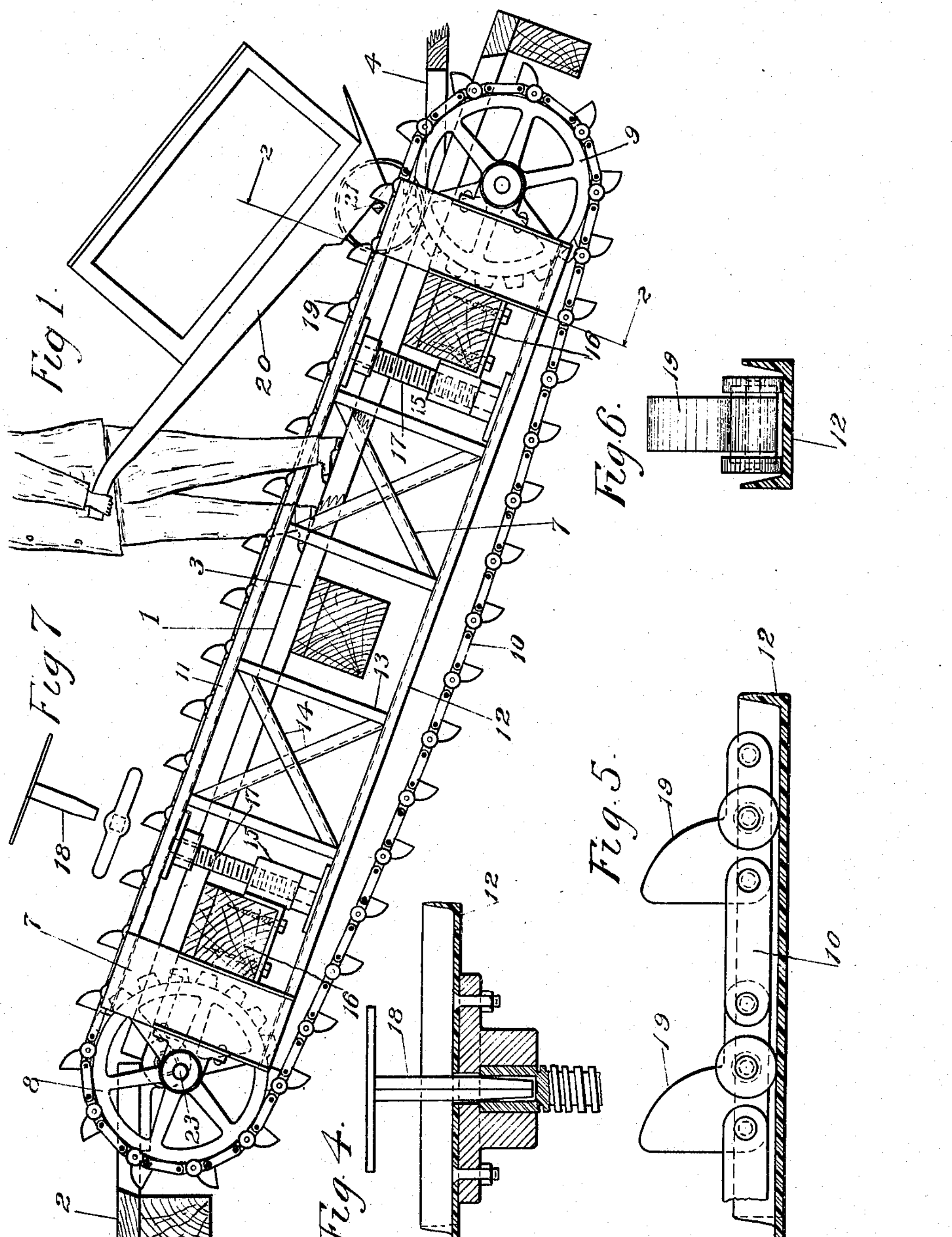
J. W. RENO.

INCLINED TRUCK ELEVATOR.

APPLICATION FILED AUG. 12, 1909.

942,352. Patented Dec. 7, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

John F. Valentine

C. M. Nalen

INVENTOR

Jesse W. Reno.

BY

Chas. J. Earll

ATTORNEY

J. W. RENO.

INCLINED TRUCK ELEVATOR.

APPLICATION FILED AUG. 12, 1909.

942,352. Patented Dec. 7, 1909.

2 SHEETS—SHEET 2.

Fig. 2.

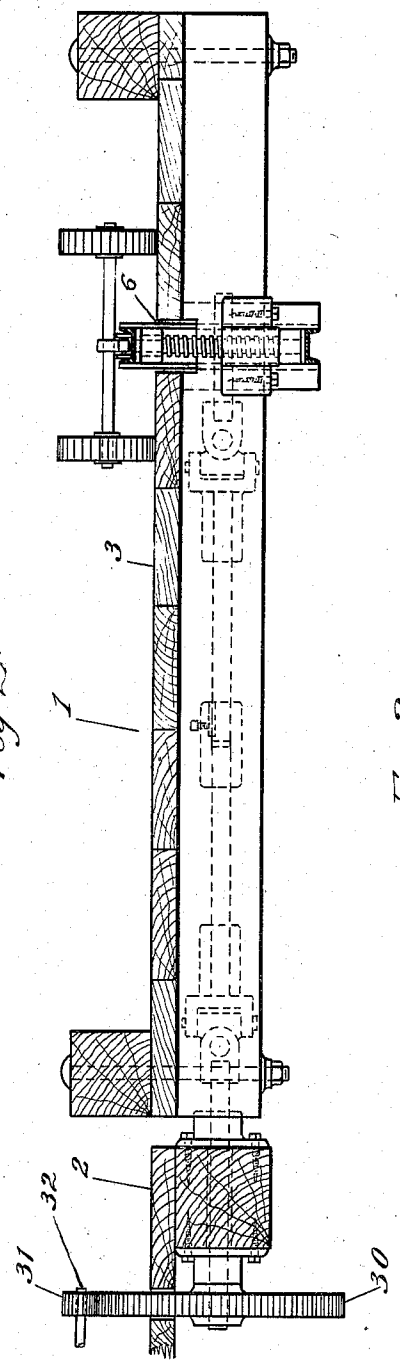


Fig. 3.

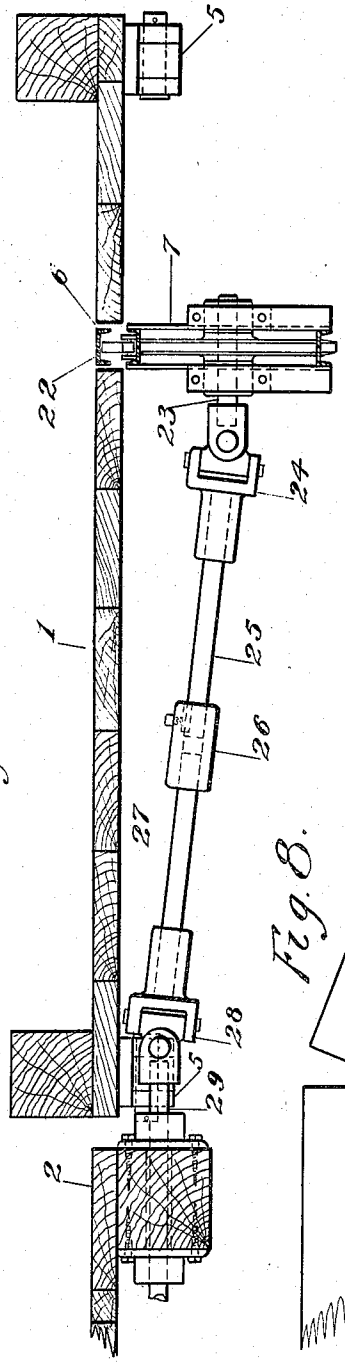
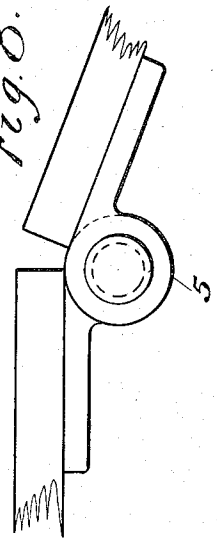


Fig. 8.



WITNESSES:

John. F. Valentine

INVENTOR

Jesse W. Reno.

BY Chas. J. Earle

ATTORNEY

UNITED STATES PATENT OFFICE.

JESSE W. RENO, OF NEW YORK, N. Y.

INCLINED TRUCK-ELEVATOR.

942,352. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed August 12, 1909. Serial No. 512,531.

To all whom it may concern:

Be it known that I, JESSE W. RENO, a citizen of the United States of America, and resident of the city, county, and State of New York, have invented certain new and useful Improvements in Inclined Truck-Elevators, of which the following is a specification.

My invention relates to inclined elevators for elevating and transporting trucks and it is designed especially to be used in connection with unloading goods from the decks of vessels, particularly where the decks of the vessels or platform or floor from which the goods are to be unloaded or removed are lower than the decks or platform, as the case may be, on which the goods are to be landed.

The object of my invention is to provide a simple and effective construction for this purpose and one which may be readily installed upon platforms as originally constructed for unloading freight, and which may readily be brought into and out of operative relations with the platform, so that when it is not required it may be readily removed from its operative position where it will not interfere with the use of the platform when no elevating means are required, such as would occur if the deck of the vessel from which goods were to be unloaded was on a level with, or higher than, the platform to which the goods were to be taken.

My invention consists in the constructions hereinafter illustrated and described and particularly pointed out in the claims.

In the drawings accompanying and forming a part of this specification, Figure 1 represents a side view partially in section of the preferred form of my invention; Fig. 2 represents a transverse section on line 2—2 of Fig. 1; Fig. 3 represents a section corresponding to Fig. 2 in which the elevating mechanism is shown in its inoperative relation to the platform; Fig. 4 shows a partial section illustrating the means for raising and lowering the movable frame; Figs. 5 and 6 represent, respectively, side elevation and end view of a portion of the chain and the chain guide in section; Fig. 7 shows a plan and elevation of the key for operating the screws for raising and lowering the movable frame; and Fig. 8 shows the hinged connection between the movable platform and the stationary platform.

The reference characters are used in the same sense throughout the drawings and the specification.

Numeral 1 represents a movable, swinging platform or gangway having a hinged connection with the stationary platform or floor 2. The outer or free end of this platform is usually provided with chains or ropes, not shown, by means of which it may be raised or lowered. The floor or deck of this platform is indicated by numeral 3. The outer end of the platform is raised or lowered as required to bring it to the appropriate height relative to the deck or other platform from which goods are to be unloaded. When vessels are being unloaded it is customary to use a gang-plank or gangway to connect the end of the swinging platform 1 with the vessel, as indicated by numeral 4. The end of the movable platform adjacent to the stationary platform 2 is connected therewith by a hinged connection 5. A longitudinal opening 6 is formed in the floor of the movable platform and a movable frame 7 is mounted in the opening 6. The movable frame carries the sprocket wheels 8 and 9 upon which operates the chain 10. The movable frame is constructed of an upper channel bar 11 and a lower channel bar 12, rigidly connected by the transverse members 13 and 14, or in any other suitable manner. Threaded sleeves 15 are secured to the transverse stringers 16, and screws 17, which engage said threaded sleeves, are rotatably mounted in the movable frame 7. These screws are provided at their upper ends with squared recesses and a key 18 is provided by means of which said screws may be turned to raise or lower the frame. The chain 10 is provided with lugs 19 which when the movable frame is raised to its upper or operative position are adapted to engage some portion of the truck 20, as for instance its axle 21. When the movable frame is lowered, the tops of the lugs 19 pass beneath the truck. I prefer to provide for lowering the frame a sufficient amount to permit a channel bar 22 to be placed in the opening 6 in the floor of the movable platform, so that said opening will not interfere in any way with the use of the platform when it is not desired to use the chain to elevate the trucks. By means of this construction the lugs 19 may be readily adjusted to engage the axle for any diameter of truck wheel. The upper sprocket wheel 8 is mounted on the shaft 23, which is connected

by the universal joint 24 to the shaft 25. The shaft 25 is connected by a sleeve coupling 26 to the shaft 27 and the shaft 27 is connected by the universal joint 28 to the shaft 29 on which is mounted the gear 30. A pinion 31 on the shaft 32 engages the gear 30 and the shaft 32 is connected with an electrical motor or any other convenient source of power. By means of these connections the sprocket chain may be driven by any convenient source of power located on the platform 2 and it is not necessary to disconnect the power when the movable frame is lowered to its inoperative position. At the same time, by means of this flexible connection, it is not necessary to maintain accurate alinement of the sprocket wheel shaft in order to secure proper working.

Having thus described my invention what I claim is:

1. The combination with a platform having a pivotal connection secured to one end thereof and adapted by means of said pivotal connection to be secured to a stationary platform, of a pair of sprocket wheels rotatably mounted below the surface of said platform and an endless chain mounted upon said sprocket wheels having truck engaging lugs secured thereto.

2. The combination with a platform having a pivotal connection secured to one end thereof and adapted to be secured to a stationary platform, of a pair of sprocket wheels rotatably mounted below the surface of said platform having their peripheries extended above said surface, and an endless chain mounted upon said sprocket wheels having truck engaging lugs secured thereto.

3. The combination with a platform, of a pair of sprocket wheels rotatably mounted below the surface of said platform, an endless chain mounted upon said sprocket wheels having truck engaging lugs secured thereto, and means for shifting said sprocket wheels and chain into and out of operative position.

4. The combination with a platform having a pivotal connection secured to one end thereof and adapted to be secured to a stationary platform, of a pair of sprocket wheels rotatably mounted below the surface of said platform, an endless chain mounted upon said sprocket wheels having truck engaging lugs secured thereto, and means for raising said sprocket wheels and chain above the surface of said platform and lowering them below the surface of said platform.

5. The combination with a platform, of a frame movably secured to said platform, a pair of sprocket wheels rotatably mounted in said frame, and a chain having engaging lugs secured thereto mounted on said sprocket wheels.

6. The combination with a platform, of a frame movably secured to said platform, a pair of sprocket wheels rotatably mounted in said frame, a chain having engaging lugs secured thereto mounted on said sprocket wheels, and means for raising and lowering said movable frame.

7. The combination with a platform, of a frame movably secured to said platform, a pair of sprocket wheels rotatably mounted in said frame, a chain having engaging lugs secured thereto mounted on said sprocket wheels, a threaded sleeve secured to said platform, and a screw engaging said threaded sleeve rotatably mounted in said frame whereby said frame may be raised and lowered relatively to said platform.

8. The combination with a stationary platform, of a movable platform hinged thereto, a frame movably mounted on said movable platform, sprocket wheels mounted in said frame, a chain having engaging lugs mounted on said sprocket wheels, a shaft adapted to receive power mounted on said stationary platform, and power transmision connections between said shaft and one of said sprocket wheels.

9. The combination with a stationary platform, of a movable platform hinged thereto, a frame movably mounted on said movable platform, sprocket wheels mounted in said frame, a chain having engaging lugs mounted on said sprocket wheels, a shaft adapted to receive power mounted on said stationary platform, and universal joint connections between said shaft and one of said sprocket wheels.

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

JESSE W. RENO

Witnesses:
WILLIAM HAGENAH,
ANDREW LEE.