W. F. OLIVER & B. W. GRAVES.

TRUCK.

APPLICATION FILED APR. 10, 1918.

1,284,923.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

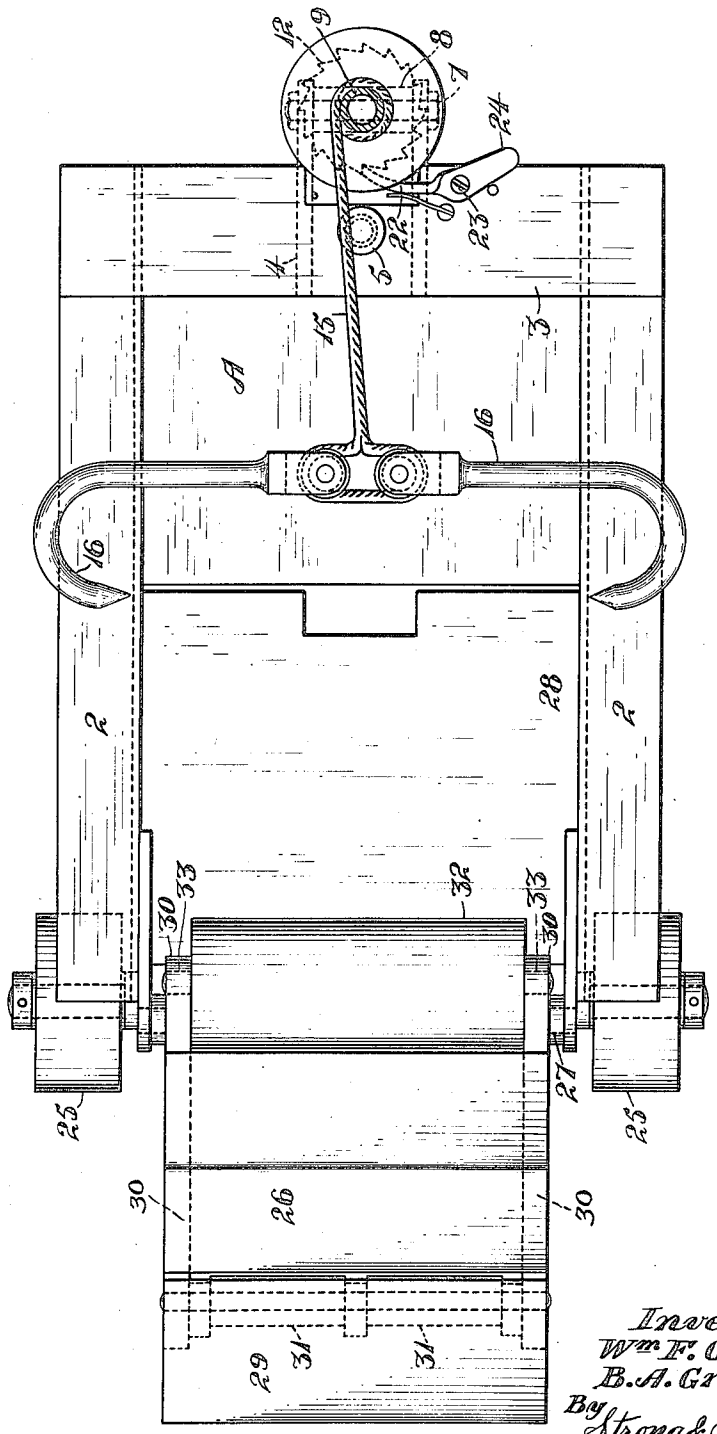


Fig. 1.

Inventors
Wm F. Oliver
B. A. Graves
By Strong & Townsend
Attorneys

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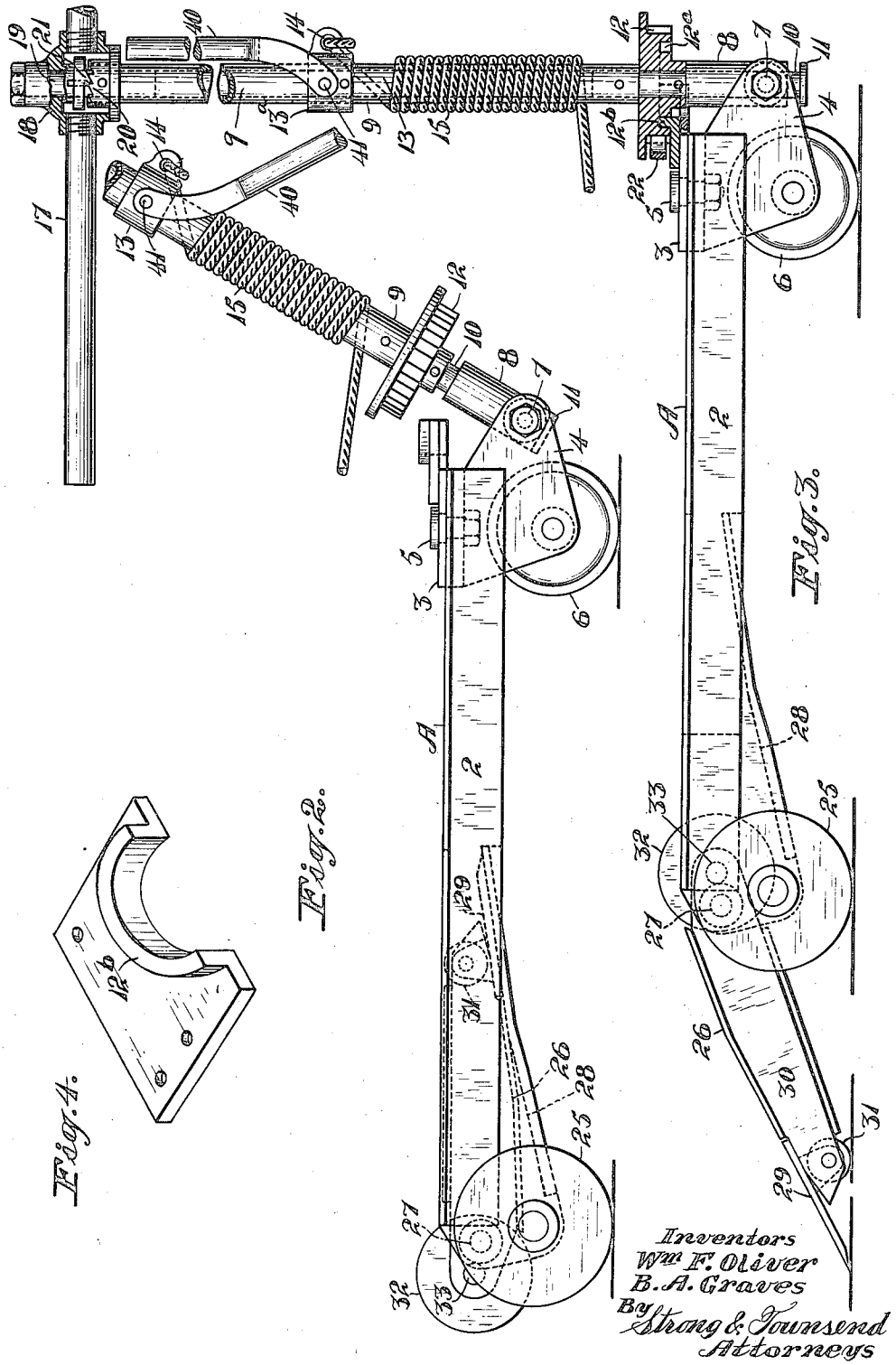


Fig. 2.

Fig. 4.

Fig. 3.

Inventors
Wm F. Oliver
B. A. Graves
By Strong & Townsend
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM F. OLIVER, OF OAKLAND, AND BERT W. GRAVES, OF SAN JOSE, CALIFORNIA.

TRUCK.

1,284,923. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed April 10, 1918. Serial No. 227,785.

To all whom it may concern:

Be it known that we, WILLIAM F. OLIVER and BERT W. GRAVES, citizens of the United States, residing at Oakland, in the county of Alameda and State of California, and San Jose, county of Santa Clara, State of California, respectively, have invented new and useful Improvements in Trucks, of which the following is a specification.

This invention relates to a truck.

One of the objects of the present invention is to provide a simple, substantial truck for facilitating the loading and trucking of comparative heavy packing cases and the like received at stores, ware-houses, etc., and particularly to provide a one man truck which is provided with means operable by one man for placing the load upon the truck and for unloading it and placing it wherever desired. Further objects will hereinafter appear.

The invention also consists of the parts and the construction, combination and arrangement of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a plan view of the truck.

Fig. 2 is a side elevation of same, showing the rear apron in the folded position.

Fig. 3 is an enlarged side elevation, partly in section, showing the rear apron in the lowered position and the steering tongue in the vertical position, said view also showing parts of the steering tongue in section.

Fig. 4 is a perspective view of the plate on which the semi-circular collar 12^b is formed.

Referring to the drawings in detail, A indicates a load receiving platform which, in this instance, is supported between a pair of side frames 2 constructed of angle iron or other suitable material. These side frames are tied together by means of the loading platform and also by means of a cross plate 3 secured to the forward end of the frames. This cross plate also serves as a support for a bracket 4 which is pivotally attached thereto by means of a king bolt 5. Journaled in the bracket 4 is a steering wheel 6 and pivotally mounted in said bracket ahead of the steering wheel, as at 7, is a trunnion member 8 in which is mounted the steering tongue generally indicated at 9. This steering tongue consists of a rod 10 which is vertically movable in the trunnion 8, vertical movement in an upward direction being limited by a member 11 formed on the lower end of the rod and the downward vertical movement being limited by a ratchet wheel 12 secured on the upper end of the rod. The rod 10 extends through the ratchet wheel 12 and has secured on its upper end a tube 13 which forms the steering lever of the tongue. It also serves the function of a winding drum and a lever for unloading freight deposited upon the loading platform A.

This is accomplished in the following manner: Secured on the tube 13 is a collar 13^a and secured in an eye 14 in said collar is a rope or cable 15 which is adapted to be wound about the tube. The free end of this cable is provided with a grappling hook 16, of suitable construction, which is adapted to grip a packing case or the like when it is to be placed upon the loading platform, as will hereinafter be described. The tube thus serves as a winding drum about which the cable 15 may be wound, and it is therefore essential that the rod 10 may turn freely within the trunnion member 8. It is turned within said trunnion by means of a handle 17, which is secured in the head member 18 turnably mounted on the rod 19 which is secured in the upper end of the tube. This rod also carries a ratchet wheel 20 which is secured thereto, while the head 18 carries a pawl 21. This pawl is keyed but slidably mounted on an extension of the head 18 and therefore permits the handle to be turned freely in one direction, but turning movement of the handle in the opposite direction causes the pawl to drop by gravity into engagement with the teeth of the ratchet 20 which is secured to the rod 19, thus turning the rod, the ratchet 20, the tube 13, the collar 13^a, the ratchet wheel 12 and the rod 10 in the trunnion member 8 which serves as a journal member and support therefor, the members, when turned, being locked against reverse movement by a pawl 22 which is pivotally mounted, as at 23, upon the cross plate 3. This pawl will, of course, engage the teeth of the ratchet wheel 12 and will therefore lock said members against reverse movement when the pull is exerted upon the cable 15. This pawl may, however, be released at any time, when desired, by swinging the pawl out of engagement with the ratchet 12 by means of the lever 24 secured to the pawl.

The rear end of the truck is supported upon a pair of wheels 25 positioned one on each side of the truck. These wheels are journaled on a pair of bracket plates, one secured to each side frame. These bracket plates also serve as a support for an apron 26, which is pivotally mounted, as at 27, between the plates. The apron is adapted to be swung about the pivotal mounting 27 to the lowered position, shown in Fig. 1, or to the folded position shown in Fig. 2, a pocket 28 being formed in the loading platform for the reception of the apron. The lower end of the apron is provided with a pivotal section 29 which permits the lower end of the apron to contact with the floor when loading. This apron is pivotally mounted between arms 30 which support the apron, and rollers 31 are mounted under the apron section 29 to permit the lower apron section 29 to move freely when the truck is being pulled over the floor. The pivotal connection of the lower section is of considerable importance as it permits the lip of the apron to positively contact with the floor and to be wedged under a packing case or other article to be handled, thus giving it a start when it is to be pulled up to the load receiving platform of the truck.

The main apron 26 also carries a roller 32. This roller extends crosswise of the apron and is journaled, as at 33, between the arms 30 at a point ahead of the pivotal connection 27 between the apron and the truck. This is also of considerable importance as a packing case, when pulled upon the apron, rides upon the roller, thus permitting it to be more easily moved and the roller also serves to lift the apron clear of the floor the moment the center of the weight is pulled beyond the roller, as the weight of the case thus exerted on the roller will cause the apron to swing about the pivotal connection 27 to a point where it is raised clear of the floor. The load when placed on the loading platform will, in this manner, automatically maintain the apron out of contact with the floor and permit the truck to be freely moved when pulled from place to place.

In operation, when it is desired to place a heavy case upon the truck, this is accomplished by first lowering the apron, as shown in Fig. 3. The truck is then backed up against the case and the lower apron section 29 wedged thereunder. The cable 15 is then unwound by releasing the lower pawl 22 and the hooks 16 are positioned in the sides of the case. The steering tongue is, of course, raised to the vertical position, shown in Fig. 3, and it is here locked by raising it vertically until stopped by the head member 11. This permits an annular groove 12^a formed in the lower face of the ratchet wheel to engage a semi-circular collar 12^b formed on the plate which is secured on the cross plate 3, the detail of this plate being shown in Fig. 4. The whole steering tongue, when raised above the segmental collar 12^b, is lowered down upon same. The steering tongue is thus locked against movement about the pivot 7, but it is free to be turned. The case already engaged by the grappling hooks 16 is now pulled up over the apron 26 directly on to the platform A by merely turning the steering tongue by means of the handle 17, and it is only necessary to move said handle ratchetwise, as the pawl 21 will automatically move into and out of engagement with the ratchet wheel 20 when the handle 17 is thus turned, the whole steering tongue being, as previously described, locked against return movement when the cable is placed under tension or while the load is being pulled up to the platform by the lower ratchet wheel 12 and the pawl 22. The load when pulled clear up on the platform exerts its weight upon the roller 22 and therefore raises the apron 26 to an approximate horizontal position, thus preventing interference of the apron with the obstructions in the floor. The grappling hooks may be released the moment the case or load is in position on the truck and the steering tongue may be swung about the pivot 7 to pulling position by first raising it vertically to release it with relation to the segmental collar 12^b. The truck may, in this manner, be pulled to any place desired and the freight may here be unloaded by the lever action of the steering tongue.

The removal of the freight is materially facilitated by providing a lever 40. This lever is fork-shaped at its lower end and is pivotally attached, as at 41, to the collar 13^a. It may therefore be swung into a horizontal position and interposed between the load and the steering tongue, thus acting as a pusher between the steering tongue and the load, which will force the load off the rear end of the truck. This rod may be folded up against the steering tongue, as shown in Fig. 3, when in use and it is only lowered or interposed between the steering tongue and the load when it is desired to remove the same from the truck.

One of the main objects of the present invention is to provide a one-man truck, that is, a truck that is provided with means for pulling a comparatively heavy case upon the load receiving platform, said means to be operated by one man and said means also adapted to remove or unload the freight when and wherever desired. These features are obtained by constructing the truck, as shown, as one man can easily perform the functions described. It is therefore, not only a labor saving device but it should

prove a great utility to any store or warehouse where considerable freight and heavy goods are handled.

The materials and finish of the several parts herein shown and described may be such as the experience and judgment of the manufacturer dictate.

We also wish it understood that various changes in the form, proportions and minor details of construction may be resorted to within the scope of the appended claims, and that we do not wish to limit ourselves to the specific design and construction here shown.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. A truck comprising a frame, a pair of wheels supporting the rear end of said frame, a steering wheel supporting the forward end, a bracket pivotally attached to the frame in which said wheel is journaled, a steering tongue pivotally mounted in said bracket adapted to assume a vertical position with relation to the frame and any angular position between the vertical and a horizontal, means permitting the tongue to be turned in the pivotal connection and a winding drum on said tongue.

2. A truck comprising a frame, a pair of wheels supporting the rear end of said frame, a steering wheel supporting the forward end, a bracket pivotally attached to the frame in which said wheel is journaled, a steering tongue pivotally mounted in said bracket adapted to assume a vertical position with relation to the frame and any angular position between the vertical and a horizontal, means permitting the tongue to be turned in the pivotal connection, a winding drum on said tongue and means for locking the tongue against movement in the pivotal connection when in the vertical position.

3. A truck comprising a frame, a pair of wheels supporting the rear end of said frame, a steering wheel supporting the forward end, a bracket pivotally attached to the frame in which said wheel is journaled, a steering tongue pivotally mounted in said bracket adapted to assume a vertical position with relation to the frame and any angular position between the vertical and a horizontal, means permitting the tongue to be turned in the pivotal connection, a winding drum on said tongue, means for locking the tongue against movement in the pivotal connection when in the vertical position, and means permitting vertical movement of the tongue and turning movement of same when in the vertical position.

4. In a truck, the combination with a steering wheel supporting the forward end of the truck, of a bracket pivotally attached to the truck in which said wheel is journaled, a trunnion member pivotally mounted in said bracket, a rod turnably mounted in said trunnion, and means on said rod for locking the rod against turning movement in one direction.

5. In a truck, the combination with a steering wheel supporting the forward end of the truck, of a bracket pivotally attached to the truck in which said wheel is journaled, a trunnion member pivotally mounted in said bracket, a rod turnably mounted in said trunnion, means on said rod for locking the rod against turning movement in one direction and means for locking the trunnion member against pivotal movement when the rod is in the vertical position.

6. In a truck, the combination with a steering wheel supporting the forward end of the truck, of a bracket pivotally attached to the truck in which said wheel is journaled, a trunnion member pivotally mounted in said bracket, a rod turnably mounted in said trunnion, means on said rod for locking the rod against turning movement in one direction, means for locking the trunnion member against pivotal movement when the rod is in the vertical position, a winding drum on the rod, a cable secured at one end to said drum, a grappling hook on the opposite end of said cable, a handle turnably mounted on the upper end of the rod, a ratchet wheel secured to the rod and a pawl carried by the handle engageable with the ratchet wheel when the handle is turned in one direction and adapted to ride freely over the ratchet wheel when the handle is turned in the opposite direction.

7. In a truck, the combination with the truck frame of an apron pivotally mounted on the rear end of the frame and a roller extending crosswise of the apron and journaled therein ahead of the pivotal connection between the apron and the frame.

8. In a truck, the combination with the truck frame of an apron pivotally mounted on the rear end of the frame, a roller extending crosswise of the apron and journaled therein ahead of the pivotal connection between the apron and the frame and a second apron pivotally attached to the lower end of the first-named apron.

9. In a truck, the combination with the truck frame of an apron pivotally mounted on the rear end of the frame, a roller extending crosswise of the apron and journaled therein ahead of the pivotal connection between the apron and the frame, a second apron pivotally attached to the lower end of the first-named apron, and rollers supporting said second apron.

10. In a truck, the combination with the truck frame of an apron pivotally mounted on the rear end of the frame, a roller extending crosswise of the apron and journaled therein ahead of the pivotal connec-

tion between the apron and the frame, a second apron pivotally attached to the lower end of the first-named apron, and a pocket formed in the truck permitting the apron to be swung thereinto.

11. A truck comprising a frame supported upon a pair of wheels at the rear end and upon a steering wheel at the forward end, a bracket member pivotally attached to the frame in which said steering wheel is journaled, a steering tongue pivotally mounted in said bracket, means permitting turning movement of said steering tongue within the pivotal connection, a winding drum on said steering tongue, a cable secured thereto, means for locking the steering tongue against turning movement in one direction, means for turning the steering tongue in the opposite direction, an apron pivotally attached to the rear end of the truck and a roller extending crosswise of the apron and journaled therein ahead of the pivotal connection between the apron and the frame.

12. A truck comprising a frame supported upon a pair of wheels at the rear end and upon a steering wheel at the forward end, a bracket member pivotally attached to the frame in which said steering wheel is journaled, a steering tongue pivotally mounted in said bracket, means permitting turning movement of said steering tongue within the pivotal connection, a winding drum on said steering tongue, a cable secured thereto, means for locking the steering tongue against turning movement in one direction, means for turning the steering tongue in the opposite direction, an apron pivotally attached to the rear end of the truck, a roller extending crosswise of the apron and journaled therein ahead of the pivotal connection between the apron and the frame, a second apron section pivotally attached to the lower end of the first-named apron, a pair of rollers, one at each end thereof supporting said apron and a pocket formed in the frame of the truck adapted to receive the apron and permit it to be swung about the pivotal connection to assume a horizontal position within the frame of the truck.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

WILLIAM F. OLIVER.
BERT W. GRAVES.

Witnesses:
NORMAN CRONDACE,
BERT FRATUS.