

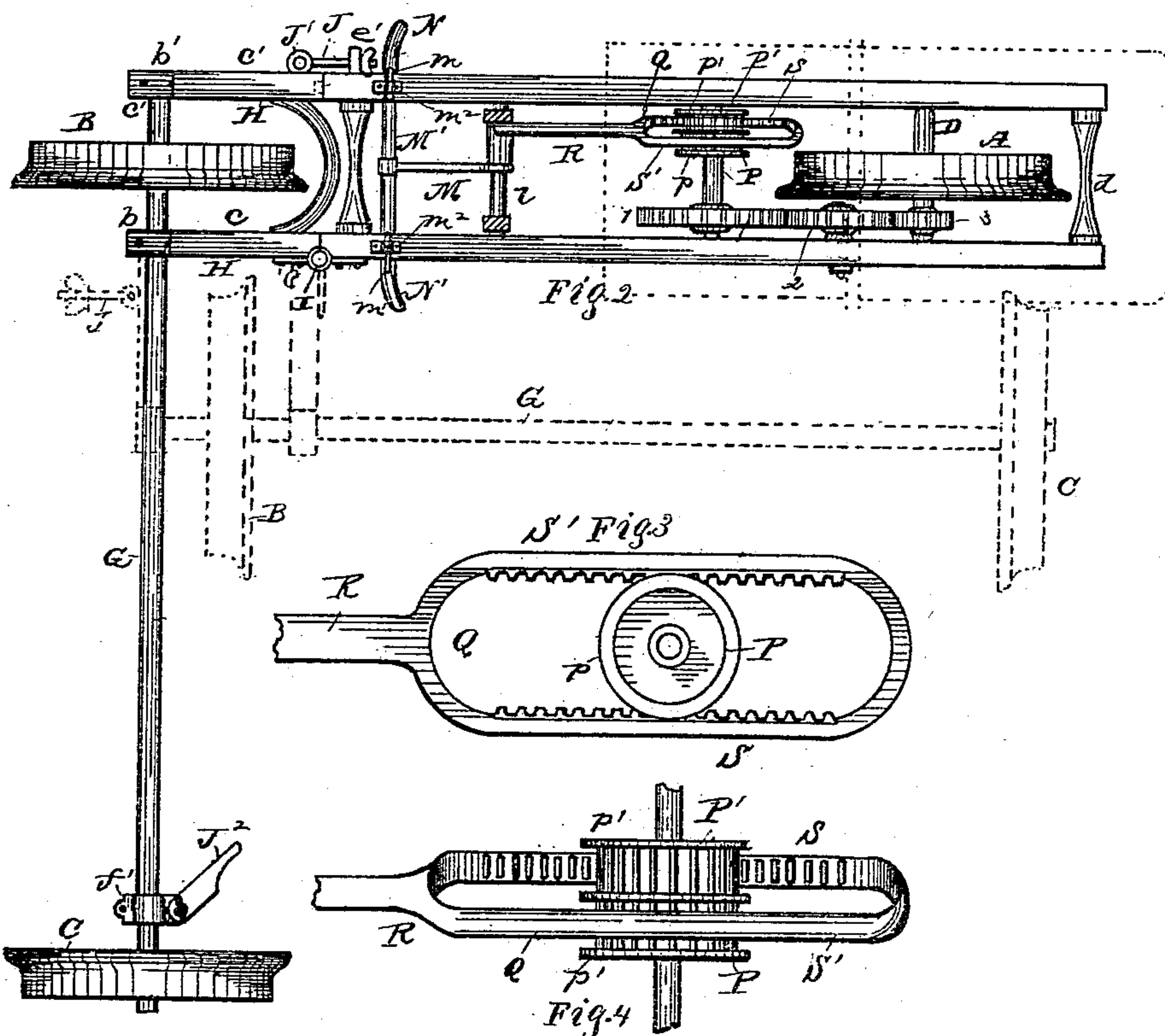
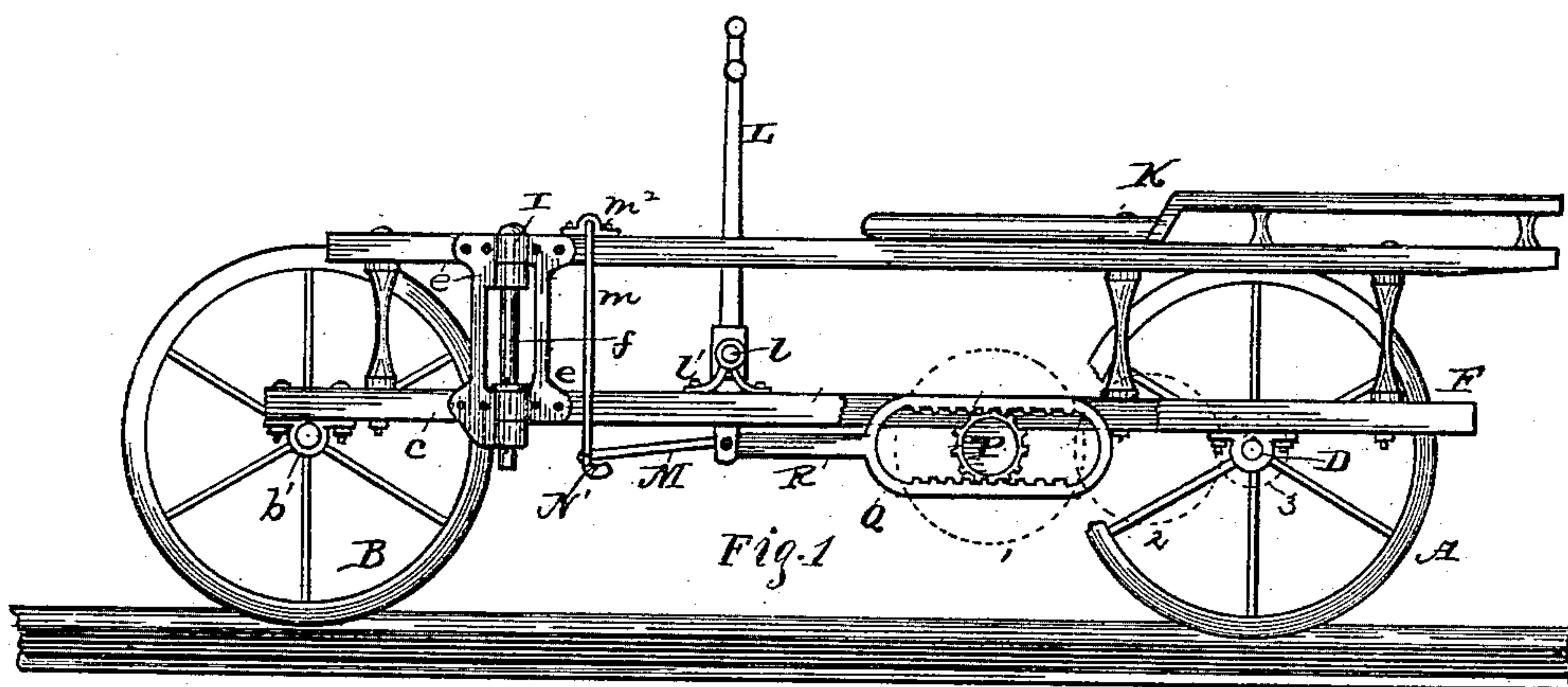
(No Model.)

E. B. LINSLEY

HAND CAR.

No. 271,720.

Patented Feb. 6, 1883.



Attest.  
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# UNITED STATES PATENT OFFICE.

EDWARD B. LINSLEY, OF THREE RIVERS, MICHIGAN, ASSIGNOR TO THE  
SHEFFIELD VELOCIPEDE CAR COMPANY, OF SAME PLACE.

## HAND-CAR.

SPECIFICATION forming part of Letters Patent No. 271,720, dated February 6, 1883.

Application filed October 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD B. LINSLEY, of Three Rivers, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Three-Wheel Hand-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improvement in hand-cars, the object being to provide a hand-car of such construction that it may be folded into small compass, and, further, to provide improved means for propelling the same.

With these ends in view my invention consists in certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved hand-car. Fig. 2 is a plan view. Fig. 3 is a detached view in side elevation of the double rack and gear. Fig. 4 is a plan view of the same.

A represents the driving-wheel; B, the forward main wheel, and C the guide-wheel. The main wheel A is supported on an axle, D, which is journaled at opposite ends in boxes E, secured to the side frame-pieces, F, of the main frame. The forward wheel, B, is secured to one end of the long axle G, which is supported at one end in boxes *b b'*, secured to the side frame-pieces, *c c'*, of the supplemental or hinged frame H, the rear ends of the sides being connected by a cross-bar, *d*, while its forward ends are connected by the axle. The supplemental frame H is hinged at one side to the main frame by means of the hinge I, consisting of the leaves *e e*, fastened to the upper and lower portions of the frame, and the pintle *f*, connecting the two parts of the hinge. I do not restrict myself to any particular construction of hinge-connection; but one made substantially as illustrated is of sufficient strength to answer the purpose. The supplemental frame is provided at one side with an eye, *e'*, to which is connected a swiveled bolt, J, provided with a thumb-nut, while the main frame

has attached thereto an open slotted bracket, J'. By folding the bolt within the bracket and tightening the thumb-nut, as shown in Fig. 2, the supplemental or hinged frame is securely fastened to the main frame, and by loosening the thumb-nut and swinging the bolt outward the supplemental frame may be swung around on its hinges and the long axle and guide-wheel folded against the main frame, whereby the hand-car is adapted to be packed in small compass for storage or transportation.

While I have shown the swiveled bolt and bracket for securing together the main and hinged frames, I do not limit myself to these particular devices for accomplishing this result, as many other fastening devices might be used in lieu of those shown and described. A strap or hook adapted to engage with a staple might be used for this purpose, if desired.

Near the guide-wheel a bearing, *f'*, is supported on the axle, and connected thereto is a diagonal brace, J<sup>2</sup>, (only partly shown in the drawings,) the opposite end of which may be secured to the main frame, though this brace may be dispensed with.

K is the operator's seat, and L the operating-lever, which latter is mounted on a rock-shaft, *l*, supported in bearings *l'*.

To the lower end of the operating-lever is pivoted one end of a link, M, the opposite end of which is connected with the cross-bar M', having foot-rests N N' on its opposite ends. Cross-bar M' has secured thereto the lower ends of the swinging links *m m'*, the upper ends of which are journaled in bearings *m<sup>2</sup>*, secured to the main frame. Thus it will be observed that the operating-lever may be actuated both by the feet and hands of the operator.

To the axle of the main driving-wheel is fastened a small gear, 3, with which meshes an idle-gear, 2, the latter meshing with a large gear, 1, secured to one end of a counter-shaft, O.

Upon the counter-shaft O are mounted the independently-movable gear-wheels P P', each being provided with side flanges, *p p'*. These gears are provided with pawls, which engage with ratchets fastened to the counter-shafts O, the ratchets and pawls being so arranged that



when the gear P is locked to and rotates the shaft the other gear will be turned freely in the opposite direction. As the pawl-and-ratchet devices are of well-known construction and arrangement, they are not shown in the drawings, as any approved construction may be used for the purpose in view.

Q is a yoke provided with a rod, R, which is connected with the lower end of its operating-lever. The yoke Q is provided with the two racks S S', which are located in different vertical planes, so that the upper rack engages the gear P and the lower rack the gear P'. By oscillating the operating-lever the gears are turned in opposite directions, and as the gears are always locked to and rotate the shaft when turning in one direction it follows that a steady and continuous rotary motion is imparted to the driving-wheel through the medium of the operating lever. The outer flanges of the gears P P' may be made removable, or the end of the yoke may be constructed to be removed, so as to allow of the proper engagement of the rack and gears. The frame of the car may be made of wood or of wrought-iron tubes, as desired.

Instead of employing a counter-shaft and gearing for transmitting power to the main axle, such parts may be dispensed with and the gears P P' mounted directly on the main axle, with the double rack arranged to engage therewith.

It is evident that many slight changes in the construction and relative arrangement of the parts might be resorted to without involving a departure from the spirit of my invention, and hence I would have it understood that I do not restrict myself to the exact construction and arrangement of parts shown and described.

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

1. In a three-wheel hand-car, the main frame made in hinged sections adapted to be folded together horizontally, each one of said sections having a main wheel mounted therein, substantially as set forth.

2. In a three-wheel hand-car, the combination, with the driving-wheel supported within the main frame, of an axle having a main wheel secured to one end and a guide-wheel secured to its opposite end, and a hinged supplemental frame provided with bearings for said axle; substantially as set forth.

3. In a three-wheel hand-car, the main frame

made in hinged sections adapted to be folded together horizontally, in combination with devices for locking said frame-sections together, substantially as set forth.

4. In a three-wheel hand-car, the combination, with the operating-lever, of swinging links located in front of the lever and journaled at their upper ends in bearings attached to the car-frame, a cross-bar located beneath the car-frame and secured to the lower ends of the swinging links, said cross-bar being provided with foot-rests arranged to extend outwardly on opposite sides of the car-frame, and a link located between the sides of the car-frame and connecting the cross-bar with the lower end of the operating-lever, substantially as set forth.

5. In a three-wheel hand-car, the combination, with a driving-wheel and axle, an operating-lever, and a supplemental shaft journaled in bearings attached to the main frame between the driving-wheel and operating-lever, of a train of gearing connecting one end of the supplemental shaft and one end of the driving-axle, and rack and pinion mechanism for rotating the supplemental shaft by the operating-lever, substantially as set forth.

6. In a three-wheel hand-car provided with two main wheels and a guide wheel, the combination, with a jointed main frame, of a main wheel supported in one section of the main frame, and the driving-wheel and mechanism for operating the same supported by the other section, said jointed sections being hinged so as to be folded together horizontally, substantially as set forth.

7. In a three-wheel hand-car, the combination, with a jointed frame adapted to be folded together horizontally, of an axle having the guide-wheel and one of the main wheels attached thereto and supported in bearings attached to one section of the jointed frame, and the driving-wheel and mechanism for operating the same supported by the other frame-section, substantially as set forth.

8. In a three-wheel hand-car, a frame having the main wheels mounted therein, said frame being jointed so as to be folded together horizontally, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD B. LINSLEY.

Witnesses:

A. E. SILLIMAN,  
O. P. SLOTE.