

(No Model.)

V. ERBACH.
CAR COUPLING.

No. 512,103.

Patented Jan. 2, 1894.

Fig. 1.

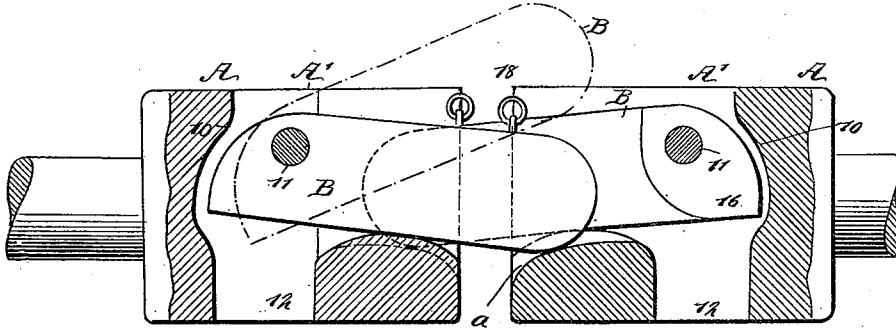


Fig. 2.

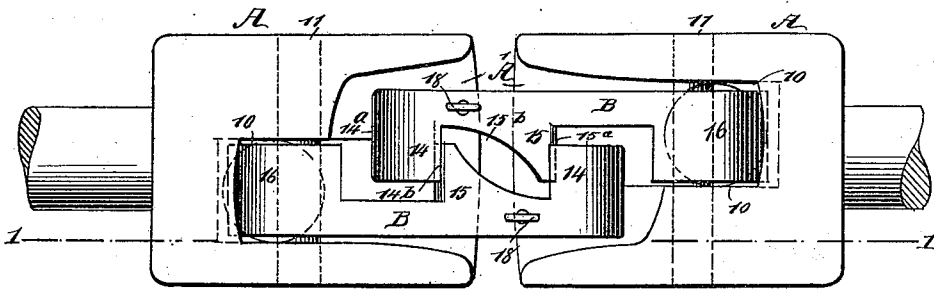


Fig. 3.

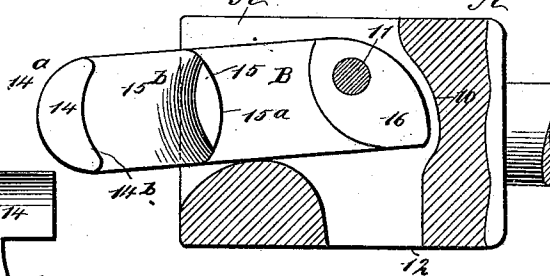


Fig. 5.

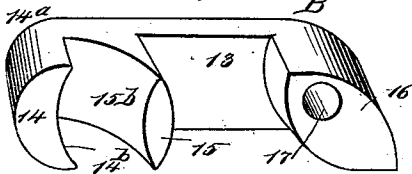
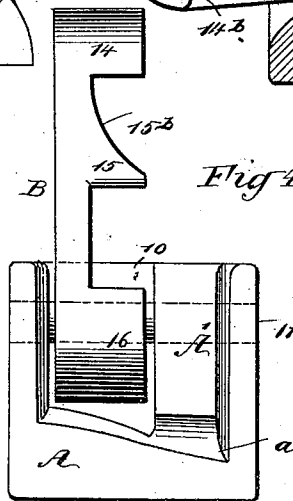


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

VALENTINE ERBACH, OF SCRANTON, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 512,103, dated January 2, 1894.

Application filed April 12, 1893. Serial No. 470,001. (No model.)

To all whom it may concern:

Be it known that I, VALENTINE ERBACH, of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car couplers, and it has for its object to provide a car coupler of exceedingly simple and durable construction, and one in which the coupling link or hook will be of twin pattern, as it is provided with two bearing surfaces having an opposing link or hook of the same character.

A further object of the invention is to so construct the coupling link or hook that when coupled with the link or hook of an opposing drawhead, no matter how decided the curve may be over which the train is passing, the hooks or links of the couplers will have two bearings and at the same time ample play will be provided for the drawheads and links both vertically and laterally.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section through opposing drawheads, the said drawheads being shown in the act of coupling, and the section is taken practically on the line 1—1 of Fig. 2. Fig. 2 is a plan view of two opposed and coupled drawheads. Fig. 3 is a vertical section through one drawhead, illustrating the coupling link or hook in side elevation. Fig. 4 is a front elevation of the drawhead, the coupling link or hook being shown in an elevated position; and Fig. 5 is a detail perspective view of one of the links or hooks removed from the drawhead.

The drawhead A is provided with a link chamber A', of peculiar formation. The chamber is open at the top, and its rear wall is provided at one side with a longitudinal recess 10, and in this recess the rear end of the coupling link or hook B, is pivoted by means

of a pin 11, bolt, or the equivalent thereof, upon which the link or hook turns freely.

In the bottom of the recessed portion 10 of the link chamber an opening 12, is made, through which dirt or other foreign matter may fall to the ground; and the bottom wall of the link opening slopes in direction of the opening 12. The bottom of the link chamber A' at the front is decidedly inclined in direction of one side of the drawhead, the inclination being downward. Therefore one portion of the front of the chamber is much lower than the other, the lower portion, which is designated as *a* and is best shown in Fig. 4, being at that side of the chamber opposite that in which the link or hook is pivoted. The depression *a* is made at the extreme front portion of the drawhead, and the bottom of the link chamber at that point slants upward and rearward, as at this point the hook or link of an opposing coupler is adapted to enter, and the depression *a*, is made in order to facilitate the ready entrance of a link in the drawhead whether one drawhead be higher or lower than the other.

As has heretofore been stated, the coupling hook or link B, is of peculiar formation; it comprises a body section 13, which is flat and straight upon its outer face, and where the body is visible upon its inner face it is of like formation. At the outer end of the body a spur 14, is formed, which spur virtually constitutes the head of the hook or link and extends horizontally from the inner face of the body. The front face 14^a of the head 14, is convexed or cylindrical, while its inner face 14^b, is concaved. A second head or spur 15, is formed upon the inner side face of the body back of the outer spur or head 14, and the forward side or front face of the rear spur 15, is beveled to a greater or less degree from a point near its rear surface in direction of the body to a point where the forward end of the rear spur or head meets the inner face of the forward spur or head, which occurs where the said inner face of the forward head or spur meets the body of the link or hook. The rear or inner face of the second or inner spur or head 15 is convexed, the convexed surface showing best in Fig. 3, and it is designated as 15^a, while the inclined forward surface of the spur or head is designated as 15^b. Thus prac-

tically it may be said that the coupling link is primarily a twin hook, embracing a single shank and two heads arranged one at the rear of the other.

5 The rear end of the body is of a thickness corresponding to the thickness of the coupling hook at the head portions thereof and the rear enlargement 16 thus formed is practically of oval shape, and stands more or less
10 diagonally upon the shank; both the back and front of the rear enlarged portion of the hook are therefore cylindrical. The rear enlargement of the shank is provided with a suitable aperture 17, through which the pivot pin 11,
15 passes. When the coupling hook is located within a drawhead, the inner head 15, is just within the link chamber, while the outer head is removed some distance from the chamber.

The coupling hook may be raised to a vertical position, as shown in Fig. 4, or to a sufficient height to admit of uncoupling with an opposing hook, as shown in dotted lines in Fig. 2, by attaching a chain or a link to eyes 18, located upon the upper surface of the hook,
25 preferably in the upper face of the inner head, and the chain or link may be carried to the top or to the side of a car and operated by direct tension, or through the medium of a shaft conveniently located.

30 The improved coupler will couple automatically with an opposing coupler, as when the two drawheads are made to approach one another quite closely, the hook in one drawhead will ride up into the hook or link chamber of the opposing drawhead, and as the hooks enter the opposing drawheads, they will be slightly elevated and will immediately afterward drop to a locking engagement with each other, as shown in Fig. 2.

40 In Fig. 1 the coupling hooks are illustrated as just entering the drawhead, and they will both ascend practically to the position shown in dotted lines before they drop to a locking engagement shown in Fig. 2; and when they
45 are in locking engagement the outer head of the coupling hook of one drawhead will engage with its inner concaved surface 14^b the rear convexed surface 15^a of the second or inner head of the coupling hook of the opposing drawhead, and the inclined or beveled faces 15^b of the inner forward faces of the rear heads of both coupling hooks will be opposite each other.

It is evident that no matter in what direction the drawheads may be carried laterally,
55 both of the coupling hooks will be in engagement; and at no time, no matter whether the drawheads rise and fall vertically, or separate to the right or to the left, the twin heads of
60 the coupling hooks will always remain in engagement.

In the event it is desired to shunt the car and not effect a coupling, one of the coupling hooks may be secured in the vertical position
65 shown in Fig. 4. In the event, however, that a coupling hook should be carried to a vertical position and not locked in that position,

a coupling may be effected with an opposing drawhead, as the coupling hook of that drawhead upon entering the drawhead in which
70 the link is standing, will strike the forward face of the enlargement 16 of the standing link and will force the said link to drop to a horizontal and coupling position.

The coupler is exceedingly simple. It is
75 durable and it is economic, and although the drawhead chambers are exposed, the coupler will work as effectively in inclement as in fine weather. Furthermore, the coupling hooks are so strong that there is comparatively little danger of their becoming injured.
80 In the event, however, that any accident should happen to a coupling link or hook it may be easily replaced by another.

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

1. In a car coupler the coupling hook B comprising the flat body 13 formed on its inner side face at its forward end with a lateral
90 spur 14 having a convex front face and a convex inner face and a second spur 15 just back of the spur 14 and having its forward or front face beveled as at 15^b and a convex inner or rear face 15^a and the rear enlargement 16 having
95 a transverse aperture, substantially as set forth.

2. In a car coupler, the combination, with a drawhead, of a coupling hook pivoted therein, comprising a shank and twin heads arranged one at the rear of the other, the inner
100 face of the outer head being concaved and the corresponding face of the inner head convexed, as and for the purpose specified.

3. In a car coupler, the combination, with a
105 drawhead, of a coupling hook pivotally located therein, comprising a shank and twin heads located one at the rear of the other, the outer head being provided with a convexed front face and a concaved rear face,
110 the rear head having a beveled forward face and a convexed rear face, as and for the purpose specified.

4. In a car coupler, the combination, with a drawhead provided with a link chamber having a recess in its rear wall at one side, of a coupling hook pivoted in the recessed portion
115 of the chamber, the said coupling hook comprising a shank having a practically oval projection upon its inner face at its pivot point,
120 and twin heads arranged one in advance of the other, the outer head having a convexed front and a concaved rear face, the rear head being provided with a beveled front face and a convexed rear face, as and for the purpose
125 specified.

5. The combination with a draw head open at its top and front, of a vertically swinging coupling hook pivoted at its rear end in said draw head and provided at its outer end on
130 its inner face with two laterally projecting spaced spurs or heads, substantially as set forth.

6. In a car coupler, the combination, with a

drawhead provided with a chamber open at the top and front, and having the bottom of the chamber at the front beveled downwardly in direction of one side of the drawhead and
5 beveled upwardly and inwardly at its lower point, of a coupling hook provided with twin heads pivoted within the drawhead chamber

at its higher or shallower portion, all combined to operate, substantially as shown and described.

VALENTINE ERBACH.

Witnesses:

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D. J. JENKINS.