

(No Model.)

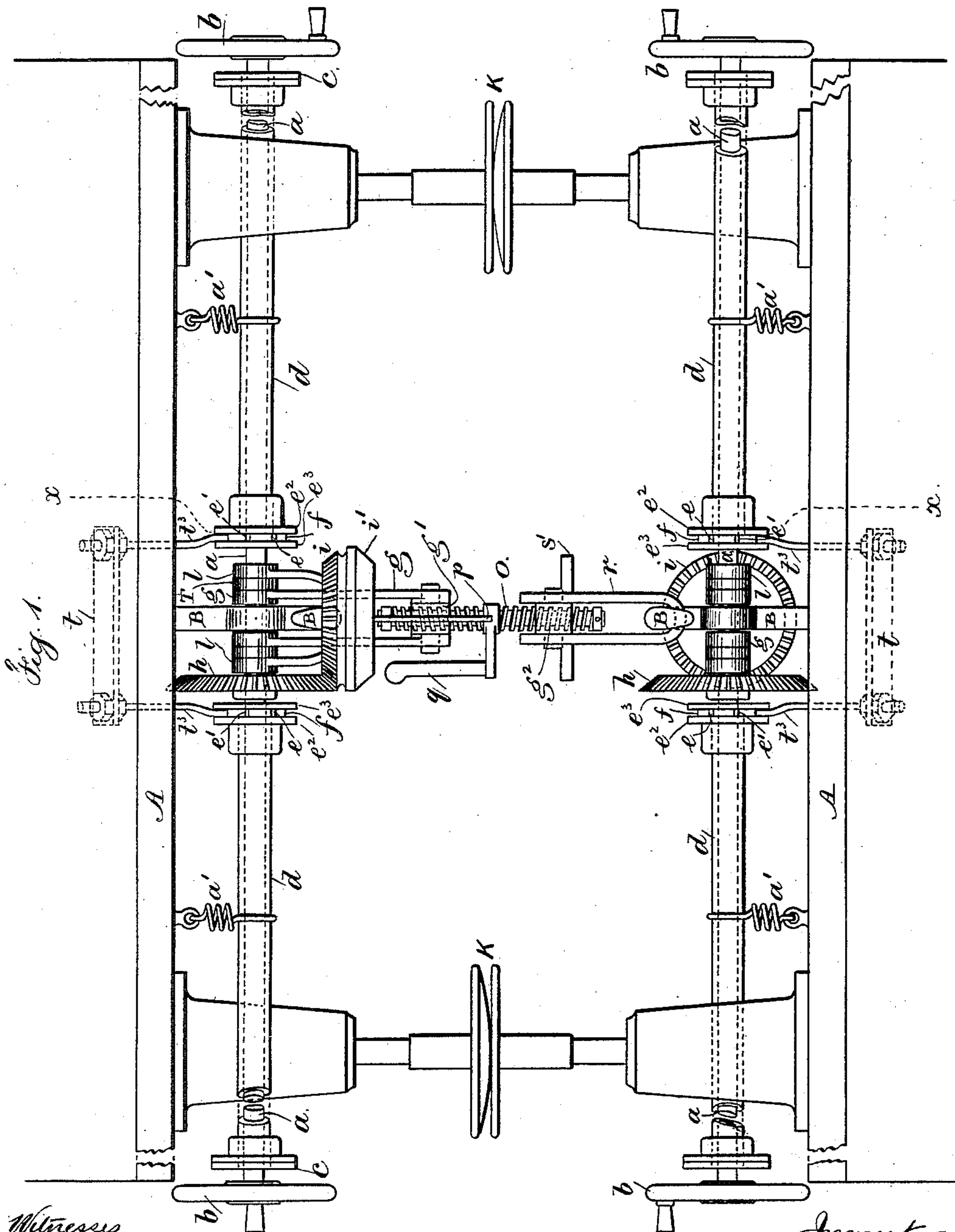
3 Sheets—Sheet 1.

J. HENZE, Jr.

CAR COUPLING.

No. 338,968

Patented Mar. 30, 1886.



Witnesses

Chas. H. Smith
J. Staley

Inventor

Julius Henze Jr.
per Lemuel W. Perrell atty

(No Model.)

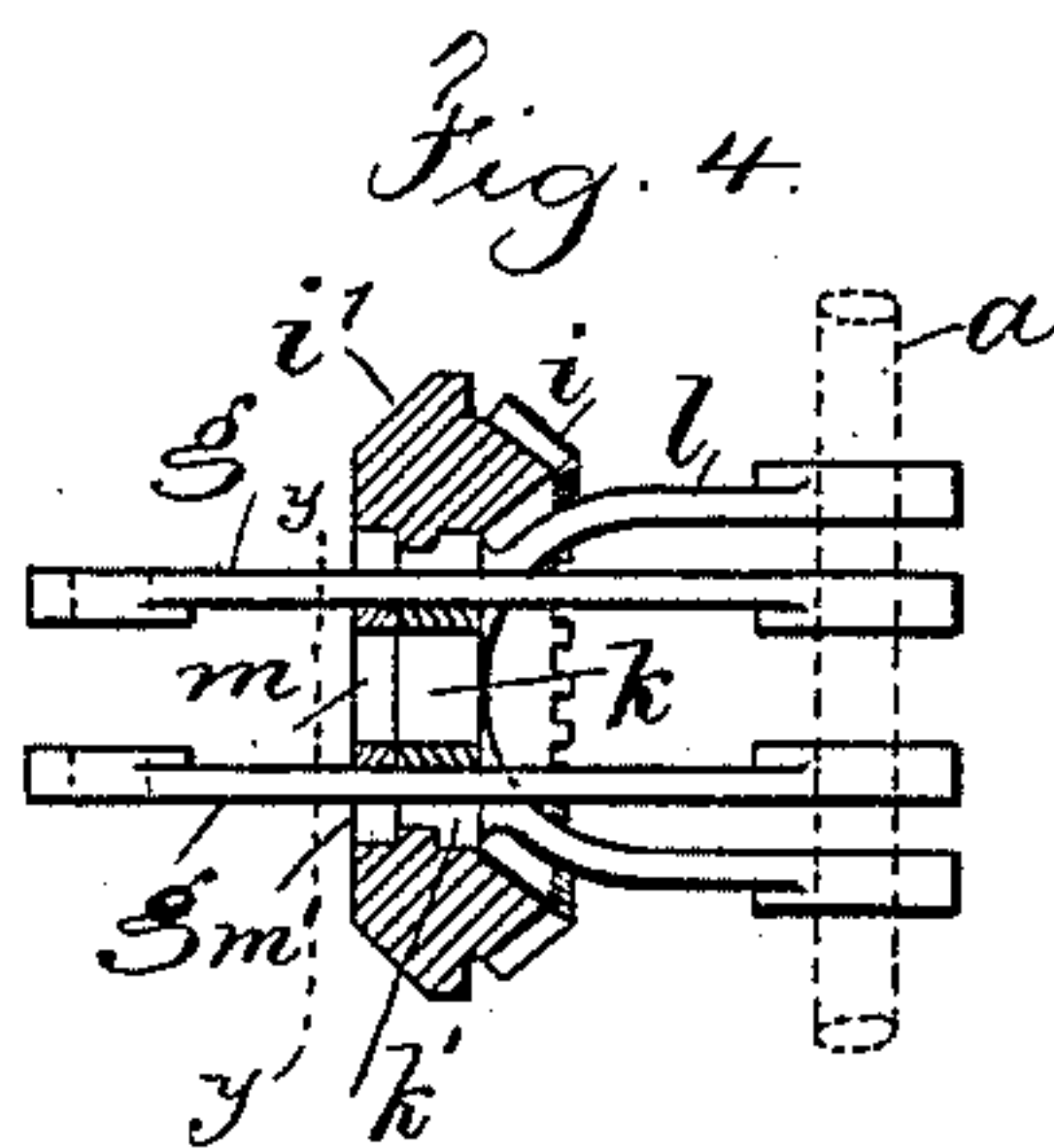
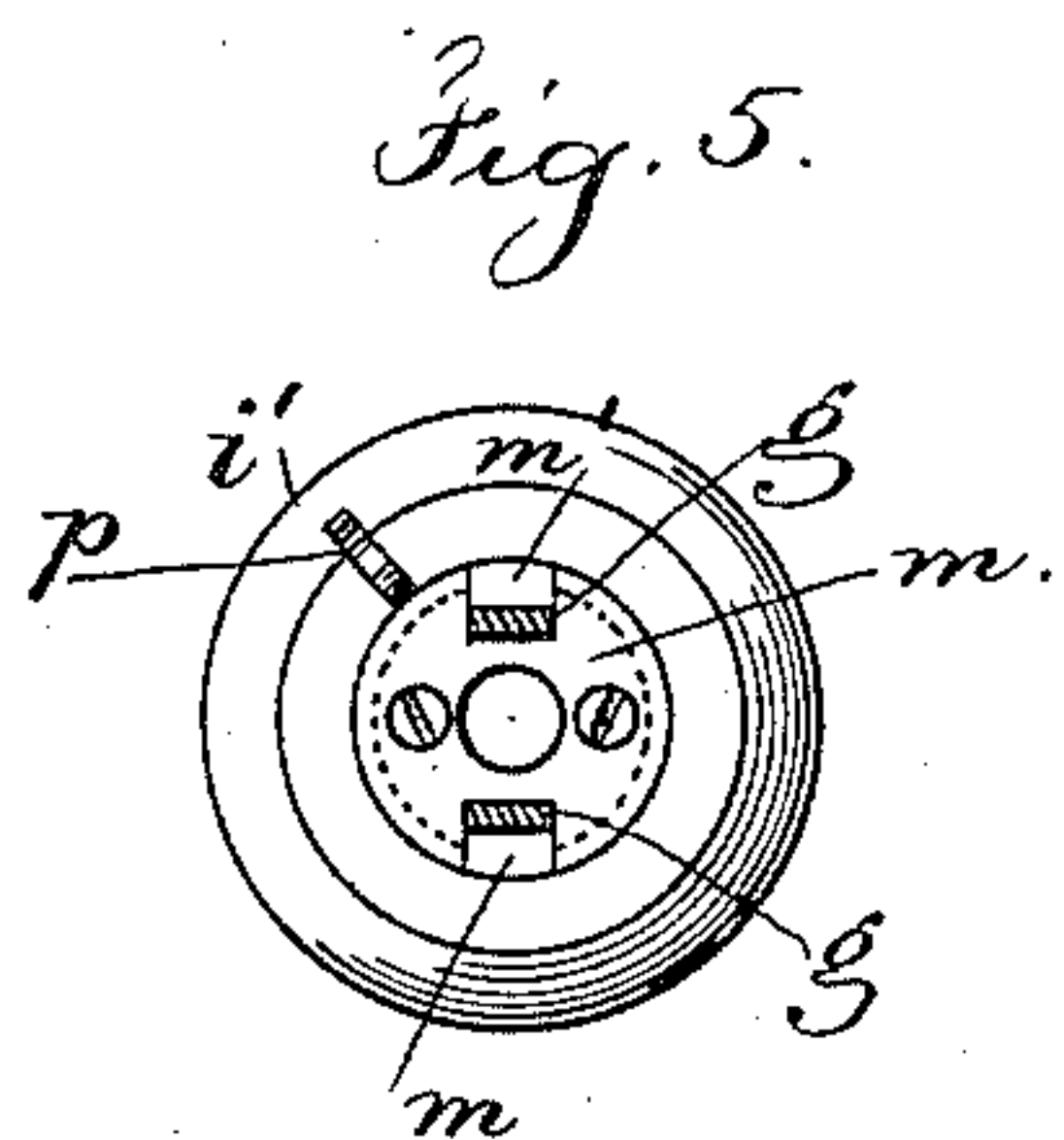
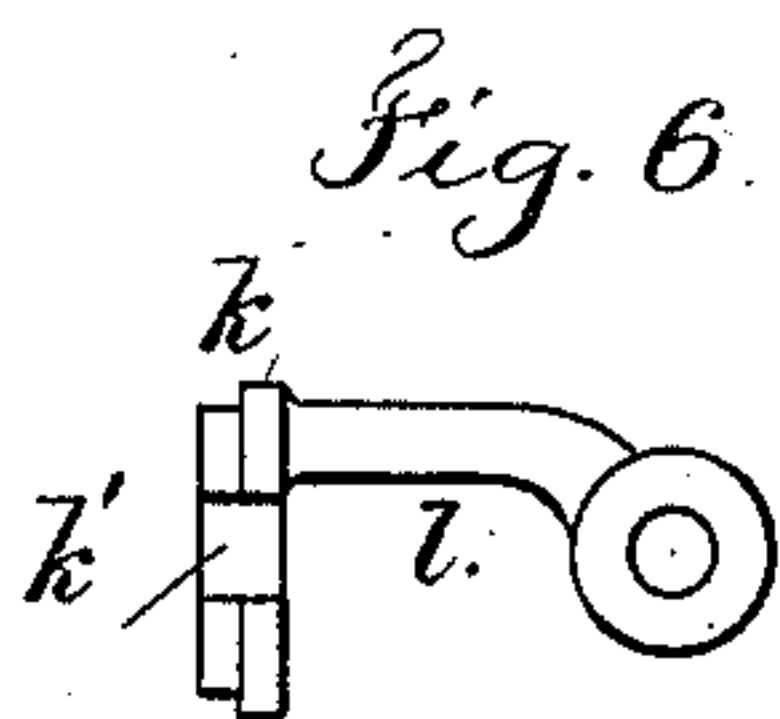
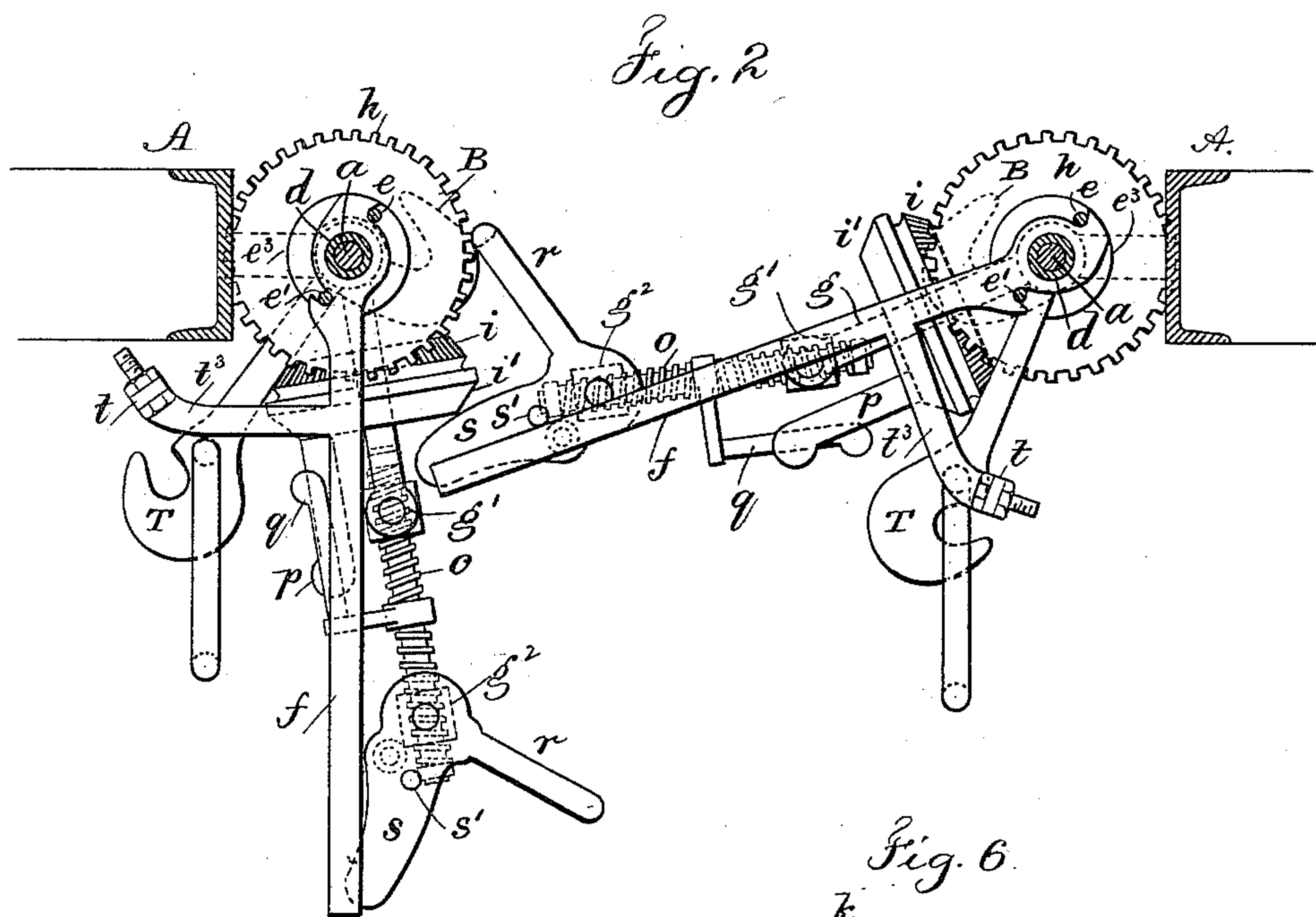
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3 Sheets—Sheet 3.

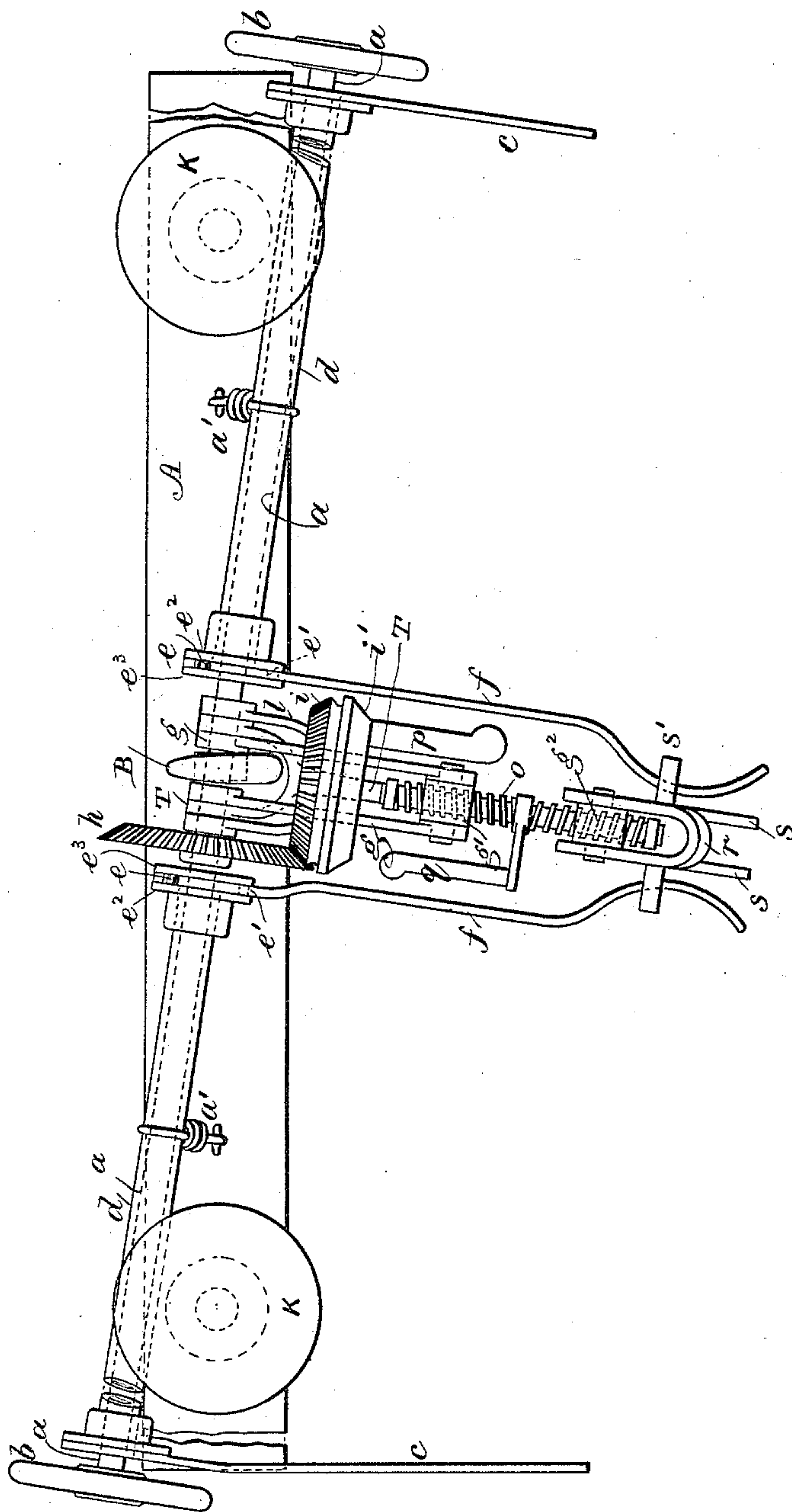
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Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JULIUS HENZE, JR., OF DRESDEN, SAXONY, GERMANY, ASSIGNOR TO
HIMSELF AND ALEVIN TÜRPE, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 338,968, dated March 30, 1886.

Application filed December 2, 1885. Serial No. 184,411. (No model.)

To all whom it may concern:

Be it known that I, JULIUS HENZE, Jr., of Dresden, in the Kingdom of Saxony, Germany, have invented an Improvement in Car-Couplings, of which the following is a specification.

Car-couplings operated from the side of the car, as heretofore constructed, have not come into general use, because in some instances some couplings have been proposed that rendered the present "screw-couplings" entirely useless, so that they would have to be replaced by new and expensive couplings. A further disadvantage consisted in the fact that the coupling-loop had generally to be placed over the draft-hook from the side of the same, which required a variable movement in the means for transmitting the power from the side of the car.

The object of the present invention is to overcome the difficulties heretofore existing in the use of screw-couplings; and the invention consists in the combination, with the screw-coupling, of mechanism by which the coupling up of the cars and the tightening of the coupling-screw after the cars have been coupled is effected from either side of the car without danger to the attendant. By my present arrangement of parts the movement of the coupling-loop, when the same is being placed on the draft-hook of the adjoining car, is in a vertical plane passing through the axis of the hook, and not a side movement. Thereby the coupling up is greatly facilitated.

In the drawings, Figure 1 is a plan view representing the end portions of adjoining cars connected by my improved coupling. Fig. 2 is a section at the line *xx*, Fig. 1, showing the coupling partly lifted. Fig. 3 is a front elevation of the coupling. It is remarked that the main shaft is shown in this figure as inclined and in the most unfavorable position possible, and one not likely to be employed, in order to demonstrate that this "side coupling" will act effectually and securely even in case the main shaft of the apparatus is placed at a considerable inclination. Fig. 4 is a plan view of the coupling-screw frame and section of the wheel and its bearing through which said frame passes. Fig. 5 is a section at the line *yy*, Fig. 4; and Fig. 6 is an elevation of the bearing shown in Fig. 5.

A represents the end sill of a car-platform, and B is the draft-hook firmly secured to said sill. *a* is a shaft extending from side to side of the car, and said shaft passes through and is supported at its center by the draft-hook B, there being an opening in said hook to receive the shaft *a*.

b b are hand-wheels, one at each end of the shaft *a*, by which said shaft can be rotated from either side of the car. Upon the shaft *a* are fitted loosely two tubes, *d d*, and at the outer end of each tube there is an arm, *e*, by which the tube can be partially rotated upon said shaft *a*.

It is preferable to support the shaft *a* and tubes *d* near their outer ends in yielding bearings or loops *a'*, each formed of an eye surrounding the tube, and a short helical spring between said eye and the loop that connects the bearing to an eye upon the sill A.

At the inner end of each tube *d* there is a disk, *e'*, firmly fixed, and upon the face of this disk there are two pins, *e e'*. *e''* is a disk secured to shaft *a*, and between these disks *e'' e'* is the eye of the lever *f*, which lever is loosely suspended from the shaft *a*. The disk *e''* simply keeps the lever *f* in place.

There are two levers, *f*, upon each shaft, *a*, one for each tube *d*; but said levers move together in consequence of being connected by a frame composed of the arms *t'* and adjustable cross-bar *t*, for a purpose hereinafter explained.

The eyes of the levers *f* are made with projecting portions for the pins *e e'* to take against, (see Fig. 2,) hence when either tube *d* is turned by its lever-arm *e* the pins *e e'* upon the disk of that tube swing the levers *f*, raising the outer ends of said levers and lifting the coupling, as hereinafter explained; but the other tube *d* is not turned, because the projections upon the lever *f* of that tube move away from the pins *e e'* upon the disk of said tube.

g is the coupling-frame composed of two arms having eyes at one end to set loosely around the shaft *a*, and at the other end these arms are connected by pivot-pins to the nut *g'* of the screw *o*. This screw *o* is made with a right and left hand thread, one thread being for said nut *g'* and the other for the nut *g''*, to which latter the coupling-loop *r* is pivoted.

s are arms formed with or rigidly connected to the loop *r* for guiding the latter in placing it upon the draft-hook of the adjoining car, and *s'* are pins upon the loop-body, against which pins the levers *f* act in raising the coupling.

h is a bevel gear-wheel fixed to the shaft *a*, and meshing with a wheel, *i*. This wheel *i* is supported by and turns upon a bearing, *k*, made as a flanged disk fitting a central recess in said wheel, and said wheel *i* is kept upon its bearing by the disk *m*, which is connected to the bearing *k* by screws *m'*. The bearing *k* is formed with or fastened upon a yoke, *l*, having eyes fitted loosely around the shaft *a*, and there are openings at *k' m'* in the bearing *k* and disk *m*, respectively, through which pass the arms of the coupling-frame *g*. By this means the wheel *i* is free to turn on the bearing *k m* without turning the coupling-frame *g*, which passes through said bearing. *p* is an arm projecting from the wheel *i*, and said arm is carried by the wheel *i* in the path of an arm, *q*, firmly secured to the screw *o*.

The operation of the parts is as follows: By turning either lever-arm *e* its tube *d* is turned upon the shaft *a*, and by the pins *e e'* the levers *f* are swung upon the shaft *a* as their center of motion, and the outer ends of said levers *f* are raised and act upon the pins *s'* and lift the coupling-frame and parts carried by it. During this upward movement of the parts the arms *s* strike against the inclined portion *z* of the wheel *i* upon the coupling of the adjoining car, and the further movement of the levers *f* lift and swing the loop *r* against the nose of the draft-hook, as shown in Fig. 2, and cause said loop to rise and pass forward and over and drop down behind the point of the draft-hook B. The two cars are now coupled, and to tighten up the coupling the shaft *a* is rotated by either one of its hand-wheels *b*, and by the wheels *h i* and arms *p q* the right-and-left-hand screw *o* is rotated, thereby causing the nuts *g' g²* to approach each other, and, through the loop *r* and hook B, draw the cars toward each other until the buffers K K are brought tightly against each other, as shown in Fig. 1.

T is a spare or safety hook suspended from the shaft *a*. When the levers *f* are raised, as before described, the cross-piece *t*, that is carried by said levers *f*, is swung forward and carries with it the spare hook T, and said hook acts against the wheel *i* to lift the same as the coupling-screw and loop *r* are lifted, as afore-

said. The hook T on the coupling that has thus been lifted is now in such a position that the loop *r* upon the coupling of the adjoining car can be lifted and hooked into said hook T, so that they hang below the screw-coupling as a safety-connection.

I claim as my invention—

1. The shaft *a*, supported upon the end of the car-platform and extending from side to side of the car, the tubes *d*, loose upon said shaft, an arm upon each tube for turning the same, and a disk at the inner end of each tube with pins thereon, in combination with the levers *f*, suspended from the shaft *a*, the coupling-frame also suspended from said shaft *a*, the screw and loop carried by said frame, and the pins *s'* upon the body of the loop for the levers *f* to act against, substantially as specified.

2. The combination, with the shaft *a*, tubes *d*, pins *e e'*, and levers *f f*, of the coupling-frame *g*, nuts *g' g²*, screw *o*, loop *r*, pins *s'*, and arms *s*, rigidly connected to the loop *r*, for directing said loop upon the draft-hook of the adjoining car, substantially as set forth.

3. The combination, with the shaft *a* and wheel *h*, fixed thereon, of the wheel *i*, meshing with said wheel *h*, a bearing for said wheel on arms supported by the shaft *a*, the coupling-frame *g*, passing through said wheel *i*, the screw *o*, and nuts *g' g²*, the loop *r*, pivoted to the nut *g²*, the arm *p*, fixed to the wheel *i*, and the arm *q*, fixed to the screw *o*, substantially as and for the purposes specified.

4. The combination, with the shaft *a* and wheel *h*, fixed thereon, of the yoke-frame *l*, supported by the shaft *a*, the flanged bearing *k* upon said yoke-frame, the wheel *i*, supported by and turning upon said bearing *k*, the disk *m*, for holding the wheel *i* upon the bearing, and the coupling-frame *g*, passing through openings in the bearing *k*, and disk *m*, substantially as and for the purposes specified.

5. The combination, with the shaft *a*, tubes *d*, pins *e e'*, levers *f*, wheels *h i*, coupling-frame *g*, and parts carried by it, of the cross-bar *t*, connected with the arms *t³* of the levers *f*, and the spare hook T, substantially as and for the purposes specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JULIUS HENZE, JR.

Witnesses:

WILHELM WIESENHÜTTER,
PAUL DRUCKMÜLLER.