H. J. DAUBERT.

CAR COUPLING.

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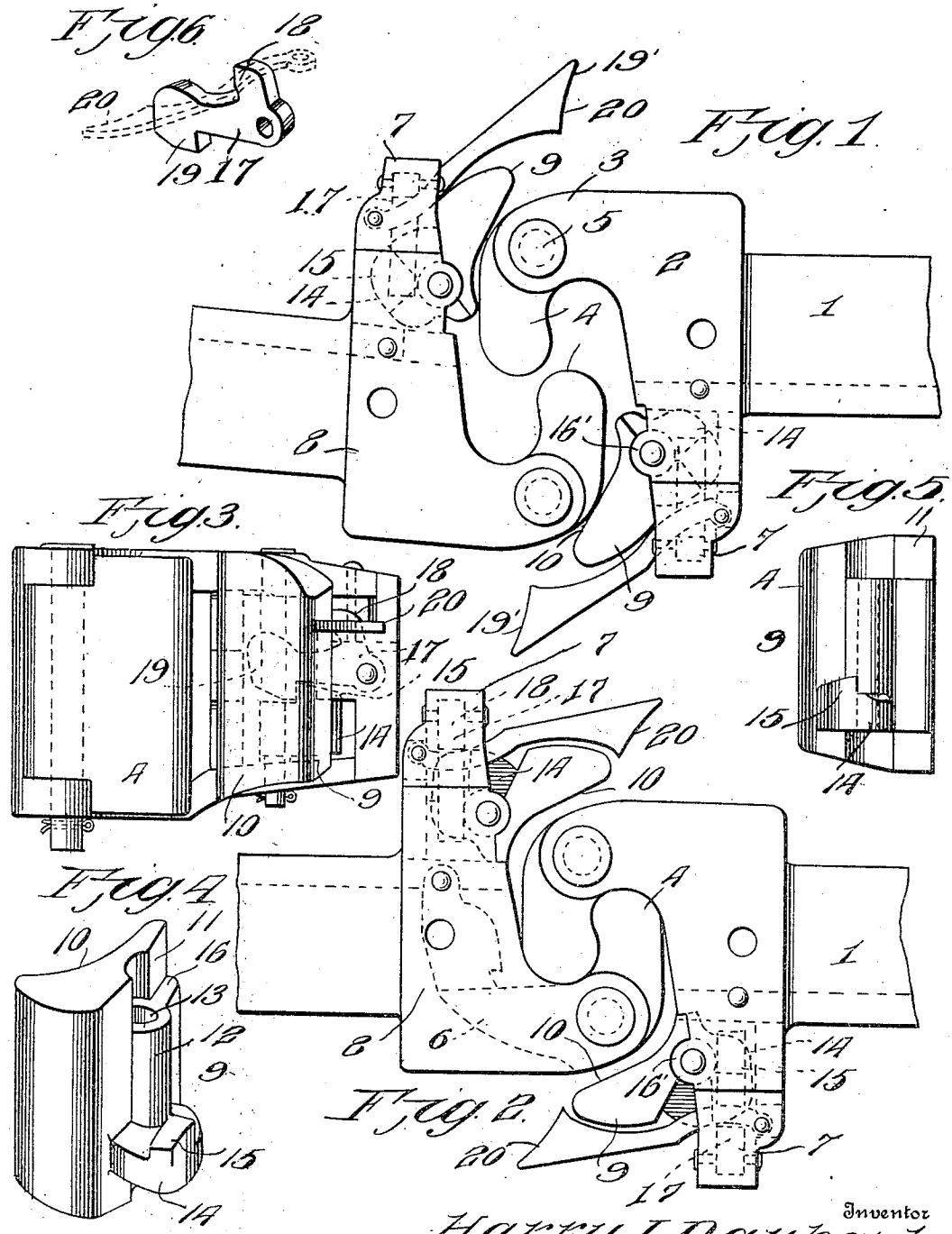
960,077. Patented May 31, 1910.



Witnesses

Frank Hough

T. Delabar.

Inventor

Harry J. Daubert,

By Victor J. Evans

Attorney

ANDREW B. GRAHAM CO. PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARRY J. DAUBERT, OF TAMAQUA, PENNSYLVANIA.

CAR-COUPLING.

960,077. Specification of Letters Patent. Patented May 31, 1910.

Application filed March 25, 1909. Serial No. 485,716.

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 particularly directed to that class of couplers known as the M. C. B. type, and the object of the invention is to provide a coupler of this character with novel means whereby the knuckle of a coacting coupler will be guided into engagement with the knuckle of the first coupler, and securely retained in position thereon.

Another object of the invention is to provide a pair of coacting couplers with guiding and retaining means whereby the locked knuckles of the couplers may be readily guided and sustained in engagement with each other.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and arrangement of elements 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 coacting couplers constructed in accordance with the present invention, and illustrating the manner in which the couplers are guided into engagement with each other. Fig. 2 is a similar view showing the couplers in engaged position. Fig. 3 is a front elevation of one of the couplers. Fig. 4 is a perspective view of the guard arm. Fig. 5 is a rear elevation of the guard or guiding member. Fig. 6 is a perspective view of the locking dog, illustrating in dotted lines the position of the key member thereon.

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 that 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, and between which the knuckle member 4 is pivotally connected through the medium of a suitable pin 5. This knuckle 4, when in locked position has its engaging lip arranged at a slight angle toward and extends partially across the face of the draw head, in the usual manner, and is provided with the usual tail 6, as indicated by the dotted lines in Fig. 2 of the drawing. The tail 6 is adapted to be contacted by a knuckle lock to be retained and operated in the usual manner. The coupler head is extended a suitable distance upon its side opposite to that occupied by the knuckle 4, and this extended portion, designated by the numeral 7, is what I shall term the guard section of the coupler.

By reference to Figs. 1 and 2 of the drawing, it will be noted that the face of the guard arm section, adjacent the wall 8 is cut away to provide a substantial pocket, and this pocket is adapted for the reception of an offset portion upon a guard arm, now to be described.

The numeral 9 designates the guard arm employed with my improvement. This guard arm 9 is adapted to serve the double purpose of guiding and retaining the knuckle of a coöperating coupler in a manner hereinafter to be described. The guard arm or guiding and retaining member 9, is provided with an arcuate face 10, and has its opposite or rear face 11 provided with a vertical substantially semi-cylindrical extending portion 12 provided with a central circular bore 13. The lower portion of the face 11 is also provided with an extending portion 14 which is provided with an upwardly projecting lip 15. The projection 14 extends a suitable distance beyond the outer face of the extension 12, and both the extensions 12 and 14 terminate a suitable distance away from the top and bottom of the guard arm 9. These extending portions 12 and 14 are also provided with a vertical wall extending toward the rear edge of the guard arm so as to provide offsets 16. These offsets 16 are adapted to engage within the pocket formed upon the outer face of the guard arm section when the guard arm is in a locked position, as illustrated in Fig. 2 of the drawing.

Positioned within the vertical compartment provided by the guard arm section of

the device is a locking dog 17. This dog 17 has its rear portion provided with an upwardly extending lip 18, and its forward portion weighted to normally force the dog downwardly upon its pivotal connection, and this weighted extremity is provided with a downwardly projecting tooth 19. This tooth 19 is adapted to engage with the lip 15 of the guard arm 9 and to secure the same in locked position when the guard arm is rotated upon its pivot to the position illustrated in Fig. 2 of the drawing.

Pivoted horizontally within the guard arm section, and projecting outwardly through an upper opening is a key member 19′. This key arm or member is of a substantially curved formation, having its outer extremity enlarged and provided with an arcuate face 20. This key member 19′ has its body portion normally contacting with the upwardly extending offset 18 of the locking dog 17 and is normally forced against the outer face of the guard arm 9 through the medium of the weighted end of the said locking dog.

The operation of the device is as follows: The draw bars 1 are loosely mounted in bearings beneath the body of the car to allow for a limited lateral and longitudinal movement, which is necessary when the knuckles of the couplers are connected together or when the cars are rounding curves. We will suppose that the knuckles employed with the couplers provided with my improvement are in a locked position. The cars are moved toward each other for the purpose of coupling. The guard arms are in their unlocked position as illustrated in Fig. 1 of the drawings and the coöperating couplers are not in direct alinement with each other. The knuckle of each of the couplers will contact with the guard arm, causing the same to guide the knuckles toward the portion of the couplers provided with the ears 3, and it will be noted that the knuckles will be thus forced into engagement with each other, as illustrated in Fig. 2 of the drawing, and at the same time the guard arms are rotated upon their pivots and retained in locked position through the action of the tooth 19 provided upon the weighted extremity of the locking dog 17 engaging the lip 15 of the extension 14 of the said guard arm.

In the event of an ordinary coupler of the knuckle type being connected with a coupler provided with my improvement, the knuckle head of the said coupler will contact the arcuate face of the guard arm and will be guided and secured in locked position in a manner similar to that just described.

Should both of the couplers, provided with my improvement have their jaws and guard arms locked, the faces of the knuckles will first contact the arcuate face of the key 19′, causing the same to raise the dog 17 so as to disengage the tooth 19 from the lip 15 allowing the guard arm to swing open upon its pivot, when the forward movement of the knuckle of the couplers will cause the rounded portions of the knuckles and the rounded ears of the coupler to contact the arcuate face 10 of the guard arm which will serve as a means for guiding the knuckles within the space provided for their reception and will also cause the guard arm to be rotated upon its pivot and locked by the dog 17 as previously described.

From the above description, taken in connection with the accompanying drawing it will be noted that I have provided a comparatively simple and thoroughly effective device for automatically coupling cars, one in which the guard arm of one or both of the couplers may be readily operated to guide and secure the couplers together, and one which is provided with a suitable key and weighted locking dog for operating the same, the said locking dog being so constructed as to automatically release the guard arm when the key is contacted and to automatically engage and secure the guard arm when the latter is swung upon its pivot. It will be further noted that with couplers constructed with my improvement the necessity of brakemen entering between the cars for coupling the same is entirely obviated and that injury or loss of life is effectively prevented.

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

1. A car coupler provided with a pivoted knuckle and means for sustaining the knuckle in locked position, a guard member having an arcuate face pivotally connected to the face of the coupler, an offset lip upon the guard, and a pivoted dog adapted to engage the lip to lock the guard upon the coupler.

2. A coupler provided with a pivoted knuckle and means for sustaining the knuckle in locked position, of a guard provided with an arcuate face pivotally connected with the face of the coupler, said guard being provided with a lip, a weighted dog provided with a tooth adapted to engage the lip of the guard when the guard is swung closed upon its pivot, substantially as described.

3. The combination with a car coupler having a pivoted knuckle and means for retaining the knuckle in locked position, of a guard member provided with an arcuate face pivotally connected with the face of the coupler, said guard member being provided with an offset lip, a locking dog having a weighted end provided with a tooth and its opposite end provided with a projection pivotally connected with the head of the coupler, said tooth adapted to engage the lip of the guard when in its closed position,

and a pivoted key normally contacting the projection of the dog, substantially as described.

4. The combination with a car coupler having a pivoted knuckle and means for retaining the knuckle in locked position, the said head being provided with an extending compartment, a guard member pivotally connected with the top and bottom walls of this extension, said guard member being provided with an offset having a lip, a locking dog pivotally secured within the compartment, said locking dog being provided with an upstanding portion and a weighted extremity having a depending tooth adapted to engage the lip of the guard when in its closed position, and a key having its body portion overlying the body of the locking dog beyond its projection, and said key being provided with an enlarged arcuate end adapted to extend beyond the end of the guard.

5. A car coupler provided with a pivoted knuckle and means for retaining the knuckle in locked position, an extension forming a compartment on one side of the draw bar, a guard for the coupler, said guard comprising a member having an arcuate front face and its rear face provided with extensions, one of said extensions being larger than the other and provided with an upwardly projecting lip, both of said extensions being provided with a bore and having a vertical wall, the guard having its enlargements positioned within the compartment and pivotally connected with the ears provided in the top and bottom walls thereof, and the extending portions of the rear face of the guard adapted to engage the offsets within the top and bottom when the guard is in its closed position, a locking dog pivotally secured within the compartment, said dog being provided with an upstanding portion and a weighted end provided with a tooth adapted to engage the lip provided upon the extension of the guard to lock the guard upon the coupler, a horizontally pivoted key within the compartment normally engaging the upstanding portion of the locking dog, said key having one of its faces of an arcuate formation, and the end key being enlarged and curved, substantially as described.

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

HARRY J. DAUBERT.

Witnesses:
WM. J. KOERTH,
JOHN F. BYRNE.