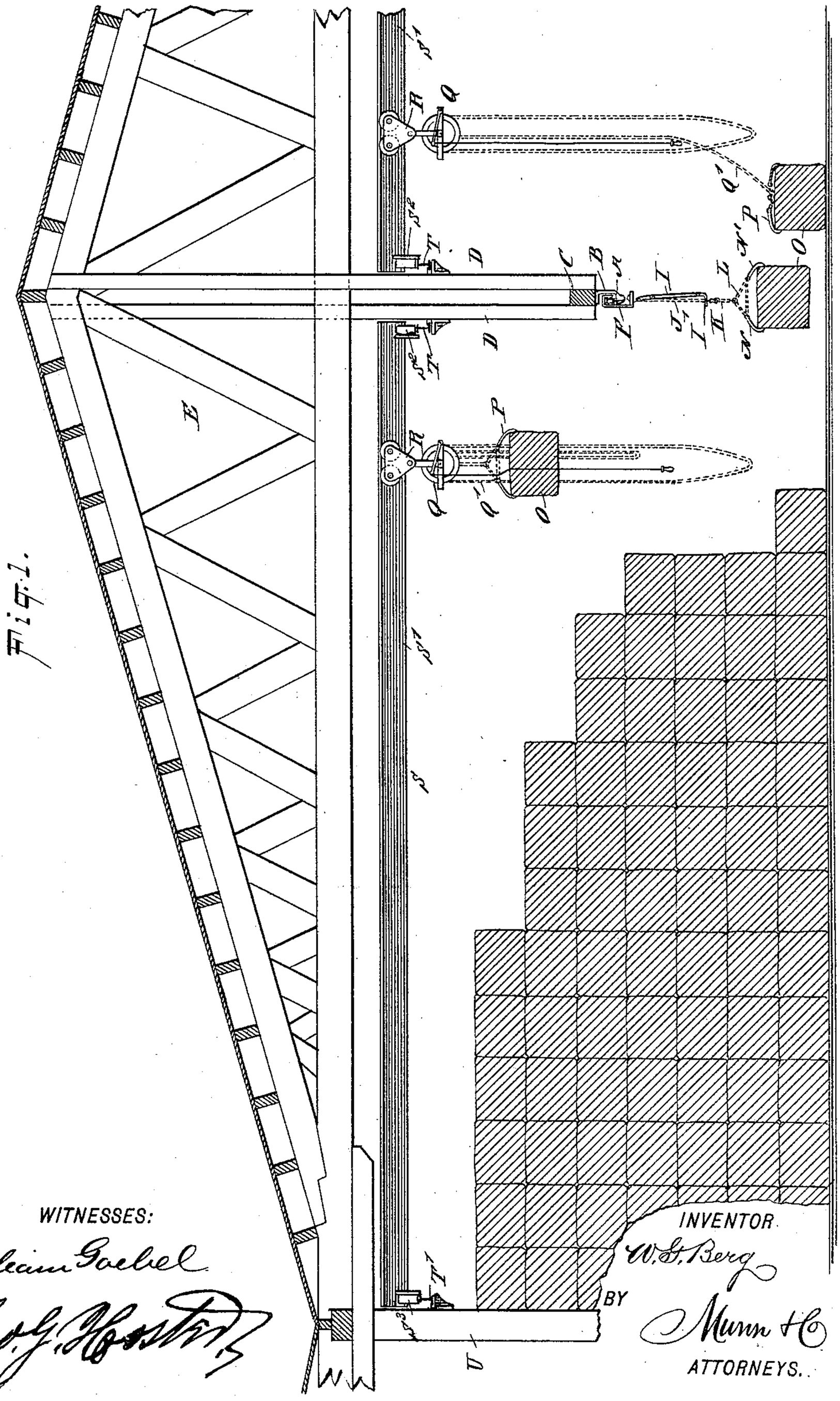
(No Model.) 2 Sheets—Sheet 1.

W. G. BERG.

OVERHEAD CONVEYING APPARATUS.

No. 536,910. Patented Apr. 2, 1895.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

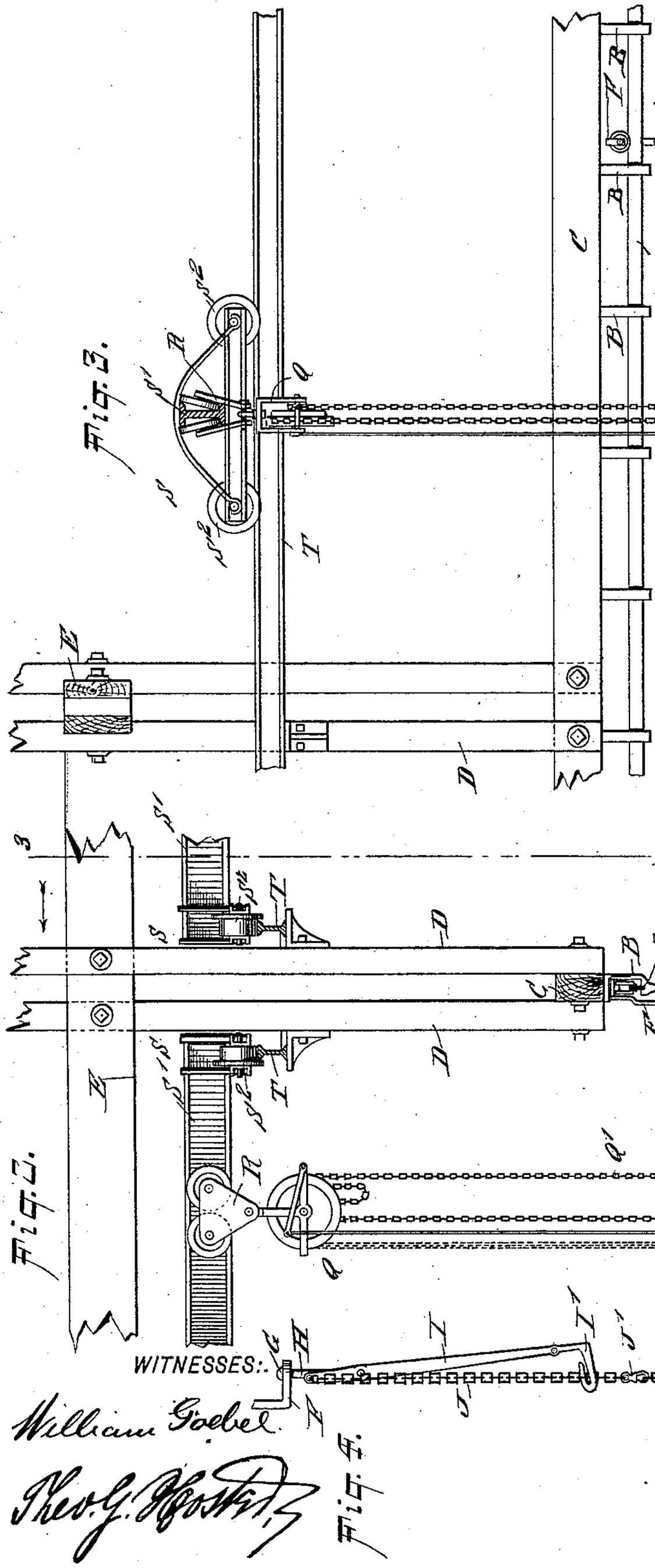

Fig. 5.

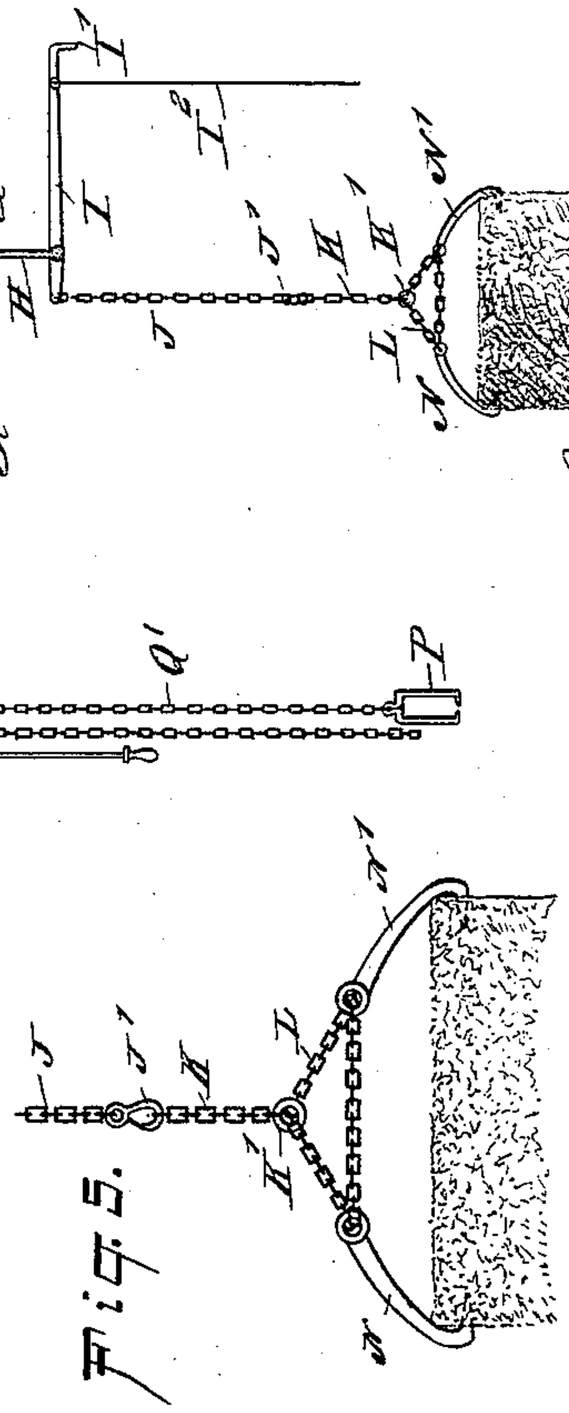

Fig. 4.

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UNITED STATES PATENT OFFICE.

WALTER G. BERG, OF NEW YORK, N. Y.

OVERHEAD CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 536,910, dated April 2, 1895.

Application filed October 15, 1894. Serial No. 525,918. (No model.)

To all whom it may concern:

Be it known that I, WALTER G. BERG, of New York city, in the county and State of New York, have invented a new and Improved Overhead Conveying Apparatus, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved overhead conveying apparatus, more especially designed to facilitate the transportation of packages, bales and other articles of merchandise and commerce to and from warehouses, factories and other buildings.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross section of the improvement as arranged in a railroad or wharf warehouse. Fig. 2 is an enlarged cross section of part of the same. Fig. 3 is a sectional side elevation of the same, essentially on the line 3—3 of Fig. 2, and showing a traveler on the right hand portion of the overhead track S′. Fig. 4 is an enlarged side elevation of the pick-up and dropping device, with the lever in a locked position; and Fig. 5 is an enlarged side elevation of part of the pick-up and dropping device.

The improved conveying apparatus, as illustrated in the drawings, is provided with an overhead rail A, supported on hangers B attached to a beam C, supported on the lower ends of vertically disposed beams or studs D, fastened to the truss E of the roof of the building on which the conveying apparatus is arranged. The rail A extends throughout the length of the building, so that the carriage F mounted to travel on the said rail, may be run from one end of the building to the other, it being understood that a suitable connection is made on the outside of the building, with railroad cars, vessels or other transportation means bringing the load to the warehouse or serving to carry it away.

The carriage F mounted to travel on the overhead rail A is connected by a swivel G with a rod H, forming at its lower end the fulcrum for a lever I, from one end of which depends a carrying chain J, provided at its lower end with a snap-hook J′ adapted to be engaged by one of the links of a short chain K, formed at its lower end with a ring K′, through which passes loosely an endless chain L passing through the eyes of gripping tongs N and N′, adapted to engage and hold the load O, in the form of a bale, box, package or other article of merchandise or commerce.

It will be seen that by having a chain L loosely connected with the ring K′ and the eyes of the gripping tongs N and N′, the said chain assumes the form of a triangle, when the tongs are applied, as indicated in Fig 3. Now, when the load O is on the floor, and the tongs are engaged on the opposite sides of the load, and the operator pulls on the free end of the lever I, then the load is lifted from the floor, as illustrated in Fig. 2, to permit of conveniently moving the carriage F with its load along the rail A, to a desired point in the warehouse. On the free end of the lever I is formed a hook I′, and next to it is arranged a hand line, I^2, hanging loosely downward and adapted to be grasped by the operator for swinging the free end of the lever downward, so as to lift the load O, and to finally hook the said hook I′ onto the chain J, to lock the lever in a vertical position, as indicated in Fig. 4.

By the use of the endless chain L having a slidable connection with the tongs N and N′ and the ring K′, I am enabled to use the tongs on larger and smaller loads by connecting the chain K higher or lower with the snap-hook J′.

The lever I is normally in a horizontal position, as indicated in Fig. 3, to permit of readily engaging the tongs N and N′ with the load, it being understood that the chain K is moved with one of its links into the snap-hook J′, after the tongs are engaged with the load, to retain the lever I in a horizontal position, or nearly so, whereby when the free end of the lever is swung downward by the operator pulling on the hand line I^2, the said load is raised from the floor and the lever is then locked in position by engaging the hook I′ with the chain J. When the load has been moved to its destination within the warehouse, then the lever I is unlocked by disen-

gaging the hook I′ from the chain J, and then the operator permits the free end of the lever I to swing upward by manipulating the hand line I^2 accordingly, so that the load O is lowered onto the floor. The tongs N and N′ are then disengaged from the load O, and the carriage F is run back to pick up another load. To extend the above described operation, that is, to transport a load laterally to any desired place in the warehouse from under the rail A, the load dropped in the warehouse in the aisle opposite the desired point is then engaged by gripping tongs P, held on a chain Q′ of a hoisting device Q, of any approved construction, and supported on a carriage R mounted to travel transversely on the beam S′ of a traveler S having its sets of end wheels S^2, S^3, mounted to travel on an overhead track formed by rails T, T′, respectively, of which the rail T is fastened on the studs D above the rail A, while the outer rail T′ is supported on suitable posts U forming part of the building. See Fig. 1.

After the gripping hooks P are engaged by the load O, the operator manipulates the chain Q′, so as to cause a hoisting of the load to a desired point, and when this is accomplished, the load O is moved transversely by causing the carriage R to travel transversely on the beam S′ of the traveler. When the load arrives at the desired point, the chain Q′ is manipulated to lower the load into a desired place and to loosen the tongs P to permit of thoroughly disengaging the latter from the load. The carriage R is then run back to the inner end of the beam S′, to take up another load brought in by the next carriage F, as previously explained. By this arrangement, the loads brought to a desired point in the warehouse can readily be set in tiers, and when the tiers are filled, then the traveler S is moved on its rails T and T′ a suitable distance for the formation of a new tier of goods brought in by the carriage F and transported transversely to its position by the hoisting device Q and the carriage R, as previously explained.

By reference to Fig. 1, it will be seen that two such travelers S are arranged on opposite sides of the rail A, so that tiers of goods can be built on opposite sides of the track A; the latter, with its carriage F serving to run in the goods for transportation to the sides by the hoisting device Q, held on the respective carriage R of the corresponding traveler S, on either side of the rail A.

It is understood that by the construction described, I am enabled to conveniently carry the goods into the building and set the same up in tiers, or to take the goods from the building by reversing the above described operation, that is, by first engaging the goods with the tongs P, then running the carriage R inward to lower the load under the rail A, and to then pick up the load by the pick-up device of the carriage F, and to finally move the carriage F out of the building for delivering the goods to a railroad car, steamship or other means of transportation. It is further understood that any number of carriages F may be run close one to the other on the rail A, either in bringing a number of loads into the warehouse, or carrying the same out as the case may be, it being, however, understood that each carriage F is provided with a pick-up and dropping device of the character above described.

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

The combination of the carriage, the lever fulcrumed thereon, the carrying chain secured to the lever at one side of its fulcrum, a grappling device at the lower end of the chain, so that by turning the lever the grappling device and the article held thereby may be raised toward the carriage, and locking means, such as the hook, located upon the lever on the opposite side of its fulcrum to the chain and adapted for engagement therewith to hold the grappling device in an elevated position, substantially as described.

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Witnesses:
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