No. 635,037. Patented Oct. 17, 1899.

C. A. BUCK.

TRUCK.

(Application filed Mar. 15, 1898.)

(No Model.)

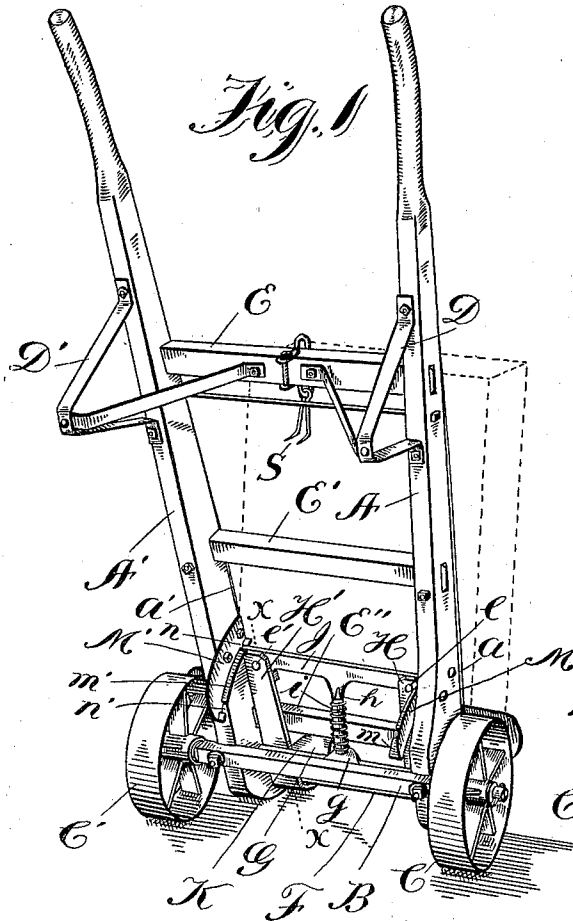


Fig. 1

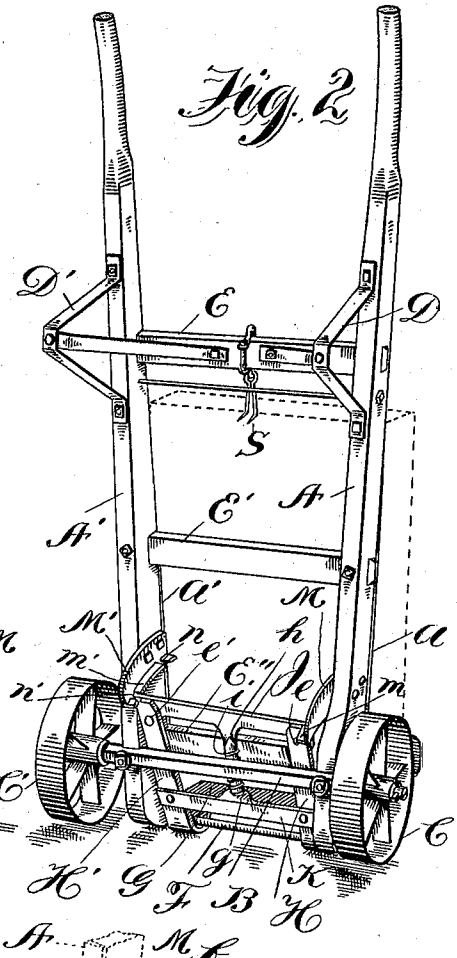


Fig. 2

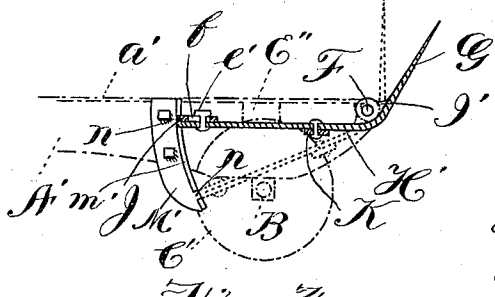


Fig. 3

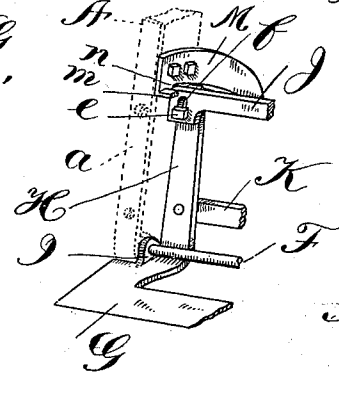


Fig. 4

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CORNELIUS A. BUCK, OF SAN FRANCISCO, CALIFORNIA.

TRUCK.

SPECIFICATION forming part of Letters Patent No. 635,037, dated October 17, 1899.

Application filed March 15, 1898. Serial No. 673,974. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS A. BUCK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Trucks; and I do hereby 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.

My present invention has to do with the general class of devices known as "trucks," and more particularly the subclass designated "hand-trucks."

Specifically stated, the invention is an improvement over that described in the application of Ernest C. Atwood, Serial No. 642,184, and of which I am the assignee of a two-fifths interest.

Besides embodying every object and advantage of the above-specified device the subject of this present invention endeavors to bring to a higher state of practical perfection the manner of utilizing the generic features of the Atwood device.

In the matter of greater simplicity, durability, and compactness of construction my invention further attains, while in the use of the expression "practical perfection" resorted to above I have embodied many advantages that may be evident to those familiar with trucks generally as the following specification is examined, together with the accompanying drawings, in which latter I have used similar letters of reference to indicate corresponding parts in the several views.

Figure 1 is a perspective view of an ordinary outside-wheel truck, showing my invention in position thereon, the spade or lip inclining at an obtuse angle with the direction of the handles. Fig. 2 is a similar view showing the handles tilted up against the load until they assume a position at right angles to the spade. Fig. 3 is a section through the line $x\,x$, Fig. 1. Fig. 4 is a perspective view of one side of the invention removed from the truck.

I will now set forth the construction of the device and in so doing refer to the above views by letter.

The truck proper is formed as ordinarily, with the spreading side members A A', terminating in curved handles, the square axle B, bolted to the under face of the members A A', and flat-faced wheels C C', mounted on turned spindles formed integral with the axle. The braced upper metal legs D D' are of the ordinary form, while the tenoned cross-bars E E' E'' give the desired spread to the members A A' from the nose to the handles of the truck.

Extending transversely across the nose of the truck or between the lower extremities of the members A A' is the cross-rod F, which has a mounting or is secured terminally to the lower ends of the metal-face strips $a\,a'$, one of which is shown in dotted lines in Fig. 4.

In a position normally the same as that occupied by the ordinary stationary spade or shovel of a truck is the swinging spade G, which is provided with the integrally-formed short twin arms H H'. These arms assume an obtuse angle with the direction of the spade, while at their point of turning are integrally or rigidly formed the lugs I I', which are bored to receive the cross-rod or spindle F as a bearing or pivot.

Joining the upper extremities of the arms H H' is the bar J, which is connected thereto by means of the headed bolts $e\,e'$, the latter being fixed in the arms and protruding through oblong slots f in the bar. Below this bar J and parallel thereto is the secondary bar K, which is bolted or otherwise rigidly secured to the arms H H'. Projecting downward from the center of the bar J and entering a perforation in the projection or lug g, extending from the center of the bar K, is the rod or tongue h, which is encircled by the compression-spring i.

Formed on the arc of a circle of which the cross-rod F is the center and the arms H H' the radius are the plates M M', constructed with lower webs $m\,m'$ and bolted to the inner faces of the members A A', so that the webs will lie in the path of the bar J. Cut through these webs $m\,m'$ are the notches $n\,n'$, into which the bar J engages.

Having thus fully described the construction of my invention and its normal position relative to the truck, I will now explain the function and operation of each individual part.

By reference to Fig. 1, which represents the normal position of a truck in an upright position or after the spade has been inserted beneath the load, it will be seen that the plane of the floor is coincident with the plane of the spade and tangent to the periphery of the wheels. A line perpendicular to this plane or that assumed by the load, the latter being shown in dotted lines, assumes an acute angle with the direction of the handles of the truck. Now to close this gap and cause the load to coincide in direction with that of the handles as the latter remain stationary requires an effort more or less great, according to the weight of the load. In ordinary trucks this tilting of the load is accomplished by the operator reaching over and drawing toward the handles the dead-weight of the object to be handled. When this is accomplished, the subsequent wheeling away of the load is a matter of relative ease. In my invention I accomplish this parallelism or coincidence in direction between the load and handles by ignoring the former and causing the latter to advance toward the load as it remains stationary on the spade. To make this operation possible, I have resorted to the generic construction shown of pivoting the truck to the spade.

In handling the device the spade is forced under the load in the usual manner, occupying the relative position shown in Fig. 1. The operator then places his foot on the bar J and forces it down until it leaves the notches *n*. The handles are now free to be swung up against the load, and when that position is reached the action of the spring *i* will force the bar J into the notches *n'*, thereby firmly locking the spade in a position at right angles to the handles of the truck, or that shown in Fig. 2 or the dotted lines in Fig. 3. This operation raises the wheels from the ground, and thus the fulcrum of leverage is thrown from the point of contact between the wheels and ground to the inner edge of the load. As the handles and spade are now drawn back the outer edge of the latter raises the load up and toward the handles, and by the time the wheels touch the ground the dead-weight of the load is overcome and the loading of the truck accomplished with comparative ease.

The hook S (shown in Figs. 1 and 2) is for the purpose of aiding the loading of heavy barrels, as it can be readily hooked over the rim thereof and the barrel held against the truck as the latter is tilted back.

The foot method of operating the spade is of inestimable value over any hand-actuated device, as the operator is free to use his hands, as in the ordinary manner of loading, while the necessary action of the foot is none other than is usually resorted to in order to hold the spade in place as the load is drawn back.

Although I have shown the best form of construction now used by me, still it will be understood that I intend to cover mechanical equivalents when such are substituted.

What I claim as my invention is—

1. The combination with a truck, of a shovel pivoted to said truck, the outer extremity of said shovel being capable of but a single motion in the arc of a circle, and foot-actuated means for changing the angle between said shovel and the direction of the handles as set forth.

2. The combination with a hand-truck, of a shovel pivoted to said truck, said pivotal point being stationary relative to said truck and foot-actuated means for shifting and locking said shovel in the desired position, substantially as set forth.

3. A truck provided with a terminal shovel and foot-actuated means for changing the angle between said shovel and the direction of the handles of the truck said shovel being so connected with said truck that the distance between the outer extremity of the former and the lower extremity of the latter will remain approximately constant as set forth.

4. A truck provided with a hinged shovel having a relatively stationary pivot, arms leading from said shovel and rigidly connected thereto and foot-actuated means for locking said arms in the desired position substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CORNELIUS A. BUCK.

Witnesses:
LEE D. CRAIG,
WALTER R. CRAIG.