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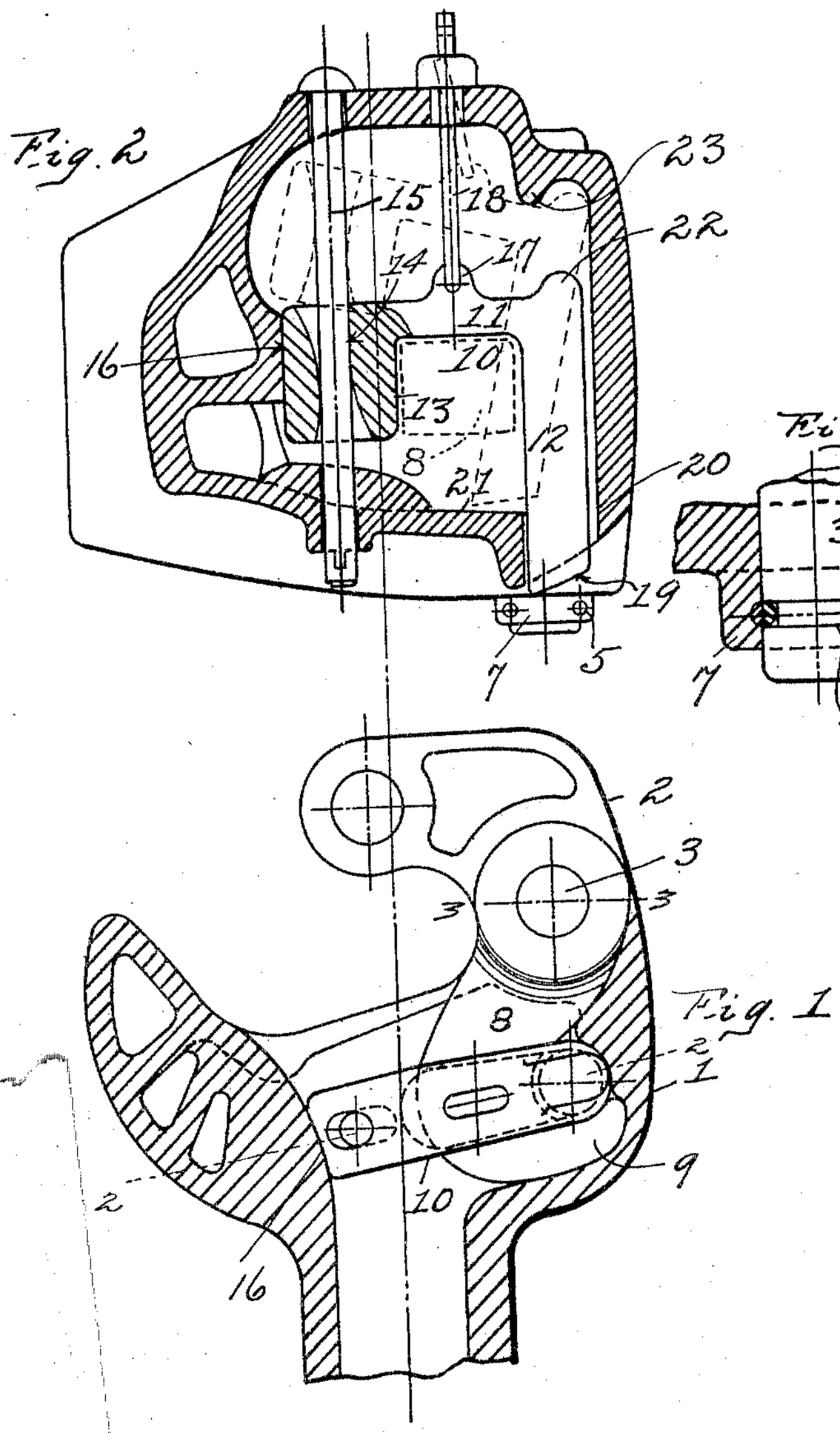
PATENTED NOV. 22, 1904.

W. F. WENDT.

CAR COUPLING.

APPLICATION FILED MAY 12, 1904.

NO MODEL.



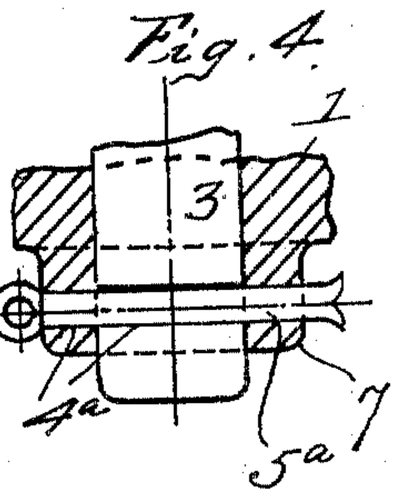


Fig. 1

WITNESSES:

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No. 775,789. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM F. WENDT, OF ALTOONA, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 775,789, dated November 22, 1904.

Application filed May 12, 1904. Serial No. 207,602. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. WENDT, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to car-couplings, and has special reference to certain improvements in the locking means for and the mounting of the knuckle in the ordinary Janney and analogous types of couplings.

To this end the invention contemplates a simple and practical form of locking device embodying means for positively locking the knuckle in its closed position, while at the same time permitting of a free uncoupling operation without binding of the locking device, which is quite common in many structures.

A further object of this invention is to provide a locking device of the character indicated which does not interfere with the automatic coupling and locking operations.

Another object of the invention is to provide improved means for retaining or securing the knuckle or pivot pin in position, so as to prevent the same from falling out in the event of becoming broken in service, thereby serving to keep the knuckle in place even after breakage of the pin.

With these and many other objects, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a horizontal sectional view of a coupling embodying the present invention. Fig. 2 is a vertical transverse sectional view on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional view on the line 3 3 of Fig. 1 at the lower end portion of the knuckle-pin, illustrating a preferred means for providing an interlocking connection between the same and a fixed part of the draw-head. Fig. 4 is a detail view showing an expedient that may be resorted to for supporting the knuckle-pin in the event of breakage.

Like numerals designate corresponding parts in the several figures of the drawings.

In carrying out the invention no change is involved in the conventional form of the draw-head and knuckle, and in the drawings the numeral 1 designates an ordinary draw-head of the usual hollow formation and having pivotally mounted thereon the swinging coupling-knuckle 2, having a pivotal support upon the knuckle or pivot pin 3.

One of the distinctive features of the present invention is to provide means for preventing the knuckle-pin 3 from falling out in the event of breakage, and to accomplish this provision is made for an interlocking connection between the knuckle-pin and a fixed part of the draw-head. A preferred construction for this purpose is shown in detail in Fig. 3 of the drawings, and consists in providing the lower end of the pin 3 with a key-seat 4, in the form of an angular groove, receiving the opposite side members of a retaining-key 5, which may be in the form of a yoke or consist of separate pins engaging opposite side portions of the groove 4 and projecting into said groove and also into the key-seats 6, formed in the inner walls of a rigid boss 7, projected from the lower side of the draw-head and preferably forming an integral part thereof. It will be seen that this construction secures the function indicated, while at the same time not interfering with the rotary movement of the pin 3 should the same be fast in the body of the knuckle. Another expedient for retaining the knuckle-pin in the event of breakage is suggested in Fig. 4 of the drawings and simply consists in the employment of the retaining-key 5^a of the split type, which is fitted in alined openings or key-seats 4^a, provided, respectively, in the lower end portion of the knuckle-pin and in the sides of the rigid boss 7.

The swinging knuckle 2 is provided at one side of its pivotal support with the inner lock-arm 8, provided with an engaging hook 9, adapted to coöperate with one member of the vertically-movable gravity locking device 10, arranged for movement inside of the draw-head. This locking device is in the form of a rising and falling latch-frame 10, substantially of an inverted-U shape and consisting

of an upper cross-bar 11, a pendent supporting-detent 12 at one side of said bar, and a pendent locking bearing-block 13, arranged at the other end of the cross-bar. The said bearing-block 13 is provided therein with a diagonal guide-opening 14, flaring toward both ends and loosely receiving the stationary guiding pin or rod 15, extending vertically through the hollow portion of the draw-head. The pendent bearing-block 13 when the latch-frame is lowered is adapted to rest against the bracing-abutment 16, provided at the inner wall of the draw-head, and at the center of gravity of the latch-frame the same has connected thereto, as at 17, the lower end of the lifting connection 18, extending through the top of the draw-head and operated by the ordinary uncoupling devices or levers usually employed for that purpose.

The pendent supporting-detent 12 is longer than the bearing-block 13 and is provided with a lower beveled rest end 19, adapted to extend through a keeper-opening 20 in the bottom of the draw-head and also to rest upon the base portion 21 of the draw-head when the latch is elevated to an inactive position. At the corner opposite the bearing-block 13 the latch-frame 10 is provided with a rocker-lug 22, and at or contiguous to this point the said latch-frame is designed to engage against and rock upon the fulcrum point or projection 23, projected from the top wall of the draw-head in the path of movement of the latch-frame.

When the coupling is closed—*i. e.*, in its locked condition—the inner lock-arm 8 of the knuckle engages over the pendent supporting-detent 12 and the bearing-block 13 lies behind the said arm 8, as may be plainly seen from Figs. 1 and 2 of the drawings. When it is desired to uncouple, the usual uncoupling devices are manipulated to provide for lifting connection 18 and the latch-frame 10. In this movement the latch-frame is carried up vertically till the rocker portion 22 thereof becomes engaged with the fulcrum point or projection 23. After this engagement occurs a continued upward pull on the latch-frame causes the latter to tilt upon the point 23 as a fulcrum, which movement is permitted by the diagonal flaring form of the opening 14. The lateral tilting or swinging of the frame 10 draws the rest end 19 of the detent inward over the base portion 21 of the draw-head, and in this position the latch-frame is sustained until the coupling is again closed. In the closing operation the engaging hook 9 of the lock-arm 8 moves against the detent 12 and carries the same into the vertical plane of the keeper-opening 20. When the detent reaches this plane, the latch-frame is free to fall or gravitate to its dropped position, with the block 13 behind the lock-arm 8.

From the foregoing it is thought that the construction, action, and many advantages of the herein-described car-coupling will be readily apparent without further description.

Having described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a car-coupling, the combination with the draw-head having a rigid boss projected from its lower side, and the knuckle-pin having its lower end portion extended through the boss and provided with an annular groove forming a key-seat, and a retaining-key engaging opposite portions of the groove and boss and providing interlocked connection between the latter and the knuckle-pin.

2. In a car-coupling, the draw-head provided with a keeper-opening in its base, a stationary guiding-pin extending through the head, the pivotal knuckle, a rising and falling latch-frame provided at one side with a bearing-block slidably engaging the guiding-pin and tiltable thereon, said frame being further provided with a pendent supporting-detent adapted to extend through the keeper-opening and also to rest on the base of the draw-head, and means for lifting and tilting the latch-frame.

3. In a car-coupling, the draw-head provided with a keeper-opening in its base and a fulcrum projection at the bottom, of a stationary guiding-pin, a pivotal knuckle having an inner lock-arm, a rising and falling inverted-U-shaped latch-frame provided at one side with a locking bearing-block having therein a diagonal guide-opening receiving said pin, and at the opposite side with a pendent supporting-detent, whose lower end is adaped to extend through the keeper-opening and is also adapted to rest on the adjacent base portion of the draw-head, said latch-frame being provided at one corner with a rocker-lug coöperating with said fulcrum projection, and a lifting connection with the central portion of the latch-frame.

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

WILLIAM F. WENDT.

Witnesses:
B. F. ENGLART,
Mrs. N. E. GEE.