C. F. MURRAY & W. S. ATWOOD.

COUPLING KNUCKLE PIN RETAINER.

APPLICATION FILED AUG. 27, 1909.

1,001,428. Patented Aug. 22, 1911.

Fig. 2

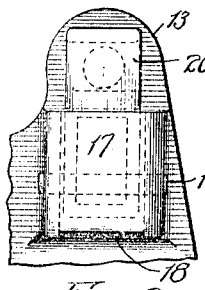


Fig. 3.

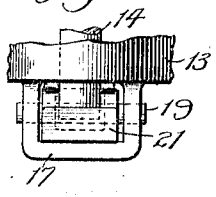


Fig. 1

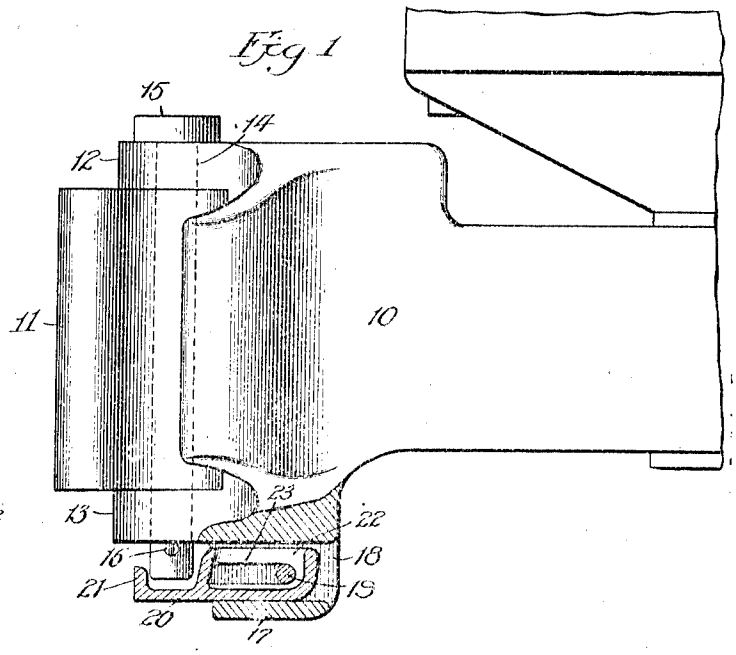


Fig. 4.

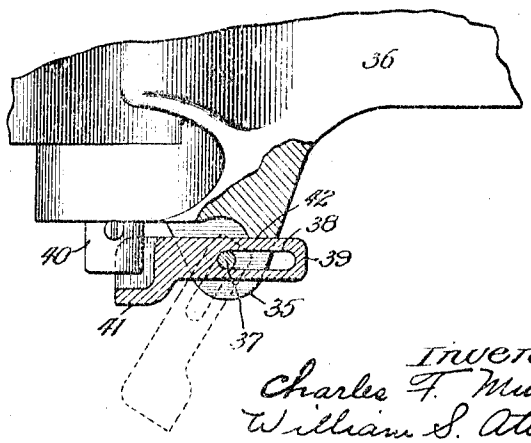
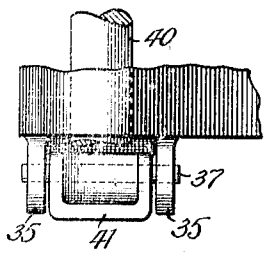


Fig. 5.



Witnesses:

E. G. Dawson.

M. A. Liddle

Inventors:

Charles F. Murray

William S. Atwood

by Lanthicum Bell & Fuller

Attys

UNITED STATES PATENT OFFICE.

CHARLES F. MURRAY, OF CHICAGO, ILLINOIS, AND WILLIAM S. ATWOOD, OF MONTREAL, QUEBEC, CANADA; SAID MURRAY ASSIGNOR TO AMERICAN STEEL FOUNDRIES, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY, AND SAID ATWOOD ASSIGNOR TO DOMINION CAR & FOUNDRY CO. LIMITED, OF MONTREAL, CANADA, A CORPORATION OF CANADA.

COUPLING-KNUCKLE-PIN RETAINER.

1,001,428. Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed August 27, 1909. Serial No. 514,868.

To all whom it may concern:

Be it known that we, CHARLES F. MURRAY and WILLIAM S. ATWOOD, citizens of the United States, residing, respectively, at Chicago, in the county of Cook and State of Illinois, and Montreal, in the county of Hochelaga, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Coupler-Knuckle-Pin Retainers, of which the following is a specification.

Our invention relates to the art of car-couplers, and more particularly to improved means coöperating with the pivot-pins of the knuckles of such couplers to retain the parts thereof in operative relation even though the pins become broken, our improved means also acting as an indicator to show that the pin is broken. The same appliance may be used in connection with the pins of passenger cars, in which case the retainers act as supports for the pins at all times regardless of whether they are broken or not.

Our object is to provide simple and economical constructions which are practical and well adapted for accomplishing the function and purpose intended.

Devices of this general character have been known in the art before, but our invention relates directly to improvements in devices or appliances of this kind.

We have illustrated several embodiments of the invention in the accompanying drawings, wherein—

Figure 1 is a side elevation of a car-coupler partially broken away or in section to indicate the structural features of our retaining appliance; Fig. 2 is a bottom plan view of that portion of the coupler equipped with our device; Fig. 3 is a front elevation of a part of the coupler illustrating the portion thereof supplied or equipped with the retainer; Fig. 4 is a fragmentary view of a coupler partly in section and partly in elevation showing a modified type of retainer, and Fig. 5 is an elevation of the fragmentary portion of the coupler shown in Fig. 4.

By reference to Fig. 1, it will be noted that we have indicated a coupler 10 of the usual type having a knuckle 11 pivoted, as is customary, between the outstanding ears 12 and 13 on a vertical, knuckle pivot-pin 14 having a head 15 at its upper end. The lower part of such pin protrudes below the arm 13 and is provided with a transverse cotter 16 extended through an aperture of the pin and acting to prevent working up of the same. On the bottom of the coupler 10, we cast or otherwise secure a lug or portion 17 adjacent to the bottom end of the pivot-pin which is provided with a horizontal, rectangular aperture 18 extended therethrough and in alinement or register with the lower protruding end of the pin, such lug having a transverse pin or rod 19 passed therethrough and extended through the hole 18. The retainer 20 extends outwardly below the pivot-pin, having at its end an upstanding flange 21, the inner part of such retainer having upright walls, the two parallel, longitudinal ones 22 of which are slotted at 23 for the accommodation of the rod or pin 19. Under ordinary circumstances, this retainer occupies the position shown in Fig. 1, projecting out of the cavity of the boss or lug 17 sufficiently so as to underlie the lower end of the pin 14 and act as an indicator to show whether the pin is broken or not. If such pin breaks, the bottom part thereof will drop and rest on the retainer, the latter retaining the same in operative position and indicating by its contact with the lower end of the pin that the latter is broken and needs replacement. The retainer is prevented from longitudinal shifting away from the pin by the coöperation of the flange 21 with the pin, as will be readily understood. If it is desired to remove any portion of the pin, such as a broken fragment thereof, downwardly out of the coupler, the operator removes the cotter 16, forces the pin 14 upwardly so as to be out of the way of the flange 21, whereupon he may shift the retainer in the slot 18 sufficiently, owing to the pin and slot connection of the lug with the retainer, so as to be out of the way entirely of the pin, permitting downward withdrawal of any parts thereof. When a new pin is inserted from above, the retainer is drawn out into the operative position shown in Fig. 1, so that the lower end of the pin, when the same has been driven home, will be between the flange 21 and the adjacent upstanding wall thereof,

after which the cotter 16 may be inserted for the purpose indicated.

If a retainer of this character is to be used with a knuckle pivot-pin of a passenger-car coupler, such pins being headless, the pin normally rests on the part of the retainer beneath the same, so that the latter acts as a support therefor.

Still another form or style of retainer is shown in Fig. 6, and in this case a pair of depending ears 35 are cast on the bottom of the coupler 36, and have extended through alined holes of the same a retainer pivot-pin 37, which passes through an elongated slot 38 of a retainer 39 supplied at its end adjacent to the knuckle pivot-pin 40 with a depressed ledge or step 41 partially underlying the pin 40. Between the ears 35 the coupler has a flat surface 42 against which the retainer bears in the normal operative position shown in full lines in Fig. 6, such retainer being capable of longitudinal movement on the pin 37 to free itself from the shoulder 42, whereby to permit its downward swinging, as shown in dotted lines, into an inoperative position. Otherwise, the operation and function of the retainer are the same as those illustrated in the other figures.

Although we have herein set forth three embodiments of the invention, it is susceptible of other embodiments, and consequently the invention as outlined in the appended claims is not limited to the structural features set forth except to the extent indicated by the prior art.

We claim:

1. The combination of a coupler-head, a pivoted knuckle, a knuckle pivot-pin, and a slotted pivot-pin retainer underlying said pivot-pin, a rod extended through said slot to secure said retainer to said coupler-head, said retainer being capable of movement because of said rod and slot connection to a position where it does not underlie said pivot-pin, substantially as described.

2. A coupler comprising, in combination, a coupler head having a longitudinally slotted extension thereon, a knuckle, a pin on which said knuckle is pivoted, a retainer for said pivot pin, said retainer being adapted for horizontal sliding movement in the slot in said extension, said retainer having a longitudinal slot therein, and a pin mounted transversely of the slot in said extension and coöperating with the slot in said retainer, substantially as described.

CHARLES F. MURRAY.
WILLIAM S. ATWOOD.

Witnesses as to the signature of Charles F. Murray:
S. M. DARLING,
HENRY HANNAN.

Witnesses as to the signature of William S. Atwood:
C. W. TAYLOR,
FRANK DITCHFIELD.