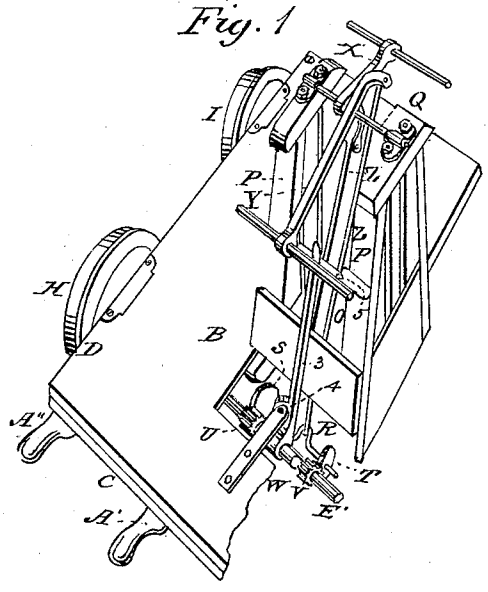
H. L. BROWN.

Hand Car.

No. 94,469. Patented Sept. 7, 1869

Fig. 1



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HENRY L. BROWN, OF ADRIAN, MICHIGAN.

Letters Patent No. 94,469, *dated September* 7, 1869.

IMPROVEMENT IN HAND-CARS FOR RAILROADS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, HENRY L. BROWN, of Adrian, in the county of Lenawee, and State of Michigan, have invented a new and useful Improvement in Hand-Cars for Railroads; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

Figure 1 is a perspective view, showing the platform, axles, brakes or levers, cranks, and gearing.

Figure 2 is a side view, partially in section, showing the wheel-brake.

Figure 3 is a plan view of the arrangement of the friction-rollers, relatively to the axles.

Like letters indicate like parts in each figure.

The nature of this invention relates to improvements in the construction of what are usually denominated as "hand-cars," so that greater speed may be attained in running with the wind, by means of a peculiar arrangement of sliding pinions, connected with the driving-shaft, and fixed pinions, on an additional crank-shaft, whereby a large pinion on the driving-shaft is made to engage a small one on the crank-shaft, and *vice versa.*

A, in the drawings, represents the plates or bed-timbers of the frame, running longitudinally, and somewhat longer at each end than the floor or platform B, and said ends formed into suitable handles, by means of which the car can be readily lifted from the track.

C are transverse timbers, securely fastened to the plates A, and upon which the floor or platform is laid.

D are other longitudinal timbers, one on each side, securely fastened to the ends of the transverse timbers C and the bed-plates A.

E are axles, with proper bearings, which are surmounted by friction-rollers F, and held in position by other friction-rollers G, one on each side of each bearing, on each axle, these friction-rollers being properly journalled in a metal box, secured to the under side of the longitudinal timbers D, thereby saving much friction, and allowing the platform of the car to be placed nearer the ground.

H are ordinary car-wheels, rigidly secured to the axles in the usual manner, while I is a similar wheel, sleeved upon the rear axle, so as to revolve upon it, and is so attached, to assist in the more easily removing the car from the track.

O is a well, or receptacle for holding tools, &c., and is built in the centre of the car, under the gallows-frame P, at the top of which is suitably journalled the rock-shaft Q.

R is a double crank-shaft, properly journalled, and running in suitable boxes secured to the under side of the timbers A′ A″, and provided with a larger and smaller geared wheel, S and T, which mesh into and give motion to the larger and smaller pinions U and V, which are loosely sleeved upon the axle E′, between the timbers A′ A″.

W is a double clutch, loosely sleeved upon said axle, in such a manner that it will move horizontally upon said axle. This clutch is provided with a slot, which engages with a spur or projection upon the axle, by means of which said clutch is made to revolve with and in the same direction with said axle.

Motion is communicated to said double crank-shaft by the levers X and Y, provided with suitable handles, and connecting-rods Z. The levers are secured to the rock-shaft.

A bifurcated rod, 3, fulcrumed at 4, is used to throw either side of the clutch into connection with either of the pinions, U and V, as desired, the upper end of said rod being secured in the desired position by engaging with the rack 5, which is secured to the front of the gallows-frame.

The operation of my invention is as follows:

The levers X and Y being operated, cause the double crank-shaft R, with its pinions S and T, to revolve, and by so shifting the double clutch W as to cause the large pinion S to engage with the small pinion U, a rapid rotation will be given to the axle, while, if a slower motion is desired, with the same motion of the crank-shaft, the clutch is again shifted, so as to cause the small pinion T to engage with the large pinion V.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the double clutch W, pinions U and V, crank-shaft R, and pinions S and T, substantially as and for the purpose set forth.

HENRY L. BROWN.

Witnesses:

LOUIS C. HYDE,

GEORGE RUHLANDT.