

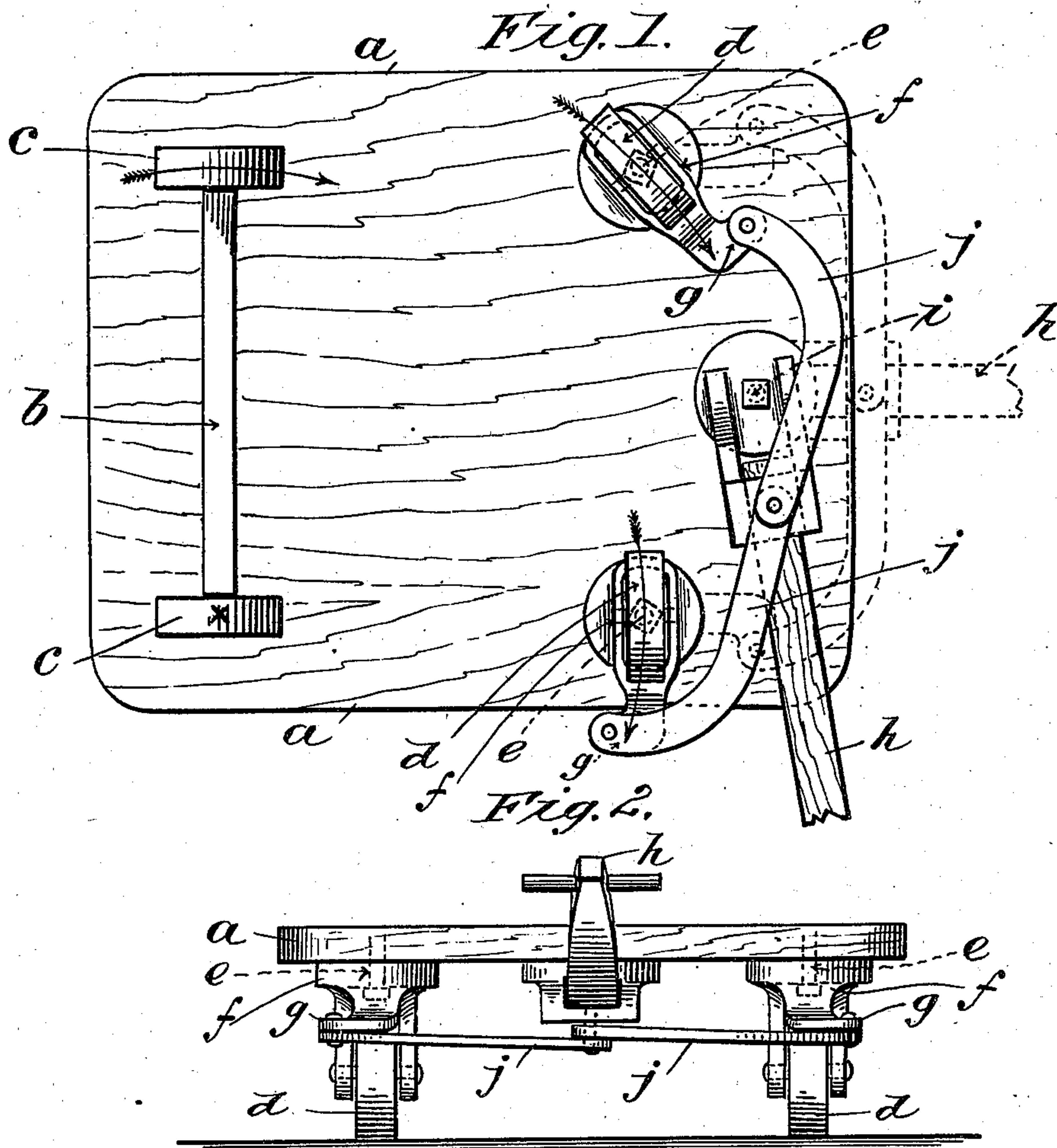
No. 724,149.

PATENTED MAR. 31, 1903.

E. WHALLEY.  
MILL TRUCK.

APPLICATION FILED JAN. 2, 1902.

NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## MILL-TRUCK.

SPECIFICATION forming part of Letters Patent No. 724,149, dated March 31, 1903.

Application filed January 2, 1902. Serial No. 88,218. (No model.)

*To all whom it may concern:*

Be it known that I, ENOCH WHALLEY, a citizen of the United States of America, residing at Willimansett, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Mill-Trucks, of which the following is a specification.

This invention relates to the construction of mill-trucks, and has for its object the improvement in means for swinging the front guide-wheels to effect a turn of the truck, whereby the curves described by each of the front wheels and one of the rear wheels will be concentric with that one of the rear wheels which forms the pivotal point of the truck; and the invention consists in the construction to be fully described in the following specification and clearly summarized in the claim.

In the drawings forming part of this application, Figure 1 is a bottom plan view of a truck embodying my invention, showing the guide-wheels in one position in dotted lines and in another position in full lines. Fig. 2 is a front elevation of Fig. 1.

In carrying out my invention a truck-platform *a* is provided with a rear axle, which is rigidly supported thereon in any suitable manner. This axle is indicated by *b*, and on each end thereof are wheels *c*. The opposite end of the truck is provided with guide-wheels *d*, located opposite each other, which are mounted to swing on a vertical pivot in any direction. This pivot is shown only in dotted lines in the two figures of the drawings, and it consists of a bolt *e*, on which there swings a forked casting *f*, between the arms of which the wheel *d* is supported. This casting *f* is provided with a suitable broad base to afford a good bearing against the bottom of the platform, and it may rotate freely on the bolt *e*. There extends from this casting *f* normally toward the front of the truck an arm *g*, substantially in the plane of the wheels *d*, the outer ends of which arms are provided with outwardly-turning extremities which extend beyond the plane of the side of the wheel. Situated midway between these front wheels *d* is the tongue of the truck, (indicated by *h*), which is pivotally supported at *i*, to the end that it may be swung as desired in a horizontal plane. By means of two arms

*j* each of the wheels *d* is so connected with the tongue *h* that the swinging of the latter will effect the rotation of the wheels on their axes, (represented by the bolt *e*.) To effect the swinging of these wheels into the desired position relative to that one of the rear wheels on which the truck will swing as on a pivot when turned to one side or the other, these arms *j* must be connected to the outwardly-extending extremities of the arms *g*, as shown in the drawings, and the inner ends of these arms *j* are preferably connected pivotally to the tongue *h* at a point bearing about the same relation to the pivotal point of the tongue that the opposite ends of these arms bear to the bolt *e*, on which the casting *f* swings.

In order to effect the peculiar connection described, the preferable construction contemplates the deflection rearwardly of the outer extremities of the connecting links or arms *j*, whereby said extremities may reach over and be pivoted directly to the outwardly-deflected terminals of the arms *g*. This connection, in combination with the feature of having the inner pivot *i* of the tongue *h* located in advance of the vertical pivots *e* for the wheel-carriers *f*, provides means whereby when the wheel-carriers are swung to either side the front guide-wheels are thrown out of parallel with their axes radial to a common center or pivot upon which the truck turns, which is one of the fixedly-mounted rear wheels *c*.

The arms *g* on the castings *f* are preferably made to incline downwardly, to the end that when the arms *j* are in position and connect the front wheels with the tongue *h* there may be sufficient space between the bottom of the truck-platform and the top of the arms *j* to permit the tongue *h* to swing freely. Furthermore, the pivotal point *i* of the tongue is located forward of the front wheels at about the distance that is indicated between the bolt *e* and the point of attachment of the end of the arm *j* with the extremity of the arms *g*. By means of this construction it is possible to swing the tongue into substantial parallelism with the forward end of the truck-platform, whereby an exceedingly short turn of the truck may be made, and, as stated,



this is rendered possible only because of the location of the pivotal point *i* of the tongue forward of the guide-wheels *d* and in the provision of sufficient space for the tongue to swing in under the forward edge of the platform by dropping the arms *j* below the latter, as specified.

Obviously the arms *g* might lie close up under the platform of the truck and be connected to the top of the tongue instead of to the bottom; but the construction shown in the drawings is that which is preferred. In my patent dated October 30, 1900, No. 661,006, there is shown a construction similar to this, except that all the connections are made back of the front wheels and the arms connecting these wheels run to a center wheel; but by reason of their connection around behind of the front wheels they are subject to limitations of movement, and I have found in practice that it is not possible, so far as I am aware, to connect up the forward guide-wheels of a truck from the rear side thereof in such manner that these wheels will describe a curve concentric to that one of the rear wheels which acts practically as the pivotal point of the truck according as the truck is swung to the right or to the left, and it is this feature which forms the distinguishing novelty of the invention and whereby a truck so constructed is enabled to be guided with very little effort around corners requiring sharp turns, though carrying a heavy load.

The arrows on Fig. 1 indicate accurately

the curves described by one of the wheels *c* and by the two wheels *d* when the truck is turned in the direction indicated by the position of the tongue.

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

In a truck, the combination with the base or platform, of a rear axle arranged in a fixed position and carrying the rear wheels, oppositely-located front guide-wheels, synchronously-turnable carriers for the front wheels mounted upon vertical pivots and having forwardly-projecting arms whose outer terminals are disposed in a plane beyond the outer sides of the wheels and their carriers, the latter being turnable to positions wherein the axes of both front wheels will be radial to one of the rear wheels acting as a common pivot, a horizontally-swinging tongue having a pivotal support at its inner end upon the base or platform at a point in advance of the transverse plane of the vertical pivots for the carriers, and a pair of separate connecting-links pivotally connected at their inner ends to the tongue at a point in advance of the pivot of the latter, said links having at their outer ends rearwardly-deflected terminals reaching over and pivoted to the laterally-offset terminals of the carrier-arms, substantially as and for the purpose set forth.

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Witnesses:

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