

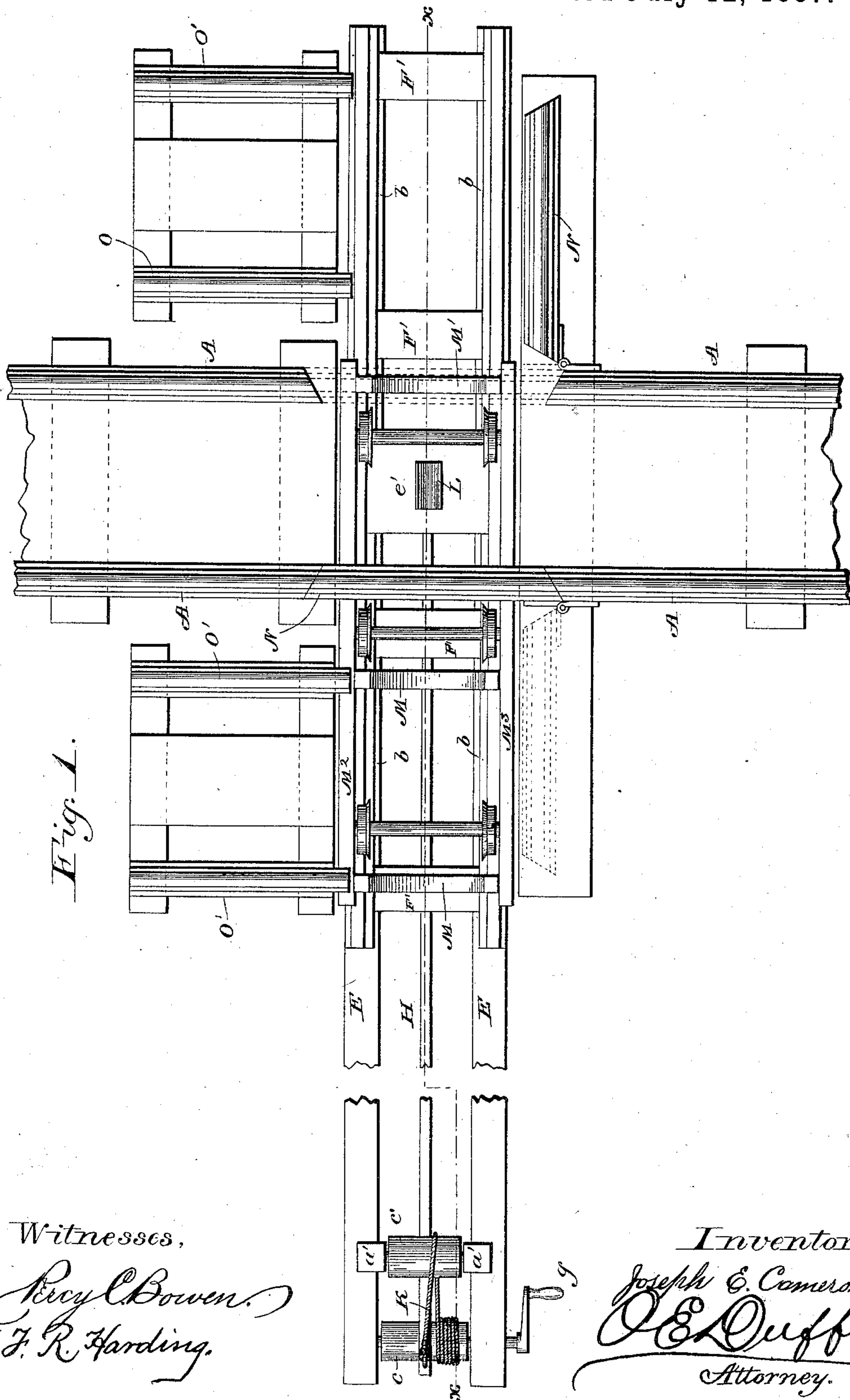
(No Model.)

2 Sheets—Sheet 1.

J. E. CAMERON.  
CAR WHEEL REPLACER.

No. 366,302.

Patented July 12, 1887.



Witnesses,  
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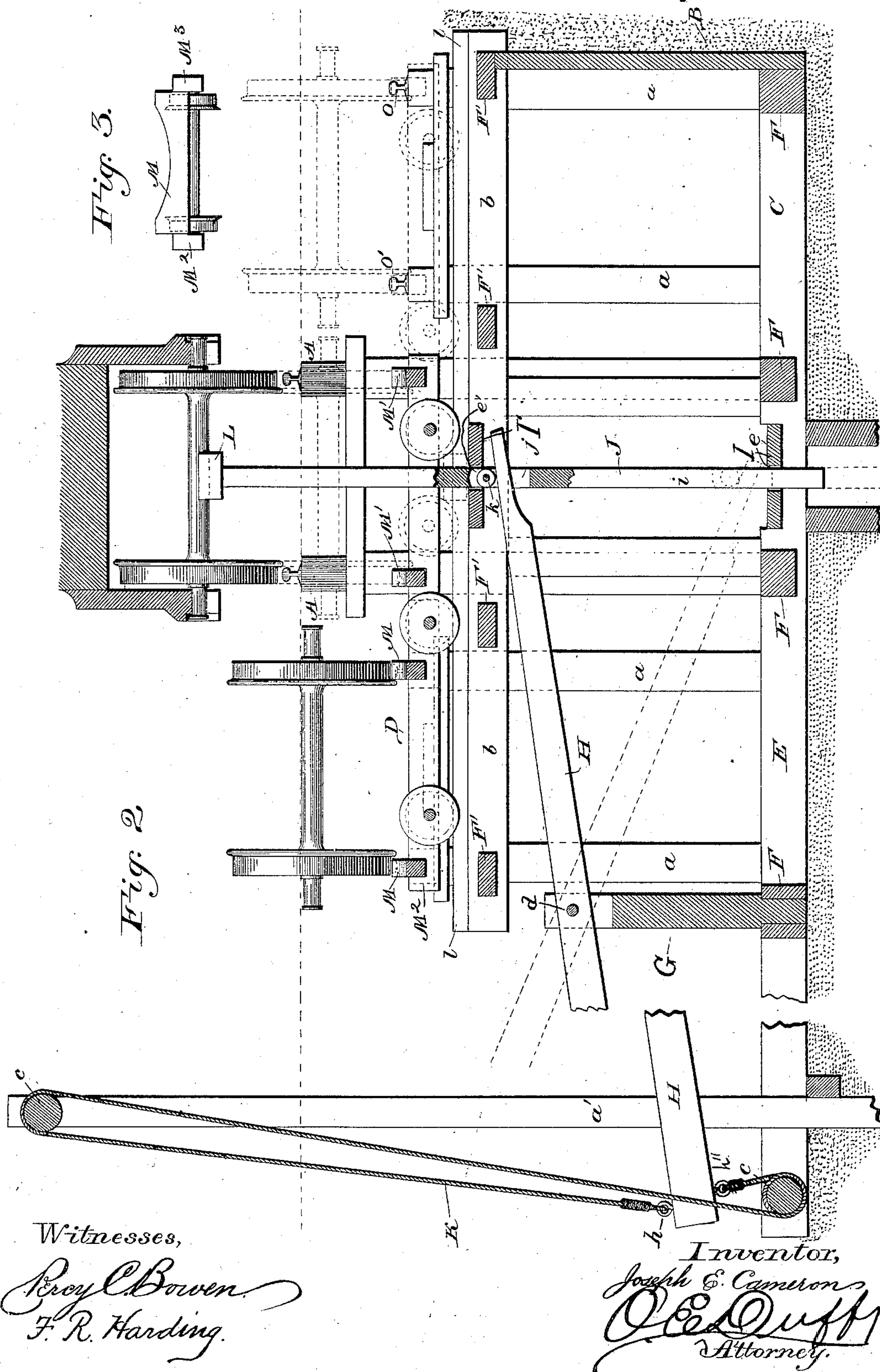
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# UNITED STATES PATENT OFFICE.

JOSEPH E. CAMERON, OF RIVER JUNCTION, FLORIDA.

## CAR-WHEEL REPLACER.

SPECIFICATION forming part of Letters Patent No. 366,302, dated July 12, 1887.

Application filed October 23, 1886. Serial No. 217,028. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH E. CAMERON, a citizen of the United States, of River Junction, in the county of Gadsden and State of Florida, have invented certain new and useful Improvements in Car-Wheel Replacers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to

which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification. My invention relates to a new and improved apparatus for removing and replacing railway car-wheels and driving-wheels of locomotives when it is desirable to remove same for repairs or substitution; and it has for its object to provide such an apparatus which will readily and safely perform such operation and at the same time will be comparatively simple in its construction and advantageous as regards time, labor, and cost.

It consists of certain details of construction, arrangement, and combination of parts, which will be more fully described hereinafter, and the points of novelty in which will be designated in the appended claims.

Referring to the accompanying drawings, Figure 1 is a plan view of the apparatus complete. Fig. 2 is a longitudinal section of same on line *x x*, Fig. 1. Fig. 3 is a detail end elevation of the movable truck or carriage.

Like letters of reference mark the same parts in all the figures of the drawings.

Referring to the drawings by letters, A is the main track, and B is a transverse pit under track A of the proper depth, dimensions, and situation to receive the frame-work C, which supports the rails for the movable truck D, and also the frame for the lever which operates the stationary lifting jack. This frame-work consists of the two bottom sills, E E, properly secured longitudinally in the bottom of the pit at right angles to the main track and extending out in the pit the desired distance, as shown in Fig. 2, and provided with upright standards or beams, *a a a' a'*, the beams *a a* supporting the sleepers *b b* for the track of the movable truck, and the standards *a' a'* forming a support for the two rollers *c c'* for carrying the lever-operating cord. The stand-

ards *a a* are mortised at their lower ends in the sill-beams E E, and at their upper ends are similarly secured in the sleepers *b b*, said bottom sills and sleepers being suitably braced by the cross-beams F F F' F'.

G is a standard mortised in the cross-beam F at its lower end and bifurcated at its top, as shown in section in Fig. 2, for the purpose of supporting and forming a fulcrum bearing for the lever H of the lifting-jack J, which is pivoted in said fork by a pin, *d*.

I I' are two rectangular plates, preferably of metal, respectively placed midway the length of the sills E E and sleepers *b b* and secured thereupon in any suitable manner, as shown, and each provided with a rectangular aperture, *e* or *e'*, through which the lifting-jack J is guided in its vertical movement.

At the extreme ends of the sills E E and between the same is suitably journaled the roller *c*, provided with a crank-handle, *g*, for operating said roller, and *c'* is another roller journaled between the top end of the upright standards *a' a'*.

To the upper side of the lever H is secured, by means of a staple or hook, *h*, an operating or winding cord, K, which then passes partly around the roller *c'* and then brought down and wound around the roller *c* several times, and the end of the cord is then secured by means of a hook or staple, *h''*, to the under sides of the lever H, thereby enabling the lever H to be raised or lowered as required.

The lifting-jack J consists of a vertical rod or bar, *i*, having the rectangular central slot, *j*, provided with small friction-roll, *k*, and the grooved jack-head L, fitted upon its upper end above the aperture *e'*.

The lever H has its inner end cut away or chamfered to project through the slot *j* and bear against the friction-roll *k*, journaled in said slot.

D is the movable truck running on rails *l l*, laid on sleepers *b b* of the frame-work. This truck may be of any ordinary construction, having wheels, axle-boxes, draw-bars, springs, &c., with the exception of its being provided with the two sets of wheel-rests, M M', secured at suitable intervals apart between the side beams, M<sup>2</sup> M<sup>3</sup>, of said truck. These wheel-rests consist each of a suitable beam mortised between the side beams, M<sup>2</sup> M<sup>3</sup>, and cut away



or curved on its top surface to conform to the curvature of the car-wheels designed to rest thereupon, as shown in Fig. 3. This truck runs under and at right angles to the main track, which is provided with the rails A A, having the two hinged sections or bridging-rails, N N, opening, as shown; directly over the pit having the frame-work and movable truck previously described.

O O' are two suitable tracks, one on each side of the main track, connecting with the repair-shop, arranged upon the same plane as the tops of the wheel-rests, and designed to receive the wheels removed from the truck.

The operation of my invention may be described as follows: Whenever it is found necessary to remove a set of wheels, the car, being on the main track, is run until the wheels are directly on the bridging-rails N N and over the pit. The wheels are then loosened from their journal-bearings to allow of their ready removal. The crank-handle *g* is now turned so as to draw down the lower end of the lever, which is done by means of the cord secured to the under side of said lever. The other end of the lever bearing against the friction-roll *k* in the slot *j* of the lifting-jack J causes the jack-head of the said jack to ascend until it comes in contact with the axle of the wheels to be removed. This revolution of the crank-handle is continued until the wheels are raised a sufficient distance from the bridging-rails to allow said rails to swing open, as shown in Fig. 1 partly in whole and partly in dotted lines. The crank-handle is now turned so as to raise the end of the lever H, thus allowing the lifting-jack J to descend until the wheels rest in the wheel-rests M M, which form part of the truck D. The truck D is now run from left to right until the rests and the wheels which are to be removed are in line with the side track. The wheels to be repaired are then run off on the side track, as clearly shown.

In operation there are two sets of side tracks and two sets of wheel-rests, situated so that when the old wheels are in position to be run onto the side track the new wheels will be in position to be raised by the lifting-jack. To raise the new wheels in position is simply the reverse of lowering the old ones. In the meantime the old wheels are in the position shown in dotted lines in Fig. 2, on the right-hand side of the track, and can be readily wheeled off on the side track, O, to the shop. Thus it will be readily understood that the old wheels needing repair can be removed and a new set almost simultaneously substituted without the danger, delay, and expense usually attendant upon said work.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A car-replacer comprising the stationary lifting-jack having suitable grooved head and central slot provided with friction-roll, the guiding-plates, the fulcrumed lever, the mechanism for operating said lever, and the movable truck running on tracks under the main track and arranged on the top of the frame-work of the pit, as set forth.

2. A car-replacer comprising the stationary lifting-jack having suitable head and central slot provided with friction-roll, and the fulcrumed lever and mechanism for operating the same, with the movable truck provided with the curved wheel-rests and arranged to run on the tracks fastened on the top of the frame-work of the pit, under and at right angles to the main track, as set forth.

3. A car-replacer comprising the stationary lifting-jack having suitable head and central slot provided with friction-roll, the lever for operating said jack, the bifurcated fulcrum-post, the upright standards forming a journal-bearing for the top roll, the rollers for carrying the cord, one of the said rollers being provided with a suitable operating-handle, and the cord wound on said rollers and connected to the outer end of the lever, as set forth.

4. A car-replacer comprising the stationary lifting-jack having suitable grooved head and central slot provided with friction-roller, the guide-plates, the lever, and operating mechanism for said lever, the frame-work arranged in the pit underneath and at right angles to the main track, as described, the movable truck running on top of said frame-work, and the main track having hinged sections of rails directly above the truck, as set forth.

5. A car-replacer comprising the movable truck, the wheel-rests mounted thereon, the lifting-jack having the grooved head and central slot provided with friction-roller, the lever, the mechanism for operating said lever, such as described, the frame-work arranged in said pit, the main rails having hinged sections or bridging-rails, and the side tracks arranged on each side of the main track and on the same plane with the top of the wheel-rests of the truck, as set forth.

6. A car-replacer comprising the stationary lifting-jack, and mechanism for operating the same, with the movable truck having the wheel-rests, such as described, mounted thereon, and the side tracks arranged on the same plane as said rest and below the main track, as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSEPH E. CAMERON.

Witnesses:

JULIUS SOLGER,  
O. E. DUFFY.