

E. P. DANDRIDGE.
ELEVATING AND LOWERING APPARATUS.
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938,986.

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Fig. 1.

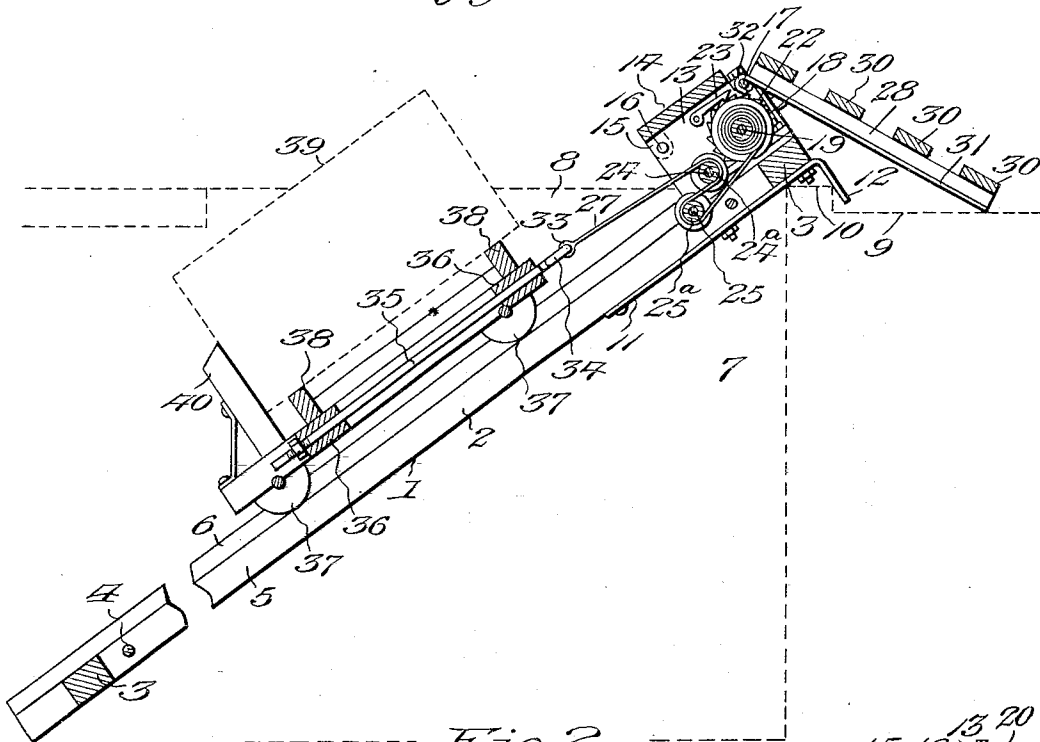


Fig. 2.

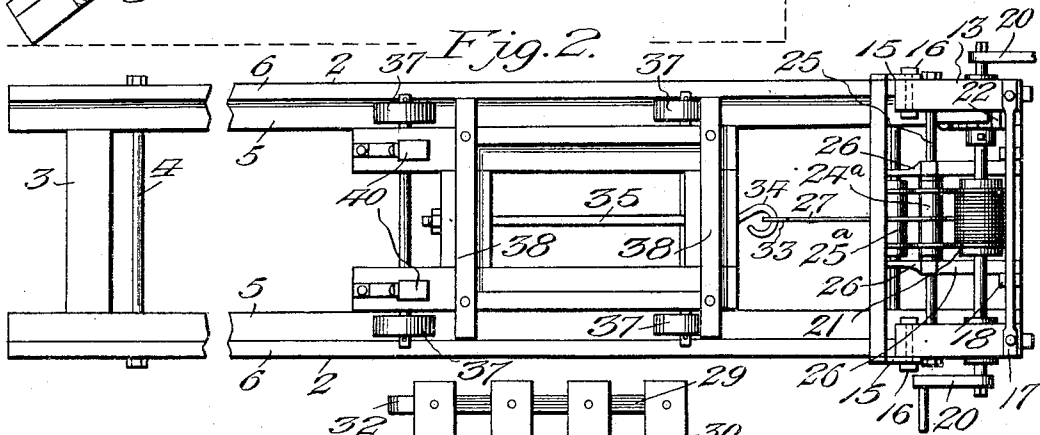
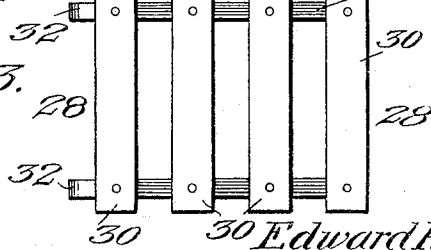


Fig. 3.



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ELEVATING AND LOWERING APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD P. DANDRIDGE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Elevating and Lowering Apparatus, of which the following is a specification.

This invention relates to an elevating and lowering apparatus especially designed for the use of merchants, saloon-keepers and others in lowering boxes, barrels and the like from the street surface or an upper floor into a storage cellar, and raising filled or empty boxes, barrels or other containers or goods from the cellar to the surface or a main floor; and which may also be employed by builders for raising or lowering building materials between two different levels.

The object of the invention is to provide an apparatus of this character which is simple of construction, efficient in use and adapted to be supplied at a comparatively low cost, and embodies certain improved structural features and advantages, as hereinafter described and claimed.

In the accompanying drawing:—Figure 1 is a vertical longitudinal section of the apparatus as arranged for use. Fig. 2 is a top plan view of the same. Fig. 3 is a plan view of the pivoted platform.

Referring to the drawing, the numeral 1 designates an inclined track generally of ladder form and comprising a pair of parallel side bars 2 connected at intervals by cross-bars 3 and transverse tie-bolts 4, to provide a strong and durable structure, said side bars being grooved or otherwise constructed to form track rails 5 and guards 6 along the outer sides of said rails. The lower end of the track is designed to rest upon the floor or surface of the cellar 7, while the upper end of the track projects upward through the usual doorway 8 communicating with the apartment above or with the street surface, which doorway may in practice be closed by the ordinary trap door or hinged gratings. In the present instance I have illustrated the use of the apparatus in transferring goods between a cellar and street surface, the numeral 9 designating the surface of the sidewalk or ground and 10 the ordinary curb or sill along the adjacent side of the doorway. The bars 2 are provided at their upper ends with hanger irons 11 terminating in downwardly

projecting hooks 12 to engage the curb or sill on which the upper cross-bar of the track rests, thus supporting the track frame in position.

Secured to the upper ends of the side bars 2 and rising therefrom are short boards or walls 13 forming the sides of a partial casing for the winding mechanism of the apparatus, the top of said casing being adapted to be closed by a door or cover 14 provided at its lower rear corners with depending arms 15 pivotally connected by bolts 16 with said side walls, whereby the door may be swung downwardly to a vertical position, as illustrated in Fig. 2, to permit access to the parts of the winding mechanism for convenience in repairing and controlling the operation of the same. The forward or free edge of the door terminates when the door is closed short of the upper edges of the side walls, between which extends a rod or bar 17 reinforced from the upper cross-bar 3 by upright braces 18. A winding shaft 19 is journaled in the walls 13 and projects at either end therefrom, the opposite ends of said shaft being of angular form for the reception of ordinary operating cranks 20. On the shaft within the partial casing is a winding drum 21, and also on said shaft is a ratchet wheel 22 adapted to be engaged by a pawl 23 pivoted upon one of the side walls 13, whereby the drum may be locked to prevent unwinding movement of the drum for the purpose of holding the load at any point along the length of the trackway. Rods or shafts 24 and 25 extend respectively between the side walls 13 and the bars 2 and are arranged one below the other and form axle supports for a pair of guiding and friction rolls 24^a and 25^a, which are held from longitudinal movement on the rods by stop bars 26 secured to the upper cross-bar 3. The roll 24^a is thus arranged on a plane above the roll 25^a and between the same and the winding drum 21. The shaft 19 and drum 21, together with the associated operating and controlling means, form an ordinary construction of windlass for operating and controlling a cable 27, as hereinafter described.

For the purpose of facilitating loading and unloading of heavy barrels, kegs, boxes and the like upon and from the truck of the apparatus, a removable platform 28 is provided to form an inclined approach or runway between the pavement surface 9 and upper rear end of the casing. This platform

may be of any preferred construction, but as shown in the present instance comprises a pair of side bars 29 and cross-boards 30. The side bars are reinforced by irons 31 secured to the under sides thereof, which irons project from one end of the platform in the form of hooks 32 to detachably engage the rod 17 and thus secure the platform in operative position.

The cable 27 is connected at one end with the winding drum and thence passes downwardly around the lower roll 25^a, thence rearwardly and upwardly over and around the roll 24^a and thence downwardly, its free end being provided with a loop or eye 33 to engage the hooked end 34 of a rod or bolt 35 mounted upon the body of a wheeled truck 36. This truck may be of any preferred construction, and its wheels 37 are adapted to run upon the rails 5 and to be held from outward movement by the guards 6. Cross-beams 38 project upward from the body of the truck and form seat supports for the load 39, which may be a box, barrel or other article. Uprights 40 are provided at the lower end of the truck to retain the load in position and prevent the same from sliding by gravity off the truck.

It will be observed that the described arrangement of the guiding and friction rolls 24^a and 25^a forms a bight or loop in the cable 27 between the winding drum and the load, by which the greater part of the weight of the load is prevented from being transmitted directly to the drum and is sustained by the guiding roll, thus allowing the windlass to be more conveniently operated, as the necessity of sustaining in a direct manner the weight of the load by the persons operating the cranks 20 is avoided. This feature of the invention also adapts the load to be more effectually controlled, as a retarding action is instituted by the friction rolls in an obvious manner.

The use of the device will be readily understood from the foregoing description, and it will be seen that when it is not de-

sired to employ the apparatus the platform may be detached, the truck allowed to run down upon the floor of the cellar and the track disengaged and lowered into the cellar where it may be disposed out of the way until the use of the apparatus is again required. It will also be seen that the device provides a convenient apparatus for the use of merchants and others in lowering heavy articles from the street surface into the cellar, and raising goods from the cellar to the street surface, and also for the use of builders in transporting building material between two different surface levels.

Having thus fully described the invention, what is claimed as new is:—

1. A hoisting and lowering apparatus comprising a portable track, supporting means at the upper end of the track, a windlass at the upper end of the track, a partial inclosure for said windlass, a pivoted cover for the inclosure, a truck adapted to run upon the track, and a winding cable connecting the truck with the windlass.

2. A hoisting and lowering apparatus comprising a portable track, supporting means at the upper end of the track, side walls at the upper end of the track forming a partial casing, a windlass disposed in said casing and having its shaft journaled in said walls, a rod or bar extending across the upper end of the casing, a pivoted cover for the casing, a platform provided with hooks to detachably engage the rod or bar, a truck adapted to run upon the track, a cable connecting said truck with the drum of the windlass, and friction guiding rolls supported upon the track and casing and arranged to form a bight in the run of the cable.

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

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Witnesses:

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