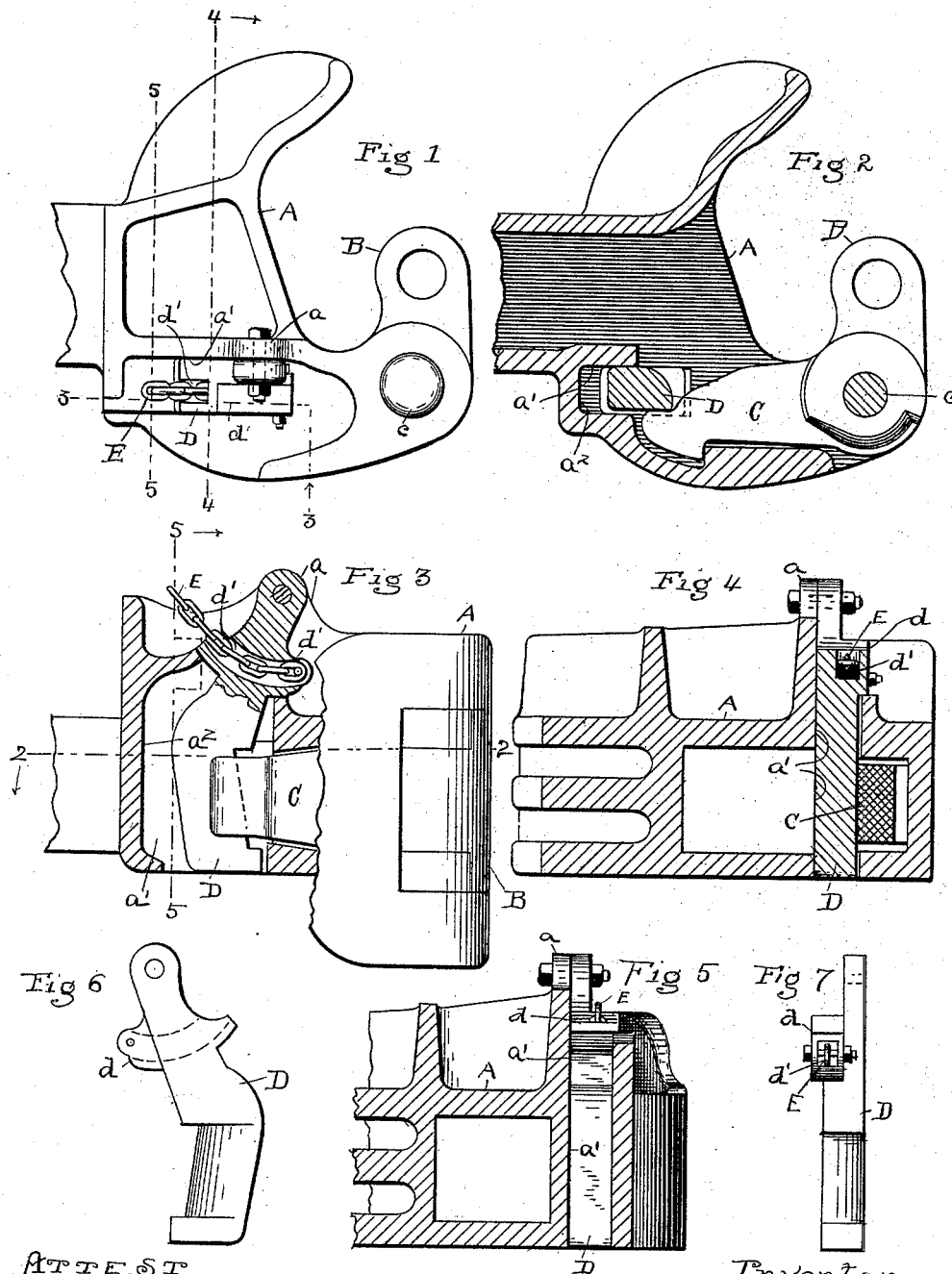


(No Model.)

J. SIMPSON.  
CAR COUPLING.

No. 489,992.

Patented Jan. 17, 1893.



ATTEST  
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# UNITED STATES PATENT OFFICE.

JOHN SIMPSON, OF CLEVELAND, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 489,992, dated January 17, 1893.

Application filed September 5, 1892. Serial No. 445,056. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SIMPSON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful improvements in Car-Couplers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-

pertains to make and use the same.

My invention relates to car couplers known as the vertical plane or Janney type, and the invention consists in the construction, combination, and arrangement of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a plan view of a head of a coupler which embodies my improvement. Fig. 2 is a horizontal sectional view on line 2, 2, Fig. 3, showing the arm of the knuckle engaged by the pivoted locking latch, and a cross-section of said pin and the arm in full lines being shown as they appear when the coupler is locked and in working position. Fig. 3 is a side elevation of the coupler shown in Fig. 1 and having a section broken away substantially on line 3, 3, Fig. 1, and showing the locking latch pivoted to an ear formed for that purpose on the top part of the head. The back wall is placed at just sufficient distance from the latch to form a stop for it so that it can only be raised enough to release the knuckle. Fig. 4 is a cross-section of Fig. 1 on line 4, 4, looking from the rear of the head and showing a vertical section of the latch and a cross-section of the knuckle arm. Fig. 5 is a cross-section of the coupler head taken on line 5, 5, Fig. 1 and corresponding to line 5, 5, on Fig. 3 and showing the continuous straight wall which forms a bearing surface for the flat surface of the latch. Fig. 6 is a side elevation of the latch showing the rounded or beveled portion thereof against which the arm of the knuckle strikes when coupling is effected. Fig. 7 is a front edge view of the latch.

A represents the head of the coupler, B the knuckle, and C the knuckle arm, the parts B and C being formed in a single piece and pivoted on the bolt c.

D is the locking latch. This latch is substantially straight from end to end, and is

pivoted at its upper end to the ear *a* formed for that purpose on the top part of the head. From this pivot point the locking latch is suspended in the coupler head, and the said head has a continuous flat bearing surface *a'* against which the flat surface of the locking latch rests when the said latch is down in locking position. This affords a firm backing for the said latch so that it readily withstands all the strain that is brought against it by the arm of the knuckle. The opening for the said latch extends vertically through the head and the said latch extends through the head to the bottom thereof and thus is given a bearing surface below the arm C. The locking latch is adapted to swing rearward on its pivot sufficiently to clear the arm C when the parts are to be unlocked and the back wall *a<sup>2</sup>* of the head comes at just sufficient distance from the latch in working position, to form a stop for it when it is swung back to release the knuckle arm. The said latch has a flange or collar *d*, the lower edge of which is struck on a segment of a circle from the pivot point of the latch so as to match the upper edge of the opening in the head through which the latch extends and thus serving to close the said opening and prevent the accumulation of dirt therein. Within the said flange or collar of the latch I have formed a through opening *d'* which likewise is preferably on a segment of a circle with the pivot point of the latch as a center, and in this opening I support a chain or its equivalent, E, by which the said latch is drawn back out of engaging position. Both sides of the locking latch are flat, as shown, so that while one side of the latch rests against the flat inner wall *a'* of the head, the arm C bears against the opposite flat side of the latch. The locking latch being straight, especially from its center upward, it requires an elevated pivot point so as to give it clearance from the arm when swung back from engaging position, and for this reason the ear, *a*, is placed upon the outside of the head and stands up high enough to serve the purpose.

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

1. A car coupler head having an opening at one side thereof from top to bottom to ac-

commodate the locking latch, and an ear above  
said opening on the top of the head to which  
the latch is pivoted, said opening having a  
flat wall  $a'$  on one side against which the  
5 latch bears when the coupler is closed, in  
combination with a flatsided latch pivoted on  
said ear  $a$  and extending through to the bot-  
tom of said head, and connections with the  
said latch above the said head to operate the  
10 latch, substantially as described.

2. A coupler head having a vertical open-  
ing at one side for the locking latch, said  
opening having parallel side walls extending  
through the head and a recess in its rear into  
15 which the latch is adapted to swing when  
open, in combination with a gravity locking  
latch D having substantially straight sides  
corresponding to the sides of the opening in  
the head, and its upper end pivoted on the ear

$a$  above the outside of the said opening, and 20  
the knuckle arm C constructed to automati-  
cally engage said locking latch, substantially  
as described.

3. The coupler head having an opening at  
one side extending entirely through said head 25  
and an ear above said opening on the outside  
of the head, in combination with a locking  
latch pivoted on said ear, said latch having a  
straight upper portion with a shoulder,  $d$ , be-  
low its pivot point corresponding to the top 30  
of the opening through the head, and an open-  
ing,  $d'$ , through said latch constructed to af-  
fix the operating chain therein, substantially  
as described.

JOHN SIMPSON.

Witnesses:

H. T. FISHER,  
EVA C. LATHAM.