(No Model.)

G. FORBES.

CAR COUPLING.

No. 300,588. Patented June 17, 1884.

Fig. 1.

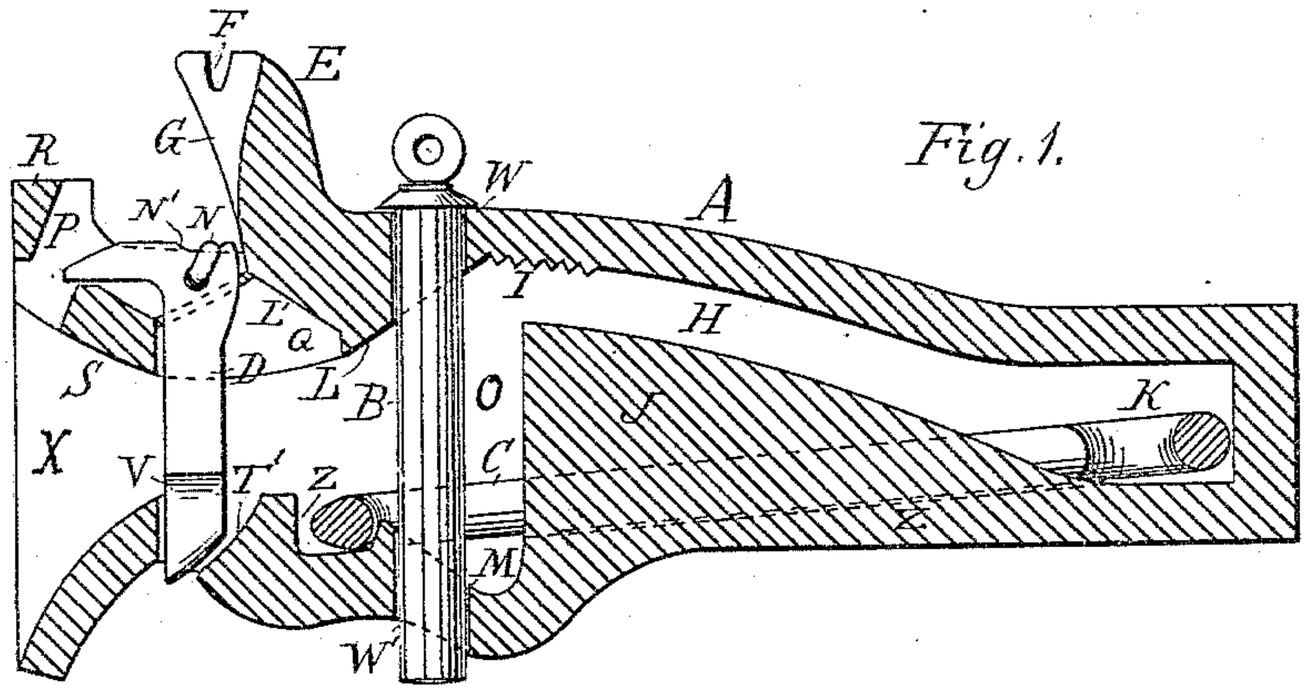


Fig. 2.

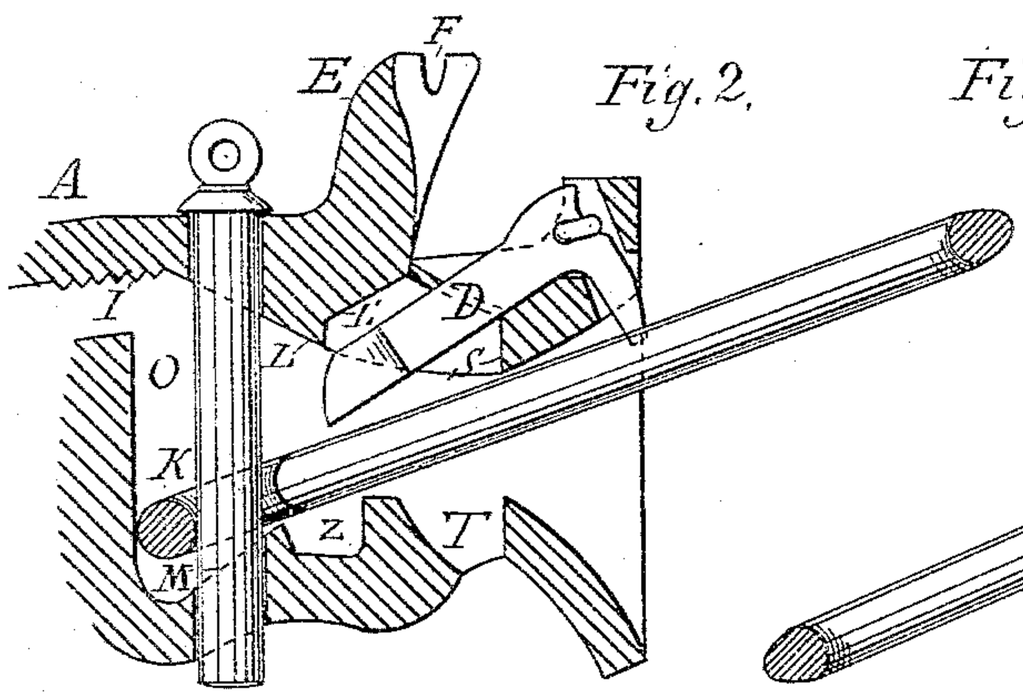


Fig. 3.

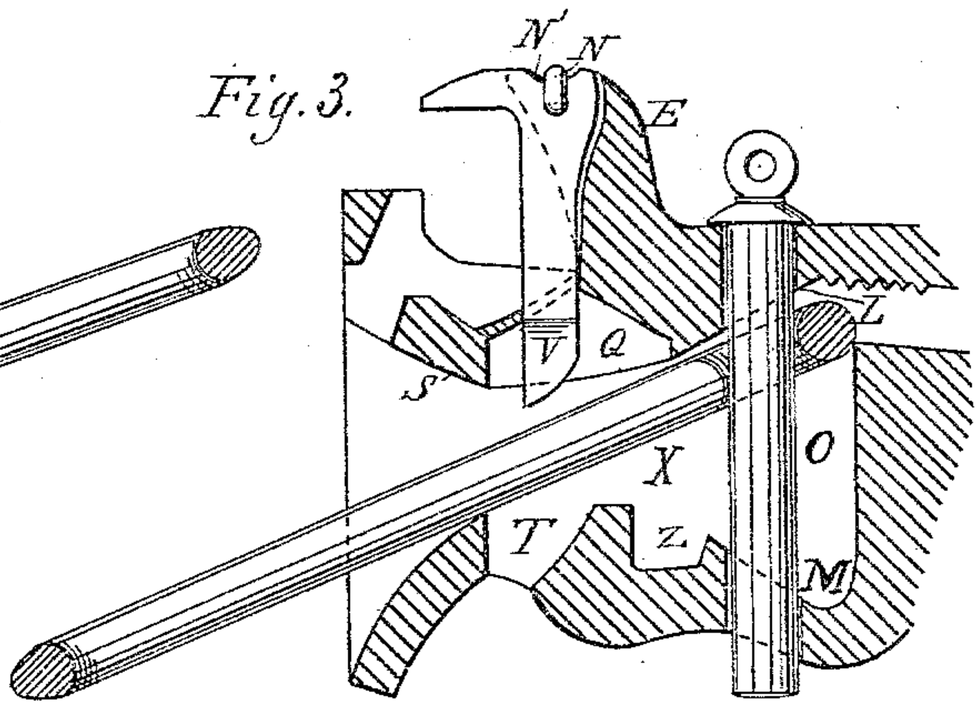


Fig. 4.

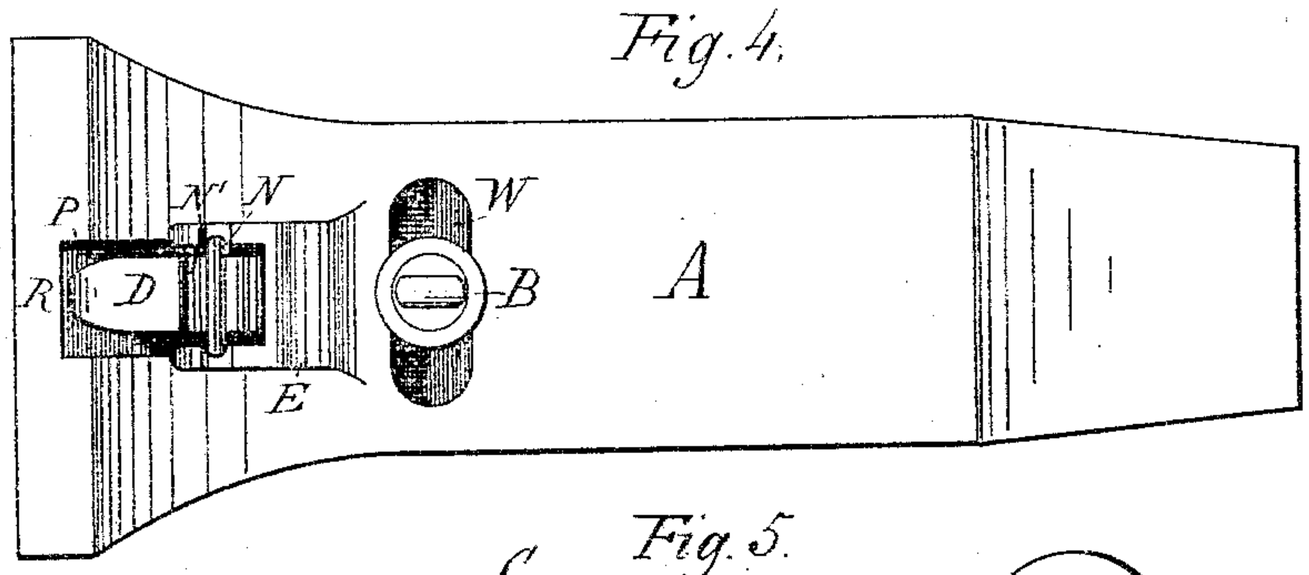
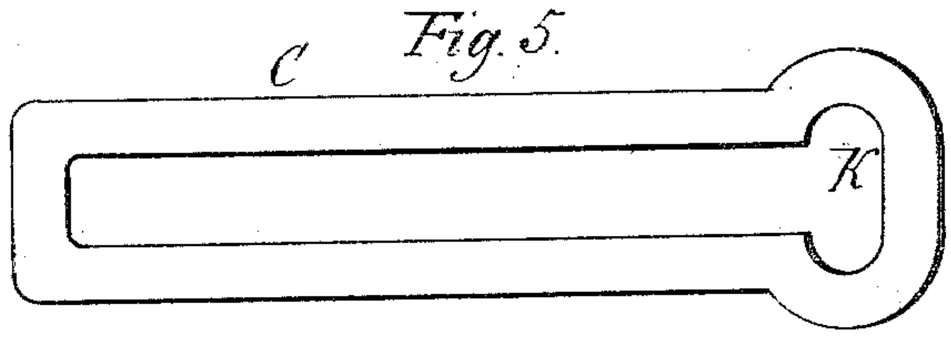


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE FORBES, OF NEW YORK, N. Y.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 300,588, dated June 17, 1884.

Application filed April 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FORBES, a citizen of the United States, residing at New York city, in the county and State of New York, have invented new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a representation of a longitudinal vertical section of my coupler with its reserve link moved inward and stored in its bed until it is required to be used. Fig. 1 also shows the coupling-pin in its position ready to be coupled to another draw-head. Fig. 2 is a similar section showing the reserve link drawn out of its draw-head and in position to be coupled with another draw-head, which may be higher than the draw-head containing the reserve link. Fig. 3 is a similar section showing the reserve link drawn out of its draw-head and in position to be coupled with another draw-head, which may be lower than the draw-head containing the reserve link; and Fig. 3 also shows the coupling-pin held up out of the chamber X. Fig. 4 is a plan or top view, and Fig. 5 is the reserve coupling-link.

Similar letters of reference indicate corresponding parts.

My invention relates to car-couplings; and it consists in the construction and novel arrangements of the parts, hereinafter fully described.

In the annexed drawings, the letter A represents the draw-head having a chamber, X; two pins—a coupling-pin, D, and a stationary pin, B; two longitudinal slots—P in the top part, and T in the bottom part—for the coupling-pin D to fit into; two lateral slots—W in the top part, and W′ in the bottom part—for the stationary pin B to fit into. The elevation E, which has the slot G and the slot or depression F, is situated behind the slot P. The two depressions—L in the top part and M in the bottom part of the chamber X; the stay J; the reserve or stationary link C; the depression or bed Z for the reserve link to rest in when not wanted for use; the passage H; the space O, and the stays or rack I.

The chamber X is widened in the front part, as shown in Figs. 1, 2, and 3, so as to allow the link more play.

The coupling-pin D is of a hook or L shape form, having a depression, N′, in its top part, which is fitted with a ring or handle, N, for lifting the pin. The depression N′ is made so that the ring N will not be in the way when the pin is brought into the position shown in Fig. 2. The lower end or edge of the shank of the pin D is beveled in such a manner as to fit in the groove T′ in the rear of the slot T, so that when an entering link from another draw-head pushes the pin D inward the beveled edge of the pin D rides upward and inward on the groove T′, and the upper end of the pin D, being lifted, rides forward and downward over the block S. The lower end of the pin D is thickened or made larger laterally at V, so that when the pin D is brought with force into the position as shown in Fig. 2 it is prevented from being forced out of the slot P by the stop R, the side L′, the block S, and the lateral thickness of the pin D at V. The longitudinal slot P is made larger at Q, so as to accommodate the thickened end V of the pin D. The longitudinal slot T is widened rearward where it enters the chamber X.

The stationary pin B fits into the two lateral slots W and W′ in the top and bottom of the draw-head. The two lateral slots W and W′ are made in such a way that the stationary pin B can be moved laterally, but not longitudinally, as shown in Fig. 5. The two depressions L and M in the top and the bottom of the chamber X are for the purpose of allowing the stationary or reserve links C a greater vertical play, as shown in Figs. 2 and 3, so as to facilitate the coupling of cars of different heights, and also to give enough of play for the up and down movements of the cars when they are in motion, and if the draw-head is made with sides to the chamber X, then the sides will have to have similar depressions, to allow the reserve link C to move laterally when the widened end K of the stationary link C is in the space O. The bed or depression Z is made in such a manner that the stationary link C lies in it when the link is put back into its draw-head,

as shown in Fig. 1. When the stationary link C is drawn out of its draw-head, the rear end, K, rides over the stay J and through the passage H until it comes to the space O, into which it falls. The stay J is made of such strength and in such a manner that it stops the link C from being forced back into its draw-head, and keeps the link C out of its draw-head, as shown in Figs. 2 and 3, while it is being coupled to another draw-head. The stay J is fastened to or cast with the bottom of the chamber X; or it can be fastened to or cast with the top of the chamber X, thus reversing the space H from the top part to the bottom part of the chamber X. The stay or rack I is in the top part of the depression L; but if the stay J is fastened to the top part of the chamber X, then the stays I will be in the depression M instead of the depression L. The stays I are made of such strength and in such a way as to help to stop the link C from being forced back into its draw-head while it is being coupled to an opposite draw-head, which might be lower, as shown in Fig. 3. The passage H is made in such manner as to allow the rear end, K, of the coupling-link C to pass through it, and this passage is formed by the top part of the stay J and the rear part of the elevation L. The reserve link C is so balanced or weighted that it can be put in a horizontal position for the purpose of coupling with cars of its own height, or it can be made to take an oblique position for the purpose of coupling cars which are higher or lower or of different heights, as shown in Figs. 2 and 3, and the link C is also widened laterally at its rear end, as shown at K, Fig. 5.

The elevation E on the top part of the draw-head in the rear of the slot P is made of such strength and shape as to stop the draw-head from running too far into its car when two cars come together with force. It also has the slot G and the slot or depression F, for the purpose of holding the coupling-pin D up by the ring N out of the chamber X, as shown in Fig. 3. The widened part of the reserve link C at K, as shown in Fig. 5, the slots W and W′, which allow the stationary pin B to have a lateral but not a longitudinal play, and the widened mouth of the chamber X give the reserve link C greater lateral play when the cars are turning or going round curves. The depressions L and M, in the top and bottom of the chamber X, and the widened mouth of the chamber X give the reserve link greater vertical play, as shown in Figs. 2 and 3, for coupling cars of different heights. This greater lateral and vertical play for the reserve link C is designed for the rocking motion of the cars while they are in transit, and when they are turning curves.

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A draw-head constructed with the elevation E on its top part rearward of the slot P, having the slot G in its upper and front part made so that the upper and rear part of the coupling-pin D fits into it, and the slot F in the top part of the slot G for the ring N in the top part of the coupling-pin D to rest in, whereby the coupling-pin D is held up and out of the chamber X, substantially as shown and described.

2. The coupling-pin D, constructed with the depression N′, by which the ring N becomes flush with the upper part of the coupling-pin D, substantially as described.

3. The combination, with a draw-head, of the elevation E, the slot G, the slot F, the coupling-pin D, the ring N, and the depression N′, for the purpose described and set forth.

4. The depressions M and L in the bottom and the top of the chamber X, and similar depressions in the sides of the chamber X, to allow the lateral motion or play of the rear end of the stationary link C at K, as and for the purpose described and set forth.

5. The draw-head A, constructed with the two lateral slots W and W′, which are widened laterally, whereby the stationary pin B is given a lateral but not a longitudinal play, as and for the purpose set forth.

6. The stationary link C, with the widened part K, as and for the purpose described and set forth.

7. The combination, in the chamber X, of the stay J and the stay I, with the stationary link C, whereby the stationary link C is held out of its draw-head, for the purpose described.

8. The combination, with the draw-head, of the link C, the pin B, the slots W and W′, depressions in the sides of the chamber X similar to the depressions L and M in the top and bottom of the chamber X, for the purpose of giving sufficient play or room for the rear end of the link C at K to move laterally when in the space O, the stay J, the stays I, and the beveled or widened front part of the chamber X, as and for the purpose described and set forth.

9. The combination, with a draw-head, of the depressions L and M, the link C, the pin B, the stay J, the stays I, and the beveled or widened front part of the chamber X, as and for the purpose described and set forth.

10. The combination, with a draw-head, of the depressions L and M in the top and bottom of the chamber X, depressions in the sides of the chamber X similar to the depressions L and M in the top and bottom of the chamber X, for the purpose of giving sufficient play or room for the rear end of the link C at K to move laterally when in the space O, the pin B, working in the slots W and W′ in the top and bottom of the draw-head, the stay J, the stays I, the slots W and W′, the link C, and the chamber X, having its front part beveled or widened, as and for the purpose described and set forth.

11. The combination, with a draw-head, of the elevation J and that part of the depression L which forms the passage H, as and for the purpose described and set forth.

12. The combination, with a draw-head, of the groove T′ and the lower end of the beveled edge of the coupling-pin D, for the purpose of taking the sudden strain from the upper end of the coupling-pin D, by that means throwing its upper end frontward and around the block S, when the pin is struck by an entering link from another draw-head, as and for the purpose described and set forth.

GEORGE FORBES.

Witnesses:
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ARTHUR FORBES, Jr.