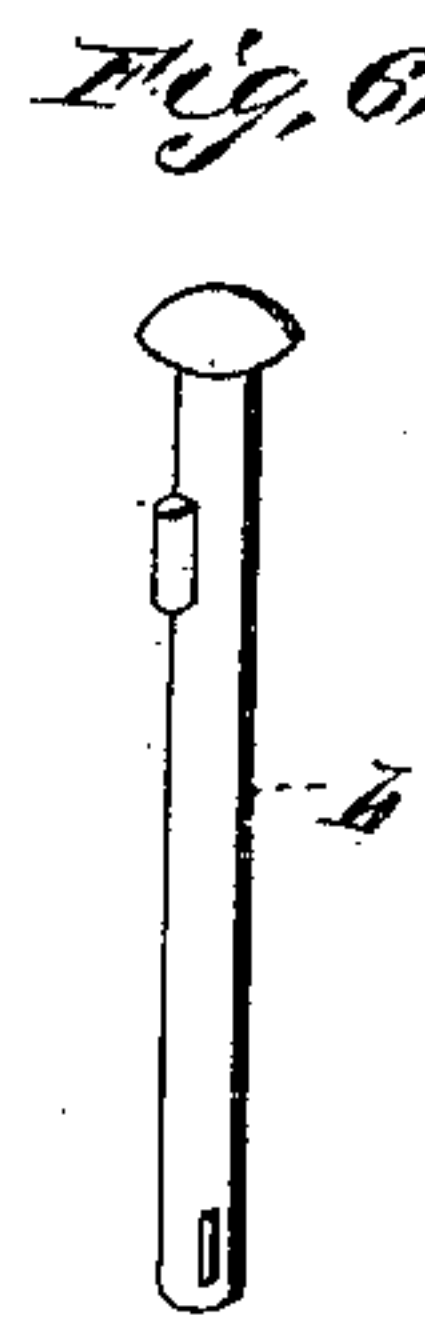
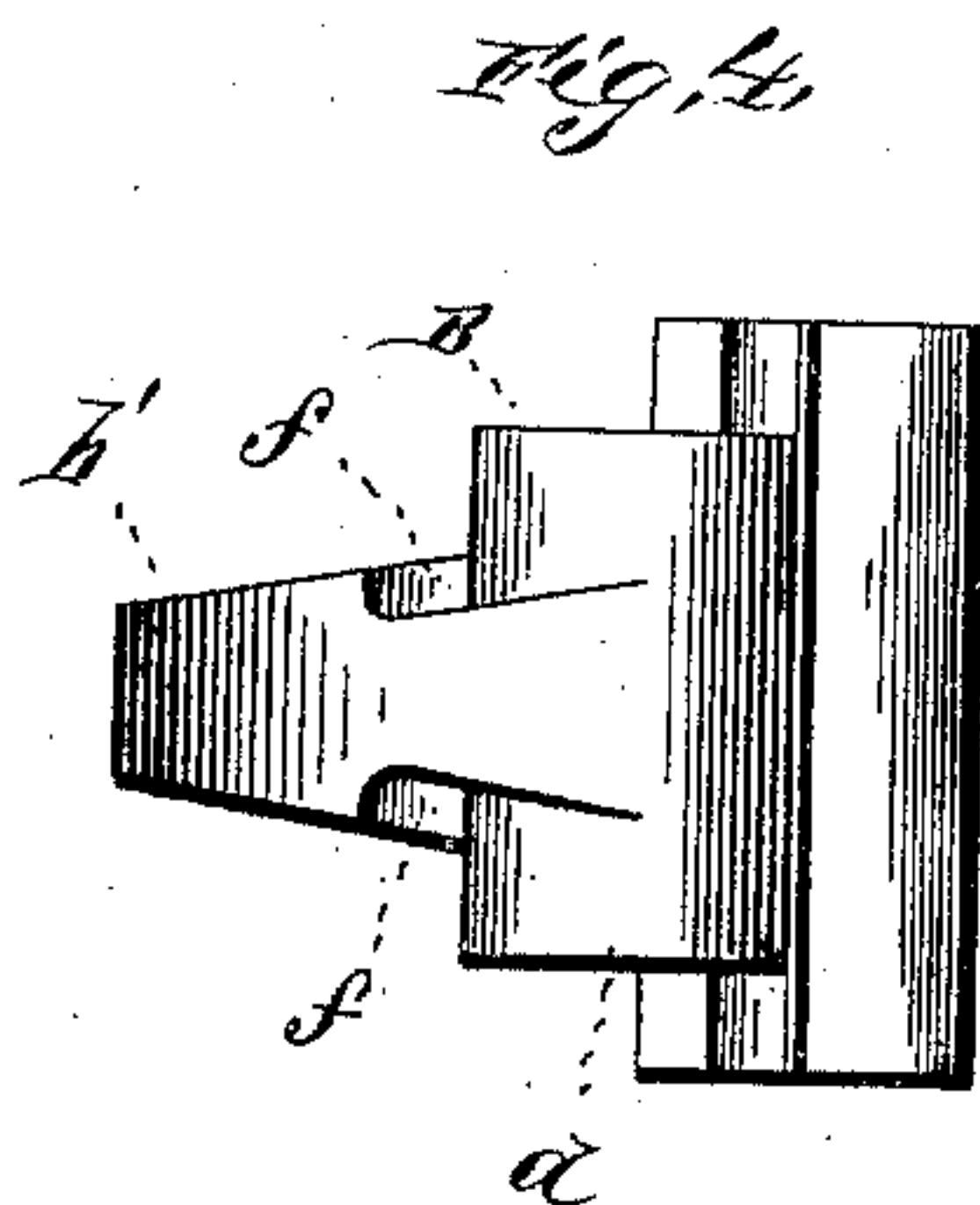
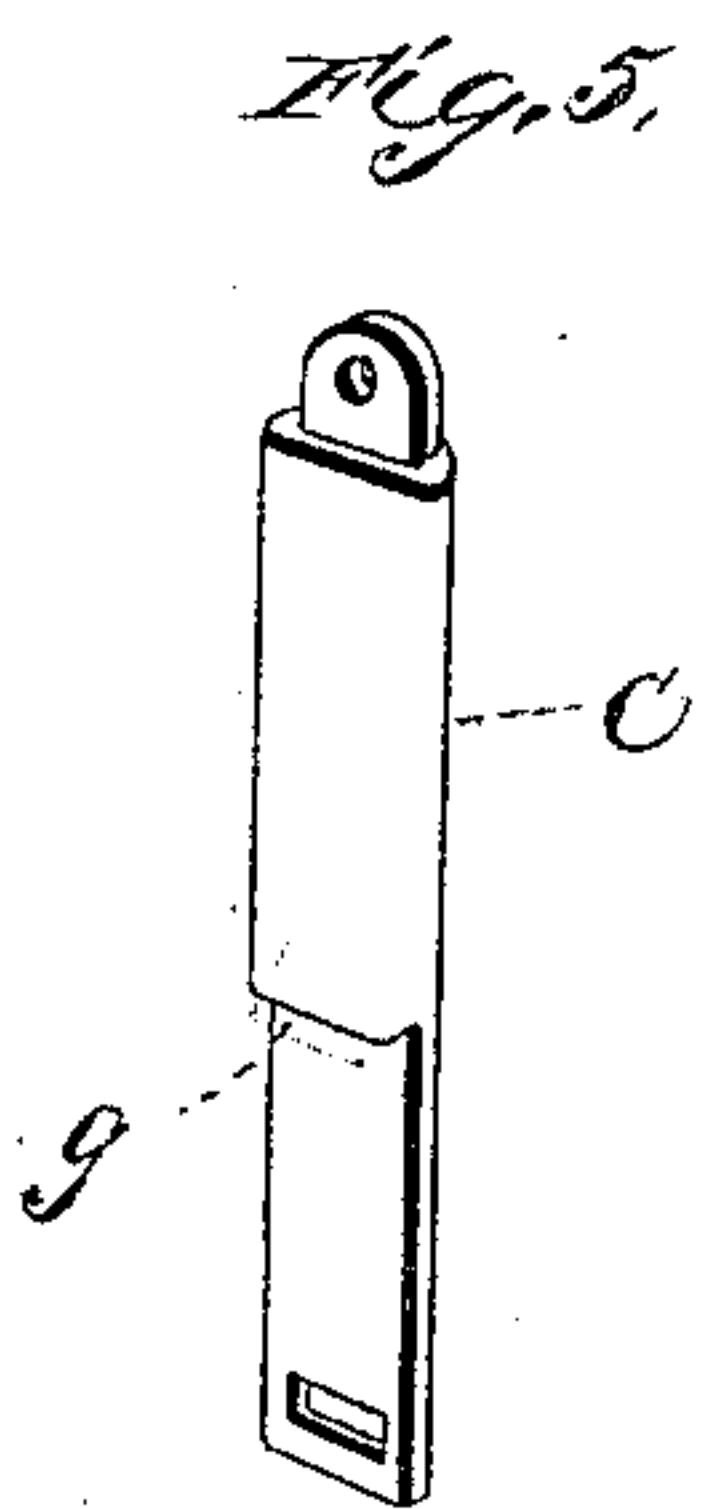
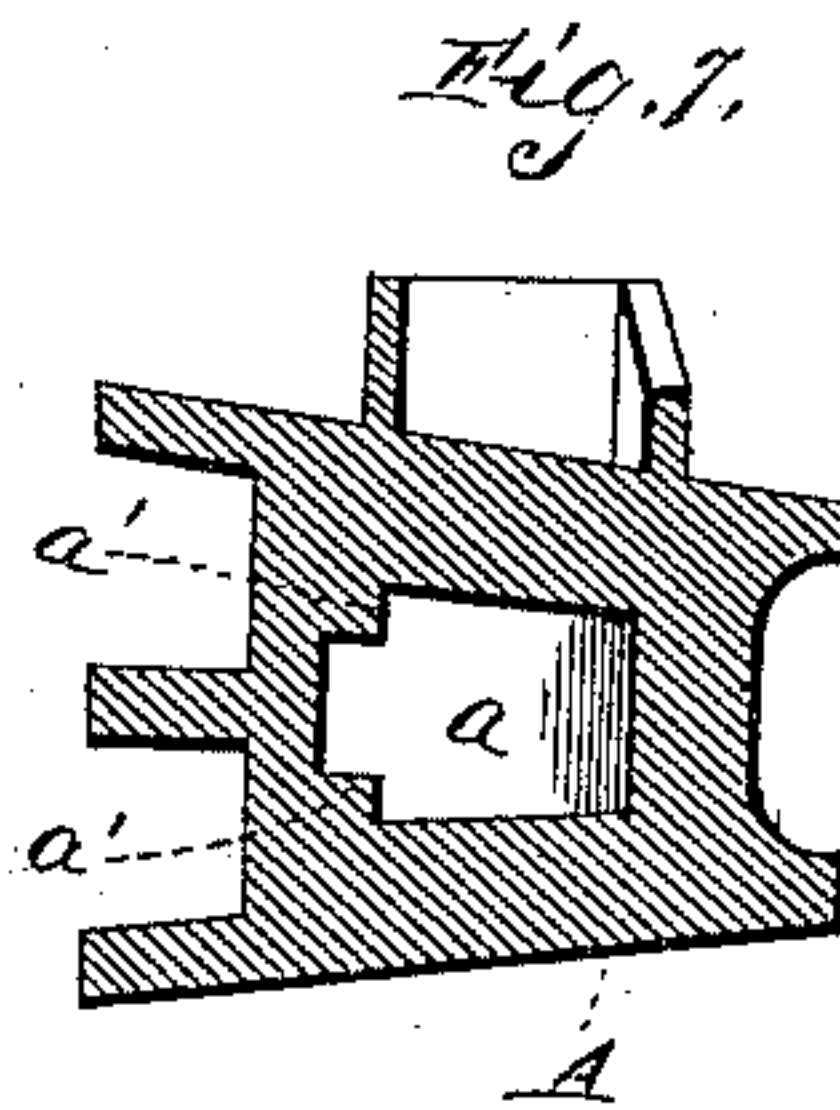
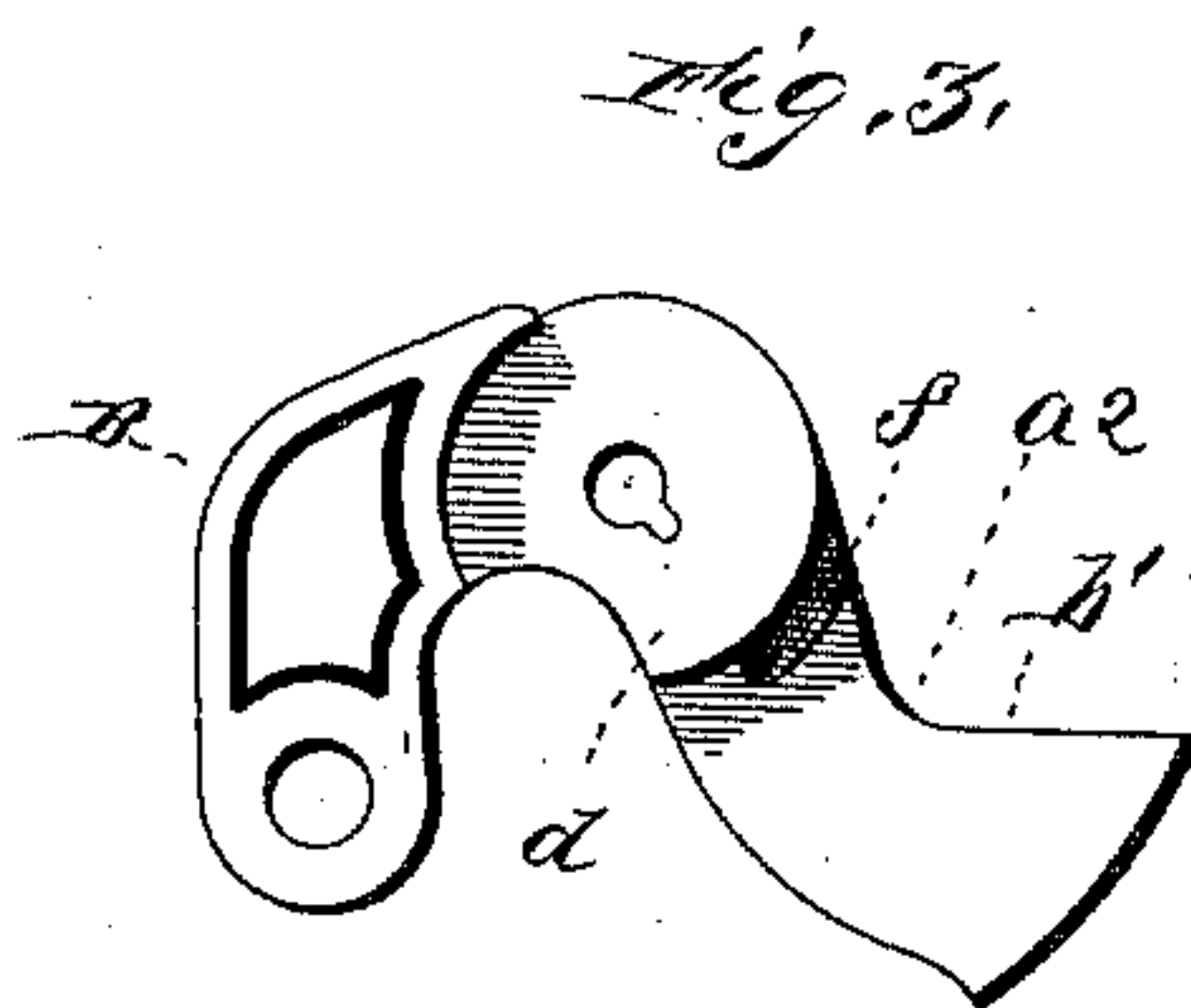
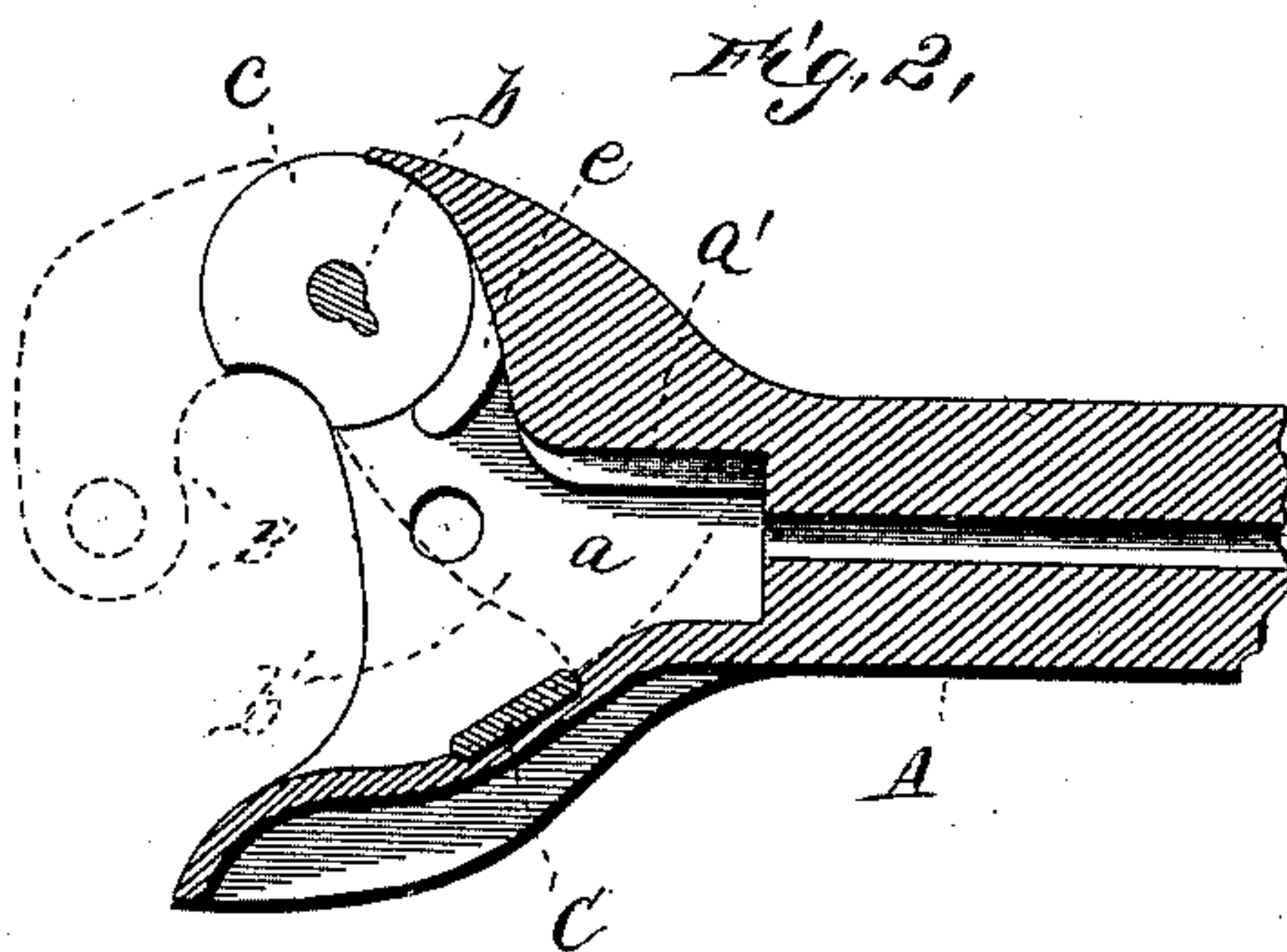
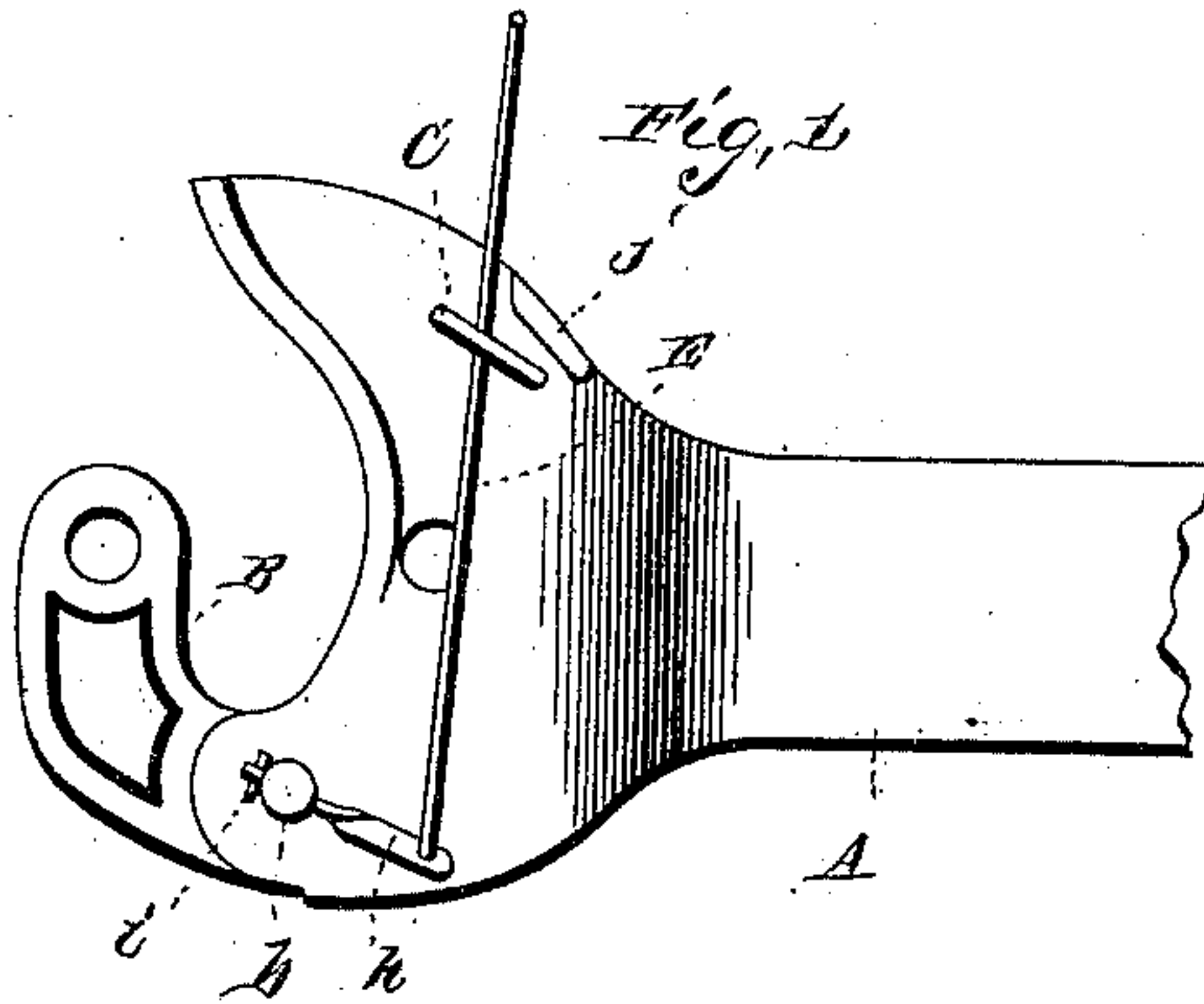


(No Model.)

R. H. DOWLING.
CAR COUPLING.

No. 467,463.

Patented Jan. 19, 1892.



WITNESSES
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UNITED STATES PATENT OFFICE.

ROBERT H. DOWLING, OF NEWARK, OHIO, ASSIGNOR OF TWO-THIRDS TO
CHARLES FOLLETT AND CHARLES H. FOLLETT, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,463, dated January 19, 1892.

Application filed May 16, 1890. Serial No. 352,085. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. DOWLING, a citizen of the United States, and a resident of Newark, in the county of Licking and State of Ohio, 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top plan view. Fig. 2 is a horizontal section, and Figs. 3, 4, 5, and 6 are detail views. Fig. 7 is a cross-sectional view of my coupling.

This invention relates to certain improvements in car-couplings; and it consists in the construction and combination of parts, as will appear hereinafter.

In the drawings, A represents the draw-bar, which is provided with an inward-tapering chamber *a*, and B refers to the coupling hook or knuckle having an axial-pin connection *b* with said draw-bar and its tongue *b'*, entering said chamber.

In the back edge portion of the draw-bar A are semicircular recesses or cavities *c*, one at the top and one at the bottom, opening into the chamber *a* and receiving corresponding shoulders or bosses *d d* of the axial or hub portion of the hook or knuckle B. Projecting from the top and bottom of the chamber *a*, at one side of the axial receiving cavities or recesses *c*, for the coupling-hook or knuckle B, are shoulders *e*, having coincident curvatures with said recesses or cavities and engaging corresponding recesses or depressions *f f* in the bottom and top surfaces of the tongue *b'* of said hook or knuckle, close to the axial portion of the latter. This arrangement provides resistance-surfaces for receiving the strain and concussions, thus taking the same off the axial pin of the coupling hook or knuckle.

Formed upon the inner rear wall of the contracted portion of the chamber *a* of the draw-bar, at top and bottom, is a convex or rounded ledge or rib *a'*, which engages a corresponding curvature *a''* on the rear side of the tongue

b' of the coupling hook or knuckle B, which serves as a resistance-surface to receive and break the force of all concussions imparted to the hook and draw-bar.

C is the oblong locking-pin, passing through a corresponding opening in the opposite side of the draw-bar A and having a horizontal or square shoulder *g*, which when the coupling hook or knuckle B is uncoupled rests squarely upon the upper surface of the inner widened end of the tongue *b'* of the latter. When the tongue *b'* of the coupling hook or knuckle B has passed inward from the locking-pin C, leaving the shoulder *g* of the latter, the said pin will fall in front of said tongue, and thus lock said hook or knuckle in its engaging position, effecting with the hook or knuckle of the opposite or meeting draw-bar, similarly locked, the coupling of the cars.

Through an aperture in the lower end of the locking-pin C passes an operating-lever E, which is jointed or pivoted to an arm *h*, passed through an eye in the lower end of the axial pin *b* and held in said eye by a pin or key *i*, passed through said arm.

The free end of the rod or lever E extends out at one side conveniently to be grasped without requiring the attendant to pass between the cars to effect its manipulation in uncoupling the cars.

The lever or rod E is adapted to engage with and be locked against upward displacement by a pendent hook or keeper *j* on the under side of the draw-bar A.

It will be observed that by the provision of the parallel ribs or ledges *a'*, one on the upper and one on the lower wall of the contracted portion of the tongue-receiving chamber, the rounded or convex ends of which terminate short of the axial receiving cavities or recesses and which are engaged by a corresponding curved surface on the knuckle-tongue, a bearing or resistance surface is formed for the upper surface of the said tongue, which will receive and evenly distribute the shock of concussion. The ribs or bearings act, also, with the arc recesses *f* of said tongue and the engaging shoulder *e* of the draw-head for the same purpose and to remove the strain from the pin.

Having described this invention, what I

claim, and desire to secure by Letters Patent, is—

1. The draw-bar having the throat portion of its chamber gradually contracted, the rear surface of such contracted portion having the parallel ledges or ribs, one on either side, and having each a rounded or convex forward end terminating at the rear of the axial receiving cavities or recesses for the coupling hook or knuckle, and thereby forming a bearing for the upper and lower edges of the knuckle-tongue, whereby the shock of all concussions is evenly received and distributed, substantially as specified.

2. The combination, with the draw-bar having the inner contracted portion of its chamber provided with parallel ledges or ribs a' , having rounded or convex forward ends terminating at the rear of the axial receiving cavities or recesses for the coupling hook or knuckle, of the coupling hook or knuckle having a rearwardly-projecting portion or tongue contracted and provided with a rear curved surface adapted to engage and bear against said ribs or ledges a' , whereby a bearing is formed for the upper and lower edges of said tongue in order to evenly receive and distribute the shock of all concussions imparted to said hook and draw-bar, in connection with

the shoulder e , forward of said ledges, substantially as specified.

3. The combination, with the draw-head having the parallel ribs or ledges a' formed on the upper and lower sides of the inner contracted portion of its chamber, said ledges or ribs terminating in rounded or convex forward ends at the rear of the axial receiving cavities or recesses, and the arcuate shoulders e in front of said ribs or ledges, of a curvature coincident with that of said cavities or recesses, of the coupling hook or knuckle having a rearwardly-projecting portion or tongue contracted and provided with a rear curved surface adapted to engage and bear against said ribs or ledges a' and the arcuate recesses in its upper and lower sides directly in rear of the pivot-pin, said recesses adapted to engage said shoulders e , said parts being so arranged as to provide resistance-surfaces for receiving and distributing the strain and shock of concussion and taking the same off the axial pin, substantially as specified.

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

ROBERT H. DOWLING.

Witnesses:

GEO. W. HORTON,
N. L. HELPHRY.