

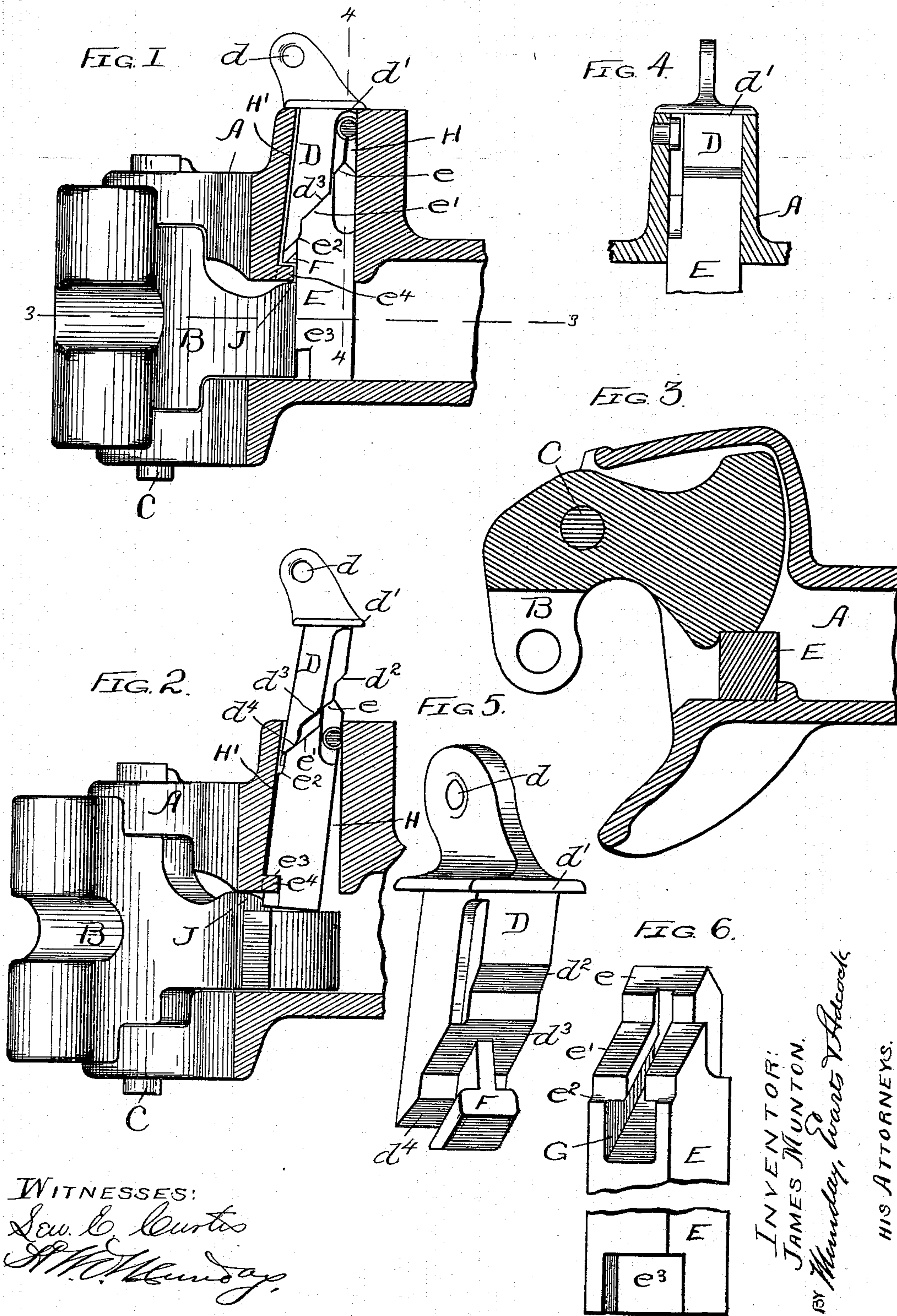
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J. MUNTON.
CAR COUPLING.

(Application filed Aug. 8, 1898.)

(No Model.)



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 612,051, dated October 11, 1898.

Application filed August 8, 1898. Serial No. 688,042. (No model.)

To all whom it may concern:

Be it known that I, JAMES MUNTON, a citizen of the United States, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

This invention relates to an automatic car-coupling, and more especially to the devices for locking the coupler.

It has been found that in actual service the ordinary gravity locking-pin which holds the pivoted knuckle closed is liable to work loose by lifting or "creeping up," as it is termed, especially under the combined intermittent action of pulling strains and the up and down vibrations of the car when in motion. This has sometimes resulted in the uncoupling of the cars and in serious accident, and some effort has been made to provide the means for securing the locking-pin against this upward gripping action. It is the design of the present improvement to preserve all of the good qualities of the gravity locking-pin, its simplicity of operation and action, and its strength and durability, and at the same time make provision such that without any separate fastening device the pin cannot creep up or be forced up by a force applied to its lower part, while at the same time the construction is so contrived that said pin can be readily lifted from its upper part and also be retained in the lifted position without the aid of any external appliance, and so also that the closing of the pivoted knuckle will cause the pin to drop into the locked position. These results I accomplish by constructing the locking-pin itself in two parts, which have a wedging action upon each other, in conjunction with the making of the wall of the passage through which the pin works inclined or wedge-shaped, whereby when said two-part pin is pulled or lifted from above by means of its upper part the whole will pass freely up without wedging; but when force is applied to the lower part to push or lift it from below the lower part will force or wedge the upper part out against the inclined wall of the passage, and thus prevent the pin from rising.

The nature of the invention will be better

understood from the claims herein and the subjoined description, taken in connection with the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a vertical central section of the coupler provided with my improvement, the coupler being shown with the locking-pin down in the locked position or closed. Fig. 2 is a similar section showing the coupler open, the pin raised or unlocked. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 4 is a transverse vertical section on the line 4 4 of Fig. 1; and Figs. 5 and 6 are perspective views, respectively, of the upper and the lower parts of the two-part wedge-acting coupling-pin or lock.

In said drawings, A is the coupling-head, B the pivoted knuckle, and C the pivot-pin, all of which may be of ordinary construction and which require no special description.

The two-part wedge-acting coupling-pin or lock is of peculiar construction and made as follows: The upper part D, which is provided with the eye d and the shoulder d' , has its lower end beveled, as shown in Fig. 5 at $d^2 d^3 d^4$, and the lower part E has its upper end beveled, as shown at $e e' e^2$. Attached to the upper part is a T-shaped projection F, which fits into a corresponding T-shaped slot G in the lower part, so that when the two parts are fitted together the lower part is or may be suspended from the upper part; but the two are free to move one upon the other by reason of the T-shaped projection. Of course it will be understood that the T-shaped slot may be formed in the upper piece and the T-shaped projection formed on the lower piece without departing from the essential character of the construction. At the lower portion of the lower piece is the rabbeted shoulder e^3 to afford a resting-place for the locking-pin when the same is in the unlocked position, as indicated at Fig. 2, and in the coupling-head at the lower end of the passage through which the locking-pin works is the countering shoulder or shelf e^4 , so placed and contrived that when the locking-pin is raised to its highest position the shoulder e^3 will rest upon said shelf e^4 , as indicated in Fig. 2. The passage-way through the draw-head in which the locking-pin works is shown at H and is a four-

sided passage conforming to the section or outline of the locking-pin and may have three vertical sides. One of the sides H' is, however, made inclined, so that the entire passage-way is larger at its lower end than at its upper, constituting a wedge-shaped opening.

It will now be understood that when the pin is in the locked position, as indicated in Fig. 1, it may be lifted from the eye d freely upward without any wedging action being produced, because the inclined faces of the two parts of the locking-pin will slide upon each other, causing the locking-pin to assume its narrowest form, and the pin is thus easily lifted through the passage; but if when in the locked position force is applied to the lower member of the locking-pin the contrary effect will be produced, the point of the wedge, incline, or lower member will thereby be forced behind the upper member and said upper member be forced out against the inclined wall of the passage-way, and the locking-pin be thus wedged against movement.

I prefer to adjust the position of the eye d , to which the lifting-chain connected with the ordinary bell-crank shaft is attached, so that when the locking-pin is lifted from this eye the tendency will be to throw the inner end of the locking-pin forward against the inclined surface H' and cause the shoulder e^3 to engage the shelf e^4 , and thus cause the locking-pin to be supported without riding on the tail of the knuckle, where it is liable to wear and jar, and it will be noticed that the extreme lower end of the locking-pin projects below the shelf e^4 in a position to be struck by a projection J on the tail of the knuckle when the knuckle is closed, and this projection, striking against the lower end of the locking-pin, forces the pin off of the shelf e^4 , when, there being nothing to support it, said pin falls down into the closed position, with its lower member resting on the floor of the draw-head in position to lock the knuckle against opening, and the upper member falls down into the wedging position indicated in Fig. 1.

I prefer to have the inclined face of the passage in the draw-head on the front side of said passage, because it permits the employment of the shelf e^4 and the supporting of the locking-pin and its automatic displacement by means of a projection on the tail of the knuckle, as above described, which I consider the best form; but, except for this, it is obvious that some of the advantages of my invention may be obtained by making some other than the front side of the passage the

inclined one, and I do not wish to limit myself in this respect.

It will be found that the improved coupler which I have herein described, while it retains all of the advantages of the best forms of the modern coupler without any interference with its functions and operations, is so contrived that the locking-pin cannot creep up under the action and movement of the cars in use, and they may be readily lifted in the ordinary way, and when lifted will hold itself in that position until the coupling is effected.

I claim—

1. In a car-coupling consisting of a draw-head and a pivoted knuckle, the combination with said draw-head and knuckle of an automatic gravity locking-pin made in two members or parts with a wedging connection between them, substantially as specified, whereby while the pin may be lifted freely from its upper member it is prevented from creeping up in use.

2. The combination of the pivoted knuckle, the coupling-head, the latter having a passage-way with an inclined side for a locking-pin, and the locking-pin made in two parts or members with a wedging connection between said members, substantially as and for the purpose set forth.

3. The combination with the coupling-head of the two-part wedge-acting lock, the coupling-head having a wedge-shaped opening largest at its lower end, to receive the upper part or member of the lock and prevent creeping of said lock, substantially as specified.

4. The combination with the pivoted knuckle, the draw-head having a passage therethrough an inclined side, of the two-part locking-pin the two members of which have a wedging connection, the shoulder at the lower end of the locking-pin, the shelf at the lower end of the passage, and the projection on the tail of the knuckle, substantially as specified.

5. The combination with the knuckle and the draw-head having a wedging passage-way or opening $H H'$ for the upper member of the lock to bind against, of a locking-pin made of two members capable of being lifted freely by the upper member and incapable of being pushed up by force applied to the lower member, substantially as specified.

JAMES MUNTUN.

Witnesses:

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