

(No Model.)

S. G. MARSH.
CAR COUPLING.

No. 330,601.

Patented Nov. 17, 1885.

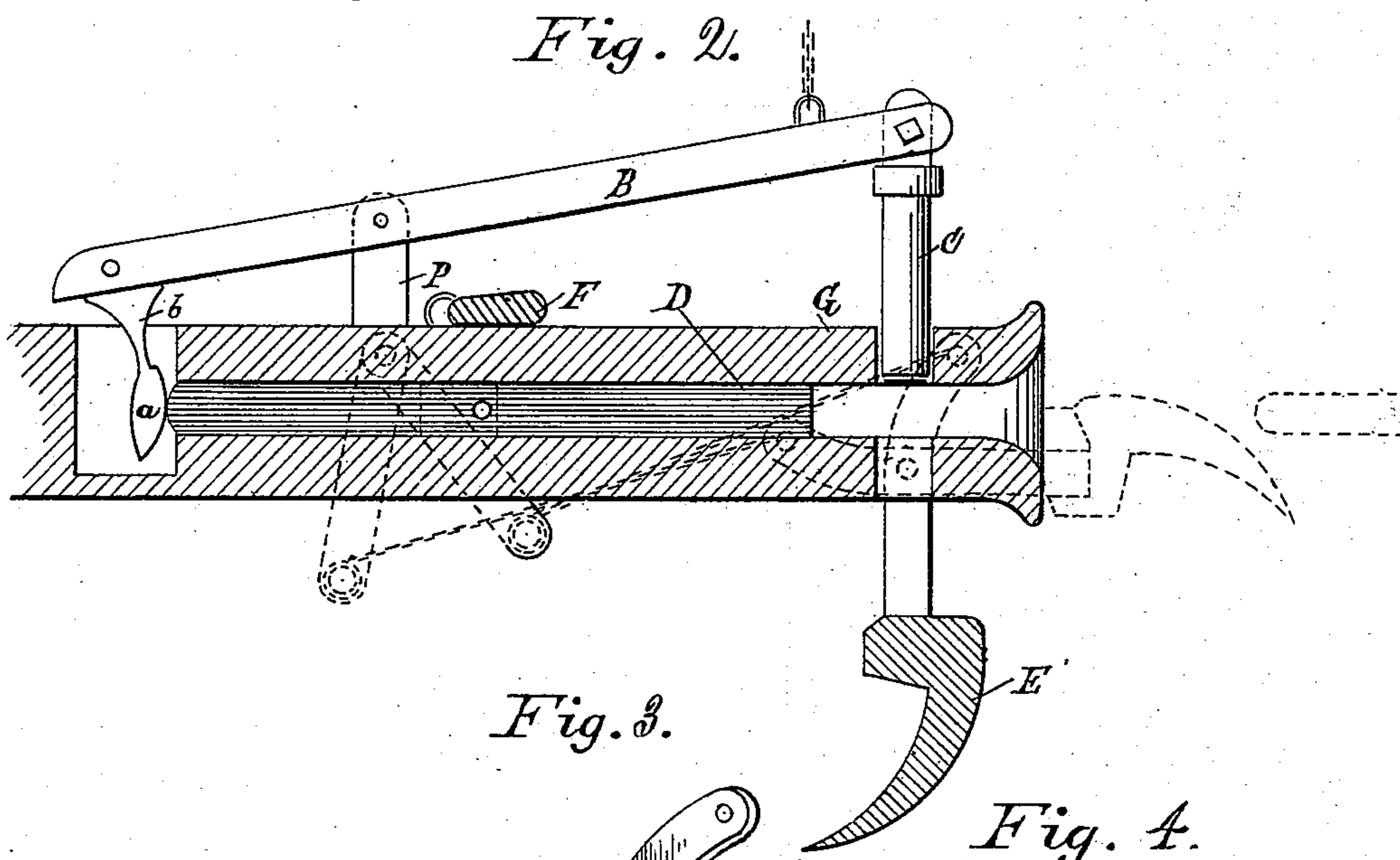
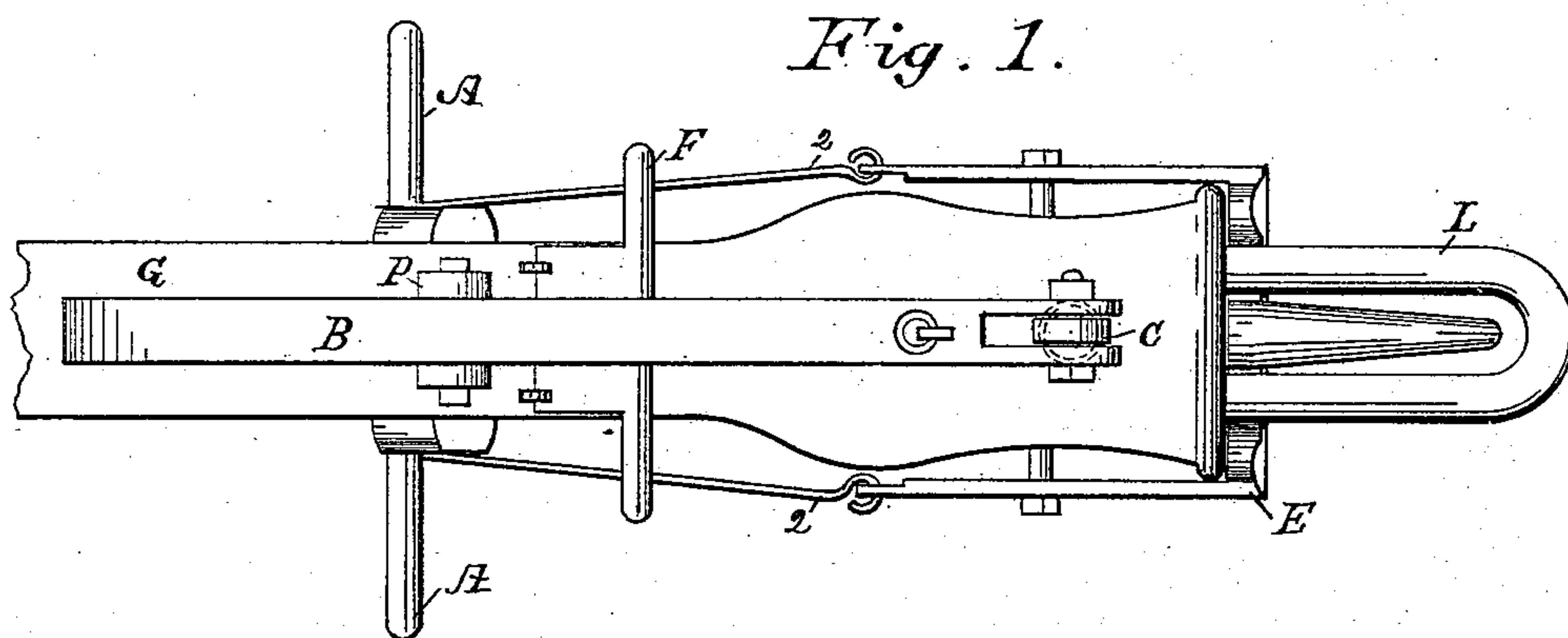


Fig. 3.

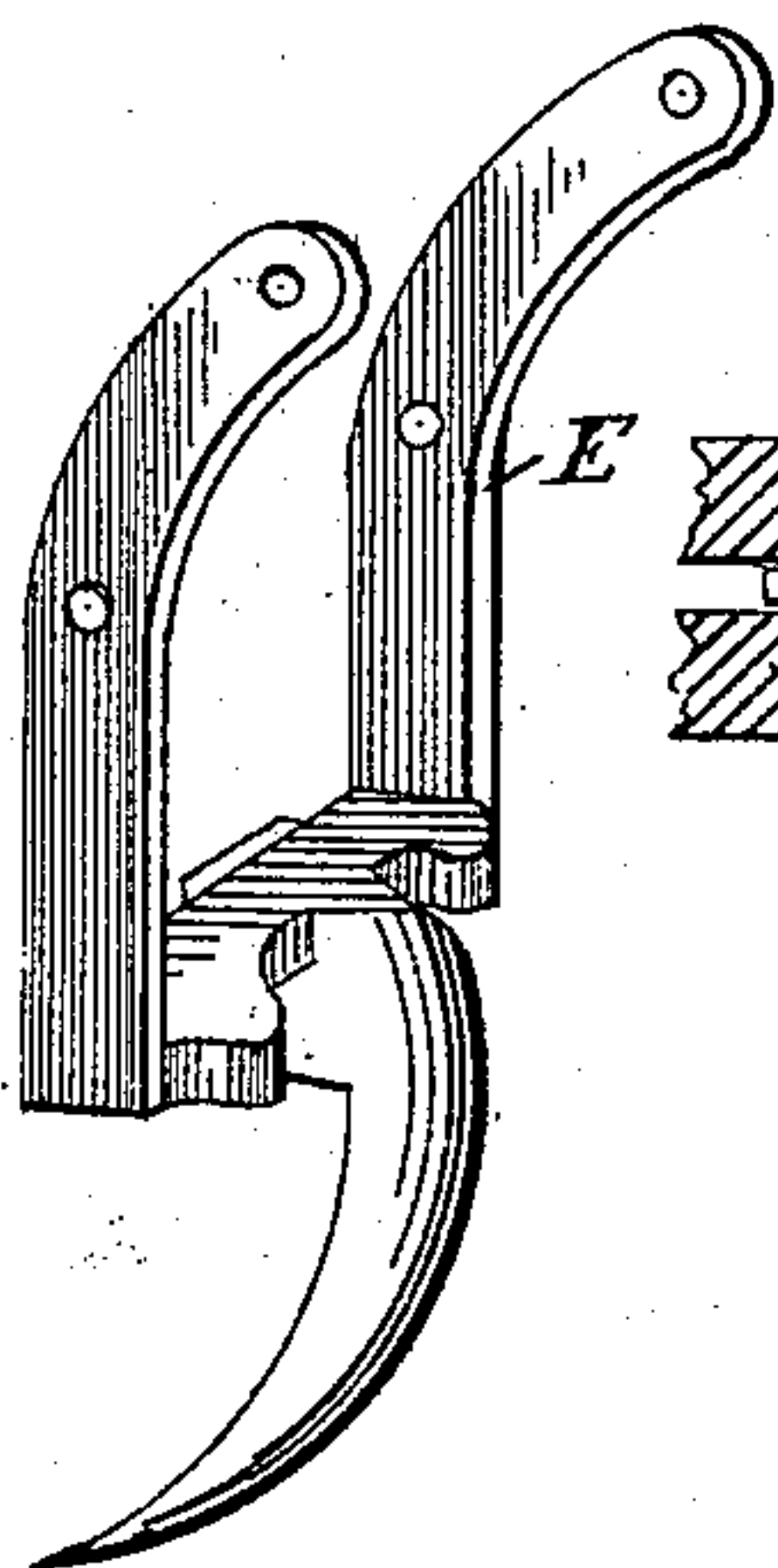
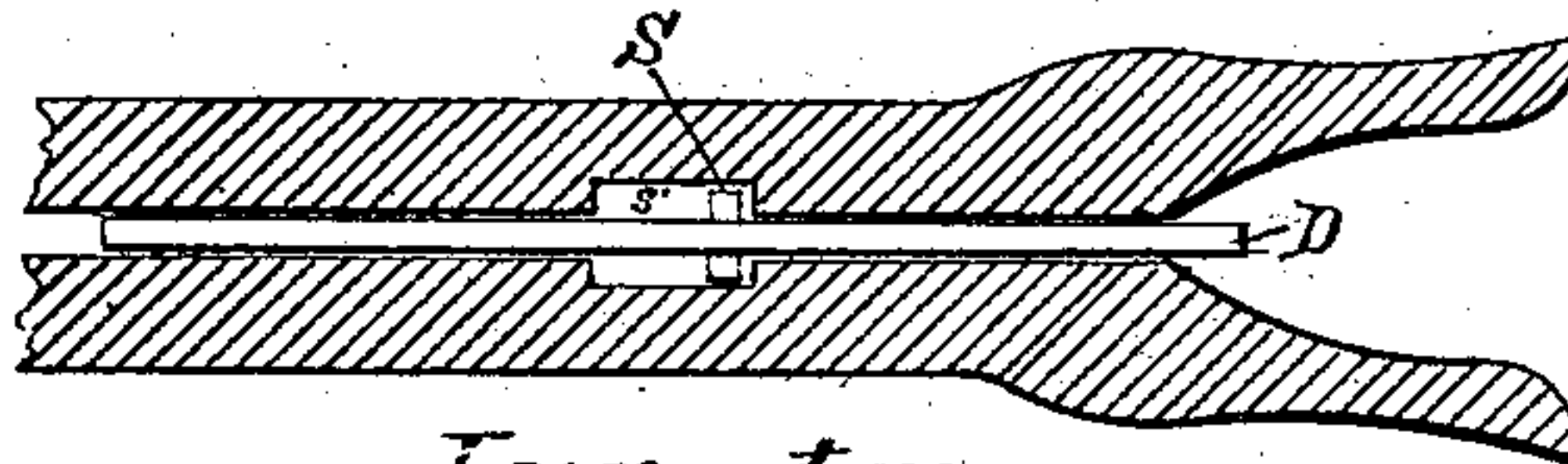


Fig. 4.



Witnesses:

D. M. Metcalf

Thomas P. Simpson

Inventor.

S. G. Marsh

per. Martin Metcalf,

Attorney.

UNITED STATES PATENT OFFICE.

SAMUEL G. MARSH, OF BATTLE CREEK, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 330,601, dated November 17, 1885.

Application filed August 21, 1885. Serial No. 174,989. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. MARSH, a citizen of the United States, residing at Battle Creek, in Calhoun county, and State of Michigan, have invented certain new and useful Improvements in Automatic Railway Car-Couplings, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of car-couplers wherein the coupling-pin is attached to the outermost end of a vertically-reciprocating lever pivoted to a post, which rises from the draw-bar, and which lever is thrown down, and the couplers connected by the contact of the entering link with devices operating in connection with said reciprocating lever.

The objects sought to be attained by the use of my invention are, first, to secure certainty of operation with the greatest possible degree of simplicity of parts and ease of operation; second, to provide means for preventing the coupling of cars when not desired, and at the same time afford safe-guards against injury to the coupling devices, as will hereinafter more clearly appear.

My improvement consists, first, in the combination, with the draw-bar of a railway car, of a vertically-reciprocating lever pivoted to the said draw-bar, the outermost end of which carries the coupling-pin while its opposite end is provided with a spring-catch, so formed and operating, in connection with the entering link and a sliding rod suitably provided therefor in a recess of the draw-bar, that the lever is actuated, the pin forced down to its place, and the cars coupled, automatically; second, in providing a novel link-guide and shoe, operated vertically from the under side of the draw-bar, its forward end carrying a central link-guide projecting forward and downward in such manner as to secure the proper direction and altitude of the link at the moment of coupling, and at the same time afford certain safety to the coupling devices by the action therewith of the approaching draw-bar, automatically, without reference to the operator; third, in providing the coupling devices with a lock-plate, so operated that the cars may be switched from place to place and the "bumper-heads" come in contact without

danger, either of coupling to a car when not wanted or of injury to the coupling devices, as will presently appear manifest.

In the drawings, wherein like letters of reference refer to like parts, Figure 1 represents a top or plan view of my new automatic coupler with the link held in place, ready for entering the draw-head of another car, for the purpose of attachment thereto. Fig. 2 represents a vertical longitudinal section of the same on nearly a center line. Fig. 3 shows the shoe and curved guard and guide detached; and Fig. 4 represents a horizontal longitudinal section near its center, showing the sliding rod D, for actuating the lever by the contacting link L.

G denotes the draw-bar, from the top of which rises the post P, to which is pivoted the vertically reciprocating lever B, the outermost end of which carries the coupling-pin C, and from the opposite extremity of said lever depends the spring-catch *a b*.

L represents the link, and E the hinged guide and guard or shoe for lifting and holding the link in position while coupling, and E' shows the curved guard and guide with which the hinged shoe is provided for aiding in the work of coupling, and also to afford means, by its downwardly-curved hook, for forcing the link-holding device E down out of the way, by reason of its contact with the impinging draw-bar or bumper-head in the act of coupling, or whenever the coupling devices come in contact with each other or the draw-head of another car. The hinged shoe E is suitably pivoted to the draw-bar, as shown in Figs. 1 and 2, and operated by means of the swinging lever A, or any suitable device, requisite reach-rods 2 2' being provided for that purpose. So, also, may a suitable "lock-plate" or equivalent device to that, presently to be described, be located on the car end or side and connected to the vertically-reciprocating lever by means provided in its top, near the coupling-pin, as shown in Figs. 1 and 2.

D represents the sliding rod, provided with its stop S, having a short movement in the recess S' of the draw-bar, Fig. 4, and F shows the lock-plate or stop for locking the coupling devices so that they shall not be operative when not desired.

The mode of operation of my improved coupler is as follows, viz: The link L is first placed in position, as shown in Fig. 1, and, as the car to be attached approaches, is held up to a level or nearly-horizontal position by means of the swinging lever A, the car to be coupled carrying, meanwhile, the coupling devices in a normal position, (shown in Fig. 2,) the dotted lines therein showing the shoe thrown up, as represented in Fig. 1, but without the link, the latter being here represented, also by dotted lines, as about to enter the open end of the draw-head. As will be seen, the end of the entering link, as it impinges against the outer end of the rod D, forces that against the catch *a* of the spring-shank *b*, depending from the lever B, which, thus actuated, forces the coupling-pin down, where it engages the link, thus connecting the cars. Should the careless operator fail to release the lever A at the proper moment, the contacting bumper-head engages with the curved central guide and guard, by which means the link-holding device is instantly forced down out of the way, thus effectually obviating all danger of accident from such cause. So, also, whenever it is desired to "lock" the coupling devices, in order to prevent the danger arising from accidentally coupling to a car not wanted, the operator has only to "switch-off," so to speak, his automatic coupler, by means of the hinged lock-plate F, situated just forward of the post P, Figs. 1 and 2. By turning this to a vertical position, the lever B, and all danger from this source averted, as is evident, since the elasticity of the spring-shank *b* of the lever B affords the requisite room for

the entering link to play in and out of the draw-bar without injury to the parts or any danger of attachment, as is evident. 40

Having thus fully described and illustrated my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The draw-head G, and pivoted pin-holder B, provided with spring shank and catch *b a*, in combination with rod D, all constructed and operated substantially as and for the purpose described. 45

2. The draw-head G, and pivoted pin-holder B, provided with spring shank and catch *b a*, in combination with the sliding rod D and hinged link-guide E, constructed, combined, and operated substantially as and for the purposes set forth. 50

3. The draw-head G, and pivoted pin-holder B, provided with spring and catch *b a*, in combination with the rod D and hinged guide E, provided with the recurved guard E', constructed, combined, and used substantially in the manner and for the purpose specified. 60

4. The draw-head G, and pivoted pin-holder B, provided with spring and catch *b a*, in combination with the sliding rod D, hinged guide and guard E, and lock-plate F, the same being constructed, combined, and used in substantially the manner and for the purposes set forth. 65

In testimony that I claim the foregoing I affix my signature hereto in the presence of two witnesses. 70

SAMUEL G. MARSH.

Witnesses:

FRANK G. REYNOLDS,
FRANK W. CLAPP.