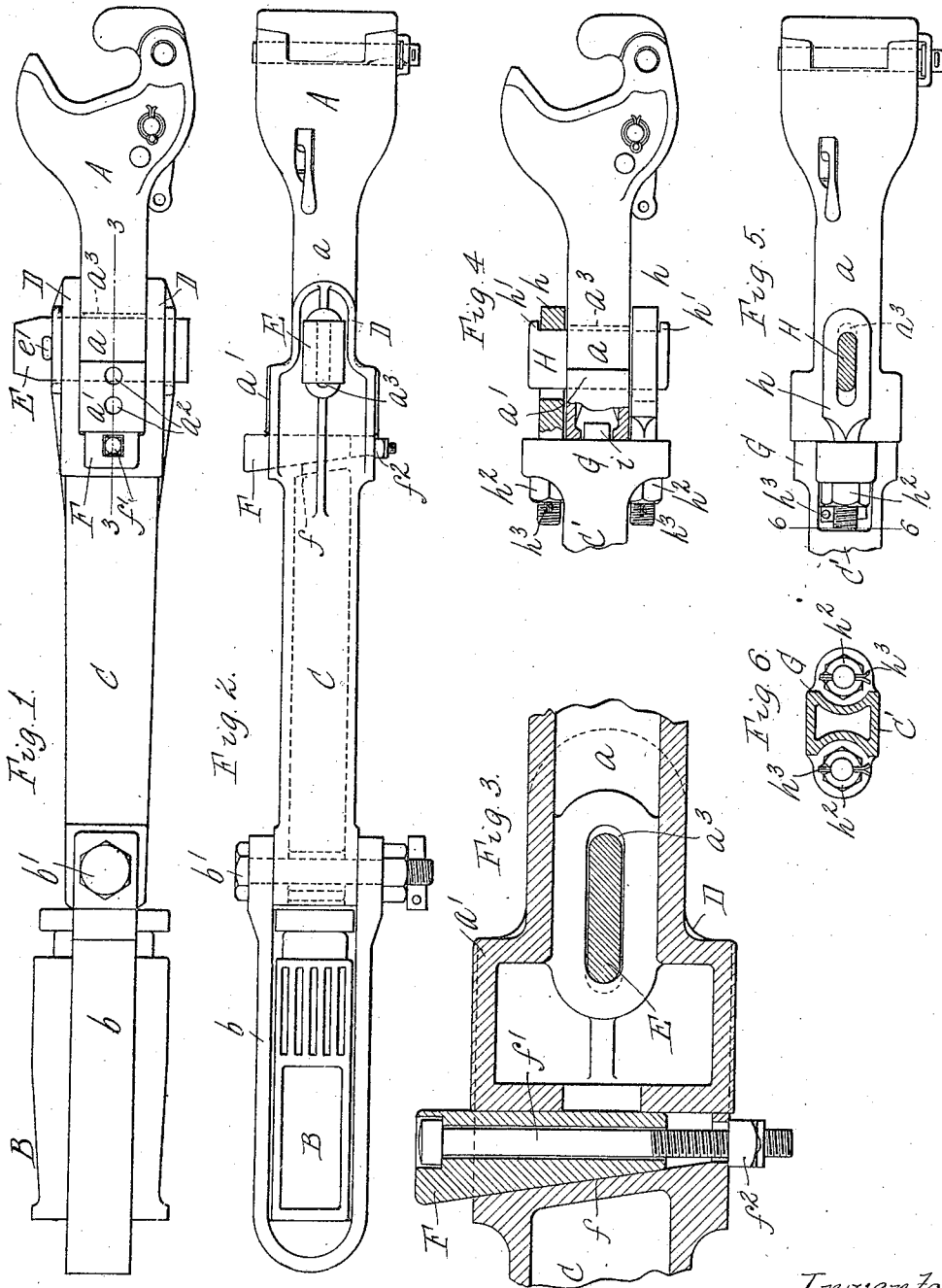


W. F. RICHARDS.
 AUXILIARY SHANK AND CONNECTION FOR PASSENGER CAR COUPLINGS.
 APPLICATION FILED JAN. 13, 1913.

1,218,469.

Patented Mar. 6, 1917.
 2 SHEETS—SHEET 1.



Witnesses:
 A. Brinkhagen.
 A. G. Diamond.

Inventor
 Willard F. Richards,
 by *Wilhelm Parker & Co.*
 Attorneys.

W. F. RICHARDS.

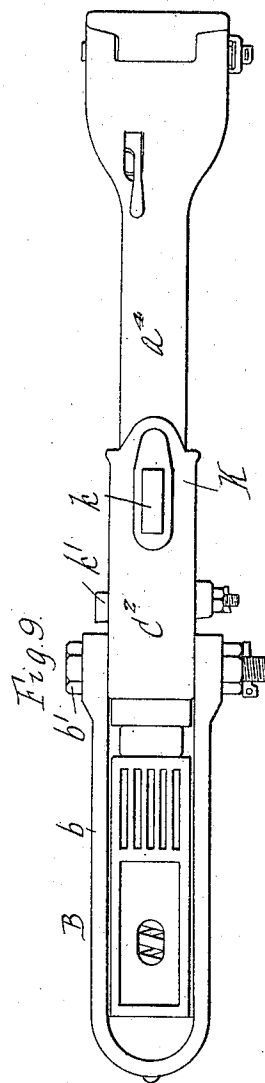
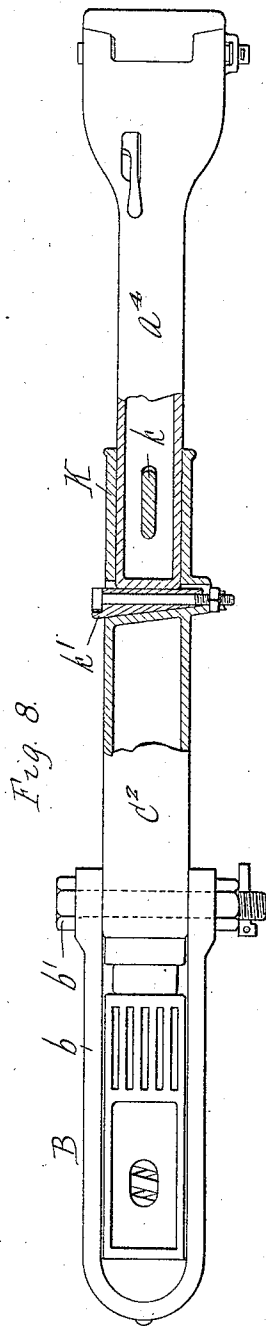
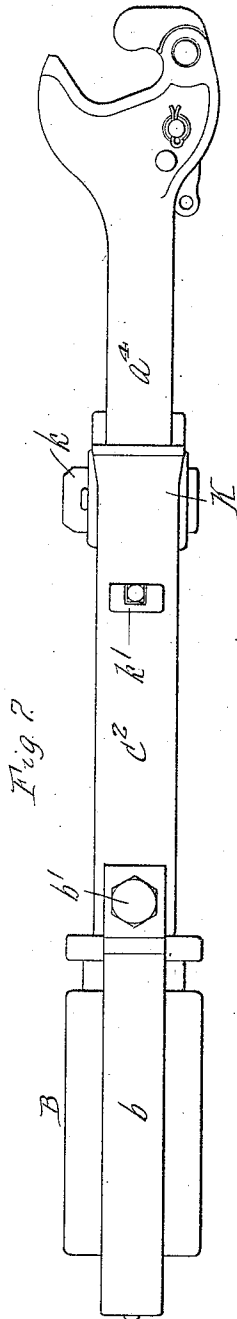
AUXILIARY SHANK AND CONNECTION FOR PASSENGER CAR COUPLINGS.

APPLICATION FILED JAN. 13, 1913.

1,218,469.

Patented Mar. 6, 1917.

2 SHEETS—SHEET 2.



Witnesses:—

A. B. Koenig
A. P. Diamond

Inventor
Willard F. Richards,
by William Patrick Hand
Attorneys.

UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF DEPEW, NEW YORK, ASSIGNOR TO GOULD COUPLER COMPANY, OF NEW YORK, N. Y.

AUXILIARY SHANK AND CONNECTION FOR PASSENGER-CAR COUPLINGS.

1,218,469.

Specification of Letters Patent.

Patented Mar. 6, 1917.

Application filed January 13, 1913. Serial No. 741,614.

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Depew, in the county of Erie and State of New York, have invented a new and useful Improvement in Auxiliary Shanks and Connections for Passenger-Car Couplings, of which the following is a specification.

Couplers for railway passenger cars are ordinarily provided with long shanks which are connected at their inner ends to the yokes of the draft gears by vertical pivot bolts in order to allow the necessary lateral swing of the couplers when the cars connected thereby are rounding curves. Owing to the present construction of passenger cars and the inaccessibility of these pivot bolts connecting the coupler shanks to the draft gears, a great deal of labor and loss of time is entailed in replacing a damaged or defective coupler.

One object of this invention is to provide car couplers having short shanks, such as used on freight cars, with an auxiliary shank, which is adapted to be connected at its inner end to the draft gear by the usual vertical pivotal connection and is secured to the coupler shank in such a way as to form a rigid extension thereof and yet enable the ready removal of the coupler without the necessity for disconnecting the auxiliary shank from the draft gear. Other objects of the invention are to adapt the coupler and the auxiliary shank to be connected by a horizontal cross-key or pin of standard size, such as now employed for connecting couplers to their draft gears, and provide means for taking up any slack or looseness of the keys in the key holes in the coupler shanks due to variations in the size of the key holes incident to casting the couplers, and thereby insure a firm, rigid connection between the coupler and the auxiliary shank; and also to provide auxiliary shanks by means of which couplers having shanks of uniform length can be readily adapted for use on the different kinds of cars used in passenger service, such for instance as passenger cars and blind end baggage cars, which require couplers with shanks of different lengths.

In the accompanying drawings:

Figure 1 is a plan view of a car draft rigging including an auxiliary shank and connection embodying the invention.

Fig. 2 is a side elevation thereof.

Fig. 3 is a fragmentary sectional elevation thereof, on an enlarged scale, on line 3—3, Fig. 1.

Figs. 4, 5 and 6 are respectively a plan view partly in section, a side elevation, and a transverse section in line 6—6, Fig. 5, of a modified construction.

Figs. 7, 8 and 9 are respectively a plan view, sectional elevation and side elevation of another modified construction.

Like reference characters refer to like parts in the several figures.

A represents a car coupler, B a draft gear therefor, and C an auxiliary shank or shank extension which connects the coupler to the draft gear.

The coupler A and the draft gear B may be of any known or desired construction suitable for use on passenger cars. The coupler shown has a short shank a , such as common to freight car couplers, which is provided with the usual end enlargement a' having bolt holes a^2 for connection with the yoke of a draft gear, and is also provided with a transverse hole or slot a^3 suitable for the passage of a cross key of standard dimensions.

The auxiliary shank or shank extension C may be connected at its inner end to the draft gear by any suitable pivotal connection which will allow the coupler the required horizontal swinging motion, for instance the auxiliary shank is attached to the yoke b of the draft gear by the usual vertical pivot bolt b' . The opposite end of the auxiliary shank is detachably connected to the shank a of the coupler by a cross pin or key in such a way as to prevent play in the connection and insure a firm, rigid joint. Three constructions for the purposes are shown in the drawings.

In the construction shown in Figs. 1—3, the auxiliary shank has an enlarged forked end with rigid side arms D which straddles the inner end of the coupler shank a . E represents the cross key or pin which extends through the horizontal transverse hole a^3 in the shank a of the coupler and through registering holes in the fork arms D of the auxiliary shank. This pin or key E and the hole for the same in the shank of the coupler are of standard dimensions, thus adapting a M. C. B. coupler to be secured to the auxiliary shank by the key or pin E.

The key or pin has the usual head at one end, and a cotter pin e' retains it in place. The key holes a^3 in the coupler shanks are not machined and since it is not practicable to core the key holes so as to tightly fit the keys on account of imperfections in casting, they are ordinarily somewhat larger than the pin or key, and in order to take up any play between the shank and the shank extension by reason of the looseness of the pin or key E in the hole a^3 , a wedge F is employed between the inner end of the coupler shank a and the crotch of the auxiliary shank. This wedge F is arranged vertically between the upright end face of the coupler shank a and an inclined face f in the crotch of the auxiliary shank. The wedge is forced into place and retained in position by a bolt f' which passes lengthwise through the wedge and has a nut f^2 screwed on its threaded end and bearing against the bottom face of the forked end of the auxiliary shank. By tightening this nut the wedge is drawn or forced downwardly between the end face of the shank a and the inclined face f in the crotch of the auxiliary shank, thereby forcing the coupler shank outwardly in the fork of the auxiliary shank and taking up any slack between the cross key or pin E and the sides of the holes therefor in the coupler shank a and in the fork of the auxiliary shank. The auxiliary shank is thus held rigid with the coupler shank, or forms a rigid extension thereof from which the coupler can nevertheless be readily disconnected. The wedge can be drawn farther into its seat from time to time as may be necessary by reason of wear in the key or pin E and the holes therefor, in order to keep the connection tight and stiff.

In the construction shown in Figs. 4-6, the auxiliary shank C' is provided at its outer end with an enlarged head G having an upright end face against which the enlarged end face of the shank a of the coupler abuts, and the cross key or pin, shown at H, passes through the holes a^3 in the coupler shank and through the holes of eye-bolts h , which extend longitudinally through holes in the side ears of the head G at opposite sides of the shank a of the coupler. The cross key or pin is recessed or reduced in width between its ends at its outer or forward side, thus forming end shoulders h' adapted to overhang the ends of the holes of the eye-bolts and prevent the accidental displacement of the key or pin. The eye-bolts are provided at their threaded inner ends with nuts h^2 which bear against the side ears of the head G for drawing up the bolts. By tightening these nuts the eye-bolts are drawn inwardly or rearwardly and draw the connecting key or pin against the inner side of the hole a^3 in the coupler shank a and force the inner end of the shank a

firmly against the end face of the auxiliary shank, thereby rigidly and firmly holding the coupler on the auxiliary shank. h^3 represents cotters in the ends of the eye-bolts for preventing the loosening of the nuts h^2 . Preferably a stud i on the end of the auxiliary shank enters the usual tail bolt hole in the end of the shank a of the coupler, thus serving to center the coupler on the auxiliary shank and assisting in preventing any lateral movement of the coupler on the auxiliary shank and side strain on the eye-bolts.

The construction of the connection between the coupler shank and auxiliary shank shown in Figs. 7-9 is substantially like that shown in Figs. 1-3, except that the auxiliary shank C^2 is provided at its outer end with a socket K in which the end of the coupler shank a^4 fits, the coupler shank being made without the end enlargement shown in the other constructions. The coupler shank is retained in the socket by the cross key k , and a wedge k' , similar to that employed in the first construction, takes up the slack and affords a firm abutment for the coupler shank. By employing a coupler shank without the end enlargement it is not even necessary to detach the carry iron when removing the coupler, as the coupler shank can be pulled endwise out of the carry iron.

As shown in Figs. 8 and 9, auxiliary shanks of different lengths can be used, thus enabling the shanks of couplers to be lengthened more or less, as may be necessary to adapt them for use on cars of different kinds in which the draft gears are located nearer to or farther from the end of the car. In this way all the different kinds of cars used in a train can be equipped with couplers having shanks of uniform length, provided with appropriate auxiliary shanks, and if necessary in case of an emergency a coupler on any car can be readily replaced by a coupler taken from the rear end of the train or other available source.

The auxiliary shanks used in the other constructions described can likewise be furnished in different lengths to adapt couplers with shanks of the same length for use on different kinds of cars.

In each of the constructions above described the coupler is connected to the auxiliary shank by a transverse connecting key or pin extending through a transverse hole of standard dimensions in the shank of the coupler, and in each construction the end of the shank of the coupler is held firmly against an abutting part carried by the auxiliary shank, and all slack is taken up between the cross connecting key or pin and the holes therefor in the connected parts, to prevent any longitudinal motion or play of the coupler on the auxiliary shank.

I claim as my invention.

1. The combination with a car coupler having a shank, of an auxiliary shank, a cross key passing through a hole in said coupler shank for connecting said auxiliary shank to said coupler shank, and a screw-actuated pressure device which reacts against one of said shanks and has an operative connection with the other shank for forcing said shanks lengthwise with regard to each other for taking up slack between said key and said shanks and rigidly holding the shanks against relative movement.

2. The combination with a car coupler having a shank, of an auxiliary shank, a

cross key passing through registering holes in said shanks for connecting said auxiliary shank to said coupler shank, a wedge movable in a transverse hole in one of said shanks and engaging said other shank, and means for moving said wedge endwise for forcing said shanks lengthwise with regard to each other to take up slack between said cross key and said shanks.

Witness my hand this 23rd day of December, 1912.

WILLARD F. RICHARDS.

Witnesses:

D. C. DAVIS,

ALLEN B. BRUMNER.