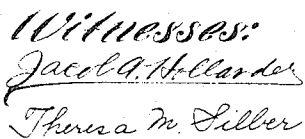


1,148,531.

2 SHEETS—SHEET 1.



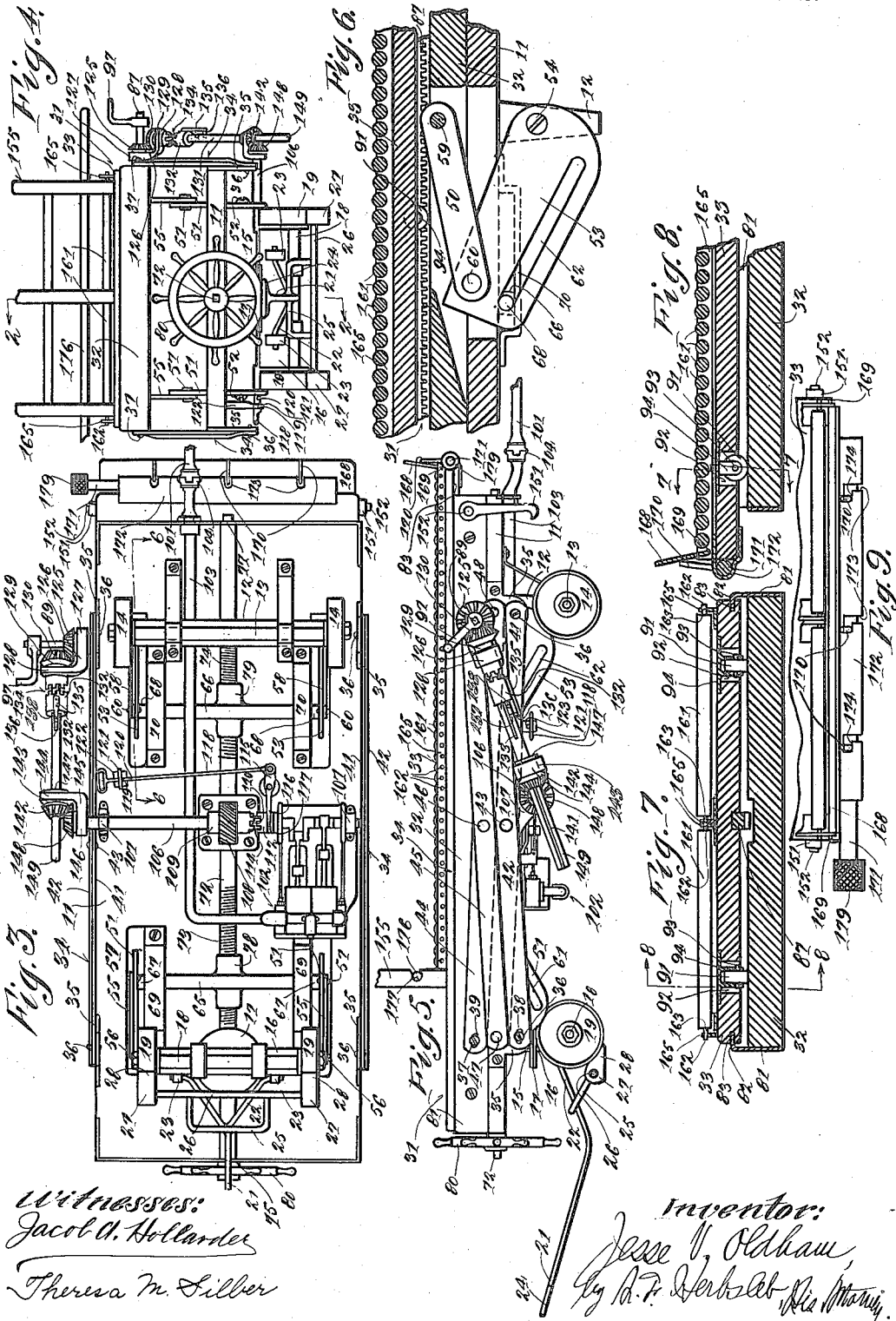
32 80
Inventor:
Jesse V. Oldham,
by B. D. Verbeke
His Attorney.

J. V. OLDHAM.
LOADING AND UNLOADING TRUCK.
APPLICATION FILED MAY 11, 1914.

1,148,531.

Patented Aug. 3, 1915.

2 SHEETS—SHEET 2.



Witnesses:
Jacob A. Hollander
Theresa M. Silber

Inventor:
Jesse V. Oldham
By R. F. Verbeke, Atty.

UNITED STATES PATENT OFFICE.

JESSE V. OLDHAM, OF FALMOUTH, KENTUCKY.

LOADING AND UNLOADING TRUCK.

1,148,531.

Specification of Letters Patent.

Patented Aug. 3, 1915.

Application filed May 11, 1914. Serial No. 837,775.

To all whom it may concern:

Be it known that I, JESSE V. OLDHAM, a citizen of the United States, residing at Falmouth, in the county of Pendleton and State of Kentucky, have invented certain new and useful Improvements in Loading and Unloading Trucks, of which the following is a specification.

It is the object of my invention to provide a truck with novel means which are strong and durable and of great lifting and shifting power whereby goods may be readily and conveniently elevated or lowered and shifted endwise for placing the same into or removing the same from the floors of railway cars, platforms, wagons and the like.

I have illustrated my invention as applicable in connection with a railway car.

The invention will be further readily understood from the following description and claims, and from the drawings, in which latter:

Figure 1 is a side elevation of my improved device, showing the same in connection with a railway car, the latter being shown in cross-section and partly broken away. Fig. 2 is a vertical longitudinal section of my improved device, on the line 2-2 of Fig. 4, with the platform in raised position and the upper platform-member in retracted position. Fig. 3 is a bottom view of my improved device. Fig. 4 is a front end elevation of the same. Fig. 5 is a side elevation of my improved device, with the platform in lowered position. Fig. 6 is an enlarged detail of the raising and lowering means for the platform, shown in section on the line 6-6 of Fig. 3. Fig. 7 is a cross-sectional detail, taken on the line 7-7 of Fig. 8, and partly broken away, showing the supporting and guiding means between the upper platform-member and the lower platform-member. Fig. 8 is a longitudinal sectional detail of the same taken on the line 8-8 of Fig. 7, and, Fig. 9 is a plan view detail of the rear end of the upper platform-member with the rear gate shown in raised position.

11 represents the body of the truck, from the rear portion of which a bolster 12 depends, the bolster being supported on an axle 13 having wheels 14 rotatable thereon. At the front portion of the body there is a depending bolster 15 supported on a turn-block 16 by means of a fifth-wheel 17. The

turn-block 16 is on an axle 18 on which wheels 19 turn.

A shaft 21 is provided with a fork 22 at its rear end pivoted to the turn-block in bearings 23. The shaft has a handle 24. A yoke 25 is secured to the shaft and has a brake-bar 26 secured thereto, combined brake and chuck-blocks 27 being secured to the outer ends of the brake-bar. The construction is such that when the shaft is allowed to drop, the tapering ends 28 of the combined brake and chuck-blocks will automatically pass under the forward lower portions of the peripheries of wheels 19 and act as a brake and chuck-block thereon.

A platform 31 comprises a lower member 32 and an upper member 33. A lazy-tongs structure 34 is pivoted to depending lugs 35 by means of pivots 36 and to the platform by means of pivots 37, one of each of these pivots being received respectively in slots 38, 39, in one of the ends of the respective end-links of the lazy-tongs structure for accommodating the shifting positions thereof. The depending lugs 35 depend from the body 11 so that, when the platform is lowered, the links of the lazy-tongs structure may be positioned to substantial extent in the plane of said body for permitting the platform to be lowered to substantial extent and at the same time provide a clear top therefor. This lazy-tongs structure comprises links 41, 42, pivoted together at their middles at 43, one of the ends of each of the links being pivoted to the depending lugs by the pivots 36. It also comprises links 44, 45, pivoted together at their middles by a pivot 46, the upper ends of said links being pivoted to the platform by the pivots 37. The proximate ends of said links 41, 44, are pivoted together by the pivot 47, and the proximate ends of the links 42, 45, are pivoted together by the pivot 48. There is one of these lazy-tongs structures connecting each of the sides of the platform and body.

A cam-plate 51 is pivoted by means of a pivot 52 to the forward portion of the body at each side thereof, being shown pivoted to the respective ends of the depending bolster 15. A cam-plate 53 is pivoted to the rear portion of the body at each side thereof by means of a pivot 54, shown pivoted to the respective ends of the bolster 12. A link 55 is pivoted to the forward portion of

the lower member of the platform by means of a pivot 56 and to the cam-plate 51 by means of a pivot 57, there being one of these links at each side of the device. A link 58 is pivoted to the rear portion of the lower member of the platform by means of a pivot 59 and to the rear cam-plate 53 by means of the pivot 60, there being one of these links at each side of the device.

Each of the cam-plates 51 is provided with a slot 61, which is a cam-slot with relation to the pivot of the cam-plate in which it is located, and each of the cam-plates 53 is provided with a slot 62, which is a cam-slot with relation to the pivot on which the cam-plate 53 is hinged. These cam-plates and cam-slots respectively at the forward and rear portions of the body project toward each other slantingly and with their co-operating links forming a toggle-link structure.

Slides 65, 66, respectively have studs 67, 68, at each end thereof respectively received in the cam-slots 61, 62. These slides respectively slide on hangers 69, 70, secured to the bottom of the body of the truck, the slides being arranged to slide toward and from each other lengthwise of the truck, the operative connection between the studs 67, 68, and the walls of the cam-slots, being located in a horizontal plane above the horizontal plane in which the pivots on which said cam-plates swing are located. When now the slides move toward or from each other, the upper ends of the cam-plates are respectively lowered or raised to equal extent for uniformly operating said cam-plates and thereby uniformly raising or lowering the platform at the respective corners thereof; this uniformity in raising and lowering being further assured by means of the lazy-tongs structure connected with the body and the platform at the respective sides thereof.

For operating the slides I show a right and left hand screw-shaft 72, the right-hand threaded portion thereof being shown at 73 and the left-hand threaded portion thereof being shown at 74. This screw-shaft is journaled in bearings 75, 76 and 77 in the body. An internally threaded bearing 78 of the slide 65 coöperates with the threaded portion 73 of said screw-shaft and an internally threaded bearing 79 of the slide 66 coöperates with the left-hand threaded portion 74 of said screw-shaft. A hand-wheel 80 is secured to the screw-shaft for operating the same manually.

The upper platform-member 33 has slide connection at each side thereof with the lower platform-member 32 for permitting longitudinal movement of the upper platform-member upon the lower platform-member. This slide connection is shown formed by metal reinforce plates 81, secured to the side edges of the lower platform-

member, having inwardly turned edges 82 received in longitudinal guide-slots 83 in the side edges of the upper platform-member. Means are provided for conveniently causing this relative longitudinal movement between the upper and lower members of the platform, instanced as a rack 87 secured to the lower face of the upper platform-member and a pinion 88 coöperating with the rack. The pinion is on a shaft 89 journaled in bearings 90 in the reinforce plates. For enhancing ready movement of the upper platform-member back and forth, I provide the same with a series of rollers 91 received in recesses 92 in the bottom of the upper platform-member and rotating on axles 93 in hangers 94 secured to said upper member. The rollers are arranged to bear upon the upper surface of the lower platform-member and upon the surface over which the upper platform-member is arranged to be moved, instanced as a car-floor 95 of a railway freight car 96. The shaft 89 may be turned manually by means of a crank 97. Goods on the upper platform-member are shown at 98.

If desired, a suitable motor may be provided for operating either of the shafts 72 or 89, or both of said shafts, this motor being preferably a fluid motor operated by the steam from the engine of the railway train, connected to said motor by a hose 101. The motor is shown at 102 and may be of any suitable construction. The motor is preferably secured under the body of the truck, a fluid-pipe 103 extending therefrom to the rear end of the truck, the pipe being supplied with a coupling 104 by means of which the hose 101 may be readily connected with said pipe.

The motor is operatively connected with a drive-shaft 106 journaled in bearings 107 secured to the bottom of the body. It has a spiral-gear 108 rotatable loosely thereon but held against endwise movement with relation thereto as by means of collars 109, 110, fixed on said shaft. The gear 108 meshes with a spiral-gear 111 fast on the shaft 72.

112 is a collar which has spline-connection with the drive-shaft. The coöperating faces of a clutch 114 are respectively on the collar 112 and the spiral-gear 108. A lever 115 has a fork 116 received in an annular groove 117 of the collar 112, and is arranged for moving said collar and for engaging or disengaging said clutch. The other end of the lever is articulated to a handle 118 having a pair of notches 119, 120, the latter arranged to be respectively received over a keeper 121 of a hanger 122, secured to the body of the truck and provided with a slot 123 through which said operating rod 115 projects.

The operative connection between the drive-shaft 106 and the shaft 89 is instanced as comprising a bevel-gear 125 fast on the

shaft 89. A yoke 126 has a bearing 127 about said shaft, on which said yoke is thereby pivoted, and a bearing 128 in which a hub 129 of a bevel-gear 130 is journaled, the bevel-gear 130 meshing with the bevel-gear 125. A diagonally arranged shaft 131 is journaled in said hub. A collar 132 has spline-connection 133 with said diagonally arranged shaft. This collar and the hub 129 respectively have the coöperating teeth of a clutch 134 thereon. A spring-finger 135 is secured to the collar and has a pin 136 thereon received in either a hole 137 or a hole 138 for operatively connecting or disconnecting the clutch 134. Operative connection between the motor 102 and the shaft 89 is effected by means of said clutch.

The lower end of the shaft 131 has spline-connection 141 with a bevel-gear 142 the hub 143 whereof is journaled in a bearing 144 of a yoke 145 having pivot connection about the drive-shaft 106 by means of a bearing 146. The hub 143 is held in its bearing 144 by means of a collar 147. The shaft 131 is arranged to move longitudinally in the bevel-gear 142. A bevel-gear 148 fast on the drive-shaft meshes with the bevel-gear 142.

The construction is such that when the platform is raised, thereby lengthening the distance between the shafts 89 and 106, the projecting portion 149 of the shaft 131 projecting below the horizontal plane of the drive-shaft will be shortened, and so that when the platform is lowered, whereby said projecting portion is lengthened, the said shaft 131 is moved into a more nearly horizontal plane, whereby said projecting portion extends to greater extent lengthwise of the body of the platform, so that, whether the platform be raised or lowered, there will be substantially clearance between the lower end of said shaft 131 and the surface over which the truck is moved.

A hook 151 is pivoted on a pin 152 at each side of the lower member of the platform, the hook being arranged to be caught upon any suitable part of the object upon which the loading or unloading is being effected, shown in Fig. 1 as the runway 153 for the car-door 154, so that, when the upper member of the platform is moved into the car or upon the object upon which the loading or unloading is being effected, the lower member of the platform and the body of the truck may be securely held toward said car or object and prevented from moving therefrom when the shaft 89 is turned either by hand or power. The combined brake and chuck-blocks further aid in holding the lower member of the platform and the body of the truck toward the car or object upon which the loading or unloading is effected.

A wide range of adjustment in height of the platform is permitted in my improved device, by means of which further great lift-

ing power upon the platform is capable of being exerted, the construction being such that the parts concerned in the lifting action may, when the platform is in lowered position, extend substantially horizontal and occupy little vertical space. It further provides ready and substantial means whereby the upper member of the platform may be readily and conveniently moved lengthwise of the platform, and further provides ready means whereby the platform may be raised or lowered, or the upper member moved longitudinally, or both said movements be simultaneously effected.

The upper member of the platform may be provided with a removable front gate 155, shown broken away, the lower end of which is received in suitable sockets 156 in the upper platform-member.

For aiding in shifting the goods upon the platform and for removal of the goods lengthwise from the platform I prefer to provide the upper surface of the upper platform-member with a series of rollers 161, these rollers extending crosswise of the platform and preferably arranged in two rows. The rollers are provided with axles 162 which are journaled in bearings formed as holes 163 in the upwardly extending wings of angle-strips 165, the lateral wings of said angle-strips being secured to the upper surface of the upper platform-member.

At the rear of the upper platform-member there is a pivoted gate 168, pivoted at 169 in the upwardly extending wings of the outer ones of the angle-strips 165. Means are provided for holding this pivoted gate in upright position for retaining the goods on the rollers, and for allowing the gate to drop so as to slant downwardly and rearwardly and form a slanting bridge-piece, so that when the platform is moved longitudinally from under the goods, the rear end of the upper platform-member will be pulled from under the goods in wedge-like form, so as to prevent upsetting of the goods when the upper platform-member is pulled from under the same.

The pivoted gate is preferably held in upright position, (see Figs. 2, 5, 8 and 9), by means of pins 170 secured to a rock-shaft 171 journaled in bearings 172 at the rear end of the upper platform-member, these bearings having cross-slots 173 in which the pins are moved when the pivoted gate is raised or lowered, and longitudinal slots 174 in which the pins are received and held when the pivoted gate is held in upright position, the pins bearing against the rear face of the pivoted gate for holding the gate in upright position. The rock-shaft is arranged to be rocked and moved lengthwise in its bearings for positioning the pins and is provided with a handle 179 for the purpose.

When the upper platform-member has

been moved into the car so that the goods thereon are located in the car, suitable bars 176 are arranged to be placed across the opening of the car-door so as to be contacted by the goods. These bars are arranged to be received in notches 177 in the uprights of the front gate 155 and may be slipped into these notches lengthwise when the front gate has been received within the car. When now the upper platform-member is withdrawn from the car, the bars 176 will strike the side-walls of the door, and be held between said side-walls and the goods while the upper platform-member is being withdrawn from under the goods, the pivoted gate having been dropped to slant toward the floor of the car as shown in Fig. 1.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a loading and unloading truck, the combination of a body, a platform, means between said body and platform at each of the four corners thereof for raising and lowering said platform on said body, and a lazy-tongs structure at each of the sides of said body and platform pivoted at the respective ends thereof to said body and to said platform for maintaining said body and platform parallel throughout the adjustments of said platform on said body.

2. In a loading and unloading truck, the combination of a body, supporting wheels, a pulling shaft for moving said truck, a platform comprising a lower platform-member and an upper platform-member, means between said body and lower platform-member for raising and lowering said platform, means between said lower platform-member and said upper platform-member for longitudinally moving said upper platform-member on said lower platform-member for

positioning its rear end above a floor, anti-friction devices at the bottom of said upper platform-member cooperating with said lower platform-member and said floor, and combined brake and chuck-blocks secured to said pulling shaft arranged to move under said wheels upon the dropping of said pulling shaft.

3. In a loading and unloading truck, the combination of a body, a platform comprising a lower platform-member and an upper platform-member, means between said body and lower platform-member for raising and lowering said platform, means between said lower platform-member and said upper platform-member for longitudinally moving said upper-platform member on said lower platform-member for positioning its rear end above a car-floor, the upper face of said upper platform-member being provided with anti-friction rollers, a pivoted rear gate pivoted to and movable with said upper platform-member, means for holding said rear gate in upright position for retaining the goods on said upper platform-member, said gate arranged to be swung downwardly slantingly from said upper platform-member toward said car-floor, and holding means arranged to be placed between the goods on said upper platform-member and the frame of the car-door for preventing outward movement of said goods while said upper platform-member is withdrawn from under the goods.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JESSE V. OLDHAM.

Witnesses:

CHARLES E. WEBER,
THERESA M. SILBER.