

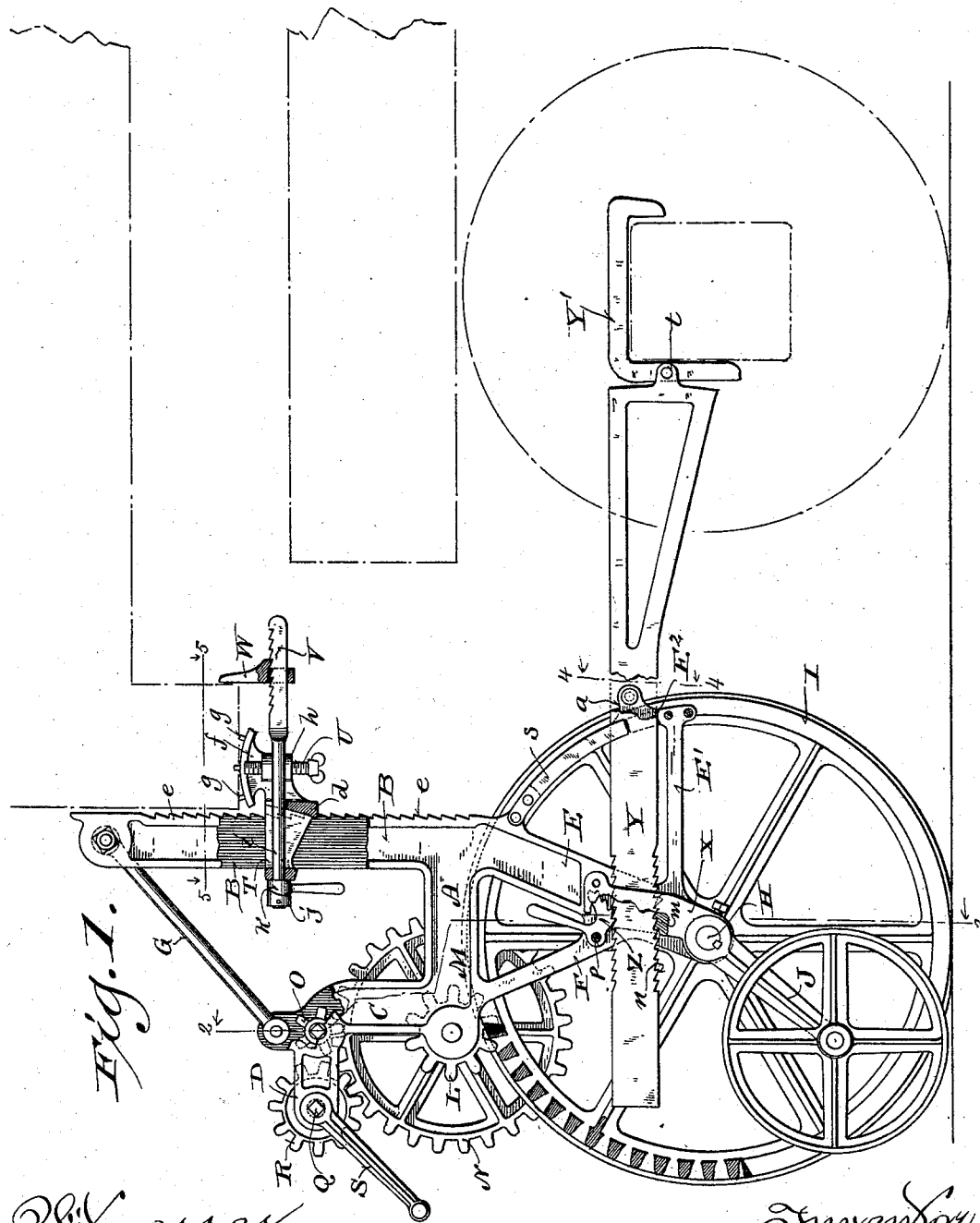
(No Model.)

2 Sheets—Sheet 1.

M. JOHNSON.
MANUAL MOTOR.

No. 522,376.

Patented July 3, 1894.



Witnesses
Geo. W. Loring
N. E. Oliphant

Inventor
Martin Johnson.
By H. G. Underwood
Attorney

(No Model.)

2 Sheets—Sheet 2.

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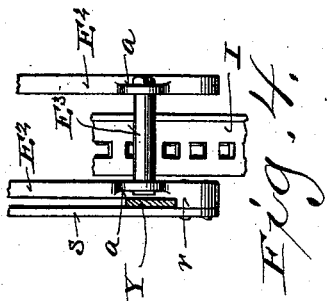


Fig. 4.

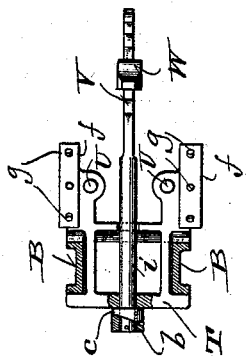


Fig. 5.

Fig. 3.

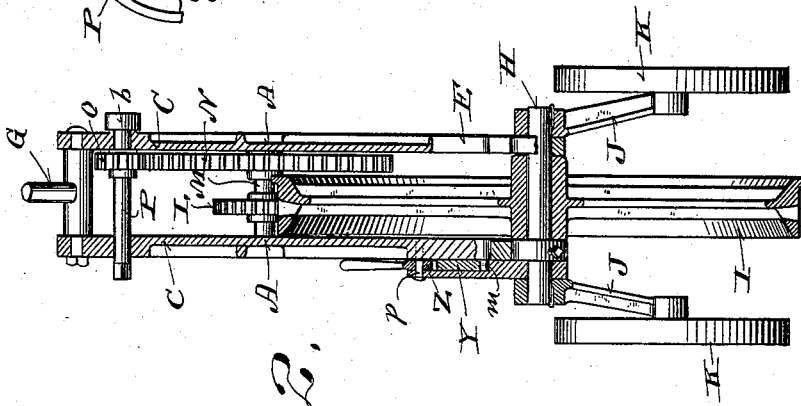
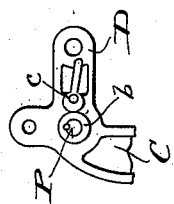


Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

MARTIN JOHNSON, OF MILWAUKEE, WISCONSIN.

MANUAL MOTOR.

SPECIFICATION forming part of Letters Patent No. 522,376, dated July 3, 1894.

Application filed July 3, 1893. Serial No. 479,456. (No model.)

To all whom it may concern:

Be it known that I, MARTIN JOHNSON, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Manual Motors; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to simplify and cheapen manual motors of that class set forth in my former patent, No. 482,180, issued September 6, 1892, and it consists in certain peculiarities of construction and combination of parts hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings: Figure 1 represents a side elevation of my improved motor partly broken away; Fig. 2, a vertical transverse section of the same on line 2—2 of the preceding figure; Fig. 3, a detail elevation illustrating a brake device on the motor, and Figs. 4 and 5 detail sections respectively taken on lines 4—4 and 5—5 of Fig. 1.

As herein shown I prefer to now employ a pair of parallel skeleton castings as light as possible consistent with requisite strength, each casting comprising a horizontal portion A, a vertical front rack-arm B, a rear vertical upper arm C provided with a horizontal rear extension D, a lower arm E extended rearward from the rack arm at an acute angle and a brace F joining the latter arm and the horizontal portion of said casting. Each of said castings has a horizontal branch E' extending forward from its arm E and again joined to this arm by a segmental branch E², ears *a* on the segmental branches of both castings being joined by a transverse brace E³ as best illustrated in Fig. 4. The front and rear vertical arms of both castings are preferably connected by an I-brace G held in place by bolts or other suitable means. Rigidly secured in the lower ends of the arm E of the parallel castings, by set-screws or other suitable means, is an axle H on which is loosely arranged the flanged track-wheel I of the mo-

tor, and keyed or otherwise fast on the extremities of the axle are hangers J for plain wheels K the latter being on opposite sides of the track-wheel eccentric thereto.

When the motor is in position on a line of track-rails the eccentric disposition of the plain wheels brings the latter above these rails out of the way of possible obstructions. The motor being off a line of track-rails and at rest, all three of the aforesaid wheels will touch upon the ground, but if said motor be tilted to raise the flanged wheel the device may be rolled about from place to place on the plain wheels.

The flanged wheel is toothed inward from its periphery and in mesh with a pinion L fast on an arbor M having its bearings in the vertical rear arms C of the parallel castings, and a spur-wheel N also fast on the arbor meshes with a pinion O fast on another arbor P having its bearings in said arms of the castings. Still another arbor Q has its bearings in the horizontal extensions D of the vertical arms C forming parts of the parallel castings, and fast on this latter arbor is another pinion R in mesh with the spur-wheel N, this latter pinion being of greater diameter than the one O aforesaid. Both arbors P, Q, are squared at one end to engage a corresponding socket in a crank S employed to communicate power to the gearing above specified, this gearing being virtually the same as that shown and described in my prior patent, the exception being that the gear-teeth of the flanged wheel I are in one piece therewith.

To apply the greatest amount of power to the motor, the crank is employed on the arbor P carrying the pinion O, but where sufficient power can be obtained by the application of said crank to the arbor Q a higher speed of said motor will be the result. A disk *b* fast on the arbor P is impinged by a pivoted lever-controlled cam *c* when it is desirable to check the travel of the motor, but any other suitable brake may be as readily employed for the same purpose.

The vertical front arms B of the parallel castings serve as guides for a yoke T in one

piece with a transverse dog *d* that adjustably engages the rack-teeth *e* on said arms.

Vertical ears *f* on the yoke, in rear of the dog *d*, have arc-shaped upper ends preferably provided with teeth *g* for frictional contact with the under side of a transverse wooden car-beam, shown in dotted lines Fig. 1, and for cars having tubular metal base-beams, I provide said ears with eyes *h* engaged by screws *U* that are run up to come in rear of such a beam extending in a transverse direction. The yoke is also provided with guides for the shank *i* of a rack *V* on which a vertical dog *W* is adjustably arranged and rigid on the rear end of said shank is a cam-disk *j* in opposition to a similar lever-controlled disk *k* loose on the aforesaid shank between the former disk and said yoke.

Fast on the axle *H*, between one of the parallel castings and a plain wheel hanger *J*, is a plate *X* having a horizontal toothed offset *m* engaging oppositely faced teeth *n* on the lower edge of flat bar *Y*, and a pivot *p* connecting the plate and the brace *F* forming part of said casting supports a lever-controlled detent *Z* having teeth that engage opposing teeth on the upper edge of said bar.

As shown in Figs. 1 and 4, the bar *Y* rests upon an offset *r* of the segmental branch *E*² belonging to the adjacent one of the parallel castings, and a curved guard-plate *s* for said bar has its ends secured to said branch of the casting. Pivotaly connected to an ear *t* at the forward end of the bar is a hook *Y'* preferably of such angular form as to bear against three faces of a car-axle journal-box, the latter being shown in dotted lines Fig. 1.

In practice the motor is placed in position on a line of track-rails, and coupled to a car by a vertical adjustment of the yoke *T* (the screws *U* if necessary) and the hook *Y'*, the latter being positioned by an adjustment of the bar *Y* after which the detent *Z* is swung down to lock said bar in its adjusted position. The dog *W* having been adjusted on the rack *V* to come against the car-beam, it is clamped in place by a movement of the lever-controlled cam-disk *k* loose on the shank *i* of said rack. The motor and a car being coupled, power is applied by means of the crank *S* in the manner above specified.

When positioning the motor for operation in connection with a car, the frame of the former is tilted to the rear and the yoke and hook-bar adjusted, after which upon application of power to said motor its frame tends to assume a vertical position, thereby operating to lift said car and obtain the weight of the same against said yoke.

The parallel castings, arbors and braces above specified constitute the frame of my improved motor, and it would be no departure from my present invention to have the car-beam clamping-mechanism a vertically adjustable part of said frame.

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

1. A manual motor having its frame provided with upwardly extended front arms, a yoke vertically adjustable on the arms, and arc-faced ears on the yoke for impingement against the under side of a car-beam, substantially as set forth.

2. A manual motor having its frame provided with upwardly extended front arms, a yoke vertically adjustable on the arms, and toothed ears on the yoke for impingement against the under side of a car-beam, substantially as set forth.

3. A manual motor having its frame provided with upwardly extended front arms, a yoke vertically adjustable on the arms, eyes extended laterally from the yoke, and vertical screws adjustable on the eyes, substantially as set forth.

4. A manual motor having a vertically adjustable yoke provided with vertical ears having arc-shaped and toothed extremities, horizontal eyes extended laterally from the yoke, and vertical screws adjustable in the eyes, substantially as set forth.

5. A manual motor having a vertically adjustable yoke provided with bearing ears for impingement against a car-beam, a horizontal rack provided with a shank adjustably connected to the yoke, and a vertical dog that adjustably engages the rack, substantially as set forth.

6. A manual motor having a vertically adjustable horizontal rack provided with a shank loose in guides, a vertical dog adjustable on the rack, a cam-disk fast on the shank, and a lever-controlled cam-disk loose on said shank intermediate of the former cam-disk and a suitable bearing surface, substantially as set forth.

7. A manual motor having a hook-bar provided with upper and lower series of teeth, a support having teeth engaging the lower ones on the bar, and a pivotal lever-controlled toothed detent for engagement with the upper teeth of said bar, substantially as set forth.

8. A manual motor comprising a pair of skeleton castings each of which has a horizontal portion, a vertical front rack-arm, a rear vertical upper arm, a lower arm extended from the rack-arm at an acute angle, a brace joining the latter arm and horizontal portion of said casting and a horizontal branch extended forward from the lower arm; a segmental device joining the said lower arm and the forward portion of its horizontal branch, suitable braces connecting the castings and segmental devices, an inwardly toothed track-wheel having its axle supported by the lower arms of said castings, hangers on the axle, other wheels carried by the frame in train with the track-

wheel, a car-beam clamp-mechanism having
a dog engagement with the rack-arms, a
toothed surface outside one of the frame-
castings, a car-axle connecting bar having a
5 toothed edge engaging said toothed surface,
and a lever controlled detent for engagement
with another toothed edge of said bar, sub-
stantially as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand, at Milwaukee, in 10
the county of Milwaukee and State of Wis-
consin, in the presence of two witnesses.

MARTIN JOHNSON.

Witnesses:

N. E. OLIPHANT,
CHAS. B. MUNDSTOCK.