(No Model.)

S. D. SMITH.

CAR COUPLING.

No. 472,958. Patented Apr. 12, 1892.

Fig. 1.

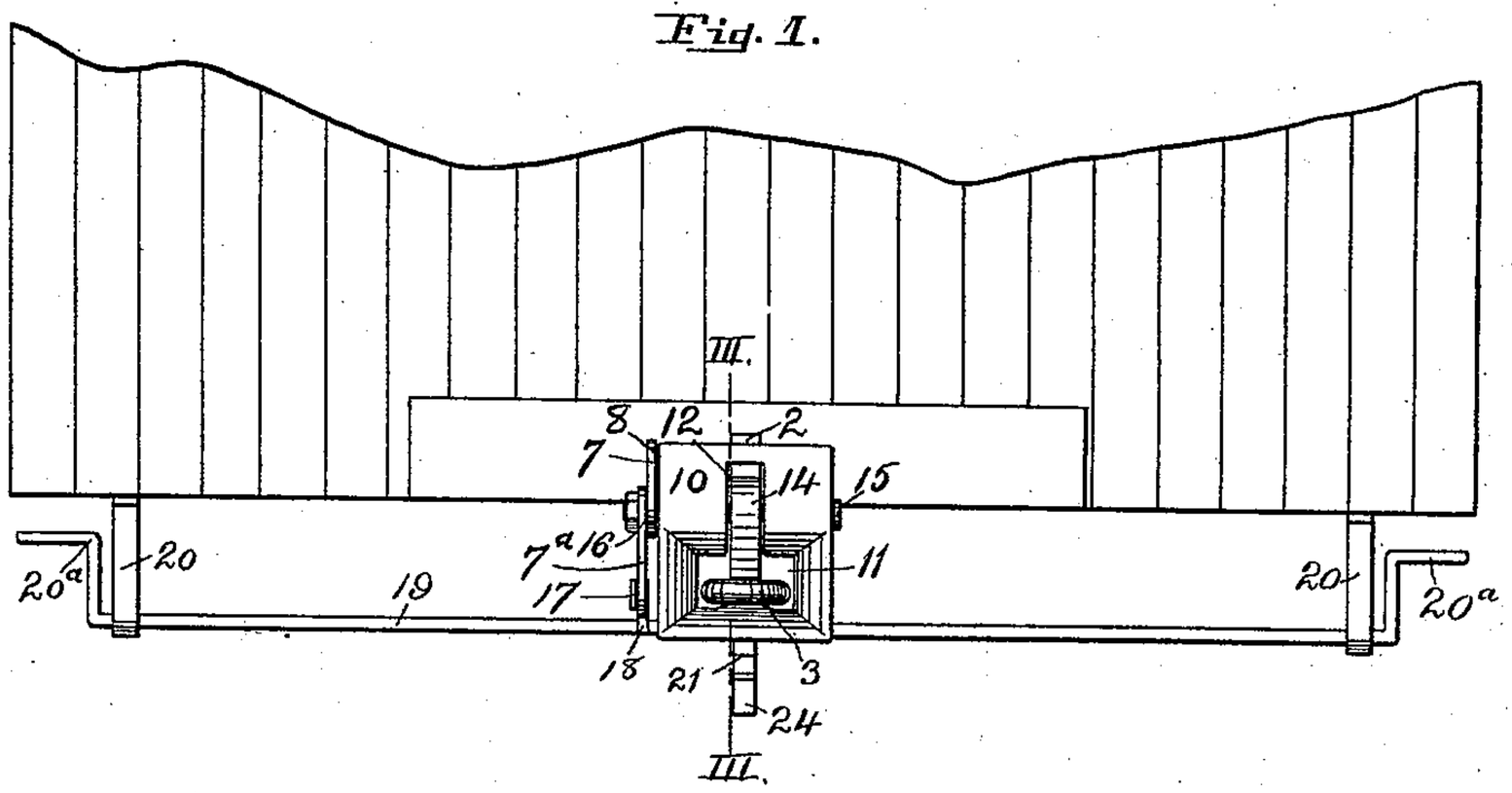


Fig. 2.

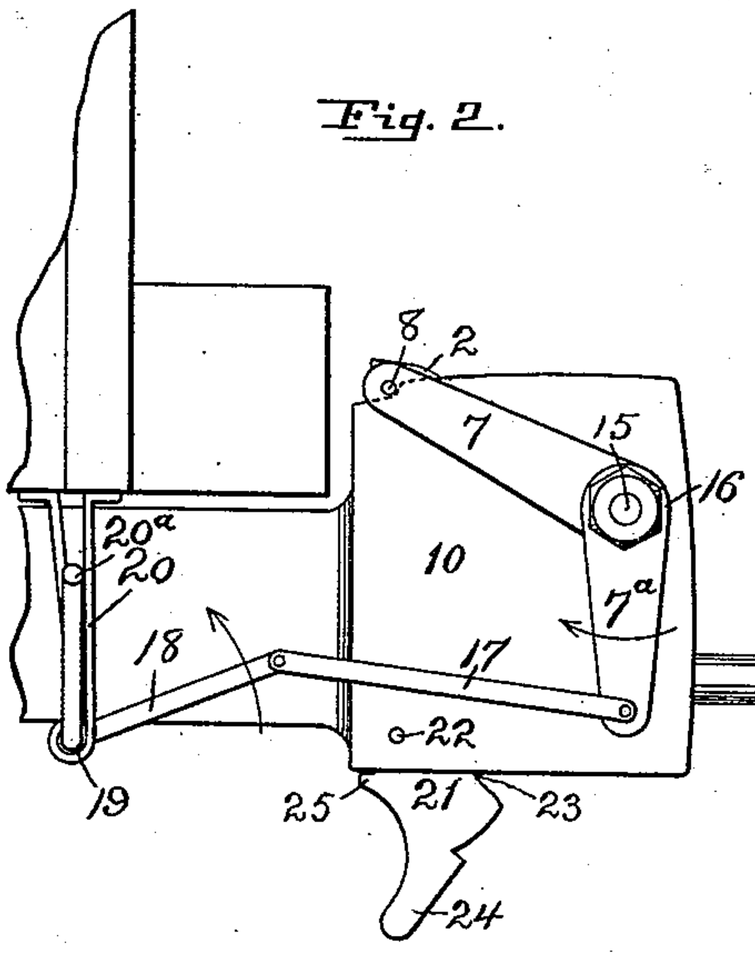
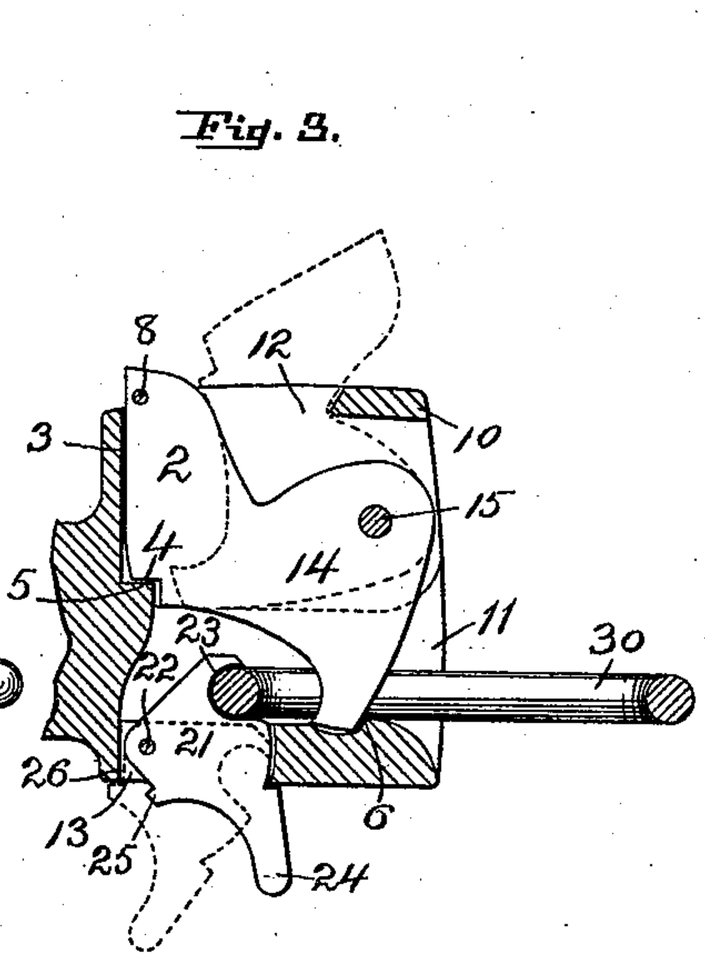


Fig. 3.



WITNESSES:

Arthur L. Kent.

A. S. Kent

INVENTOR

Stephen D. Smith

BY

Edward Kent Jr.

ATTORNEY

UNITED STATES PATENT OFFICE.

STEPHEN D. SMITH, OF SPOTSWOOD, NEW JERSEY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,958, dated April 12, 1892.

Application filed November 7, 1891. Serial No. 411,181. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN D. SMITH, of Spotswood, in the county of Middlesex and State of New Jersey, have invented a new and Improved Car-Coupler, of which the following is a specification.

The object of my invention is to produce an automatic car-coupler which shall be strong, durable, and simple, and one wherein the parts are so arranged that the link may be held in proper position to enter the draw-head of an adjacent car.

To the end above named the invention consists, essentially, of a coupler provided with a pivotally-mounted coupling-hook that is provided with a rear bearing-face and a link-holder, which is also pivotally mounted, arranged so that when not in engagement with the link it will drop into a recess below the level of what might be termed the "floor" of the link-chamber.

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

Figure 1 is a view of a portion of the end of a car, representing the same as it appears when provided with my improved coupler, the link being shown in position within the draw-head. Fig. 2 is a side view of the coupler upon an enlarged scale, and Fig. 3 is a longitudinal sectional view on line III III of Fig. 1.

In the drawings above referred to, 10 represents the draw-head, which is formed with the usual link-chamber 11, with a slot or opening 12, which leads from the link-chamber up through the upper face of the draw-head, and with a slot 13, which extends through the floor of the link-chamber. Within the slot or recess 12 I mount a coupling-hook 14, which is supported by a pivot-pin or bolt 15. The coupling-hook 14 is formed with a rearwardly-extending projection 2, which when the parts are in the coupling position, as represented in full lines in Fig. 3, abuts against the rear defining-wall 3 of the slot or recess 12, as is clearly shown. To ease the hook from all undue strain, I prefer to form it with a bearing-face 4, that rests upon a shelf 5 when the parts are in the coupling position, the lower end of the hook at this time abutting against a shoulder 6. The forward edge of the hook 14 is inclined, so that if such hook be borne upon by an entering link the hook will move upward from the position in which it is shown in full lines to the position indicated by dotted lines in Fig. 3, so that any continued inward movement of the link will carry said link from engagement with the hook, and the hook will then drop down within the link-opening, as will be readily understood.

With such a coupler as the one I have described it is desirable that provision be made for coupling cars from the side—that is, without entering the space between the car ends—and in order that this coupling may be brought about I mount a double-armed lever 16 upon the pin or bolt 15, the upper member 7 of said lever 16 being connected by a rod or bar 8 with the rear portion of the hook-extension 2, while the lever member 7^a is through the medium of a link 17 connected to the arm 18 of a rock-shaft 19, said shaft being, by preference, supported by brackets 20, that are arranged as clearly shown in Figs. 1 and 2, the ends of the rock-shaft being provided with crank-arms or handles 20^a, that are within reach of a train-man standing at the side of the car, the arrangement being such that if the crank-arm be thrown toward the center of the car the arm 18 will be moved in the direction of the arrow shown in connection therewith in Fig. 2, and as such arm 18 so moves the lever 16 will move, as indicated by the arrows shown in connection therewith in Fig. 2, this movement of the lever 16 carrying the coupling-hook 14 to the position in which it is shown in dotted lines in Fig. 3.

In coupling it is extremely desirable that some provision be made for holding the link 30 so that it will extend outward from the draw-head in a line that is substantially horizontal; and to this end I provide a link-holder 21, that is mounted within the slot or recess 13, the holder being supported by a pin or bolt 22 and being provided with a recess 23, adapted to engage the link 30, as is clearly shown in Fig. 3. The link-holder normally rests in the position in which it is shown in dotted lines in Fig. 3; but when it is desired to couple with an approaching car the attendant grasps the handle or projection 24 and throws the

holder 21 to the position in which it is shown in full lines in Fig. 3, the link 30 at this time being moved so that it will be engaged by the holder. Then after coupling, when the link is drawn outward, the link-holder will return to its normal position, all undue downward movement being prevented by a lug or projection 25, which strikes against the abutment 26.

The many varied advantages of the coupler hereinbefore described will be fully appreciated by railroad men generally.

It will of course be understood that a cap or hood could be placed over the draw-head, and the slot or recess 12 thereby be protected from sleet, snow, &c.

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

In a car-coupler, the combination, with a pivotally-mounted coupling-hook, of a pivotally-mounted link-holder.

STEPHEN D. SMITH.

Witnesses:
HENRY S. TEN BROECK,
GEO. W. DEVOE, Jr.