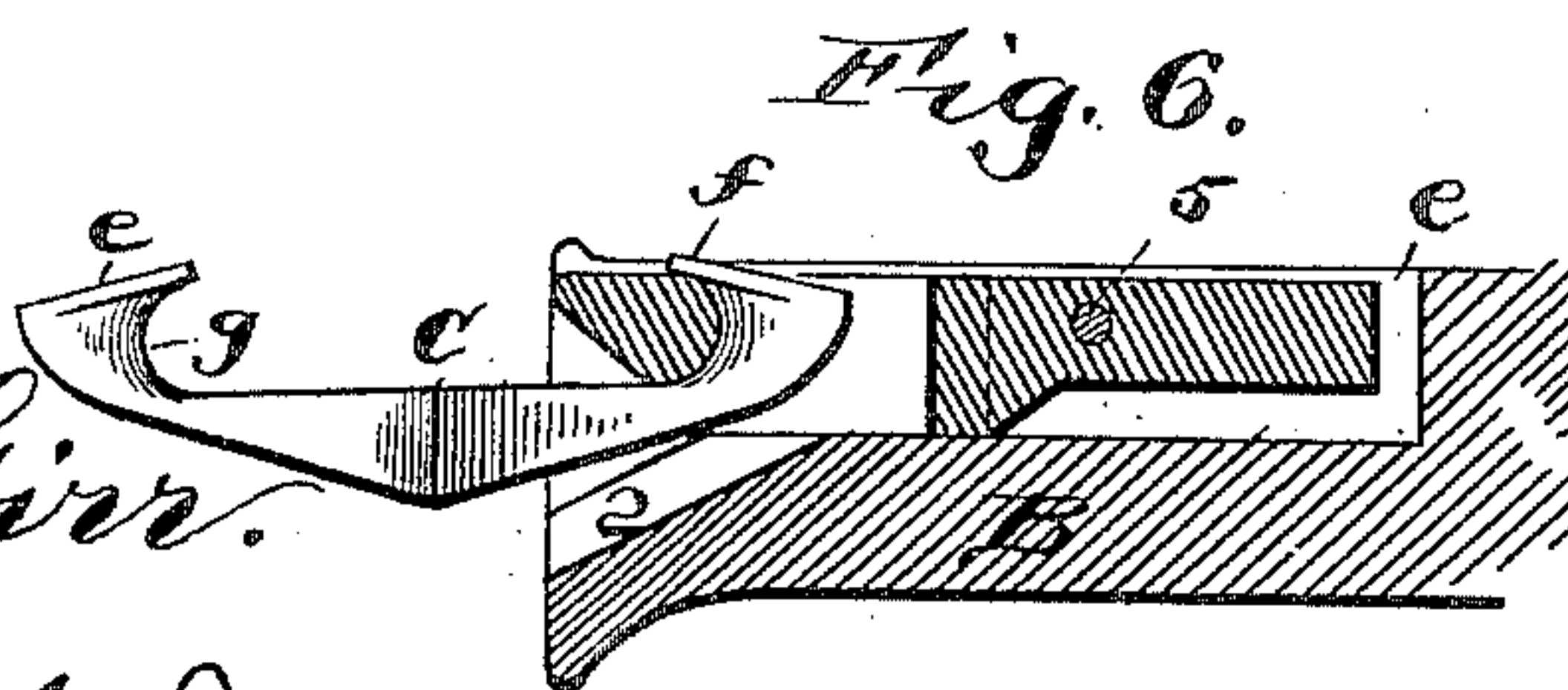
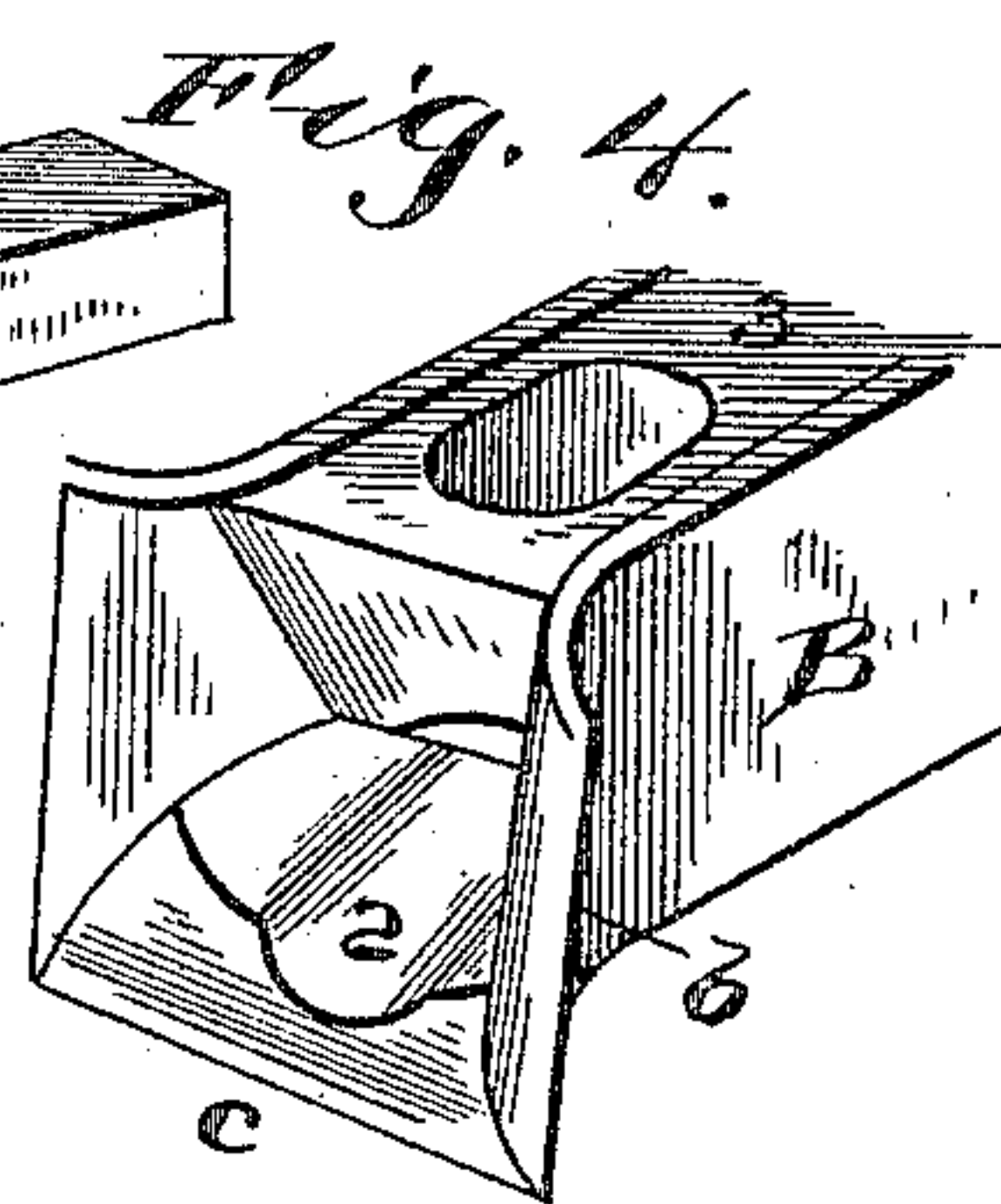
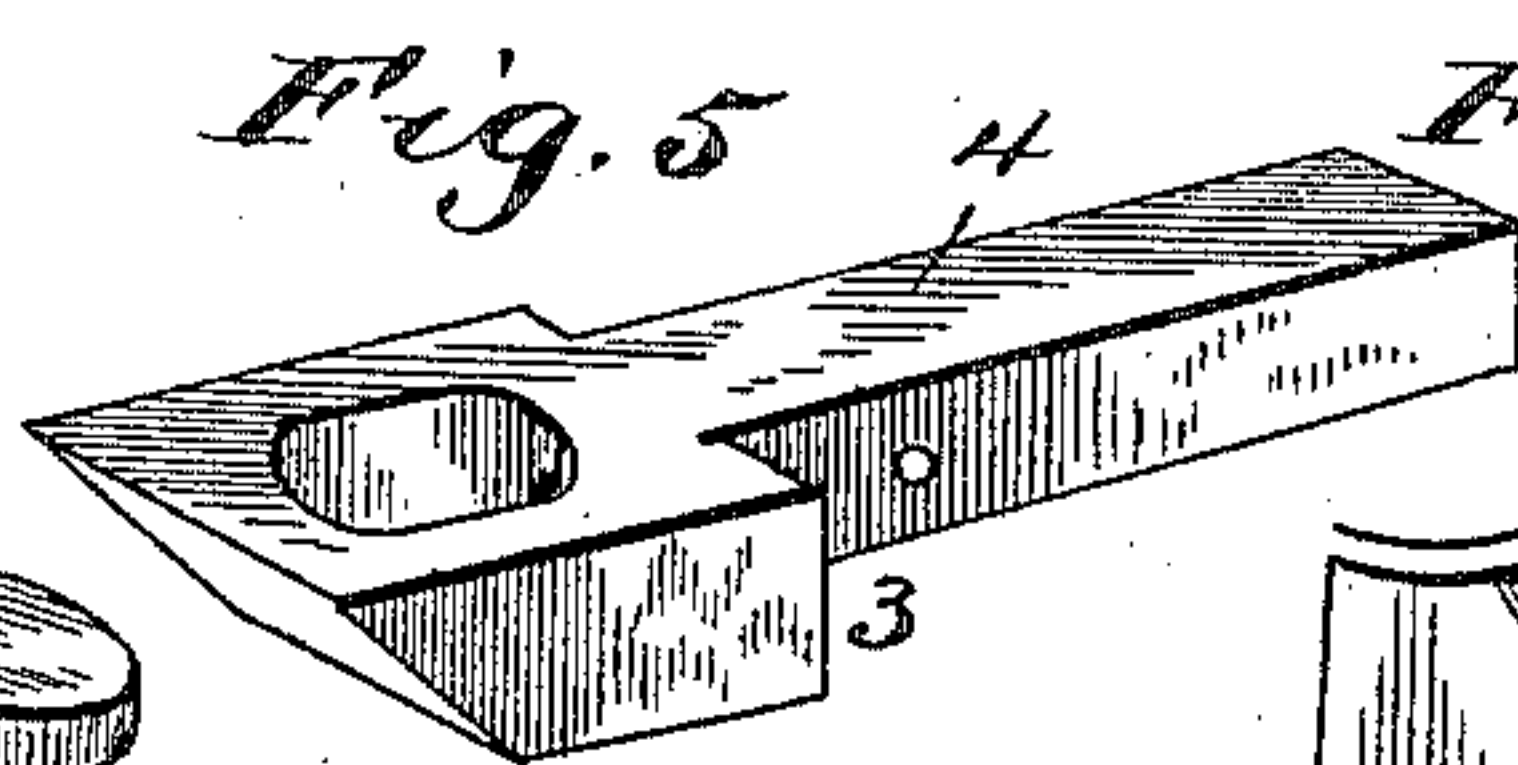
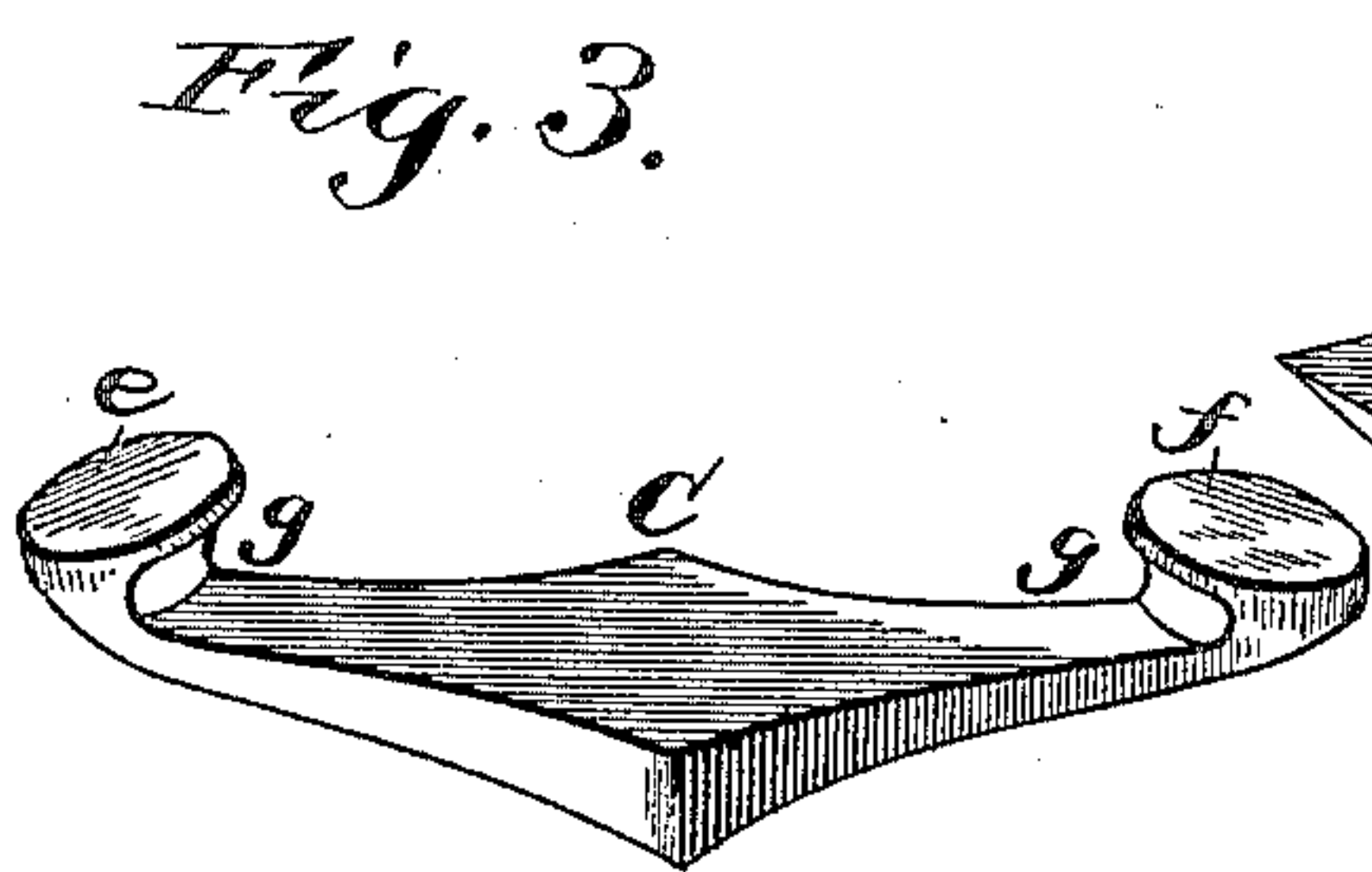
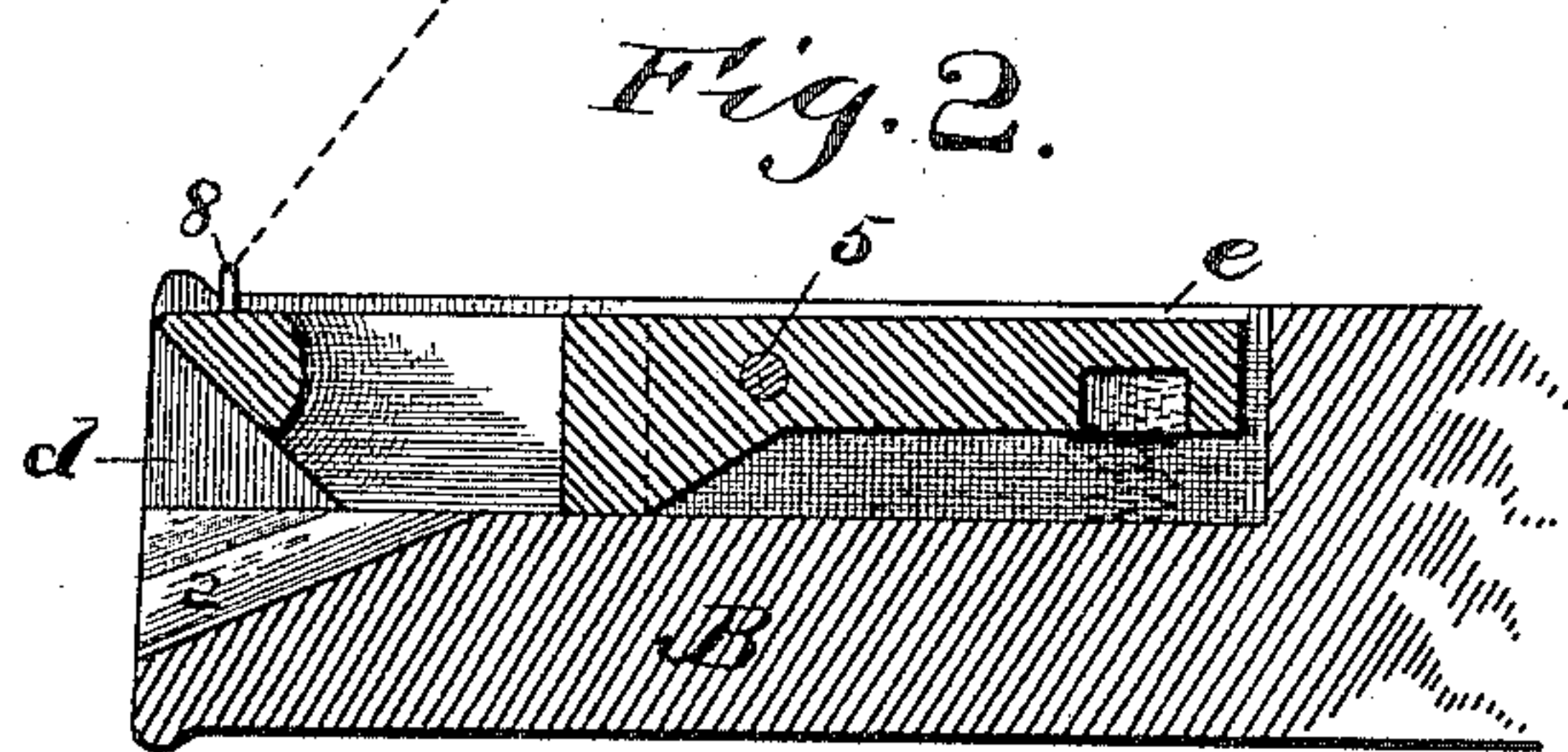
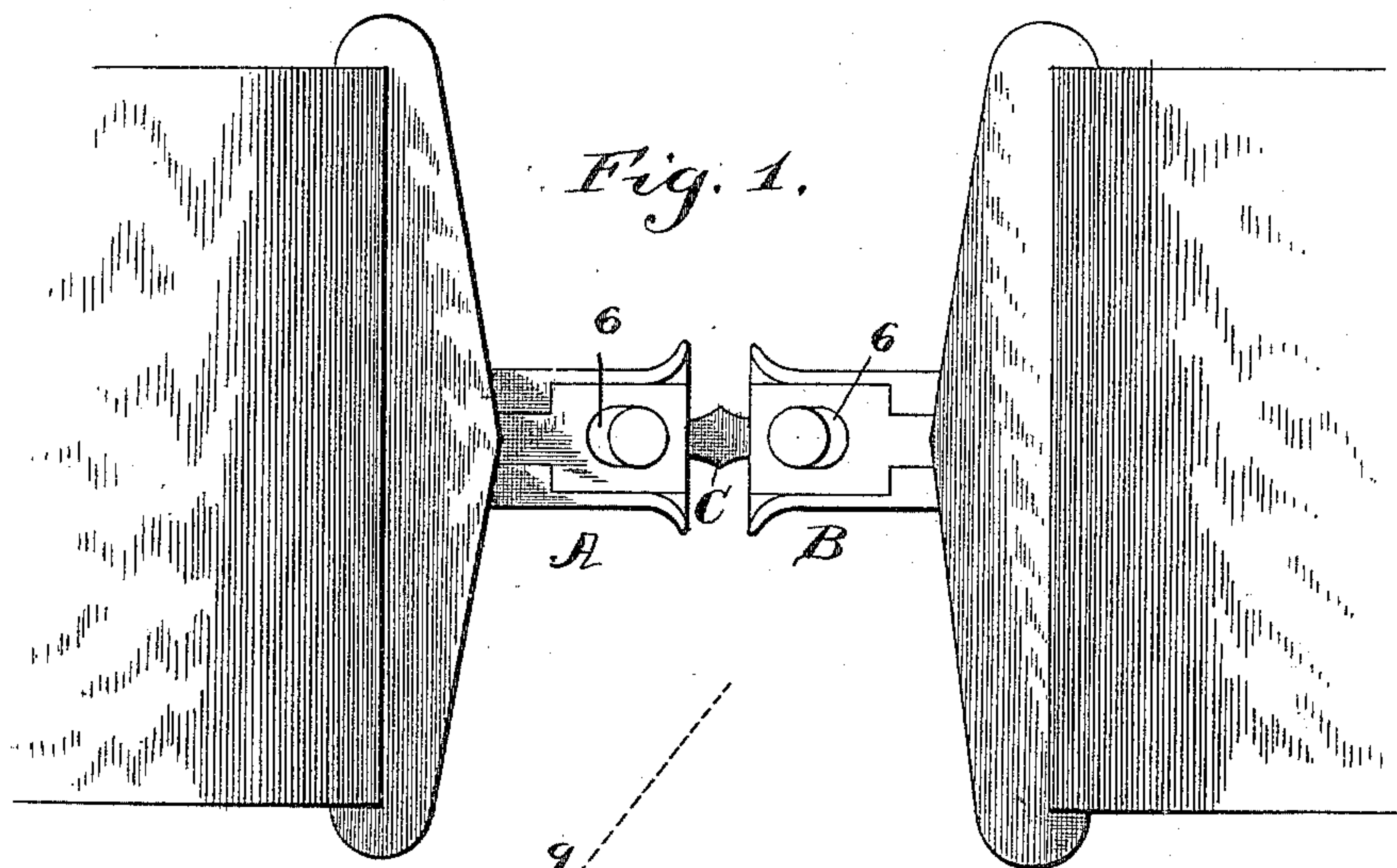


(No Model.)

J. R. WEAVER.
CAR COUPLING.

No. 446,556.

Patented Feb. 17, 1891.



Witnesses:
J. B. McGirr.
W. D. Rarick

Inventor:
John R. Weaver
by his attorney
Jas H. Vermilyea

UNITED STATES PATENT OFFICE.

JOHN R. WEAVER, OF WAYNESBOROUGH, TENNESSEE, ASSIGNOR OF ONE-HALF TO JONATHAN MORRIS, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 446,556, dated February 17, 1891.

Application filed August 6, 1890. Serial No. 361,209. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. WEAVER, a citizen of the United States, residing at Waynesborough, county of Wayne, State of Tennessee, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in car-couplers; and the object of the invention is to provide an improved device which will automatically couple two adjacent cars together in an expeditious and effective manner without requiring the attendant to pass between two cars; and, further, to provide means which will permit the cars to readily pass or round curves in the track or from one track to another, and, further, to enable two draw-heads at different heights or elevations to be readily and easily coupled together.

With these ends in view my invention consists in the combination of a draw-head having a chamber therein, a swinging catch or plate pivoted in the draw-head and having a hook or slot, and a coupling-bar adapted to enter the chamber of the draw-head and to take beneath and engage with the swinging catch or plate, such engagement of the coupling-bar and hook or plate being effected automatically when the cars come together, and thus obviating the necessity of the attendant going between the cars and exposing himself to injury thereby.

My invention further consists in a draw-head having the side walls therefor flared or inclined outwardly, the bottom inclined or flared downwardly, and a groove or recess formed in the flared bottom in the center thereof and extending inwardly of the draw-head for a suitable distance below the slot or hook in the swinging catch, and a draw-bar having its sides and lower faces at the ends thereof beveled or inclined and with an upwardly-protruding hook or lug formed with an overhanging lip, whereby the draw-bar is adapted to strike the inclined surfaces of the draw-head and be centered therein while in the act of coupling the cars, so as to properly enter the draw-head and cause the lug or hook to properly engage with the swinging catch in

the upper part of the draw-head, all as will be hereinafter more fully described and claimed.

To enable others to more readily understand my invention, I will now proceed to a detailed description thereof, in connection with the accompanying drawings, in which—

Figure 1 is a plan view of a portion of two cars, showing the draw-heads thereof and my improved coupler applied thereto. Fig. 2 is a central sectional view of one of the draw-heads on an enlarged scale, with the coupling-bar removed therefrom and showing by dotted lines a coiled spring for normally depressing the forward slotted end of the swinging catch, which spring may or may not be used. Fig. 3 is an enlarged detail perspective view of the coupling-bar detached from the draw-head. Fig. 4 is a perspective view of the draw-head to show the peculiar form thereof, looking at the open or front end of the same. Fig. 5 is a detail perspective view of the swinging slotted latch. Fig. 6 is a sectional view, similar to Fig. 2, showing the coupling-bar engaging with the swinging latch in the draw-head.

Referring to the drawings, in which like numerals and letters of reference denote corresponding parts in all the figures, A B designate the draw-heads on two adjacent cars adapted to be coupled together, and C is the coupling-bar which enters the said draw-heads and engages with swinging hooks or plates arranged and carried within the draw-heads.

Each draw-head is the same in construction as the other draw-head, and in the preferred embodiment of my invention I bevel, flare, or incline the side walls *a a* of the draw-head outwardly, as at *b b*, so as to form a bell-shaped or flared mouth or open end to the draw-head. The bottom of the draw-head is inclined or beveled downwardly, as at *c*, and in the center of the downwardly-inclined bottom I provide a deep groove or recess 2, which extends through the front edge of the bottom of the draw-head and runs rearwardly a suitable distance behind the swinging hook or slot in the plate, presently referred to.

The upper side of each draw-head is left open, and in this open side of the draw-head is arranged a flat horizontal plate or hook 3, which fits snugly in the open side of said

draw-head and operates to close the same when said plate or hook is in its depressed position.

The rear portion of the draw-head, behind the chamber *d* thereof, is reduced in width to a narrow slot *e*, and in this extension or slot of the draw-head is fitted the shank or arm 4 of the swinging hook or plate 3. This hook is pivoted at an intermediate point of its length on a suitable rod or shaft 5, which extends through the shank of the hook or plate, and is suitably secured in the draw-head. The forward enlarged end of the swinging plate or hook is heavier than its rear reduced end, and this plate or hook is normally depressed by its own weight in the chamber of the draw-head and arranged in the path of the coupling-bar when in the act of coupling two cars together, whereby the swinging plate or hook is adapted to engage the coupling-bar automatically and to drop itself by gravity over the projection on the coupling-bar after said bar has lifted the plate or hook in the act of coupling the cars. The forward edge of the swinging plate is beveled downwardly and inwardly to adapt said plate or hook to be readily lifted by the impact or force of the coupling-bar thereon when coupling the cars together, and in rear of this beveled portion of the swinging plate I provide a slot or opening 6, which is rounded somewhat to permit the coupling-bar to turn in the slotted plate and to lie at an angle to the draw-head when rounding curves, which is very desirable.

The coupling-bar C is provided at both ends with raised lugs or projections *e f*, and these lugs or projections are rounded in cross-section to adapt them to readily enter the draw-head and to snugly fit in the slot of the swinging plates. The inner opposing faces of the rounded lugs or projections *e f* are recessed somewhat above the coupling-bar, as at *g*, to impart to said lugs a hook-shaped projection or lug, which is better adapted for engagement with the slot in the swinging plate, the edges of which slot it will be noted are beveled or rounded, so that a better connection is insured between the slotted plate and the coupling-bar. The coupling-bar is widest at the middle of the same, and from this widest portion said bar gradually tapers in transverse width toward the ends thereof, as seen in Fig. 3. The lower face of the coupling-bar is beveled or inclined upwardly from the widest middle portion of the bar toward the reduced ends thereof. This taper to the ends of the coupling-bar is advantageous, because by the transverse taper the bar is caused to more readily enter the draw-head and to be deflected laterally by its own inclined sides and by the inclined sides of the draw-head should said bar not properly enter the draw-head, and by the bevel or inclination on the lower faces of the bar it more readily rides upon the inclined bottom of the draw-head and en-

ters the deep guide groove or recess in said bottom, and is thereby guided to its proper position beneath the swinging plate or hook.

This being the construction of my improved car-coupling, the operation thereof is as follows: To couple two cars together, which are provided with draw-heads of the construction herein described and which draw-heads are at the same elevation in a horizontal plane and alignment with each other, the coupling-bar C has one end fitted in one of the draw-heads, and as the cars approach or come together the other end of the coupling-bar enters the other draw-head, the forward end of the coupling-bar impinging against the inclined bottom and the deep recess or groove in the draw-head, and thus the coupling-bar lifts the swinging plate or hook sufficiently to permit the projection or lug on the coupling-bar to readily pass beneath the uplifted plate or hook, after which the plate or hook drops by gravity and the projection or lug on the coupling-bar enters the slot in the plate or hook, the rounded edges of the projection engaging the corresponding edge of the front wall of the slot. It will thus be seen that the coupling is entirely automatic in operation and that the attendant is not required to pass between the cars. To uncouple I provide a hook, eye, or suitable device 8 on the front of the swinging plate or hook and to this device is connected a cord or chain 9, which passes through suitable guides to the side of a car, and by pulling on this chain or cord the free end of the swinging plate or hook is lifted, so that the plate clears the lug or projection on the coupling-bar, and the bar can thus be easily withdrawn from the draw-head.

In some instances the draw-heads on two cars may be arranged in different horizontal planes; but my improved coupling is so adapted that it can be readily engaged with draw-heads of such different heights. As the cars approach each other, the attendant simply pulls on the cord or chain to lift the swinging plate in the draw-head in which the coupling-bar is fitted, thus allowing the free outer end of said coupling-bar to drop slightly below the horizontal level of the draw-head in which it is fitted, and thus the coupling-bar will readily enter the lowest draw-head and the operation of coupling the cars be automatically effected.

It will be noted that my improved coupling-bar will permit of the necessary slight vertical play or movement as well as the horizontal lateral play or movement of the parts, which is very desirable when the cars are in rapid motion.

Slight changes in the form and proportion of parts and details of construction can be made without departing from the spirit or sacrificing the advantages of my invention.

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

In a car-coupling, the combination of a
draw-head having the flared sides and the
inclined grooved bottom, the swinging plate
pivoted in the draw-head and having the
5 rounded slot and the beveled end, and the
coupling-bar adapted to enter the guide-
groove in the bottom of the draw-head and
having the lug or projection to enter the slot

in the swinging plate, substantially as de-
scribed.

In testimony whereof I have hereunto set my
hand this 6th day of August, A. D. 1890.

JOHN R. WEAVER.

Witnesses:

S. B. EVANS,

H. J. BERNHARD.