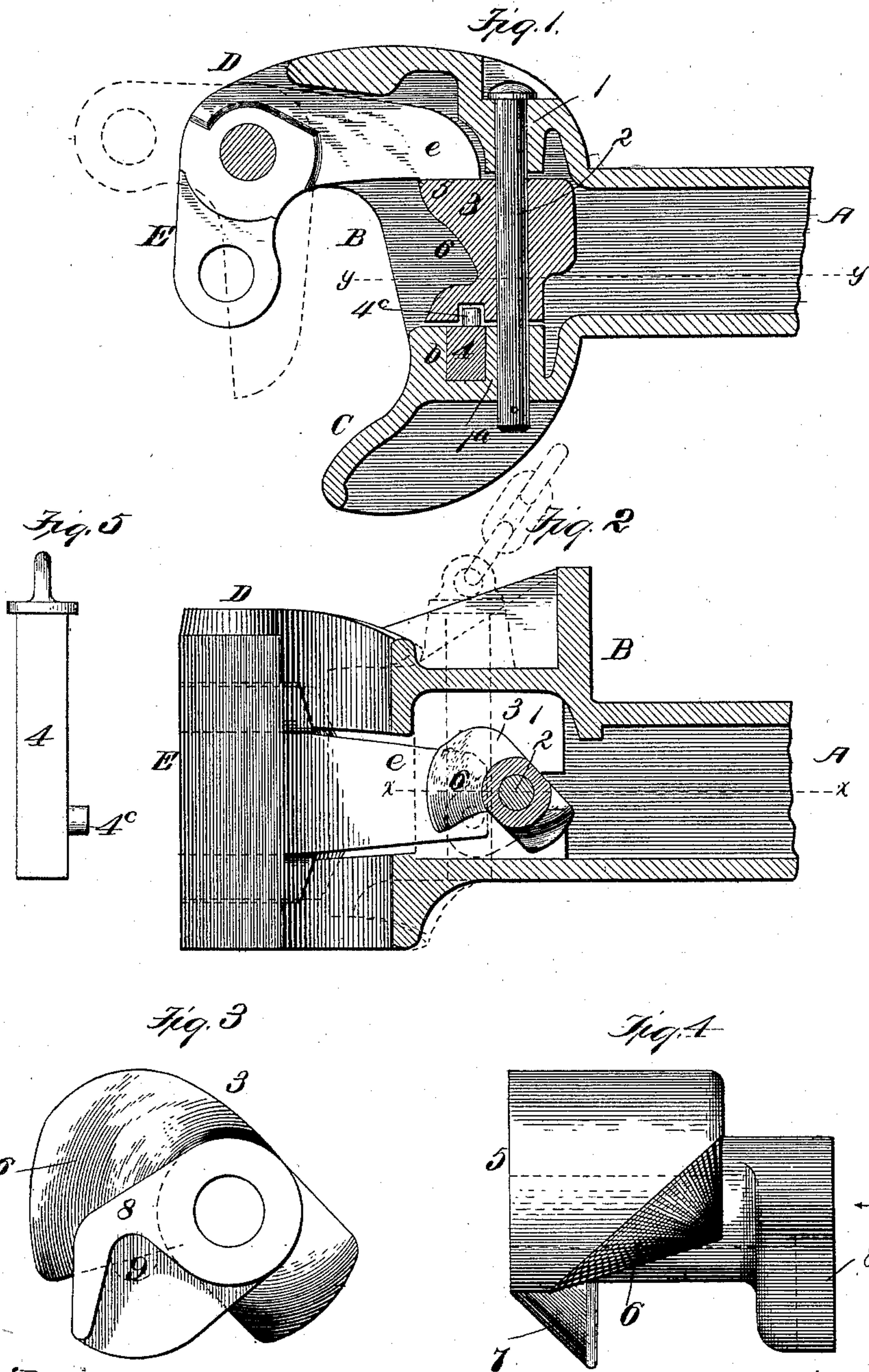


(No Model.)

P. HIEN.
CAR COUPLING.

No. 476,958.

Patented June 14, 1892.



Witnesses:

F. R. Cornwall
J. M. Copehaver

Inventor,

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Atty

UNITED STATES PATENT OFFICE.

PHILLIP HIEN, OF CHICAGO, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 476,958, dated June 14, 1892.

Application filed January 27, 1892. Serial No. 419,440. (No model.)

to all whom it may concern:

Be it known that I, PHILLIP HIEN, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—

Figure 1 is a horizontal section of a coupler embodying my invention, taken on the line *x x* of Fig. 2. Fig 2 is a vertical section of the coupler, taken on the line *y y* of Fig. 1. Fig. 3 is an enlarged end view of the vibrating locking-block, looking in the direction of the arrow in Fig. 4. Fig. 4 is an enlarged front elevation of the vibrating locking-block, and Fig. 5 is a detached view of the unlocking-pin for actuating the locking-block.

Like symbols designate like parts wherever they occur.

The invention relates to that class of couplers commonly called "twin-jaw" couplers, whether the same are formed with pivoted nose or knuckles provided with a pin, as in the Janney type, or with solid journal-bearings, as in the Browning type, though for purposes of illustration, and without any intention of limiting the invention, I have chosen the Janney type, having a pivot-pin for the pivoted nose or ~~knuckle~~. *knuckle*

The object of the present invention is to facilitate and render certain the coupling and uncoupling of the devices, cause the movement of the knuckle in uncoupling to set the locking-block for the subsequent coupling operation, and to relieve the unlocking-pin or means for actuating the locking-block in uncoupling from the control of the locking-block after said pin has performed its function, whereby the use of keepers on the locking-pin are avoided and sufficient slack in the chain between the usual pin-lever and unlocking-pin is secured.

To this end the main feature of my invention, generally stated, consists in the combination, with a pivoted knuckle or nose, of a vibrating locking-block having two reversely-inclined faces which engage the tail-piece of the knuckle, whereby the outward movement of the knuckle in uncoupling throws the lock-

ing-block forward upon the tail-piece, so that the locking-block will drop into its first or uncoupling position as the tail-piece moves outward.

A secondary feature embraces the combination, with an unlocking-pin having a lug or projection to engage the locking-block, of an open slot or recess in the locking-block, whereby the pin is permitted to drop back into its normal position after it has actuated the locking-block, so that it is not thereafter controlled by the subsequent movements of the locking-block derived from the knuckle.

There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the usual hollow stem of the draw-bar, provided with the head B, having the guard-finger C, and the journal D for the pivoted nose or knuckle E, said nose having a tail-piece *e*, all of which may be of any approved construction. Within the head, at opposite points, are suitable pierced abutments 1 1^a for the reception of a journal-pin 2, on which vibrates a locking-block 3, and the abutment 1^a, adjacent to the guard-finger C, is also pierced vertically, as at *b*, for the reception of the unlocking-pin 4, or the pin by which the vibrating locking-block is moved in uncoupling.

3 indicates the vibrating locking-block, which is of any irregular form adapted to provide a vertical face 5, which shall engage the tail-piece *e* when the coupling is made, as in Fig. 1, a forward incline 6, which permits the block to ride upon the tail-piece *e* when said tail-piece moves inward, and a rear and reversely-arranged incline 7, which engages the tail-piece *e* in its outward movement and tilts the locking-block 3 forward. In addition to the said forward and rear inclines 6 and 7, the wing 8 of the locking-block adjacent to the guard-finger C is formed with a recess or open seat 9 for the reception of a lug, offset, or its equivalent on one side of the unlocking-pin 4.

4 indicates the unlocking-pin, arranged in the vertical pin-slot *b*, adjacent to the guard-finger C, and provided with a lug or offset 4^c,

adapted to engage the locking-block and lift the same when the unlocking-pin is raised by its lever, (not shown,) to which it is connected by the usual chain, as indicated in dotted lines in Fig. 2.

The construction of the several devices being substantially such as hereinbefore specified, their operation will be as follows: The parts being in the position shown in Fig. 1, (which is the coupled position,) in order to uncouple, the unlocking-pin 4 is raised to actuate the locking-block to throw it up and back to permit the escape of the tail-piece *e* of the knuckle E. The unlocking-pin 4 is then released and falls back into its first position, as shown in dotted lines in Fig. 2, and is not thereafter controlled by the subsequent movements of the locking-block. In the act of uncoupling and as the tail-piece *e* moves out it strikes the rear incline 7 of the vibrating locking-block and rocks the said block forward or revolves toward the effective end of the coupling until said block rests on the tail-piece, finally returning to its first position as the tail-piece escapes forward, so that the locking-block is left in position to couple up on the inward movement of the tail-piece *e*. In coupling up, the knuckle and tail-piece being in position, (shown in dotted lines Fig. 1,) the tail-piece in its inward movement will strike the forward incline 6 and cause the locking-block to ride up and backward until the tail-piece *e* has passed it, when it will again drop into position (shown in full lines in Figs. 1 and 2) and engage the tail-piece by its vertical face 5, thus locking the tail-piece and knuckle E and effecting the coupling.

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

1. In a car-coupling, the combination, with a pivoted knuckle or nose, of a vibrating locking-block having reversely-inclined faces, which engage the tail-piece of the knuckle, substantially as and for the purposes specified.

2. In a car-coupling, the combination, with a pivoted knuckle, of a vibrating locking-block having a rear incline adapted to engage the tail-piece of the knuckle, whereby the tail-piece in its outward movement causes the forward vibration of the locking-block, substantially as and for the purposes specified.

3. In a car-coupling, the combination, with a vibrating locking-block provided with an incline adapted to engage the tail-piece of the knuckle to rotate said block forward on the tail-piece and having a recess 9, of an unlocking-pin provided with a lug or offset 4°, substantially as and for the purposes specified.

4. In a car-coupling, the combination, with a pivoted knuckle having a tail-piece, of a vibrating locking-block having a rear incline adapted to engage the tail-piece in its outward movement and an unlocking-pin adapted to engage the vibrating locking-block in one direction only, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of January, 1892.

PHILLIP HIEN.

Witnesses:

Mrs. R. H. HEROLD,
OSCAR F. KOSCHE.

It is hereby certified that in Letters Patent No. 476,958, granted June 14, 1892, upon the application of Phillip Hien, of Chicago, Illinois, for an improvement in "Car-Couplings," errors appear in the printed specification requiring correction, as follows: In line 31, page 1, the word "buckle" should read *knuckle*; and in lines 53-54, same page, the word "uncoupling" should read *coupling*; and that said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 28th day of June, A. D. 1892.

[SEAL.]

GEO. CHANDLER,

First Assistant Secretary of the Interior.

Countersigned:

W. E. SIMONDS,

Commissioner of Patents.