No. 614,337. Patented Nov. 15, 1898.

O. C. PATTON.

CAR COUPLING.

(No Model.) (Application filed May 10, 1897.)

Fig. 1.

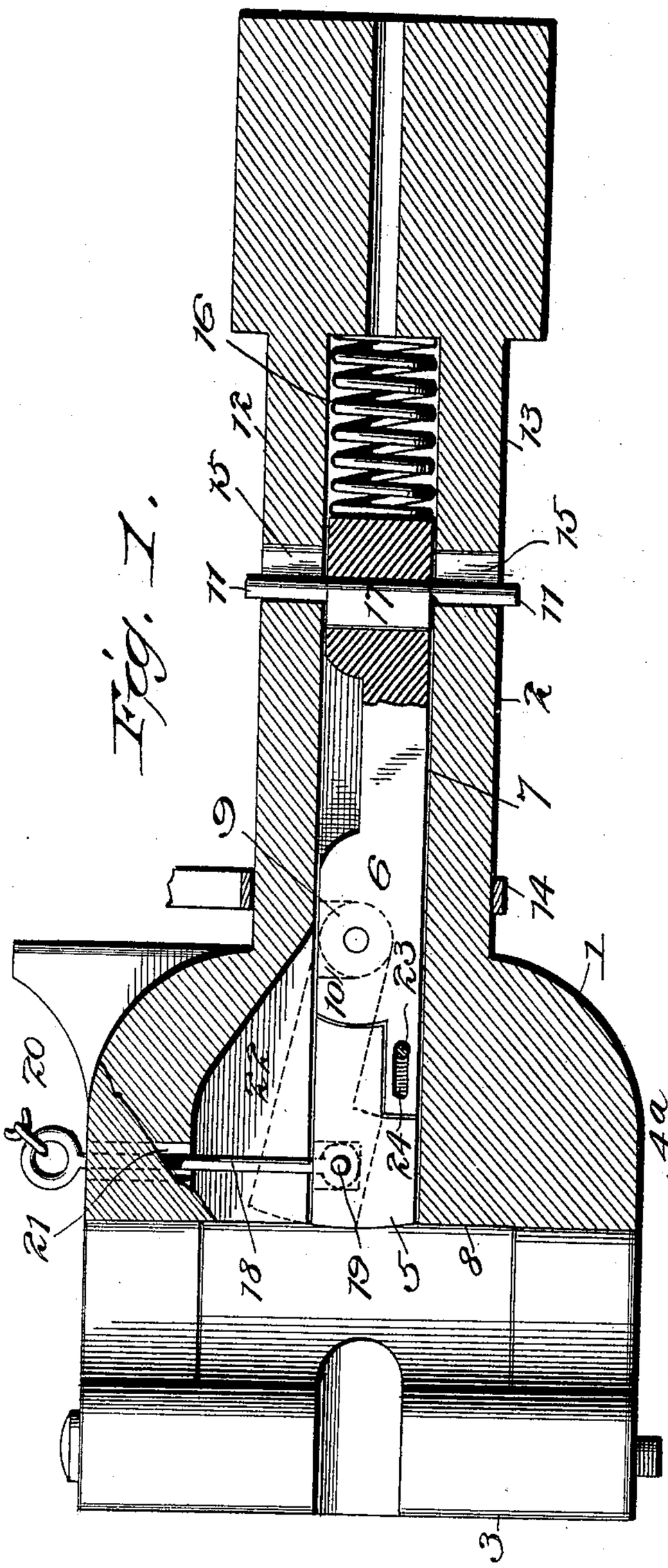
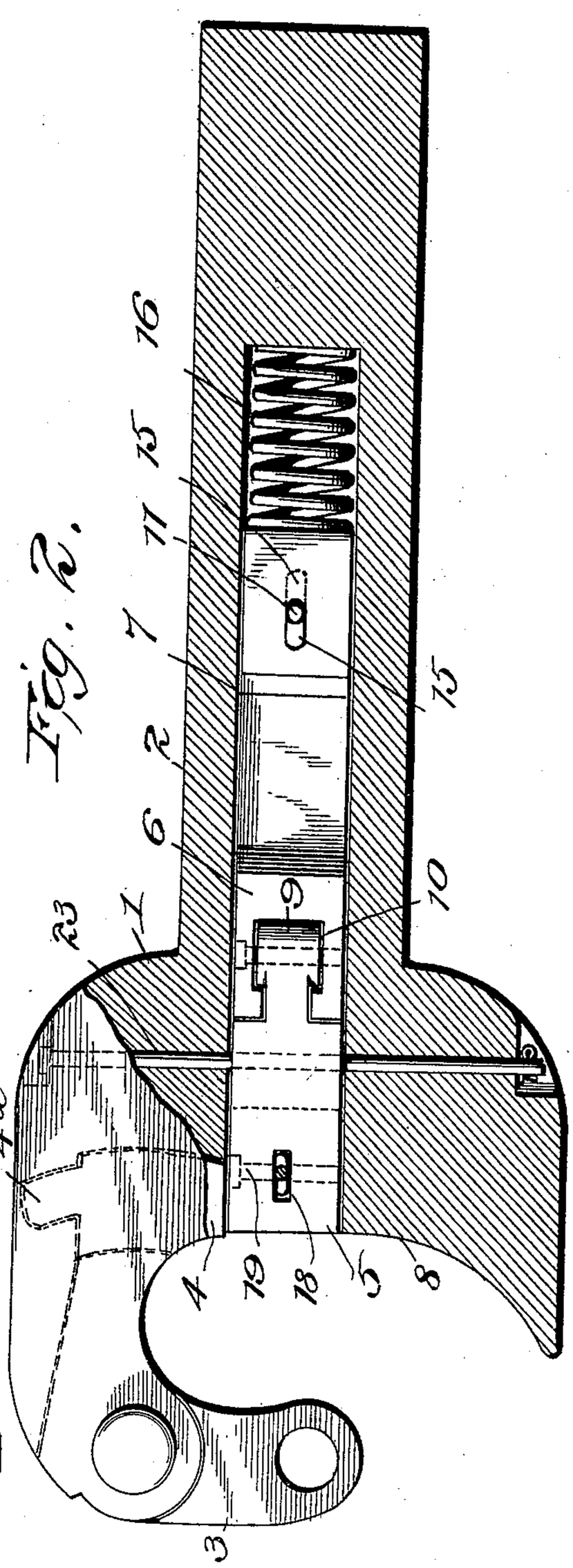


Fig. 2.



Witnesses
Wm. L. Sheldon
A. H. Warfield.

Inventor:
Oliver C. Patton
per Rhea & Dewey
Attorney

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UNITED STATES PATENT OFFICE.

OLIVER C. PATTON, OF GRAND JUNCTION, COLORADO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO WILLIAM CHARLES SYDENHAM, JESSE B. BOYER, GUST ALBERT OLSON, JOHN F. BERRY, LAURENCE HYNES, CLARENCE M. MAY, AND PATRICK COLLINS, OF SAME PLACE, AND CHARLES MILLIGAN, OF MINTURN, COLORADO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 614,337, dated November 15, 1898.

Application filed May 10, 1897. Serial No. 635,883. (No model.)

To all whom it may concern:

Be it known that I, OLIVER C. PATTON, a citizen of the United States, residing at Grand Junction, in the county of Mesa and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to an emergency release mechanism for car-couplers of the "Janney" type; and my purpose is to provide a more simple, cheap, durable, and effective automatic releasing mechanism than has hitherto been devised.

To this end my invention consists of the usual draw-head and knuckle provided with a peculiar kind of a longitudinal knuckle-latch so arranged that if the draw-head pulls out abnormally the knuckle-arm will be drawn forward away from the latch and released to uncouple the jaws.

My invention further consists in the peculiar means for holding the latch in its normal position and of the construction and arrangement of parts whereby my peculiar mechanism is made readily adaptable to an ordinarily-constructed coupler without material alteration in the latter, all of which will be more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a longitudinally vertical section through a draw-head and through parts of my invention as applied thereto; and Fig. 2, a top view of a draw-head, shown in section, the releasing mechanism being shown in full lines.

The reference-numeral 1 denotes the head, and 2 the stem, of the draw-head.

3 represents the knuckle, which is provided with the usual arm 4. This arm 4 is provided with a rearwardly-extending lug 4^a, which supports the arm when the knuckle is open. A latch 5, disposed beside the knuckle-arm, holds the knuckle in locked adjustment. This latch is hinged to move up and down on the forward end of a longitudinally-movable bar 6, centrally disposed within a chamber 7, extending from the rear portion of the stem forward through the head portion to the abutting wall 8 of the draw-head. This central location of the chamber allows the insertion and removal of the latch 5 and bar 6 when the knuckle is removed. These two parts 5 and 6 are square in cross-section and slide freely back and forth within the chamber 7 under abnormal strain. The hinge which connects the latch 5 with the bar 6 consists of a cylindrical T-head 9, fitted to rock up and down within a recess 10, open at the top and closed at the bottom and curved to form a socket for the head. The top of the head lies flush with the tops of the latch and bar in order to slide freely backward in the chamber 7 in case the draw-head pulls out, as will be more fully described hereinafter. This bar is held within the chamber by a vertical stop-pin 11, the opposite ends of which project beyond the top and bottom surfaces 12 and 13 of the neck of the draw-head, so that said ends will come in contact with a yoke 14 or other abutting surface in case of the accidental pulling out of the draw-head. The ends of the pin 11 project through slots 15, which are oblong in cross-section to permit the pin to move backward and carry with it the latch and latch-bar when the pin comes in contact with the yoke. Normally the pin, latch, and latch-bar are urged forward and held in operative position by a coiled spring 16, located in the rear end of the chamber 7, and when in this position the latch will be free to operate in coupling and uncoupling the draw-head in the usual manner. To prevent the pin 11 from dropping out, it is provided with a longitudinal flange 17, which, together with the body of the pin, fits within a corresponding recess in the latch-bar 6, whereby when

the pin moves backward into coincidence with the slots 15 it can be readily removed and the latch-pin and latch taken out. The latch 5 is operated by a link 18, attached to a pin 19 at one end and a chain 20 at the other end. This link passes through a vertical hole 21 in the draw-head. Directly over the latch is a chamber 22, which allows the former room to operate in during the operation of engaging and disengaging the arm 4 of the knuckle 3. The horizontal pin 23 passes through an oblong horizontal slot 24 in the forward end of the bar 6, which still further insures safety against the dropping out of the bar 6.

The preferred construction of my device having thus been set forth, its operation can be briefly described as follows: In the event of the pulling out of the draw-head the latter will be drawn forward until the projecting ends of the pin 11 come in contact with the yoke 14, whereupon the continued forward movement of the draw-head will carry the slot forward, so that the pin will lie against the rear wall, overcoming the force of the spring and drawing back the latch-bar until the latch draws away from and releases the arm 4 of the knuckle 3, which action automatically uncouples the jaws and allows the draw-head to remain in the car instead of being pulled out and dropped upon the track to produce the disastrous results common to this class of draw-bars. The advantages gained by my peculiar construction are that the latch and latch-bar can be readily inserted and removed because of the central longitudinal chamber within which they fit, this removal being performed by simply taking out the knuckle-pin and removing the knuckle. When this is done, everything is clear before the latch-chamber. The tripping-pin 11 can also be easily removed when moved backward, so that the flange 17 comes into coincidence with the oblong slots 15. The head 9 of the latch 5 being T-shaped can be dropped loosely into or removed from the open socket 10. This head 9, which forms the hinge of the latch, is prevented from jumping out from its socket, because it is so located in relation to the top wall of the chamber 7 that the latter partially covers it.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination with a draw-head provided with a central longitudinal chamber, of a latch and latch-bar located and adapted to slide longitudinally therein, means for retaining the bar within the slot, and a spring adapted to hold the bar and its associated parts in their normal positions and to be overcome in the event of the draw-head pulling out, substantially as described.

2. In a draw-head, the combination with the usual knuckle and its arm, of a latch centrally disposed in a longitudinal recess in said draw-head, a longitudinal bar located within the recess and pivoted to the latch, said latch being adapted to lift upward away from the knuckle-arm to release the latter in the usual uncoupling operation and to slide with the bar backward longitudinally in the draw-head in the event of abnormal longitudinal strain upon the draw-bar, substantially as described.

3. In a car-coupler, the combination with a knuckle and its arm, of a latch having a vertical and endwise movement, whereby it can be operated under normal and abnormal conditions, a longitudinally-movable bar to which the latch is pivoted, lateral projections on the bar and an external yoke with which the projections come in contact under abnormal strain, substantially as described.

4. In a car-coupler, the combination with a draw-bar having a central longitudinal chamber open at its front end, of a longitudinally-movable latch-bar located in said chamber, a transverse pin passing through the bar and stem of the draw-head, a spring for normally pressing said bar forward, a yoke embracing the stem of the draw-head and a latch hinged to said bar as a means for raising and lowering the latch, substantially as described.

5. In a draw-bar, the combination with a longitudinally-movable latch centrally disposed within the draw-bar, of a bar to which the latch is attached, said bar being provided with an open socket in its forward end, a head on the end of the latch adapted to fit within the said socket whereby the parts are connected, a spring disposed within the draw-head and adapted to normally hold the latch-bar and latch in position to permit the former to be operated, a transverse pin projecting beyond the exterior of the neck of the draw-head and a yoke embracing the draw-head and adapted to be struck by the projecting ends of the said pin in the manner and for the purpose substantially as described.

6. In a car-coupler, a knuckle provided with a longitudinally and vertically movable locking-latch, in combination with a longitudinally-movable bar, and a pivotal T-joint between the latch and bar, substantially as described.

7. In a car-coupler, a knuckle provided with a locking-latch pivoted to a longitudinally-movable bar by a pivotal T-joint, a spring for normally holding the bar in position, means for lifting the latch, an external yoke and a projecting pin movable with the bar, and arranged to come in contact with the yoke, substantially as described.

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

OLIVER C. PATTON.

Witnesses:
J. M. WOHLFORT,
NELSON HARDS.