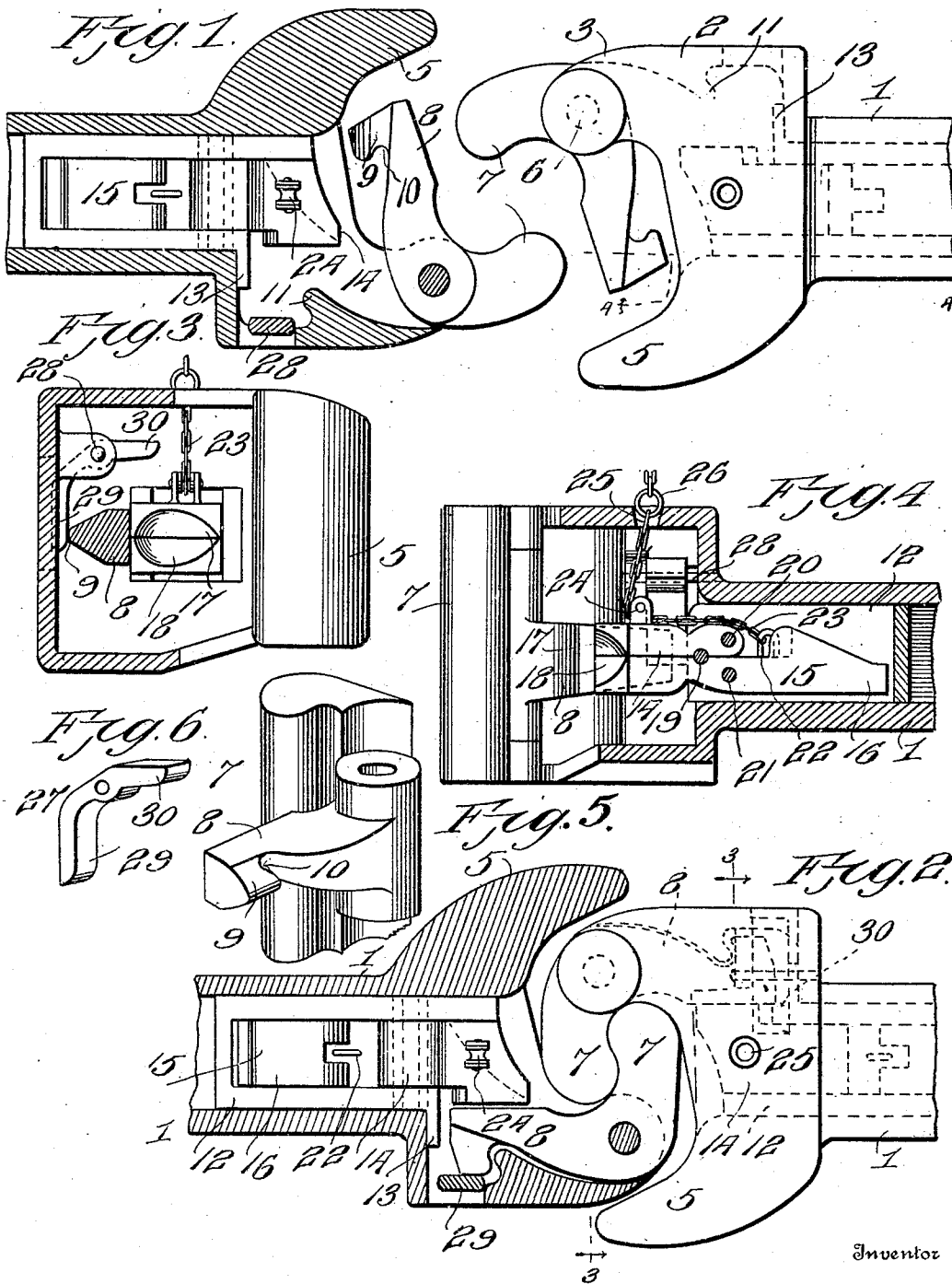


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CAR COUPLING.
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944,953.

Patented Dec. 28, 1909.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY J. DAUBERT, a citizen of the United States, residing at Tamaqua, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

This invention relates to car couplers, and is primarily directed to the class of car couplers of the M. C. B. type, and one of the principal objects of the invention is to provide a coupler of this character having a novel and effective knuckle lock which will effectively withstand the strain incidental to the "pull" to which the coupler is subjected and which will effectively retain the knuckle in locked position regardless of the swaying or other movement of the car.

Another object of the invention is to provide a knuckle lock which is extremely simple in construction, comparatively cheap to manufacture, which may be applied to any ordinary coupler and which entirely dispenses with the use of springs, bolts employing heads or burs.

A still further object of the invention is to provide a knuckle lock for car couplers comprising a U-shaped frame which is adapted to be inserted within the shank of the draw bar, said frame being provided with a pair of hinged members comprising pivoted jaws one positioned upon the other, a transverse member being positioned upon the frame between the jaws to prevent the upward movement of the lower jaw or the downward movement of the upper jaw, both of said jaws being pivoted to the rear of the transverse member and both of the jaws having their ends incut or beveled to provide a mouth which will readily open to receive the tail of the knuckle and effectively secure the same in locked position, means being provided for opening the jaws in opposite directions when the knuckle is to be released.

A still further object of the invention is to provide a device of this character having pivoted jaws for receiving and retaining the tail of the knuckle, the coupler being provided with a substantially L-shaped foot or knuckle thrower having one of its arms normally contacting the tail when in locked position and its other arm suspended above the upper jaw of the knuckle lock, so that when the jaws are opened in opposite directions the upper jaw will contact the overly-

ing arm of the foot and cause the arm contacting the tail to force the same outwardly, thus throwing the knuckle to an open position.

A still further object of the invention is to provide a knuckle having its tail provided with an offset finger or projection which has its inner vertical face provided with a substantially U-shaped cut away portion, and the inner face of the coupler wall being also provided with a substantially U-shaped extension, the offset finger and the extension of the coupler wall being adapted to lie in close proximity with each other when the knuckle is in locked position, thus providing means for effectively sustaining the knuckle upon the coupler should the pin coupling the knuckle with the coupler become broken.

With the above objects in view the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawing there has been illustrated a simple and preferred embodiment of the invention, and in which,

Figure 1 is a top plan view of a pair of coaxing couplers constructed in accordance with my invention, one of the couplers being shown in horizontal section, and both of the knuckles being shown in their open position. Fig. 2 is a similar view showing the knuckles in their locked position. Fig. 3 is a sectional view upon the line 3—3 of Fig. 2. Fig. 4 is a longitudinal sectional view upon the line 4—4 of one of the couplers shown in Fig. 1. Fig. 5 is a perspective view of one of the knuckles. Fig. 6 is a similar view of the foot or knuckle thrower.

The car couplers employed with my device may be of the ordinary construction, and in the accompanying drawing a pair of couplers of a similar type is shown, so it is to be understood that the numerals of reference designating the parts of one of the couplers is equally applicable to those of the remaining coupler.

In the accompanying drawing the numeral 1 designates the draw bar of the coupler. The draw head, designated by the numeral 2, which is integrally formed with the draw bar 1 is provided with the usual hollow body, having the projecting ears 3 provided with alining openings upon one of its sides and the usual integrally formed guard arm 5 upon its opposite side. Between the ears 3

provided with the alining openings is pivotally connected, through the medium of a suitable pin 6 the knuckle member 7. This knuckle member 7 is substantially of the usual construction, being provided with a centrally arranged projecting tail 8. In the present instance the tail 8 is provided with an offset finger 9. This finger 9 diverges from its central outer face in both directions toward the upper and lower faces of the tail and the inner vertical face of this finger is incut to provide a substantially semi-cylindrical opening or cut away portion 10. The inner wall of the head 2, adjacent the ears 3 is provided with a vertical, rounded offset member 11, and when the knuckle is swung into locked position the recessed portion 10 of the tail 8 of the knuckle will be positioned directly in the path of and in close proximity to the said member 11.

As is well known in the art the main body of a car coupler is constructed of a single casting and the draw bar 1 is hollow and is of a substantially rectangular cross sectional formation.

The numeral 12 designates a substantially U-shaped frame which is adapted to be positioned within the hollow bore of the draw bar 1. This frame 12 has one of its arms provided with an offset 13, which is adapted to contact the outer wall of the inner vertical face of the head 2 adjacent its connection with the draw bar 1. Positioned within this U-shaped frame 12 and pivotally connected with the sides thereof is a pair of knuckle locking jaws 14 and 15. The jaw 15 is of a greater length than the jaw 14 and has its outer end weighted as at 16. The jaws 14 and 15 are of an approximately equal size in cross section. The faces of the jaws 14 and 15 normally engaging each other are arranged directly in the path of travel of the offset member 9 arranged upon the tail 8, and the extremities of these jaws 14 and 15 are cut away or inwardly beveled so as to provide truncated ends 17 and 18, thus providing means whereby the jaws may be readily swung apart in opposite directions when contacted by the V-shaped finger 9 of the tail. Near the end of the free walls provided by the U-shaped frame 12 and positioned directly intermediate of both of the jaws 14 and 15 is a transversely extending member 19, and the jaws 14 and 15 are pivotally connected as at 20 and 21 a suitable distance to the rear of this transverse member 19. The rear portion of the jaw 15 may be provided with a suitable eye 22 which is adapted for the reception of the end link of a chain 23, while the upper face of the jaw 14 is provided with a suitable pulley 24, beneath which the chain is adapted to be passed and from thence outwardly through an opening 25 positioned within the top of the coupler. The chain 23 is provided with

a suitable link 26, which is adapted to engage the walls of the opening 25, or the top of the coupling 2 so as to normally retain the said chain in a taut condition to prevent the knotting of the same on the inside of the coupler and at the same time to allow the upper jaw 14 to lie snugly upon the lower jaw 15.

The numeral 27 designates an L-shaped foot which is adapted to serve as a knuckle thrower when the knuckle is unlocked. This foot 27 is provided with a suitable opening which is adapted for the reception of a pintle 28, and when positioned the vertical arm 29 lies normally in contact with the V-shaped offset 9 of the tail of the knuckle, while the horizontal arm 30 is positioned directly above and at a suitable distance away from the jaw 14. It is to be understood that the horizontal arm 30 is not contacted by the jaw 14 until the said jaw 14 as well as the jaw 15 are divided away from each other a suitable distance to allow the tail of the knuckle to pass between the said jaws, and it will be noted that the movement of the foot 27 in no wise interferes with the operation of the jaws 14 and 15.

From the above description, taken in connection with the accompanying drawing it will be noted that I have provided an extremely simple and effective device for the purpose set forth, one which may be readily and quickly applied to any ordinary car coupler, one in which the tail of the knuckle is provided with a substantially V-shaped offset, which quickly and easily divides the jaws so as to provide for the entrance of the tail between the said jaws, and the flattened portion of the tail contacting the flattened portion of the jaws effectively prevents the accidental opening thereof. It will also be noted that the jaws are adapted to swing in opposite directions so that the movement of one of the jaws in one direction incidental to the jar of the car will not interfere with the movement of the opposite jaw, and as the knuckle is adapted to have its tail of a width approximately equaling both of the jaws it will be understood that even should one of the jaws become disconnected the opposite jaw will effectively retain the knuckle locked.

It is to be understood, that while I have illustrated and described the invention as it now appears to me, minor details of construction, within the scope of the following claims may be resorted to if desired.

Having thus fully described the invention what is claimed as new is:

1. The combination with a car coupler having a pivoted knuckle provided with a tail, of a pair of pivoted jaws within the coupler adapted to be opened when contacted by the tail of the coupler to position the said tail behind the jaws to lock the knuckle.

2. The combination with a car coupler having a pivoted knuckle provided with a tail, of a pair of pivoted jaws one lying upon the other and adapted to be contacted and swung apart by the tail to position the tail behind the jaws to lock the coupler.

3. The combination with a car coupler having a pivoted knuckle provided with a tail having a V-shaped offset, of a pair of pivoted jaws opening in opposite directions and adapted to be spread apart when contacted by the V-shaped offset of the tail to position the tail behind the jaws to lock the knuckle.

4. The combination with a car coupler having a pivoted knuckle provided with a tail having a V-shaped offset, of a pair of pivoted jaws opening in opposite directions, means for retaining the jaws one upon the other, said jaws being adapted to be spread apart when contacted by the V-shaped offset of the tail to position the latter behind the jaws, and means comprising a flexible member connected with each of the jaws for spreading the jaws apart to release the tail of the knuckle.

5. The combination with a car coupler having a hollow draw bar, and a pivoted knuckle having a tail provided with a V-shaped offset, a U-shaped frame for the hollow draw bar, one of the arms of the frame being provided with an offset to limit the position of the frame within the draw bar, a pair of jaw members pivotally connected with the frame, one of said jaw members having its inner end weighted, the other jaw member being adapted to lie upon

the first jaw member and have its forward end terminate with that of the said jaw member, a transverse member between the jaw members forward of their pivots, each of said jaw members being incut from their outer corner toward their engaging faces, said jaw members adapted to be contacted and spread apart by the V-shaped offset of the tail when the knuckle is closed so as to position and retain the knuckle in locked position, and means for spreading the jaws apart in opposite directions to release the knuckle.

6. The combination with a car coupler having a hollow draw bar and a pivoted knuckle, a substantially U-shaped frame within the hollow draw bar said frame being provided with an offset adapted to contact the mouth of the coupler to provide a stop for the frame, a jaw pivotally connected with the frame and having one of its ends weighted, a second jaw pivoted to the frame and adapted to lie normally against the first jaw, a flexible member connected with the weighted extension of the first jaw and with the second jaw to spread the jaws apart, an L-shaped lever pivoted within the mouth of the coupler and having one of its arms lying in the path of one of the jaw members, all substantially as and for the purpose set forth.

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

HARRY J. DAUBERT.

Witnesses:

JOHN F. BYRNE,
WM. J. KOERLT.