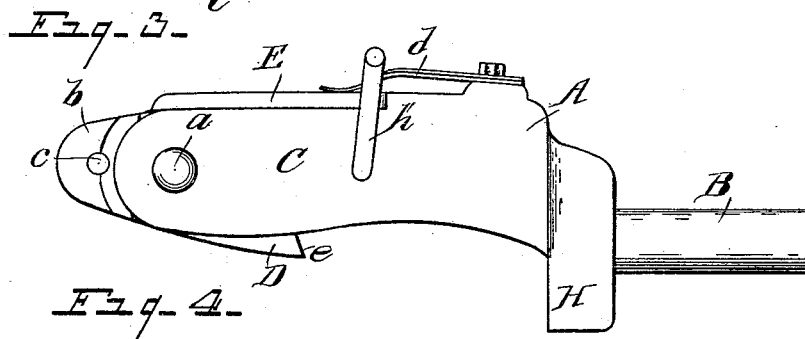
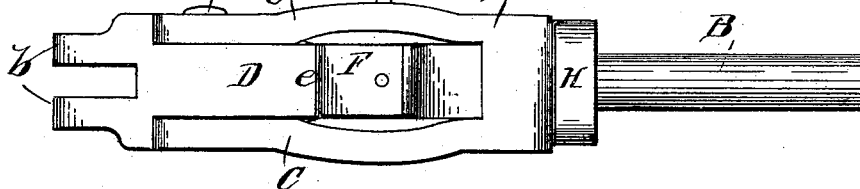
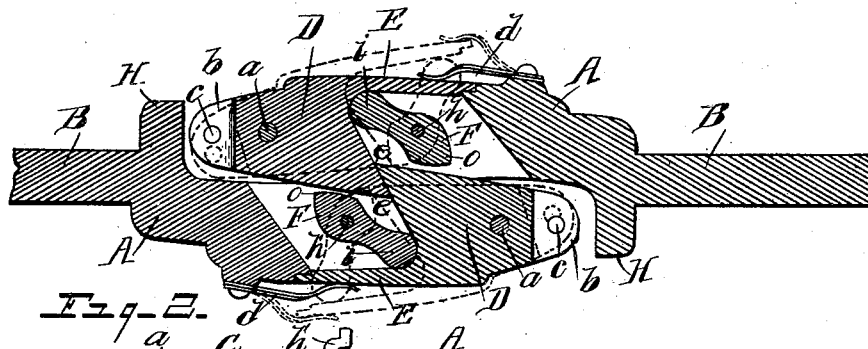
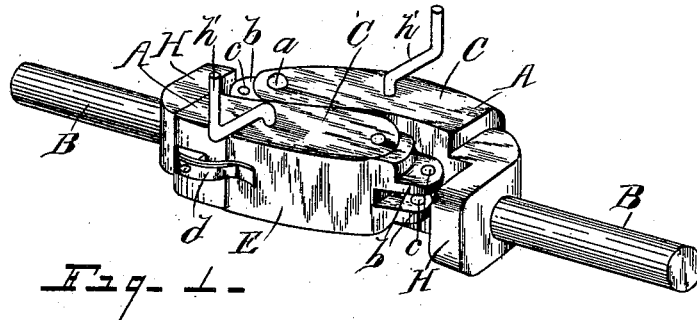


(No Model.)

J. M. STARK.
CAR COUPLING.

No. 489,395.

Patented Jan. 3, 1893.



WITNESSES
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JAMES McLAREN AND HENRY L. HUMPHREY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 489,395, dated January 3, 1893.

Application filed September 15, 1892. Serial No. 445,941. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. STARK, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Car-Couplers; 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 of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in car couplers, and consists in a certain construction and arrangement of parts, as hereinafter fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide an automatic car-coupler, and one that is reliable and effective in operation, and in which the arrangement is such as to permit of the cars being readily and safely uncoupled. This object is attained by the mechanism illustrated in the accompanying drawings, in which;—

Figure 1 is a perspective view of my improved coupler, in a coupled position. Fig. 2 is a central horizontal section through the same. Fig. 3 is an elevation of the coupling face of the draw-head, showing the jaw and operating tumbler therein. Fig. 4 is a plan of the drawhead.

Referring to the letters of reference, A indicates the draw-head, which is provided with the usual draw-bar B. Said draw-head is composed of two adjacent side plates C which extend parallel, and between which is pivoted the coupling jaw D, by the pin *a* which passes through said plates and jaw. The forward end of the pivoted jaw D projects beyond the side plates C of the draw-head, and is provided with the extended approximate flanges *b* having the registering apertures *c* for the reception of the ordinary coupling-pin, enabling the draw-head to be attached to a car having the common link and pin coupling. The grappling point *e* of the jaw D, describes an acute angle, and its engaging

face inclines inward and forward so that when the jaws of the opposed draw-heads are brought into engagement with one another, they will be securely locked together, as shown in Fig. 2.

Formed integral with the jaw D, is a rearwardly extending plate E, which lies against the edges of the side plates C of the draw-head, and is normally held in place by the tension of the spring *d*, which is mounted on the draw-head and bears upon the free end of the said plate.

F indicates the tumbler, the office of which is to disengage the coupling jaws in the operation of uncoupling. Said tumbler lies horizontally within the draw-head, and is eccentrically pivoted between the side plates C thereof, by means of the vertical pin or shaft *h*, on which said tumbler is fixed, and which is journaled in said plates. The upper end of said shaft being provided with the crank *h'*, to afford means for actuating said tumbler. The tumbler F stands obliquely in the draw-head, when in its normal position, the long end *i* thereof bearing against the plate E, at the junction of said plate and jaw D, the nose *o* of said tumbler standing adjacent to the outer face of the jaw in the opposed head, whereby, by the movement of the crank *h'*, the tumbler is turned, causing the end *i* thereof to engage and extend the plate, thus swinging the jaw D upon its pivot *a*, and withdrawing its grappling point *e* within the head. At the same time, the nose *o* of said tumbler, engaging the outer face of the jaw in the outer head, forces said jaw inward, thus disengaging the coupling jaws in the opposed heads and effecting the uncoupling of the cars, as clearly shown by dotted lines in Fig. 2.

From the above description, it will be understood that it is not necessary to operate both tumblers in unison to effect the uncoupling of the cars, but that the actuation of the tumbler in either of the draw-heads, will accomplish this result. By moving the tumbler to the limit of its throw, the long end *i* thereof will be carried past the center of its pivoted point, in which position it will be retained by the tension of the spring *d*. Thus withdraw-

ing the extending or engaging point of the jaw, within the head, and locking it therein, in which position of said jaw, the heads will not couple when placed together. The mouth

5 or aperture in the draw-head adjacent to the engaging point of the jaw, is flared as shown at *n* in Fig. 3, to compensate for the varying heights of cars. The extended shoulder *H*, at the base of the draw-heads, serves as a bumper, to restrain and confine said heads when coming together in the act of coupling.

It will be seen, on referring to Fig. 2, that the outer face of the jaws *D* is slightly inclined. This enables the jaws to ride by one another, when coupling automatically. In which operation the jaws are depressed by contact as the heads come together until the engaging points of said jaws are carried past one another, when they are thrown outward 20 by the action of the springs *d*, and engage, effecting the coupling.

This improved coupler may be operated from the side of the car, by a crank-rod running along the end of the car, and having an arm thereon attached to the crank *h'* of the tumbler, which construction is common and well understood.

Having thus fully set forth my invention what I claim as new and desire to secure by Letters Patent, is;—

30 1. In a car coupler, the combination of the draw-head, the grappling jaw pivoted therein and having the integral plate projecting rearwardly therefrom at an angle to the engaging face of the jaw, the tumbler eccentrically pivoted in the draw-head in the angle between said plate and jaw, the long end of which is adapted to engage said plate to actuate said jaw, substantially as set forth.

2. In a car-coupler, the combination of the draw-head, the grappling jaw eccentrically pivoted therein forward of its grappling point, said jaw having the integral plate extending rearward at an angle to the engaging face of the jaw, the tumbler pivoted in the draw-head and adapted to actuate said plate to depress said jaw, and the spring for restoring said jaw, substantially as specified.

3. In a car-coupler, the combination of the draw-head consisting of two parallel adjacent plates, the jaw eccentrically pivoted therein forward of its grappling point, said jaw having the rearwardly projecting plate that extends onto the edges of the plates of the draw-head, the tumbler eccentrically pivoted in the draw-head, the long end of said tumbler adapted to engage the projecting plate of the jaw, and its shorter end or nose, the jaw of a companion part.

4. In a car-coupler, the combination of the draw-heads composed of adjacent plates, the engaging jaws eccentrically pivoted between said plates forward of their engaging point, said jaws having the rearwardly extending plates that project onto the edges of the plates of the draw-heads to resist the draft upon said jaws when in engagement, the tumblers pivoted in the draw-heads, said tumblers being adapted to withdraw the jaw of the head in which they are pivoted, and engage and depress the jaw in the opposed head.

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

JAMES M. STARK.

Witnesses:

LOUIS A. LEBOT,
EDWARD LAPPAN.