C. F. MURRAY.

COUPLING KNUCKLE PIVOT PIN RETAINER.

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1,009,985.

Patented Nov. 28, 1911.

Fig. 1.

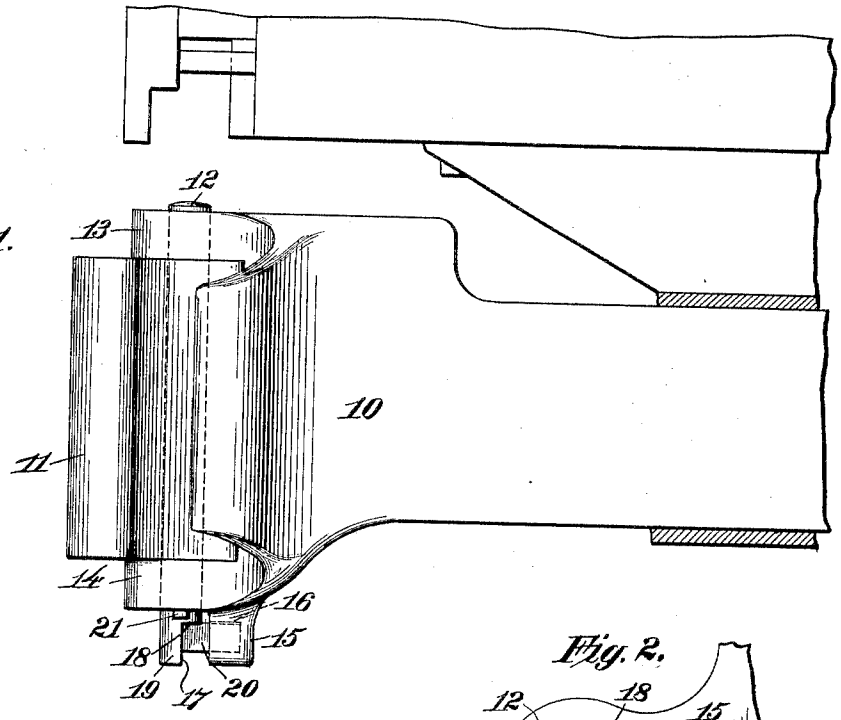
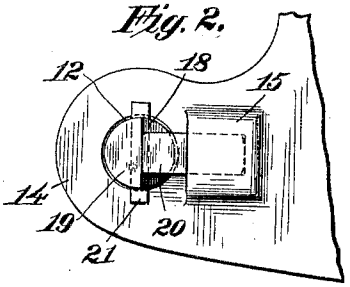


Fig. 2.



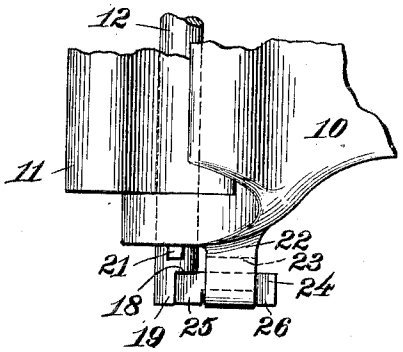
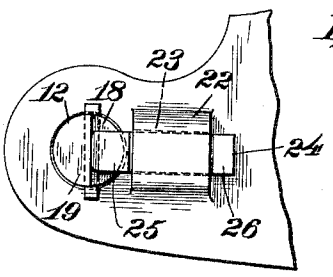


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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COUPLING-KNUCKLE PIVOT-PIN RETAINER.

1,009,985. Specification of Letters Patent. **Patented Nov. 28, 1911.**

Application filed February 12, 1908. Serial No. 415,505.

To all whom it may concern:

Be it known that I, CHARLES F. MURRAY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coupler-Knuckle Pivot-Pin Retainers, of which the following is a specification.

There appears to be a need for providing some simple means for retaining in place the knuckle pivot pins of passenger car couplers, and consequently I have invented a construction which meets this need and which at the same time possesses the advantages of few parts, economy of manufacture, little liability of parts being broken, and the easy and ready removal of the pivot pin when required, etc. Such retainers are preferably supplied at the bottom of the coupler-heads, owing to the fact that in passenger car couplers the pivot pins are inserted from the bottom. In my improved construction I cast a recessed or apertured lug on the bottom of the draw or coupler-head adjacent to the lower end of the knuckle pivot pin, and cut away one side of the latter so as to provide a shoulder to rest on a supporting block and prevent its displacement or removal. In inserting the pivot pin from below it is pushed up higher than when in normal position, which permits the supporting block to be inserted in the recess or aperture of the lug, whereupon the pin is caused to descend so that its shoulder rests upon the block and the cut-away part of the pin is located in front of the block, thereby preventing its removal from the recess. To remove the pin it is first pushed up to permit taking out of the supporting block, after which drawing out of the pin downwardly is not hindered or prevented.

On the accompanying drawing, forming a part of this specification, and to which reference should be made in connection with the following detailed description, I have illustrated two desirable embodiments of my invention.

On this drawing,—Figure 1 is a side elevation of a car coupler equipped with one form or style of my knuckle pivot pin retaining means; Fig. 2 is a bottom plan view of that portion thereof bearing the retaining means, the knuckle being omitted; Fig. 3 is a fragmentary side elevation of a part of a car coupler supplied with a modified form of retaining means; and Fig. 4 is a bottom plan view of the construction shown in Fig. 3 with the pivoted knuckle omitted.

The coupler-head proper 10 is of the usual and customary construction and is supplied with the ordinary knuckle 11 pivoted on a pin 12 which passes through apertures of the knuckle and the arms or extensions 13 and 14 of the draw or coupler-head. In passenger cars the platform is directly above the coupler, as indicated in Fig. 1, precluding the insertion of the knuckle pivot pin from above. It is, therefore, necessary to insert the pin from below and to supply some means for preventing its falling out and its working up out of place. In the construction shown in Figs. 1 and 2 I have cast on the bottom of the coupler-head 10 a downwardly-extended lug or projection 15 apertured at 16 on its face toward the lower end of the pivot pin 12. The latter is cut away at its lower end at 17 so as to provide a shoulder 18 and a reduced portion of the pin 19. The supporting or retaining means comprises a rectangular block 20, one end of which is inserted in the recess or cavity 16 while its other end projects outwardly sufficiently to lie in the path of descent of the pin, thereby permitting the shoulder 18 to rest upon its top surface, the block 20 acting as a support for the pin. It will be observed that when the parts are in the positions described, and as indicated in Fig. 1, the tongue or reduced extension 19 of the pin lies in front of the end of block 20, preventing its withdrawal or removal from the aperture 16 in which its opposite end is housed.

The pivot pin 12 is inserted into the apertures of the extensions 13 and 14 and the knuckle 11 from below and is pushed up sufficiently so as to permit the insertion of the supporting block 20 in the recess or cavity 16 of the lug or projection 15. The pin is then allowed to drop so that its shoulder 18 rests on the top of the block, the latter supporting the pivot pin, as is obvious. It is apparent also that the extension or reduced portion of the pin 19 is located in front of the block and prevents its unintentional removal or shaking out. To take out the pivot pin it is merely necessary to push the same up sufficiently to permit withdrawal of the block, whereupon the pin may be removed by drawing the same downwardly. This, as

is obvious, is an extremely simple construction, but is nevertheless effective and efficient for the purposes in view. In order to prevent the pivot pin from riding or working up, as sometimes occurs, a cotter-pin 21 may be passed transversely through the lower end of the same and by co-action with the extension or arm 14 will prevent upward movement of the pin.

In Figs. 3 and 4 I have shown a modification of my novel construction of retaining means, and in this form of the device a lug or extension 22 is cast on the bottom face of the coupler-head and is provided with an aperture 23 extended therethrough. The locking or retaining block 24 has a pair of downward extensions 25 and 26 at its opposite ends, which in the normal position of the block overlap the opposite sides of lug 22 so as to prevent lengthwise shifting of the pin. The aperture 23 is of sufficient depth to permit the passage of the block 24 therethrough, and when brought to proper position it may be dropped, as indicated in Fig. 3, so that the projections 25 and 26 prevent its lengthwise shifting. Otherwise the construction is substantially like that shown in Figs. 1 and 2. In the case of the structure shown in Figs. 3 and 4 the pivot pin 12 need not be elevated to the same extent that the one of Figs. 1 and 2 is in order to permit the placing of the supporting block in position. The block 24, as is obvious, may be inserted in the aperture 23 from the rear side of the lug 22, that is, the side opposite the pivot pin. It is, therefore, only necessary to raise the pin 12 so that the shoulder 18 will be on a line with the top of aperture 23. As in the previous instance, a cotter-pin 21 may be employed if desired.

To those skilled in the art it will be obvious that various other modifications of my construction may be used and developed without departing from the substance of my invention or sacrificing any of its benefits and advantages.

I claim:

In a device of the character described, the combination of a coupler-head, a knuckle, a knuckle pivot pin, a lug on the bottom of said coupler-head having a recess on its side toward said pivot pin, and a supporting-block removably fitted in the recess of said lug and projecting into the path of descent of the pin, the latter being cut away on its side to provide a shoulder to rest on said supporting-block, the reduced portion of said pin overlapping the end of said block to prevent its displacement and removal from said recess, substantially as described.

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