GEORGE F. MORSE.

Improvement in Changeable-Gauge Car-Trucks.

No. 115,343. Patented May 30, 1871.

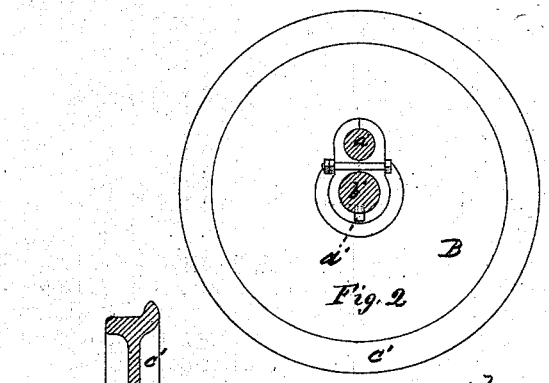

Fig. 2

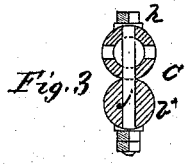

Fig. 3

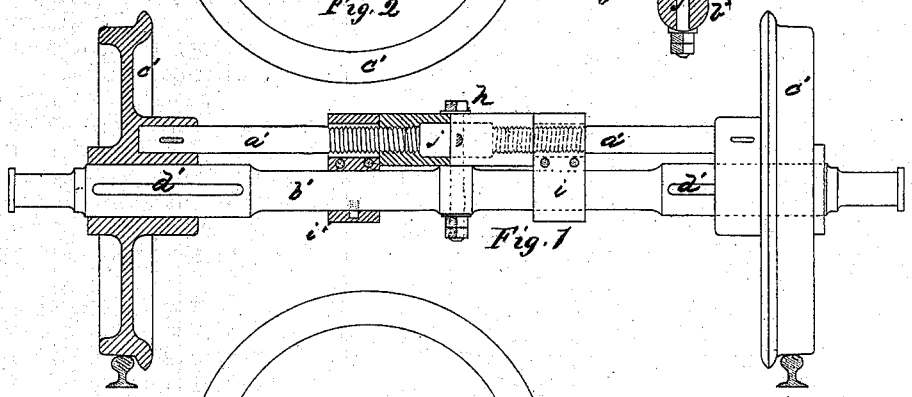

Fig. 1

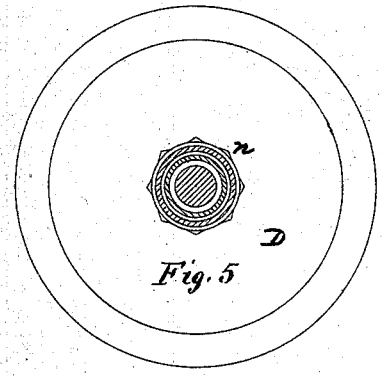

Fig. 5

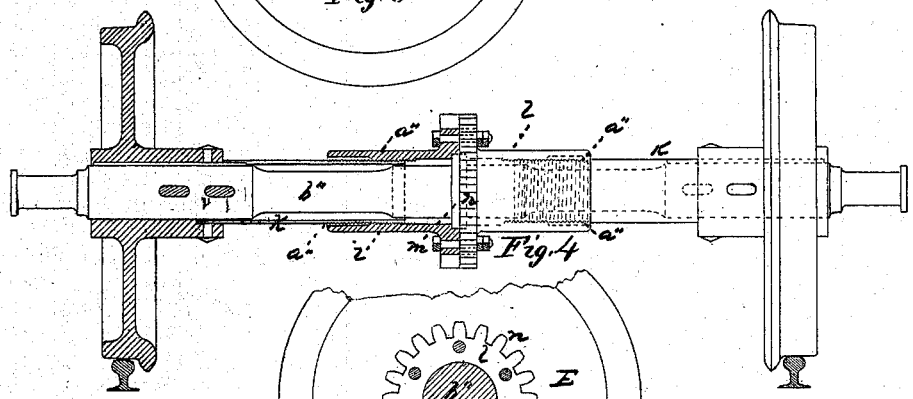

Fig. 4

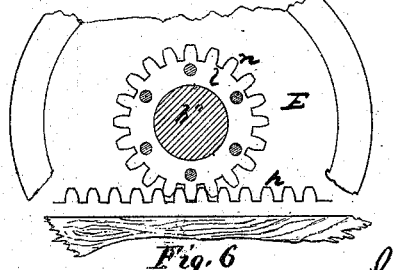

Fig. 6

Witnesses:
George E. Reed
Wm. Franklin Jeavey

Inventor.
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UNITED STATES PATENT OFFICE.

GEORGE F. MORSE, OF PORTLAND, MAINE.

IMPROVEMENT IN CHANGEABLE-GAGE CAR-TRUCKS.

Specification forming part of Letters Patent No. 115,343, dated May 30, 1871.

To all whom it may concern:

Be it known that I, GEORGE F. MORSE, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Changeable-Gage Car-Truck Wheel and Axle; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use my invention, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 shows a front view, partly sectional, of one form or modification of my improved device; Fig. 2 is a detail, showing a side view of the wheel, with the arrangement of axle and screw employed in this form of my invention; Fig. 3 is a detail, showing a section of the nut and axle taken through the center thereof; Fig. 4 shows a front view, also partly in section, of another modification in the construction of my improved wheels and axles; Fig. 5 is a detail, showing a side view of the wheel, with the arrangement of the nut and gear on the axle also indicated; and Fig. 6 is a detail, showing rack and gear.

It is well known that a variety of devices have already been invented with a view to enable railway cars to be readily and conveniently shifted or transferred from one track or line of road to another the gage of which is unlike that of the first. This change of gage is frequently necessary, especially in the case of cars which are sent long distances—such as grain and flour cars, for instance—as some roads are constructed somewhat broader or narrower than others with which they connect. Without some device of this nature to enable the cars to be changed from one road to the other it would be necessary to transfer the freight, which is now carried without reshipment, from one set of cars on one road onto another set on the other, at considerable expense and labor, besides delaying the delivery of the goods.

As before remarked, devices have been previously invented to meet these difficulties; but there are objections to those in present use, which render them, to a greater or lesser extent, unserviceable and worthless.

One great objection to the mechanisms generally employed for the purpose of thus changing the relative position of the car-wheels to enable them to fit tracks of various widths is that they are very complex and liable to become injured, and another objection is their great cost and imperfect operation.

My invention is designed to produce a device of this nature, which shall be cheap, simple, and effective. My invention consists in the employment of right-and-left-hand screws, for the purpose of changing the position of the wheels on the axle of a car-truck to change the gage of the same, as hereinafter more fully described.

Various methods may be adopted in applying this principle to the wheels and axles of a car-truck for the purpose of changing the gage of the wheels thereof.

One method embraced in my design is that illustrated in the drawing by Figs. 1, 2, and 3. In this form the wheels c' c' are so fitted on the axle b' that they can slide readily on the axle longitudinally, but are prevented from revolving on the axle by the keys d' d' running lengthwise of the axle. The right-and-left-hand screws a' a' are then fastened, in some suitable manner, each to its respective wheel, and pitching into a nut, h, one end of which is cut with a right-hand thread and the other with a left-hand thread. The nut is to be provided with holes to admit of the insertion of a bar for turning the same. The wheels are held in their proper place by securing the nut from turning, the threads of the screws then holding the wheels from sliding on the axle. The nut h is prevented from moving sidewise by the clamps i i. These clamps also serve to protect the screws from dirt and dust. To secure the nut from turning a bolt, j, is passed through both nut and axle, and secured by check-nuts or by a key. To change the gage of the wheels where this method is used, the bolt j, securing the nut, must be removed. The nut h can be then turned by means of a bar placed in the holes in said nut. The right-and-left-hand threads act in this method as in the former one, and move the wheels in or out, as may be desired, by the nut being turned in the proper direction. After the change of gage has taken place the nut h may be secured as before.

Another method, illustrated by Figs. 4, 5,

and 6, consists in cutting the right-and-left-hand screws a'' a'' on a sleeve, k, extending from the hub of each wheel toward the center of the axle b'', said sleeves inclosing the axle b'', as shown in the drawing. The screws a'' a'' fit the nut l in the center of and surrounding the axle b''. This nut l is kept from moving transversely on the axle by means of the ridge m running around the axle. The periphery of the nut l is formed into a gear, as illustrated more plainly in Fig. 6, at n. At the points where the change of gage is desired a rack is laid, as shown at p, and secured between the rails, and running parallel with the same. When the car is moved over the rack the teeth on the nut l catch into the rack and cause the nut to revolve, and thus screw the wheels in or out, according to the direction in which the car may be moved.

Keys passing through the hubs of the wheels and the axle, thus holding the wheels when they are in their proper places, may be employed to prevent the wheels from getting out of place.

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

1. The combination of the screws a' a' and nut h with the wheels c' c' and the keys and slots in the axle b', as and for the purpose herein set forth.

2. The combination of the wheels and axle with the sleeve k, the nut l, the ridge m, the teeth n, and the rack p, as and for the purpose herein set forth.

GEO. F. MORSE.

Witnesses:

HENRY C. HOUSTON,

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