W. MULLINS.
Vehicle-Hub.

No. 206,476. Patented July 30, 1878.

Fig. 1.

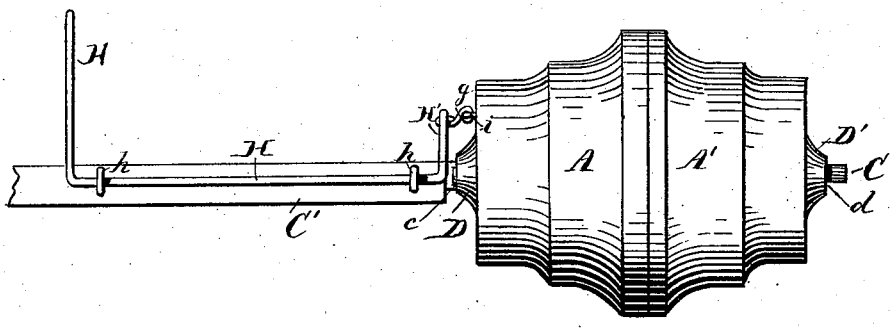


Fig. 3.

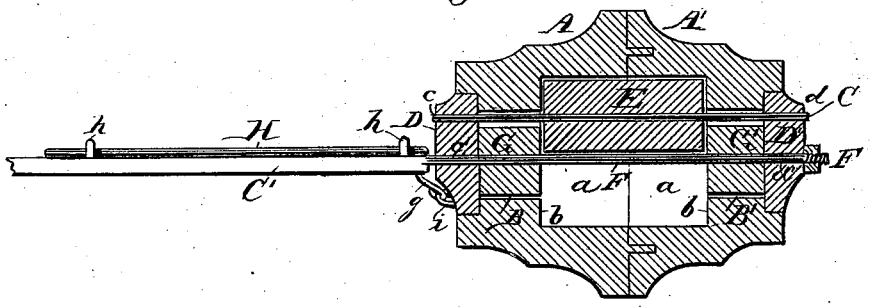


Fig. 2.

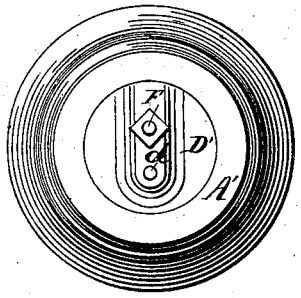
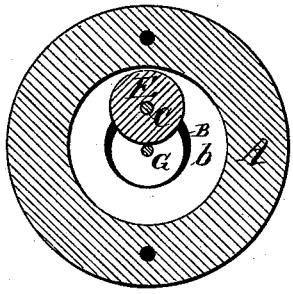


Fig 4



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UNITED STATES PATENT OFFICE.

WILLIAM MULLINS, OF FLAT CREEK, TENN., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO J. C. WILLIAMS AND J. N. SULLIVAN, OF SAME PLACE.

IMPROVEMENT IN VEHICLE-HUBS.

Specification forming part of Letters Patent No. **206,476**, dated July 30, 1878; application filed December 31, 1877.

To all whom it may concern:

Be it known that I, WILLIAM MULLINS, of Flat Creek, in the county of Bedford and State of Tennessee, have invented certain new and useful Improvements in Hubs for Vehicles; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a top view. Fig. 2 is an end elevation. Fig. 3 is a longitudinal section; and Fig. 4 is a cross-section.

Similar letters of reference indicate corresponding parts in all the figures.

My invention consists in the construction of a spindle made in two parts, each furnished with anti-friction rollers, and in the combination of this double spindle with the hub in such a manner that, by operating a lever, one of these spindles may be thrown forward or backward of the axis of the wheel, my said improvement having for its object to facilitate the ascent of hills or inclined planes by throwing the center of gravity of the load forward of the axles, and, in like manner, retard progress when passing down hill by throwing the center of gravity back of the axles, substantially as and for the purpose hereinafter more fully described, and pointed out in the claim.

In the drawing, A A′ is the hub, made in two parts, screwed or otherwise secured together. Each of the parts A A′ has a cylindrical recess, *a*, of equal diameters, having an annular shoulder, *b b*, by which a secondary recess, B B′, of smaller diameter than the main recess *a*, is formed in each end of the hub.

One of these spindles, C′, enters the hub through a perforation, *c*, in the covering-plate D, passing longitudinally through the recesses in the hub, and resting at its other end in a bearing, *d*, in the second covering-plate, D′. This spindle has a roller, E, corresponding in length to the length of the recess *a a*, so as to impinge with its ends or faces against the shoulders *b b* of said recess. F is another spindle, which passes through the hub, and is journaled in bearings or boxes *c′ d′* in plates D D′, so as to be parallel to its twin spindle C.

Spindle F has two rollers, G G′, of the same diameter as roller E, but shorter. These rollers, when both spindles are in position, as shown in the drawing, bear against the spindle C, one on each side of its roller, roller G resting in the recess B, and G′ in B′, as shown.

H is a lever, hinged by the keepers *h h* to the face of the axle C′. The end of lever H is bent, as shown at H′, so as to lie flat up against plate D, in which its end is secured by means of a short rod or link, *g*, the other end of which is fastened in plate D by a staple, *i*.

From the foregoing description, taken in connection with the drawings, the operation of my invention will be readily understood. By tilting lever H by means of its handle H″ the wagon box or body will be tilted forward or backward of spindle F, which forms a continuation of or projects from axle C′, thereby throwing the center of gravity either in front or back of the center or axis of the wheel. In going down grade lever H should be moved so as to throw the center of gravity back of the axis, while in going up hill the motion of the lever and spindle is reversed.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the hub A A′, spindle C, having roller E, auxiliary twin spindle F, having rollers G G′, and lever H, all constructed and combined to operate substantially as and for the purpose herein shown and described.

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

WILLIAM MULLINS.

Witnesses:

JOHN A. KERBY,

W. A. J. SMITH.