

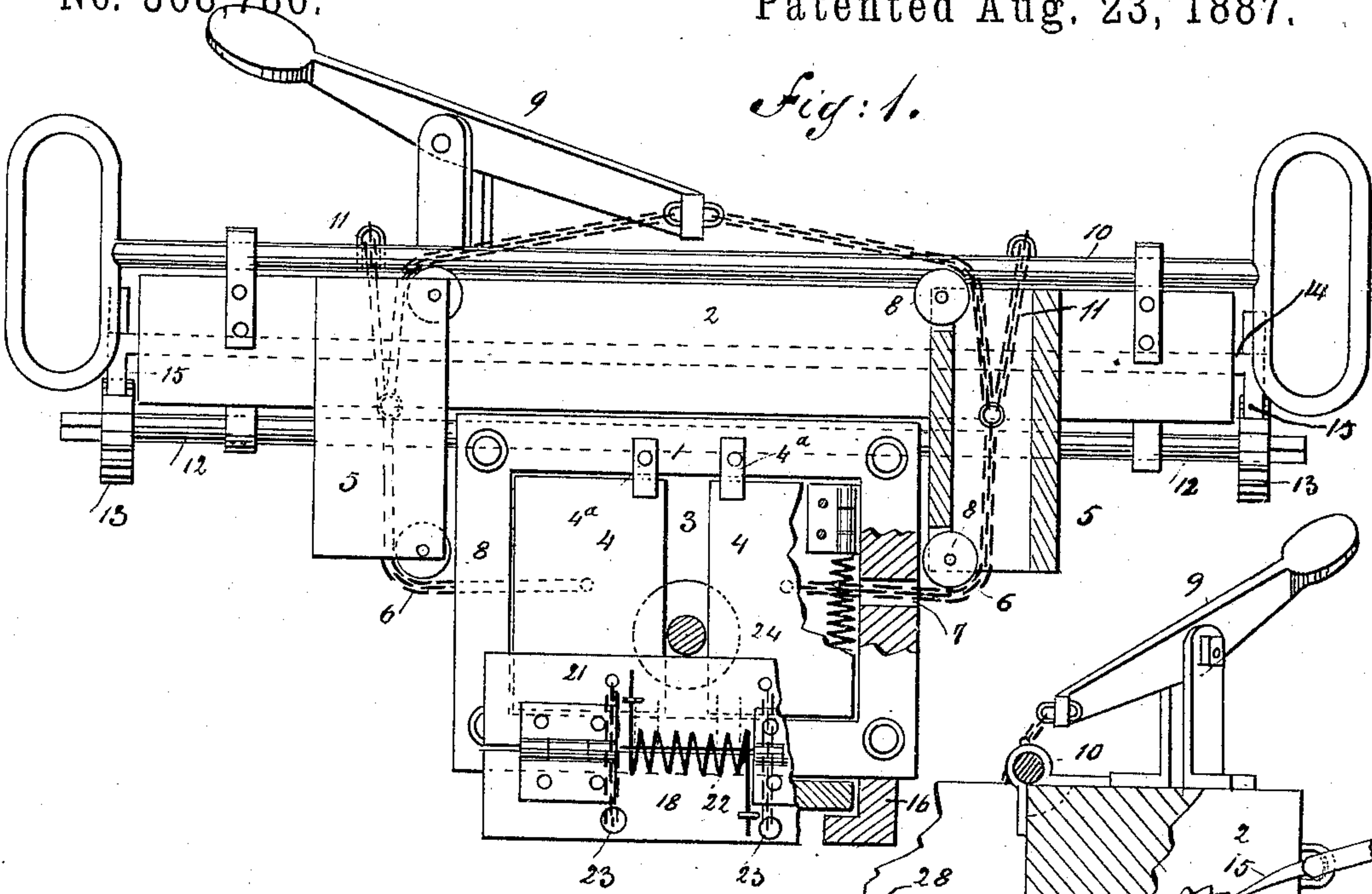
(No Model.)

L. & D. ROSENTHAL.  
CAR COUPLING.

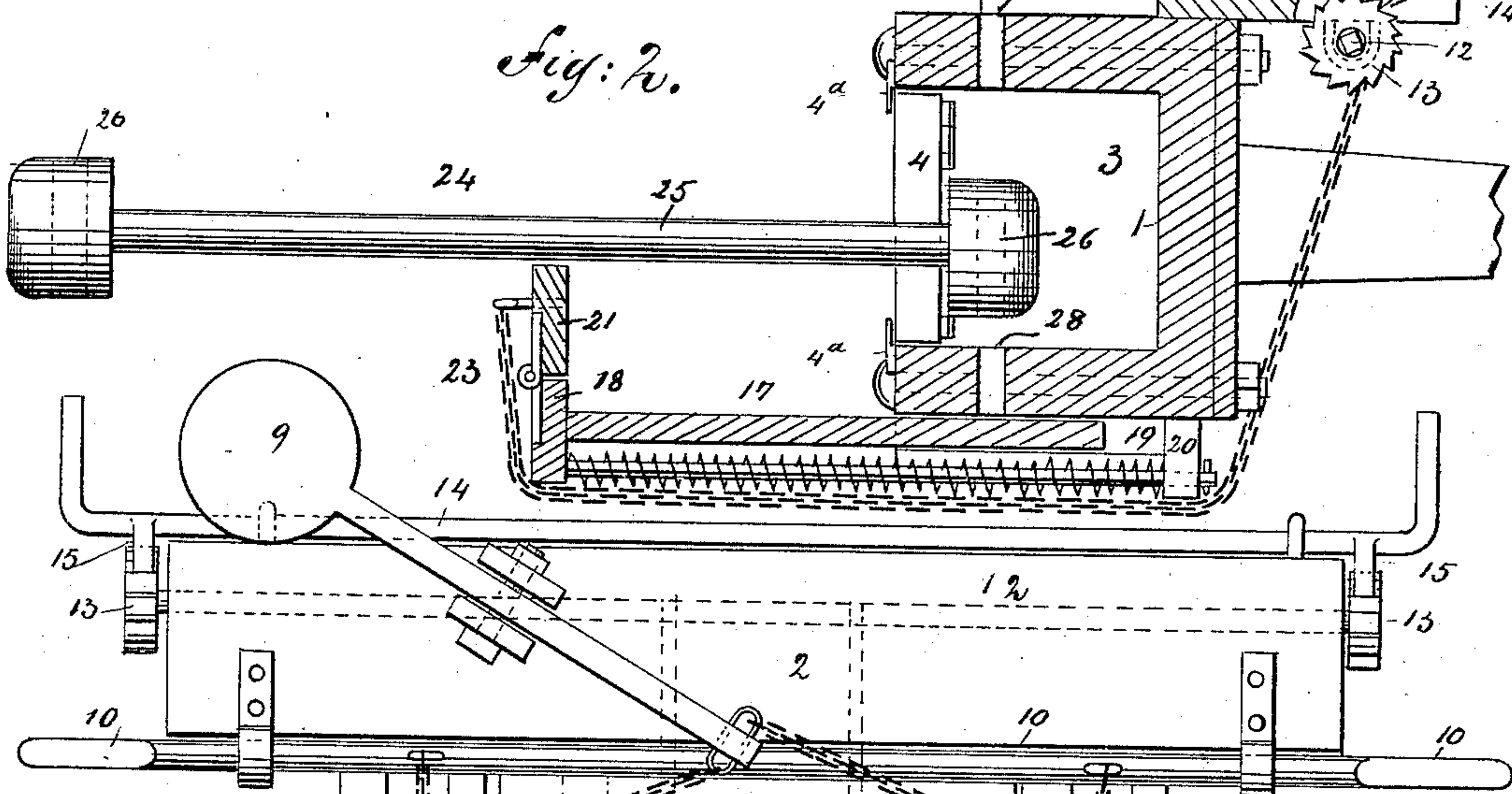
No. 368,786.

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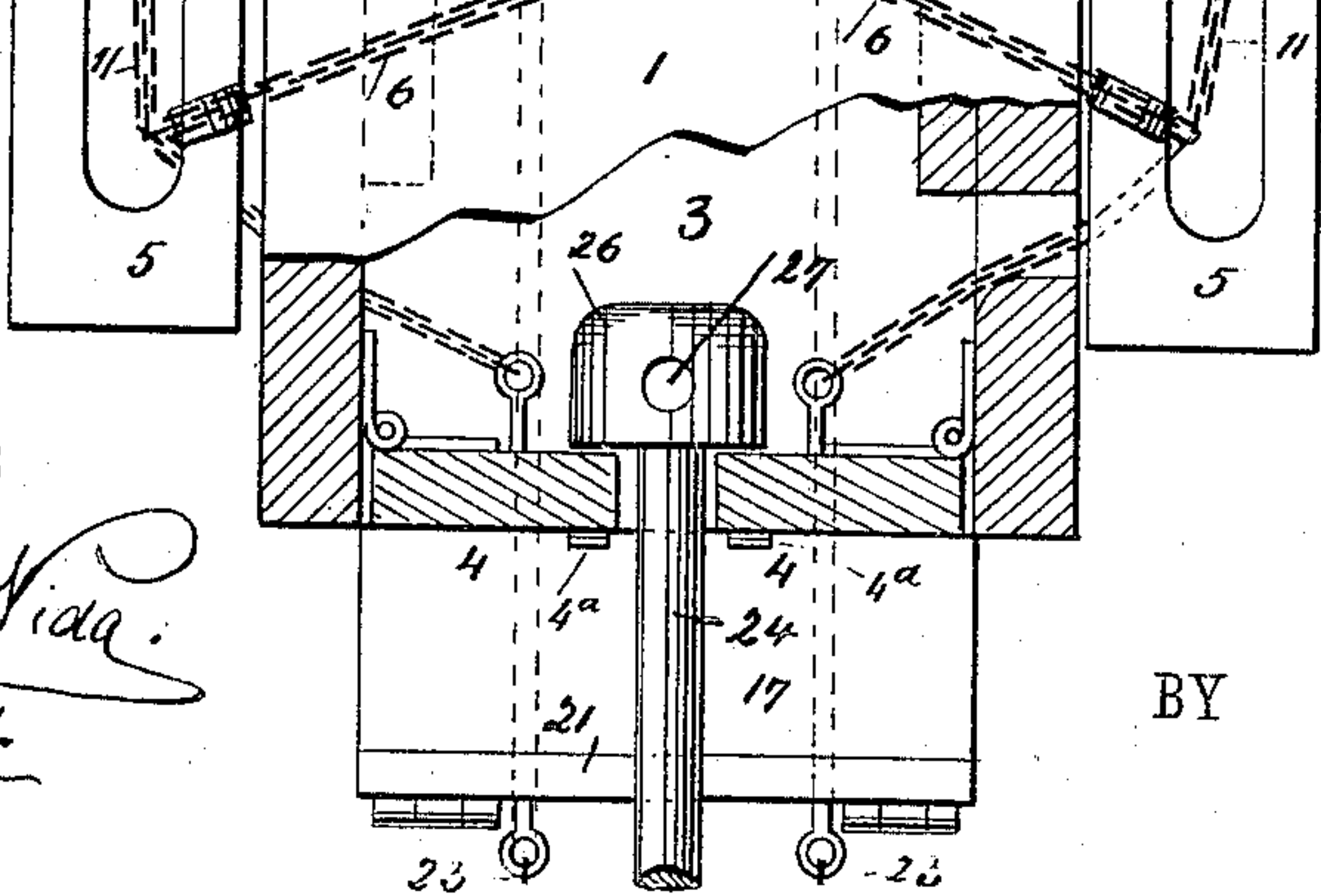
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



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# UNITED STATES PATENT OFFICE.

LEVY ROSENTHAL AND DAVID ROSENTHAL, OF HUDSON, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 368,786, dated August 23, 1887.

Application filed June 1, 1887. Serial No. 239,952. (No model.)

*To all whom it may concern:*

Be it known that we, LEVY ROSENTHAL and DAVID ROSENTHAL, of Hudson, in the county of Columbia and State of New York, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in car-couplings, and has for its object to provide a means whereby the cars may be automatically coupled, and wherein the said cars may be uncoupled without passing between the same.

The further object of the invention is to provide a coupler of great strength and little bulk, and wherein the operating parts constituting the coupler will be of simple construction.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a front elevation, partly in section. Fig. 2 is a central vertical section through the same. Fig. 3 is a plan view thereof, partly in section.

In carrying out the invention the draw-head 1, which is attached centrally beneath the sill 2 of the car in any approved manner, is preferably made rectangular in form and provided with an inner recess, 3. At the front of the draw-head the aforesaid recess is substantially closed by two spring-actuated doors, 4, hinged at each side of said recess normally flush with the outer face of the said draw-head and resting against small stops or lugs 4<sup>a</sup>, secured to the front of said draw-head. At each side of the draw-head longitudinally-apertured blocks 5 are attached to the sill 2, adapted to project downward below the same, as shown in Fig. 1. Centrally the inner side of each door 4 one end of a chain, 6, is attached, adapted to pass out through apertures 7 in the sides of the draw-head, up through the blocks 5, over suitable friction-rollers, 8, journaled therein, the said chains being unitedly attached centrally above the sill 2 to the outer end of a foot-lever, 9, fulcrumed upon said sill. By the manipu-

lation of the lever 9 the doors 4 may be opened at will.

To open the doors 4 from the side of the car, a bar, 10, is journaled upon the sill 2 longitudinally the same, provided at the ends with suitable handles, as shown in Figs. 1 and 3, and to the said rod, at each side of the center, a short length of chain, 11, is secured, which chain is connected with the chain 6 within the blocks 5. (Also shown in Fig. 1.)

Beneath the sill, and to the under surface thereof, a shaft, 12, is journaled, carrying ratchet-wheels 13 near each end, and provided with rectangular extremities adapted to receive a suitable crank-arm. (Not shown.) To the rear of the shaft 12, parallel therewith, a second shaft, 14, is journaled beneath the sill, having secured thereto pawls 15, adapted to engage said ratchet-wheels, the ends of the said shaft 14 being bent at right angles to its axis, whereby a convenient means is afforded for throwing the ratchets and pawls in and out of engagement.

Beneath the draw-head, at the sides, ways 16 are formed, in which ways a drawer, 17, is made to slide, the said drawer being provided with a rectangularly-apertured vertical plate, 18, attached transversely, the forward end adapted to extend above and below said drawer. The said drawer is made spring-actuated by the attachment of a rod, 19, encircled by a coil-spring, centrally the inner lower side of the plate 18, which rod is held to slide in a beam, 20, secured transversely between the ways 16.

A plate, 21, similar in shape and size to the aforesaid plate 18, is hinged to said latter plate at the top, held normally in vertical alignment with the same by a spring, 22, having one end secured to each respective plate, as shown in Fig. 1.

To the outer side of the upper plate, at each side of the center, eyes are secured, or other suitable fastenings, to which one end of a chain, 23, is attached, the other end of the chain being carried through the apertures of the lower plate rearward beneath the draw-head and up to a connection with the shaft 12.

The object of the complete drawer, when in its normal or open position, is to form a support for the outer end of the link 24 when the inner end is in the draw-head, as shown in



Figs. 2 and 3, whereby the link is held in a horizontal position for coupling with an opposing draw-head.

The link consists of a cylindrical body, 25, provided with semi-spherical heads 26, the outer end surfaces of which are more or less conical. The said heads are provided with an aperture, 27, adapted to receive a pin, the draw-head also being provided with pin-apertures 28, purposed for use should any part of the coupler fail to operate perfectly.

The link and draw-head, when positioned as in Fig. 2, are in position to couple with an opposing draw-head. In the operation of coupling, the head of the pin, striking the doors of the opposing draw-head centrally, forces the same open and effects an entrance in the recess 3, the said doors automatically closing and retaining the link in position. The sliding drawer, by contact with the opposing draw-head, is pushed back. An attendant, by means of a crank attached to shaft 13, revolves said shaft, winding the chains 23 around the same, and thereby causing the upper hinged plate, 21, to fold down against the face of the plate 18. The pawls are then thrown in engagement with the ratchet-wheels, and the coupling is effected.

To uncouple, the doors 4 are opened either by means of the foot-lever or hand-rod, as heretofore described; and when a link is inserted in the draw-head to couple, to support said link horizontally, the pawls are disengaged from the ratchet-wheels, whereupon the drawer is automatically projected forward.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a car coupler, the combination, with a centrally-recessed draw-head and spring-actuated doors hinged therein, of a foot-lever fulcrumed upon the sill of the car, a hand-rod ex-

tending longitudinally said sill, and chains connecting said doors with said foot-lever and rod, substantially as herein shown and described.

2. In a car-coupler, the combination, with a centrally-recessed draw-head and spring-actuated doors hinged therein, of longitudinally-apertured guide-blocks attached to the sills projecting downward at each side of said draw-head, a foot-lever fulcrumed upon the sill of the car, a hand-rod extending longitudinally said sill, and chains adapted to pass through said guide-blocks and unite said doors with the said lever and hand-rod, substantially as herein shown and described.

3. In a car-coupler, the combination, with a centrally-recessed draw-head, spring-actuated doors hinged therein, a foot-lever fulcrumed upon the sill of the car, a hand-rod extending longitudinally said sill, and chains connecting said doors with the foot-lever and hand-rod, of a link provided with a cylindrical body and enlarged semi-spherical heads having conical outer ends, substantially as herein shown and described.

4. The combination, with a draw-head provided with spring-actuated doors, and means, substantially as shown and described, for opening said doors, of a spring-actuated drawer adapted to slide beneath the draw-head and support the link in a horizontal position, a shaft journaled beneath the sill of the car, carrying ratchet-wheels and connected with said drawer, and a pawl-carrying shaft, also journaled beneath the sill, adapted for co-operation with said ratchet-carrying shaft, substantially as herein shown and described.

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