

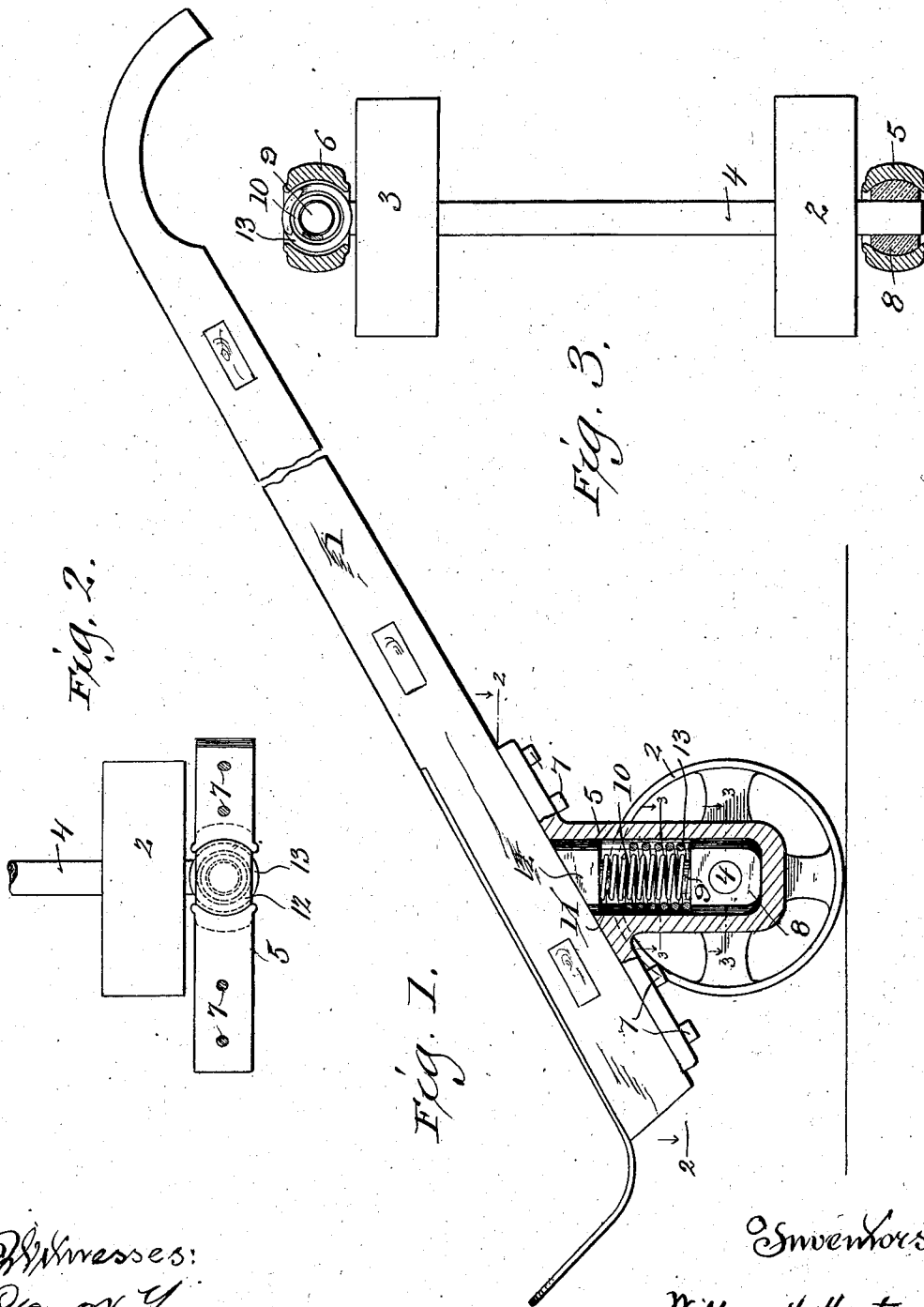
No. 729,931.

PATENTED JUNE 2, 1903.

W. H. HART & S. N. OLSEN.
HAND TRUCK.

APPLICATION FILED MAR. 30, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. HART AND SAMUEL N. OLSEN, OF MILWAUKEE, WISCONSIN.

HAND-TRUCK.

SPECIFICATION forming part of Letters Patent No. 729,931, dated June 2, 1903.

Application filed March 30, 1903. Serial No. 150,153. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. HART and SAMUEL N. OLSEN, citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Hand-Vehicles; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has especial reference to hand-trucks such as are used in warehouses, freight-houses, and the like; and it consists in certain peculiarities of construction and combination of parts, as will be fully set forth hereinafter in connection with the accompanying drawings and subsequently claimed.

In the said drawings, Figure 1 is a view, partly in side elevation and partly in section, of a truck embodying our present invention. Figs. 2 and 3 are detail views, partly in section, on the planes indicated by the lines 2-2 and 3-3 in Fig. 1.

Referring by numerals to the drawings, 1 represents the frame of the truck, and 2-3 the wheels thereof, mounted on the axle 4. Adjacent to but outside of said wheels are the brackets 5-6, formed with longitudinal sockets having opposed concave inner surfaces, the said sockets extending entirely through each side of each bracket and the latter having oppositely-extending flanges at their upper ends, whereby the said brackets are attached to the frame 1 by bolts 7-7, the brackets being so formed that when their socketed portions are vertical the flanges are disposed at an angle thereto, as shown in Fig. 1. The ends of the axle rest in the lower bearing-blocks 8, whose opposed sides are convex, so as to fit snugly against the concave inner surfaces of the bracket-sockets, as shown best in Fig. 3, whereby the said blocks, on which the said brackets have longitudinal movement, are kept in place and line. These blocks 8 have studs 9 on their upper ends, which receive the lower ends of coiled springs 10, whose upper ends receive similar studs 11 on the lower ends of the upper bearing-blocks 12, the upper ends of said upper blocks 12 being formed on an angle corresponding to that of the upper surfaces of the flanges of the brackets and these upper blocks having convex sides, so that they may fit within the concave

surfaces of the bracket-sockets, just as the lower bearing-blocks do. Surrounding the described springs 10, but free from contact therewith and resting on the bearing-blocks 8, are heavier coiled springs 13, which are considerably shorter than the springs 10.

The operation of our device will be readily understood from the foregoing description, taken in connection with the drawings. The bearing-blocks, with their interposed springs, being loose and the brackets having free longitudinal movement thereon, as the weight on the truck-frame increases (the axle being always supported by the wheels at a fixed distance from the floor) the brackets are forced downward until with a heavy load the lighter springs 10 yield and the upper bearing-blocks 12 are forced down until they rest on the tops of the heavier springs 13, which now support the load. Thus there is no change necessary in the construction of the device, whether it is to bear a light or heavy load, and the resiliency of the springs is such that they instantly adjust themselves to whatever weight they have to bear, and the most fragile articles can be carried as safely as the most solid and all to the great advantage of the user.

Our device, though shown in connection with a warehouse-truck, is equally well adapted for use with other styles of trucks, wheelbarrows, and similar hand-propelled vehicles.

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

1. In a hand-vehicle of the class described, the combination with a frame, of brackets secured beneath the opposite front edges of said frame, said brackets having vertical sockets open to the top and sides thereof, and formed with opposed concave inner surfaces; upper and lower bearing-blocks, loose in said bracket-sockets, and having convex outer ends in engagement with the opposed concave surfaces of said brackets; an axle journaled in the said lower bearing-blocks, and carrying wheels inside of said brackets, and a pair of spiral springs of different diameters of wire, interposed between the upper and lower bearing-blocks, the heavier springs being of less height or length than the lighter springs, and surrounding the latter.

2. In a hand-vehicle of the class described,

the combination with a frame, of brackets secured beneath the opposite front edges of said frame, said brackets having vertical sockets open to the top and sides thereof; upper and lower bearing-blocks loose in said bracket-sockets, the lower bearing-blocks carrying a wheeled axle, and the upper bearing-blocks having direct contact with the under side of said frame, and said bearing-blocks being provided with studs on their opposed surfaces; light spiral springs interposed between the upper and lower bearing-blocks, with the ends of said springs surrounding

said studs; and stouter or heavier spiral springs surrounding the first-named springs without contact therewith, and of less height or length than said lighter springs. 15

In testimony that we claim the foregoing we have hereunto set our hands, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses. 20

WM. H. HART.

SAMUEL N. OLSEN.

Witnesses:

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