

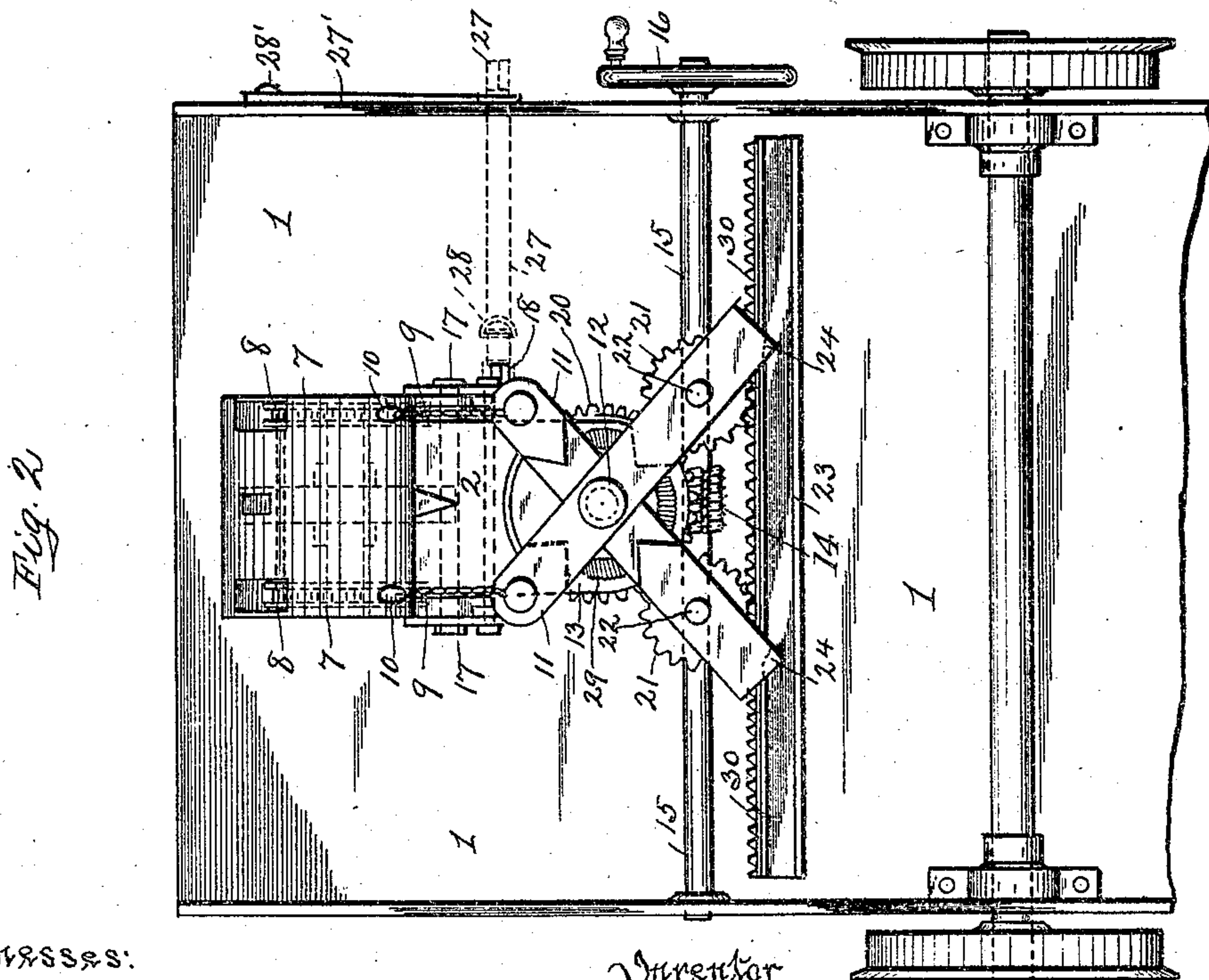
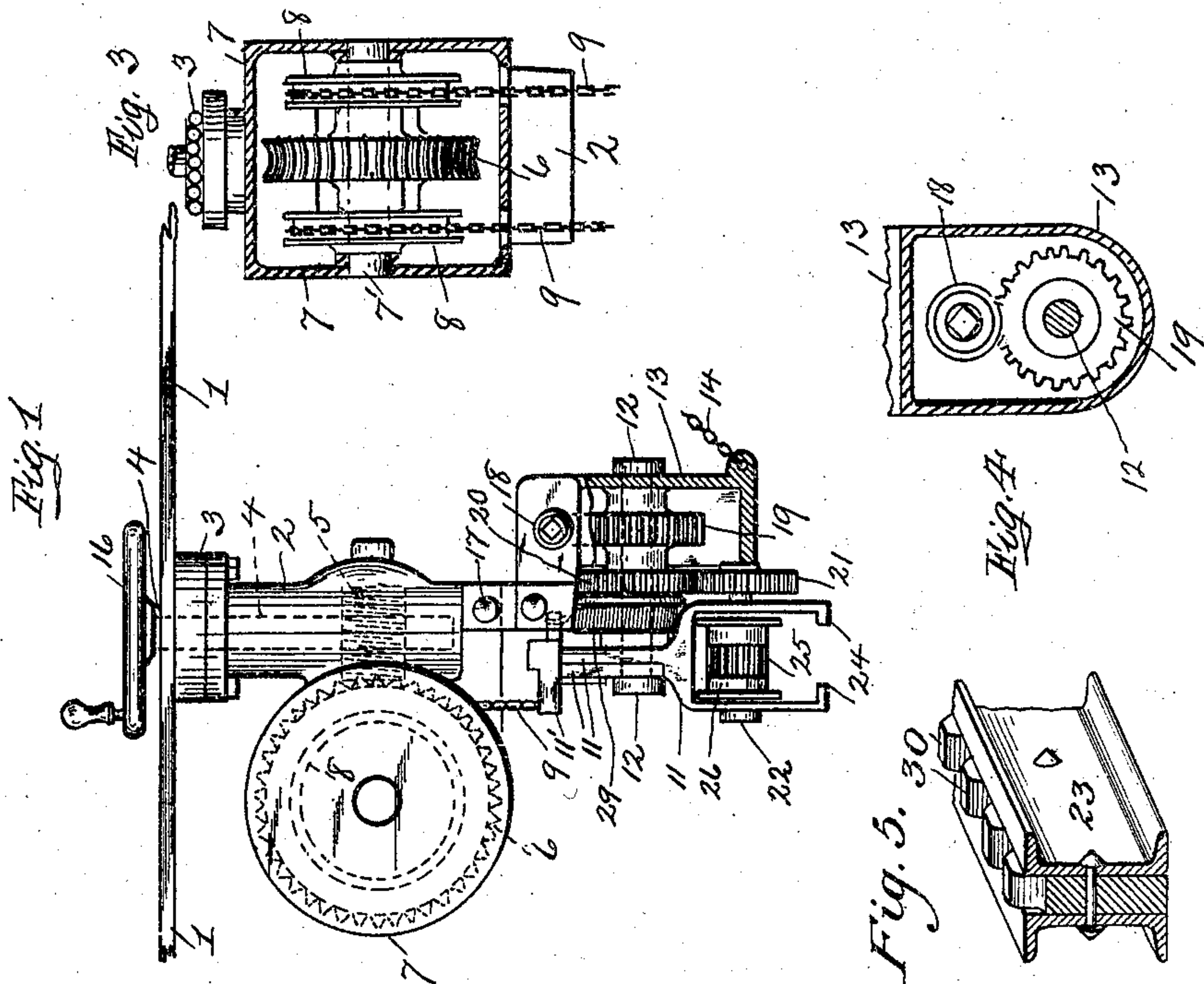
No. 782,598.

PATENTED FEB. 14, 1905.

C. CHURILLA.

APPARATUS FOR LIFTING STREET RAILWAY CARS.

APPLICATION FILED MAR. 30, 1904.



WITNESSES:

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APPARATUS FOR LIFTING STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 782,598, dated February 14, 1905.

Application filed March 30, 1904. Serial No. 200,759.

To all whom it may concern:

Be it known that I, CHARLES CHURILLA, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Lifting Street-Railway Cars, of which improvement the following is a specification.

This invention relates to an improved apparatus for lifting street-railway cars when derailed and placing the same upon the track; and it consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of my improved apparatus adapted to be suspended beneath the floor of the platform of a street-railway car, the same being constructed and arranged in accordance with my invention. Fig. 2 is an inverted plan view of a portion of a railway-car, showing my improved apparatus drawn upward to bring the same some distance above the street-level, one of the said devices being arranged at either end of the car. Fig. 3 is a detailed sectional elevation taken through the drum. Fig. 4 is a sectional elevation showing the worm and wheel used for bringing the arms together. Fig. 5 is a perspective view of a portion of the rail carried by the apparatus.

To put my invention into practice, I form from cast metal a frame 2, of a suitable size and form and construction, and attach the same beneath the frame of the car 1, the said frame being arranged in a vertical position and the connection formed by means of ball-bearings 3 in a manner that said frame may be free to revolve about a central shaft 4, arranged therein. This shaft 4 is fitted with a worm 5, which meshes with a worm-wheel 6, mounted in a casing 7 and adapted to operate a drum 8 when said shaft 4 is revolved by means of a removable hand-wheel 16. Hinged by means of a shaft 17 to the frame 2 is a swinging frame 13, in which is mounted a shaft 12, a worm-wheel 19, in mesh with a worm 18, the said worm being provided with a means of connection with a wrench-bar 27, the said bar being suitably supported and formed with a universal joint 28, as will be seen by refer-

ence to Fig. 2 of the drawings. Loosely connected to the shaft 12 are two cross-arms 11, the upper ends of which are connected by chains 9 to the drum 8 above and the lower ends fitted with rollers 26, provided with intermediate toothed wheels 25, adapted to engage with a rack 30, formed on the tread of a short section of a rail 23, which is loosely connected to said arms by inwardly-projecting portions 24, formed integral with the cross-arms. Mounted on the same shaft 12 is a gear-wheel 20, which is in mesh with two others, 21, rigidly attached to the short shafts 22, carrying the rollers 26. A semicircular spiral spring 29 is passed about a portion of the frame 13 and the ends connected to the upper ends of the arms 11 in a manner that will tend to draw the lower extremities of the same apart, thereby taking up the slack of the chains 9.

To replace a street-car upon the rails equipped with my improvement, one at each end of the car, the device is lowered by placing the hand-wheel 16, unwinding the chain 14 from the shaft 15, permitting the rail 23 to rest upon the street and at the proper angle with the rails of the track. By operating the wrench-bar 27 with the same hand-wheel 16 the car may be moved to the right or left along the rail 23 by the action of the several gear-wheels above described. The entire weight of the car is supported upon these devices and the car-wheels lifted clear of the street by the operation of the drum 8, which when turned by means of the worm 5 will draw the upper ends of the arms 11 together and impart a similar movement to the lower ends of the same, as is obvious. When the apparatus is not in use, the lower portion 13 and its connected parts are drawn upward by operating the shaft 15.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described apparatus for lifting cars, consisting of the frame 2, suitably mounted beneath the car-floor, and at each end thereof, the shaft 4 and worm 5 and a means for operating the same, the drum 8 operated by said worm, the swinging frame 13

attached to the frame 2, the cross-arms 11, connected to said swinging frame, and to the drum 8, the gearing 20 and 21 operated by a worm and wheel, the rollers 26 and gear 25, 5 mounted at the lower extremities of said arms, and connected to said gearing, and a rail 23 carried by the arms 11, the said rail being provided with a rack 30, all arranged and combined for service, substantially as and 10 for the purpose described.

2. In an apparatus for the purpose described, the combination consisting of the pivoted frame 13, a central shaft mounted there-

in, a drum operated by said shaft, a hinged frame carrying cross-arms, means for attach- 15 ing said arms to said drum, rollers carried by the arms and a means for bringing the lower extremities of said arms together, as and for the purpose described.

In testimony whereof I have hereunto signed 20 my name in the presence of two subscribing witnesses.

CHARLES CHURILLA.

In presence of—

H. J. LEVIS,

JOHN GROETZINGER.