No. 789,603. Patented May 9, 1905.

UNITED STATES PATENT OFFICE.

STUART E. FREEMAN, OF BARBERTON, OHIO, ASSIGNOR TO NATIONAL DRILL AND MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF WEST VIRGINIA.

MACHINE FOR MAKING AND REPAIRING ROADS.

SPECIFICATION forming part of Letters Patent No. 789,603, dated May 9, 1905.

Application filed September 1, 1904. Serial No. 223,024.

To all whom it may concern:

Be it known that I, STUART E. FREEMAN, a citizen of the United States, residing at Barberton, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Machines for Making and Repairing Roads, of which the following is a specification.

My invention relates to road-making and road-repairing machines of the class in which the scraper-blade is arranged for horizontal diagonal adjustment between the front and rear wheels of a suitable carriage or wheeled body-frame and supported so that it can be raised and lowered and also bodily shifted toward either side of the machine.

Objects of my invention are to provide simple and efficient means for bodily shifting the scraper-blade toward either side of the machine at will and to provide a steady working and powerful shifting device.

In the accompanying drawings, Figure 1 shows in side elevation the principal portions of a road-making and road-repairing machine forward of the rear wheels and includes a hand-shaft and gearing involved in my improved mechanism for shifting the scraper-blade. Fig. 2 is a top plan view of Fig. 1 and includes my improved blade-shifting device. Fig. 3 is a section taken transversely through the body-frame in rear of the blade-shifting device and principally shows the blade-shifting device and adjuncts in elevation. In this view the blade is omitted. Fig. 4 is a detail principally representing a longitudinal section through a portion of the rack-bar, carrier, and worm or pinion of the blade-shifting device, a portion of the worm or pinion shaft being shown in elevation. Fig. 5 is a detail showing a section through a portion of Fig. 3 at the left side thereof on line 5^a, the portions of the tie-rod, pinion-shaft, and rack-bar shown in said figure being in elevation. Fig. 6 is a detail showing a section through a portion of the machine on dotted line 6^a in Fig. 3. Fig. 7 is a section through a portion of Fig. 3, shown at the right, on dotted line 7^a, the portions of the tie-rod, rack-bar, and worm or pinion shaft which are illustrated being shown in elevation.

A indicates the body-frame, and B indicates the scraper-blade supported for adjustment and side swing or shift, as in Patent No. 759,620, dated May 10, 1904. The support C for the scraper-blade is connected with the swinging draft-bar D, and a cross-bar E, Fig. 3, is arranged upon a blade-supporting device C, as in said Patent No. 759,620.

The device for laterally shifting the scraper-blade comprises a transversely-arranged rack F, supported upon the body-frame of the machine, and a carrier G, supported to traverse the rack-bar F and provided with a pinion or worm-wheel H, which engages the rack whereby when said worm-wheel is operated it will cause the carrier G to traverse the rack or cross bar, and thereby move toward one side or the other of the machine, according to the directions in which the worm-wheel is turned. The slide or carrier G connects with a cross-bar E by a link 1, Fig. 3, whereby the support for the scraper-blade will be shifted in accordance with the direction in which the slide or carrier G is moved. As illustrated in the drawings, the rack F is secured to the cross-bar 2 on the main frame, said cross-bar being adapted to form a track or guideway for the slide or carrier G, it being observed, however, that the rack is, in effect, a part of the bar 2 and that, broadly considered, the device is merely a rack-bar having a line of teeth and also a portion which serves as a guideway for the slide or carrier G. It will be noted, however, that the rack-teeth are oblique to the length of the rack-bar, as illustrated in Fig. 3, so as to adapt the rack to the style of worm-wheel illustrated.

The worm-wheel H is arranged to rotate with and slide longitudinally upon the rotary operating-shaft I, provided at one end with beveled gear 3. The opposite end of the shaft I can be joined in any suitable way. The shaft I is preferably square and extended through a square hole in the worm-wheel H, whereby the worm-wheel is keyed upon the shaft so as to rotate therewith and also slide thereon.

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CAR COUPLING.

APPLICATION FILED JAN. 31, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

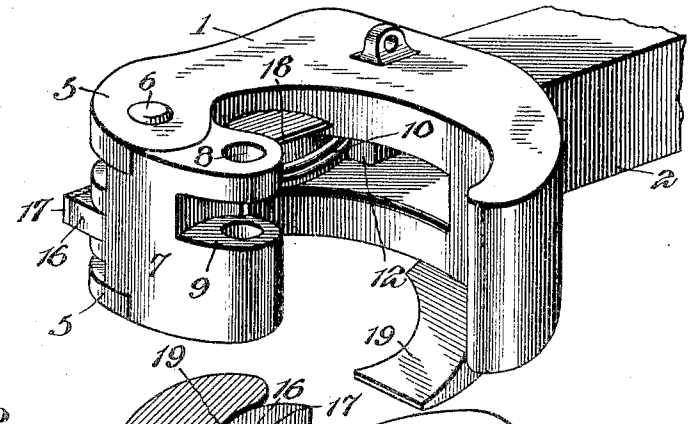


Fig. 2.

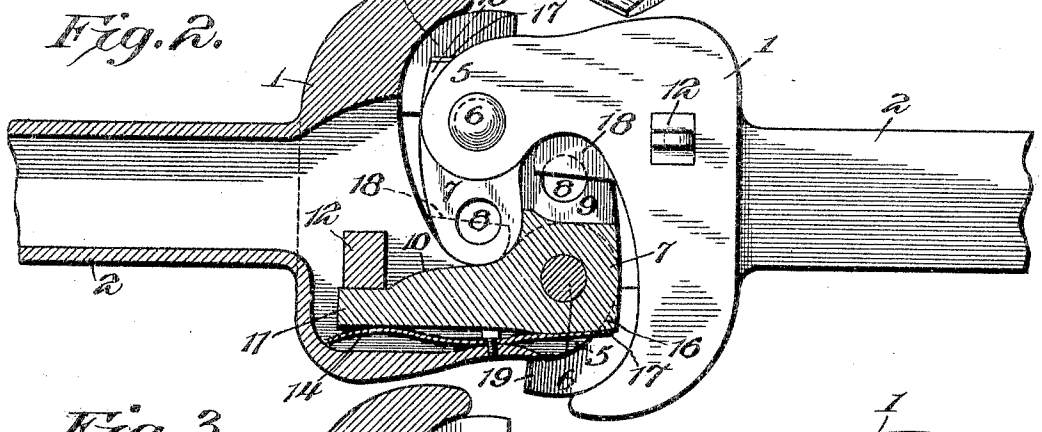


Fig. 3.

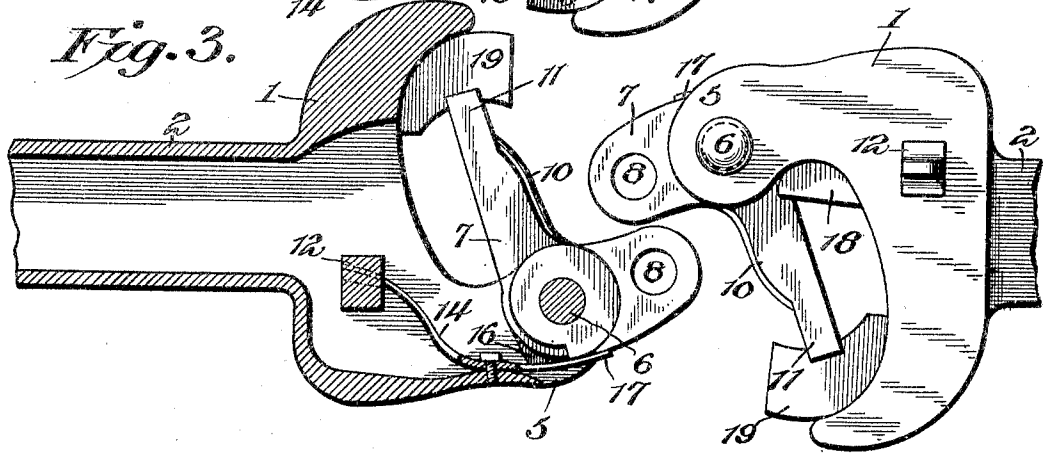
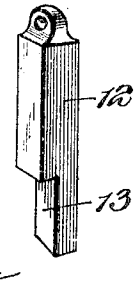


Fig. 9.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 4.

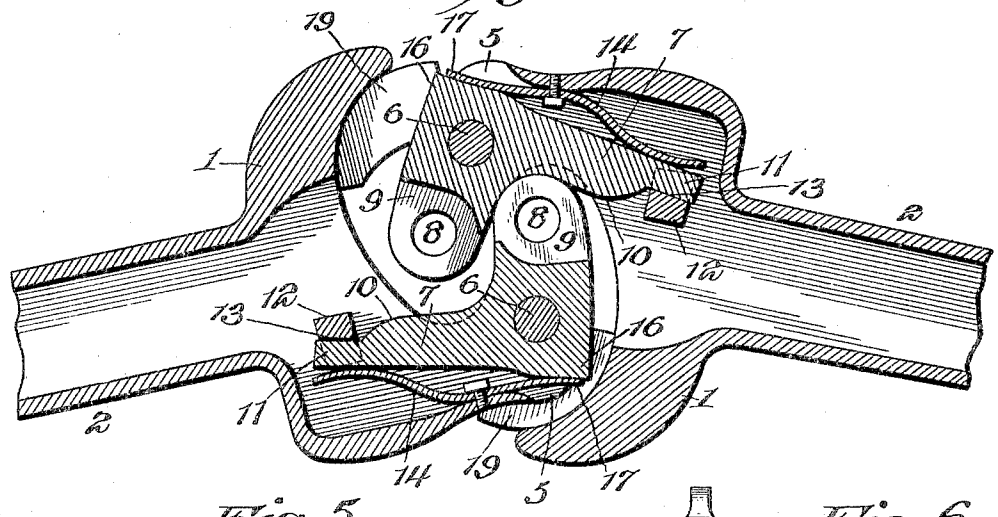


Fig. 5.

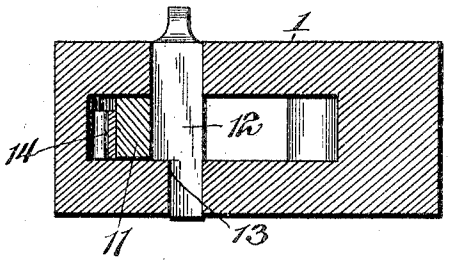


Fig. 6.

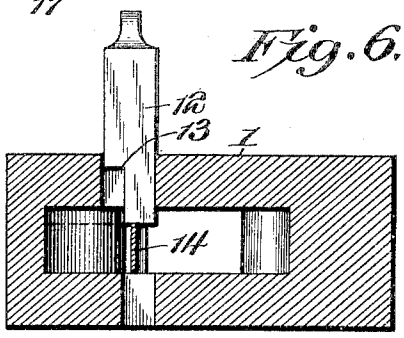


Fig. 7.

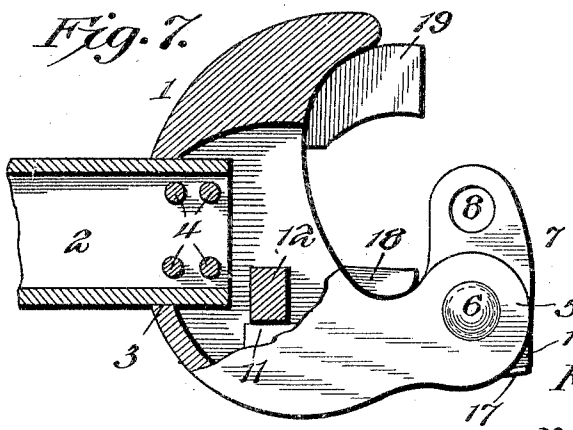
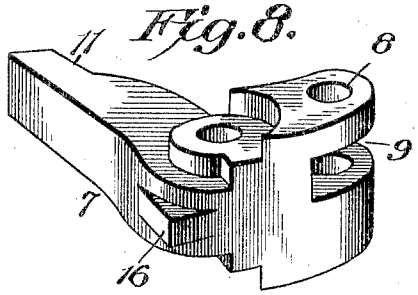


Fig. 8.



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FRANK J. GIBBS, OF TYRONE, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 789,604, dated May 9, 1905.

Application filed January 31, 1903. Serial No. 141,327.

To all whom it may concern:

Be it known that I, FRANK J. GIBBS, a citizen of the United States, residing at Tyrone, in the county of Blair and State of Pennsylvania, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

The object of the present invention is to improve the construction of that class of car-couplings having pivoted knuckles and to provide a simple and comparatively inexpensive one of great strength and durability, capable of coupling automatically, and adapted to retain the knuckle in an open position to prevent the same from accidentally closing, whereby the knuckle will be maintained in proper position for automatic coupling and will obviate the necessity of going between the cars or in front of a moving car to set the knuckle.

A further object of the invention is to provide a safety device which will prevent a draw-head from dropping to the track and wrecking or otherwise damaging the cars in rear of it should it become disconnected from the draft mechanism of the car upon which it is mounted.

Another object of the invention is to provide a knuckle capable of opening automatically when the locking-pin is raised and it is free to move and to enable the means for actuating the knuckle in the opening movement thereof to support the locking-pin in an elevated position for automatic coupling.

The invention also has for its object to provide a car-coupling of this character which will be adapted to couple with the ordinary pivoted knuckle car-coupling and which will be adapted also to be connected with a pin-and-link car-coupling.

A further object of the invention is to provide a car-coupling capable of effectively coupling on a curve when the draw-bars and draw-heads are arranged at an angle to each other and when it is impossible for the knuckles to close completely and to permit the knuckles to close fully when the car-couplings assume their normal position in alinement with each other.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereto appended, it being understood that changes in the form, proportion, and minor details of construction within the scope of the claims may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a car-coupling constructed in accordance with this invention. Fig. 2 is a plan view, partly in section, showing two draw-heads coupled. Fig. 3 is a similar view illustrating the arrangement of the knuckles preparatory to coupling. Fig. 4 is a horizontal sectional view illustrating the arrangement of the knuckles when the draw-heads are at an angle to each other. Fig. 5 is a transverse sectional view illustrating the arrangement of the locking-pin and the spring when the knuckle is closed. Fig. 6 is a similar view illustrating the manner of supporting the locking-pin in an elevated position for automatic coupling. Fig. 7 is a horizontal sectional view illustrating a detachable draw-head adapted to be bolted to a draw-bar without removing the latter from a car or disconnecting it from the draft mechanism should a draw-head become broken or otherwise inoperative. Fig. 8 is a detail view of the knuckle. Fig. 9 is a detail perspective view of the locking-pin.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a draw-head which may either be formed integral with a draw-bar 2, as illustrated in Figs. 1 to 4, inclusive, or be constructed separate from the draw-bar, as shown in Fig. 7, and when the parts are constructed separate the draw-head will be provided at its back with an opening 3, and the parts will be detachably secured by bolts 4 or other suitable fastening devices to enable the draw-head in event of breakage to be readily detached to permit another draw-head to be applied to the draw-bar without removing the latter from the car or disconnecting it from the draft mechanism thereof. The draw-head is pro-