

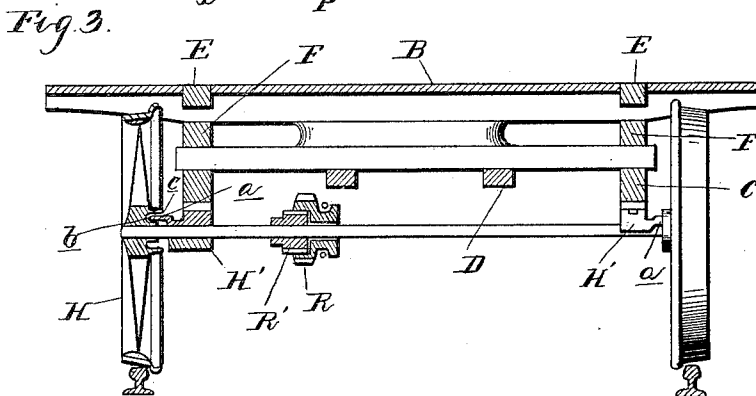
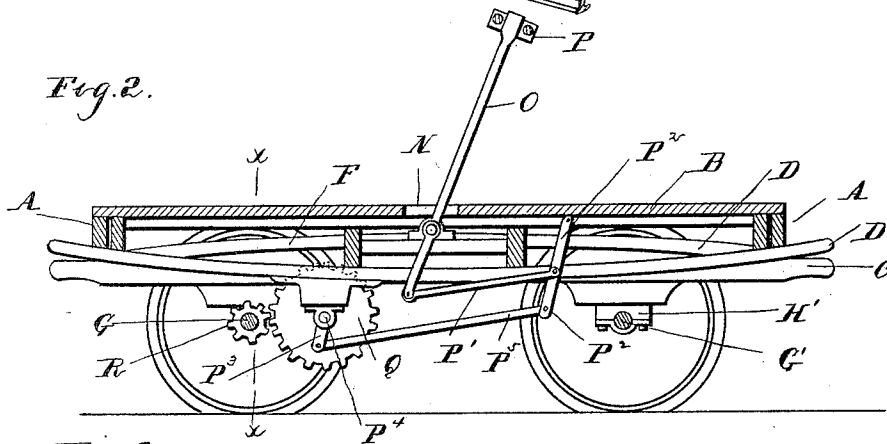
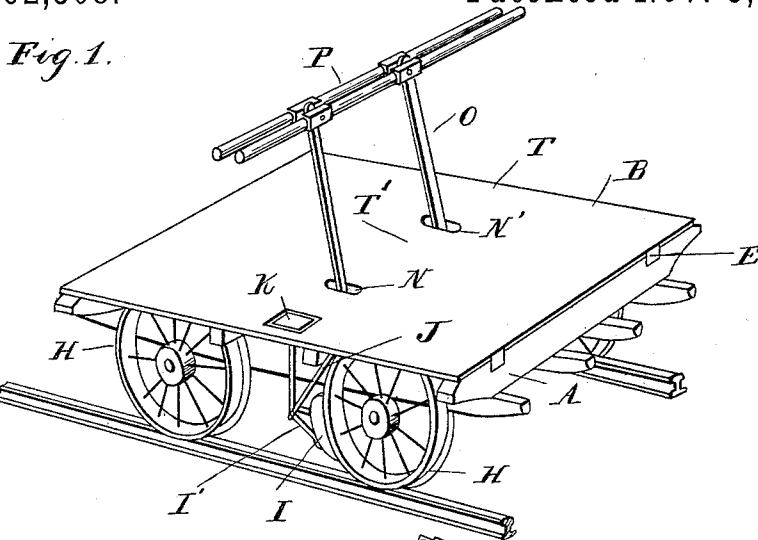
(No Model.)

2 Sheets—Sheet 1.

C. ROBERTS.
HAND CAR.

No. 462,508.

Patented Nov. 3, 1891.



Witnesses
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Inventor
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By *M. B. Murphy* Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

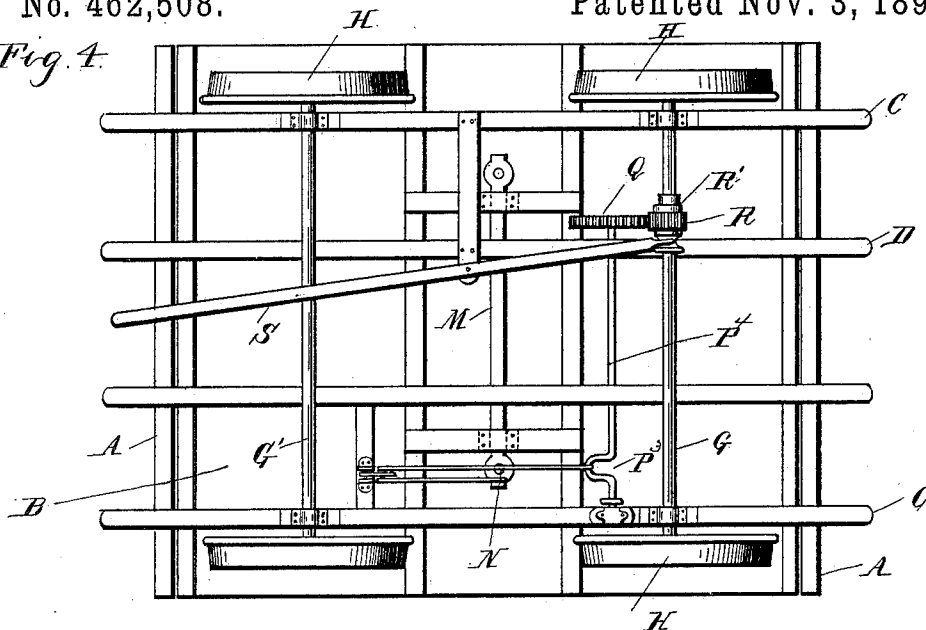


Fig. 5.

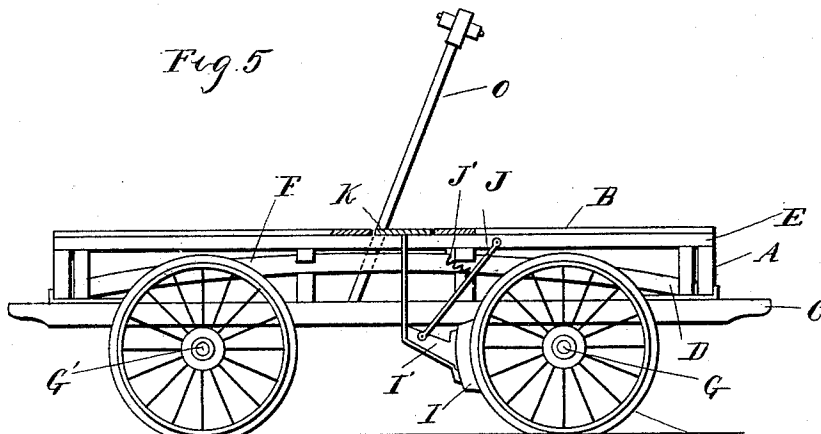
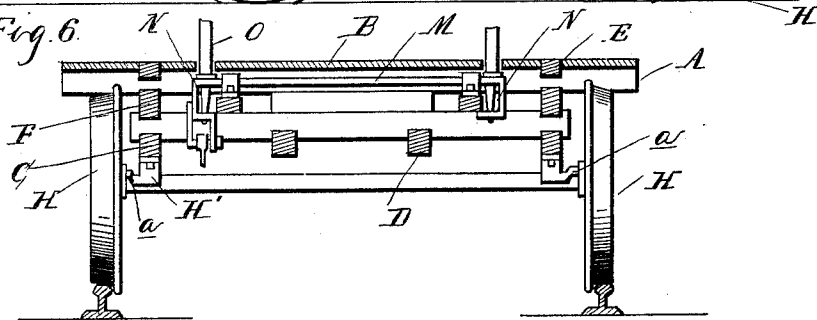


Fig. 6.



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UNITED STATES PATENT OFFICE.

CYRUS ROBERTS, OF THREE RIVERS, MICHIGAN.

HAND-CAR.

SPECIFICATION forming part of Letters Patent No. 462,508, dated November 3, 1891.

Application filed April 23, 1891. Serial No. 390,194. (No model.)

To all whom it may concern:

Be it known that I, CYRUS ROBERTS, a citizen of the United States, residing at Three Rivers, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Hand-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in hand-cars; and the invention consists in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

The invention especially consists in the peculiar construction of the drive mechanism, the brake mechanism, the frame, means for preventing the dust accumulating in the axle-boxes, and in the peculiar construction of a make-and-break connection between the drive-axle and the driving mechanism.

In the drawings, Figure 1 is a perspective view of my improved hand-car. Fig. 2 is a vertical central longitudinal section thereof. Fig. 3 is a cross-section thereof on line *x x*, Fig. 2. Fig. 4 is a bottom plan view. Fig. 5 is a side elevation. Fig. 6 is a vertical central cross-section.

The frame of my car consists of cross-timbers A at both ends, and the middle covered with a suitable platform B, and longitudinal timbers C at the sides, and truss-pieces D intermediately secured to the cross-timber A. I also preferably use intermediate timbers E, framed into the top of the cross-timbers A, and upon which the platform rests. At each side upon the timbers C, I preferably form the upwardly-arched truss-piece F, secured at its ends to the timbers C. This platform is supported upon axles G and G', the former being the drive-axle, to which the wheels H are rigidly secured, the axle G' being supported upon similar wheels.

The boxes H', in which the axles are journaled, are secured to the under side of the side timbers C. To the upper half of the box is secured an inwardly-extending flange *a*, which is of segmental circular shape and enters a groove *b*, formed in the inner side of the hub of the wheel beneath a flange *c*, formed integral with said hub. This flange *a* acts as a dust-guard and assists materially in keeping

the journals free from the dust which is lifted or stirred up by the wheels.

The brake consists of a shoe I, having a rearward extension I'.

J is a hanger pivotally secured to the frame of the car and from which the shoe is suspended, the shoe being normally held out of contact with the wheel by means of a spring J'. The hanger J is inclined, so that if power is applied to the end of the extension I' it will tend to throw the hanger to a perpendicular position and brake the wheel. To allow of readily accomplishing this with the foot of the operator, I have a foot-piece K extending to the level of the platform through a suitable aperture therein, connected to the end of the extension to apply the power.

The drive mechanism for my car I construct as follows: M is a rock-shaft journaled beneath the platform, but of lesser length than the width of the platform. At each end it is provided with suitable sockets N, preferably formed by bending the rock-shaft to make two bearings therein, as plainly shown in Fig. 6. The platform is provided with apertures N' above these sockets to allow of the insertion of the actuating-levers O, which are connected together at the top by the cross-bar P. Connected to this rock-shaft is the connecting-rod P', which at its other end engages with the lever P², pivoted at its upper end to the frame of the car, and at its other end carrying the connecting-rod P³, which engages with the crank P³ upon the shaft P⁴. Upon this shaft is secured the drive gear-wheel Q, meshing with the pinion R upon the drive-axle G. This pinion is sleeved upon the axle and is adapted to be engaged and disengaged with the clutch R' by means of the lever S, which extends to the side of the car. By securing the clutch portion R' to the shaft rigidly and sleeving the pinion upon the shaft I am enabled to move the pinion into engagement with the gear-wheel or out of engagement with it and hold it in its adjusted position by means of the lever. When it is in engagement with the gear-wheel, the movement of the axle endwise will not in any way affect the degree of engagement of the gear-wheel and pinion, as they will always be fully in mesh. This I consider an especial advantage, for if the pinion move back and forth

in the gear with the axle there will be continual danger of breakage of the teeth and they would be worn out much more rapidly on one side than the other.

5 By the peculiar construction of the rock-shaft and levers of the drive mechanism I obtain much better disposition of the room on the platform than has heretofore been accomplished in the ordinary use of the car for
10 track purposes. Where two or three rails only are to be placed upon the platform or two or three ties in connection with the tools of the workmen, I can place them upon the side portions T outside of the operating-levers,
15 while the tools or other material can be placed between the levers upon the portion T' of the platform.

In that construction of cars in which the gallows-frame is used for the rocking-lever
20 this central portion is not at all valuable, while in the construction shown in my previous patent, No. 429,962, dated June 10, 1890, in which the levers are arranged at the side of the car, nothing can be loaded onto the
25 platform, except by removing the levers. Therefore by this construction I obtain all the benefits of the side spaces for loading, together with the additional space between the levers, and in case the car is desired to be
30 used as a push-car the rocking levers may be entirely disengaged, leaving the platform clear for that use.

What I claim as my invention is—

1. In a railway hand-car, the platform ex-

tending above the wheels and comprising end 35 cross-timbers, longitudinal platform-timbers joined into the top of the cross-timbers, longitudinal side timbers beneath the cross-timbers, and intermediate truss-timbers, substantially as described. 40

2. In a railway hand-car, the combination, with the wheel-supported platform extending above the wheels, of the drive mechanism comprising two separated vertical rocking levers extending through the platform at opposite 45 sides of the same and connections between said levers and the drive-axle, substantially as described.

3. In a railway hand-car, a platform, a rock-shaft journaled transversely the platform below the same, and propelling-levers secured to said rock-shaft and extending through the platform at opposite sides to form loading 50 spaces on the sides and between said levers, substantially as described. 55

4. In a hand-car, the combination, with the frame, of an inclined hanger pivotally connected to the frame, a spring secured to the frame and hanger, a brake-shoe having an actuating-arm extending up above the frame, 60 and a pivotal connection between the arm and hanger, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CYRUS ROBERTS.

Witnesses:

M. B. O'DOHERTY,

JAMES WHITEMORE.