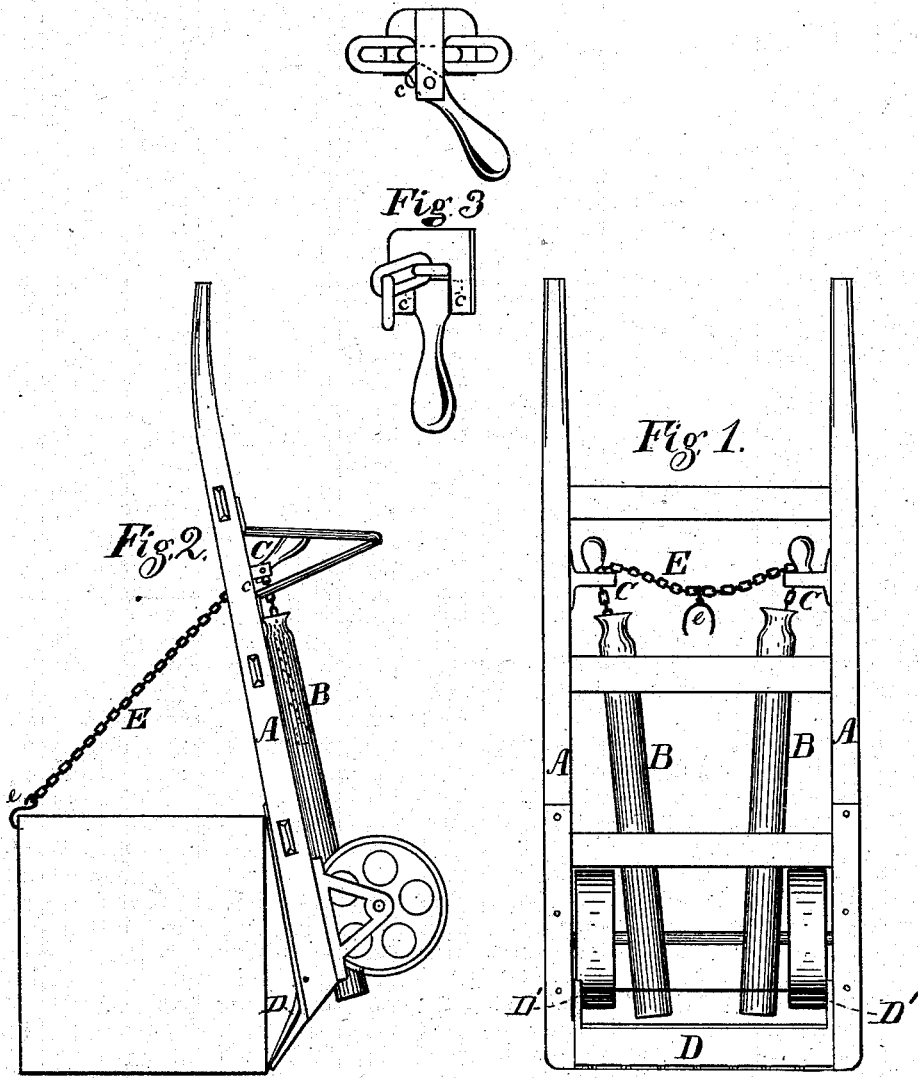


H. R. FERRIS.

HAND-TRUCK.

No. 186,237.

Patented Jan. 16, 1877.



Witnesses

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UNITED STATES PATENT OFFICE.

HIRAM R. FERRIS, OF CLEVELAND, OHIO.

IMPROVEMENT IN HAND-TRUCKS.

Specification forming part of Letters Patent No. **186,237**, dated January 16, 1877; application filed November 15, 1876.

To all whom it may concern:

Be it known that I, HIRAM R. FERRIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Hand-Trucks, of which the following is a specification:

This invention relates to that class of hand-trucks used for handling and moving heavy packages in freight warehouses and depots; and consists in the combination of a chain and grappling-hook with latches for securing the chain in position, and suitable receptacles for holding the chain when not wanted for use, in combination with a hand-truck, substantially as hereinafter fully described and claimed.

In the accompanying drawing, Figure 1 is a front view of a truck having my improvement attached. Fig. 2 is a side elevation of the same, showing the manner of loading the truck. Fig. 3 is a detached view of one of the catches for holding the chain.

A, Figs. 1 and 2, represent the frame of the truck, having wheels, legs, and handles of the well-known and common construction. To this are added my improvements, as follows: B B are two cylinders or pipes, firmly secured to the under side of the cross-pieces of the truck, so as to be out of the way of the wheels. They are designed for receptacles for the chain E, and are of sufficient capacity to contain the chain when not in use. The upper ends of said cylinders are partly closed, leaving sufficient opening for the chain to pass in easily, and have an open or flaring mouth, so that the chain shall not catch against the edge or obstruct its free entrance. The lower ends of the cylinders are entirely closed.

C C are catches, consisting of hooks or open staples, secured to the inside of the side rails of the truck, and are located immediately over the mouth of the cylinders. These hooks are supplied with weighted latches, pivoted therein so as to swing, and may be swung so as to allow the chain to be shifted; but when they hang suspended, as seen in Fig. 3, they catch one of the links of the chain and hold it firmly. They are prevented from swinging in one way by lugs *e e*. To the central part of the chain, between the latches, is placed a loose hook, *e*, for catching hold of the package, as seen in Fig. 2. Upon the ends of the chain which are inside of the cylinders are attached weights, so

that when the chain is loose they will draw the chain into the cylinders by the force of gravity. They also prevent the chain being entirely drawn out, being larger than the opening at the mouth.

D is a metal bar, having arms D', pivoted to the frame A, so that it may be thrown down onto the shovel of the truck, and, having points on its outer edge, may be used for catching into the package, to prevent slipping.

The manner of loading this truck is as follows: First, leaning the truck against the package, in the position seen in Fig. 2, with the toothed edge of the cross-piece D against the lower edge, then placing the hook *e* on the outer top edge of the package, drawing the chain tight and securing it in the latches C C. Now, the operator can, with the leverage thus obtained, easily tilt the package over and deposit onto the truck without the aid of any other person, which heretofore, without my improvements attached, could not be done, but which required the combined strength of two or more men.

It will be seen, by referring to Fig. 2, that the fulcrum of the lever is at the lower corner of the package, where the cross-piece D attaches to it, and *i* is the center of motion, so that when the package is pulled over it falls onto the truck, changing its center of gravity, and its weight and momentum assist to load it upon the truck.

This makes a very simple labor-saving attachment to hand-trucks, rendering the loading and handling of heavy packages much less burdensome, enabling one man to perform the work usually requiring two or more men.

Having described my invention, I claim—

1. The combination of the chain E, with its hook *e* and the latches C C, with the hand-truck A, substantially as shown, and for the purpose set forth.

2. The pipes or cylinders B B, in combination with the truck A, as receptacle for the chain E, as shown.

3. The bar D, having arms D' and sharp points on its outer edge, pivoted to the frame of the truck A, to be turned down when desired, for catching into the package, for the purpose set forth.

HIRAM R. FERRIS.

Witnesses:

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