

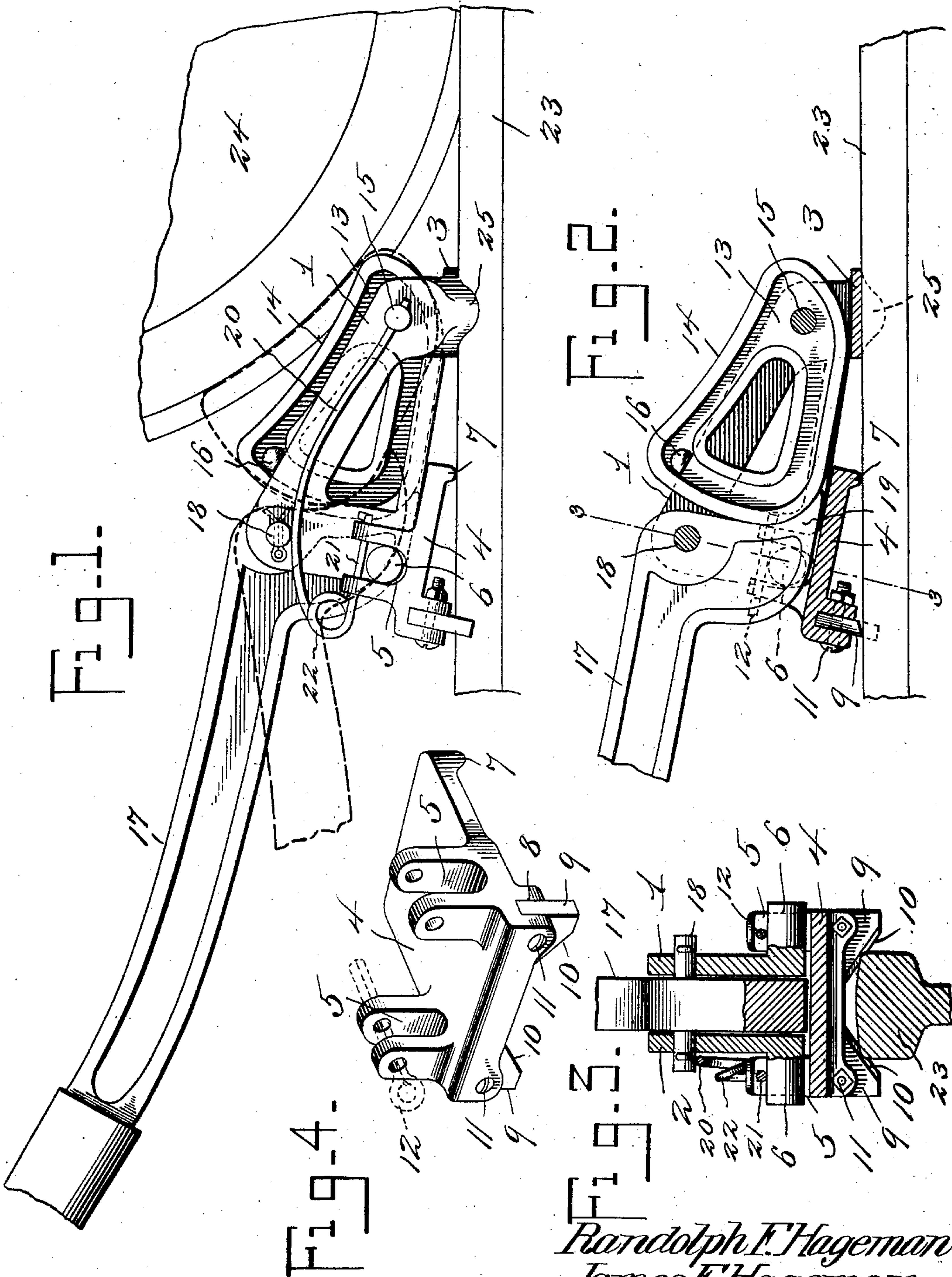
No. 762,901.

PATENTED JUNE 21, 1904.

R. F. & J. E. HAGEMAN.
CAR MOVER.

APPLICATION FILED APR. 12, 1904.

NO MODEL.



Witnesses
E. H. Stewart
A. D. Shepard

Randolph F. Hageman
James E. Hageman
Inventors
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

RANDOLPH F. HAGEMAN AND JAMES E. HAGEMAN, OF NEW MADISON,
OHIO.

CAR-MOVER.

SPECIFICATION forming part of Letters Patent No. 762,901, dated June 21, 1904.

Application filed April 12, 1904. Serial No. 202,842. (No model.)

To all whom it may concern:

Be it known that we, RANDOLPH F. HAGEMAN and JAMES E. HAGEMAN, citizens of the United States, residing at New Madison, in the county of Darke and State of Ohio, have invented a new and useful Car-Mover, of which the following is a specification.

This invention relates to car-movers, and has for its object to improve the construction shown in Patent No. 649,299, dated May 8, 1900, and granted to R. F. Hageman.

It is furthermore designed to improve the manner of anchoring the device upon a rail, so as to avoid slipping thereof when in operation to turn a car-wheel.

Another object is to arrange the parts of the device so as to obtain materially increased power over that possessed by the patented device hereinbefore mentioned.

A still further object is to have the wheel-engaging shoe movable with the wheel without slipping thereon during the manipulation of the apparatus, thereby to avoid friction and to insure a prompt and effective rotation of the wheel without tending to lift the car.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation illustrating the device of the present invention applied to a car-wheel in position for rotating the same. Fig. 2 is an enlarged longitudinal sectional view of the device. Fig. 3 is a cross-sectional view on the line 3 3 of Fig. 2, the device being seated upon a rail. Fig. 4 is a detail perspective view of the heel member.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

The present form of car-mover includes a

skeleton frame or body made up of upstanding side members 1 and 2, the upper edges of which are inclined downwardly and forwardly, with the bottoms of the forward ends of the side members connected by a toe-plate 3, preferably integral therewith, whereby a longitudinally slotted or bifurcated body is formed, with the slot or bifurcation intersecting the rear end of the body. Beneath the rear end of the body is a heel 4, separate therefrom and in the nature of a flat plate having bearing seats or sockets 5 at opposite sides thereof and near the rear end of the plate, with the upper sides of the seats or sockets open for the reception of the integral trunnions 6, projected laterally outward from the rear end of the body, whereby the latter is terminally hinged at its rear end to the heel and is capable of being swung vertically thereon. The forward end of the heel is provided upon its under side with a transverse rib 7 to take the wear occasioned by engagement with the top or tread of a rail. Extending transversely across the rear portion of the under side of the heel is a seat or groove 8, preferably formed by a pair of spaced integral ribs, and within the opposite ends of this seat are stationary bits 9, each of which is in the form of a plate projected a suitable distance below the seat and having its inner edge inclined inwardly and upwardly, as at 10, and beveled to provide a rear knife-edge to bite into one edge of the tread of a rail, as will be hereinafter explained. It is proposed to have the bits separately removable in order that they may be replaced when broken and sharpened when worn, and as a convenient means for detachably holding each bit in place a bolt 11 may be inserted through the opposite sides of the seat 8 and the bit. To prevent accidental detachment of the body from the heel, a suitable keeper, such as a split pin 12, may be passed through aligned perforations in the opposite sides of each bearing 5 and above the trunnion 6 therein, whereby the heel and the body may be conveniently assembled and disconnected whenever desired.

Working within the slotted or bifurcated body is a substantially triangular shoe 13, the

upper edge 14 of which is inclined downwardly and forwardly and slightly concaved for engagement with the periphery of a car-wheel. This shoe is mounted to tilt vertically
 5 and is pivotally supported at its front end upon a pin 15, which pierces opposite sides of the body and is non-rotatable therein. At the rear upper portion of the shoe and at the opposite sides thereof are lateral studs or projections 16,
 10 which form stop-shoulders for engagement with the top of the body to limit the downward swing of the shoe. In rear of the shoe is an operating-lever 17, the forward end of which is fulcrumed between the sides of
 15 the body, as indicated at 18, said lever terminating at its forward end in a pendent forwardly-inclined bill or hook 19, the front face of which is concaved and shaped to fit the rounded or convexed rear end of the shoe, so
 20 that by bearing down upon the lever the bill portion thereof will tend to elevate the shoe upon its pivotal support 15.

Located externally at one side of the body is a spring-rod 20, the forward end of which
 25 is engaged within an opening in the projected end of the pin 15, while its rear end portion is extended over the bearing 5 on the heel and thence rebent to form a shank 21, which is passed through the perforations in the op-
 30 posite sides of the bearing 5 from the rear thereof, there being a coil 22 twisted into the rod between the shank and the main portion of the rod. The purpose of this spring is to maintain a downward tension upon the front
 35 portion of the heel, so as to tilt the latter when pressure is removed from the lever, and thereby maintain the bits at a proper angle to prevent slipping of the heel upon the rail.

For an understanding of the manner of using the present device attention is called to
 40 Figs. 1 and 3 of the drawings, wherein 23 designates a rail, and 24 a car-wheel. The device is applied to the top of the rail with the bits 9 straddling the same at the rear of
 45 the body and the pendent lips or projections 25 straddling the rail at the forward end of the body, whereby the device is held against lateral displacement. By pushing endwise
 50 upon the lever 17 the device may be slid upon the rail to thrust the shoe beneath and in engagement with the periphery of the car-wheel, after which the lever is depressed, thereby
 55 swinging the shoe into snug frictional contact with the wheel. When the shoe ceases to swing upon the body by becoming wedged between the bill of the lever and the periphery of the wheel, the lever, the shoe, and the frame will become interlocked as one member, and the fulcrum will then be changed to
 60 the trunnions 6, and the entire body will then tilt upon the heel as a fulcrum-support. By this automatic shifting or changing of the fulcrum a greater leverage is obtained when the trunnions 6 constitute the fulcrum of the
 65 lever. When the car-wheel turns upon its

axle under the influence of the present apparatus and tends to move away from the shoe 13, the latter of course swings forwardly upon its pivotal support 15 and maintains its frictional engagement with the wheel, whereby
 70 there is no slipping of the shoe upon the wheel and friction incident to such slipping is obviated. During the manipulation of the device it will be noted that the bits 9 engage
 75 opposite edges of the rail 23 rather than the top thereof, in order that they may bite into the relatively soft side edges of the rail and thereby prevent rearward slipping of the shoe. It will here be noted that the inner or
 80 active edges of the bits are inclined so as to engage the edges only of the rail, for the reason that the intermediate top portion of the tread becomes hardened under the hammering action of car-wheels.

From the foregoing description it is apparent that the device of the present invention is very effective, particularly in the feature of the changeable fulcrums, whereby the shoe is first forced into frictional engagement with
 85 the wheel and initially actuated to start the wheel, after which the position of the fulcrum is shifted so as to increase the leverage and also the movement of the shoe, thereby to compensate for the rotating and forward
 90 movements of the wheel. Furthermore, under the influence of the spring 20 the forward end of the heel is maintained at a downward inclination, with the bits inclined downwardly and rearwardly to effectively bite into
 95 the rail and hold the device against slipping rearwardly when pressure is originally applied to the lever. The spring 20 also tends to tilt upwardly the rear end of the heel
 100 upon the rib 7 as a support when the device is being slid forwardly, thereby to maintain the bits 9 elevated above the rail, so as to prevent the sharp edges of said bits scraping
 105 upon the rough edges of the rail.

Having thus described the construction and operation of our invention, what we claim as
 110 new, and desire to secure by Letters Patent, is—

1. A car-mover comprising a base, a rail-engaging heel member hinged to the base, a wheel-engaging shoe pivotally supported upon
 115 the base, and a lever fulcrumed upon the base in coöperative relation with the shoe.

2. A car-mover comprising a base having a forward toe portion for engagement with a rail, a rail-engaging heel member hinged to
 120 the rear of the base, a wheel-engaging shoe pivoted to the forward portion of the base, and a lever fulcrumed upon the base in rear of the shoe in coöperative relation with the rear free end of the latter.
 125

3. A car-mover comprising a base having a forward rail-engaging toe member and trunnions at its rear end, a rail-engaging heel member having bearing-sockets for the reception of
 130 the trunnions, a wheel-engaging shoe member

pivoted to the forward portion of the base, and a lever fulcrumed upon the base in rear of the shoe and in coöperative relation with the rear free end of said shoe.

5 4. A car-mover comprising a base having a forward rail-engaging toe portion and provided at its rear end with trunnions, a rail-engaging heel member having bearing-sockets receiving the trunnions and provided upon
10 its under side and at its rear end with transverse seats, rail-gripping bits fitted in said seats and having inner upwardly-converged sharpened edges, a wheel-engaging shoe pivoted to the base at the forward end thereof,
15 and a lever fulcrumed upon the base in rear of the shoe and in coöperative relation with the rear free end of the latter.

5. A car-mover comprising a base having a forward rail-engaging toe portion, a rail-engaging heel member to which the rear portion
20 of the base is hinged, rail-engaging bits carried by the under side of the heel and provided with inner upwardly-converged sharpened edges, a wheel-engaging shoe carried by the
25 base, and a lever for operating the shoe.

6. A car-mover comprising a base having a forward rail-engaging toe portion, a rail-engaging heel hinged to the rear portion of the base, a spring tending to tilt the heel upon its
30 hinged connection with the base, a wheel-engaging shoe carried by the base, and an operating-lever therefor.

7. A car-mover comprising a base having a rail-engaging toe portion at its forward end
35 and provided at its rear end with trunnions, a rail-engaging heel having trunnion-receiving bearings, one of which bearings is open at

the top thereof, a bowed spring carried by the base and having one end connected to the heel member and lying across the top of the
40 open bearing-socket to prevent displacement of the trunnion therein, a wheel-engaging shoe carried by the base, and an operating-lever therefor.

8. A car-mover comprising a base having
45 spaced upstanding side members, a forward rail-engaging toe portion, and outwardly-directed trunnions at its rear end, a heel member located beneath the rear portion of the base and provided with bearing-sockets re-
50 ceiving the trunnions, the under side of the heel member having a transverse seat at the rear end thereof, rail-engaging bits held within the seat and provided with upwardly-converged inner sharpened edges to engage the
55 sides of the head of the rail, a wheel-engaging shoe pivoted at its forward end between the side members of the base and having a concaved upper edge to fit the periphery of the car-wheel, and a lever fulcrumed between the
60 sides of the base in rear of the shoe and provided with a forwardly and downwardly inclined bill portion underlying and engaging the free rear end of the shoe to elevate the
65 latter upon its pivotal support.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

RANDOLPH F. HAGEMAN.
JAMES E. HAGEMAN.

Witnesses:

WM. BURKETT,
J. F. S. HAGEMAN.