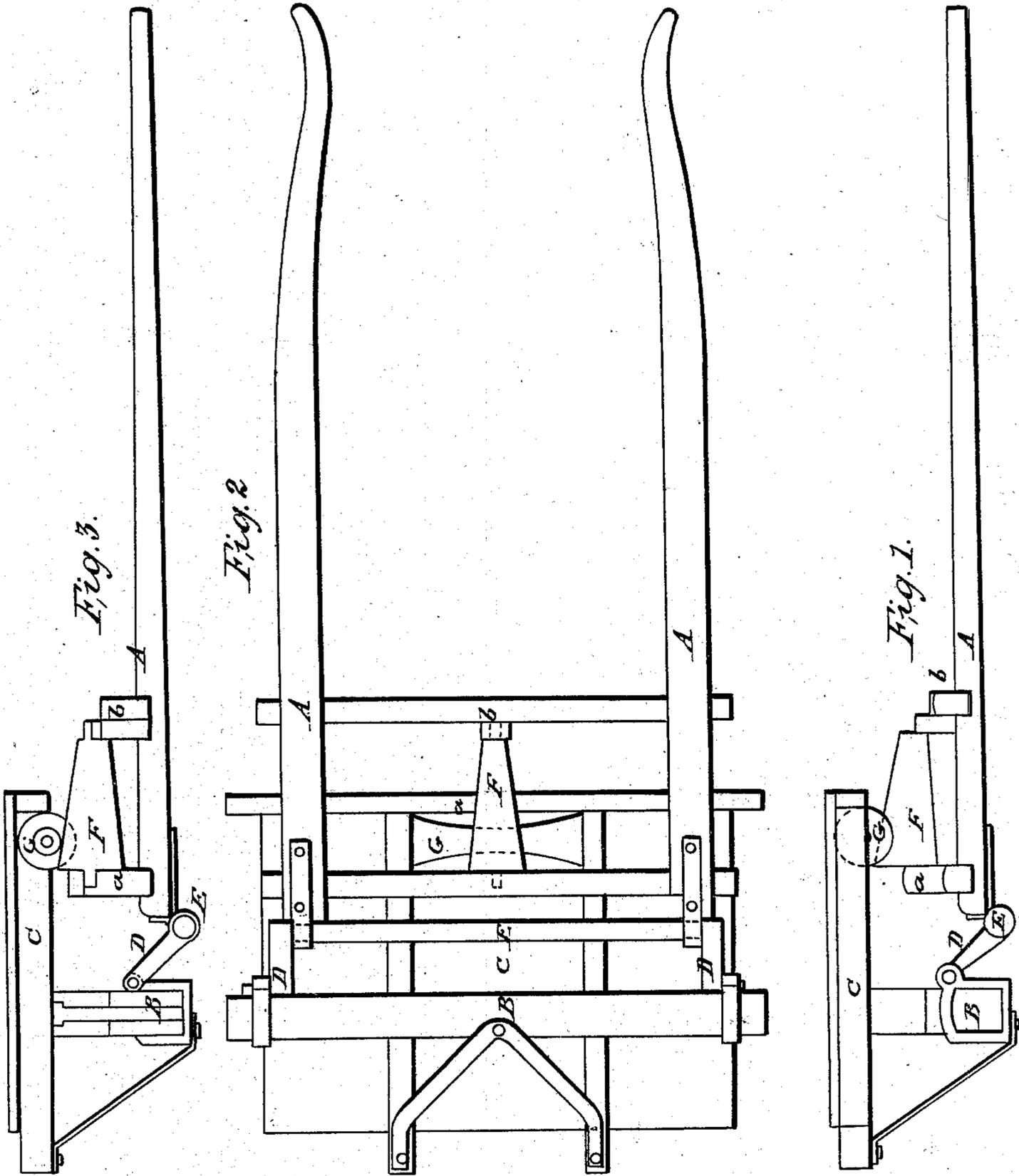


E ROBBINS.  
Thill-Coupling.

No. 48,310.

Patented June 20, 1865.



Witnesses:  
Frederick Curtis  
G. H. Washburn

Inventor:  
Elisha Robbins  
by his Attorney  
R. H. Eddy

# UNITED STATES PATENT OFFICE.

ELISHA ROBBINS, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN CARRIAGES.

Specification forming part of Letters Patent No. 48,310, dated June 20, 1865.

*To all whom it may concern:*

Be it known that I, ELISHA ROBBINS, of the city and county of Worcester, and State of Massachusetts, have invented a new and useful Improvement in Wheel-Carriages; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation, Fig. 2 a bottom view, and Fig. 3 a longitudinal section, of my invention as applied to a carriage-body and its front axle.

The object of my invention is to transfer more or less of the weight of the carriage-body, or the same and its load, to or upon the back of the horse or draft animal when he may be drawing the vehicle up a hill, the same being to enable him to gain a better foothold than he otherwise would have.

It is well known that it frequently happens that the weight of a horse while he may be ascending an acclivity will not suffice to prevent his feet from slipping backward on the ground, particularly when slippery, and also that by adding weight to the horse by a person mounting him he is rendered capable of gaining a better hold of the ground, and thereby enabled to advance with the load.

In carrying out my invention I suspend the thills A A (or the pole, when such is used instead of thills) to the forward axle, B, of the carriage or wagon body C by means of two hangers or a shaft, E, provided with two cranks, D D', the whole being arranged as shown in the drawings. Furthermore, I combine with the thills and the wagon-body two bearers, F G, one of which I place midway between the thills and so as to be supported by the two cross-bars *a b*. The other bearer, G, is arranged at the front part of the wagon-body and rests on the bearer F.

The lower bearer I prefer to construct as a conical roller, and to make the upper bearer, G, a roller of the form as represented in Figs. 2 and 3, it being smaller in diameter at its middle than it is at its two ends. When so made each of the bearers may be applied to the part which supports it as to be capable of freely revolving or being revolved on its axis.

The object of making the upper roller or bearer in the form as exhibited is to equalize the bearing of the load on the horse while he may be in the act of turning the axle on its transom-bolt more or less.

From the above it will be seen that while the vehicle may be in the act of being drawn up a hill the traction-power of the horse acting on the hangers or cranks will cause the lower bearer to force the carriage-body upward, so as to cause more or less of the weight thereof to be borne on the back of the horse, the shafts being supposed to go through the tugs of the saddle of the harness or be connected with such saddle in the ordinary way. This will have the effect to increase the foothold of the animal and thereby improve his tractive force.

I claim as my invention—

1. The application of the thills or their equivalent to the axle by hangers or a cranked shaft, as described, and so as to bear against the wagon-body, under circumstances and for the purpose substantially as described.

2. The combination of the conical rollers F G with the thills, their hangers, and the carriage-body arranged and applied together, substantially as and so as to operate as specified.

ELISHA ROBBINS.

Witnesses:

R. H. EDDY,  
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