No. 708,690. Patented Sept. 9, 1902.

B. O. YEARWOOD.

CAR COUPLING.

(Application filed Sept. 16, 1901.)

(No Model.)

Fig. 1.

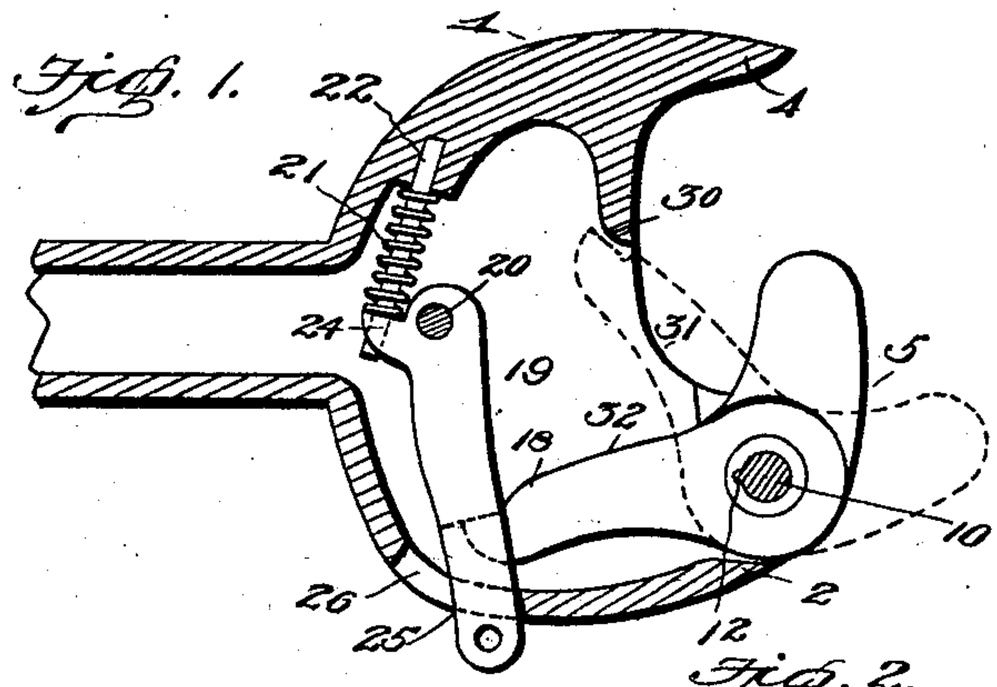


Fig. 2.

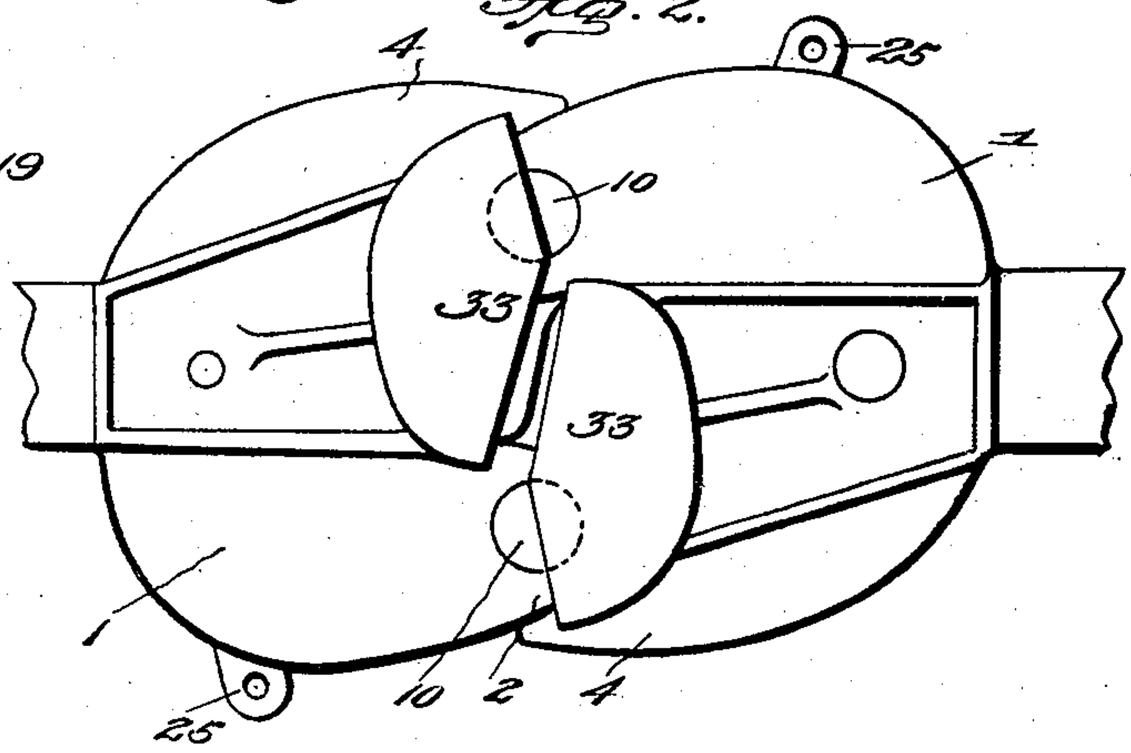


Fig. 3.

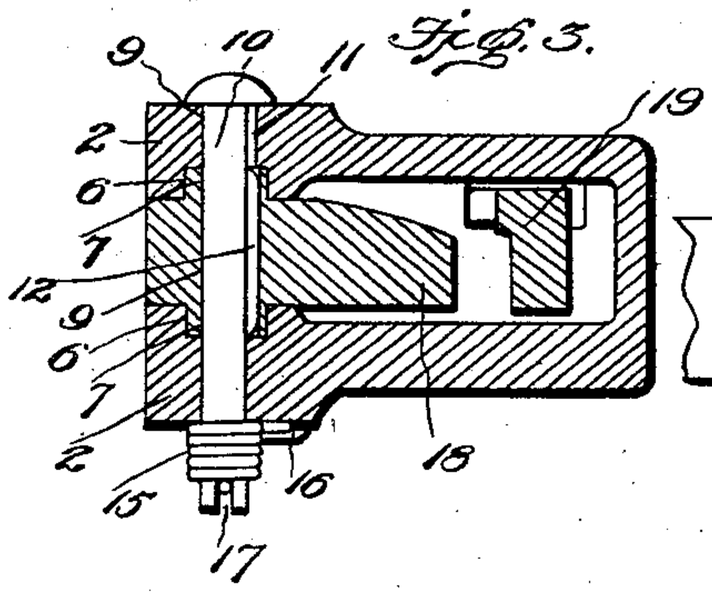


Fig. 6.

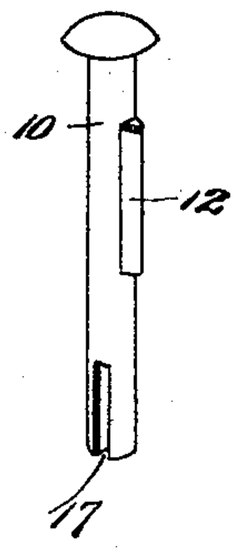


Fig. 4.

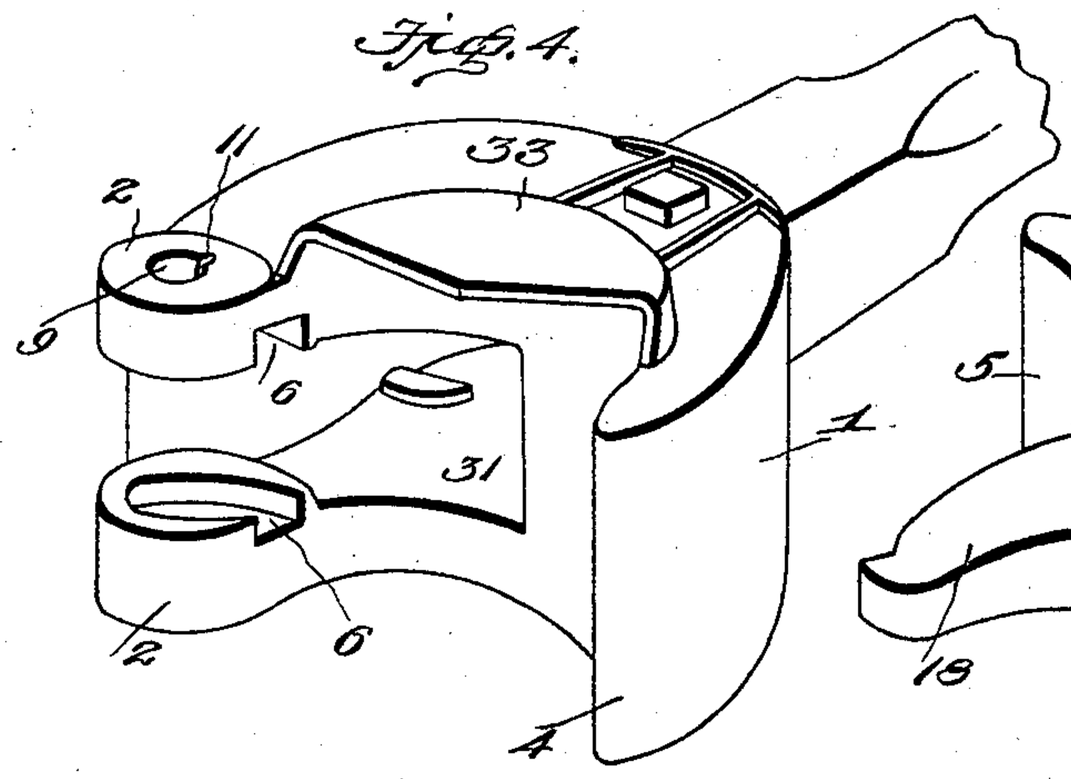
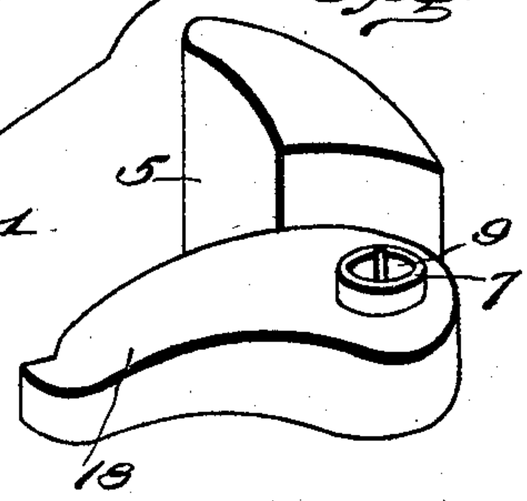


Fig. 5.



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UNITED STATES PATENT OFFICE.

BIRD OLIVER YEARWOOD, OF TOCCOA, GEORGIA, ASSIGNOR OF ONE-HALF TO EDWARD SCHAEFER, OF TOCCOA, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 708,690, dated September 9, 1902.

Application filed September 16, 1901. Serial No. 75,576. (No model.)

To all whom it may concern:

Be it known that I, BIRD OLIVER YEARWOOD, a citizen of the United States, residing at Toccoa, in the county of Habersham and State of Georgia, have invented a new and useful Car-Coupling, of which the following is a specification.

My invention relates to certain improvements in automatic car-couplings having interlocking jaws or knuckles, and has for its object to provide such a coupling with improved means for mounting and controlling the release of the jaw or knuckle.

A further object is to provide couplings of this class with a guard to prevent the falling of the draw-head in case of accidental breakage.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a sectional plan view of one member of a car-coupling constructed in accordance with my invention. Fig. 2 is a plan view of two mating members interlocked. Fig. 3 is a sectional elevation of the device on the line 3 3, Fig. 1. Fig. 4 is a perspective view of one of the draw-heads. Fig. 5 is a detached perspective view of one of the pivoted knuckles. Fig. 6 is a similar view of the knuckle pivot-pin.

Similar numerals of reference are employed to designate corresponding parts throughout the several views.

1 designates a draw-head of a contour in general similar to that of the coupling in ordinary use and provided with knuckle pivot-ears 2 and a guard 4.

Between the upper and lower pivot-ears 2 is formed a space for the reception of the end of the engaging knuckle 5, the latter, as usual, being for the major portion of its length of a vertical height about equal to that of the draw-head and having a curved outer end to facilitate its engagement with and disengagement from the similar knuckle of the mating member. The adjacent faces of the pivot-ears are provided with recesses 6, adapted for the reception of upper and lower circular bosses 7, projecting from the upper and lower sides of the knuckle and forming pivots therefor. The recesses 6 are extended laterally to the inner edges of the ears 2 to facilitate the entrance of the pivot-bosses and at the same time preserve sufficient metal to resist the strains incident to service. A considerable portion, if not all, of the strain is taken by the pivot-bosses; but in order to strengthen the connection and, further, to provide for the outward movement of the knuckle when disengaged from its holding-latch I form in the ears and knuckle a series of alining openings 9 for the reception of a pivot-pin 10. The walls of the openings in the upper ear and in the knuckle are slotted, as at 11, to permit the passage of a key 12, secured to or formed integral with the pin 11, the upper opening of the ear 2 being merely for the purpose of permitting the passage of the key, and the latter positively engaging with the knuckle and rotating therewith. The pin 10 projects beyond the lower surface of the draw-head and is provided with a torsion-spring 15 at one end, engaging with a shoulder 16 on the draw-head, and its opposite end being interlocked in a slot 17, formed in the end of the pin. The stress of the spring is such as to tend to throw the knuckle outwardly when the latter is disengaged from its holding-latch, so as to facilitate coupling.

The knuckle 5 is provided, as usual, with a tailpiece 18, extending into the hollow body of the draw-head and adapted for engagement with a locking-latch 19, pivoted at 20 and normally held in engagement with the tailpiece by a compression-spring 21. The spring 21 is guided upon a pin 22, fixed in the draw-head and passing through an opening in a lug 24 on the latch, the spring encircling the pin and having its opposite ends bearing against the draw-head and the lug. On the latch is formed a tongue 25, which extends out through an opening 26 in the draw-head and is connected, as usual, to an operating-lever operable from either side of the car. In devices of this class as usually constructed the tailpiece is capable of movement to a point outside the inner curved wall 30 of the draw-head, and in some cases excessive movement will prevent proper locking of the knuckles. In the present construction the

opening 31, formed in the curved wall 30, does not extend a sufficient distance from the pivot-pin 10 to permit the passage of the end of the tailpiece outside the draw-head, the wall at the edge of the opening forming a fixed stop for limiting the movement of said tailpiece, as shown by dotted lines in Fig. 1. The construction of the tailpiece, however, is such that its curved face 32 will be in advance of the wall 30 to permit operative contact of the end of the knuckle of the mating member during the operation of coupling, while the wall 30 presents a solid unbroken surface between the opening 31 and the guard 4 to receive the initial impact of a mating coupling member.

In couplings of this class as generally constructed a breakage of the draw-head or the draw-bar immediately in rear of the head will allow the draw-head to fall to the ground, and in such cases there is always danger of derailment or of damage to the brake-rods of the following cars. To provide against this, I arrange on the upper portion of each draw-head a guard 33, projecting forwardly for a distance sufficient to overhang the knuckle and pivot-ear of the mating coupling to which it is attached, and the outer edges of such guards are inclined in order to obtain as large a supporting-surface as possible without interfering with such movements of the coupling as may occur in service. If during the running of a train a draw-head should give way, its guard 33 will fall and rest upon the knuckle and knuckle-holding ear of the mating coupling and prevent the falling of the draw-head to the ground.

While the preferred construction of coupling is that herein described, it is obvious that changes may be made in the form, proportions, and size of the coupling without departing from the spirit or sacrificing any of the advantages of my invention.

Having thus described my invention, what I claim is—

1. A coupling member comprising in combination, a hollow draw-head having upper and lower knuckle pivoting-ears 2 provided with pivot-recesses 6, said recesses being extended to the inner edges of the ears, a knuckle having an enlarged head and a reduced tailpiece 18 thereon, upper and lower pivot-bosses 7 formed integral with the tailpiece and adapted to be entered in the recesses 6 from the inner edges of the ears, there being alining pivot-openings in the tailpiece, the bosses and ears, and the walls of the opening of the upper ear and of the tailpiece and bosses being slotted, a pivot-pin 10 having an integral or fixed key 12 intermediate of its length adapted to pass through said opening and to interlock with the slotted portion of the tailpiece and bosses, a torsion-spring 15 disposed on the lower end of said pin and having one end secured thereto and its opposite end secured to a fixed point, a fixed stop 30 in the form of a curved wall having an opening 31 and serving to limit the outward swinging movement of the tailpiece, the wall 30 presenting a solid unbroken surface to receive the initial impact of a mating coupling member, a locking-latch 19 pivoted within the draw-head and having its outer end extending through a slotted opening 26 in said draw-head, a pin 22 carried by the draw-head, a compression-spring 21 surrounding said pin, and a lug 24 disposed on the latch for engagement with the outer end of said spring, said lug being provided with an opening for the reception of said pin, substantially as specified.

2. In a car-coupling, a draw-head having knuckle pivot-ears arranged at one side and a guard arranged at the opposite side thereof, there being a curved recess between the two and an upper guard 33 forming an integral part of the draw-head and bridging said curved recess between the upper knuckle pivot-ear and the guard, said upper guard having its front edge inclined to permit of greater extension of the same over the mating coupling without allowing the upper guards of mating coupling members to come into contact.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BIRD OLIVER YEARWOOD.

Witnesses:
JOHN W. OWEN,
EDW. SCHAEFER.