Aug. 19, 1924. 1,505,645

D. F. ISAACS

TRUCK

Filed Jan. 28, 1924

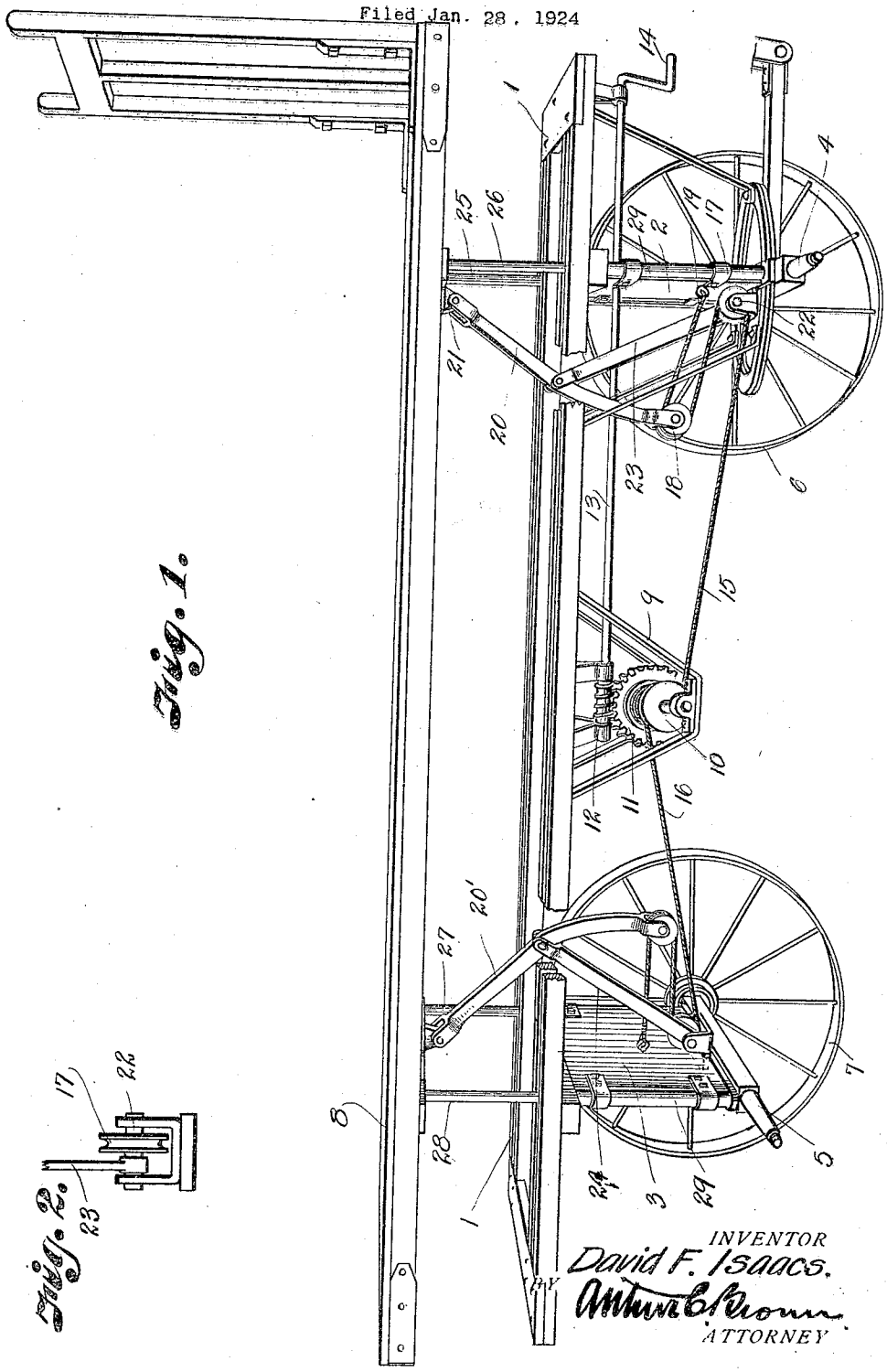


Fig. 1.

Fig. 2.

INVENTOR
David F. Isaacs.
Arthur E. Brown
ATTORNEY

Patented Aug. 19, 1924. 1,505,645

UNITED STATES PATENT OFFICE.

DAVID F. ISAACS, OF COFFEYVILLE, KANSAS.

TRUCK.

Application filed January 28, 1924. Serial No. 688,928.

To all whom it may concern:

Be it known that I, DAVID F. ISAACS, a citizen of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Trucks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to four-wheeled trucks and particularly to an elevating truck, the primary object being to provide a truck with a platform which may be conveniently raised and lowered as occasion may demand.

The invention resides more particularly in the operating mechanism for the elevatable platform and the details of construction of the novel features of my invention will be apparent by reference to the following description in connection with the accompanying drawings, in which—

Fig. 1 is a perspective view of a truck constructed in accordance with my invention, and

Fig. 2 is a detailed view of a shaft, supporting a toggle arm and an idler.

The main portion of the truck consists of a lower frame 1, bolsters 2 and 3, axles 4 and 5, and wheels 6 and 7 on the axles. This general construction is all old and well known, but the invention resides in providing the elevating platform 8 and the means for raising it. The mechanism for raising the platform 8 will now be described.

Depending from the platform or lower frame 1 is a bracket 9 carrying a drum 10 movable with which is a worm gear 11 operated by a worm 12 on shaft 13 having a crank 14 at one end of the truck by means of which the shaft can be manually operated. The drum receives cables 15 and 16 wound in the same direction. The cable 15 passes from the drum around an idler 17, around an idler 18 and it has one end fastened to the bolster 2 at 19. The idler 17 is fixed with respect to the truck. The idler 18 is carried by one end of a curved toggle lever 20 pivoted at its upper end to the platform 8 as indicated at 21.

On the shaft 22 which carries the idler 17 is a toggle arm 23 which is pivoted at the arm 20 intermediate its ends so that when the lower end of the lever 20 is swung toward the lever 23, the toggle effect will be produced to raise one end of the truck platform 8, the opposite end of the platform 8 being raised by a duplicate mechanism, generically designated 24, and in order to maintain the truck platform in proper position, I provide guide rods 25, 26, 27 and 28 in vertical guides shown as tubes 29 carried by the bolsters, there being a guide for each rod.

When it is desired to raise the platform 8 the operator may grasp the crank 14 to turn the shaft 13 so that the worm will drive the worm gear 11 to rotate the drum 10, then the cables 15 and 16 will wind on the drum pulling the depending lower ends of the curved lever arms 20 and 20′ in opposite directions to extend the toggle levers so that the supplemental frame or platform 8 will be raised.

The platform will be held in its raised position by a lock formed by the worm and the worm gear, it being obvious that due to the pitch of the worm gear teeth and the worm, the worm gear cannot rotate the worm shaft, but must be rotated by the worm shaft, consequently whenever it is desired to lower the supplemental frame 8, the shaft 13 will be turned in a reverse direction to take the tension off of the cables 15 and 16 and permit the platform 8 to gravitate, it being apparent that the platform 8 can be lowered upon the frame 1 as the extreme limit, or can be held in any pre-determined position above the frame 1.

It will be apparent from the foregoing that the platform 8 may be raised and lowered in a convenient manner.

What I claim and desire to secure by Letters-Patent is:

1. A truck comprising a base frame and a supplemental frame, means for guiding the supplemental frame with respect to the base frame, toggle levers carried by the base frame, toggle levers carried by the supplemental frame and pivoted to those on the base frame, an idler on each toggle lever carried by the supplemental frame, a winding drum carried by the base frame and cables fastening to the base frame and to the drum, said cables passing around the

idlers so upon rotation of the drum the toggles will be operated.

2. A truck comprising a wheeled base frame, a vertical movable supplemental frame, pairs of toggle levers at respective ends of the truck, one toggle lever of each pair being secured to the supplemental frame and the other toggle lever of the pair being secured to a part on the main portion of the truck, the toggle levers on the supplemental frame having downwardly curved extensions, idlers on the extensions, idlers carried by the main portion of the truck, a winding drum carried by the main portion of the truck, cables on the drum, idlers on the main portion of the truck through which the cables pass, said cables also passing around the idlers on the extension and having their ends fixed to the main portion of the truck so that upon rotation of the drum in one direction the supplemental frame will be raised and upon the rotation of the drum in the opposite direction the supplemental frame will be lowered and means for actuating the drum.

3. A truck comprising a wheeled base frame, a vertical movable supplemental frame, pairs of toggle levers at respective ends of the truck, one toggle lever of each pair being secured to the supplemental frame and the other toggle lever of the pair being secured to a part on the main portion of the truck, the toggle levers on the supplemental frame having downwardly curved extensions, idlers on the extensions, idlers carried by the main portion of the truck, a winding drum carried by the main portion of the truck, cables on the drum, idlers on the main portion of the truck through which the cables pass, said cables also passing around the idlers on the extension and having their ends fixed to the main portion of the truck so that upon rotation of the drum in one direction the supplemental frame will be raised and upon the rotation of the drum in the opposite direction the supplemental frame will be lowered and means for actuating the drum, said means comprising a worm gear and a worm, the worm gear being on the drum, and a crank shaft longitudinally of the main portion of the truck on which the worm is mounted.

In testimony whereof I affix my signature.

DAVID F. ISAACS.