No. 781,486. PATENTED JAN. 31, 1905.

J. ANSON.

CAR COUPLING.

APPLICATION FILED JUNE 24, 1904.

2 SHEETS—SHEET 1.

Fig. 1

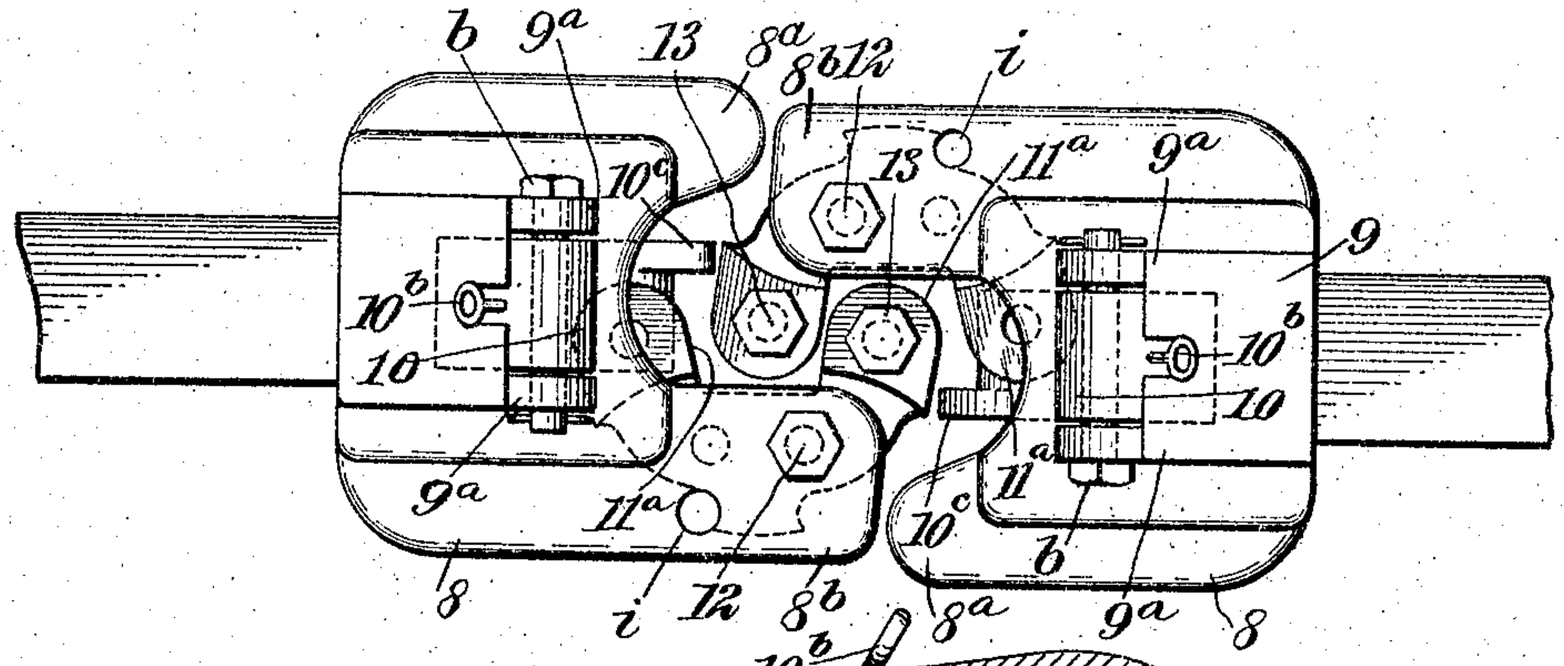


Fig. 2

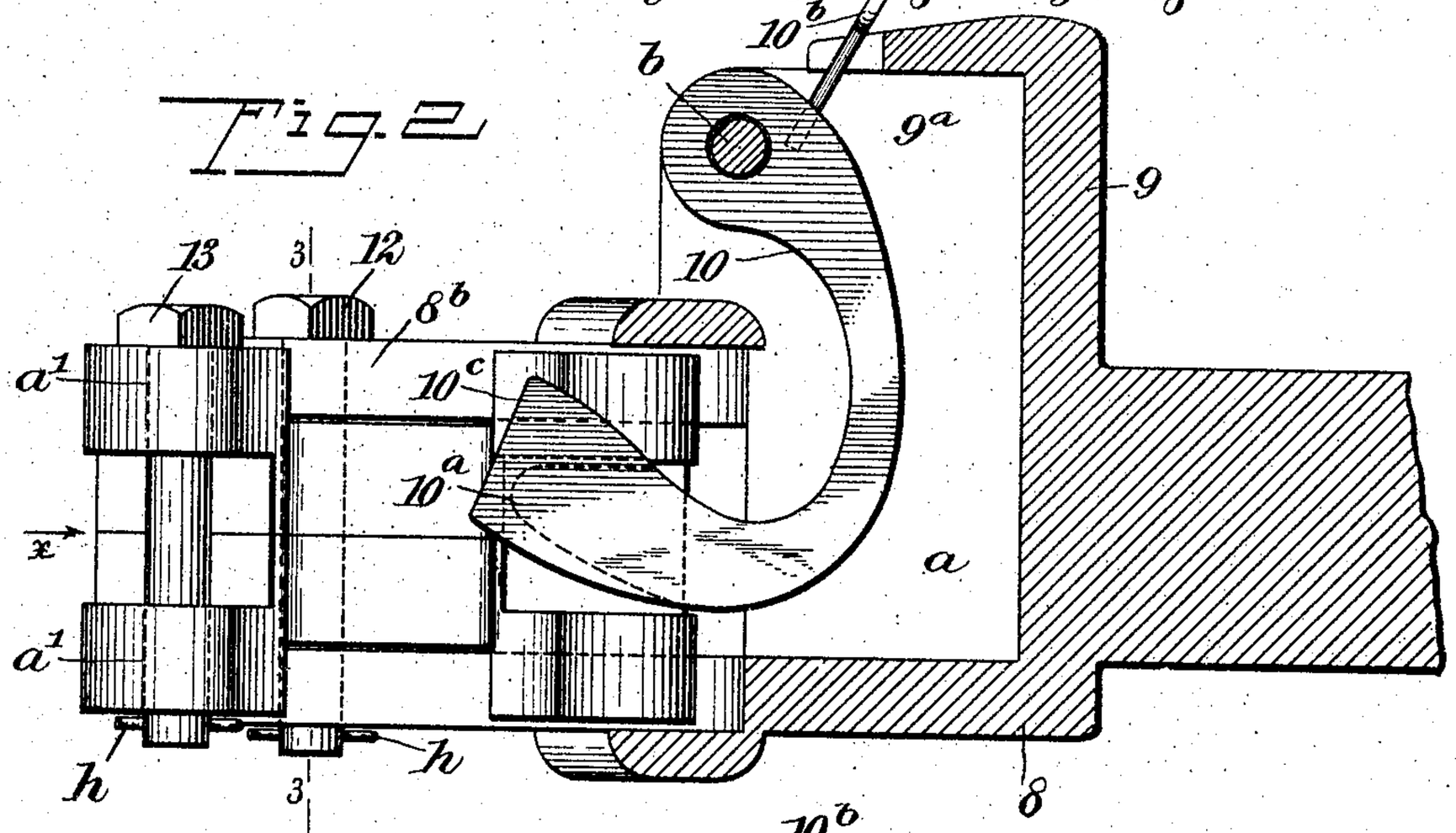
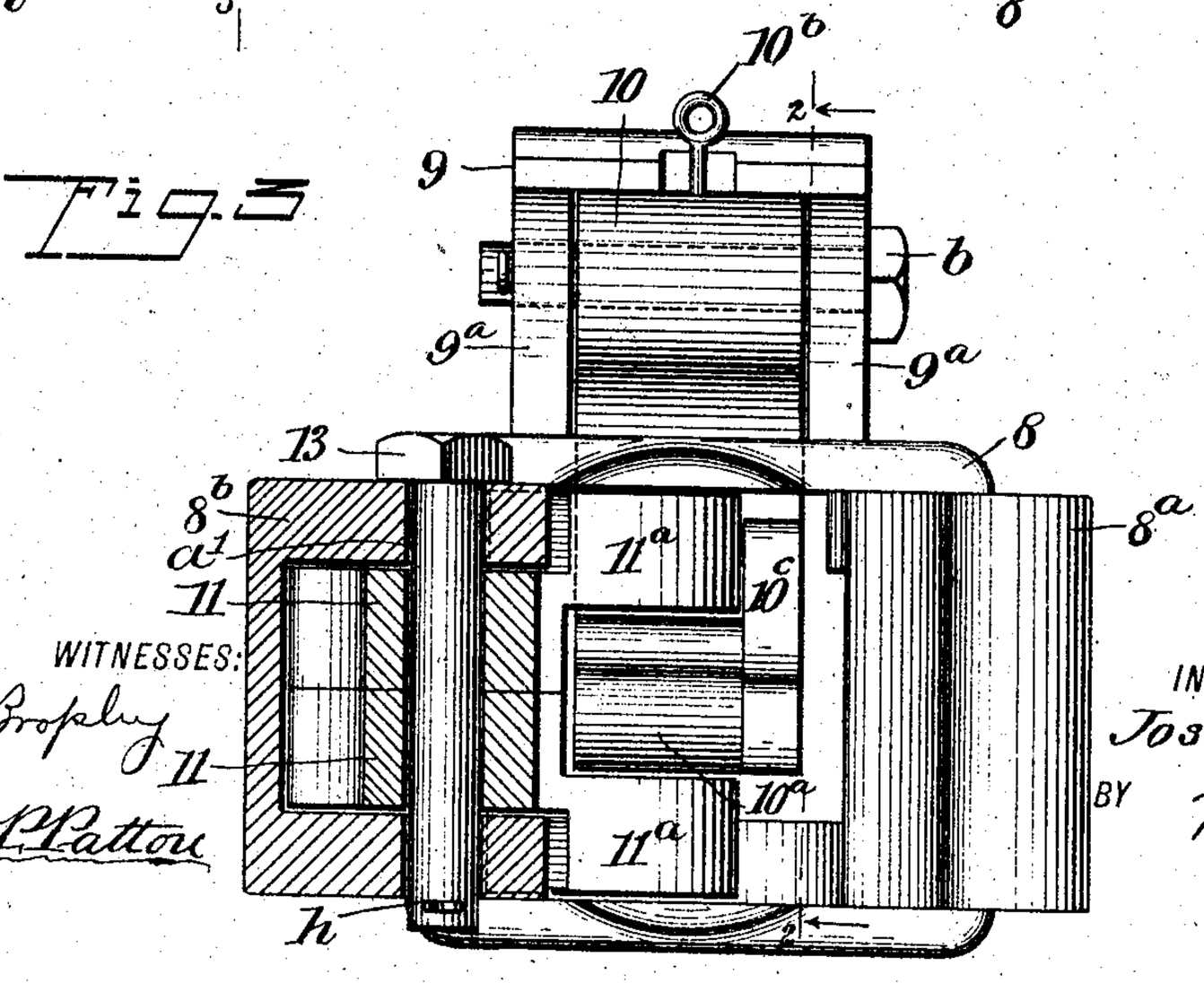


Fig. 3



WITNESSES:

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Wm. L. Patton

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2 SHEETS—SHEET 2.

Fig. 4

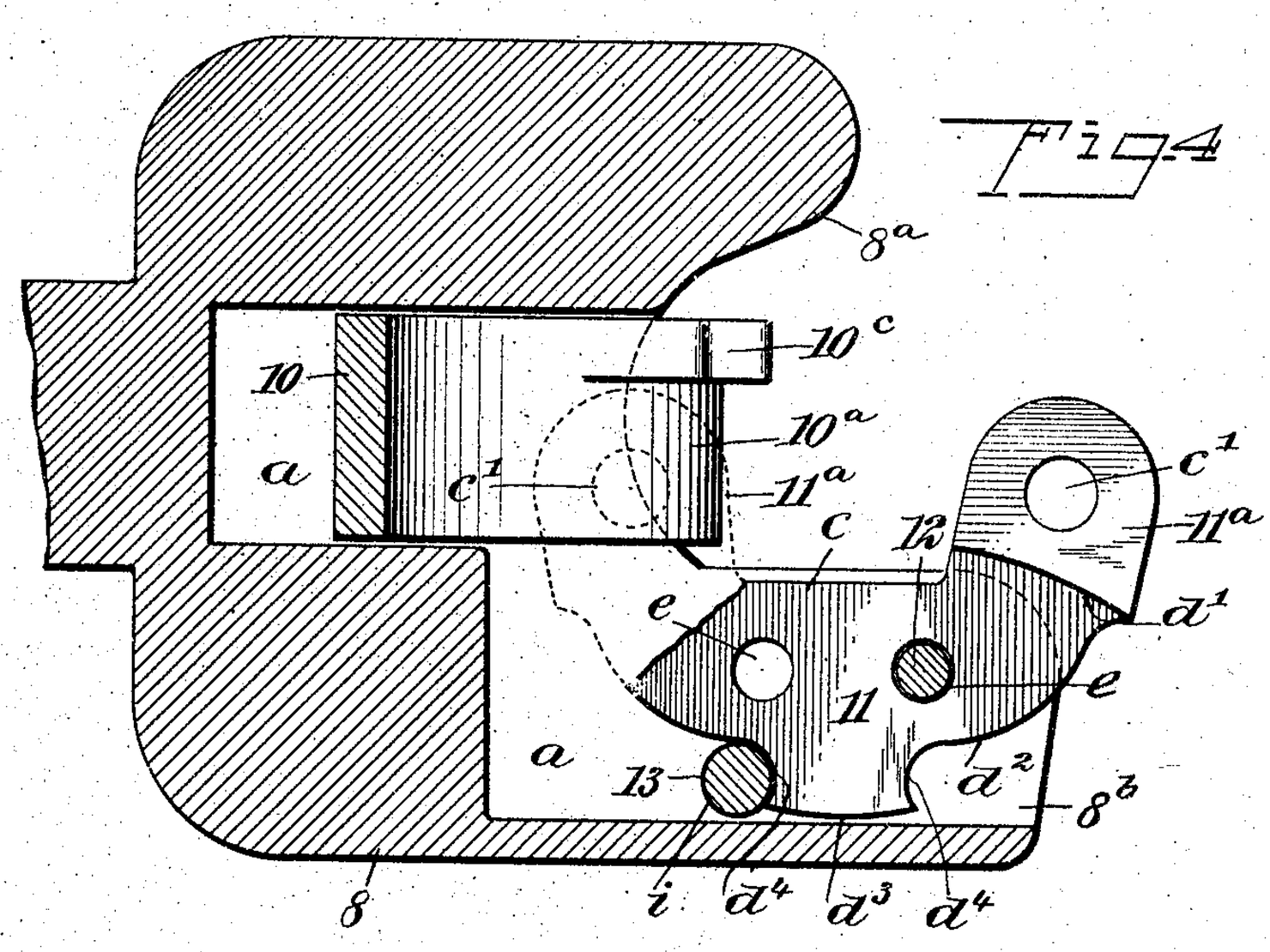


Fig. 5

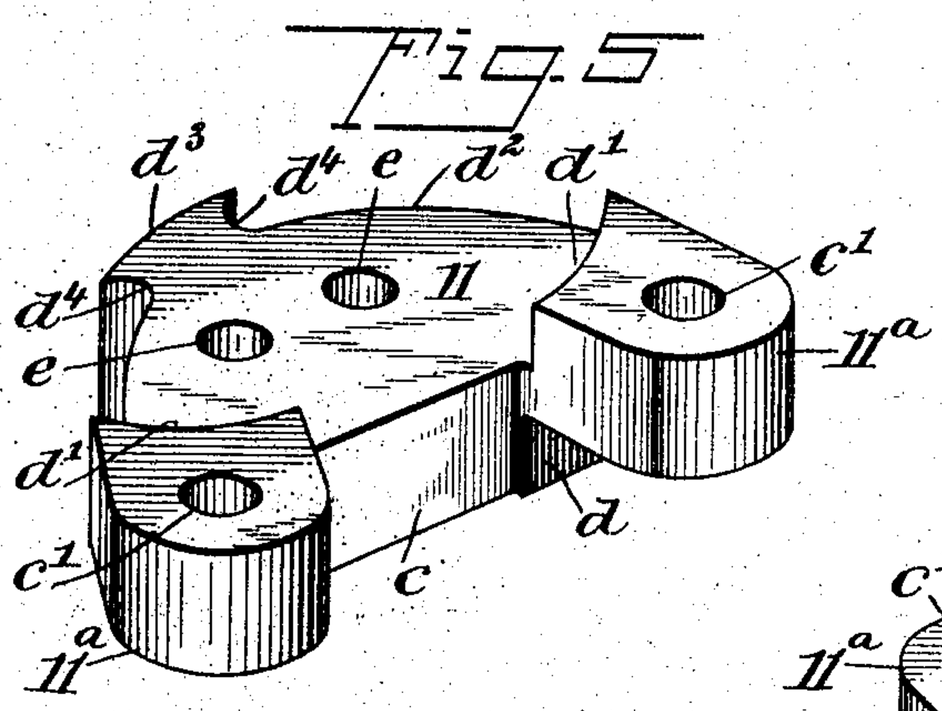
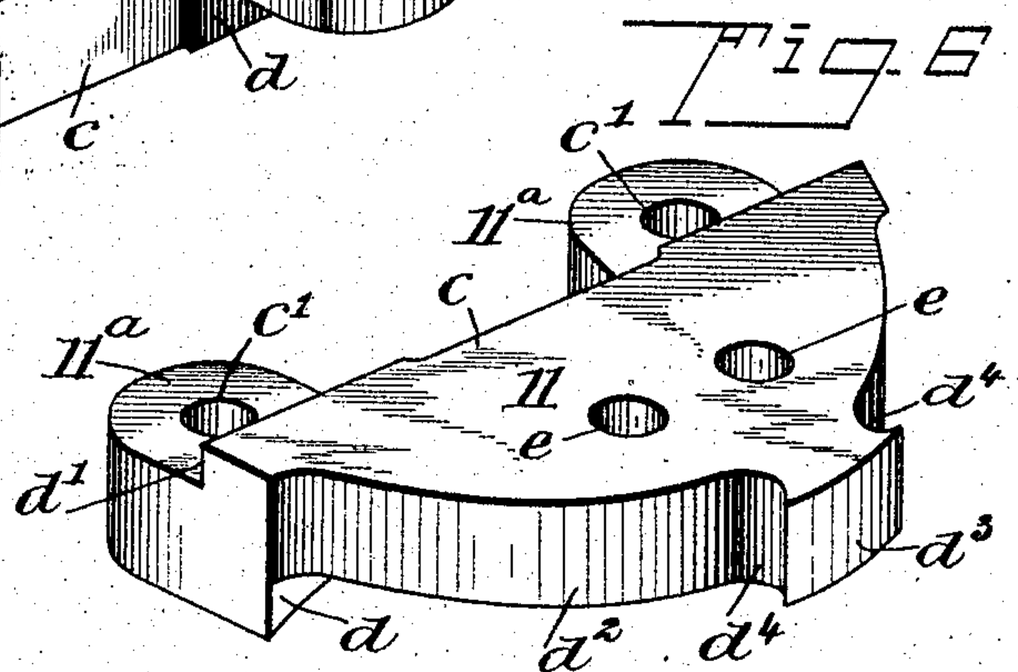


Fig. 6



WITNESSES:

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No. 781,486. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

JOSEPH ANSON, OF COOPER, CANADA, ASSIGNOR OF SEVEN-EIGHTHS TO JACOB HUFF, JOHN A. McCOY, HERBERT H. JOHNSON, AND THOMAS E. BURNSIDE, OF MODOC, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 781,486, dated January 31, 1905.

Application filed June 24, 1904. Serial No. 213,936.

To all whom it may concern:

Be it known that I, JOSEPH ANSON, a citizen of the United States, and a resident of Cooper, in the Province of Ontario and Dominion of Canada, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

This invention relates to car-couplings of the Janney type, and has for its object to provide novel features of construction for a car-coupling of the indicated type which enable the use of the car-coupling when the knuckle-jaw is broken and, furthermore, which permits the improved knuckle to be employed as a coupling-link in case the car-coupling is to be coupled with the draw-head of an ordinary link-and-pin car-coupling or a Janney coupling having a broken knuckle.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of two car-couplings having the improvements and in coupled engagement with each other. Fig. 2 is an enlarged partly sectional side view substantially on the line 2 2 in Fig. 3. Fig. 3 is a front end view of the coupling, partly in section, substantially on the line 3 3 in Fig. 2 and seen in the direction of arrow x in said figure. Fig. 4 is a sectional plan view of the coupling draw-head, a locking-dog therein, and a knuckle having an end portion broken away, the knuckle being held for service in the draw-head by novel means. Fig. 5 is a perspective view of a half-section of an improved knuckle-block employed, and Fig. 6 is a perspective view of the other half of the knuckle-block.

The draw-head 8 is formed, as usual, with a cavity a and a horn 8^a, which extends forwardly at one side of the hollow head, and two spaced ears 8^b, formed at the front on the opposite side of the same, these ears being centrally and vertically perforated, as at a'. A joint-box 9 projects upward on the upper side of the draw-head at a point between the horn 8^a and ears 8^b, having two spaced flanges 9^a formed at the front of the box, and between said vertical flanges the upper end of a locking-dog 10 is pivoted, as shown at b in Fig. 2. The dog 10 curves downward and forward, giving substantially C shape thereto, as is clearly shown in Fig. 2, having the center of gravity so disposed that the weighty lower portion 10^a of the curved body of the dog normally hangs projected forward beyond the flanges 9^a and at the side of the cavity a in the draw-head that is nearest to the horn 8^a. Upon the upper end of the dog 10 a short rock-arm 10^b is formed or secured that projects upward and rearward and may be connected to any approved means carried on the car having the improvement which will enable the manual rocking movement of the dog as occasion may require.

The knuckle-block that constitutes a principal feature of the invention is formed in two similar sections, the forms of which are clearly shown separately in Figs. 5 and 6 and connected together in Figs. 2 and 3. Each knuckle-block section consists in part of a flat portion 11, having a nearly-straight edge portion c, that extends between two lugs 11^a, which project outward from the edge c and are slightly divergent with regard to each other, said lugs having rounded outer ends and central perforations c' therein. The lugs 11^a are offsetted where they are joined with the flat body portion 11 of the knuckle-section, producing a shoulder d where each lug merges into the flat body portion 11 and a similar shoulder or offset d' at the opposite side of said body portion. The remaining edge portion of each knuckle-section 11 is rendered convex, as shown as d^2; but upon each edge portion d^2 an outward projection d^3 is formed that is central between the lugs 11^a, these projections, one on each knuckle-section, producing two shoulders d^4 at sides of each projection or abutment d^3, which are preferably concaved, as is shown in Figs. 5

and 6. In assembling the two sections 11 for coöperation with the draw-head 8 the uppermost surface on the flat body portion of the section 11 (shown in Fig. 6) is placed below and in contact with the flat lower surface of the similar portion of the knuckle-section. (Shown in Fig. 5.) The knuckle-sections shown in Figs. 5 and 6 are so relatively arranged one upon the other that the similar projections d^3 will be directly opposite each other and the shoulders d^4 be similarly disposed in pairs, each pair virtually becoming one shoulder. In the body portions 11 of the twin knuckle-sections at points that are respectively opposite the shoulders d^4 and equally distant therefrom two circular holes e of an equal diameter are formed.

The combined thicknesses of the flat body portions 11 of the twin knuckle-sections that have been described is such that they may be inserted together between the ears 8^b on the draw-head 8 and fit loosely therein, where they may be pivotally secured by the insertion of a pintle-bolt 12 through the perforations a' in the ears 8^b and through the alined perforations e that are nearest to the lugs 11^a, which project laterally and forwardly from the ears 8^b.

The lower and weighty portion 10^a of the locking-dog 10 is formed with an upright flange 10^c, that is on the side nearest to the horn 8^a, this flange being preferably extended somewhat in advance of the end portion 10^a, as is shown in Figs. 1, 2, and 4.

The construction of the two-part knuckle-block as described provides two similar coupling-jaws thereon, each formed of two spaced lugs 11^a, which project at the straight side c of said two-part knuckle-block, as appears in full and dotted lines in Fig. 4.

It will be seen in Figs. 2, 3, and 4 that the lugs 11^a, which are disposed within the front portion of the draw-head chamber or cavity a, project toward and near to the upright flange 10^c and that the body or lower end portion 10^a of the dog 10 passes between the lugs 11^a when the knuckle-block is swung into closed adjustment. It will be observed in Fig. 4 that the lugs 11^a (shown by dotted lines and which are disposed opposite the upright flange 10^c) are so removed from the pintle-bolt 12 that draft strain applied upon the outer pair of lugs 11^a, which form the knuckle-jaw, will impinge the inner pair of lugs 11^a upon the adjacent side of the flange 10^c, which will lock the knuckle-block from rocking into releasing position.

As represented by dotted lines in Fig. 2, the lower end portion 10^a of the dog 10 is tapered toward the front end by sloping the upper and lower sides thereof, and said front end is convexed, so that if the knuckle tailpiece is in released condition the act of rocking the knuckle-jaw into closed adjustment will cause the rear lug 11^a that is uppermost to ride over the tapered and convexed end portion of the heavy lower end 10^a and dispose the tailpiece in locked adjustment with regard to the flange 10^c. To release the locking-dog 10 from an engagement of its flange 10^c with the rear pair of lugs 11^a on the knuckle-block, the arm 10^b is rocked forward manually, which will carry the flange 10^c rearward in the cavity a of the draw-head and away from the lugs 11^a, that form the tailpiece of the knuckle-block, so that a pull on the outer lugs that may be coupled with similar lugs or an ordinary jaw on the knuckle-block of a Janney coupling will release the connected couplings.

It will be seen from the foregoing description and an inspection of the drawings that the knuckle-block of the improved car-coupling may be locked in closed condition by simply pressing upon the outermost lugs 11^a, that form the jaw of the knuckle, which will rock it into closed adjustment. In order to insure the coöperative action of the two sections of the knuckle-block, a bolt 13 is inserted down into and through the perforations c' in the lugs 11^a, that form the jaws of the knuckle, and securing said bolt in place by a cross-pin h, that is inserted through a perforation formed transversely in a portion of the bolt that projects below the lower lug of the pair, as is shown in Fig. 2.

In case the coupling-jaw comprising the two front lugs 11^a of the improved knuckle-block breaks off, due to accident or other cause, which would render an ordinary Janney coupling useless, it is only necessary to remove the pintle-bolt 12, reverse the knuckle-block so as to substitute the inner end for the broken one, and then replace the pintle-bolt 12. The bolt 13 is now removed from the broken jaws 11^a and inserted in a perforation i, that is formed through the ears 8^b, at such a point as will permit the bolt 13 to be inserted downward therethrough and afford an abutment for the rear shoulder d^4 on the projection d^3 when the reversed members 11^a are arranged transversely at the front of the draw-head to be coupled with another knuckle of the Janney type, the bolt 13 serving to prevent a rocking movement of the knuckle-block in either direction, as is clearly shown in Fig. 4.

In effecting a coupled connection between two cars it may become necessary to provide a coupling-link for such a purpose. In such an emergency one of the improved knuckle-blocks may be utilized by separating the two sections of the same and lapping the lugs 11^a of one section upon the pair of lugs on the other section and then inserting the bolts 12 13, respectively, through the alined perforations c' in the lugs 11^a, which will obviously produce a closed link for temporary use.

When the improved knuckle-block is arranged to form a coupling-link, it may be used to couple the improved car-coupling

draw-head with the draw-head of a Janney car-coupling the knuckle of which is broken. In such a case two common coupling-pins, such as the bolts 12 and 13, may be passed, respectively, through a perforation *e* in the ears 8^b and through a like perforation in the Janney car-coupling, which will connect together the cars having these couplings, the temporary link formed of the two knuckle-sections being of course engaged by the pins or bolts in an obvious manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a hollow draw-head, having a horn and two spaced ears, a locking-dog pivoted to swing in a vertical plane between the horn and ears, and an upright flange formed on the forwardly-projecting lower end of the dog, of a knuckle-block pivoted between the ears, and having a furcated tailpiece that may receive the lower end of the locking-dog within the furcation and impinge upon the upright flange when the knuckle is closed.

2. The combination with a hollow draw-head, having a horn on one side at the front end, and two spaced ears on the front end thereof opposite from the horn, an upward projection on the top of the draw-head having two upright spaced flanges, a curved locking-dog pivoted by its upper end between said flanges so as to hang pendent in the draw-head and project its weighty lower end forwardly, said end having an upright flange thereon, of a knuckle-block having furcated end portions that respectively form a coupling-jaw and a tailpiece, the latter receiving the lower end of the dog in its furcation, and impinging upon the upright flange thereon when the coupling-jaw is closed.

3. In a car-coupling of the character described, the draw-head, the substantially C-shaped locking-dog pivoted upon an upward projection on the upper wall of the draw-head, and hanging pendent with its weighty lower end projected forwardly, said end being tapered bluntly and convexed on its transverse front edge, an upright abutment-flange on the upper side of said tapered end, and a knuckle-block held to swing on the draw-head toward and from the lower end of the dog, the tailpiece of the knuckle impinging upon the upright flange when the knuckle is closed.

4. In a car-coupling of the character described, the knuckle-block formed of two similar sections, each section having similar offsetted lugs one on each end, said sections lapping together and having alined perforations for reception of a pintle-bolt, the lugs in pairs respectively forming a tailpiece and coupling-jaw which may be reversed in position on the draw-head of the coupling.

5. In a car-coupling of the character described, the knuckle-block formed of two similar sections that lap upon each other and have contact throughout their area, said sections having two lugs on each that project from like side edges of the sections near their ends, said lugs being offsetted and thus spaced apart in pairs when the knuckle-sections have lapped contact, alined perforations being formed in each pair of lugs, lateral projections formed on the edges of the knuckle-sections intermediately opposite the lugs, said projections producing shoulders that are concaved to engage an abutment-bolt that may pass through the draw-head of the coupling.

6. In a car-coupling of the character described, the two-part knuckle-block, divided longitudinally, said parts or sections having lateral offsetted and perforated lugs at their ends, which lugs may be lapped together and secured by means engaging the perforations, thus providing a closed coupling-link for emergency service.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH ANSON.

Witnesses:
A. F. WOOD,
PATRICK MARRIN.