(No Model.)

L. N. SINGIN.

CAR COUPLING.

No. 497,930. Patented May 23, 1893.

Fig. 2.

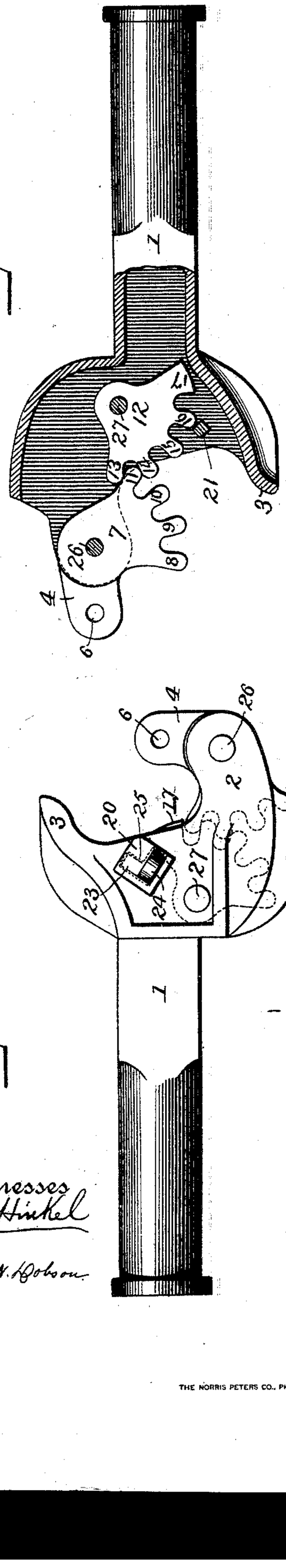

Fig. 4.

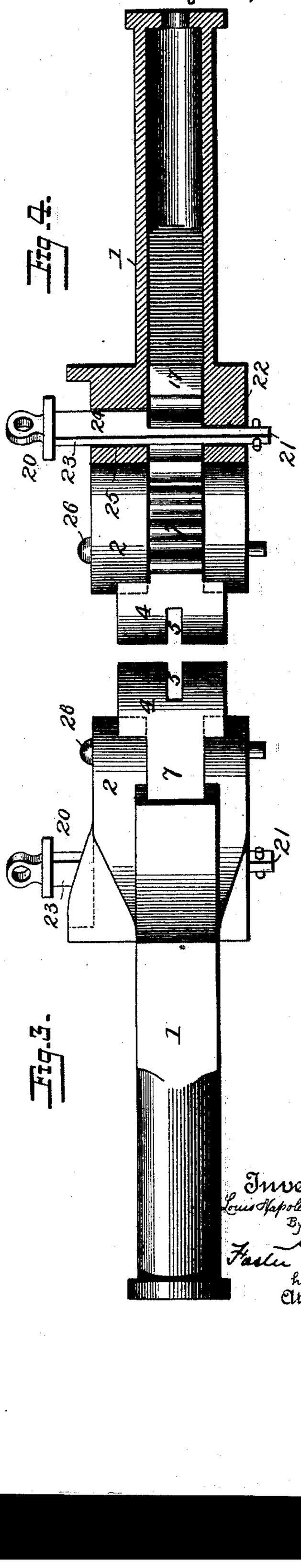

Fig. 1.

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS NAPOLEON SINGIN, OF WALL, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 497,930, dated May 23, 1893.

Application filed June 29, 1892. Serial No. 438,424. (No model.)

To all whom it may concern:

Be it known that I, LOUIS NAPOLEON SINGIN, a citizen of the United States, residing at Wall, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to car couplers, and more particularly to automatic couplers of what is known as the vertical plane style, and it has for its object to provide a coupler which shall be exceedingly simple in construction, positive and automatic in its operation, cheap to manufacture, and effective in use.

To these ends my invention consists in a coupler embodying the features of construction substantially such as are hereinafter more particularly set forth.

Referring to the accompanying drawings, Figure 1, is a plan view of the draw-head with one section of my coupler applied thereto. Fig. 2, is a similar view partly in section of the complementary draw-head. Fig. 3, is a side view; and Fig. 4, is a longitudinal vertical section of the draw-head.

In carrying out my invention it is one of the objects to provide a drawhead and coupler which is not only simple and effective in use, but which can be readily removed from a car in case of accident and a new drawhead or portion of the coupler readily replaced, not requiring the use of any special tools or the turning of the cars into the shops for repairs.

The drawhead 1 is made in the usual shape generally adapted for use in connection with this class of couplers, and may be attached to the car in the usual way, it not being deemed necessary to show it herein. The configuration of the drawhead is such as to comply with the usual requirements of this class of couplers, so that it will be interchangeable with couplers of other makes, and is provided with the projections 2, 3, the body of the drawhead being hollow as shown in Fig. 2, for the reception of the operative parts of the coupler. Mounted in the projection 2 of the drawhead is the knuckle 4, and this is provided with the usual slot 5, for the reception of the ordinary coupling link, and with a pin hole 6, for the reception of the ordinary coupling pin when the coupling is to be used with the old style link. The knuckle 4 has an extension 7, projecting at substantially right angles to the knuckle, and this extension is in the form of a sector, and is provided with a number of teeth 8, 9, 10, &c., four being shown in the drawings, although I do not limit myself to the precise number.

Mounted in the drawhead is the sector 12, having a series of teeth 13, 14, 15, &c., the tooth 17 at one side of the sector being preferably made larger or thicker to form a strong bearing portion for the sector. This sector is pivotally mounted in the drawhead in such a position that its teeth normally engage with the teeth of the projection 7 of the knuckle so that the two sectors move in unison, one with the other.

In order to lock the knuckle in position, I provide a locking pin 20. This pin while it may be variously made, is preferably of a shape shown in the drawings, having an extension 21, which forms a guide passing through the opening 22 in the under portion of the drawhead, while the upper portion is formed at an angle having the parts 23 and 24, and fitting an angular opening 25 in the upper portion of the drawhead. The part 24 is shorter than the other portion, so that when the pin is raised as shown in Fig. 4, the teeth of the sector 12, pass underneath the pin, and the pin slides or moves over the face of the sector, but when the sector is in the position shown in dotted lines Fig. 1, the pin falls by gravity and the portion 24 thereof impinges or bears against the enlarged tooth 17 of the sector and forms a safe and secure brace to hold the knuckle of the coupler in coupling position.

The locking pin may be operated in any usual manner, from the top or the side of the car by suitable mechanism, which need not be shown, and it is preferably locked in the coupler head, so as not to be liable to be displaced. The knuckle is secured in the drawhead by a pin 26, and a sector 12, is secured in position by a similar pin 27, and it will thus be seen that if any accident happens to the knuckle or the sector, either or both may be readily removed from the drawhead and a new one replaced, it only being necessary

to raise the pins 26 and 27, and substitute the proper part for the injured part.

Such being the construction of the device, its operation will be readily understood. When the parts are to be coupled, one of the coupling pins 20 is raised, and the knuckle thrown out, so that the parts assume the position shown in Fig. 2, and when the complementary knuckle of the other drawhead is brought into position, the knuckle 4 thereof will strike against the projecting sector 7 of the open knuckle, and force the parts into place, the teeth of the sector 7, turning the sector 12 to the position shown in dotted lines Fig. 1. Meanwhile the locking pin 20 rides over the upper surface of the teeth of the sector, and when the knuckle is forced home to the proper position, the pin falls by gravity, so that its wide portion 24 engages the rear of the tooth 17, and the parts are securely locked in position. It will be seen that in this position not only the strongest portion of the locking pin, but of the sector, are in contact and more or less of the teeth of the sector and of the projection interlock, and form a strong and secure bearing. When it is desired to uncouple, it is simply necessary to raise the locking pin 20, and separate the draw bars. It is not necessary to raise the pin of both drawheads.

While I have thus described and illustrated the preferred embodiment of my invention, it will be understood that the details of construction and arrangement may be varied without departing from the spirit of my invention, and I do not therefore limit myself to the precise construction shown.

What I claim is—

1. In a car coupler the combination with the drawhead, of a pivoted knuckle having a sector provided with projecting teeth, and a pivoted sector having teeth continually engaging the teeth of the knuckle, substantially as described.

2. In a car coupler the combination with the recessed drawhead, of a sector having teeth pivotally mounted therein, a knuckle having a sector provided with projecting teeth continually engaging the teeth of the sector, and means for locking the sector, substantially as described.

3. In a car coupler the combination with the drawhead, of the knuckle having a sector shaped projection provided with teeth, a sector pivotally mounted in the drawhead provided with teeth continually engaging the teeth of the knuckle, and a locking pin engaging said sector, substantially as described.

4. In a car coupler the combination with the drawhead, of the knuckle having a sector shaped projection provided with teeth, a sector pivotally mounted in the drawhead provided with teeth continuously engaging the teeth of the knuckle, and a locking pin having an angular body arranged to engage the sector, substantially as described.

5. In a car coupler the combination with the knuckle having a sector shaped projection provided with teeth, a pivoted sector mounted in the drawhead also provided with teeth continuously engaging the teeth of the knuckle, one of the teeth of the sector being enlarged to form a bearing portion, and a locking pin engaging said enlarged tooth, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS NAPOLEON SINGIN.

Witnesses:
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O. M. BALL.