

J. SINGER.
CAR-COUPLING.

No. 172,789.

Patented Jan. 25, 1876.

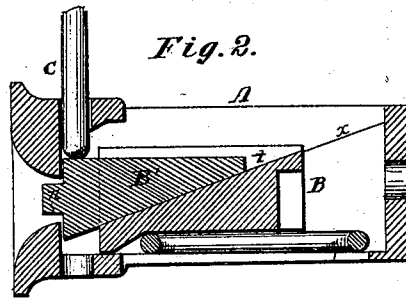
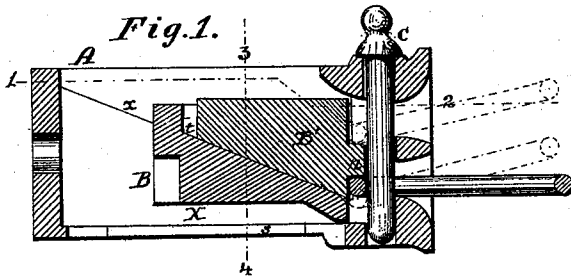


Fig. 3.

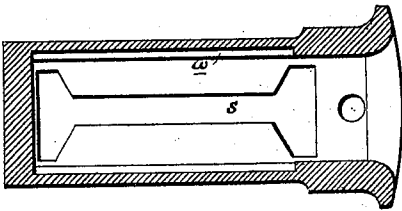


Fig. 4.

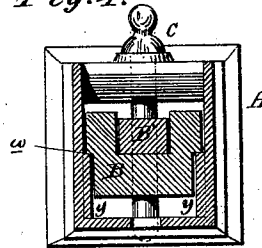


Fig. 5.

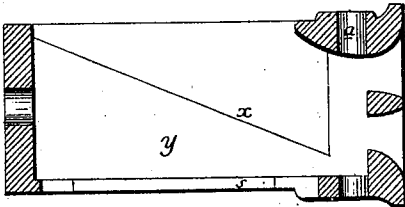


Fig. 6.

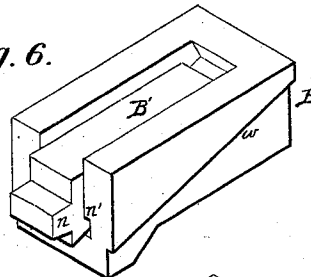


Fig. 7.

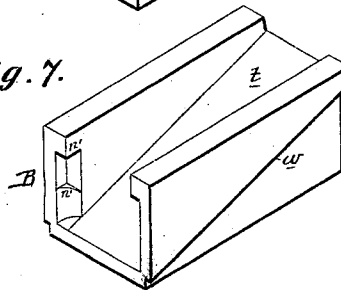


Fig. 8.

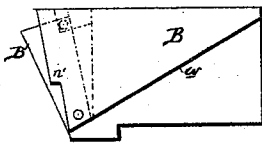
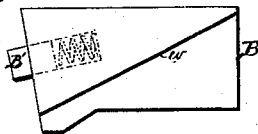


Fig. 9.



Witnesses:

George Shaw
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Jacob Singer
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UNITED STATES PATENT OFFICE.

JACOB SINGER, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **172,789**, dated January 25, 1876; application filed January 8, 1876.

To all whom it may concern:

Be it known that I, JACOB SINGER, of Harrisburg, Dauphin county, Pennsylvania, have invented an Improvement in Car-Couplings, of which the following is a specification:

The object of my invention is an improvement in car-couplings, in which the link may be retained in a horizontal or inclined position in either draw-head, and will couple automatically with the opposite draw-head on the cars being brought together, but will yield and enter the draw-head to which it is attached in case it strikes a stationary object.

The further object of my invention is to prevent the loss of the links.

In the accompanying drawing, Figure 1 is a sectional elevation of a "double-mouth" draw-head, showing my improvements, the pin being down; Fig. 2, a sectional elevation, showing the invention applied to a "single-mouth" draw-head, the pin being elevated; Fig. 3, a longitudinal section on the line 1 2, Fig. 1; Fig. 4, a sectional elevation on the line 3 4, Fig. 1; Fig. 5, a sectional elevation of the draw-head; Figs. 6 and 7, detached perspective views; and Figs. 8 and 9, modifications.

A represents a draw-head, which may be specially constructed for the purposes of the invention, or may be of any of the ordinary forms, and within this draw-head is a bearing, *a*, to which is adapted a block or follower, B, as in the car-coupling patented by me on the 9th day of June, 1874.

In the present instance, the bearing is formed by means of cheeks *yy*, Figs. 4 and 5, secured to or cast with the draw-head, within and at the sides thereof, the upper edges of the cheeks being inclined, and constituting the bearing, to which inclined shoulders *w* at the sides of the block B are adapted.

The forward movement of the block is limited by stops or otherwise, so that it shall not pass beneath the opening *a* for the usual coupling-pin C. The block or follower B carries a detent or trigger, B', which has a limited movement independent of the block, and, when at the limit of its forward movement, occupies a position in the mouth of the draw-head beneath the opening *a*, constituting a rest for the pin C, and preventing its descent.

The trigger may be constructed and connected to the block in various ways; but I prefer that shown in Figs. 1 to 7, which illustrate a trigger consisting of a sliding block adapted to an inclined bearing, *t*, of the follower B, and limited in its forward movement by stops or shoulders of the draw-head or block.

At the front end of the block B and of the trigger are lugs or shoulders *n n'*, for a purpose described hereafter.

When the pin rests upon the trigger B', a link introduced into either mouth of the draw-head, Fig. 1, will force back the trigger, releasing the pin C, which will descend through and secure the link.

The pressure of the follower, which hugs the link in frictional contact with the pin C, is sufficient to maintain the link in its position; but to prevent it from being readily displaced by the jarring movement of the cars, the shoulders or projections *n n'* are so arranged that the end of the link may pass slightly beneath or above one of them.

As the shoulders occupy different positions they serve the purpose of retaining the link in any of the various positions to which it is necessary to adjust it in coupling cars of different heights, Fig. 1, the projections extending over or under the end of the link.

After a link has been secured in one draw-head, the pin of the opposite draw-head is raised, when the trigger will fall forward beneath the pin, and will retain the same in its elevated position, Fig. 2.

On bringing the draw-heads together, the free end of the link will strike the opposite trigger, which will readily yield, allowing the pin to fall through the link, against the opposite end of which the follower bears with such force as to prevent the movement of the link in the act of coupling.

If, however, the free end of the link should strike the side of the draw-head or any unyielding object, the follower B, constituting a yielding backing, will, under the greater pressure thus applied, rise upon its bearing, and permit the link to pass into the chamber of the draw-head to such an extent as to prevent it from being broken.

When a double-mouth draw-head is used and the link is inserted in the upper mouth,

or when the link is short and its movement limited, it will remain in contact with the follower as it passes inward; but when it is inserted in the lower mouth, or passes into a draw-head having a single mouth, the follower B, if moved to a sufficient extent, will rise and permit the link to pass beneath the same.

It will be seen that the cars may be brought together without coupling by simply depressing the pin in one of the heads, when the link, striking the pin, will slide back without any connection being formed.

The downward movement of the follower may be limited, so as to form between the follower and the bottom of the draw-head a space, X, for the reception of an extra link, as shown in the drawing, thus avoiding the loss of links, which is apt to occur when two draw-heads, each provided with a link, are brought together, and there is no permanent receptacle for the extra link.

In order to facilitate the withdrawal of a link from the receptacle X, openings *s* are made in the bottom of the draw-head, through which the hand or fingers may be inserted to manipulate the link.

As before stated, the trigger B' may be constructed and applied in various ways. In Fig. 8 it is shown as pivoted at the lower end and falling forward by its gravity. In Fig. 9

it is constructed to be thrown forward by a spring.

Without limiting myself to the precise construction and arrangement of the parts shown and described,

I claim—

1. A draw-head provided with an inclined bearing, and with a follower adapted to the said bearing, and carrying a trigger arranged and operating to retain and release the coupling-pin, substantially as set forth.

2. The combination of the draw-head, its inclined bearing, a follower adapted to said bearing, and a trigger sliding upon an inclined bearing of the follower, as set forth.

3. A draw-head provided with an opening, *s*, in the bottom, arranged to facilitate the manipulation of the link within the draw-head, as specified.

4. The combination, with a draw-head, of a yielding block or follower, B, passing inward under pressure, and a trigger, B', carried by the follower, for the purpose set forth.

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

JACOB SINGER.

Witnesses:

EDWARD SNYDER,
EUGENE SNYDER.