

No. 777,057.

PATENTED DEC. 6, 1904.

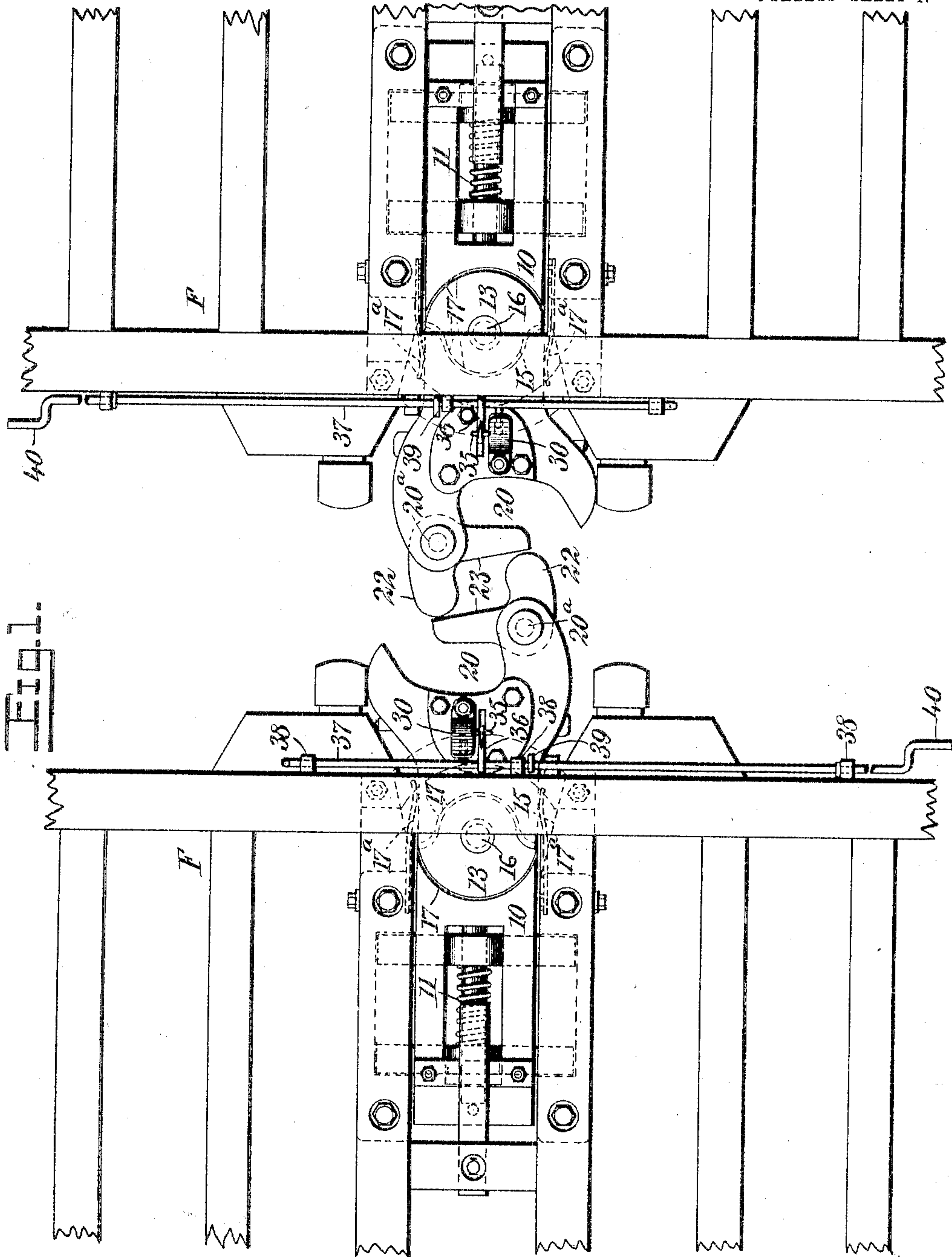
F. KELLER & D. BOWERS.

CAR COUPLING.

APPLICATION FILED JULY 23, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

*L. Almqvist*  
*S. H. Cobb*

INVENTORS

*Frederick Keller*  
*David Bowers*

BY

*M. M. M.*

ATTORNEYS

No. 777,057.

PATENTED DEC. 6, 1904.

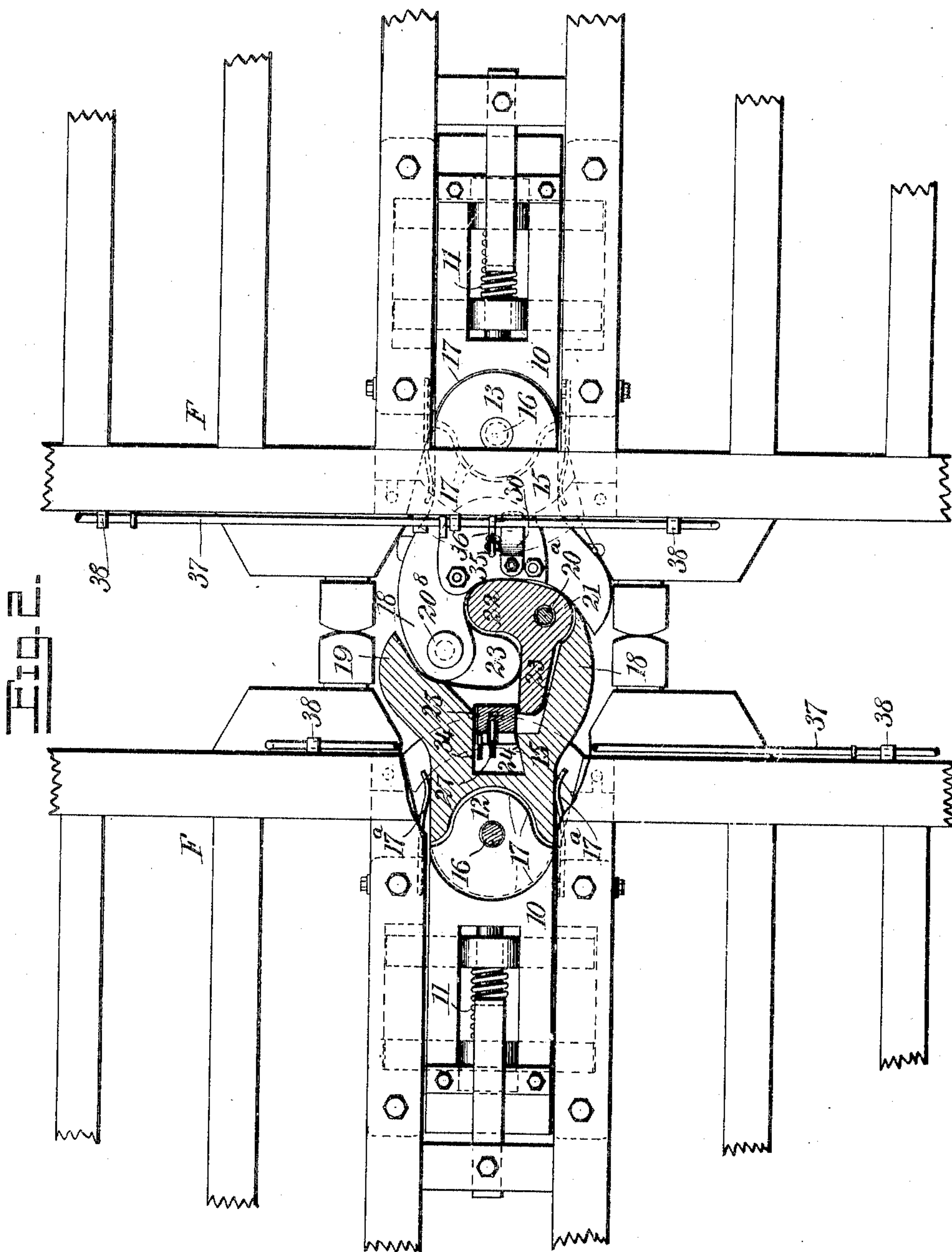
F. KELLER & D. BOWERS.

CAR COUPLING.

APPLICATION FILED JULY 23, 1904.

NO MODEL.

3 SHEETS—SHEET 2.



WITNESSES:

*L. Almquist*  
*J. H. Cobb*

INVENTORS  
*Frederick Keller*  
*David Bowers*

BY

*Mumford*

ATTORNEYS



No. 777,057.

PATENTED DEC. 6, 1904.

F. KELLER & D. BOWERS.

CAR COUPLING.

APPLICATION FILED JULY 23, 1904.

NO MODEL.

3 SHEETS—SHEET 3.

Fig. 3.

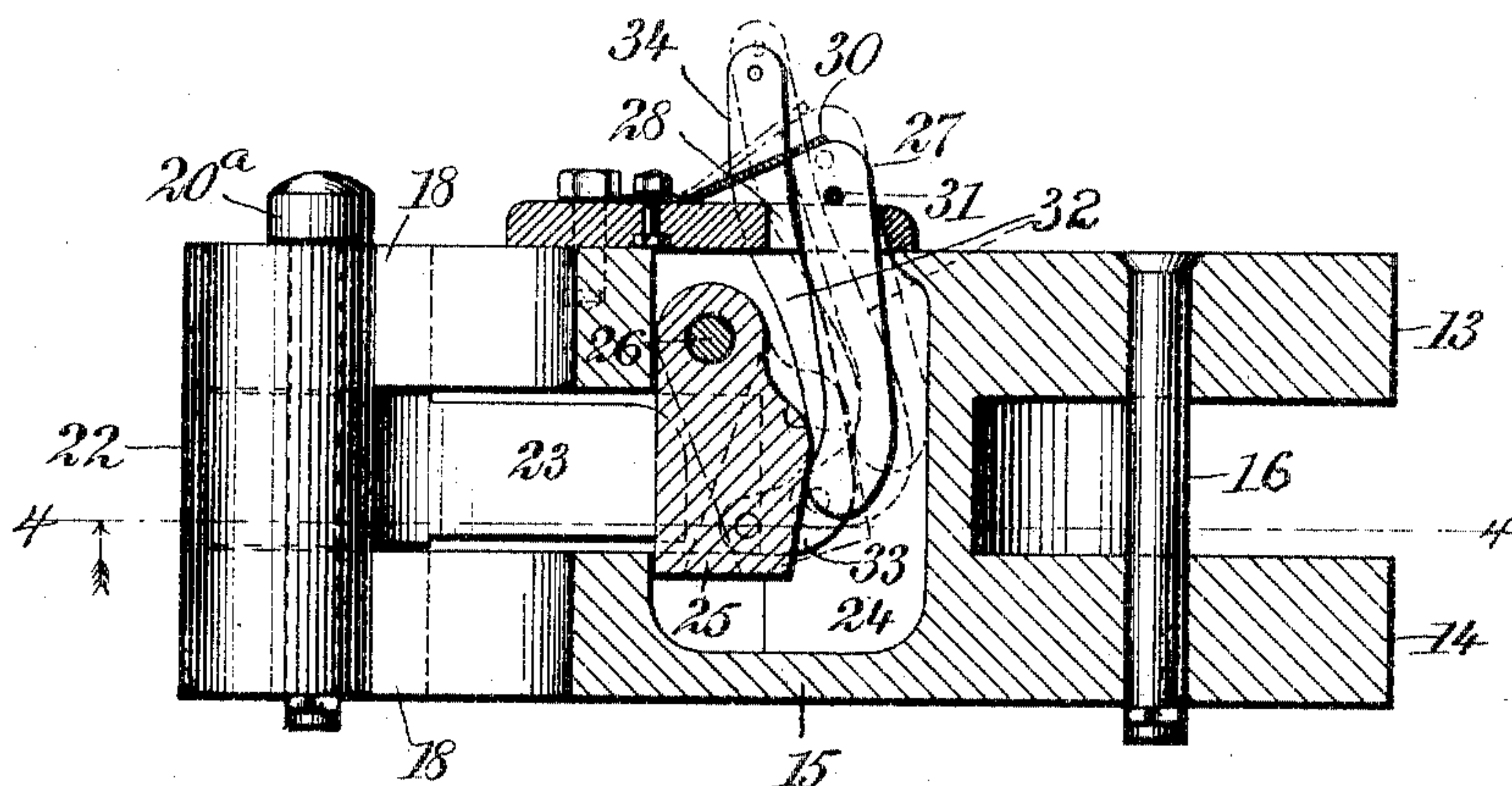
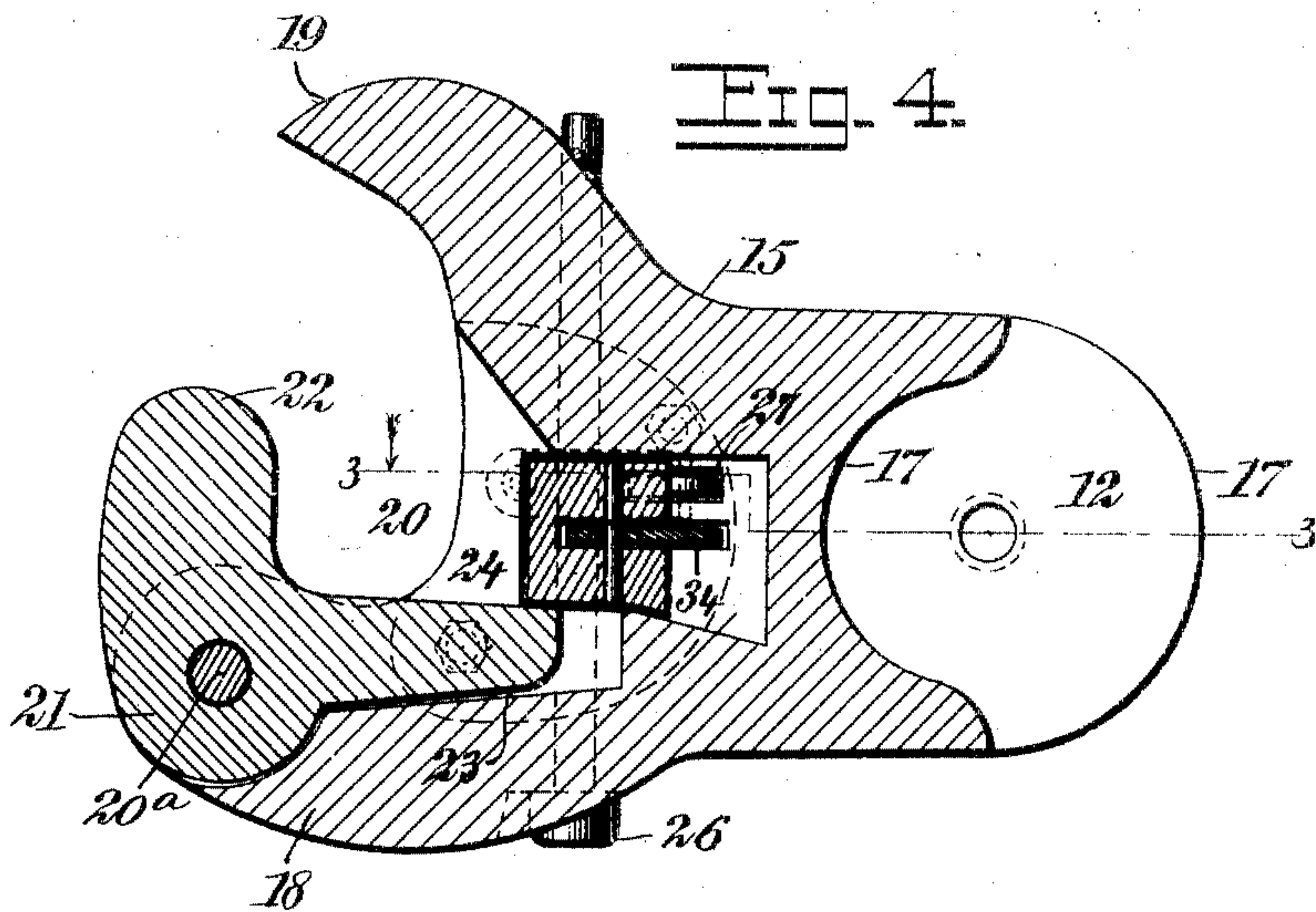


Fig. 4.



WITNESSES:

*L. Almquist.*  
*S. H. Cobb.*

INVENTORS

*Frederick Keller*  
*David Bowers*

BY

*Wm. L. ...*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

FREDERICK KELLER, OF ALLENTOWN, AND DAVID BOWERS, OF EMAUS, PENNSYLVANIA, ASSIGNORS OF ONE-THIRD TO IRWIN F. HUEBNER, OF ALLENTOWN, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 777,057, dated December 6, 1904.

Application filed July 23, 1904. Serial No. 217,810. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK KELLER, of Allentown, and DAVID BOWERS, of Emaus, in the county of Lehigh and State of Pennsylvania, citizens of the United States, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

Our invention relates to couplings for railway-cars, and has for its principal object the provision of a strong and effective device of this class.

It consists in the various features hereinafter described, and more particularly claimed.

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

Figure 1 is a top plan view of the adjacent ends of car-frames to which one embodiment of our invention is applied, the couplings being shown as separated. Fig. 2 is a similar view, but with the cars coupled together and one of the couplings in section. Fig. 3 is a vertical section on the line 3 3 of Fig. 4, and Fig. 4 is a horizontal section on the line 4 4 of Fig. 3.

F designates a portion of a car-frame between the longitudinal members of which is carried a draw-bar 10, supported to slide thereon and normally held in its outward position by a suitably-connected buffer-spring 11. At the forward end of the draw-bar is a central projection or lug 12, and at each side of this projection extend upper and lower walls 13 and 14, respectively, of a draw-head 15, which is pivoted to the draw-bar by a pin 16 extending through the walls and lugs. The outer ends of this lug and the walls at 17 and the surfaces in close proximity to which they move (designated by the same numeral) are preferably curved upon the arcs of circles the centers of which lie in the axis of the pivot-pin. This permits the draw-head to swing freely upon the draw-bar, providing for the relative angular movement between the cars upon the curves and doing away with the possibility of severe side strains upon the

coupling and lessening the wear upon the rails. The draw-head is shown as normally maintained in alinement with the draw-bar by springs 17<sup>a</sup>, secured upon the frame at each side of the draw-bar and having their outer extremities bearing against each side of the draw-head.

The draw-head has a forward divided projection or horn 18 and a lateral projection or horn 19, between which is a space 20. Between the divisions of the projection 18 is pivoted upon a pin 20<sup>a</sup> a knuckle 21, which has a coupling-arm 22, from one end of which and at substantially right angles extends a locking-arm 23, which may operate in a recess 24. The form of the space between the opposite projections of the draw-head is such that when the opposed couplings are in co-operation the arm 22 of each will substantially fit it, the outer side of the space to the locking-arm being closed by the companion coupling-arm.

In the recess 24 is situated a locking-block 25, preferably supported at its upper end by a pivot-pin 26 extending through the sides of the draw-head. The removal of this pin so frees the locking-block that it may be withdrawn through the front of the recess. Coöperating with the locking-block is a loose link or connector 27, which is here shown as extending through a slot 28 in the draw-head at the upper side of the recess and having opposite rounded ends, one of which contacts with the lower end of the locking-block, while the other has bearing against it a spring 30, secured upon the upper face of the head, where it is readily accessible. The connector is limited in its downward movement through the slot by a pin or projection 31, extending at opposite sides. It will be seen that the pressure of the spring against the upper end of the connector will maintain the block in its extreme forward position and hold the knuckle in its coupled relation.

To release the knuckle for the purpose of uncoupling, a link 32 is shown as having its angular lower end 33 pivoted near the lower extremity of the locking-block and with its



opposite end projecting through the upper side of the draw-head at 34. Connected to the outer end of this link is a second link 35, joining it to an arm 36, extending from a rod 5 37, journaled in bearings 38 upon the end of the car-frame. This rod may carry a stop-arm 39, cooperating with suitable contact-faces to limit its angular movement, and have at its outer end a crank 40, by which it may 10 be rotated. The raising of this crank and the consequent rotation of the shaft draw rearwardly the lower end of the locking-block, releasing the locking-arm of the knuckle and permitting the disengagement of the coupling. It should be noted that the recess in 15 which this block operates has a closed rear wall with which said block or its link may come into contact, thus preventing undue movement.

20 The operation of the coupling will be obvious from Figs. 1 and 2 of the drawings and from what has been above set forth. It will be apparent that our improved coupling is comparatively simple and strong and durable, 25 that the parts are well protected and not liable to be broken, and that they are readily renewable when desired, the draw-head being removable as a whole by the withdrawal of its pin, while both the knuckle and the locking-block may be separated in a similar manner, 30 with the head in position. The coaction between the locking-block and the locking-arm of the knuckle and the maintenance of the latter in position by its spring prevents accidental disengagement of the coupling by shocks 35 or upon grades.

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

40 1. A coupling comprising a draw-head, a

knuckle mounted thereon, a locking-block co-acting with the knuckle, a link having one end cooperating with the locking-block, and a spring engaging the opposite end of the link.

2. A coupling comprising a draw-head, a 45 knuckle movable thereon, a locking-block pivoted to the draw-head and coacting with the knuckle, a link having one end cooperating with the locking-block, and a spring acting upon the link. 50

3. A coupling comprising a draw-head, a knuckle mounted thereon, a locking-block co-acting with the knuckle, a link having one end cooperating with the locking-block, and a spring secured upon the outside of the draw- 55 head and acting upon the link.

4. A coupling comprising a draw-head having a recess, a knuckle operating therein, a locking-block coacting with the knuckle within the recess, a spring secured upon the out- 60 side of the draw-head and acting upon the locking-block, and a loose link coacting with the spring and locking-block.

5. A coupling comprising a draw-head having a recess, a knuckle operating therein, a 65 locking-block coacting with the knuckle within the recess, a spring secured upon the outside of the draw-head and acting upon the locking-block, a loose link coacting with the spring and locking-block, and a pin extend- 70 ing through the link and resting upon the outside of the draw-head.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK KELLER.  
DAVID BOWERS.

Witnesses:

J. C. RACE,  
PHAON C. WEAVER.