

(No Model.)

J. L. DOWNING & S. R. WARD.

THILL COUPLING.

No. 358,150.

Patented Feb. 22, 1887.

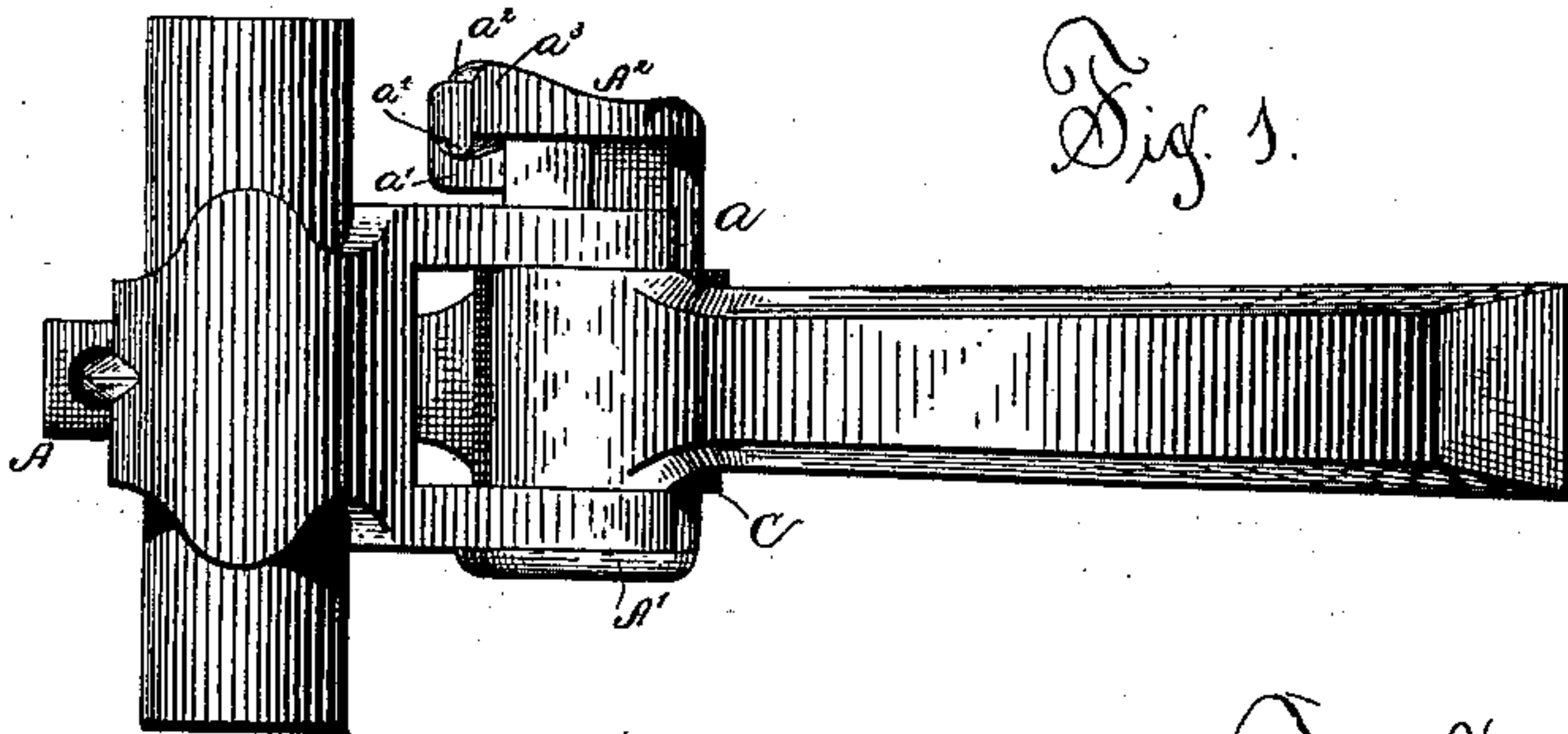


Fig. 1.

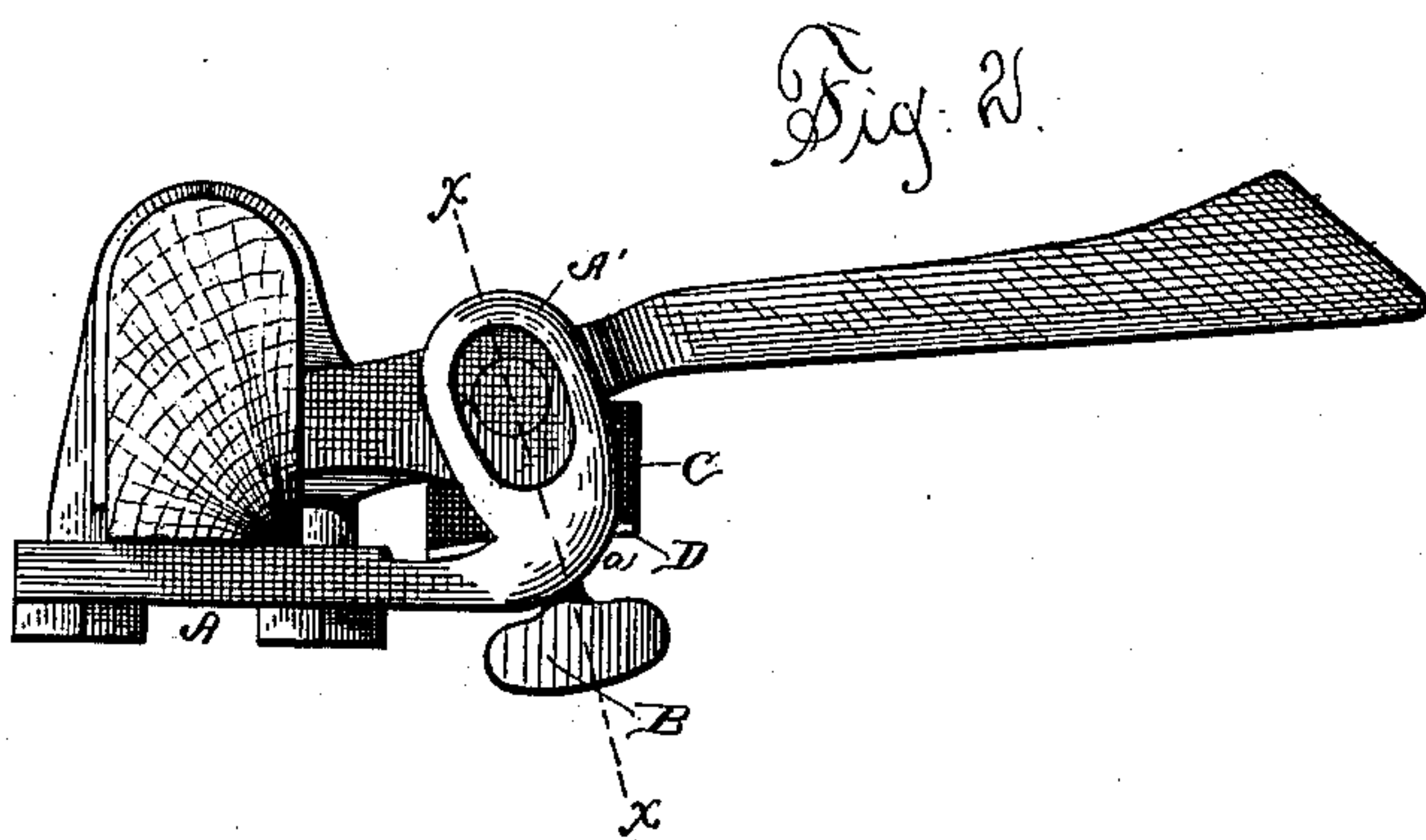


Fig. 2.

Fig. 3.

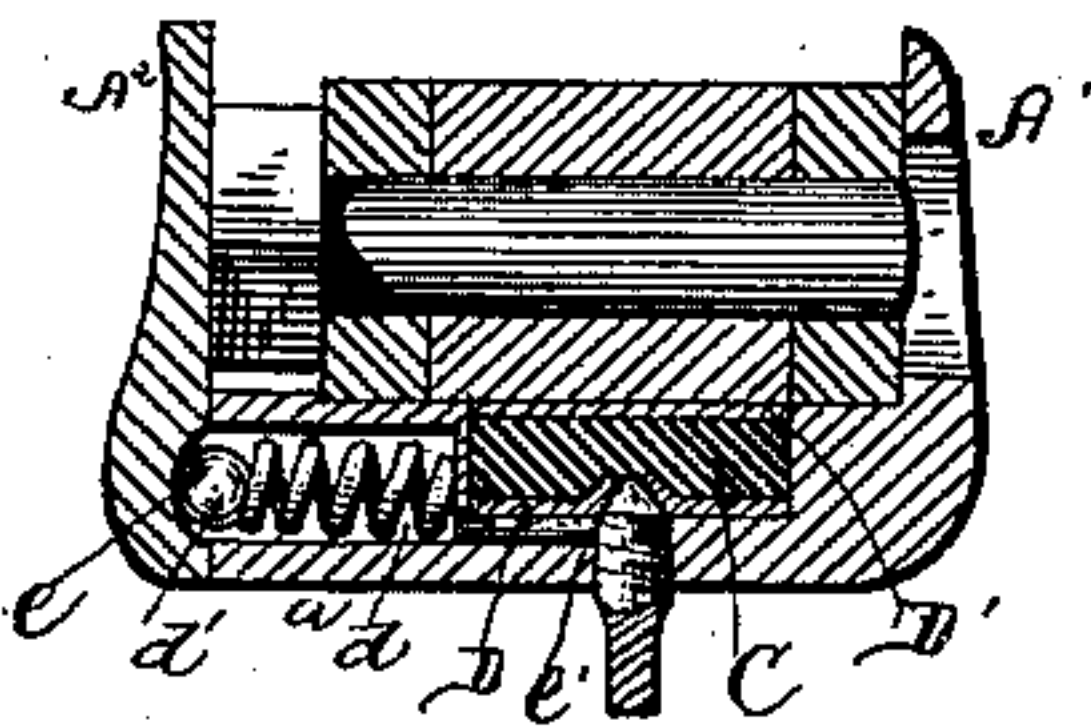


Fig. 4.

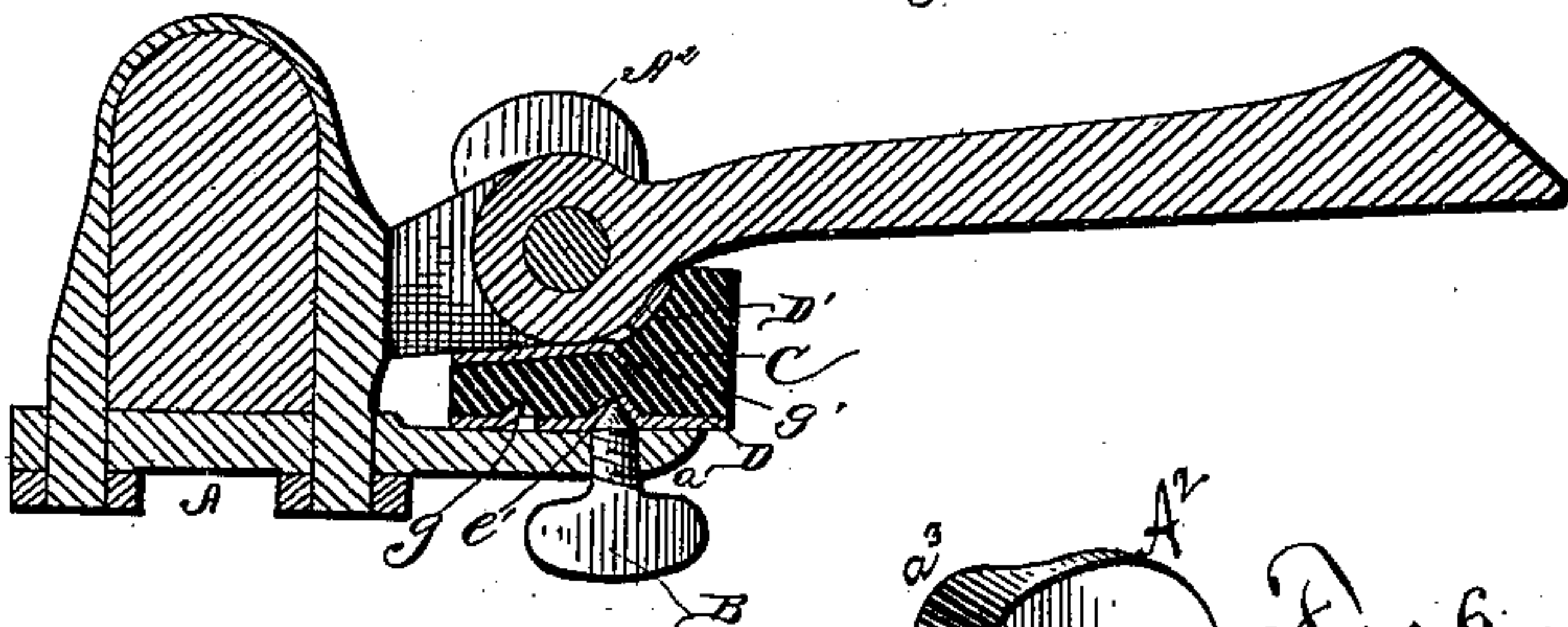


Fig. 5.

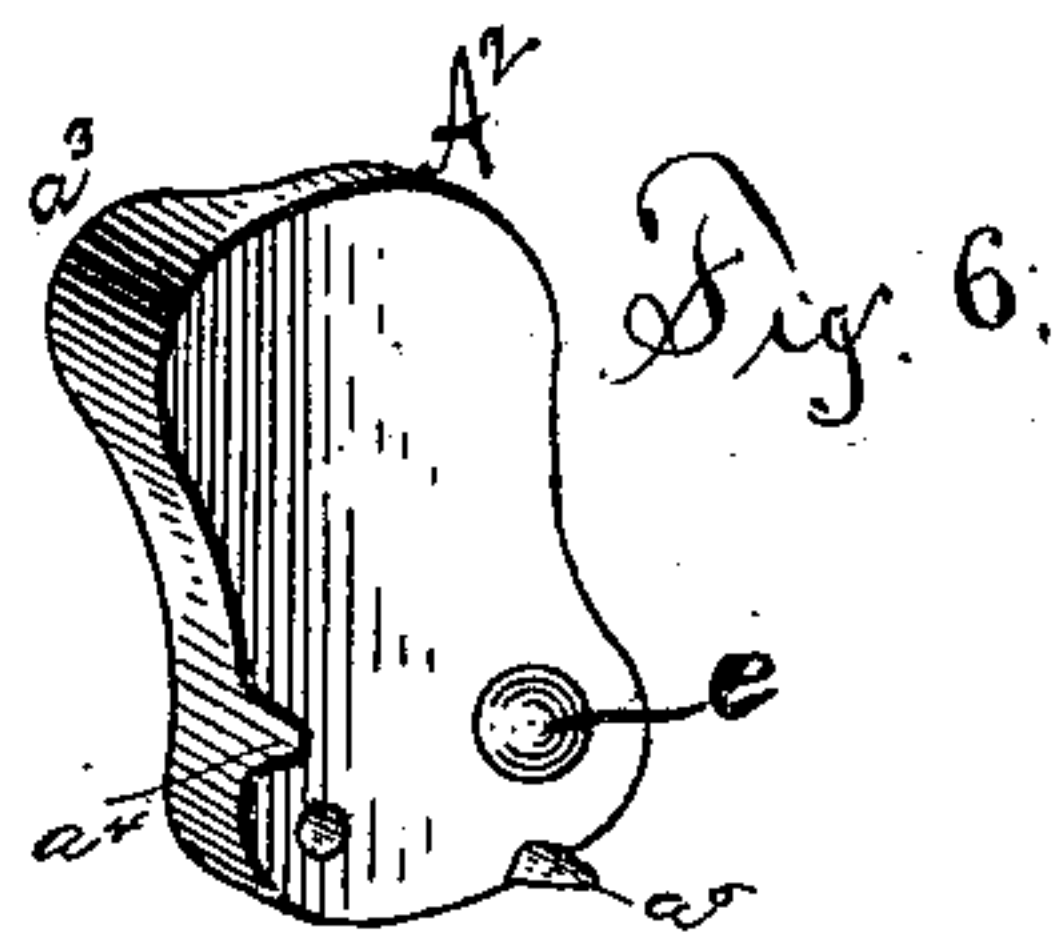
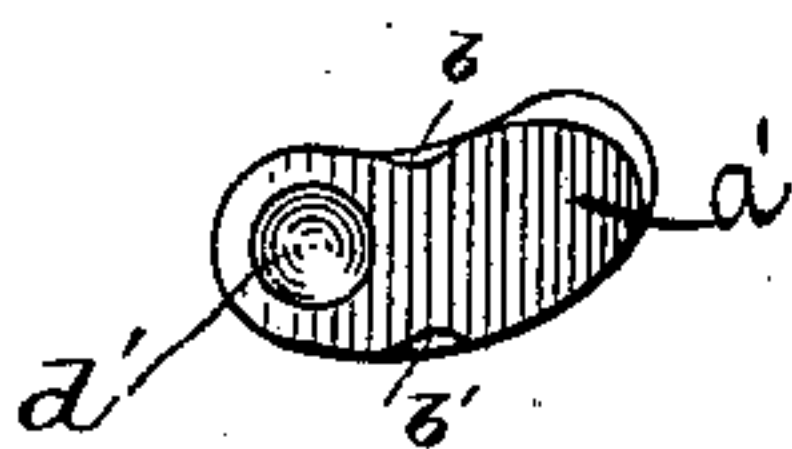


Fig. 6.

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UNITED STATES PATENT OFFICE.

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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 358,150, dated February 22, 1887.

Application filed June 16, 1886. Serial No. 205,325. (No model.)

To all whom it may concern:

Be it known that we, JAMES L. DOWNING and SAMUEL R. WARD, citizens of the United States of America, residing at Richmond, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Anti-Rattlers and Thill-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to improvements in that class of devices which we term "anti-rattlers" for carriages and thill-couplings, having for their joint object to provide the ready adjustment or holding of the thills while coupling the same to the axle, as well as to prevent the rattling of the same, and to permit the ready attachment and detachment or coupling and uncoupling of the thills; and the invention consists of the combination of parts, including their construction, substantially as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved combined anti-rattler and thill-coupling. Fig. 2 is a side view thereof. Fig. 3 is a vertical section taken through the coupling contrivances, including the bolt. Fig. 4 is a longitudinal section of the same, and Figs. 5 and 6 are detail views thereof.

In the embodiment of our invention we employ, in connection with the ordinary thill-coupling, as shown, the yoke-plate A, having the usual bolt-receiving holes to effect connection with the axle-clip. This yoke-plate is provided at its forward end with a transverse bar, *a*, the upper side of the forward edge of which is rounded or thickened, to enable it to readily and conveniently support the inner end of the thill while adjusting its coupling-bolt in place in effecting the coupling of the thills to the vehicle. The transverse bar *a* is cast at one end with a vertical ear-like apertured plate, A', which stands just outside of the one end of the thill-coupling bolt. To the opposite end of the bar *a* is applied a second vertical ear-like plate, A², said end of transverse bar *a* having a rearward extension or arm, *a'*, projecting slightly upward, while the said ear-like plate A² is of a width or slightly rearward extended to permit it to fit against said extension *a'* of the bar *a* and to receive and allow of the pas-

sage therethrough of a pintle or pivot, *a*², riveted to the extension *a'*, and upon which is pivoted or hinged the plate or ear A². The plate A² has its upper rear corner slightly flared outward from its outside, forming a flange, *a*³, thereat, which outward flaring or flanging thereof also has the effect to broaden the back edge at said corner of the plate, whereby the latter is adapted to permit of the convenient application of pressure thereto by the finger in forcing or moving it out of alignment with the head of the coupling-bolt, to allow of the withdrawal of the latter, and of a like application of pressure thereto by the thumb in forcing or returning it to its former or normal position. The plate A² is provided with two stops, *a*⁴ *a*⁵, one projecting from the upper rear edge of its slightly rearwardly-extended or wider surface, which, as the plate is turned or forced forward, enters a notch or recess, *b*, in the top forward edge of the extension *a'* of the bar *a*, arresting further movement in that direction of the plate A². The other stop, *a*⁵, of the plate A² projects from the bottom inner edge, near the middle of the said plate, and as the latter, after having been moved forward, is moved rearward or returned to its former position enters a notch or recess, *b'*, in the lower forward edge of the extension *a'* of the bar *a*, thus limiting further movement in that direction of the plate A².

In the transverse bar *a*, about at the center, is a socket, *d*, opening at the end thereof next to the plate A² and adapted to receive a spring (helical, preferably) and a ball or spherical catch, *d'*, seated or cushioned upon said spring and projecting a short distance from or beyond said end of the bar *a*, to permit of contact with the plate A², and by its spring-pressure caused to press upon the latter.

The plate A² is provided with a concavity or a proximate hemispherical socket, *e*, coincident with the spherical or ball catch *d'*, and into which springs or snaps the normally-projecting portion of the spherical or ball catch as the plate A² is moved to its normal position, to effectively secure or fasten the said plate in its said normal or holding position. The primary object or joint use of the ears or plates A' A² is to prevent the accidental displacement of and liability of losing the thill-coupling pin, while at the same time avoiding

the screw-threading of the pin, and consequently the use of a holding-nut, as is usually the case; also, the aperture in the end plate or ear, A', permits of the convenient application of pressure by the use of any suitable means—as, for instance, a pin, nail, or the like—to the unheaded end of the coupling-pin for forcing it from its place when its removal is desired.

B is a thumb-screw which works through a screw-threaded aperture in the yoke-plate A, and having its inner end pointed or tapering and entering a socket in the usual anti-rattling elastic cushion, C, interposed between the eye and inner end of the thill, being conformed to the intervening space between said parts, as shown.

D is a metallic plate arranged to rest or bear against the under side of the cushion C, the same having a central opening, e', through which the point or tapered end of the thumb-screw B passes, while at the base or inner end of the taper of the point of the screw is a shoulder, which rests or bears against the plate D, thus applying and distributing the pressure of the screw upon the said cushion in order to fully utilize the cushion in preventing the rattling of the thill. The tapered point of the said screw may be triangular in cross-section, as may be also the socket of the cushion C. The plate D is provided with teats or pointed projections g g, to secure or connect it to the cushion, said teats or points being formed, it may be, by punching the same out of the plate itself, as shown, or they may be otherwise produced, a second plate, D', similarly provided with teats or points g' g', entering and securing the said plate to the upper side of the cushion or rubber C, which plate is designed to take up wear that would otherwise be experienced by the rubber, and prevents the adherence or sticking of the rubber to the thill-eye, which would result if they were permitted to be in direct contact with each other.

It will be understood that we do not restrict ourselves to the details of construction of the other parts as herein shown and described, as it is obvious that the same may be varied or changed without departing from the spirit of our invention.

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

1. The combination of the yoke-plate having a cross or transverse bar provided at one end with a fixed ear-like vertical plate and at its opposite end with a pivoted ear-like plate and the spring-actuated spherical or ball catch, substantially as shown and described.

2. The yoke-plate having at its forward edge or end a transverse socketed bar containing a spring and a spherical or ball catch, which bar also has at its one end an ear-like plate, in combination with the additional ear-like plate pivoted to an extension of said bar and provided with a concavity, substantially as shown and described.

3. The combination, with the yoke-plate having a transverse socketed bar, the spring, and the spherical or ball catch, of the ear-like plate pivoted to said bar, substantially as shown and described.

4. The combination, with the spherical or ball catch contained in a transverse socketed bar of the yoke-plate, of the ear-like plate pivoted to an extension of said yoke-plate and having a concavity and provided with stops entering notches or recesses of said extension, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES L. DOWNING.
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Witnesses:

LEWIS PETERSON,
C. S. MILLER.