

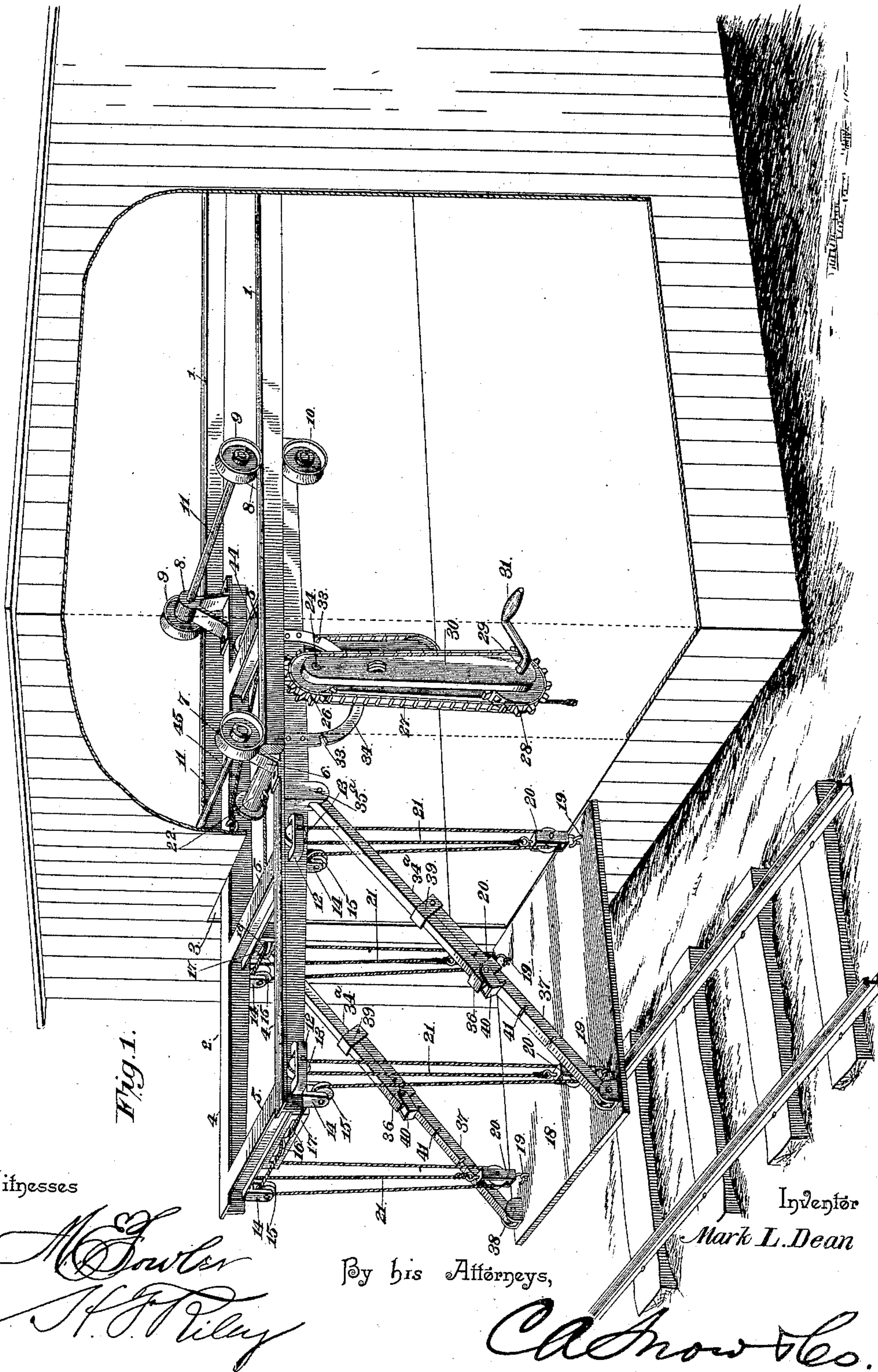
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3 Sheets—Sheet 1.

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APPARATUS FOR HANDLING FREIGHT.

No. 466,890.

Patented Jan. 12, 1892.





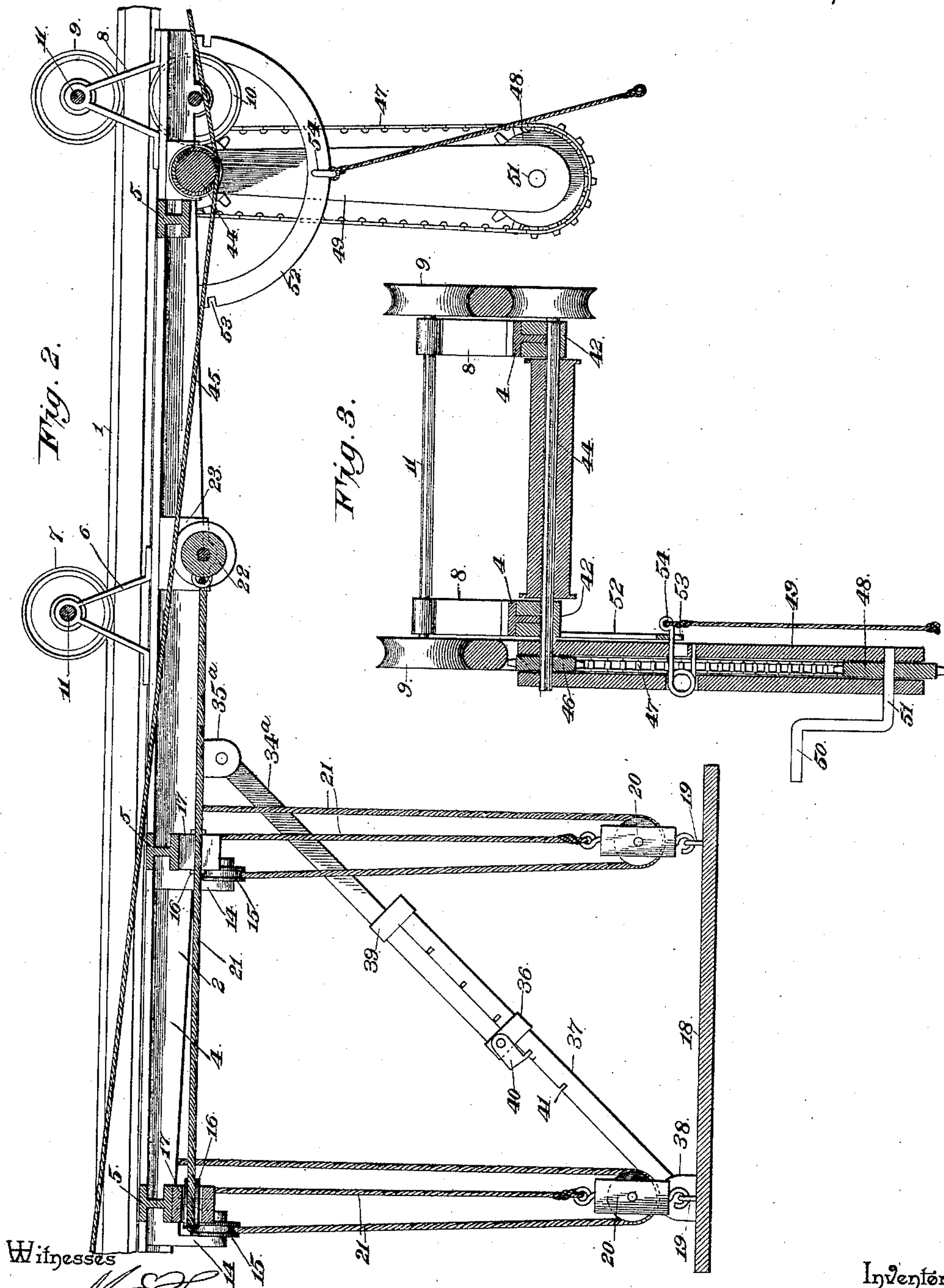
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*H. F. Riley*

By his Attorneys,

*C. A. Snow & Co.*

Inventor  
*Mark L. Dean*

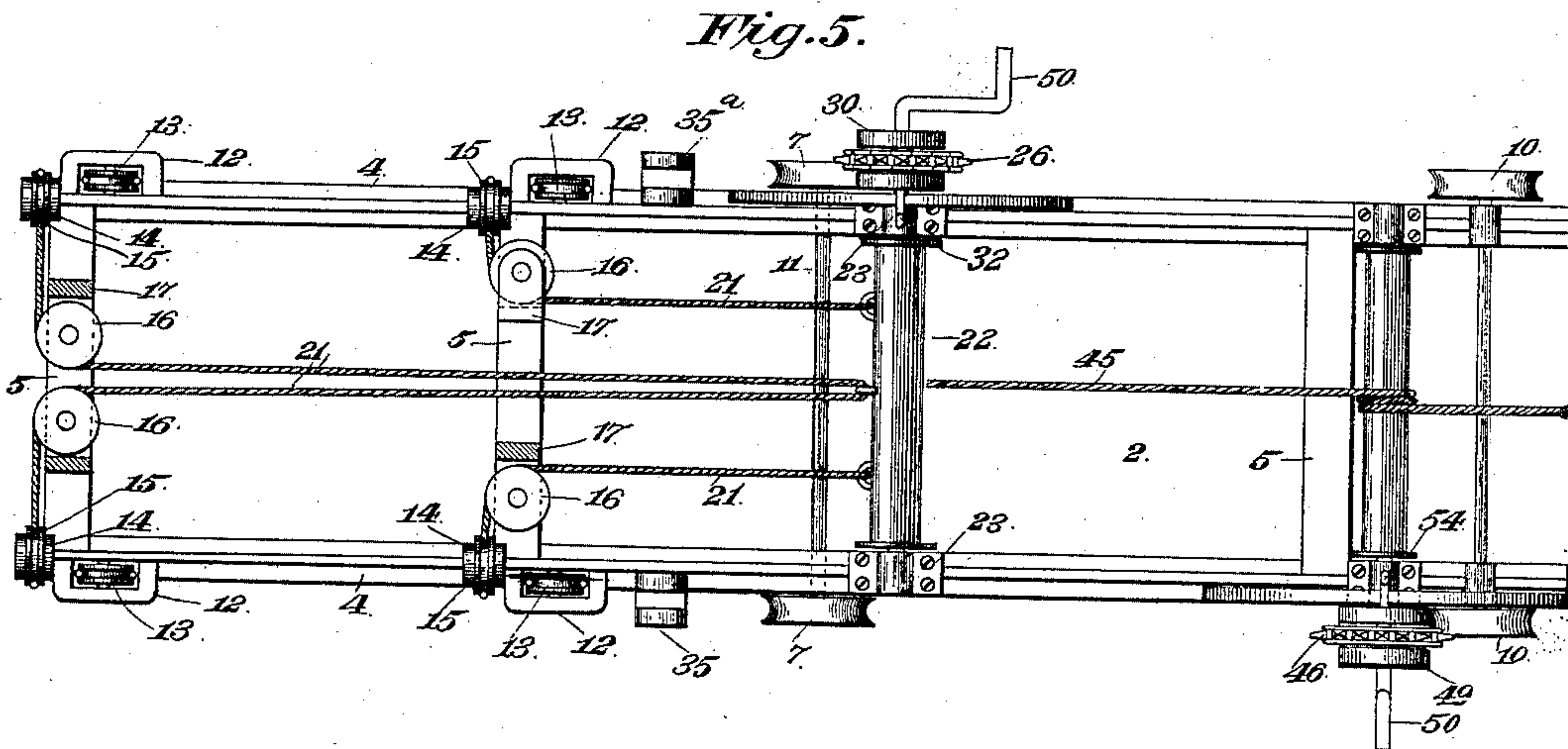
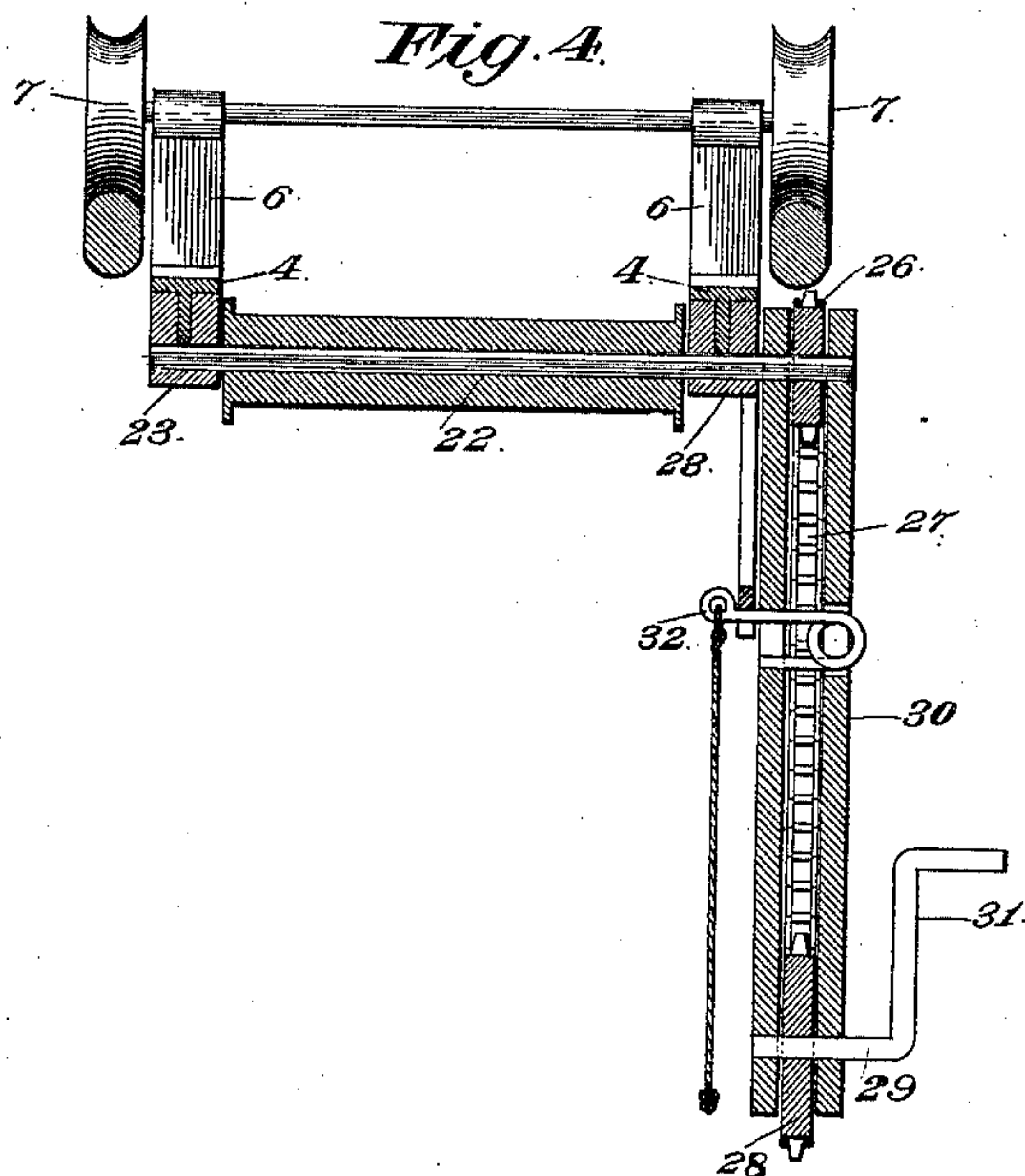
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# UNITED STATES PATENT OFFICE.

MARK LYAL DEAN, OF CENTREVILLE, TENNESSEE.

## APPARATUS FOR HANDLING FREIGHT.

SPECIFICATION forming part of Letters Patent No. 466,890, dated January 12, 1892.

Application filed June 22, 1891. Serial No. 397,100. (No model.)

*To all whom it may concern:*

Be it known that I, MARK LYAL DEAN, a citizen of the United States, residing at Centreville, in the county of Hickman and State of Tennessee, have invented a new and useful Apparatus for Handling Freight, of which the following is a specification.

This invention relates to an improved apparatus for handling freight, and especially for unloading the same from railroad-cars; and it has for its object to provide a device of this class which shall be simple in construction and which may be readily manipulated, and by the use of which heavy freight may be handled more easily and with less help than heretofore required.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a freight-handling apparatus constructed in accordance with my invention. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is a vertical transverse sectional view taken longitudinally through the operating-shaft. Fig. 4 is a vertical transverse sectional view taken longitudinally through the hoisting-frame. Fig. 5 is a reverse plan view of the device with parts of the carriage broken away.

Like numerals of reference indicate like parts in all the figures.

11 designate suitably-supported rails forming a track to support a carriage or traveling car 2. The said rails are usually arranged within a suitable building or warehouse, and they terminate above a door or opening 3, through which a portion of the traveling car may be projected, as will be hereinafter more fully described.

It is the intention to construct railroad-tracks outside the building or warehouse in which the track-rails 1 are located, in order that loaded cars may be run up outside the door of the same for the purpose of being unloaded by the apparatus which constitutes my invention.

The car 2 is composed of side beams 4 4, connected by cross-braces 5, of which any suitable number may be used, said side beams

and cross-braces being composed, preferably, of flanged iron girders which shall combine lightness with strength and ability to resist any strain to which the apparatus may be subjected. The side beams of the car are provided with upwardly-extending brackets 6, arranged near the center of the car and having flanged wheels 7, that travel upon the upper sides of the rails 1. At the rear ends of the side beams 4 are brackets 8, having wheels 9 and 10, bearing, respectively, against the upper and under sides of the track-rails 1. The car is thus supported upon the track and is prevented by the lower wheels 10 from tilting downwardly at its front end when a load is placed thereon. The wheels of the car may be connected in pairs by means of the transverse shafts or axles 11; but said axles may, when desired, be omitted, and the wheels may be journaled upon stub-axles extending laterally from the sides of the respective brackets, as will be readily understood.

The side beams of the car are provided near their front ends with laterally-extending ears or lugs 12, in which guide-pulleys 13 are journaled. Two of these lugs, having guide-pulleys, are located at the ends of the front cross-brace 5 and two at the ends of the cross-brace next to the front. The side beams are also provided with downwardly-extending lugs 14, having guide-pulleys 15, and upon the under sides of the two cross-braces 5 5 nearest the front end of the car are also journaled horizontally-arranged guide-pulleys 16, mounted in suitable lugs 17.

18 designates a platform, at the four corners of which are staples 19, in which are hooked blocks 20, to which the ends of operating-ropes 21 are attached. Said ropes are reeved over the pulleys 13, through the blocks 20, over the pulleys 15, and over the pulleys 16, passing from thence to a drum 22, which is journaled in suitable boxes or bearings 23 upon the under sides of the side beams 4 of the car. One end of the shaft 24 of the drum 22, which projects beyond the side of the car, has a sprocket-wheel 26, which is connected by a chain 27 with a sprocket-wheel 28 upon a shaft 29, which is journaled in the lower or outer end of a frame 30, the opposite end of which is journaled upon the shaft 24 of the



drum 22. The shaft 29 has a crank 31, by means of which it may be conveniently operated.

Between the side pieces of the frame 30 is suitably arranged a spring-actuated latch 32, the free end of which is adapted to engage any one of a series of notches 33 in a segmental bar 34, which is secured to the adjacent side beam 4 of the car in such a position as to be concentric with the shaft 24. It will be seen that the spring-actuated latch 32 may be adjusted in any one of the notches 33, thus sustaining the frame 30 either in a raised or in a lowered position. When the frame is lowered, the crank of the shaft 29 may be operated to transmit a rotary motion to the drum 22, winding the rope 21 upon the latter, and thus elevating the platform 18 to any desired height.

A pawl-and-ratchet mechanism of ordinary construction may be employed for the purpose of retaining the platform in a raised position when so desired. In the drawings hereto annexed, however, I have shown braces 34<sup>a</sup>, pivoted in lugs 35<sup>a</sup>, depending from the side beams and provided at their outer ends with sleeves 36, engaging braces 37, which are hinged to lugs 38 at the front corners of the platform, said braces 37 being also provided with sleeves 39, engaging the braces 34<sup>a</sup>. The latter are provided at their outer ends with pivoted clips 40, engaging notches 41 in the braces 37, and thus serving to sustain the platform at any suitable elevation to which it may be raised. This arrangement is deemed preferable to a pawl and ratchet, for the reason that it enables the platform to be raised by simply swinging it in an upward direction when loads are to be carried that are not unusually heavy. It is only when exceedingly heavy loads are to be raised that it becomes necessary to resort to the hoisting-tackle for the purpose of raising the platform.

The car is provided near its rear end with boxes or bearings 42, attached to the under sides of its side beams and affording bearings for a transverse shaft 44, upon which is wound a rope, chain, or other flexible connection, as 45, the ends of which are secured to suitable points of attachment at or near the ends of the track which is formed by the rails 11. The end of the shaft 44 is provided with a sprocket-wheel 46, which is connected by a chain 47 with a sprocket-wheel 48, journaled at the outer end of the frame 49, the opposite end of which is mounted upon the shaft 44. Rotary motion may thus be imparted to the latter by operating the crank 50 upon the shaft 51 of the sprocket-wheel 48. A segmental bracket 52 is attached to the side beam of the car adjacent to the frame 49 and is provided with a series of notches 53, any one of which may be engaged by a spring-actuated latch 54, which is suitably mounted in the said frame 49, which latter may thus be retained at any position to which it may be adjusted. It will thus be seen that the said frame 49 will be

sustained in a raised position, so as to be out of the way when desired; or it may be lowered so as to bring the crank upon the shaft of the sprocket-wheel 48 within convenient reach. By operating the said crank a rotary motion may be transmitted to the shaft 44, which will thus engage the chain or rope 45, so as to cause the car to travel in either direction, as may be desired.

From the foregoing description, taken in connection with the drawings hereto annexed, the construction, operation, and advantages of my invention will be readily understood. That portion of the car to which the platform 18 is attached and which is located in front of the brackets 6 may be projected through the door-opening 3 of the structure or warehouse in which the apparatus is arranged, and through the door of a railroad-car which has been placed outside the door 3. The contents of the car may then be conveniently loaded onto the platform 18 while the latter is in a lowered position. The said platform is then raised or elevated sufficiently to clear the floor, after which the car is moved along the track until the place is reached where it is desired to deposit the load. The platform is then lowered and unloaded, after which the operation may be repeated.

When the load that is to be moved is not unusually heavy, it will be found profitable to simply push the car by hand to the desired place of deposit, and the rope or chain 45 may then be temporarily dispensed with.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a device of the class described, the combination, with an elevated track arranged within a building or structure and terminating above a door in the same, of a car traveling upon said track and having a vertically-adjustable platform suspended under one end of said car in advance of the latter and adapted to be projected through the door above which the track terminates, substantially as and for the purpose set forth.

2. In an apparatus for handling freight, the combination of an elevated track, a car traveling thereon, a platform suspended from said car in front of the supporting-wheels of the latter, hoisting-tackle for raising and lowering said platform, connected with a winding-drum journaled in the frame of the car, and means for sustaining said platform at any height to which it may be adjusted, substantially as and for the purpose set forth.

3. In a device of the class described, the combination of an elevated track, a car traveling thereon, a platform suspended from said car, braces hinged, respectively, to the platform and to the sides of the car, each brace being provided with a sleeve engaging the other brace, and means for locking the said braces together at any desired adjustment, substantially as and for the purpose set forth.

4. In an apparatus for handling freight, the



combination of an elevated track, a car traveling on the same, a platform suspended from said car, hoisting-tackle for raising and lowering said platform, connected with a winding-drum journaled in the sides of the car-frame, a frame mounted upon the shaft of the winding-drum and having at its outer end a sprocket-wheel connected by a chain with a sprocket-wheel upon the shaft of the winding-drum, a crank upon the shaft of the sprocket-wheel at the outer end of the same, a spring-actuated latch mounted in the said frame, and a notched segment attached to the side of the car and adapted to be engaged by the spring-actuated latch, substantially as and for the purpose set forth.

5. In an apparatus for handling freight, the combination of an elevated track, the car traveling on the same, a platform suspended from said track, a chain, rope, or equivalent flexible connection having its ends attached near

the termini of the track, a shaft journaled transversely in the car-frame and having the said flexible connection partly wound thereon, a frame journaled upon one end of said shaft and having a sprocket-wheel connected by a chain with a sprocket-wheel upon the said shaft, a crank upon the shaft of the sprocket-wheel at the outer end of the frame, a spring-actuated latch arranged in the latter, and a notched segment attached to the side of the car and adapted to be engaged by said latch, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MARK LYAL DEAN.

Witnesses:

D. M. COOPER,  
J. B. WALKER.