

(No Model.)

2 Sheets—Sheet 1.

R. H. DOWLING.

CAR COUPLING.

No. 387,584.

Patented Aug. 7, 1888.

Fig. 1.

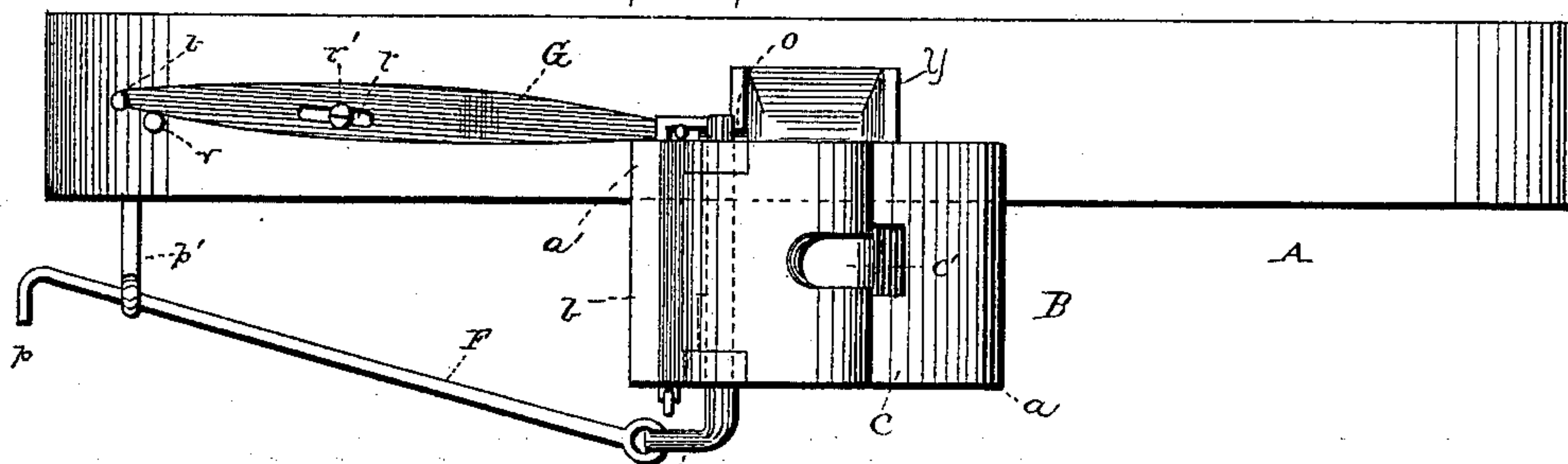


Fig. 2.

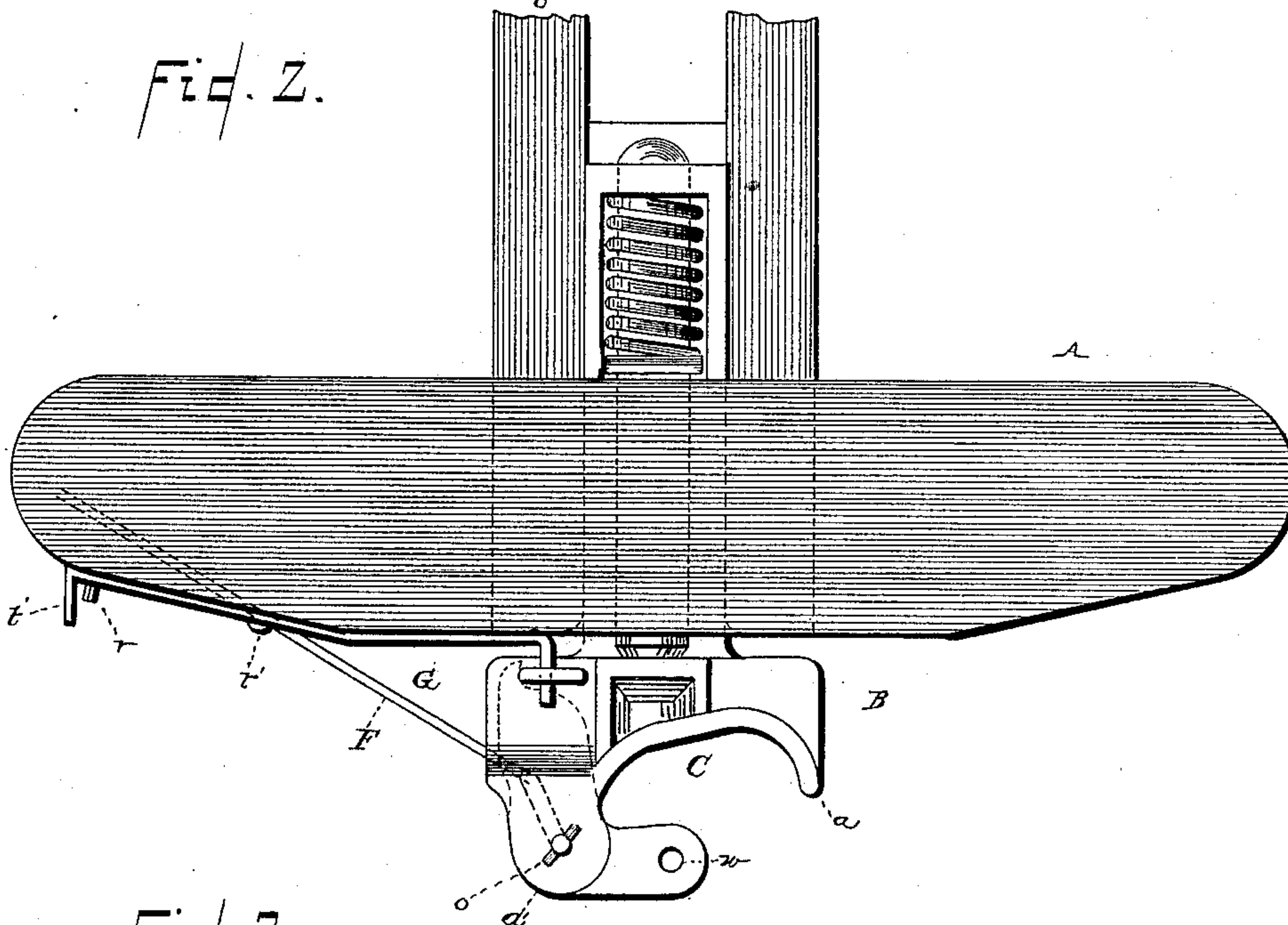
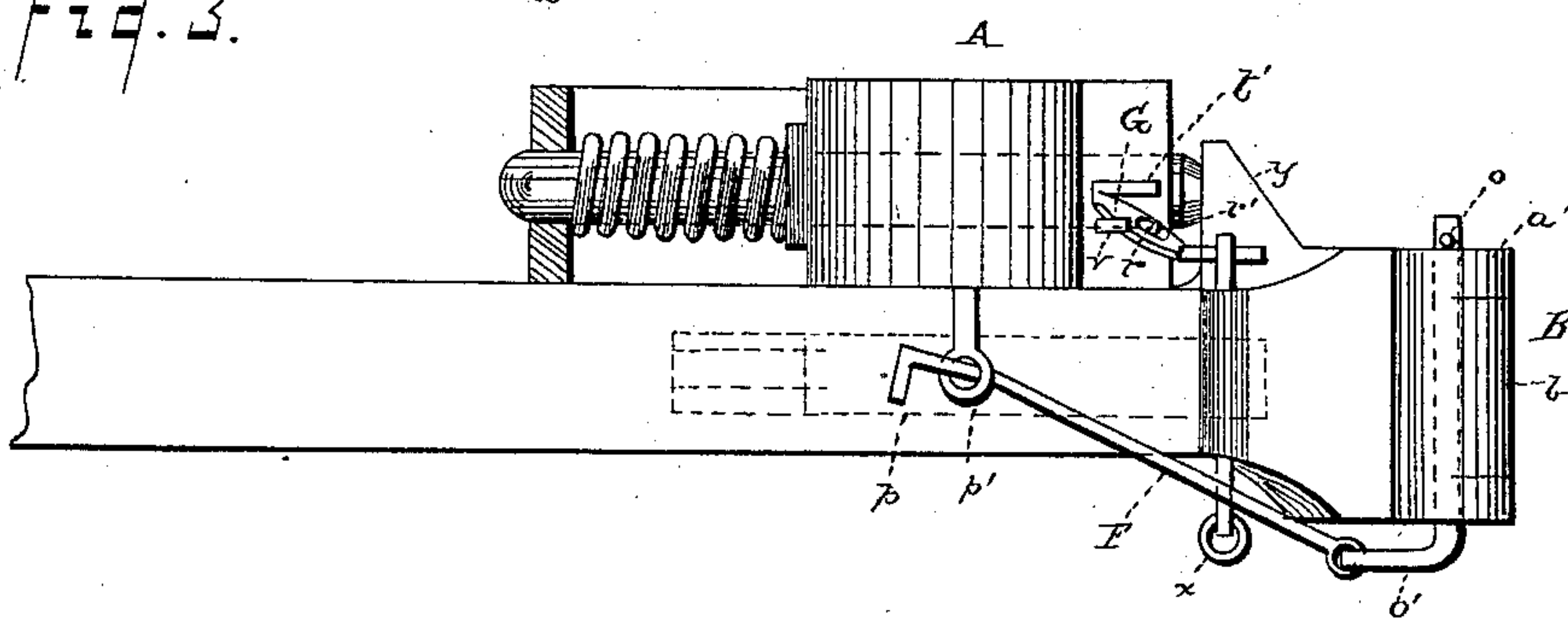


Fig. 3.



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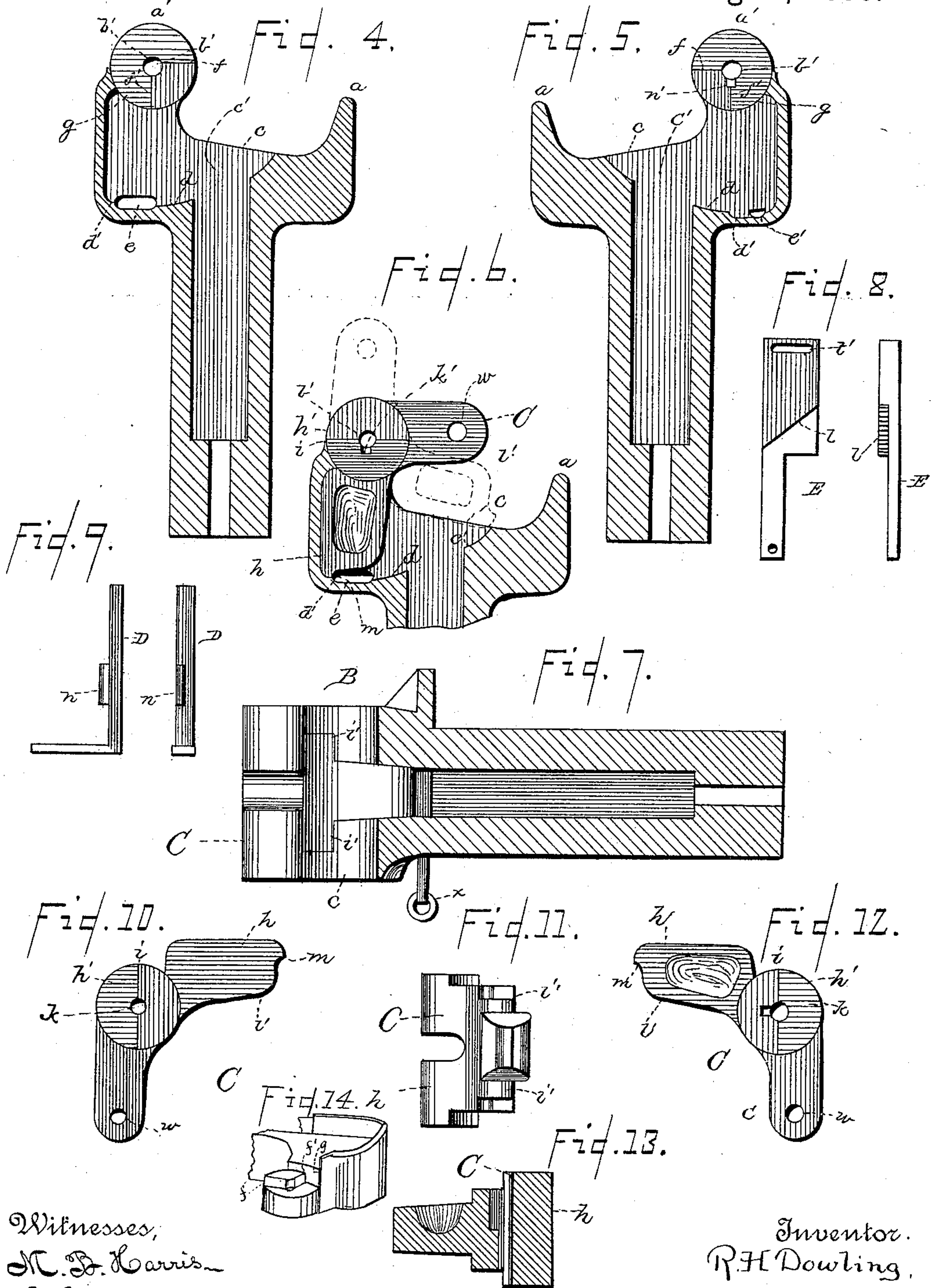
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C. R. Ferguson.

By his Attorney.

Inventor.
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UNITED STATES PATENT OFFICE.

ROBERT H. DOWLING, OF NEWARK, OHIO, ASSIGNOR OF TWO-THIRDS TO CHARLES H. FOLLETT AND CHARLES FOLLETT, BOTH OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 387,584, dated August 7, 1888.

Application filed January 7, 1888. Serial No. 260,033. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. DOWLING, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Car - Couplings; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view of the invention. Fig. 2 is a top view. Fig. 3 is a side view. Figs. 4 and 5 are sectional views of the draw-head. Fig. 6 is a sectional view of the draw-head, showing the movable jaw. Figs. 7, 8, 9, 10, 11, 12, and 13 are detail views. Fig. 14 is a detail perspective showing the shoulders $f f'$.

The invention relates to car couplings; and it consists in the construction and novel combination of parts, as hereinafter set forth.

Referring to the drawings, A designates the end sill of a car provided with the usual bearings and buffers for the shank of the draw-head B.

At one side the draw-head B is provided with the integral forwardly-extending projection a , and upon its opposite side extend the bearing-lugs a' . The outer wall or portion, b , of the draw-head adjacent to the lugs a' extends forward to a point longitudinally opposite the bearing-openings b' in the lugs. The front face, c , of the draw-head B is horizontally of a general concave form. The inner edges of the lugs a' , however, project toward the vertical center of the face c . A recess, c' , formed in the draw-head, extends from the wall b nearly across the face c , as shown. Its vertical wall d describes nearly the arc of a circle. The wall d of the recess c' is vertically recessed, as shown at d' , said recess d' registering with an upward and outward opening, e , and oppositely connecting at one side with the downward opening e' . The openings $e e'$ and the recess d' are for the accommodation of a flat locking-key, hereinafter described. The lugs a' are segmentally thickened, as shown, to form the shoulders $f f'$, and shoulders g are pro-

vided at a portion of the circumference of the lugs.

C is the movable jaw or coupling-hook, having the shank portion h , standing at nearly right angles thereto, and the bearing-block h' . The bearing-block h' is designed to turn between the lugs a' , and the shank h moves in the recess c' . The outer ends of the bearing-block h' are transversely shouldered, as shown at i . When the movable jaw is in a closed or locked position, the shoulders i are brought in contact with the shoulders f of the lugs, and the projections i' of the bearing-block impinge upon the shoulders g , thus relieving the pivotal bearing of the block C from pressure inwardly during the operation of connecting the cars. The shoulders f' of the lugs are designed, by coming in contact with a portion of the shoulders g , to prevent the movable jaw from opening too far.

The bearing-block C is provided with a longitudinal opening, k , registering with openings b' in the lugs a' , and through said openings $k b'$ a pin, D, is passed, pivotally turning in the openings b' .

E represents the locking-key, the upper section of which is adapted to the size of the opening e and the recess d' , and the lower portion is made narrower in cross-section to fit the opening e' through which it passes, extending normally below the lower face of the draw-head B, where it may be provided with a ring or pin-stop, x . The upper section of the locking-key E is thickened and provided with the inclined shoulder l , projecting beyond the recess d' . When the movable jaw C is opened, the outer edge, l' , of the shank h stands outwardly from the plane of the face of the draw-head to receive the pressure of the coupling of an approaching car. As the couplings come in contact, the shank h is forced into the recess c' , closing the jaw C, and thus forming a coupling. As the shank h passes inward, its end bears against the inclined shoulder l , pushing the key upwardly until the projection m of the shank passes to the opposite side of the key. The key then drops and locks the jaw C in a closed position.

The pin D is provided on one side with a guard, n , and the opening k is recessed at one side to engage the guard n , which prevents the

jaw from turning on the pin, the pin turning in the openings b' of the lugs, one of said openings having the radial notch n' to allow the pin and guard to be inserted. One end of the pin D projects through the lug-opening, and is provided with a retaining-pin, o , which passes through a transverse opening near the end of the pin. The opposite end of the pin D extends through the lug-bearing and is turned to form the crank o' , standing at right angles to the pin.

An operating-rod, F , is pivotally connected to the crank o' , and extends outwardly to the side of the car, where it is provided with a handle, p . An eyebolt, p' , or other suitable bearing is secured to the end sill through which the rod F passes.

G is a bar for operating the locking-key E . The bar G has the slot-opening r near its center, through which a pivot-bolt, r' , passes. This pivotal connection allows the bar G to be worked longitudinally and as a lifting-lever. The inner end of the bar G is turned outward to engage in the transverse opening t in the key E . This outwardly-turned portion extends some distance beyond the key, so as not to become disengaged when the draw-head is pulled outward by strain. The outer end of the bar G is turned at right angles to form a handle, t' , and near the handle t' a retaining-pin, v , is seated in the sill A . By this arrangement of working-levers the operator is not required to place himself between the cars while coupling. The operator stands at the side of the car, grasping the handle of the bar G with one hand and the handle of the rod F with the other hand, and to place the coupling in an open position he lifts the key E . By pushing down on the handle of the bar G and by pulling outwardly the handle is brought

underneath the retaining-pin v , securing the bar. By pushing the rod F inwardly it operates on the crank o' , thus opening the jaw. The key may then be lowered, and the approaching draw-head automatically closes and locks the jaw.

The movable jaw at its outer end is centrally cut away and provided with the pin-hole w , in order that the ordinary link and coupling-pin may be used when necessary. An integral projection, y , in the upper side of the draw-head is designed to strike against a buffer.

Having described my invention, what I claim is—

1. In a coupling, the combination of the draw-head having the recess, the movable jaw having the shank provided with the projection m , the pin D , having the crank portion and the guard n , the flat locking-key having the inclined shoulder, the transverse slot, and the retaining-pin x , substantially as specified.

2. The combination of the draw-head having the bearing-lugs, the segmental shoulders thereon, and the shoulders g , the recesses $e' d'$, the openings $e e'$, the key E , having the inclined shoulder and the stop x , the movable jaw having the shank portion provided with the projection, and the bearing-block having the transverse shoulder, the locking-key having the shoulder and the transverse slot, the pin provided with a guard and crank portion, and the operating-levers, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT H. DOWLING.

Witnesses:

A. A. STASEL,

CHAS. W. SEWARD.