F. GORDON.

Running-Gear for Wagons.

No. 200,863. Patented March 5, 1878.

Fig. 1

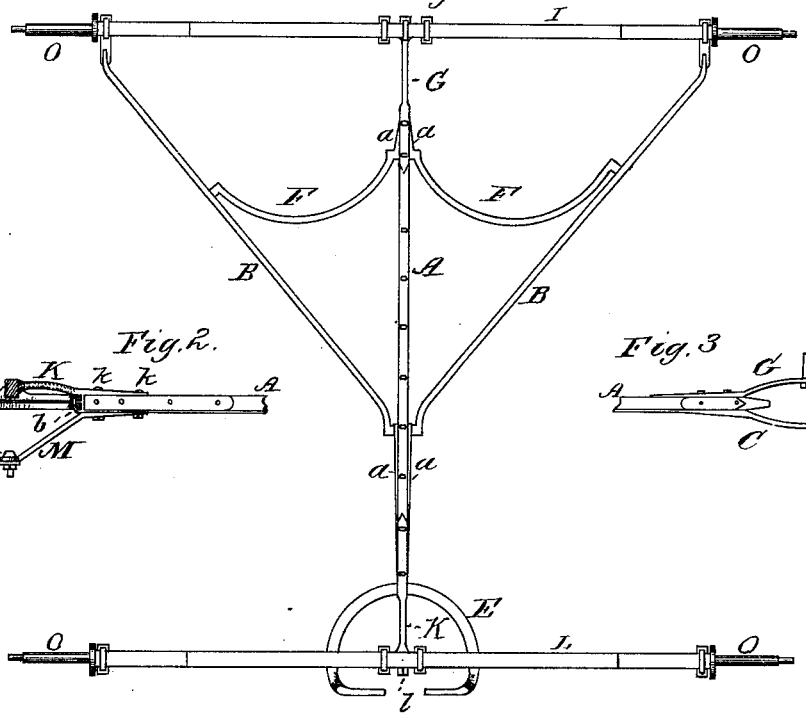


Fig. 2.

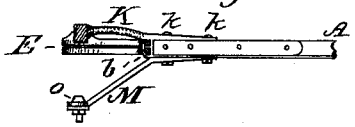


Fig. 3

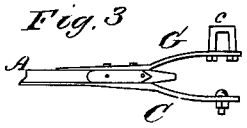


Fig. 7.

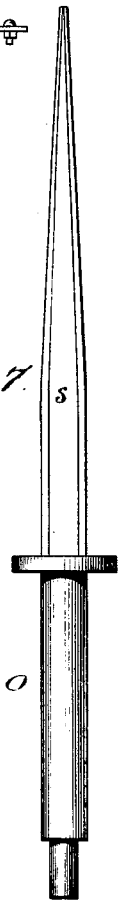


Fig. 4

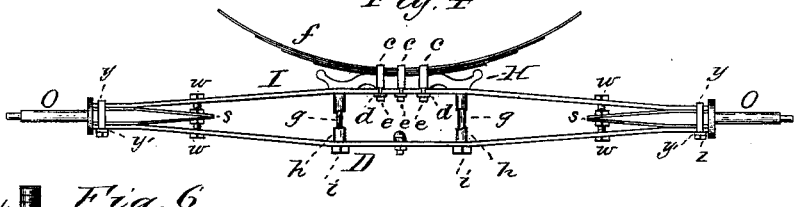
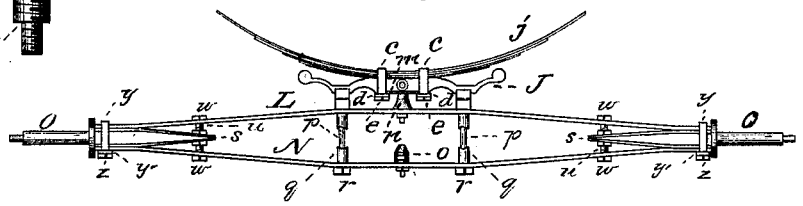


Fig. 6

Fig. 5.



WITNESSES

Nat. E. Oliphant.

A. C. Dewar

INVENTOR

Fred Gordon.

per Chas. H. Fowler.

Attorney.

UNITED STATES PATENT OFFICE.

FRED GORDON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RUNNING-GEAR FOR WAGONS.

Specification forming part of Letters Patent No. **200,863**, dated March 5, 1878; application filed January 28, 1878.

To all whom it may concern:

Be it known that I, FRED GORDON, of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement in Wagon-Gears; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a top-plan view of my invention. Fig. 2 is a detailed view, partly in section, of the fifth-wheel and braces. Fig. 3 is a similar view of the rear braces. Fig. 4 is a rear-end view. Fig. 5 is a front-end view of the running-gear; Fig. 6, a detail view on a large scale of the adjusting-bolt, and Fig. 7 a similar view of the axle and shank.

This invention has relation to the running-gear for vehicles; and the object and purpose thereof are to construct the running-gear in its several parts so as to render it durable and light; also constructing the axles and connecting them to the frame or running-gear in a manner that will admit of their being detached and removed therefrom without taking the entire axle apart, as is required in the axles of the ordinary kind, which frequently requires them to be heated to cut off the arm of the axle and weld on a new one.

The invention therefore consists in the construction and attachment of the axles, as will be hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, A represents the reach, to which are secured side braces B by plates *a*, formed in one piece with said irons, the plates being riveted, bolted, or otherwise secured to the sides of the reach. A reach-brace, C, is secured to the under side of the reach A, and extends the entire length thereof, the rear end of the brace extending beyond the rear end of the reach, and is bolted to the lower truss-bar D. The other end of the brace C is bent at a right angle slightly beyond the end of the reach, to form a hook, *b*, for the reception of the upper half of the fifth-wheel E. Between the braces B and reach A are curved braces F, the ends thereof being secured by suitable means to the sides of the reach and braces B. These several braces may be made of any suitable metal, and oval, round, or other desired form.

To the rear end of the reach A is secured a brace, G, which also forms a clip-bar at the same time, the lower brace C, as before stated, being fastened by a small bolt, which prevents any liability to twist the axle. The head-block H is secured upon the upper truss-bar I by straps *c*, formed with screw-threads upon their ends to receive plates *d* and nuts *e*, which also hold the spring *f* in position upon the head-block, the straps *c* passing under the upper truss-bar, the end of the brace G serving as one of the straps.

Between the truss-bars D I are bolts *g*, the ends of which pass out through openings therein, and the bolts are encircled by sleeves *h*, and upon the upper ends rests the truss-bar I, while the lower truss-bar D is held snugly against the lower ends of the sleeves by nuts *i* upon the screw portion of bolts that pass through the truss-bar. The under side of the head-block, near its ends, is countersunk, so as to set and fit over the ends of the bolts that project through the upper truss-bar, thereby keeping the head-block in place upon the truss-bar, and preventing it from shifting its position. It will be seen that there are no holes through either of the springs, as has generally been found necessary in holding them in place, and therefore the springs are much increased in strength and less liable to become injured or broken.

The forward head-block J is secured within recesses formed upon the upper half of the fifth-wheel, and the spring *j* is secured to the head-block similar to that upon the rear head-block—that is, by straps *c*, plates *d*, and screw-nuts *e*. The upper brace K, at the forward end of the reach, is connected thereto by bolts and nuts *k*, the other end passing through the head-block, and secured by a nut, *l*.

Secured to the under side of the head-block J by the plates *d* and nuts *e* is a plate, *m*, and secured to the upper truss-bar L by a suitable screw-nut. The brace M is secured to the under side of the reach by a lower king-bolt, *o*. The bolts *p* between the truss-bars L N are also encircled by sleeves *q*, and pass

down through the lower bar N, and are secured by screw-nuts *r*. The upper ends of the bolts *p*, which may be made cylindrical or of any other suitable form, pass through the lower half of the fifth-wheel with a countersunk head, or, if desired, may be made solid, for securely holding the lower half of the fifth-wheel in place upon the upper truss-bar L.

The shanks *s* of the axles O are flattened, and slightly diminish in thickness in a direction toward their inner ends, or of a tapering form, as will be seen by reference to Fig. 7 of the drawings.

The inner ends of the shanks *s* of the axles pass between the upper and lower truss-bars, and are secured thereto by set-bolts *u*, which pass through the ends of the shanks. The bolts *u* are decreased in circumference at their ends, as illustrated in Fig. 6 of the drawings, which form shoulders *v* for the truss-bars to abut against. The small ends of these bolts have screw-threads for nuts *w*, which secure the truss-bars upon the ends of the bolts firmly and rigidly. At or about the middle of the bolts *u* are screw-threads, for the reception of nuts *x* above and below the shanks, which serve as adjusting-nuts for adjusting the axles. The ends of the truss-bars are secured to the shanks of the axles by straps *y*, plates *y'*, and nuts *z*. The rear ends of the side braces B, which are flattened, take the place of the straps *y* in securing the truss-bars I D to the shank of the axle.

It will be noticed that by constructing a running-gear according to my invention a great amount of strength is obtained with less material; and as the axles do not extend the entire length of the truss-bars, or the front or back axles made in one continuous piece, as has generally been the practice, a great amount of time and labor, as well as expense, is saved by making the axles short and securing them to the truss-bars, as hereinbefore described. The axles may be easily and readily taken out or withdrawn when required to repair them, or to substitute new ones, by simply detaching the nuts *w* and *z*; and the facility with which the axles can be adjusted and set by the nuts *x* after the running-gear is complete renders the invention one of great importance to the manufacturer.

It will be further noticed that all the bearing comes above the bolts and sleeves between the truss-bars, which brings all the strain on the lower truss-bars lengthwise. Consequently more strength, with comparatively less material, is obtained.

In case it is necessary to separate the forward truss-bars with the axles from the rear ones, all that is necessary is to loosen the upper and lower braces K M by withdrawing the bolts *k*, when the upper half of the fifth-wheel may be readily lifted out of the hooked end *b* of the brace C, and the two parts of the running-gear separated.

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

1. The set-bolt *u*, with shoulders *v* and nuts *w x*, in combination with strap *y*, plate *y'*, and nuts *z*, for holding the ends of the truss-bars upon the axle after the latter has been adjusted by the set-bolt, substantially as and for the purpose specified.

2. The means herein described of securing the shank *s* of the axle to the truss-bars, consisting of the set-bolt *u*, formed with shoulders *v*, in combination with the nuts *w* and *x*, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FRED GORDON.

Witnesses:
LOUIS R. J. DÖLLE,
P. F. PATTEN.