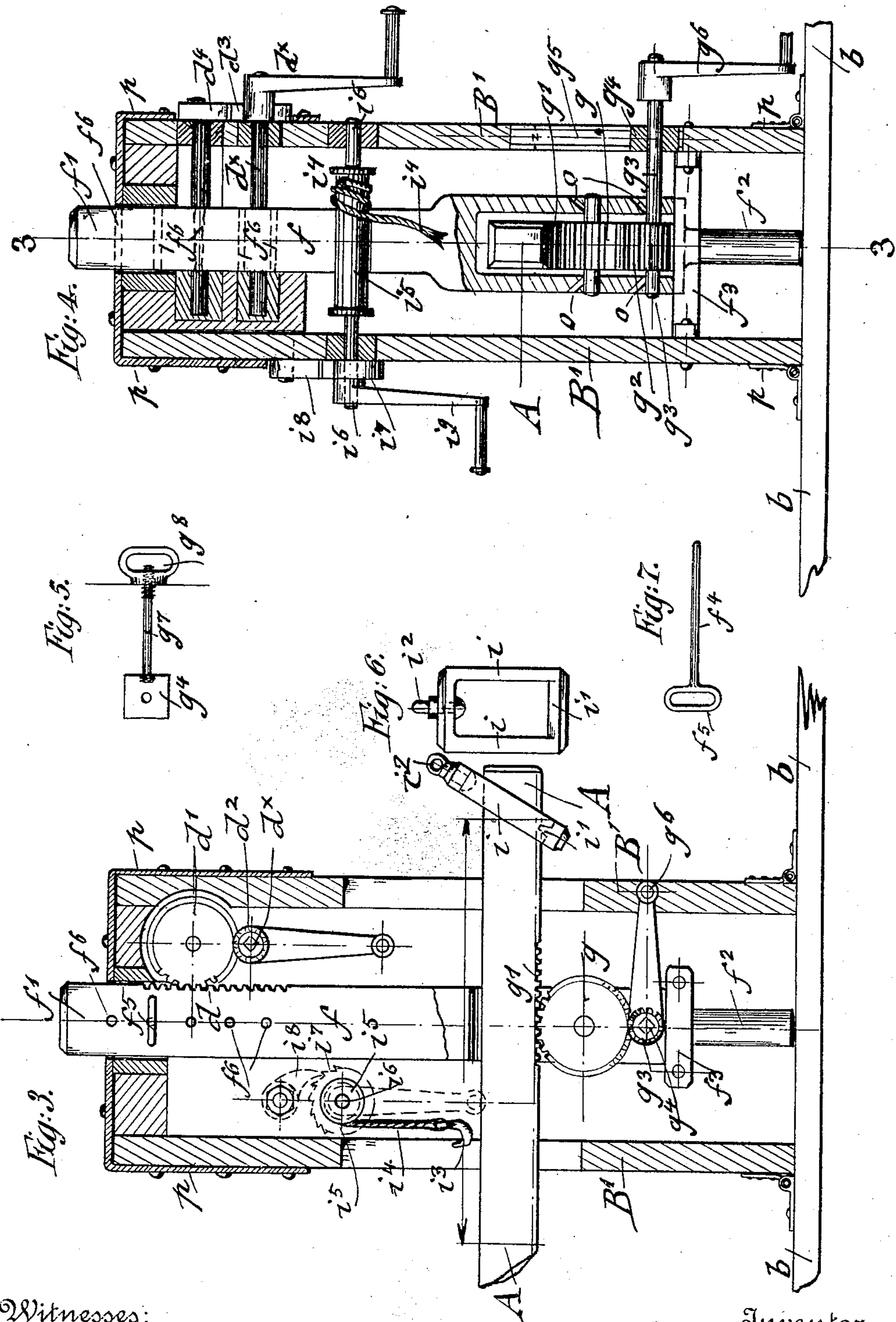


Witnesses:
Wm J. Chapman
Fannie Fick

Inventor
Carl Ruegg
By his Attorneys
James Cooper



Witnesses:
N. W. Weger
Fannie Fisk

Inventor
Carl Ruegg
By his Attorneys
Truett & Loomis

UNITED STATES PATENT OFFICE.

CARL RUEGG, OF NEW YORK, N. Y.

JACKING APPARATUS FOR RAILWAY-CARS.

932,811.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Application filed March 12, 1909. Serial No. 482,943.

To all whom it may concern:

Be it known that I, CARL RUEGG, a citizen of the Confederation of Switzerland, residing in New York, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Jacking Apparatus for Railway-Cars, of which the following is a specification.

13 This invention relates to an improved jacking apparatus for railway cars or apparatus for lifting and shifting derailed cars with great facility back onto the tracks, said jacking apparatus forming a part of the
15 wrecking apparatus that is sent to a place where a train is wrecked or car derailed, or that may be stored at larger stations for use in readily shifting individual cars from one track to another without the use of a turn-
20 table and shifting engine; and for this purpose the invention consists of a jacking apparatus for railway cars which comprises a transverse bar of suitable length that is applied across the bottom of the car, and two
25 jacks, which are placed at opposite sides of the car and provided with means for raising or lowering the transverse bar, and with means for laterally shifting the same, together with the car supported thereon, so as
30 to lift, shift and lower the car to the track.

The invention consists further in the special construction of the jacks and the means for lifting the transverse supporting bar at
35 one side or the other when a car is to be returned from a partly or entirely tilted position into upright position and then back to the track; and the invention consists lastly of certain details of construction of the lifting jacks, which will be fully described here-
40 inafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side-elevation of my improved jacking apparatus, showing the same as applied to the bottom of a car for returning
45 the same to the track, Fig. 2 is a vertical transverse section through the left-hand jack, taken on line 2, 2, Fig. 1, and drawn on a larger scale, Fig. 3 is a vertical longitudinal section substantially on line 3, 3,
50 Fig. 4, Fig. 4 is a vertical transverse section through the right-hand jack, on line 4, 4, Fig. 1, Fig. 5 represents a detail of the clamping device for the crank-shaft of the shifting device for the supporting bar, Fig.
55 6 represents a stirrup for permitting the lifting of the supporting bar independently

of the lifting mechanisms of the jacks, and Fig. 7 is a detail of the locking pin for the upper part of the upright posts of the lifting jacks.

Similar letters of reference indicate corresponding parts throughout the several figures.

Referring to the drawings, A represents a strong bar of suitable thickness and length, 65 which is placed below the bottom of a car, near one truck of the same, and extended sufficiently at both sides of the same and through two jacking devices B, B¹, which are placed at opposite sides of the track in
70 proper position relatively to the derailed car which is to be returned to the track. The jacks B and B¹ are equal in size and shape, and provided in their side-walls with recesses through which the supporting bar 75 A is passed. Each jack is provided with an upright post f, which is slotted at its middle portion for permitting the passage of the bar A through the same. The upper ends f¹ of the posts f are guided in the top-
80 part and the lower ends f² in a transverse brace f³ at the lower part of the jacks. In the middle slotted part of the upright post f of the jack B is arranged a roller r, which carries one end of the bar A, as shown in Figs. 1 85 and 2, while in the jack B¹ is arranged, in the slotted portion of the upright post f, a gear-wheel g which meshes with a rack g¹ at the under-side of the opposite end of the supporting bar, as shown in Figs. 1 and 3. 90 Both jacks B and B¹ are provided with lifting mechanisms for the upright posts f at their upper parts, said lifting mechanisms consisting of a rack d, at one side of the post f, a gear-wheel d¹, a pinion d² meshing 95 with the gear-wheel d¹, a crank-shaft d^x passing through the pinion d², a ratchet-wheel d³ on the outer end of the crank-shaft, and a pawl d⁴ engaging the ratchet-wheel and pivoted to the outer wall of the
100 jacks for locking the posts in position when they are lifted by the lifting mechanisms operated by the cranks of the crank-shafts. The casing of the jacks B, B¹ is made of wood, metal or other material and closed 105 at the sides, ends and top. It is supported on a base-plate b, which is provided at the corners with screw-posts b¹, the lower ends of which are screwed into foot-pieces b², and provided at the upper ends with fixed 110 handles b³ for turning the posts and producing thereby the leveling of the jacks,

according to the unevenness of the ground, so that the jacks are placed in vertical position. The side-walls of the jacks B, B¹ are hinged at their lower ends to the base-plate *b* so as to permit the swinging of the side-walls in sidewise direction for getting at the interior of the jacks for lubricating the parts and for repairing the same. The side-walls are reinforced by metallic corner-plates *p* which are bolted to the upper and lower parts of the same, said plates being extended over the top of the casing, as shown in the different figures.

The shaft of the roller *r* of the jack B turns in bearings of the upright post *f* of the same, while the shaft of the gear-wheel *g* in the jack B¹ turns in bearings of the post *f* of the latter, said gear-wheel being engaged by a pinion *g*², the shaft *g*³ of which passes through an adjustable bearing-plate *g*⁴ that is guided in a slot *g*⁵ in the front-wall of the jack. The outer end of the shaft *g*³ is provided with a hand-crank *g*⁶ by the turning of which the intermediate pinion and gear-wheel are operated for shifting the bar A to one side or the other. The slotted portions of the upright posts *f* are provided with inclined oil-channels *o* for supplying the lubricating oil to the journals of the pinion and gear-wheel shafts. When the post *f* of the jack B¹ is lifted or lowered by the lifting mechanism at the upper part of the same, the bearing *g*⁴ follows the lifting or lowering motion, the supporting bar following also the lifting or lowering motion for the purpose of holding the bar A in the proper position ready for the lateral shifting of the same. The bearing-plate *g*⁴ is clamped in position by means of a clamping screw *g*⁷, which is swiveled at one end to the bearing-plate *g*⁴, passed through the end-wall of the jack and is provided with a thumb-nut *g*⁸ that engages the threaded end of the screw *g*⁷, as shown in Fig. 5. The turning of the thumb screw-nut *g*⁸ presses the bearing-plate against the side-wall of the slot of the end-wall of the jack and holds it firmly in position. The upper end of the post *f* is supported in rigid position after adjustment by a transverse pin *f*⁴ having a handle *f*⁵ at one end, which pin is passed through an opening in the front-wall of the jack and through one of the holes *f*⁶ in the upper end of the upright post *f*, as shown clearly in Figs. 3, 4 and 7. When the posts of both jacks are thus supported in position, the shifting mechanism is operated and the bar A with the car supported thereon shifted for moving the car over the track. When this is accomplished the hand-pin *f*⁴ is withdrawn and the clamping screw released from the bearing-plate *g*⁴, so that the posts *f* can be lowered or raised again by the lifting mechanism.

In addition to the lifting and shifting devices, it is necessary to provide an independent lifting motion for either end of the car-supporting bar A. This is obtained by means of a stirrup *i*, which is shown in end-view in Fig. 3 and in side-view in Fig. 6. The stirrup *i* is made equal in width, but longer than the supporting bar, and provided with a tapering or knife-edged portion *i*¹ at the lower end so as to be able to engage the rack-end of the bar A. To the upper end of the stirrup *i* is applied a swivel-eye *i*² into which is inserted an S-shaped hook *i*³ at the end of a wire-rope *i*⁴ that is wound on a drum *i*⁵, the shaft *i*⁶ of which turns in bearings of the front and rear walls of the casing of the jack B¹. On the outer end of the shaft is placed a ratchet-wheel *i*⁷ which is engaged by a pawl *i*⁸ so as to permit the turning of the drum in one direction and lock the ratchet-wheel when the turning of the drum is interrupted. For unwinding the wire-rope, the pawl is moved out of engagement with the teeth of the ratchet-wheel. To the shaft *i*⁶ of the drum *i*⁵ is applied a crank *i*⁹ for winding up the wire-rope when the supporting bar is to be lifted at one end only, as in case when the car is turned over in partly or entirely tilted position. This permits the return of the car into upright position as the bar A is used in this case as a lifting lever. When the car is in upright position, the bar A is applied transversely under the bottom of the same, in proximity to the truck, after which the lifting devices of both jacks are simultaneously operated, so that the car is lifted by the supporting bar to the proper height above the rails. The lifting posts are then locked in position, also the bearing-plate of the shifting mechanism. The latter is then operated so as to move the car over the track, after which the lifting posts are unlocked and the lifting mechanisms lowered and the car replaced on the track. When one end of the car is replaced on the track, the jacking apparatus is then applied to the other end of the car and the same returned to the track in the same manner.

The improved jacking apparatus is used as follows: Whenever a car is derailed by accident, a misplaced switch, or for any other reason, the transverse bar A is placed at one end of the car under the bottom of the same, and through the jacks, one of which being placed at one side of the track and the other at the other side of the track. The jacks are then leveled up so as to assume a vertical position by means of the screw-posts of the base-plates, after which the car is first brought back at one end to the track by lifting, shifting and lowering the car, then at the other end by the same operations. When the car has been partly or entirely tilted over, it has to be placed first into up-

right position. This is accomplished by placing the bar A under the side of the car and lifting the car in connection with the bar A and the stirrup and wire-rope and winch of the jack B¹ and the lifting device of the jack. After the car is lifted and in upright position, then the supporting bar is placed under the bottom at the end of the car and the jacks placed at opposite sides of the same, and operated as described for returning one end of the car after the other to the track.

The improved jacking apparatus for railway-cars forms a very useful device for complementing the usual wrecking apparatus sent out to the points where an accident to a train has occurred. It can also be used at larger stations, and even be carried along as an auxiliary in the baggage-car of express and other trains, so as to be always ready in case of accident when a car should become derailed and requires returning to the track.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A jacking apparatus for railway cars, comprising a supporting bar, and two jacks, one for each end of the bar, a leveling device for each jack, and a lifting device for the supporting bar on each jack.

2. A jacking apparatus for railway cars, comprising a supporting bar provided with a rack at one end, two jacks, one for each end of the bar, lifting devices in each jack for the supporting bar, and a shifting device in one of the jacks for engaging the rack-end of the bar and shifting the same in lateral direction.

3. In a jacking apparatus for railway cars, a jack consisting of a casing, a lifting device in the same, a leveling device, and means for guiding a supporting bar in the casing and lifting device of the jack.

4. In a jacking apparatus for railway cars, a jack comprising a casing provided with slots in its side-walls, an upright post guided in said casing, a lifting device for raising or lowering the center-post, said cen-

ter-post having a slot in its middle portion in line with the slots of the side-walls for passing a supporting bar through said slots.

5. In a jacking apparatus for railway cars, the combination of a jack comprising a casing provided with slots in its side walls, means for leveling said jack, an upright post guided in said casing and provided with a slot in line with the slots of the side-walls of the casing, a supporting bar, a lifting device for the post, and a shifting device for the supporting bar.

6. In a jacking apparatus for railway cars, the combination, with a supporting bar having a rack-shaped end, of a jack provided with slots in its side-walls, an upright post guided in said jack and provided with a guide-slot in its middle portion, a lifting device for said post, a locking device for the same, a shifting mechanism for the supporting bar located in the slotted portion of the post and engaging the rack-end of the supporting bar, and means for operating said mechanism for moving the bar in either direction.

7. In a jacking apparatus for railway cars, the combination, with a jack provided with a lifting device, of a supporting bar, and a hoisting device in said jack adapted to be applied to said bar for permitting the lifting of one end of the same, and means for longitudinally moving said bar relative to said jack.

8. In a jacking apparatus for railway cars, the combination, with a jack provided with a lifting device, of a supporting bar having a rack-shaped end, a stirrup applied to the rack-end of the bar, a wire-rope connected with said stirrup, and a winch for winding up the rope and lifting the supporting bar.

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

CARL RUEGG.

Witnesses:

PAUL GOEPEL,
H. MOGGI.