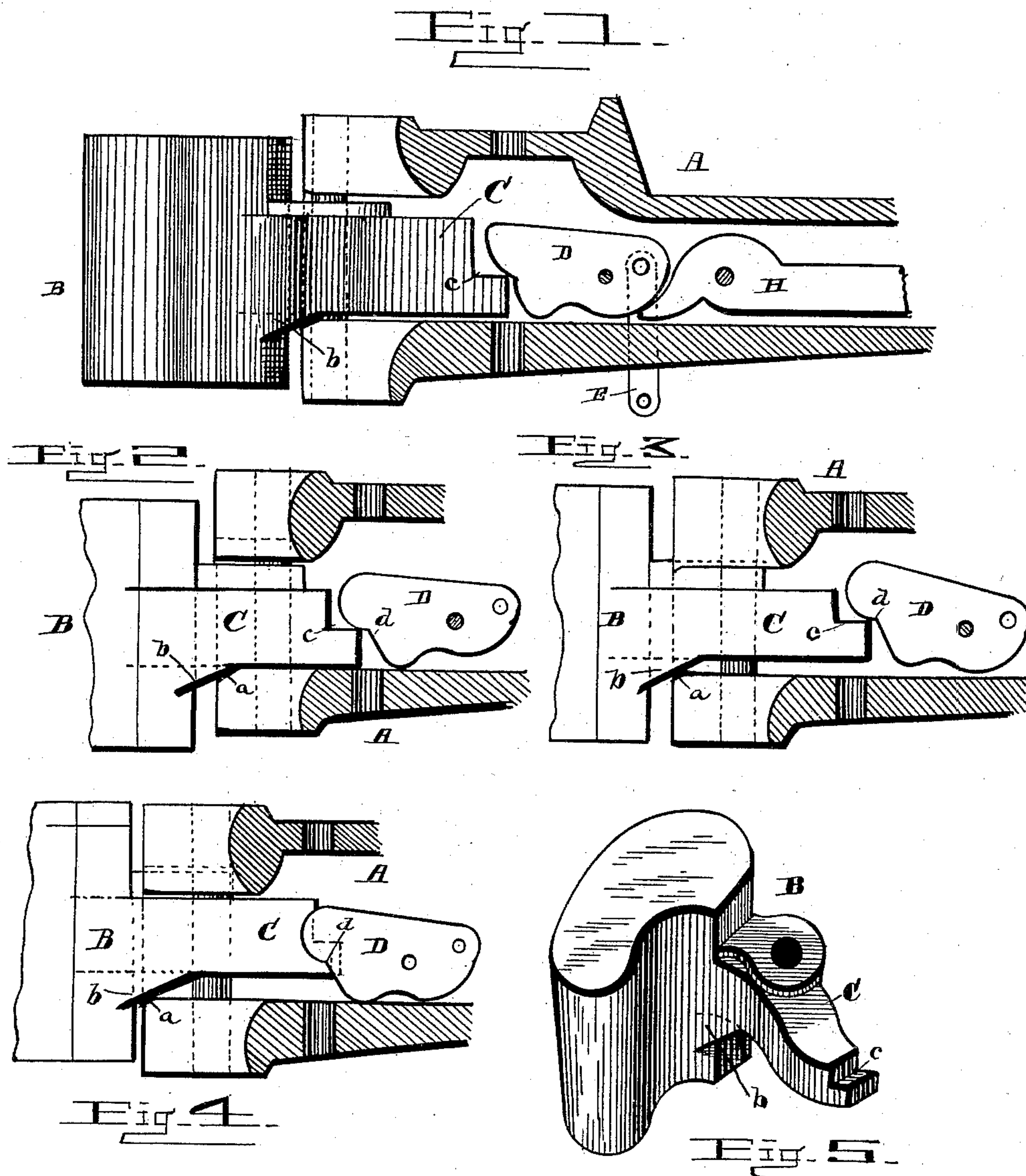


(No Model.)

I. KLING.
CAR COUPLING.

No. 396,879.

Patented Jan. 29, 1889.



Witnesses.

A. E. Sowell
O. L. Sewell

Inventor.

Isaac Kling

By his Attorney M. Alexander

UNITED STATES PATENT OFFICE.

ISAAC KLING, OF LOUISVILLE, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 396,879, dated January 29, 1889.

Application filed October 3, 1888. Serial No. 287,054. (No model.)

To all whom it may concern:

Be it known that I, ISAAC KLING, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a central longitudinal vertical section through a car-coupling, showing my improvements. Figs. 2, 3, and 4 are detail views illustrating the operation of the parts. Fig. 5 is a detail view of the jaw and its arm.

This invention relates to car-couplers of the pivoted-jaw type, and its object is to improve the locking devices of the jaw, it being an improvement of the coupler shown in my patent, No. 370,343, of September 20, 1887, and in my application for Letters Patent filed August 1, 1888, and numbered serially 281,688. The object of this invention is to so construct the parts that the arm as it is swung inward during the act of coupling will positively lift the locking-tumbler and pass thereunder without any wedging action whatever. This object is accomplished by the hereinafter-described construction and arrangement of parts.

Referring to the drawings by letters, A designates the draw-bar; B, the locking hook or jaw hinged on said draw-bar, and having a locking-arm, C, adapted to enter the mouth of the draw-bar when the jaw is swung inward. D is the locking-tumbler pivoted in the throat of the draw-bar, and provided with a depending link, E, by which it can be oscillated, and H is a lever-block, which may be pivoted in rear of tumbler D. These several parts are arranged and operate substantially as described in my application above referred to.

The front face of tumbler D is rounded in order to act as a link-support, as shown in Fig. 1, or it may have an angular shoulder, *d*, formed in it, as shown in Figs. 2, 3, and 4. The end of arm C is angularly shouldered or reduced, as shown at *c*, and at the junction of the arm with the jaw is formed at the lower edge of the arm an inclined shoulder or bevel, *b*, which is adapted to engage an inclined

shoulder, *a*, formed on the front lower lip of the draw-bar A. When the jaw is swung inward during the act of coupling, the incline *b* engages shoulder *a* just as the shouldered end *c* of arm C comes beneath the angular face of the tumbler D. Then, as the arm is forced farther around and inward by the movement of the jaw, the incline *b* rides up on shoulder *a*, lifting the jaw and arm, and this lifting of the arm causes it to lift the front end of tumbler D, as shown in Fig. 3, and the incline *b* is of sufficient pitch to cause arm C to rise sufficiently to lift the tumbler D until the arm can pass below the latter, which, after the arm has passed, drops, and the jaw is locked thereby, as indicated in Fig. 4.

In my application and patent above referred to, the end of the arm is beveled and adapted to wedge under the tumbler and lift the latter similarly to the manner in which the jaw is lifted by the incline *b*, as above described. In the present case, however, it should be observed that the lifting of the tumbler is accomplished by the vertical movement of the arm alone, not by its horizontal movement, so that there is no strain or push exerted on the pivots of the tumbler, as is the case where bevels are employed, as in my application above referred to. This fact will be particularly observable by reference to Figs. 2, 3, and 4, where the horizontal top surface of the end of arm C only contacts with the horizontal under surface of the angular shoulder of the tumbler, and not with the vertical faces thereof. For this reason the face of the tumbler need not be beveled at all, but might be perfectly angular were it not desirable to provide for coupling with a link-and-pin coupler. For this reason the end face of the tumbler may be rounded, and not for the purpose of serving as an incline to cause the tumbler to ride up on the entering end of the arm.

To uncouple, the tumbler D is oscillated by link E, lifting its front end sufficiently to permit arm C to escape therefrom, the incline *b*, which supports the entire weight of the jaw and arm so long as the latter are coupled, causing the jaw to swing open by gravity until the incline is disengaged from the shoulder.

Having described my invention, what I claim as new is—

1. In a car-coupling, the combination of a

tumbler having an angular front face, with a swinging hook having an arm adapted to enter the mouth of the draw-bar when closed, and also having an incline at the junction of the arm and shank of the hook adapted to cause the hook and arm to rise vertically when the hook is closed or the arm swung inward, whereby the end of the arm as it moves under the angular face of the tumbler lifts the tumbler solely by its vertical movement alone, and the use of and necessity for inclined faces on the end of the arm and face of the tumbler are obviated, all substantially as specified.

2. The combination, in a coupler of the character described, of a tumbler pivoted in the throat of the draw-bar and having an angular front face, with the swinging hook B, its arm

C, adapted to enter the mouth of the draw-bar, having a shoulder, *c*, at its end to engage the tumbler, and the incline *b* at the junction of the arm with the shank of the hook, adapted to engage the mouth of the draw-bar and lift the hook and arm vertically as the latter is swung inward, whereby the lifting of the tumbler is effected without the employment of cooperating inclined faces on the tumbler or arm, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ISAAC KLING.

Witnesses:

W. H. BEYUROTH,
G. ROBERT HULINE.