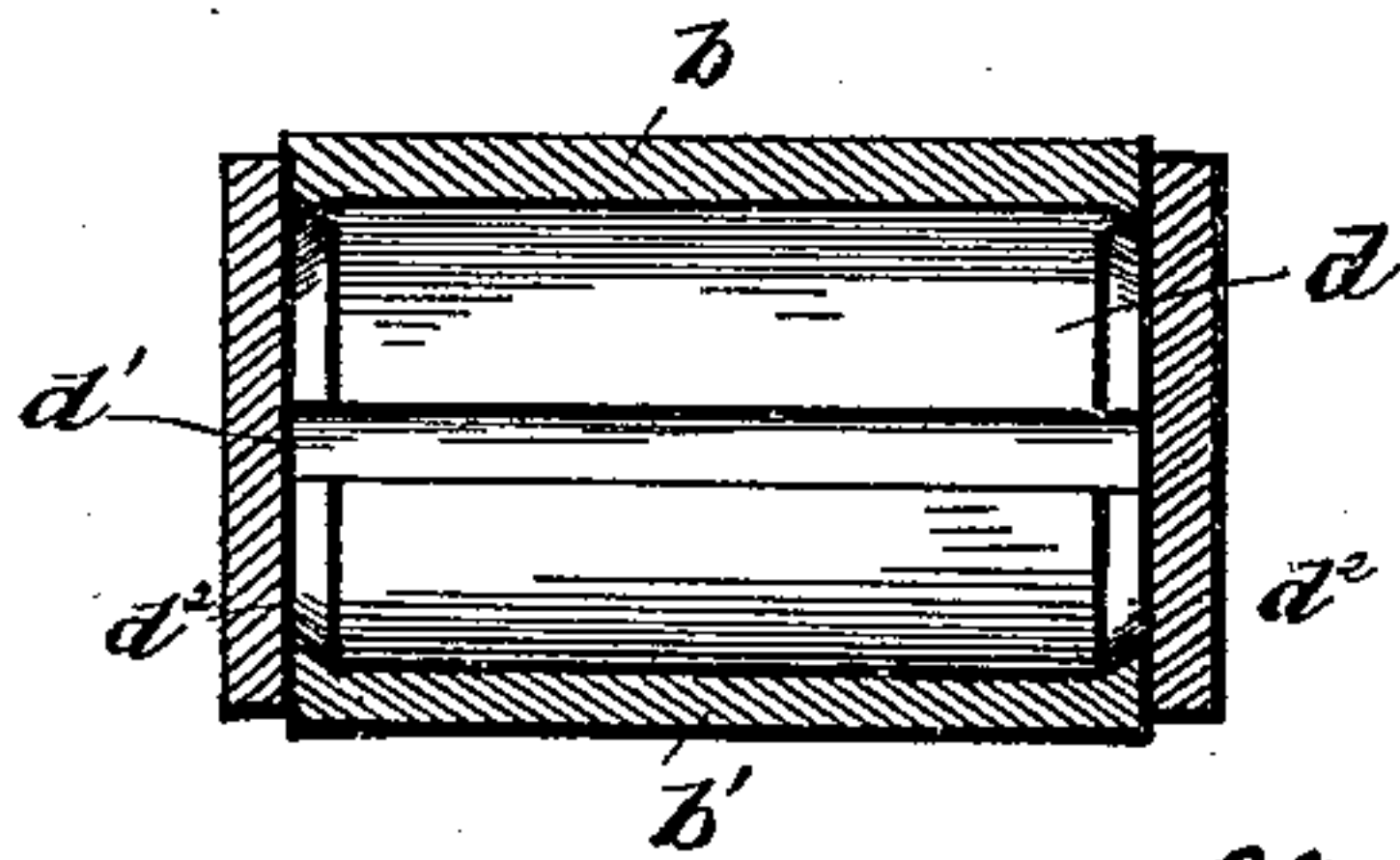
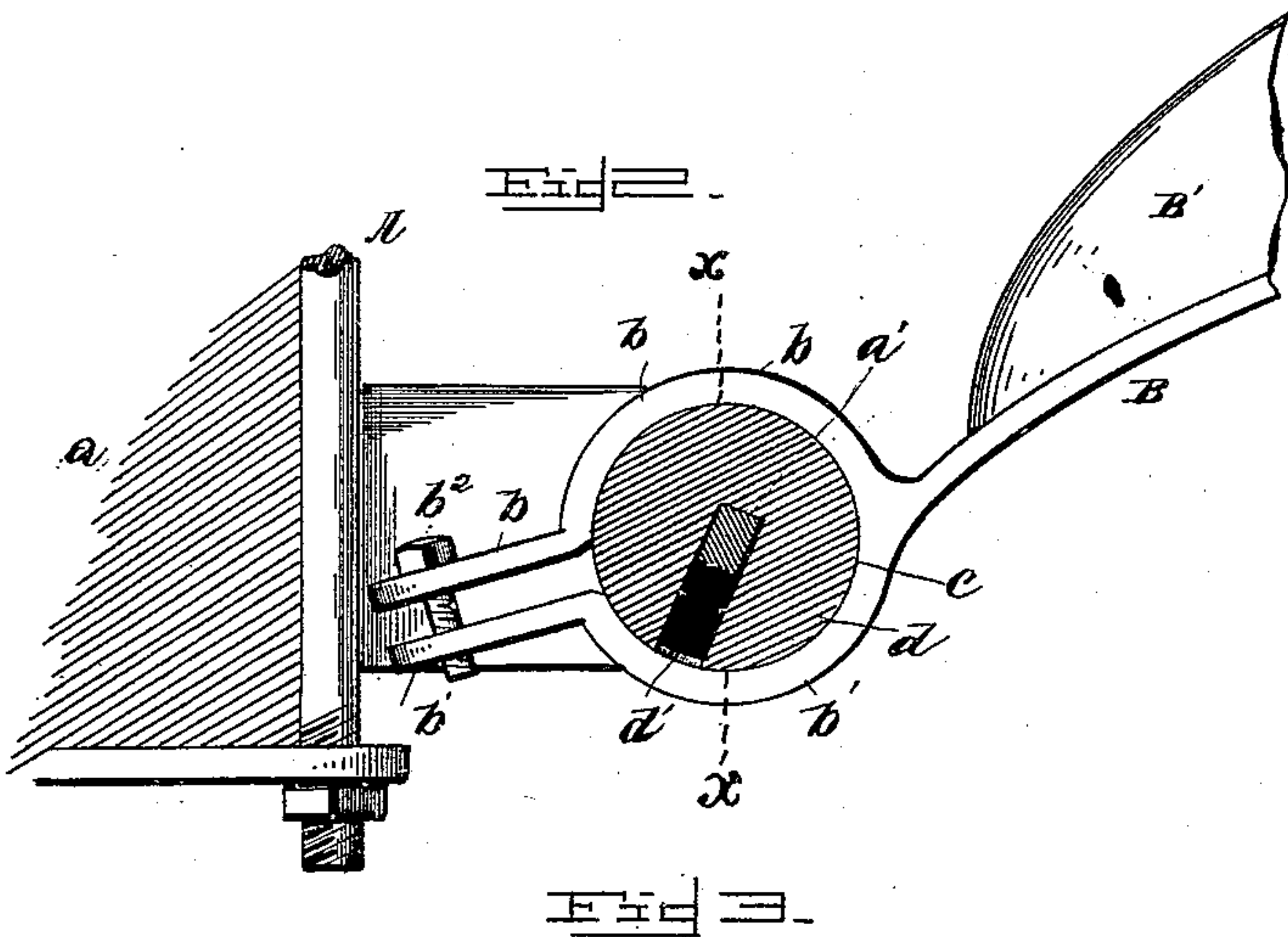
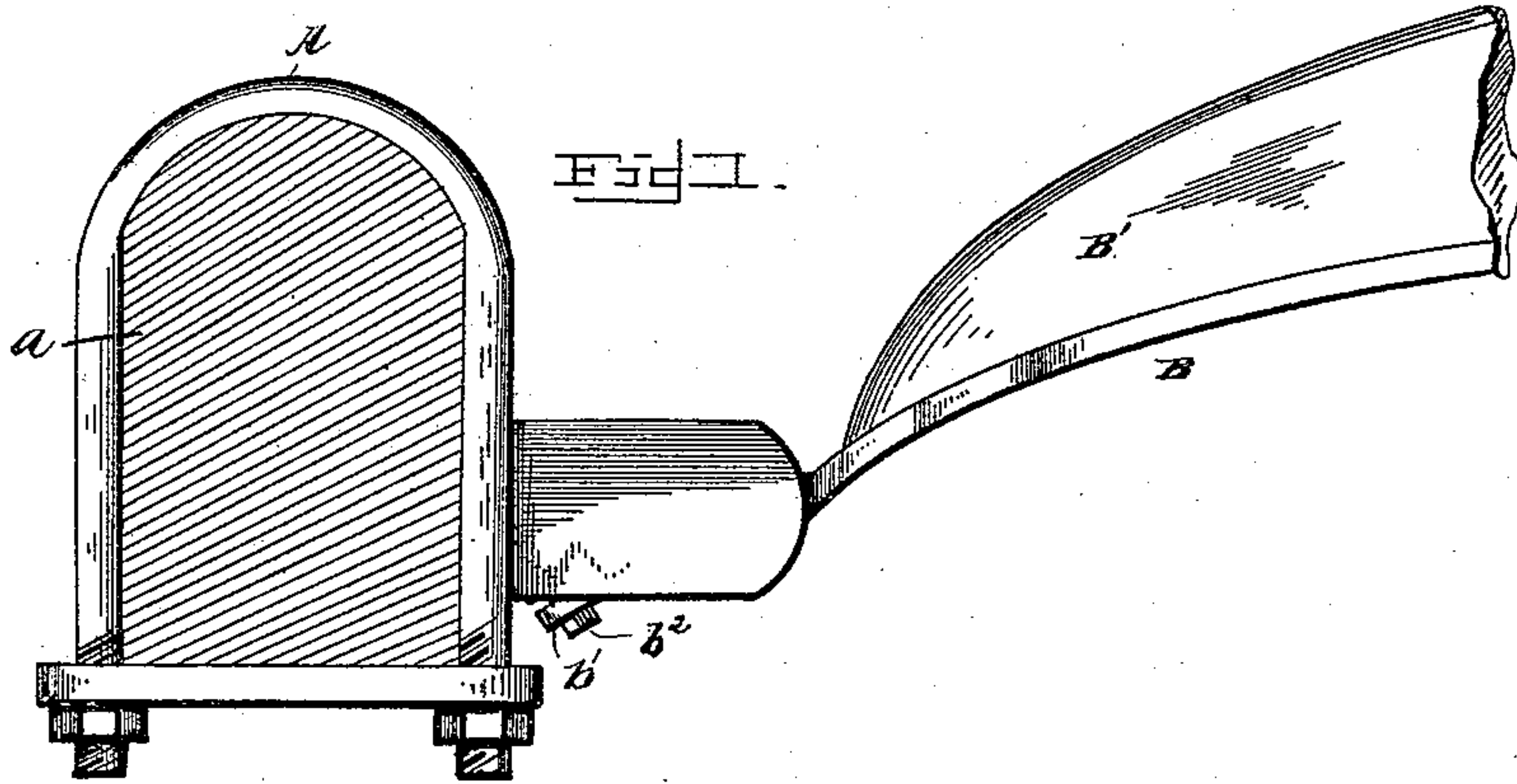


(No Model.)

C. E. CARPENTER.
THILL COUPLING.

No. 446,323.

Patented Feb. 10, 1891.



Witnesses
Paul W. Stevens
Hercules Myers

Inventor
Charles E. Carpenter
By *[Signature]*
Attorneys.

UNITED STATES PATENT OFFICE.

CLARENCE E. CARPENTER, OF HORSEHEADS, NEW YORK, ASSIGNOR OF ONE-THIRD TO JOHN M. VANGORDEN, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 446,323, dated February 10, 1891.

Application filed June 23, 1890. Serial No. 356,439. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. CARPENTER, a citizen of the United States of America, residing at Horseheads, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention pertains to certain new and useful improvements in thill-couplings, and has for its object the simplicity and novel construction of the parts, as will hereinafter more fully appear from the following description and accompanying drawings.

Figure 1 is a side elevation of my invention. Fig. 2 is a sectional elevation of the same, and Fig. 3 is a cross-section thereof on line $x x$.

In the embodiment of my invention I employ the ordinarily-constructed axle-clip A, secured on axle a and having the horizontal arms extending therefrom, secured between the outer ends of which is a rectangular cross-piece or support a' .

Bar B is secured at its forward end to thill B' by means of bolts and has its rear end bifurcated, the two arms b and b' of which are parallel near their extreme end and are formed into a circular recess at c , into which recess a cylinder d is inserted having a recess d' therein. The recess d' is the same width as the space between the arms $b b'$, and is designed to receive the cross bar or piece a' . It will be seen that when bar a' is inserted in recess d' and the thill is raised or lowered the draw-bar revolves on the cylinder. The arms $b b'$ are secured together by means of a bolt b^2

projecting through said arms, which, being tightened, compensate wear of the thill and prevent rattling thereof.

Cylinder d has its ends beveled at d^2 , fitting flush against which beveled portion is a flange of the arms $b b'$, bent over after the insertion of the cylinder in its bearing to prevent the lateral displacement of said cylinder.

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

1. The thill-coupling consisting of the bar having one of its ends bifurcated to serve as a bearing for a recessed cylinder supporting a rectangular cross-bar in said recess, said arms being secured together at their ends by means of a bolt for tightening said arms to compensate wear of the thill, substantially as shown and described.

2. A thill-coupling consisting of the bifurcated draw-bar having inclosed therein the beveled cylinder, said draw-bar having the flanges bent over said cylinder, substantially as shown and described.

3. The thill-coupling consisting of the bifurcated draw-bar having inclosed therein the beveled end cylinder, over which ends flanges of the draw-bar are bent, said cylinder being slotted or recessed for reception of a rectangular cross-bar, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE E. CARPENTER.

Witnesses:

FRANK S. BENTLEY,
W. L. DENBY.