No. 611,890. Patented Oct. 4, 1898.

J. H. BROWN & J. BURNS.

TRUCK.

(Application filed June 2, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

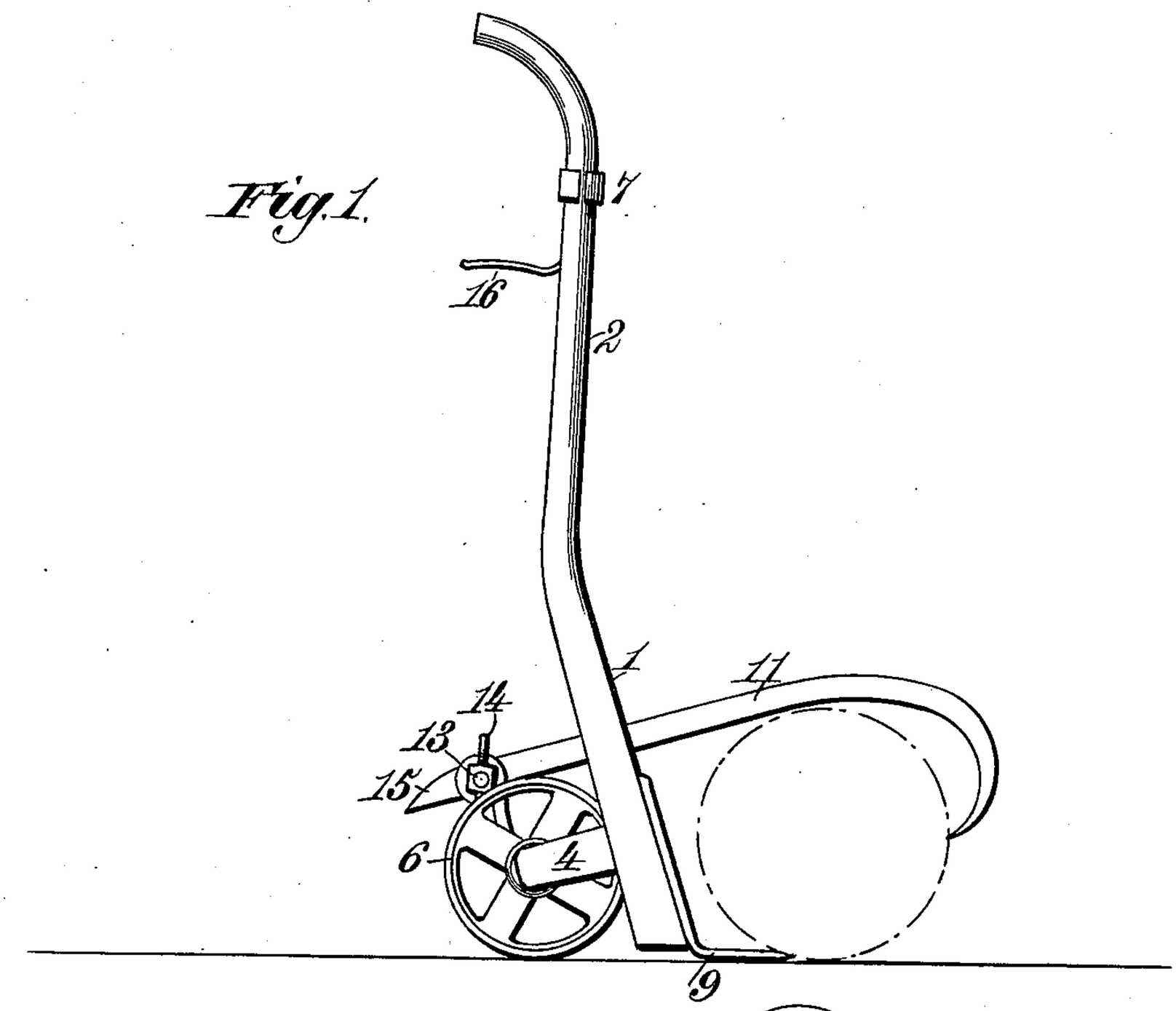
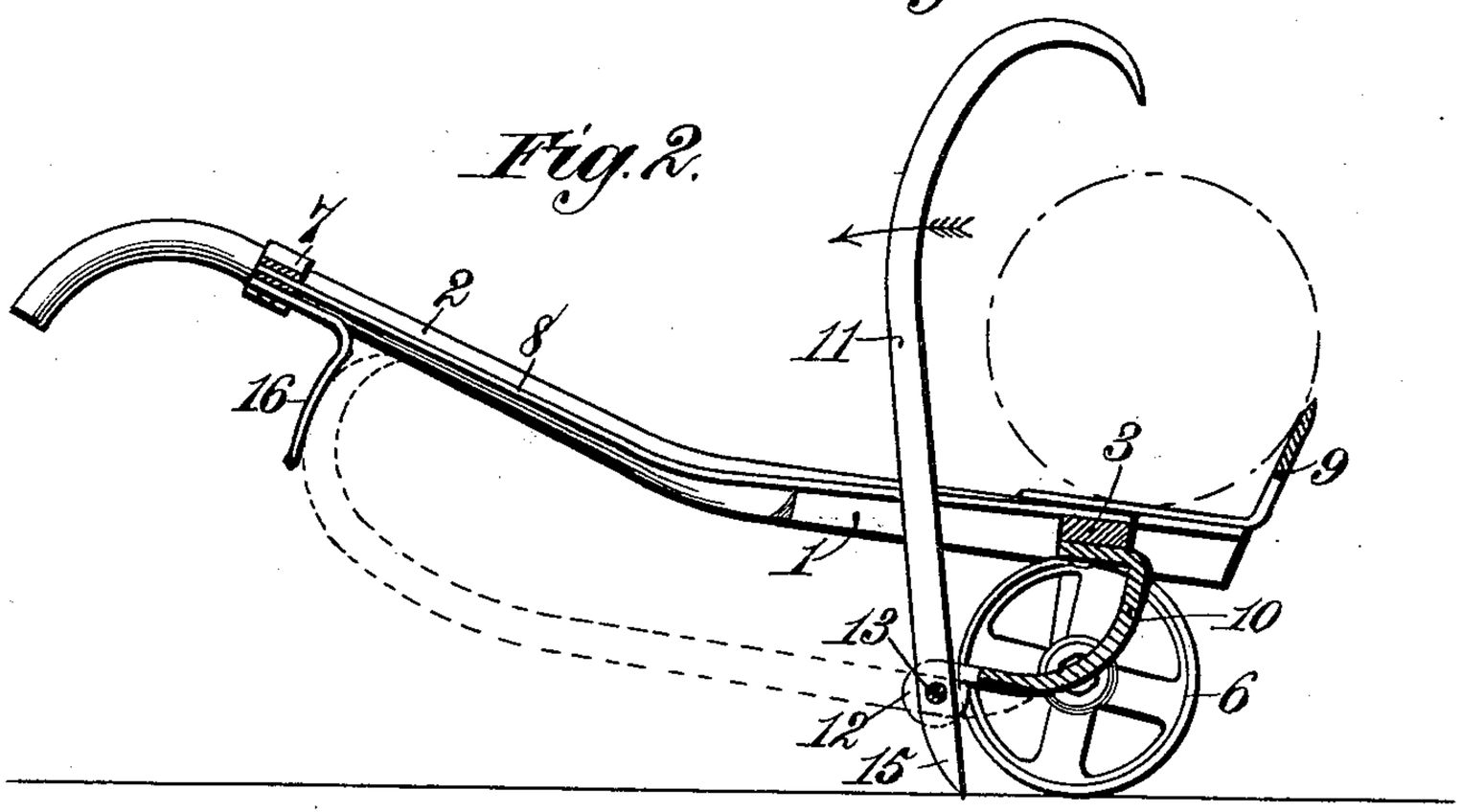


Fig. 2.



Witnesses.
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Fig. 3.

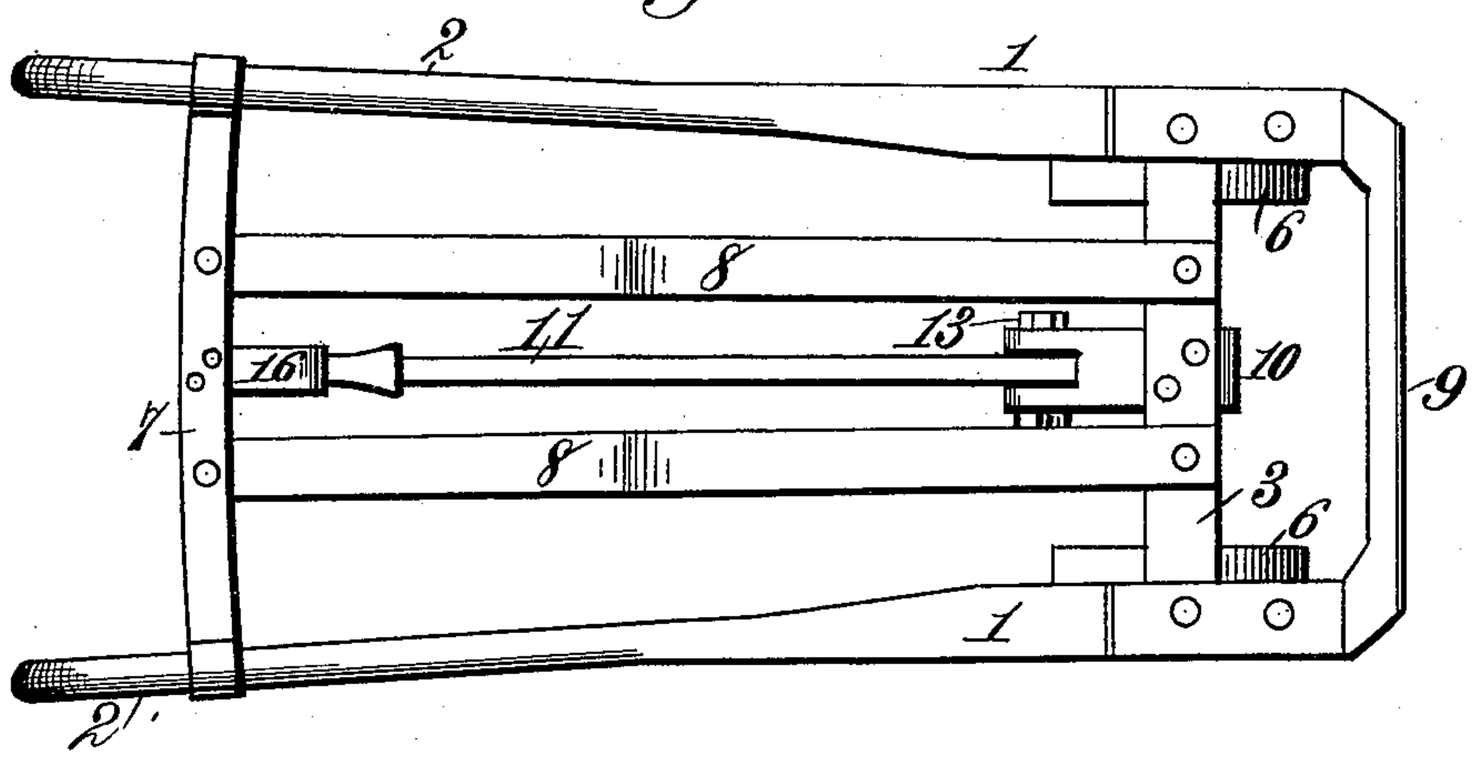

Fig. 4.

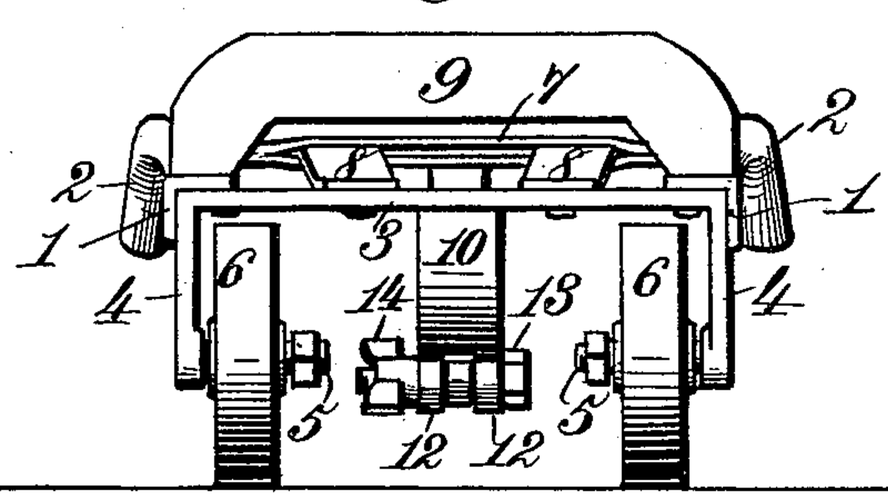

Fig. 5.

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UNITED STATES PATENT OFFICE.

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TRUCK.

SPECIFICATION forming part of Letters Patent No. 611,890, dated October 4, 1898.

Application filed June 2, 1898. Serial No. 682,373. (No model.)

To all whom it may concern:

Be it known that we, JOEL H. BROWN and JOHN BURNS, citizens of the United States, residing at Jerome Junction, in the county of Yavapai and Territory of Arizona, have invented new and useful Improvements in Trucks, of which the following is a specification.

Our invention relates to that class of hand-trucks usually provided with some kind of self-loading attachment which enables the operator to load the truck by means of a tilting device for grasping the load and pulling it upon the truck without the assistance of another person.

The object of the invention is to provide a strong, durable, and simply-constructed hand-truck that shall be conveniently adapted to the handling of heavy compact masses—such as boxes or crates of hardware, kegs of nails, spikes, bolts, &c., blocks of stone, and especially for the handling of copper bullion, pig-iron, &c.—a class of trucking for which a practical and reliable hand-truck is much needed that will enable the truckman to pick up and unload a heavy mass quickly and easily with no danger of crushed hands or feet.

The invention consists in a hand-truck comprising the features of construction and novel combinations of parts hereinafter described.

In the annexed drawings, illustrating the invention, Figure 1 is a side elevation of our improved hand-truck. Fig. 2 is a longitudinal section of the truck. Fig. 3 is a plan of the truck. Fig. 4 is a front elevation of the truck. Fig. 5 is a longitudinal section through one side bar and tubular handle.

The truck-frame is made wholly of iron and steel and is in part tubular and part solid. It is preferable to make the truck side pieces 1 of angle-iron, with conveniently-curved tubular handles 2 welded to the said bars. These side angle-bars 1 are securely riveted to an axle-support or front cross-bar 3, of iron or steel, having dimensions and form suited to the required strength and capacity of the truck. The ends of this cross-bar 3 are formed with downwardly-bent arms 4, that are provided on their inner sides with steel stub-axles or spindles 5, on which the truck-wheels 6 are placed. The stub-axles may be furnished with cotter-keys or they may be threaded for attachment of nuts at the inner sides of the wheels. It is preferable to have the stub-axles 5 at such distance from the axle-support or cross-bar 3 as will just afford a clearance for the wheel-rim beneath the said cross-bar.

Each side angle-bar 1 and tubular handle 2, being welded together in a continuous forging, affords great strength and durability with comparative lightness. To the handles 2 there is welded, riveted, or otherwise secured a connecting cross-bar 7, the ends of which may be clamped around the handles, and between the cross-bars 3 and 7 there are extended longitudinally-arranged bars 8, that form part of the truck bottom or platform. These bars 8 may be of strap-iron or angle-bars, as preferred.

The forward ends of the angled side bars 1 are extended beyond the front cross-bar 3, and the steel nose-piece 9 is securely riveted to the ends of the said angle-bars 1 and cross-bar 3 and may have its edge projected at any desired angle.

To the under side of the front cross-bar 3 there is securely riveted or welded a downward and rearwardly curved bar or fulcrum-support 10, the rear end of which is bifurcated to provide jaws that receive the pivotal portion of a pick-up and clamping hook 11, that is concerned in the loading of heavy objects onto the truck. The bifurcated portion of this fulcrum-bar 10 is formed with bearings 12 for a pivot-bolt 13, on which the hook 11 is mounted to swing forward and rearward, as required. On one end of the bolt 13 there is a thumb-nut 14, that can be used to tighten the jaws formed by the bifurcation of the fulcrum-bar, and thereby hold the hook 11 stationary in a rearward position when its employment is not required. This thumb-nut 14 will also permit withdrawal of the pivot-bolt 13, so as to quickly substitute a larger or smaller hook, if desired.

On its front side the heel end 15 of the hook 11 is fitted accurately to the under side of the curved bar 10, so as to have a firm bearing thereon when the hook is thrown backward. The curvature of the fulcrum-bar 10

is such that as the truck is brought over backward with the load thereon the said bar describes a half circle and the downward-projecting heel end of the hook trips on the floor of car or platform and by the force of the truck's weight and the gravity of the hook the said hook is thrown backward automatically in rear of the truck-frame. The curvature of the fulcrum-bar is an exact fit for the heel portion of the hook, thereby providing a firm solid bearing for the rearward-turned hook to stand against. The fulcrum-bar 10 also affords an excellent point or bearing for the truck-operator's foot to push against or for holding the truck while tilting a heavy load.

It will be obvious that though we have shown but one hook 11 and one fulcrum-bar 10 secured to the center of the axle-support or front bar 3 there may be provided two hooks and two fulcrum-bars, if desired, the said hooks to be mounted separately or independently, but adapted to operate in unison for loading and unloading the truck.

If desired, a substantially flat or slightly-curved steel spring-catch 16 may be secured to the rear side of the rear cross-bar 7 in position to allow the hook 11 to spring past the same rearwardly and then be held from falling forward until pushed by the operator.

The hook-fulcrum can be arranged at any required elevation or the hook-shank may be made of any desired length to adapt the hook for grasping bulky objects—such as cotton bales, for instance. The point of the hook may be fitted with a steel bit, or it may be sharp or blunt or of any preferred form to fit it for handling various objects, as sacks of ore, bales of different commodities, crates, boxes, barrels, kegs, blocks of stone, or heavy castings, &c.

The arrangement of the several truck parts, as shown, is such as to give the operator the greatest possible purchase or leverage on the object to be loaded onto the truck. In loading the truck it is only necessary to push the nose 9 against the object to be lifted, then drop the hook 11 forward over or onto the object, and then tilt the truck backward with a steady pull, thus causing the object to be grasped firmly between the nose and hook, whereby it is drawn or rolled onto the truck. As the truck is tilted farther to the rear the heel 15 of the hook will trip on the ground or floor, and thus the hook will be released and caused to drop behind the truck. In order to unload, the truck is pushed forward with a quick movement and sudden stop, so that the momentum thus imparted to the load will cause it to be thrown off, the hook being in its rearward position. By this manner of loading and unloading the truck-operator can easily handle ponderous objects without requiring the usually necessary assistance of extra men with tongs or levers. By means of the bent truck-handles the load can be nicely balanced on the axle frame or support immediately over the wheels, and the operator can walk upright without difficulty and with the load exactly poised. The construction of the axle-frame reduces the friction of the truck-frame and load to the wheel-spindles alone and yet enables us to keep the wheels inside the frame, thereby lessening the width of the truck, so that it will not exceed the desired width of truck-frame, besides avoiding risk of knocking the wheels and hubs against door-posts or other possible obstructions. The riveting or welding together of the several truck parts and dispensing with all bolts except that on which the hook 11 is fulcrumed gives us no nuts to work loose with vibrations of the truck-frame and no loose parts resulting from expansion and contraction of the metal. This all-metal truck is light-running, strong, and durable and affords greatly-increased strength within the limits of a standard weight.

What we claim as our invention is—

1. In a hand-truck, the combination with the side bars and handles, of the axle-support or front cross-bar having at its ends the downwardly-bent arms provided with inward-projecting stub-axles, the truck-wheels, a downward and rearwardly curved bar secured to the said front cross-bar and having its rear end bifurcated, and a hook fulcrumed in the bifurcation of said curved bar and provided with a downward-projecting heel portion to come in contact with the ground or floor so as to trip the forwardly-swung hook and cause it to drop backward when the truck is tilted to the rear, substantially as described.

2. In a hand-truck, the combination with the wheeled truck-frame having a front cross-bar, of a downward and rearwardly curved bar secured to the said front cross-bar and having its rear end bifurcated or provided with jaws, a forwardly and rearwardly swinging hook fulcrumed in the said jaws and provided with a downward-projecting heel portion to come in contact with the ground or floor so as to trip the forwardly-swung hook and cause it to drop backward when the truck is tilted to the rear, a pivot-bolt on which said hook is fulcrumed, and a thumb-nut on said bolt, substantially as described.

3. In a hand-truck, the combination with the wheeled truck-frame having a front cross-bar and a rear cross-bar, of a downward and rearwardly curved bar secured to the said front cross-bar and having its rear end bifurcated, a forwardly and rearwardly swinging hook fulcrumed in the bifurcated rear end of said curved bar and provided with a downward-projecting heel portion to come in contact with the ground or floor so as to trip the forwardly-swung hook and cause it to drop backward when the truck is tilted to the rear, and a spring-catch on the rear cross-bar to retain the said hook in rearward position, substantially as described.

4. In a hand-truck, the combination of the truck side pieces composed of angle-bars and

tubular handles welded together, an axle-support or front cross-bar riveted to the side angle-bars and having downward-bent arms provided with inward-projecting stub-axles, the truck-wheels, a downward and rearwardly curved bar secured to the said front cross-bar, a forwardly and rearwardly swinging hook fulcrumed to the rear end of said curved bar and provided with a downward-projecting heel portion, a rear cross-bar connecting the truck-handles, and a steel nose-piece riveted to the forward ends of the side angle-bars, substantially as described.

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

JOEL H. BROWN.
JOHN BURNS.

Witnesses:
J. A. SHEFFIELD,
H. A. STRODTHOFF.