

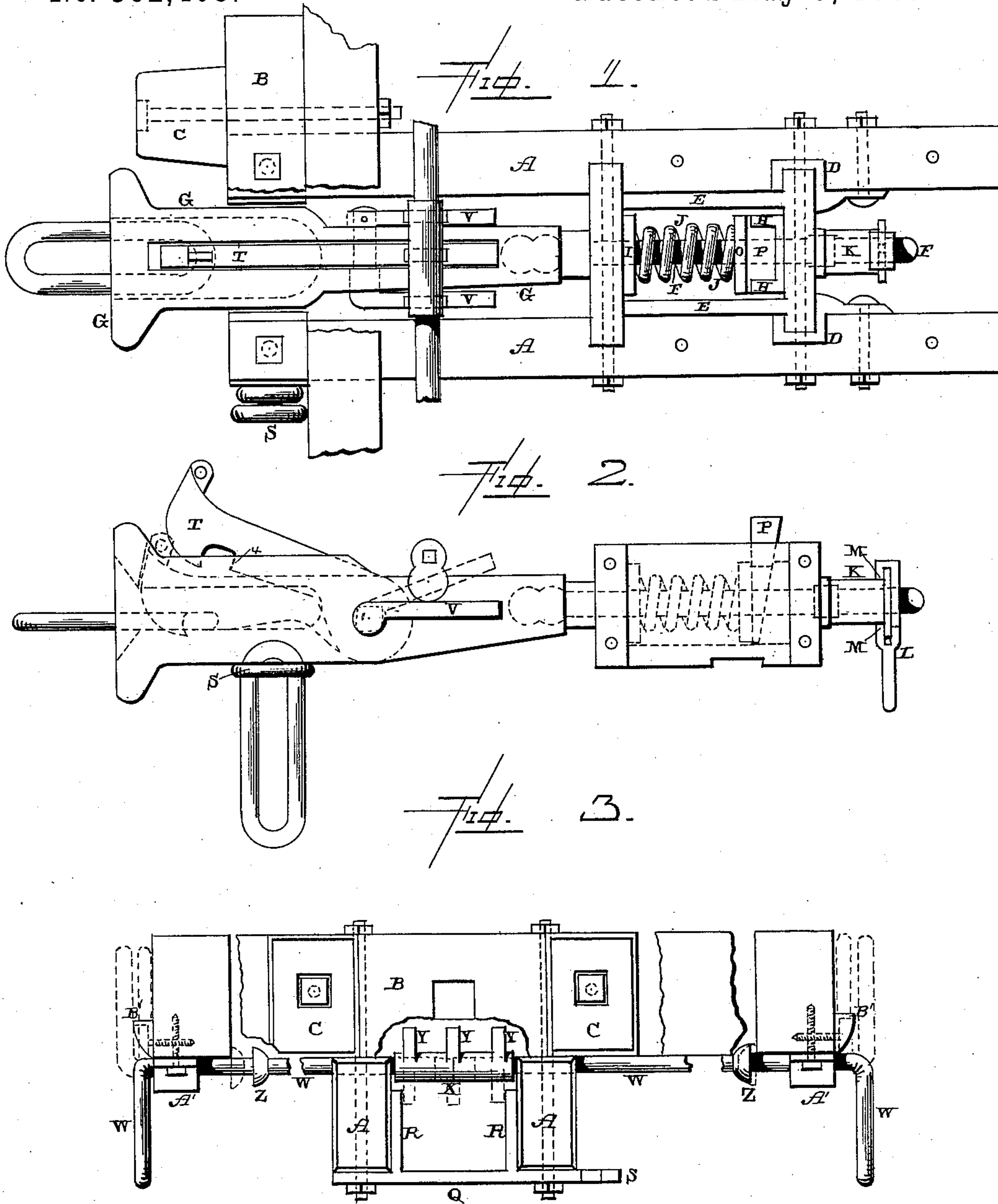
(No Model.)

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F. A. WESTBROOK & W. S. COOK.  
CAR COUPLING.

No. 362,408.

Patented May 3, 1887.



Witnesses.  
X. F. Gardner  
E. P. Ellis

Inventor.  
F. A. Westbrook,  
W. S. Cook,  
per J. A. Lehmann, atty.

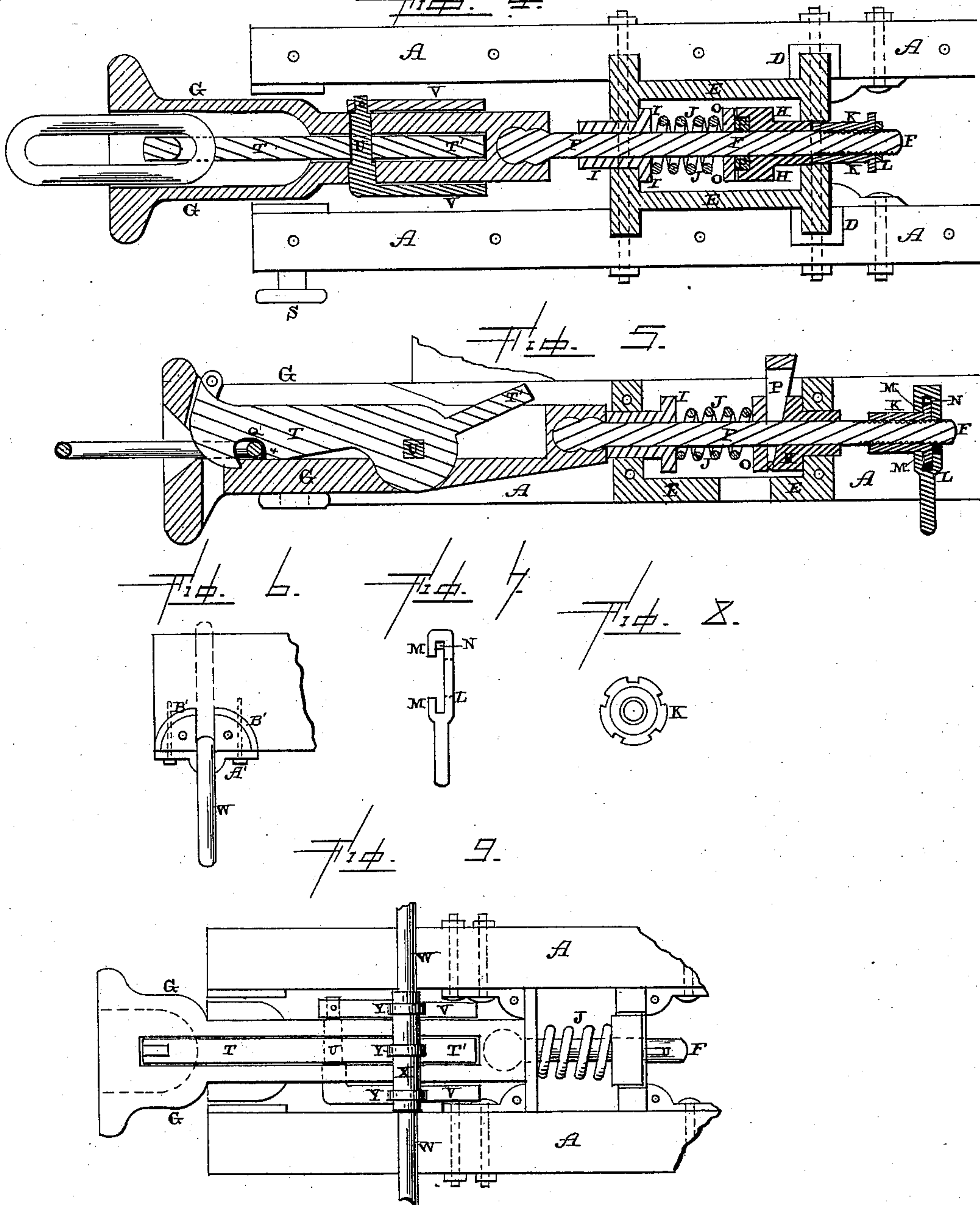
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# UNITED STATES PATENT OFFICE.

FRANK A. WESTBROOK AND WINFIELD S. COOK, OF PORT JERVIS, N. Y.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 362,408, dated May 3, 1887.

Application filed January 26, 1887. Serial No. 225,564. (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 the combination and arrangement of parts, which will be more fully described hereinafter, whereby an automatic coupling is produced.

Figure 1 is a plan view of a coupling embodying our invention. Fig. 2 is a side elevation of the same. Fig. 3 is a front view, the draw-head being removed. Figs. 4 and 5 are horizontal sections taken at right angles to each other. Figs. 6, 7, 8, and 9 are detail views.

A represents the draft-timbers, between which the car-coupling is placed; B, the dead-wood, beyond which the buffer-blocks C project, in the usual manner. The inner sides of the draft-timbers A are recessed, so as to receive the rub-irons D, which are bolted in position, as shown, and also to receive the flange upon the front end of the box E. This box is flanged at both ends, and these two flanges are made to catch in the recesses of the draft-timbers, as shown, and the box is then secured rigidly in position by suitable bolts, which are passed horizontally through both the timbers and box, as shown in dotted lines in Fig. 1. The bottom portion of this box E is made slightly rounding, and through this bottom is formed a suitable opening to allow the lower end of the automatically-acting wedge to project down therein as it takes up the wear of the different parts. Through each end of this box E is also formed openings, through which the rod F, connected to the rear end of the draw-head G, passes. Placed upon the rod F, inside of the box, are the two flanged sleeves H I, and between the inner ends of these two sleeves is placed the buffer-spring J. When the draw-head G is in its normal position, the sleeves are in the position shown in Fig. 4; but

when the draw-head is forced backward the parts assume the position shown in Fig. 5. The front end of the sleeve I projects through the front end of the box E when the draw-head is in its normal position; but when the head is forced backward its rear end strikes the front end of the sleeve I, compressing the spring J and forcing the sleeve H backward. The rear end of the rod F then projects beyond the rear end of the box E, as shown in Fig. 5, carrying the nut K and wrench L with it. The rear end of the rod F is made screw-threaded, and the nut K is screwed thereon, so as to regulate the tension of the spring J when the parts are in their normal position, as shown in Fig. 4. This wrench L is provided with oblong openings through it for the rear end of the rod F to pass through, and upon its inner side are formed the two flanges M, which catch over the notched flange upon the nut K, as shown in Figs. 2 and 5. Inside of the upper flange, M, is formed a tooth, stud, or projection, N, which is made to catch in one of the notches or recesses formed in the edge of the nut K, so that this projection N can be applied alternately to one notch after the other in the nut K, for the purpose of screwing it into any desired position. Passed over the rod F is a washer, O, and an automatically-acting wedge, P, which has an oblong opening through it, as shown in Fig. 5. The rear end of the spring J presses against the washer O, and the washer presses against the wedge P, as shown. The front end of the sleeve H is recessed and made tapering, so as to receive the wedge P. As the parts wear or the tension of the spring becomes relaxed the wedge gradually sinks downward upon the rod F, so as to keep the tension of the spring about the same. As the wedge P drops downward its end projects into or through the opening in the bottom of the box E.

The front end of the draw-head G is supported by the stirrup Q, which projects across the under side of the draft-timbers, and which is provided with the flanges or lugs R, which extend up between the timbers, and which stirrup has formed upon one end the support S for the coupling-link. This support has a T-shaped head or projection, upon which the coupling-link is hung when not in use. The flanges R receive the draw-head between



them, and hold it in position so that it can have no lateral play. Through the top of the head G is cut a slot, through which the hook T is passed. This hook T, having the extension or tail T' formed on its rear end, has a recess cut in its lower edge, so as to catch over the link, as shown in Fig. 5, and has a sharp point or projection, which drops in a corresponding recess in the bottom of the head G. This hook T is placed upon the bolt U, which is square at that point where it passes through the hook, so that the bolt cannot be turned without moving the hook T and tail T' correspondingly. Upon one end of the bolt U is formed a bend or projection, V, and to the other end of the bolt is secured a second projection, V, which extends in the same direction as the other. When the front end of the hook T is raised upward, the rear ends of the two projections V and the tail T' are turned downward, and as the front end of the bolt T drops downward the projections and tail rise upward.

Journaled in suitable bearings upon the draft-timbers A are the two endwise-moving levers W, which have their inner ends extending into and supported by the sleeve X, which is provided with the cams Y. This sleeve X extends directly over the rear end portion of the head G, so that when the sleeve X is caused to partially revolve by either one of the levers W the cams Y will be depressed, so as to act upon the projections V and tail T' on the end of the hook, as seen in Fig. 2, and thereby raise the coupling-hook T at its front end. Each one of the levers W is made angular at its inner end, where it passes into the sleeve X, so that when the lever is caused to partially rotate the sleeve X will be made to partially turn at the same time. Each one of the levers is provided with a stop-flange, Z, which, by striking against the side sill of the car, limits the distance that the lever shall be moved outward. The outer end of each lever Z is formed into a handle, as shown, so that the lever can be partially turned for the purpose of raising the front end of the coupling-hook whenever so desired. Secured to each of the side sills is the box or journal A', in which the lever W is journaled, and the box is provided with the flanges B', which extend upward along the outer side of the side sill, as shown in Fig. 6. These flanges B' are separated from each other at their centers, so as to form a recess to receive the bent outer end of the lever W, when the lever is turned partially around, so as to bring its handle part into a raised position. When it is desired to lock the coupling-hook T in the raised position shown in Fig. 2, so that the cars will not couple when running together, one (or both) of the levers W is pulled endwise until its stop Z strikes against the side sill of the car, when the outer end of the lever is turned upward in front of the flanges B', and then the lever is pushed endwise, so that its handle part will catch in the recess between the two flanges, and thus prevent the lever from turning back. While

the lever is held in this position the cams Y are bearing down upon the two projections V and tail T', so as to keep the front end of the hook T in a raised position, as shown in Fig. 2.

The coupling-head G has a lengthwise movement, as shown in Figs. 4 and 5, so that when the cars run together the head can be forced backward. When it is desired to effect a coupling, a link is forced into one draw-head by pushing it against the rounded front end of the hook, which rises and permits the link to pass under. The end of the link then rests against the stop-lug 4 and the under side of the hook at Q' rests on the top of the link, always keeping it in a horizontal position. When the two draw-heads run together, the outer end of the link passes into the advancing draw-head, raises the front end of the hook, and couples the two cars together. The levers W do not have to be operated to effect the coupling, unless they have been previously set not to couple. The tail T' and the projections V are made long enough so that when set not to couple, the draw-head, tail T', and projection V can move backward and forward under the cam. The hook provided with the tail and a single cam may be used, if so desired, thus dispensing entirely with the projections V, or the projections may be used and the tail dispensed with, just as may be preferred.

In case it is desired to apply the levers W, the sleeve X, the rod U, and the coupling-hook to draw-heads of ordinary construction, the hook is inserted through the slot in the head, the rod or bolt U is passed through the hook and the head, the sleeve X, provided with the cams, is attached to the inner ends of the levers W, and the rod F is passed through the spring, the automatically-acting nut, and the bearing, which is secured in position between the draft-timbers, as shown in Fig. 9.

Having thus described our invention, we claim—

1. The combination of the draw-head, the draft-timbers, the box E, the rod F, connected to the draw-head, the sleeves H I, spring J, the wedge P, washer O, and a nut placed upon the rear end of the rod, substantially as described.
2. The combination of the draw-head, the rod F, connected thereto, the box E, the nut K, provided with a notched flange, the wrench L, provided with the flanges M, and the projection N, substantially as set forth.
3. The combination of the draw-head, a coupling-hook, the rod U, which is passed through the draw-head and hook, and which is provided with the projections V, with the sleeve X, provided with cams, and the levers for operating the sleeve, substantially as specified.
4. The combination of the draw-head, the coupling-hook, the rod U, provided with projections V, the sleeve X, provided with the cams Y, and the levers W, provided with stops for catching against the side sills of the car, substantially as shown.
5. The combination of the draw-head, the



coupling-hook, the rod U, provided with projections, the sleeve provided with cams, the levers W, bearings A', and the flanges B', substantially as described.

5 6. The combination of the draft-timbers, the stirrup Q, provided with the T-shaped head S, the flanges R, and the draw-head, substantially as specified.

10 7. The combination of the draw-head, the hook T, provided with a tail, T', the sleeve X,

provided with a cam, Y, and the operating lever or levers for causing the sleeve to revolve, substantially as shown.

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

FRANK A. WESTBROOK.

WINFIELD S. COOK.

Witnesses:

W. E. McCORMICK,  
FRED SCHWEIKER.