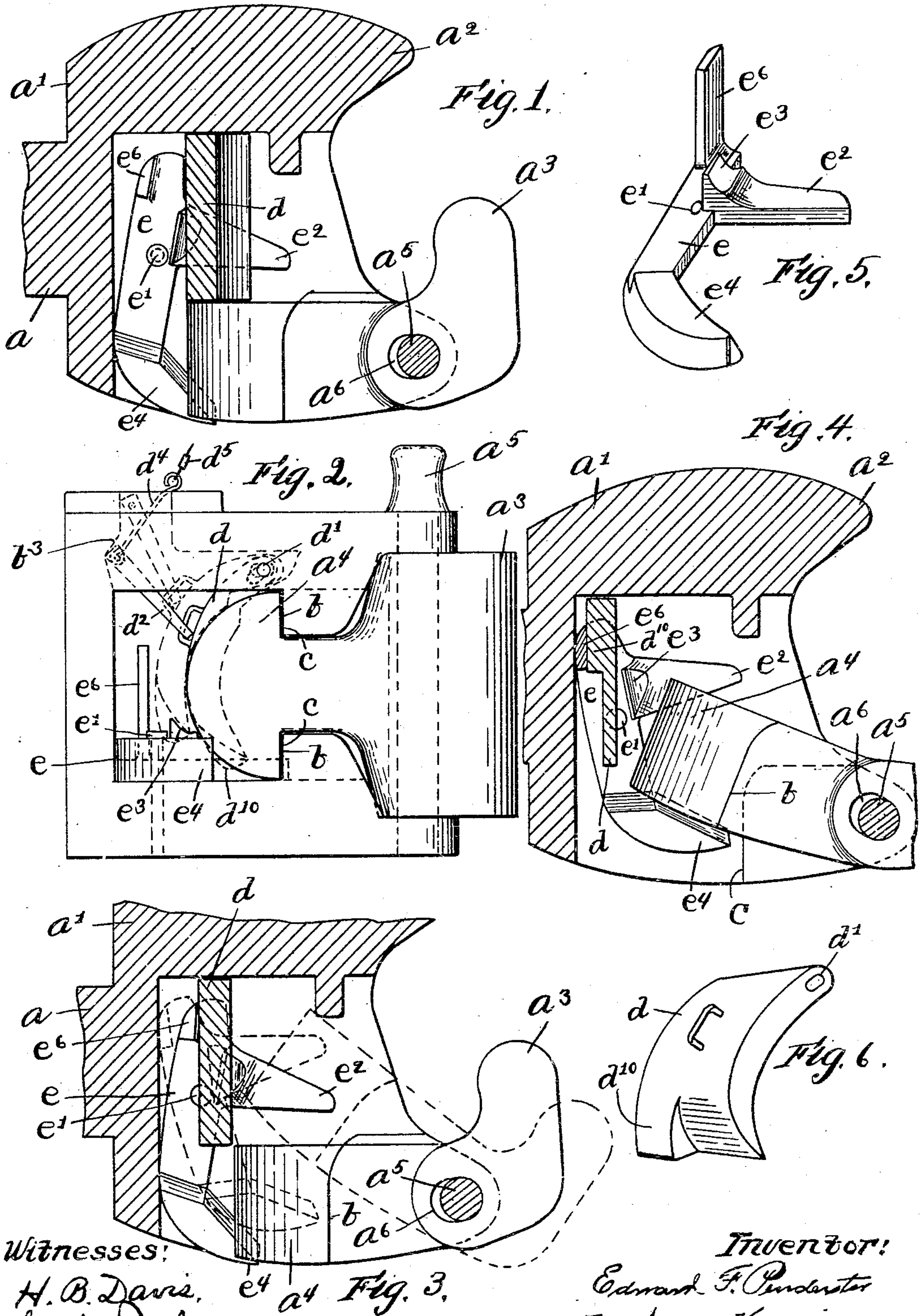


E. F. PENDEXTER.
CAR COUPLING.
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931,338.

Patented Aug. 17, 1909.



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UNITED STATES PATENT OFFICE.

EDWARD F. PENDEXTER, OF MILFORD, MASSACHUSETTS.

CAR-COUPLING.

No. 931,338.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed June 29, 1908. Serial No. 440,785.

To all whom it may concern:

Be it known that I, EDWARD F. PENDEXTER, of Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Car-Couplings, of which the following is a specification.

This invention relates to car-couplings of the knuckle type and is intended as an improvement upon the car-coupling shown in Letters Patent #856,489, dated June 11, 1907.

My present invention has for its object to provide the gravitating latch which is employed to lock the knuckle with a latch-setting device into engagement with which it is moved whenever desired, said device holding the latch in its unlocked position so that the knuckle may be opened solely by a strain exerted upon it; also to so construct and arrange said latch-setting device that it may be moved by the knuckle upon the outward or opening movement thereof, to release the latch which is held by it, and may be moved to its normal position upon the inward or closing movement thereof; also to provide means whereby the knuckle may be positively thrown open by a movement of the latch which is employed to lock it; also to construct an improved form of gravitating latch; also to suspend the latch from a point forward of its center of gravity whereby it will fall and resume its locking position even though the car should occupy a more or less inclined position.

Figure 1 is a horizontal section of a car-coupling embodying this invention. Fig. 2 is a side elevation of the car-coupling shown in Fig. 1. Fig. 3 is a horizontal section, similar to Fig. 1, the full lines representing the parts in the positions they will occupy when the latch is set, and the dotted lines the positions after the knuckle has been opened. Fig. 4 is a horizontal section similar to Fig. 1, the parts being in the positions they will occupy when the latch-setting device is operated to move the knuckle. Fig. 5 is a view of the latch-setting device. Fig. 6 is a view of the latch.

a represents the draw-bar and a' the draw-head having the usual guard a^2 . The knuckle which is pivoted to the draw-head has the usual guard-engaging portion a^3 , and a latch-engaging portion a^4 , said portions being ar-

ranged at approximately right angles to each other.

a^5 represents the usual pivot-pin of the knuckle. The knuckle is provided with a slot a^6 for the pivot-pin, permitting it to move bodily a short distance in and out. The latch-engaging portion of the knuckle is provided with abutting shoulders b, b , on its upper and under sides, see Fig. 2, back of the slot a^6 , the engaging-faces of which are adapted to engage suitable abutments c, c , provided in the knuckle-receiving recess of the draw-head, back of the pivot-pin a^5 . The strain of the knuckle is resisted by said abutments instead of by the pivot-pin.

d represents a latch which is contained in the recess in the head and adapted to occupy a position at one side of the knuckle to hold said knuckle in its locking position, and said latch is pivoted at d' by means of a pivot-pin which is extended at right angles to it, through or into the head. The latch is slotted to receive said pivot-pin. The pivot of the latch is arranged forward of its center of gravity, so that it will fall and occupy its locking position at one side of the latch-engaging portion of the knuckle even though the car is more or less inclined. The latch is herein shown as a longitudinally curved block see Fig. 6, having a tapered end, and it has a boss d^{10} of any suitable shape on its rear side at its end for purposes to be explained.

At the bottom of the recess in the head the latch-setting device is located. It consists of a lever e , see Fig. 5, pivoted to the head at e' and movable on a vertical axis in said head. It has a forward extension e^2 arranged to extend beneath the latch, the upper side of which is inclined and is also formed with a shoulder e^3 , to receive the end of the latch, when the latter is lifted into engagement with it, see dotted lines Fig. 2, and full lines Fig. 3. The latch is thereby held in its elevated or unlocked position and the knuckle is permitted to be opened solely by the strain exerted upon it. Said forward extension e^2 is also arranged in proximity to the latch-engaging portion of the knuckle so as to be struck by said knuckle as the latter is moved outward or opened, see dotted lines Fig. 3, and when so struck it is moved in such manner as to swing on its center support so as to move the shoulder e^3 from beneath the

end of the latch, to thereby release the latch. The latch does not at this time resume its normal locking position, for the reason that the latch-engaging portion of the knuckle is in front of it.

The lever e has also a lateral extension e^4 , which extends back of and around the end of the latch-engaging portion of the knuckle, and as the lever e is moved by the knuckle engaging the forward extension e^2 said lateral extension follows close to the latch-engaging portion, so that, subsequently, when the knuckle is moved inward or closed, the latch-engaging portion thereof will strike said lateral extension e^4 , and move the lever e , returning it to its normal position. Thus it will be seen that the latch-setting device is moved to release the latch by and upon the outer or opening movement of the knuckle, and is subsequently restored by and upon the inward or closing movement of the knuckle. I do not desire to limit my invention to the precise construction of latch-setting device herein shown, or to the particular construction of the means employed whereby it is moved by the knuckle.

The lever e has also an upward extension e^6 which is arranged thereon so as to occupy a position back of the boss d^{10} on the latch, to be engaged by said boss whenever the latch is lifted and moved rearward to thereby move the lever e on its pivot. Such movement of the lever e is for the purpose of throwing out or opening the knuckle positively, and the result is accomplished by the lateral extension e^4 engaging the end of the latch-engaging portion of the knuckle and turning the knuckle as the lever is turned. As the latch may be lifted by means of a suitable lever or other means it will be seen that the knuckle can be positively thrown out or opened without the necessity of a train hand stepping between the cars. I do not desire to limit my invention to the precise construction of the boss or extension on the lever e , for the accomplishment of this result.

As herein shown, the rear end of the latch-engaging portion of the knuckle is made semicircular and the latch is correspondingly curved longitudinally, and such curvatures permit the parts to slide one upon the other freely, and also enables the latch to be released quickly, at the moment the latch-engaging portion disengages it, so that it will instantly fall and resume its locking position. A link d^2 is loosely connected to the rear side of the latch which when the latch falls by gravity into its locking position falls beneath an inclined portion or shoulder b^3 in the head to thereby lock said latch in its locking position and prevent it from working up little by little. The upper end of the link d^2 is connected by a link d^4 with a chain

d^5 which is connected to the usual pivoted operating lever, not herein shown, so that when the lever is operated to pull on the chain d^5 the link d^2 will be lifted to lift the latch.

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

1. In a car-coupling, a pivoted knuckle on the draw-head having a latch-engaging portion, a pivotally supported gravitating latch for said knuckle, a pivoted lever having a shoulder for the engagement therewith of the latch which holds said latch in its unlocking position, and having two forward extensions arranged at opposite sides of the latch-engaging portion of the knuckle whereby it is moved in opposite ways by the knuckle and means for lifting the latch into engagement with said shoulder, substantially as described.

2. In a car-coupling, a pivoted knuckle on the draw-head having a latch-engaging portion, a pivotally supported gravitating latch for said knuckle, a lever having a forward extension provided with a shoulder for the engagement therewith of the latch which holds said latch in its unlocking position, said extension being arranged close to the knuckle to be engaged by said knuckle on its outward movement to turn the lever and release the latch, and means for lifting the latch into engagement with said shoulder, substantially as described.

3. In a car-coupling, a pivoted knuckle on the draw-head having a latch-engaging portion, a pivotally supported gravitating latch for said knuckle, a lever having a forward extension provided with a shoulder for the engagement therewith of the latch which holds said latch in its unlocking position, said extension being arranged close to the knuckle to be engaged by said knuckle on its outward movement to turn the lever and release the latch, said lever also having a lateral extension which is engaged by the knuckle to restore the lever to its normal position, substantially as described.

4. In a car-coupling, a pivoted knuckle on the draw-head having a latch-engaging portion, a pivotally supported gravitating latch for said knuckle, a pivoted lever having a shoulder for the engagement therewith of the latch which holds said latch in its unlocking position and having two forward extensions arranged at opposite sides of the latch-engaging portion of the knuckle, whereby it is moved in opposite ways by the knuckle, and also having an extension which is adapted to be engaged by the latch to move it and thereby turn the knuckle, and means for lifting the latch into engagement with said shoulder, substantially as described.

5. In a car-coupling, a pivoted knuckle on

the draw-head, its rearwardly extended latch-engaging portion having a semicircularly formed end, and a pivotally supported semi-circularly formed latch contained in a
5 recess in the draw-head adjacent the latch-engaging portion of the knuckle, and means for lifting said latch, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of 10 two subscribing witnesses.

EDWARD F. PENDEXTER.

Witnesses:

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