

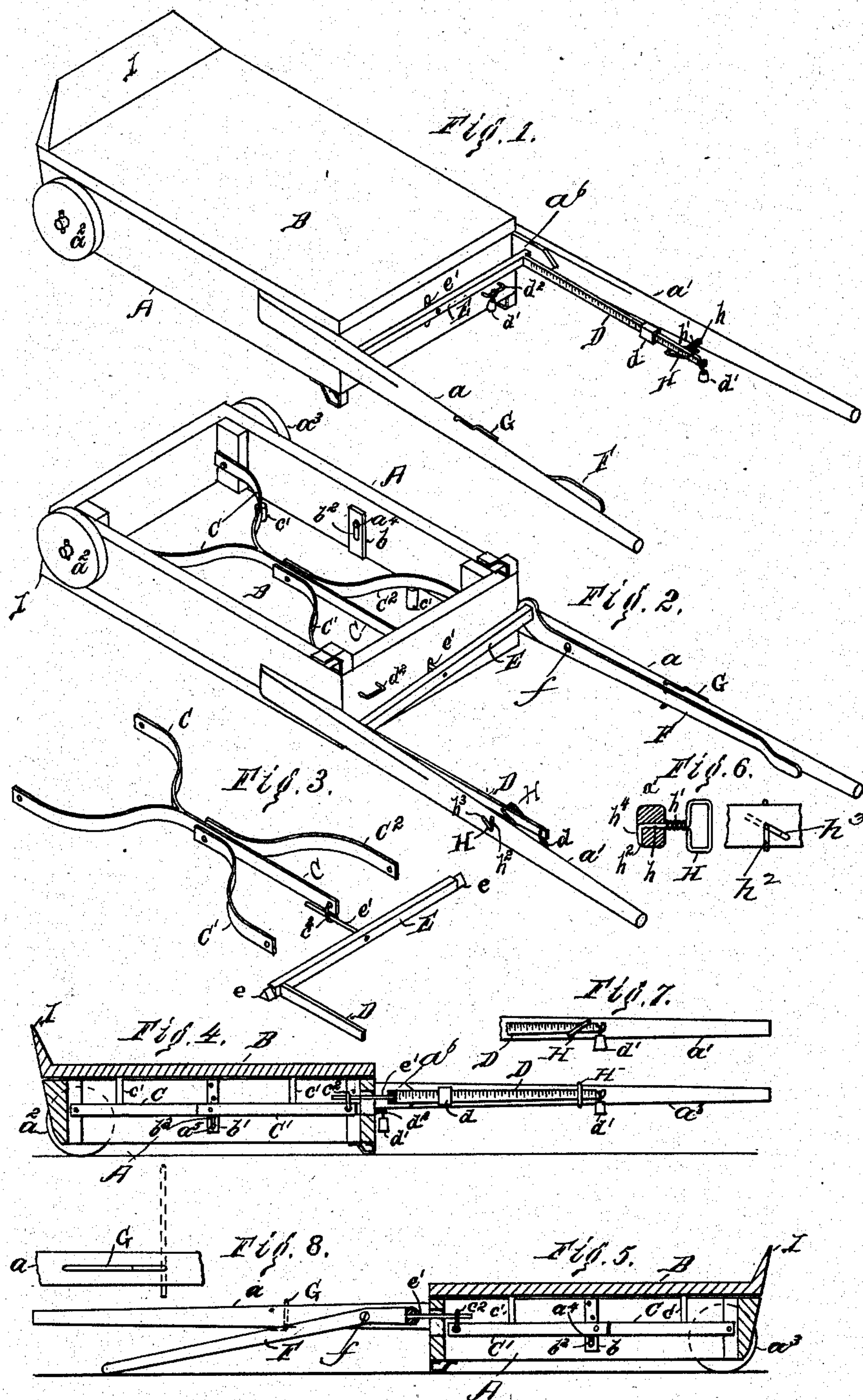
(No Model.)

W. C. JAMES.

COMBINED HAND TRUCK AND WEIGHING SCALE.

No. 371,071.

Patented Oct. 4, 1887.



Witnesses
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UNITED STATES PATENT OFFICE.

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COMBINED HAND-TRUCK AND WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 371,071, dated October 4, 1887.

Application filed November 27, 1885. Serial No. 184,129. (No model.)

To all whom it may concern:

Be it known that I, WILLARD C. JAMES, a citizen of the United States, residing at Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Combined Hand-Truck and Scale, of which the following is a specification.

My invention relates to a combined hand-truck-and scale; and it consists in the combinations and devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an isometric view of my invention; Fig. 2, a reverse isometric view of the same; Fig. 3, a reverse isometric view of the weighing-levers and a part of the scale-beam; Fig. 4, a central longitudinal section of the truck and platform, showing the levers, scale-beam, and weights in elevation; Fig. 5, a similar view to Fig. 4 of the opposite side of the plane of section, showing the lever which throws the weighing devices into and out of position for use; Fig. 6, a side and sectional view of the loop used for holding the scale-beam immovable when the scale is not in use for weighing, showing, also, a part of the handle of the truck which supports said loop and the means of holding said loop in either of two positions; Fig. 7, a side elevation of part of one of the truck-handles and part of the scale-beam and the loop turned to hold the scale-beam from moving; Fig. 8, a top view of one of the truck-handles, showing the position of the shipping-lever lock (in full lines) when said lock is holding said lever in either of its two positions, the dotted lines showing the position of said lock when opened to allow said lever to be raised or lowered.

The combined truck and scale, hereinafter described, consists of a rectangular frame, A, of about the same length and width as the body of an ordinary hand-truck such as is used by baggagemen and porters. To the frame A are secured two handles, a a' , and two small wheels, a^2 a^3 , for the usual purposes. The platform B is not rigidly secured to the frame A, but is supplied with two or more down-hanging strips, b b' , which are slotted vertically at b^2 b^3 . Through the slots b^2 b^3 pins a^4 a^5 are driven into the sides of the frame A, said slots allowing the

platform B to be lifted upward from the frame. Below the platform B are supported weighing-levers C C' C², the outer ends of these levers resting upon knife-edges c , projecting from the sides of the frame A inwardly. The lever C is forked from the middle of the platform toward the toe-piece I of the truck, and the levers C' C² are pivoted to the lever C below the middle of the platform in the usual manner. The lever C extends about the whole length of the inside of the frame A. The platform B is provided with four knife-edges, c' , on its under surface, two of which rest upon the fork of the lever C, the other two resting upon the levers C' C², respectively.

The scale-beam D projects from a rod, E, which runs from handle to handle of the truck, and is supported at one end by entering a plate, a^6 , secured to the handle a' , and at the other end in a hole formed in the end of the shipping-lever F, said lever being pivoted at f to the inside of the handle a . The rod E is provided at its ends with knife-edges e , which form its bearings. From the rod E projects a short arm, e' , which reaches through the frame A parallel with and above the straight arm of the lever C, to which arm it is loosely connected by a link, e^2 , as shown in Figs. 3, 4, and 5. When the shipping-lever F is held up parallel with the handle a , the end of the rod E which has its bearing in said lever F is held so low as to allow its arm e' and the end of the lever C to fall sufficiently to enable the platform to rest upon the frame A. When the long arm of the shipping-lever F is allowed to drop until its free end touches the floor, as represented in Fig. 5, the end of the rod E which has its bearing in said lever F is raised, raising the adjacent end of the lever C and lifting the platform out of contact with the frame, the platform being then supported entirely by the weighing-levers C C' C². The shipping-lever is held in either of the two positions above indicated by the lock G, said lock being a bell-crank lever which turns in the handle a , one arm of said lever (when the shipping-lever is locked in either position) being parallel with the handle a and the other arm of said lever projecting from beneath the handle a , at right angles to the same, above

or below said shipping-lever, as the case may be. The scale-beam is provided with the usual weights, d d' , the former of which may slide on said beam in the usual manner and the other of which may be hung on the end thereof, also in the usual manner, when the scale is being used for weighing. The weight d' , when not in use, may be hung on the rod d^2 , the ends of which are bent at right angles and secured to the frame A in any well-known manner.

To prevent the scale-beam from being thrown about and injured and worn when the weighing apparatus is not in use, a loop, H, surrounding said scale-beam and provided with a shank, h , is used, the shank passing horizontally through a hole in the handle a' and being bent on the outer side of said handle a' at right angles to itself, at h^4 , in the same plane with the loop proper. A spiral spring, h' , surrounds the shank h , and is compressed between the loop H and the handle a' . The loop H is large enough, when turned vertically, to allow the scale-beam to move freely therein for a sufficient distance for weighing, and, when so turned, is held by the outer bent part, h^4 , of the shank lying in a vertical notch, h^2 , on the outer side of said handle a' . When it is desired to hold the scale-beam rigidly, the shank of the loop is pressed outward through the handle a' far enough to allow the bent outer end of said shank to clear the notch h^2 , and the loop is then turned until it comes in contact with both the upper and under surfaces on edges of the scale-beam, in which position the loop is held by the bent outer part of its shank entering another notch, h^3 , formed in the outer side of said handle a' . The bent part h^4 is held in the notches by the spring h' pressing the loop H away from the handle a' and drawing said bent part into said notch.

The toe-piece I is preferably attached to the platform B, instead of to the frame A, in order that a package resting against or partly upon the toe-piece may have its full weight indicated upon the scale.

As a truck the device above described is used like any other hand-truck. Combining the truck and scale obviates the necessity frequently experienced of removing a package from a truck to a platform-scale to be weighed and again placing it upon the truck to remove it to its place of deposit.

It may be seen that the platform of the scale forms the bed of the truck.

I claim as my invention—

1. The combination of the frame, handles, and wheels attached to said frame, weighing-levers pivoted within said frame, one end of one of said levers being loosely connected to an arm projecting through an opening in said frame between said handles, said arm, a rod supporting said arm and pivoted at its ends between said handles, a scale-beam connected to said rod at an angle thereto, and a platform having bearings upon said weighing-levers, as and for the purpose specified.

2. The combination of a suitable frame, handles secured to said frame, weighing-levers pivoted within said frame, a rod turning in bearings between said handles and having an arm loosely attached to the end of one of said levers, a scale beam secured to said rod at about a right angle thereto, one of the bearings of said rod being in one of said handles and the other bearing of said rod being in a shipping-lever near the end of said lever, said shipping-lever pivoted to the other of said handles between said last-named bearing and the other end of said lever, and a platform having bearings on said weighing-levers to allow said platform to be lowered into contact with said frame or raised out of contact therewith into position for weighing, as and for the purpose specified.

3. The combination of a suitable frame, handles secured to said frame, weighing-levers pivoted within said frame, a rod turning in bearings between said handles and having an arm loosely attached to the end of one of said levers, a scale-beam secured to said rod at about a right angle thereto, one of the bearings of said rod being in one of said handles and the other bearing of said rod being in a shipping-lever near the end of the same, said shipping-lever pivoted to the other of said handles between said last-named bearing and the other end of said shipping-lever, and a platform having bearings on said weighing-levers, and a shipping-lever lock to hold said platform in or out of position for weighing, as and for the purpose specified.

4. The combination of a suitable frame, handles secured to said frame, weighing-levers pivoted within said frame, a rod turning in bearings between said handles and having an arm loosely attached to the end of one of said levers, a scale-beam secured to said rod at about a right angle thereto, said scale-beam being parallel with said handle, and a loop surrounding said scale-beam and having a shank which passes through a hole in said handle and is bent on the outer side of said handle, said handle being provided on its outer side with two notches to receive the bent end of said shank and to hold said loop at right angles to said scale-beam, in order that said scale-beam may move freely therein, and also at will to hold said loop in contact with the upper and under surface of said beam to prevent motion thereof, as and for the purpose specified.

5. The combination of a suitable frame, handles secured to said frame, weighing-levers pivoted within said frame, a rod turning in bearings between said handles and having an arm loosely attached to the end of one of said levers, a scale-beam secured to said rod at about a right angle thereto, said scale-beam being parallel with said handles, a loop surrounding said scale-beam and having a shank which passes through a hole in said handle and is bent on the outer side of said handle, said handle being provided on its outer side with two notches to receive the bent end of said

shank and to hold said loop at right angles to
said scale-beam, or at will to hold said loop in
contact with the upper and under surface of
said beam, and a spring compressed between
5 said loop and the inner side of said handle to
retain said bent part of said shank in either
of said notches in which it may be placed, as
and for the purpose specified.

6. The combination, with the scale-beam of
10 a weighing-scale and a loop surrounding said
scale-beam near its free end and provided with
a shank, the outer end of said shank being
bent at right angles to itself, of the frame pro-
vided with a handle having a hole surround-

ing said shank between its bent portion and 15
said loop, and a spiral spring surrounding said
shank between said loop and said handle, said
handle being provided with notches to receive
said bent portion and to hold said loop at right
angles to said scale-beam to permit motion 20
thereof, or at will to hold said loop in contact
with the upper and under surfaces of said
beam to prevent motion of the same, as and
for the purpose specified.

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