(No Model.)

C. DE ROBERTS.

CAR COUPLING.

No. 452,862. Patented May 26, 1891.

Fig 1

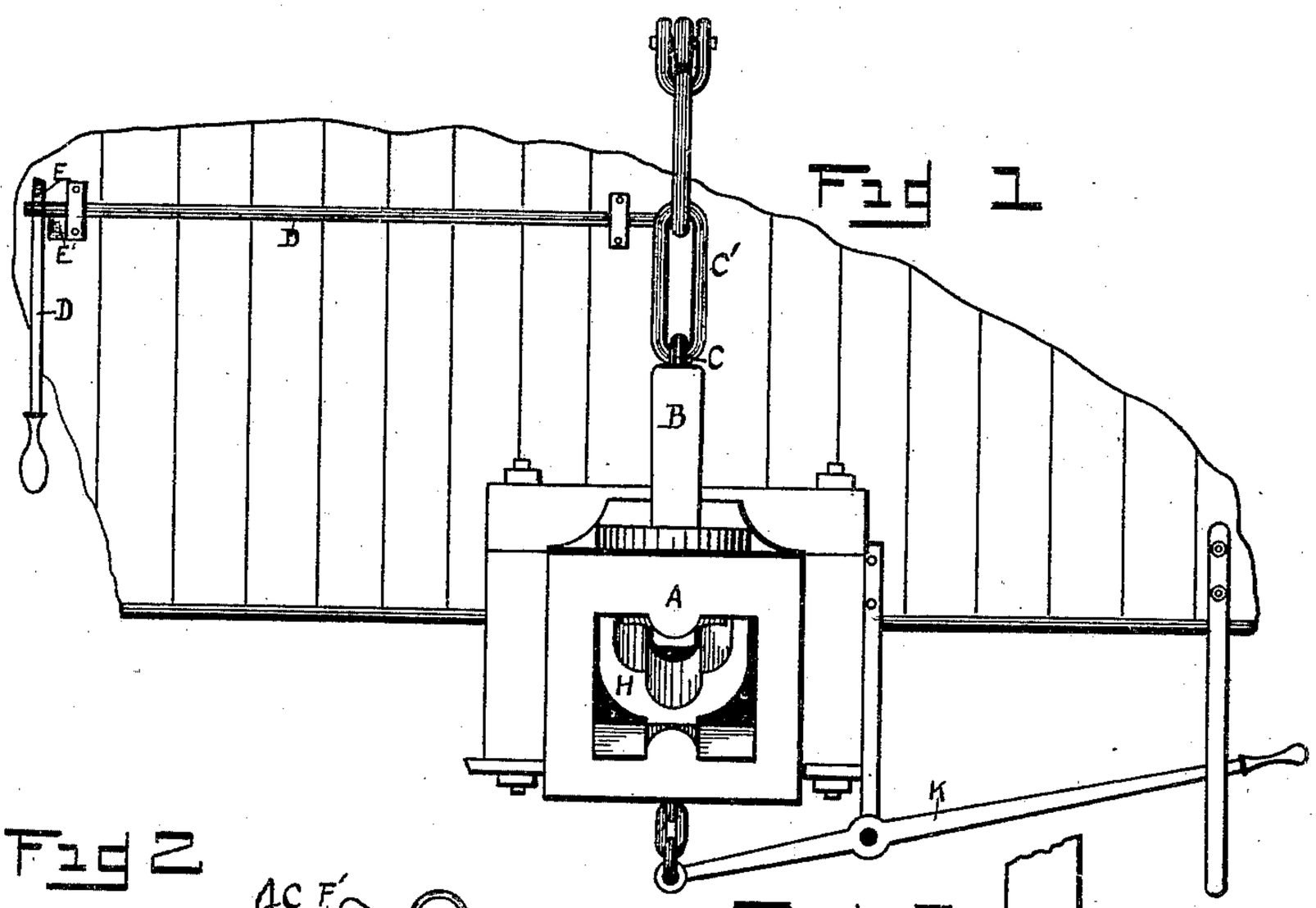


Fig 2

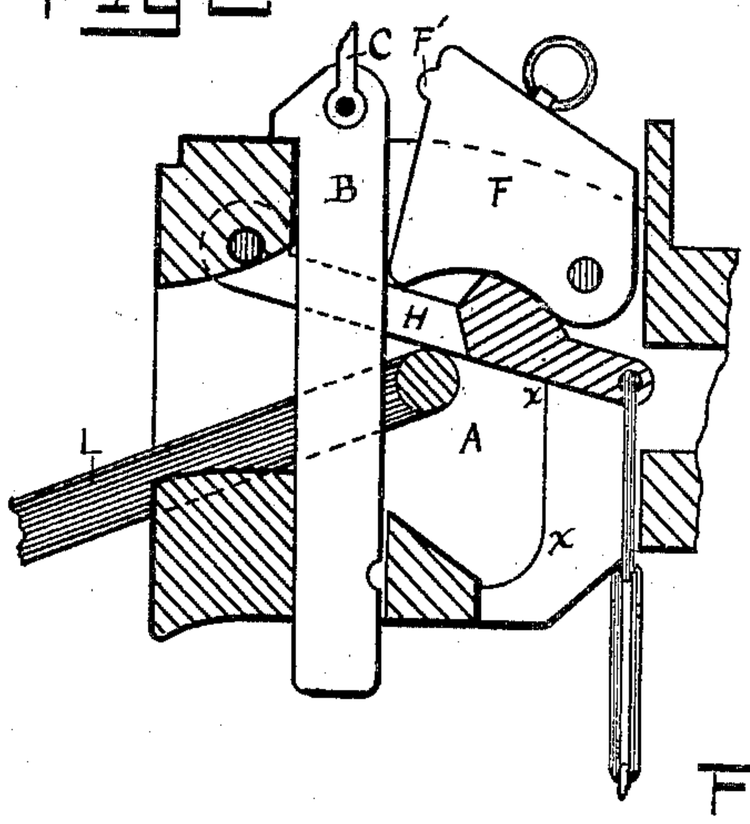


Fig 3

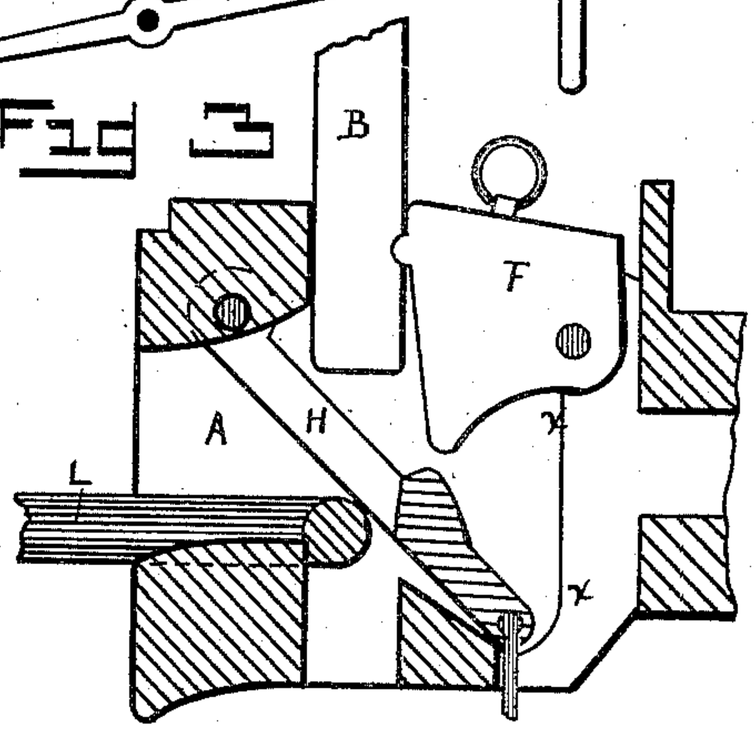
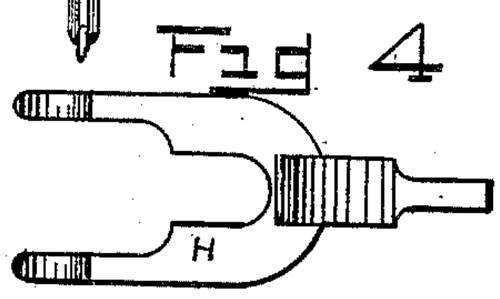


Fig 4



Charles de Roberts

INVENTOR

WITNESSES:

Frank Chrysler.

C. A. Butlin.

BY C. M. Sues.

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES DE ROBERTS, OF OMAHA, NEBRASKA, ASSIGNOR OF ONE-HALF TO FRANK E. ALEXANDER, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 452,862, dated May 26, 1891.

Application filed January 19, 1891. Serial No. 378,363. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DE ROBERTS, of Omaha, in the county of Douglas and State of Nebraska, have invented certain useful Improvements in Car-Couplings; and I do hereby declare that the following is 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, which form a part of this specification.

This invention has relation to new and useful improvements in car-couplings.

The object of this invention is to provide a new and novel link-controlling draw-head that shall lock automatically and embrace the use of the well-known link and pin; and in furtherance of this object the invention consists in the construction, combination, and arrangements of parts, as hereinafter more fully described, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a broken end view of a car having my improved draw-head attached. Fig. 2 shows a vertical sectional view of my draw-head in a locked position. Fig. 3 illustrates a vertical sectional view of my draw-head with the parts as arranged when adapted to receive the link, while Fig. 4 represents a top view of the bifurcated tongue as used in my device.

Similar letters of reference refer to corresponding parts.

A represents a draw-head of the usual conformation, which is provided with an interior recessed chamber, a pin-opening, and at the top and bottom with coinciding elongated slots, the one upon the upper side leading into the pin-opening, as will be understood by referring to Figs. 2 and 3.

B represents a pin of the usual form of construction, which is provided at the upper end with a stirrup C, adapted to engage the link C′, which latter is attached to an ordinary crank-lever D, by means of which the said pin B is operated. The crank-lever D extends to one side of the car, (or both, if desired,) and is provided with a hand-lever D′, by means of which said lever and pin are operated. The hand-lever D′ is provided with a stop E, which prevents the operator from withdrawing the pin B beyond the coupling. When it is desired to lock the pin in its upper extreme position, as in shunting cars, the lever D′ is simply forced upon the triangular block E′, the crank-lever being permitted a slight lateral movement, and locked so as to hold the pin in the position as illustrated in Fig. 1.

Working within the upper longitudinal slot of the draw-head A is the pivoted metallic tumbler F, which is provided at the under side with a curved riding-surface, as shown in the illustrations. The tumbler is pivoted at or near the lower rear corner, and upon the front edge is provided with a lug F′, which is adapted to work into a suitable groove at the lower end of the pin, as will be seen by referring to Figs. 2 and 3.

Pivoted within suitable grooves of the draw-head, at the upper portion thereof and in front of the pin-opening, is the bifurcated tongue H, as shown in Fig. 4, preferably of steel, which is provided with a cam-back adapted to ride within the lower curved edge of the tumbler F, and at the rear with a perforated stem adapted to engage with a stirrup H′, which is connected by means of a chain (which passes through the under slot of the draw-head) to the operating-lever K, as shown in Fig. 1. The tongue H is so constructed that when its stem rests within the draw-head the pin B may readily pass between its bifurcations. When the pin B is entirely withdrawn, the forward lower edge of the tumbler is made to rest upon the cam-back of the tongue H. When the pin is to be inserted, the tumbler is carried upward by means of a suitable hand-ring, as illustrated.

In its employment the coupler operates as follows: The pin B is first inserted and held by means of the tumbler F, which engages the pin by means of its lug. The stem of the tongue, of course, drawn down by its own weight and that of the connected chain, rests within the bottom of the draw-head and in such a manner that the cam-back will rest immediately below the tumbler F, as shown in Fig. 3, which shows the arrangement of the elements at the moment the link L enters the

draw-head. As soon as the link collides with the tongue H the latter is quickly forced upward and out of the path of the link, and in turn upsets and forces the pivoted tumbler F into an upward position, whereby the pin B is released, which promptly drops through its way, and thus secures the link L, as illustrated in Fig. 2. Now when a coupling is to be made the operator may stand at the side of the car and by means of the lever K give the link L direction. The greater portion of the link always projecting beyond the face of the draw-head, the link is always in the position as represented in Fig. 2, so that the link may be held horizontal or given an upward or downward direction to suit the necessity of the occasion. When the tongue H is brought into its upward position, the chain connecting the tongue H and lever K passes into a narrow slot beyond the chamber within the draw-head, which ends at the line marked *x x*, so that the link in making a coupling is not forced against any of the working effects, but against the rear of the chamber, which is of course made sufficiently strong to withstand the shock.

The effects added to the draw-head to make a link-controlling automatic coupler are simply the tumbler F and the tongue H, which latter performs a double function, in that it is the means of releasing the pin and also controlling the link. All the parts are exceedingly simple of construction and may be readily assembled and operated.

Having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In a draw-head, the arrangement of the following instrumentalities, to wit: a gravity-actuated tumbler, a pivoted link-controlling tongue adapted to work below and against said tumbler, and an operating-lever connected to said tongue, said tongue and tumbler being adapted to operate in combination with a link and pin, all substantially as and for the purpose set forth.

2. In a link-controlling draw-head, a gravity-actuated tumbler adapted to work against a suitable pin, and a pivoted tongue adapted to work against said tumbler, in combination with a chain and lever for operating said pivoted tongue, all arranged substantially as shown, and for the purpose set forth.

3. In a link-controlling draw-head, the combination of the following instrumentalities, to wit: a pivoted gravity-actuated tumbler, said tumbler being provided with a lug adapted to engage within a groove, a suitable pin, a bifurcated cam-backed tongue adapted to work against said pivoted tumbler, and an operating-lever pivoted to said tongue, all of working effects being adapted to be operated in conjunction with a link, substantially as and for the purpose set forth.

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

CHARLES DE ROBERTS.

Witnesses:

JOHN F. FLACK,

ROBERT A. MCEACHRON.