

(No Model.)

2 Sheets—Sheet 1.

C. BENESH.  
HAND CAR.

No. 514,844.

Patented Feb. 13, 1894.

Fig. 1.

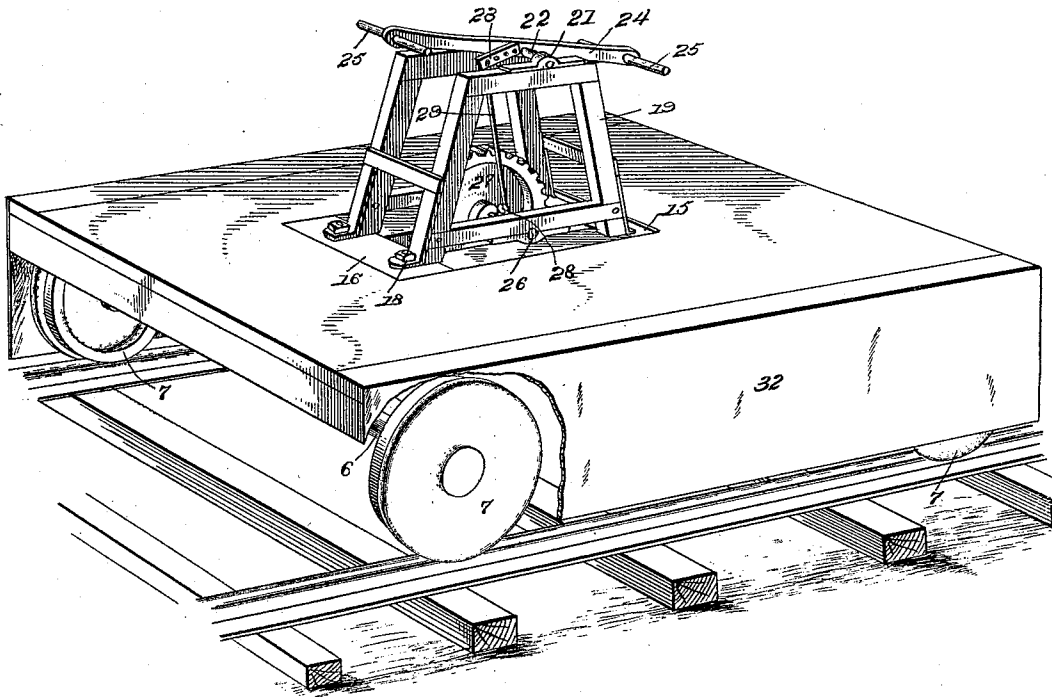
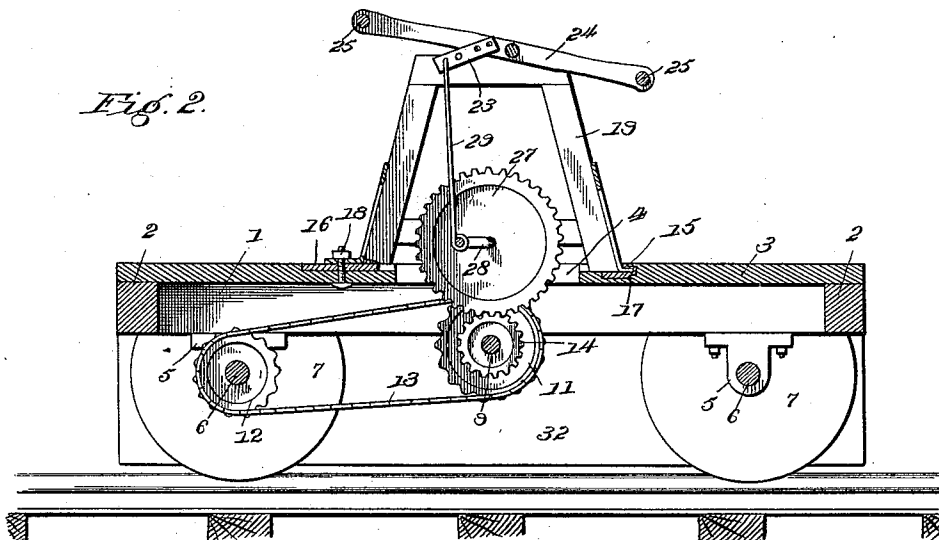


Fig. 2.



Inventor

Charles Benesh

Witnesses

*W. H. Johnson*

By *his* Attorneys.

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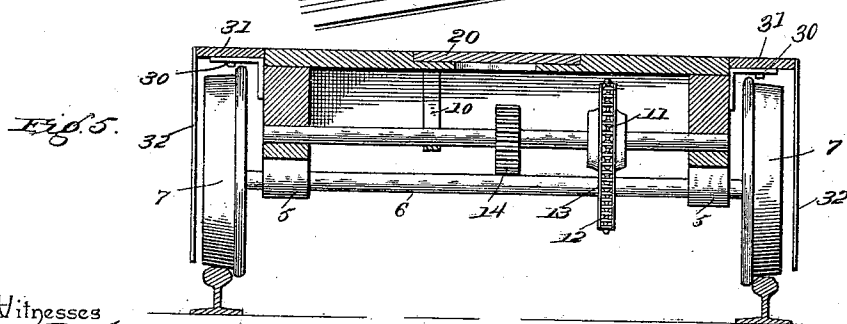
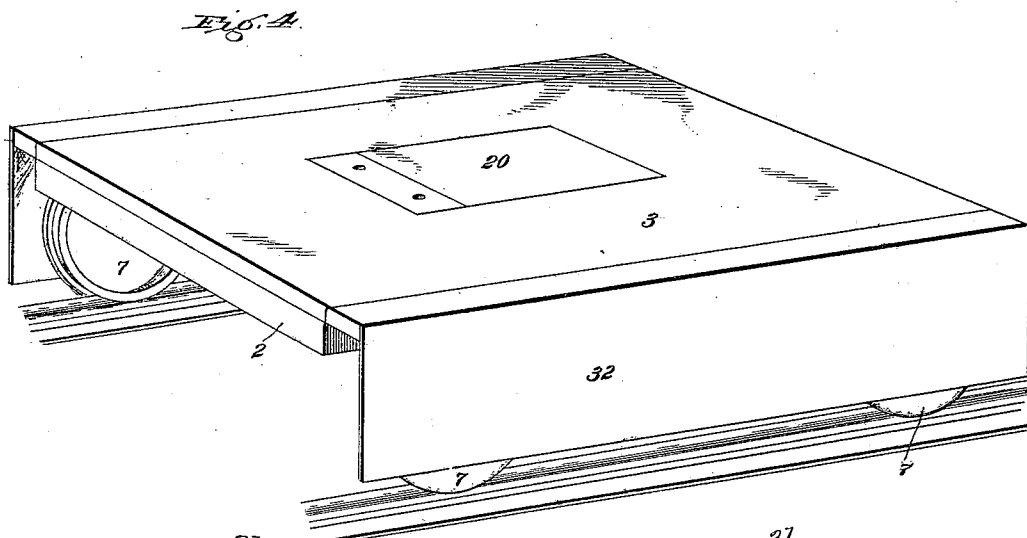
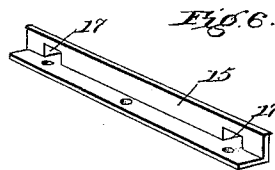
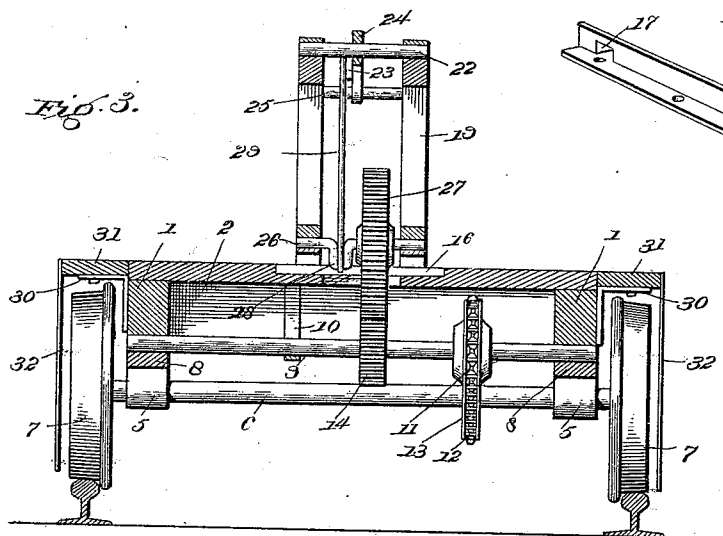
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*F. M. Johnson*  
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By *his* Attorneys. *Charles Benesh*  
*C. Snow & Co.*

# UNITED STATES PATENT OFFICE.

CHARLES BENESH, OF WAHPETON, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO CHARLES A. HARRISON, OF SAME PLACE.

## HAND-CAR.

SPECIFICATION forming part of Letters Patent No. 514,844, dated February 13, 1894.

Application filed November 7, 1893. Serial No. 490,262. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES BENESH, a citizen of the United States, residing at Wahpeton, in the county of Richland and State of North Dakota, have invented a new and useful Combined Hand and Push Car, of which the following is a specification.

My invention relates to improvements in hand-cars; the objects in view being to provide a cheap and simple construction of hand-car adapted to be conveniently operated and capable of being converted from such to a push car designed to be employed in the construction of railroads, &c., for the purpose of carrying tools, ties, &c.

With these main and other secondary objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a hand-car embodying my invention. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a perspective view of the car converted into a push-car. Fig. 5 is a transverse sectional view of the same. Fig. 6 is a detail in perspective of the socket-bar for receiving the feet of the power-frame.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the practice of my invention I employ the usual truck-frame, which, in the present instance, comprises the opposite longitudinal side beams 1 and the transverse end connecting-beams 2. Over the frame thus constructed I arrange a platform 3, said platform having at its center an oblong opening 4 over which is located the hereinafter described hand-power.

The under sides of the beams 1 are provided with the usual journal-boxes 5, and in the same are journaled the front and rear transverse axles 6 whose ends project beyond the framework and accommodate the flanged wheels 7 which are made secure upon the axles so that the same revolve therewith.

In journals 8 located midway the truck-frame, and transversely opposite each other, there is located for rotation a countershaft 9 which extends under and transverse the open-

ing 4 in the platform. This countershaft is further braced between its ends by a bearing-hanger 10 secured to the under side of the platform and employed for preventing the shaft from springing. The shaft has arranged thereupon a sprocket-wheel 11, and a similar though smaller sprocket-wheel 12, is located upon one of the axles 6. These two wheels are connected by an intermediate sprocket-chain 13, so that motion may be conveyed from the countershaft 9 to the drive-axle of the truck. The countershaft 9 is further provided with a small spur-gear 14 located under the opening 4 in the platform.

The opening 4 in the platform has located at opposite ends transverse metal plates 15 and 16, the former being of L-shape in transverse section and having its vertical portion provided with sockets 17, and the latter plate provided with perforations or bolt-holes for the accommodation of bolts 18 removably arranged therein.

The framework for the hand-power comprises opposite side-frames 19 of substantially U-shape, the same terminating at their ends in feet. These frames are connected by suitable cross-beams, whereby a rigid frame is produced. Two of the feet are perforated so as to align with the perforations in the plate 16 and receive the bolts 18, whereby they are connected to said plates 16. The opposite or remaining feet are inserted removably in the socket 17 of the plate 15, so that when inserted and the bolts are placed in position, the power-frame is rigidly mounted upon the truck. At the same time it will be seen that by simply removing the two bolts the aforesaid power-frame, together with the mechanism carried thereby, may be readily removed, and after such removal the plates 15 and 16 being sunken in the upper surface of the platform at the ends of the opening 4, said opening may be covered by means of a removable trap 20. The upper sides of the frames 19 are provided with bearings 21, and in the same a transverse rock-shaft 22 is located, from which projects a rock-arm 23 and a rocking-lever 24, the latter extending at opposite sides of the shaft and beyond the power-frame, where it is provided with transverse handles 25. In opposite timbers of the

frames 19 I journal a transverse shaft 26, the same having at one side of its center a large spur-gear 27 which projects through the opening 4 in the platform and removably engages  
5 with the spur-gear 14 of the transverse countershaft 9. The shaft 26 is at the opposite sides of its center at which the gear 27 is located provided with a cranked-portion 28, and a connecting-rod 29 loosely connects the  
10 aforesaid crank portion 28 with a perforation formed in the extremity of the rock-arm 23.

It will be obvious that two operators standing at opposite sides or ends of the frames 19 and grasping the handle-bars 25 may by  
15 raising and lowering the same alternately cause the connecting-rod 29 to operate the crank of the shaft 26, thus rotating the large gear 27 and imparting motion to the smaller gear 14, which will be more rapidly rotated, as will be obvious. This rotation of the gear  
20 14 causes the countershaft 9 to rotate together with the sprocket-wheel 11, and, as before stated, the rotary motion of the latter is transmitted to the sprocket-chain 13 and the axle 6 through the medium of the intermediate sprocket-chain 13. The device is thus designed to serve as a hand-car, and it will be found efficient for its purpose. If, however, it is desired to convert the same  
25 into a push-car, the bolts 18 are removed and the frames 19 withdrawn from engagement with the sockets 17 of the plate 15. The power-frame is now laid aside and the trap 20, heretofore referred to, substituted for the power-frame, and as will be obvious, closes the opening 4 in the platform, so that a practically smooth unbroken platform is provided.

I prefer to locate at the opposite edges of the truck inverted L-shaped brackets 30, the  
40 same having perforations as shown, and to support thereon opposite horizontal fenders 31, which are perforated to receive bolts that pass therethrough and through the brackets 30. These fenders are located above and extend out from the car slightly beyond the  
45 wheels and may have depending from their outer edges curtains or guards 32. They are employed when the car is converted into a push-car and for the purpose of preventing dirt and gravel falling from the car to the  
50 journals.

I do not limit my invention to the exact details of construction herein shown and described, but hold that I may vary the same to  
55 any degree and extent within the knowledge of the skilled mechanic, without departing from the spirit thereof or sacrificing any of the advantages.

Having described my invention, what I  
60 claim is—

1. The hand-car having the opening in its platform, provided with sockets in one edge the transverse axles having wheels, the transverse countershaft below the opening, means  
65 for conveying motion from the countershaft

to one of the axles, a removable hand-power frame arranged upon the platform and adapted to operate the countershaft, and provided at its lower end at one side with horizontal feet for engaging the sockets, and means  
70 for securing the opposite end of the frame to the opposite edge of the opening in the platform substantially as specified.

2. In a hand-car, the combination with the frame-work, the platform having an opening  
75 provided with front and rear plates, one of said plates having bolt-holes and the other sockets, the transverse axles, and the wheels, of a power-frame arranged upon the platform and terminating in feet, two of which engage  
80 the sockets in the plate, the remaining feet being perforated, bolts passed through the latter feet into the perforations of the remaining feet, and means for communicating motion from the power carried by the frame to  
85 the axle, substantially as specified.

3. In a hand-car, the combination with the frame-work, the platform having an opening provided with front and rear countersunk  
90 plates one of said plates having bolt-holes and the other sockets, the transverse axles, and the wheels, of a power-frame arranged upon the platform and terminating in feet, two of which engage the sockets in the plate, the remaining feet being perforated, bolts passed  
95 through the latter feet into the perforations of the remaining feet, means for communicating motion from the power carried by the frame to the axle, L-shaped brackets extending from the sides of the truck, fenders arranged upon the brackets, and curtains depending from the outer edges of the fenders,  
100 substantially as specified.

4. In a hand-car, the combination with the truck-frame, platform, axles, wheels, the  
105 sprocket-wheel on one of the axles, the transverse countershaft arranged under an opening in the platform of the car, the sprocket-wheel on said countershaft, the intermediate chain between the sprocket-wheel and that of  
110 the axle, and the spur-gear arranged on the countershaft under the opening in the platform, of the superimposed inverted U-shaped frames mounted on the platform, the rock-shaft journaled therein, the hand-levers arranged upon the rock-shaft, the rock-arm carried by the rock-shaft, a connecting-rod depending loosely from the rock-arm, a crank-shaft journaled in the frames and connected with the connecting-rod, and a large gear  
120 mounted on the crank-shaft and engaging the small gear of the countershaft, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in  
125 the presence of two witnesses.

CHARLES BENESH.

Witnesses:

C. H. SMITH,  
JOHN SHIPPAM.