

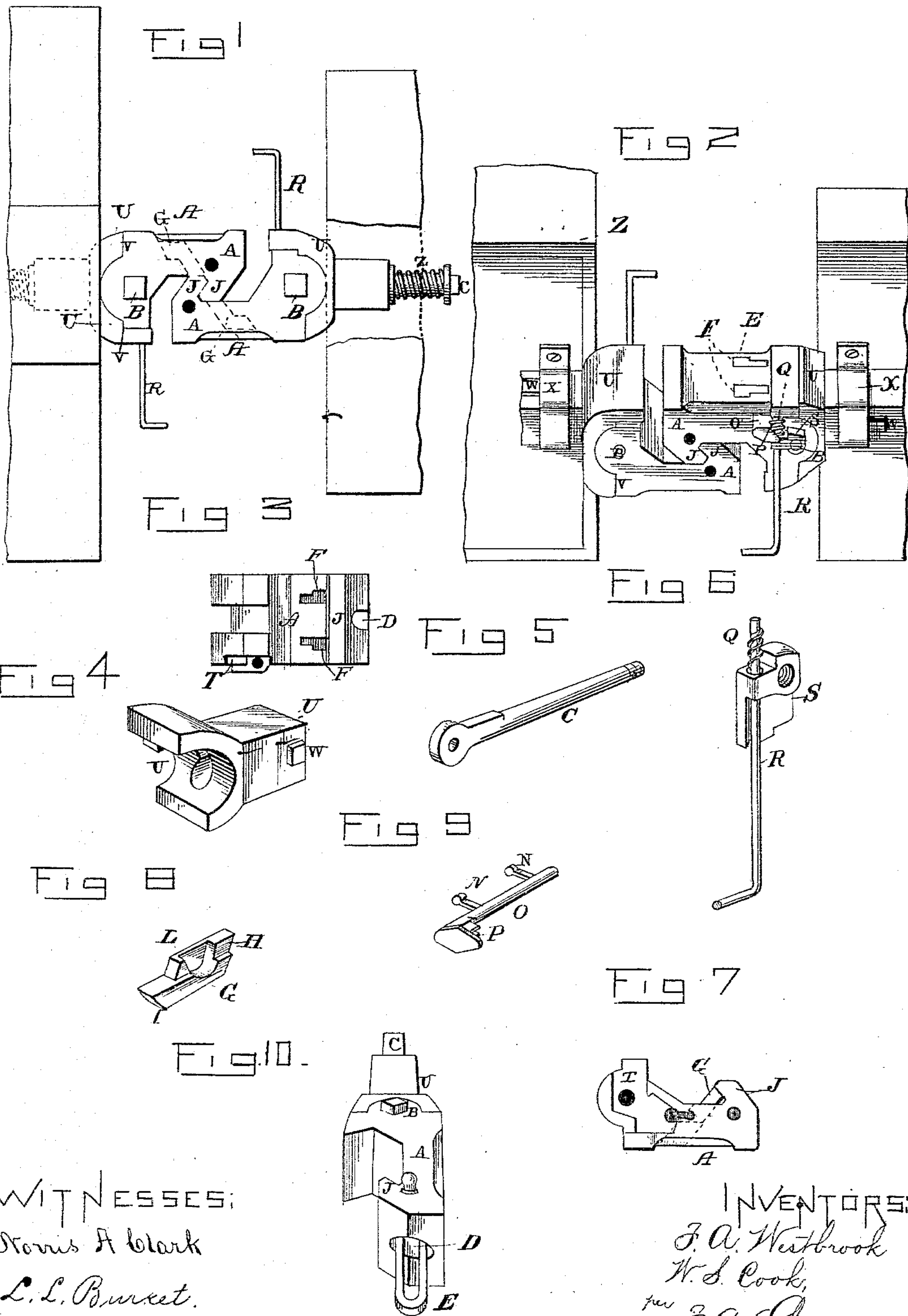
(No Model.)

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CAR COUPLING.

No. 321,328.

Patented June 30, 1885.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 321,328, dated June 30, 1885.

Application filed May 9, 1885. (No model.)

To all whom it may concern:

Be it known that we, FRANK A. WESTBROOK and WINFIELD S. COOK, of Port Jervis, in the county of Orange and State of New York, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in car-couplings; and it consists in, first, the combination of the hook-shaped draw-head with the uncoupling-plates, which are placed therein, and a suitable mechanism for operating the plates for the purpose of coupling and uncoupling the two opposing draw-heads; second, the combination of the hook-shaped draw-head, the casing, the draft-rod which passes through the casing, and the follower-castings, the bolt which is passed through the rear end of the coupling-head and the outer end of the draft-rod, and the nut which serves the double purpose of holding one end of the bolt and a bearing for the screw-threaded operating-rod, which operates the uncoupling-plates which are placed in the draw-head; third, the arrangement and combination of parts, which will be more fully described hereinafter.

The object of our invention is to provide a self-coupler in which the hook-shaped draw-head is so attached to the other parts that it can turn upon the draft-rod and move back and forth, so as to have all the movements of an ordinary link-coupler.

Figure 1 is a plan view of a car-coupling embodying our invention, partly in section. Fig. 2 is a perspective of the same. Fig. 3 is a side elevation of one of the coupling-heads detached. Fig. 4 is a perspective of one of the combined casings and buffers. Fig. 5 is a perspective of the draft-rod. Fig. 6 is a perspective of the nut and the screw-threaded operating-rod. Fig. 7 is an inverted view of one of the draw-heads. Fig. 8 is a perspective of the uncoupling-plates. Fig. 9 is a perspective of the shaft which operates the plates. Fig. 10 is a perspective of one of the couplers used with a link.

A represents a hook-shaped draw-head, pref-

erably of the shape here shown, and which is connected by means of a bolt, B, at its rear end with the draft-rod C. In the outer end of this draw-head is made a recess, D, so that an ordinary link, E, can be used in connection with it at any time.

Made horizontally through each draw-head are the openings F, in which are placed the uncoupling-plates G. Two of these plates are preferably used with each head; but we do not limit ourselves to any number, for the number employed may be varied at will. The plates G are made thicker on one edge than the other, as shown in Fig. 8, so that when they are forced into the openings F from the outer side of the draw-head they will slip into position, the cut-away part, as at H, acting as a guide to hold them in position in the head. The inner end, I, of each of these plates is beveled away, as shown, so that when the inner end is forced through the opening F on the inner side of the head next to the hook J the beveled ends I will serve to close the entrance to the hook, as shown in Fig. 7, and thus prevent the heads from clutching together at any time it is so desired. When these plates are forced inward, their inner ends are withdrawn entirely into the head, thus leaving the hooks J free to clutch together, as shown in Figs. 1 and 2. Each one of the plates G has a recess, L, formed in its side, and in which recess catches an arm, N, on the shaft O, which passes vertically through each coupling-head. Upon this shaft O will be formed a number of arms, N, proportioned to the number of plates G which are used.

On the lower end of each rod O is formed a worm-gear, P, for the purpose of meshing with the screw-thread Q, upon the operating-rod R. This operating-rod R, which projects horizontally outward from each one of the draw-heads a suitable distance and has its outer end bent at an angle so as to form a handle, is to be turned by the brakeman when the cars are to be uncoupled, or the heads left in position to couple when the cars run together again. This rod R is passed through the nut S, which is made dovetailed upon its edges, so as to catch in the dovetailed recesses T in the lower edge of the draw-head A. This nut serves the double use of holding the lower end of the bolt B, which unites the draw-

head and draft-rod C together, and as a bearing for the rod R. The rod R must first be passed through the nut S, as shown in Fig. 6. Then the nut is slipped into the recess T in the lower edge of the coupling-head A, and then the bolt B is passed down through the head and the draft-rod, and is screwed into the nut, so as to remain permanently in position. The nut cannot drop downward on account of the dovetailed shape of the recess in which it is placed, and cannot move outward out of the recess, because the end of the bolt B passes through it and locks it in position.

The combined casing and buffer U is passed over the draft-rod C, and has the rear end of the draw-head A to bear against its outer end, as shown in Figs. 1, 2, and 10. Upon the outer end of the casing U are formed the shoulders V, to correspond with similar shoulders formed on the rear ends of the draw-head, and which shoulders form bearing-points for the rear end of the draw-head, so as to form solid braces for the draw-head when the cars run together.

Upon the rear end of the casing U is formed the lug W, which catches behind the stirrup X, for the purpose of preventing the casing from pulling out at any time in case a key or nut on the end of the draft-rod gives away and the draft-rod and the coupling-head are pulled out. The rear end of the casing U bears against the follower or casting Z, as shown in Fig. 1, and allows the whole coupling to give backward when the cars run together, for the purpose of easing the shock.

When the cars run together, the bevels upon the outer ends of the hooks strike together and force each of the heads laterally sufficiently far to allow them to pass, so that they will clutch together, as shown in Figs. 1 and 2. In order for the heads to give backward to allow the hooks to pass each other, a direct strain is brought to bear upon each draft-rod, and this rod compresses the spring in the follower-castings, and this spring then serves to return the head to position as soon as it is free to

move. When any unusual strain is brought to bear upon the cars, the strain of the draw-head upon the coupling-rod C serves to also compress the springs of the follower-casting, and then the heads move outward a suitable distance, so as to allow the cars to swing around a curve. As soon as the cars get into line again, the spring draws the draw-head back into position. As the draw-heads move back and forth and turn from side to side, it will readily be seen that they have all of the movements of an ordinary link-coupler.

We do not limit ourselves to the precise construction here shown and described, for it may be varied without departing from the spirit of our invention.

Having thus described our invention, we claim—

1. The combination of a draw-head, the draft-rod, the casing, the follower-castings, and the springs placed therein, whereby the head is given a free lateral play and can be moved back and forth, substantially as shown.

2. The combination of the hook-shaped draw-head, having suitable recesses therein, with the uncoupling-plates, which are placed in the openings, the operating-shaft provided with arms which engage with the plates, and the rod or shaft R for operating the plates from one side of the draw-head, substantially as set forth.

3. The combination of the draw-head having the recesses T in one side, a bolt, B, the draft-rod C, the nut S, and the shaft R, which has its bearing in the nut S, the operating-shaft O, provided with arms, and the draft-plates, substantially as shown.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK A. WESTBROOK.
WINFIELD S. COOK.

Witnesses:

E. VAN HORN,
D. F. SEWARD.