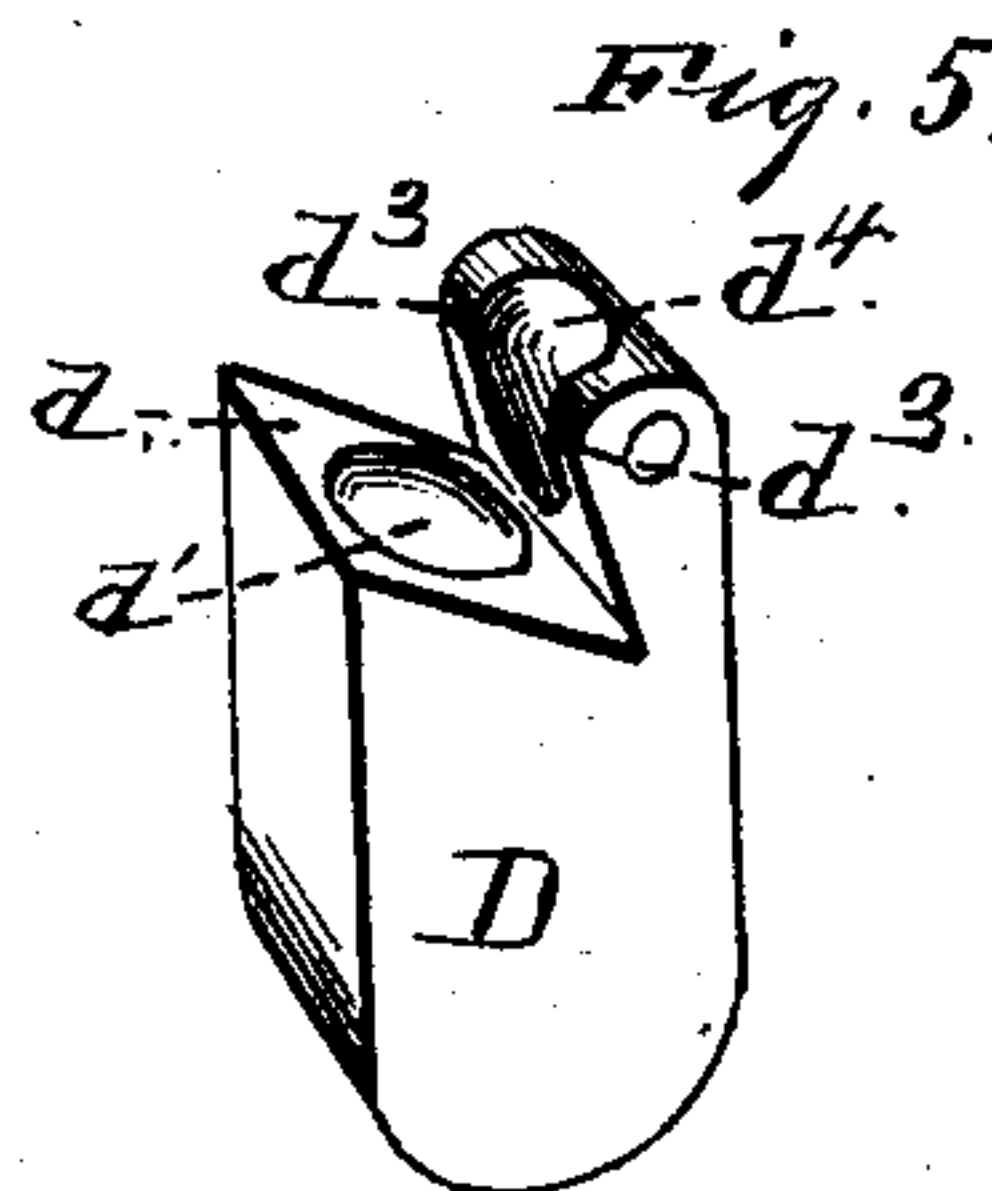
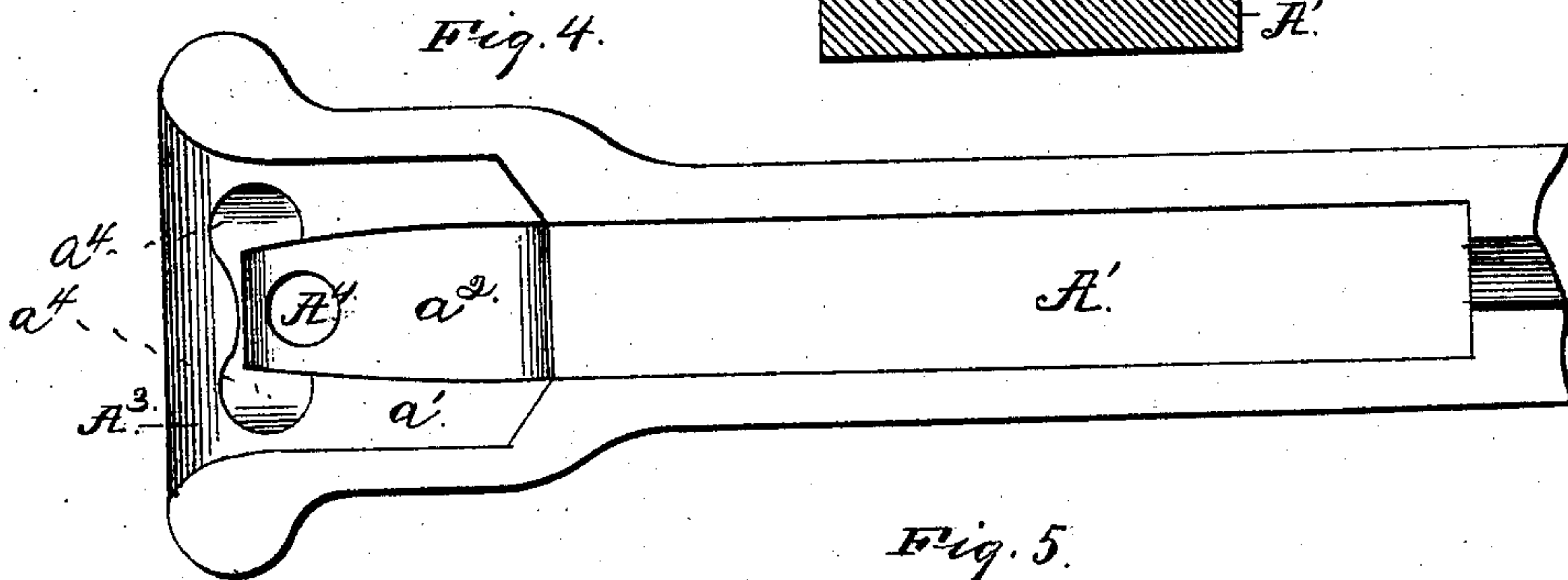
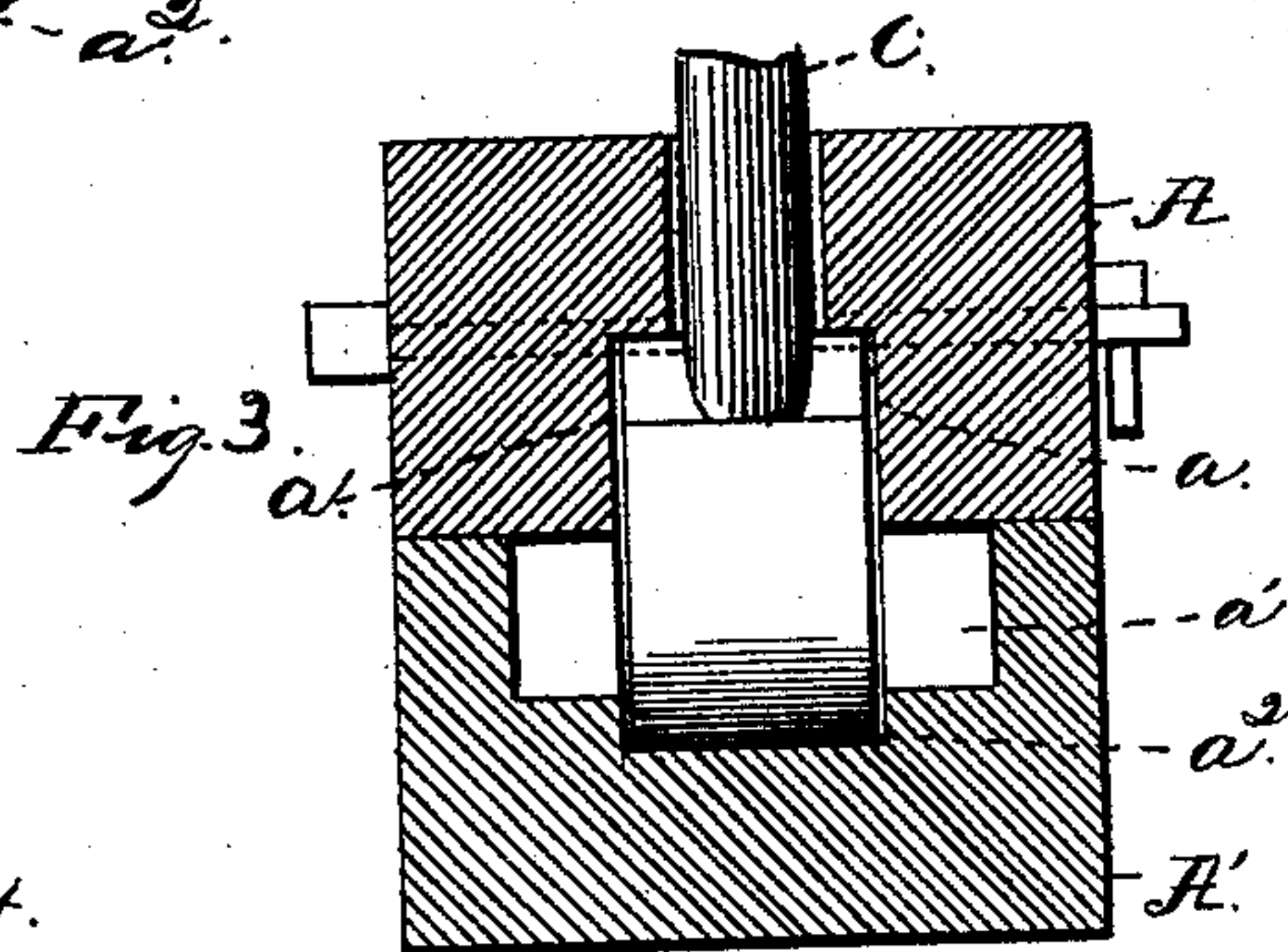
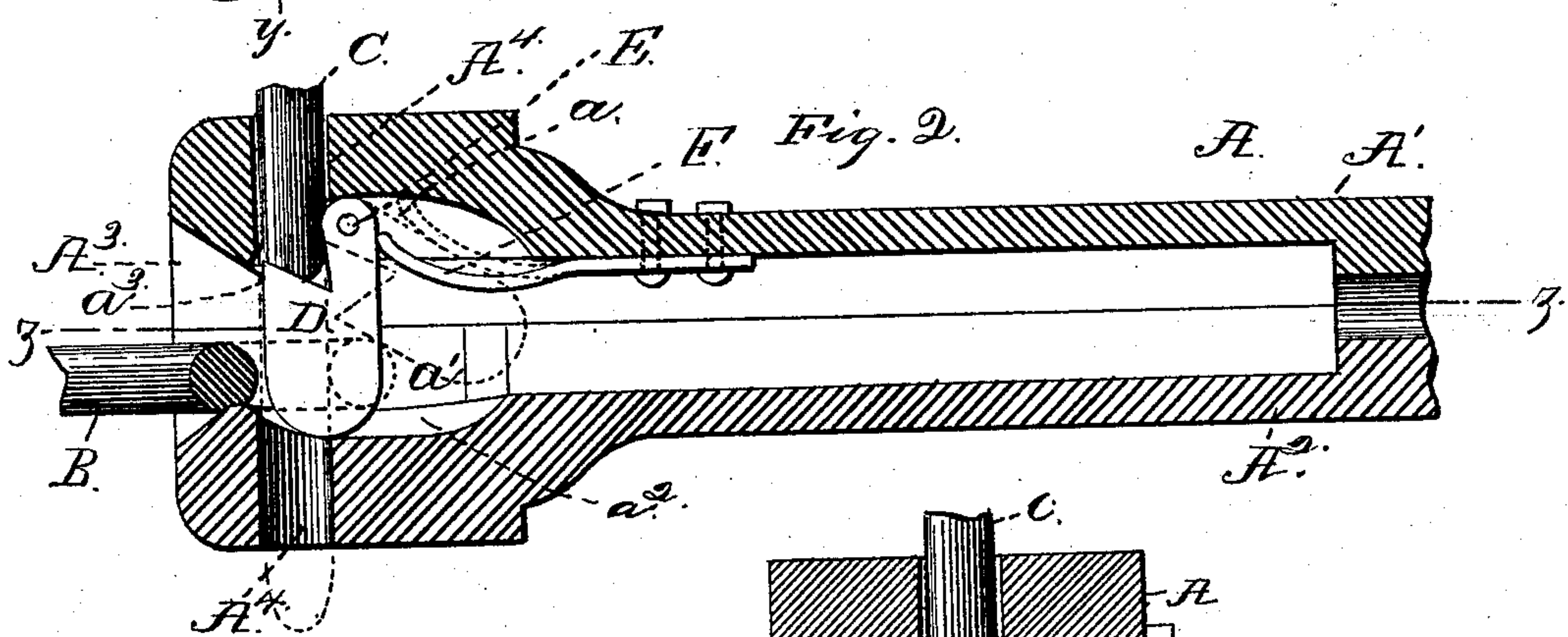
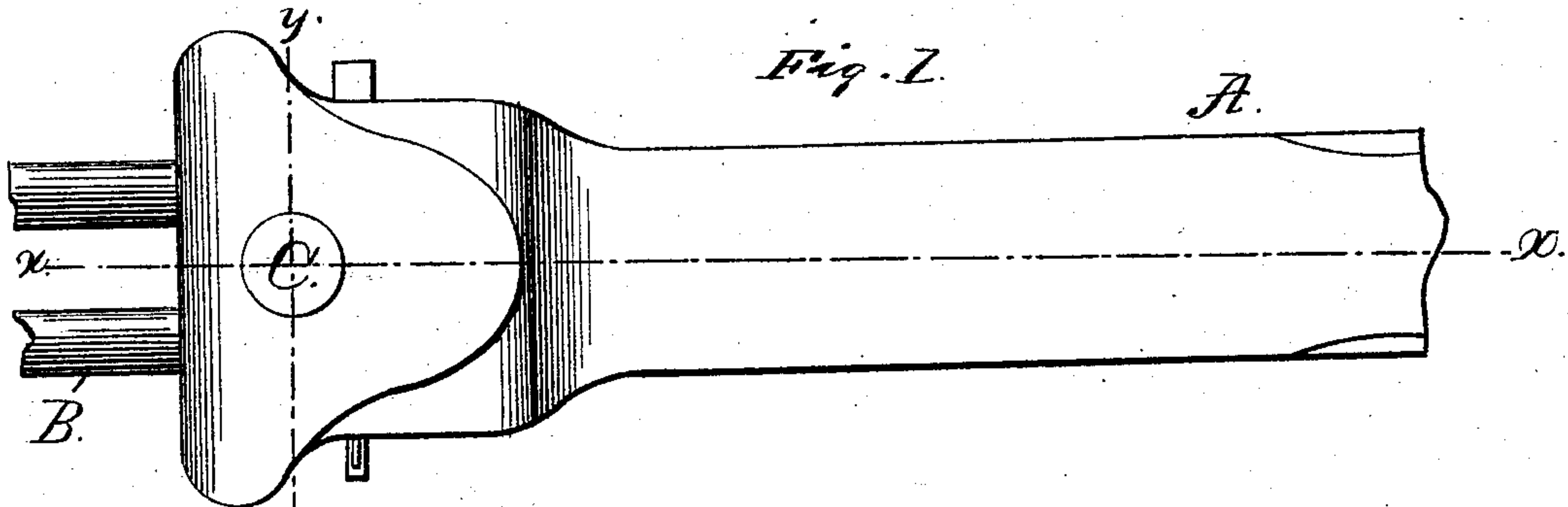


(No Model.)

T. GATES.
CAR COUPLING.

No. 287,759.

Patented Oct. 30, 1883.



Witnesses
W. A. Clark
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Inventor
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UNITED STATES PATENT OFFICE.

THOMAS GATES, OF BELFAST, TENNESSEE, ASSIGNOR OF ONE-HALF TO
H. C. CANNON AND J. W. ADAMS, BOTH OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 287,759, dated October 20, 1883.

Application filed August 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS GATES, a citizen of the United States, residing at Belfast, in the county of Marshall and State of Tennessee, have invented certain new and useful Improvements in Car-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers; and it consists in the construction, combination, and arrangement hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a plan view of a draw-head embodying my improvements. Figs. 2 and 3 are longitudinal and transverse sections of same on, respectively, lines *x x* and *y y*, Fig. 1. Fig. 4 is a plan view of the lower half of the draw-head, cut on line *z z*, Fig. 2; and Fig. 5 is a detail perspective view of the pin-support.

The draw-head A is preferably made of the upper and lower halves or sections, A' A², as shown, suitably bolted together; but it is obvious the draw-head may, when so desired, be formed by casting or otherwise in a single piece. It is constructed with the flared mouth or opening A³.

In the upper portion or section of the draw-head I form the mortise *a*, which is curved on its upper side, as shown, to permit the motion of the pin-support, hereinafter described. This mortise *a* is made narrower than the mouth of the draw-head and the link, and the mouth is so inclined or flared that the link B is directed, should it strike the upper portion of the mouth, down into the mortise *a'* formed in the lower half or section, A', which mortise *a'* is at its forward end or portion, under the mortise *a*, hollowed out, as shown at *a'*, to receive the lower end of the pin-support, hereinafter described. This hollowed-out portion or mortise *a'* is made of a width equal to and directly under the mortise *a*, and of a less width than

the mortise *a'*, as most clearly shown in Figs. 3 and 4. The pin-hole A⁴ is formed vertically through the draw-head at a point near the forward end of mortises *a a'*, and leads through the said mortises, as shown. Grooves *a⁴ a⁴* are formed in the bottom of the link-opening in position to receive and guide the side bars of the link.

The pin C is mainly of ordinary construction, rounded slightly on its lower end and made slightly smaller than the opening A⁴, in which it operates, as hereinafter described.

My pin-support D is made of a width slightly less than that of the mortises *a a'*, and of a length about equal to the greatest distance between the walls of said mortises. It is cut away on its forward side at its upper end, to provide the shoulder *d*, which is inclined downward from front to rear, and is provided centrally with the hollowed out seat *d'*, in which rests the lower end of the pin when the coupler is set in the operation of the device. The upper portion, *d²*, of the support projecting above the shoulder *d* is provided on its forward side with jaws *d³ d³*, projecting forward from its opposite edges slightly over the shoulder *d*, forming the concave or groove *d⁴*, in which rests the pin C. This support is pivoted near its upper end on rod E, close to the opening of the pin-passage into the mortise *a*, and the portion of same above the pivot is made sufficiently long to project slightly under the pin-opening when the support D is pushed back in the operation of the device. This operation is simple, and will be readily understood. When the several parts are in the position shown in Fig. 2, the coupler is set, the shoulder *d* of support D extending under and supporting the pin C, the lower rounded end of which rests in the seat *d'*, as will be clearly understood. Now, when the link B strikes the said support, it forces it back, as indicated in dotted lines. When the shoulder *d* is forced back, the upper end of the support above the pivot, being carried forward as the support is tilted, extends slightly under the pin-opening, and, bearing against the pin, serves, in connection with the lower forward wall, *a³*, of the mortise *a*, as a guide to secure

the vertical dropping of the pin C through the link B and the lower pin-opening in section A' and the coupling is completed. By means of the jaws d^3 on the support D the pin is steadied in its elevated position as well as guided in its descent, as will be readily understood, and the extension of the support above its pivotal point aids in guiding the pin, as described. By means of the contracted or narrowed mortises a^2 the support is held and guided in its tilting action, and all lateral movement thereof is prevented, and it is held to the central position in the draw-head shown, where it receives squarely the action of the end of the link as the same is forced into the draw-head, as indicated. When the pin is elevated and the link removed, the support will drop by gravity into the position shown in Fig. 2. I prefer, however, to use the spring F, illustrated in Fig. 2, and made preferably of flat metal, having one end bolted or otherwise secured to the draw-head, and its other end bearing against the rear side of the support D, whereby the said support is normally held in the position shown in Fig. 2, yet may be tilted under pressure of the link. By this means the support D is promptly forced to its normal position when the link is removed, preventing said support being clogged or held by back friction of the rusty adjacent walls or by frost, as would likely occur were the gravitating action wholly relied on. This spring also serves as a yielding support for the support D, which is thereby rendered virtually a spring-bumper for the link forced against it. This spring also serves to hold the support from being jolted or swung back with the motion of the train when the car is moving with the coupling devices set.

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

1. In a car-coupler, the combination of the lower half or draw-head section, A', having link-mortise a' , and provided with mortise a^2 , made narrower than the mortise a' , extended down therefrom midway its walls and below the mouth of the draw-head, the upper section, A, having its mortise A³ flared down to

mortise a' , and provided with mortise a , corresponding in width to and arranged above the mortise a^2 , and the pin-support corresponding in width with mortises a a^2 , and pivoted at its upper end in the mortise a , and provided with a pin-supporting shoulder, all arranged and operating substantially as set forth.

2. In a car-coupler, the combination, substantially as set forth, of the draw-head having pin-opening A⁴, and the pin-support D, pivoted in the draw-head, and provided with shoulder d , having a depressed seat, d' , formed thereon, and constructed with jaws d^3 , and an extension above its pivotal point adapted to project slightly under the pin-opening when the support is pushed back, substantially as described and shown, and for the purposes specified.

3. The car-coupling, substantially as described and shown, composed of the draw-head having pin-opening A⁴, and provided in its lower half or section with the mortise a^2 , extended down below the mouth of the draw-head and the link-opening a' , in which are formed the link-seats a^4 , and having its upper half or section constructed with the mortise a , formed above and corresponding in width with the lower mortise, a^2 , and narrower than the mortise a' , the link-support D, made of a width equal to the mortises a a^2 , and constructed with shoulder d , having concave link-seat d' , and having the jaws d^3 d^3 projected forward on opposite sides of said concave seat and pivoted in the upper mortise, a' , with its lower end extended into the mortise a^2 , below the mouth of the draw-head, the spring F, secured at one end to the draw-head in rear of the link-support, and having its forward end bearing against the said support, and the pin having its lower end rested in concave seat d' , all substantially as described and shown, and for the purposes specified.

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

THOMAS GATES.

Witnesses:

C. T. SWANSON,
W. W. WALKER.