

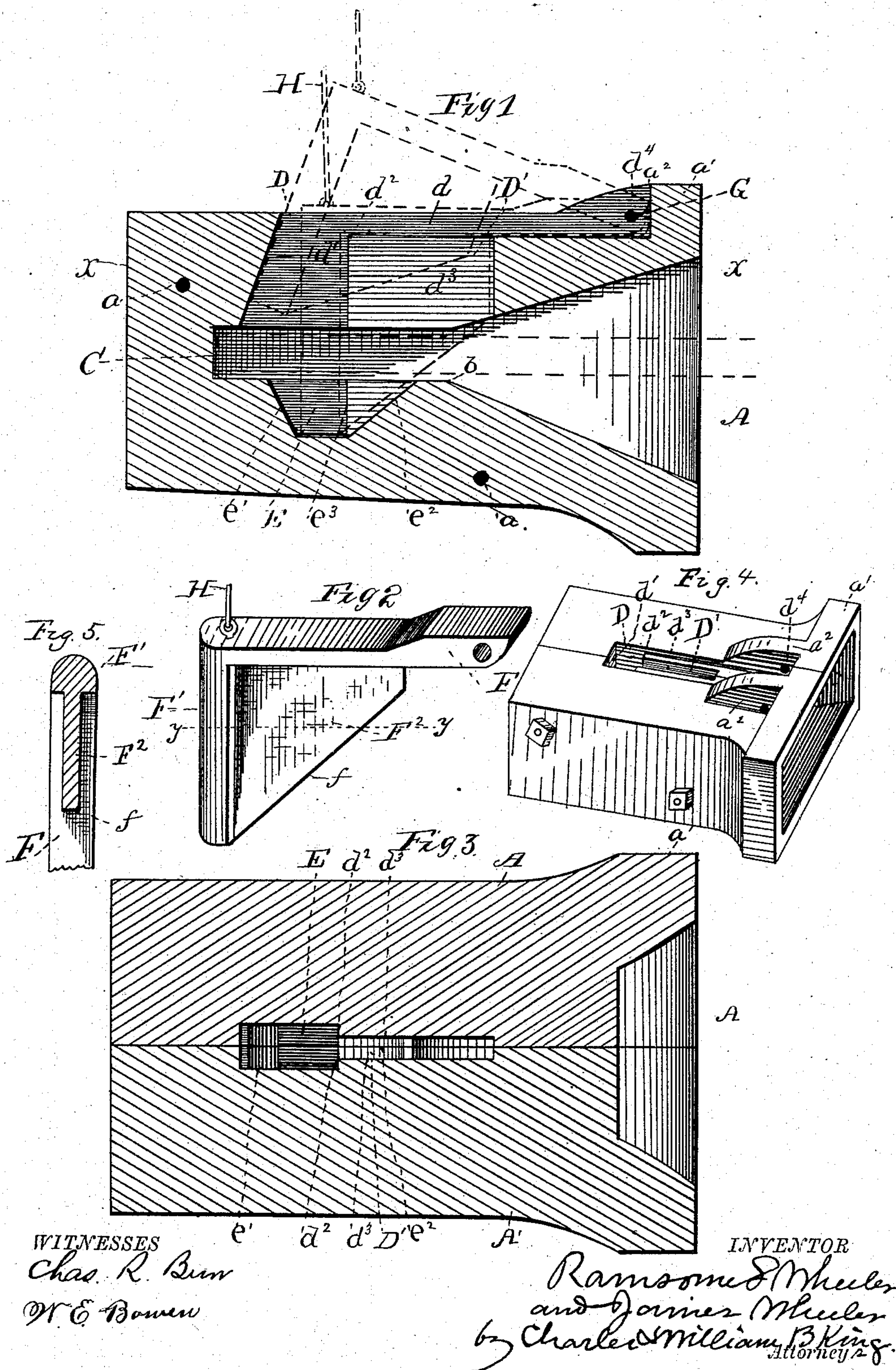
(No Model.)

R. S. & J. WHEELER.

CAR COUPLING.

No. 291,446.

Patented Jan. 1, 1884.



WITNESSES
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 291,446, dated January 1, 1884.

Application filed June 23, 1883. (No model.)

To all whom it may concern:

Be it known that we, RANSOM S. WHEELER and JAMES WHEELER, citizens of the United States, residing at Red Oak, in the county of Lawrence and State of Missouri, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in car-couplers of the class having a swinging pin or link and fastener, the object of the invention being to provide an automatic coupling device which shall be stronger and more durable than those heretofore used.

In the constructions heretofore used the part which holds the link in the draw-head has been so constructed and related to the other parts that the strain and draft are exerted directly upon the hinge or pivot. In order to be properly adjusted, the hinge or pivot must be comparatively slight, and therefore, if the coupling devices are durable, they must be so arranged that no strain shall be exerted upon the link or pivot.

Figure 1 is a longitudinal section of the coupler embodying our improvements. Fig. 2 is a perspective of the pivoted portion detached. Fig. 3 is a horizontal section on the line $x x$, Fig. 1. Fig. 4 is a perspective view of the draw-head, and Fig. 5 a rear view of the detent.

In the drawings, A A' represent the draw-head, it being preferably formed by cutting it in two halves, they being separable on the central vertical plane. When cast in this way, they can be formed very easily and cheaply, and can be afterward firmly joined together by means of through-bolts, as at $a a$. However, we do not wish to be limited to this method of constructing the draw-head, as the other features of our invention can be applied to it, regardless of the method followed in casting or forming it. The mouth of the draw-head is preferably square in vertical cross-section at the outer end and horizontally elongated in vertical cross-section at the inner end, the top, bottom, and sides of the mouth converging inwardly to the vertical plane indicated by b , at which part they are extended inwardly, preferably substantially parallel, so as to form a chamber, C.

D represents an aperture passing from the upper surface of the top of the draw-head down into said chamber C. The said walls d of the aperture are preferably perpendicular. The rear inner wall is inclined, for a purpose to be set forth, and on the front side of the aperture there are strong shoulders or abutments d^2 .

D' is a slotted or elongated aperture communicating with the aperture D, and extending toward the end of the draw-head. Preferably it is constructed, as shown in Figs. 1 and 3—that is to say, narrower in horizontal cross-section than the aperture D, there being walls d^3 upon the sides of the slot D', or extensions of the shoulders or abutments d^2 . The top of the draw-head is recessed in the vertical plane of the aperture D—that is to say, the walls do not extend to the top of the draw-head, but are cut away, the recessed part extending forward to the flange a' , around the mouth of the draw-head, as shown at d^4 .

In the bottom of the chamber C there is formed a recess, E, having shoulders or abutments e^3 , an inclined wall, e^2 , in front of the shoulders, and inclined walls e' on the rear side. The swinging part consists of a pin proper, a strengthening and guiding web, and a forwardly-projecting arm, by which the pin is pivoted in proper position.

The forwardly-projecting arm is represented by F, which is throughout its main portion of such thickness as to fill the recess d , so that the top of the pivoted part, when in its lowest position, is flush or level with the top of the draw-head.

F' represents the pin proper, or that part which engages directly with the link. This is of considerable width and thickness, so as to have sufficient strength. It is, however, braced and strengthened by means of the web or guiding part F², which is adapted to pass with sufficient freedom through the slot D', the pin F' being, when the parts are in operative position, in the aperture D. At the forward end of the arm F there is an eye, by which the pin is pivoted or hinged between two ears, $a^2 a^2$, there being a pivot-pin, G, passing through the ears.

Unlike previous constructions, ours has the parts so constructed and arranged that there is practically no strain whatever exerted upon

the pivot, the shoulders or abutments d^2 being so situated that when the pin is engaged with the link the pin portion F' rests against said shoulders d^2 . As a result, the pin itself is braced, and a strain or draft is not exerted upon the pin G . The width of the slot and the inclinations of the walls d' are such that the lower end of the pin F' cannot swing entirely away from the draw-head, but are such as to permit it to swing up far enough to allow the coupling-link free access to the chamber C . Therefore, although, as said, free access is permitted when desirable, there will not, under ordinary circumstances, be any liability for the pin to be thrown up to such an extent as to permit the escape of the coupling-link. The forward edge, f , of the web or guiding part F^2 is inclined downwardly and backwardly. When the end of a link enters the draw-head it strikes this inclined edge and throws this swinging part up upon the pivot G . When it falls back, the inclined edge rests against the inclined wall e^2 . The bottom recess, E , and the lower part of the pin proper bear against the shoulders e^3 , these operating, in conjunction with the upper shoulders, d^3 , to prevent any sagging or bending of the pin, and to totally relieve the swinging part of any strain.

H represents a lifter, preferably loosely connected to the top of the pivoted bar or arm F , and by means of it the brakeman can lift the pin when it is desired to uncouple the car.

What we claim is—

1. The herein-described coupling device, having the draw-head formed with the outwardly-flaring mouth, the chamber C at the inner end of the mouth, the aperture D , extending from said chamber to the top, the slot D' , the recess d^4 , the abutments d^3 , in combination with the vertically-swinging link-fastener, having the engaging part F' , the web F^2 , arranged to have the engaging part F' bear against the said abutments d^2 , the arm F , pivoted at its forward end to the top of the draw-head, and arranged to rest within the recess d^4 , substantially as set forth.

2. The combination of the draw-head hav-

ing the inwardly-contracting mouth, the chamber C at the inner end of the mouth, the aperture D , extending from said chamber to the top, and formed with an inner inclined wall, d' , and with an abutment or shoulder, d^3 , at its front side, and the vertically-swinging link-fastener, having the arm F pivoted at its forward end, and the pin portion or engaging part F' , which bears against the shoulders d^3 , and which, when rising, strikes against the said inclined wall d' , substantially as and for the purposes set forth.

3. The combination of the draw-head having the chamber C , the recess E in the bottom thereof, the shoulders e^3 , the aperture D , extending from the chamber C to the top of the draw-head, the shoulders or abutments d^3 at the front of said aperture, and the link-fastener, having the arm F pivoted at its forward end, and the pin portion or engaging part F' , which is situated in the aperture, and which, when engaging with the link, is situated across the chamber C , and bears against the lower shoulders or abutments, e^3 , and the upper shoulders or abutments, d^3 , substantially as and for the purposes set forth.

4. The combination of the draw-head having the chamber C , the recess E in the bottom of said chamber, having the inclined wall e , the shoulders d^3 , the aperture D , extending from the chamber C to the top of the draw-head, the shoulders or abutments d^3 , the slot D' , the recess d^4 , and the fastening device having the web F^2 , with a front inclined edge, f , adapted to lie in proximity to the wall e , the arm F , pivoted at its forward end, and the pin portion or engaging part F' , wider than the web F^2 , and adapted to bear against the shoulders or abutments d^3 and e^3 , substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

RANSOM S. WHEELER.
JAMES WHEELER.

Witnesses:

JOHN HUGHES,
J. T. WILLIAMS.