

No. 620,015.

Patented Feb. 21, 1899.

M. BUTLER.  
FREIGHT CONVEYER.

(Application filed Aug. 31, 1898.)

(No Model.)

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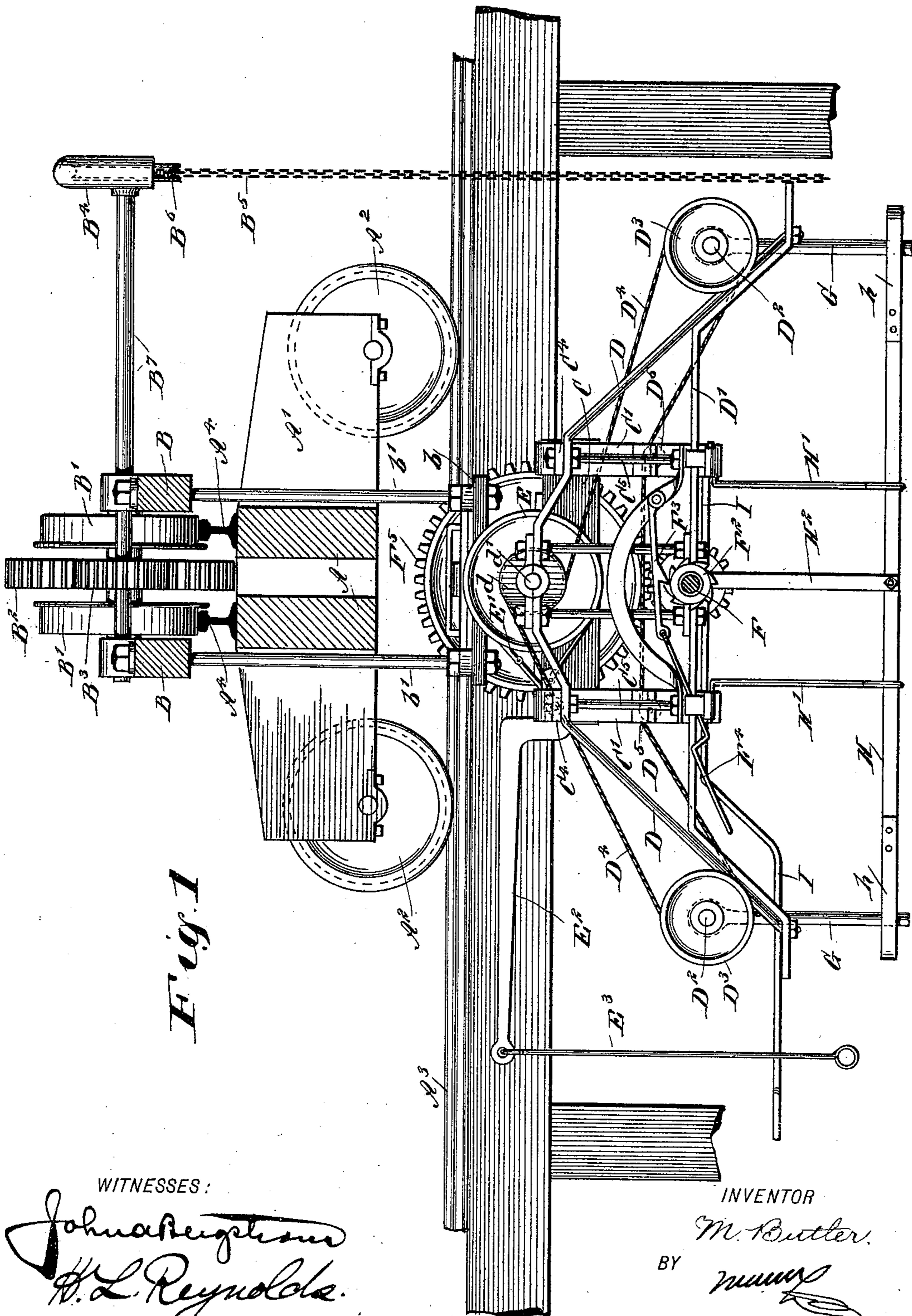


Fig. 1

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No. 620,015.

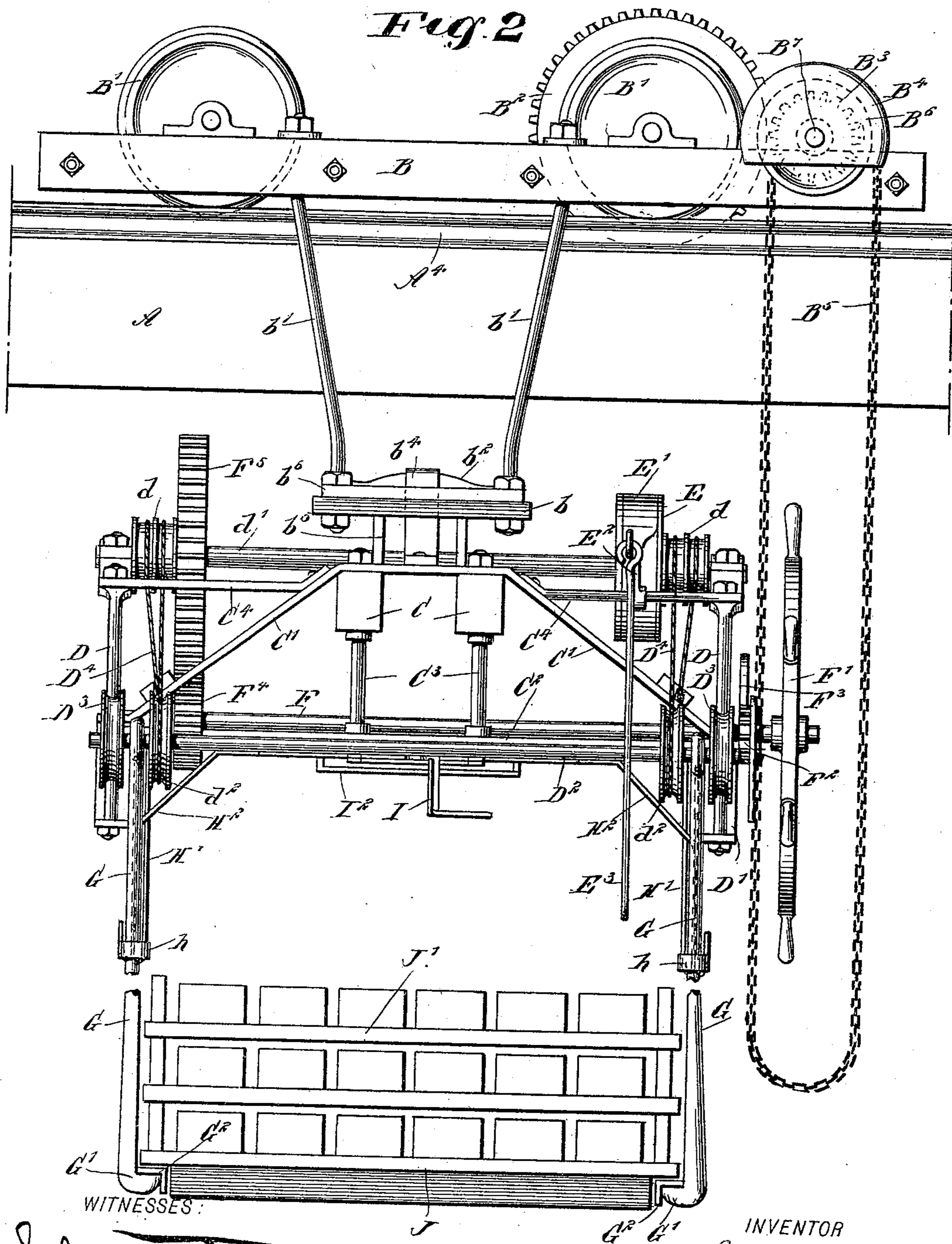
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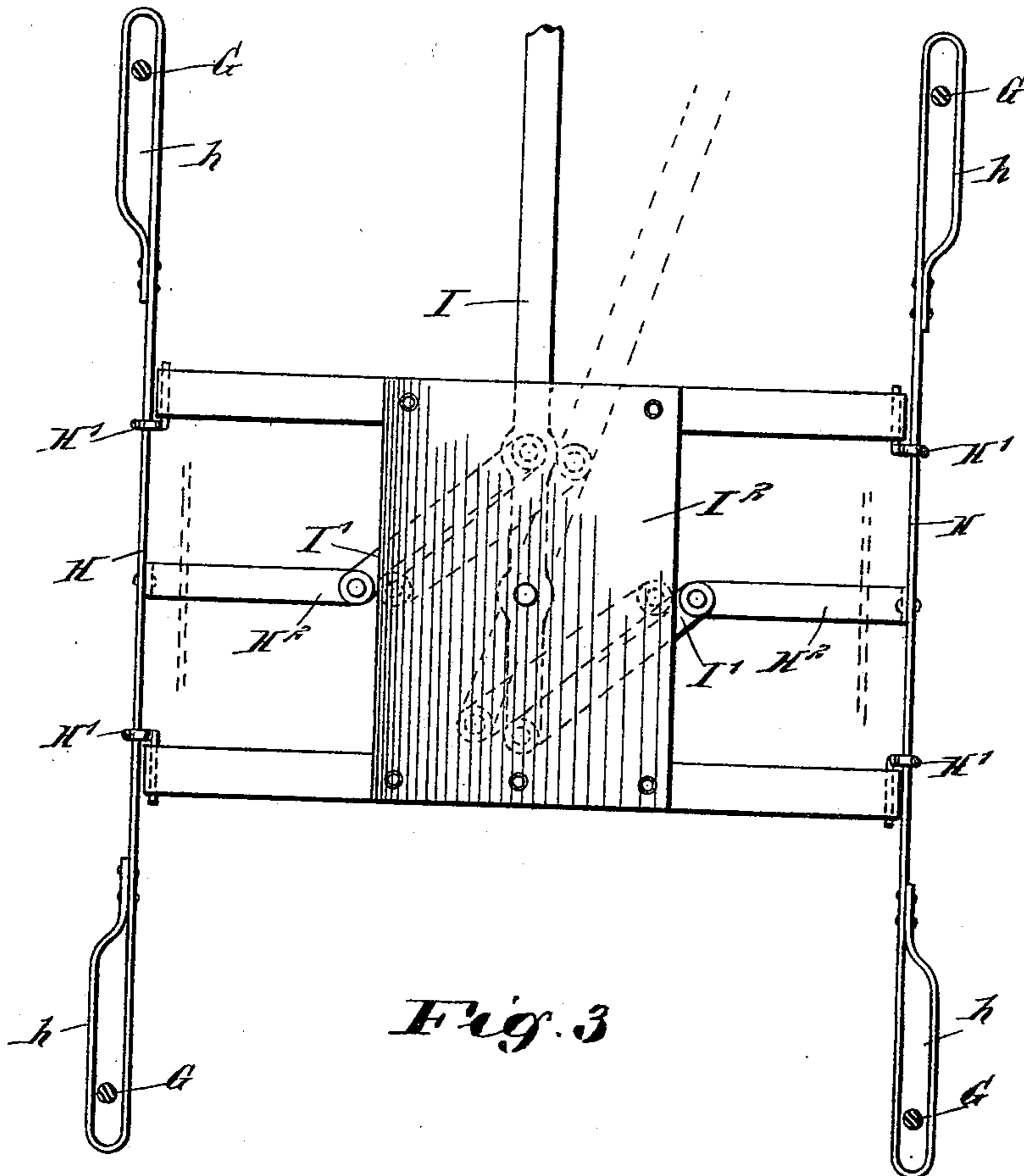


Fig. 3

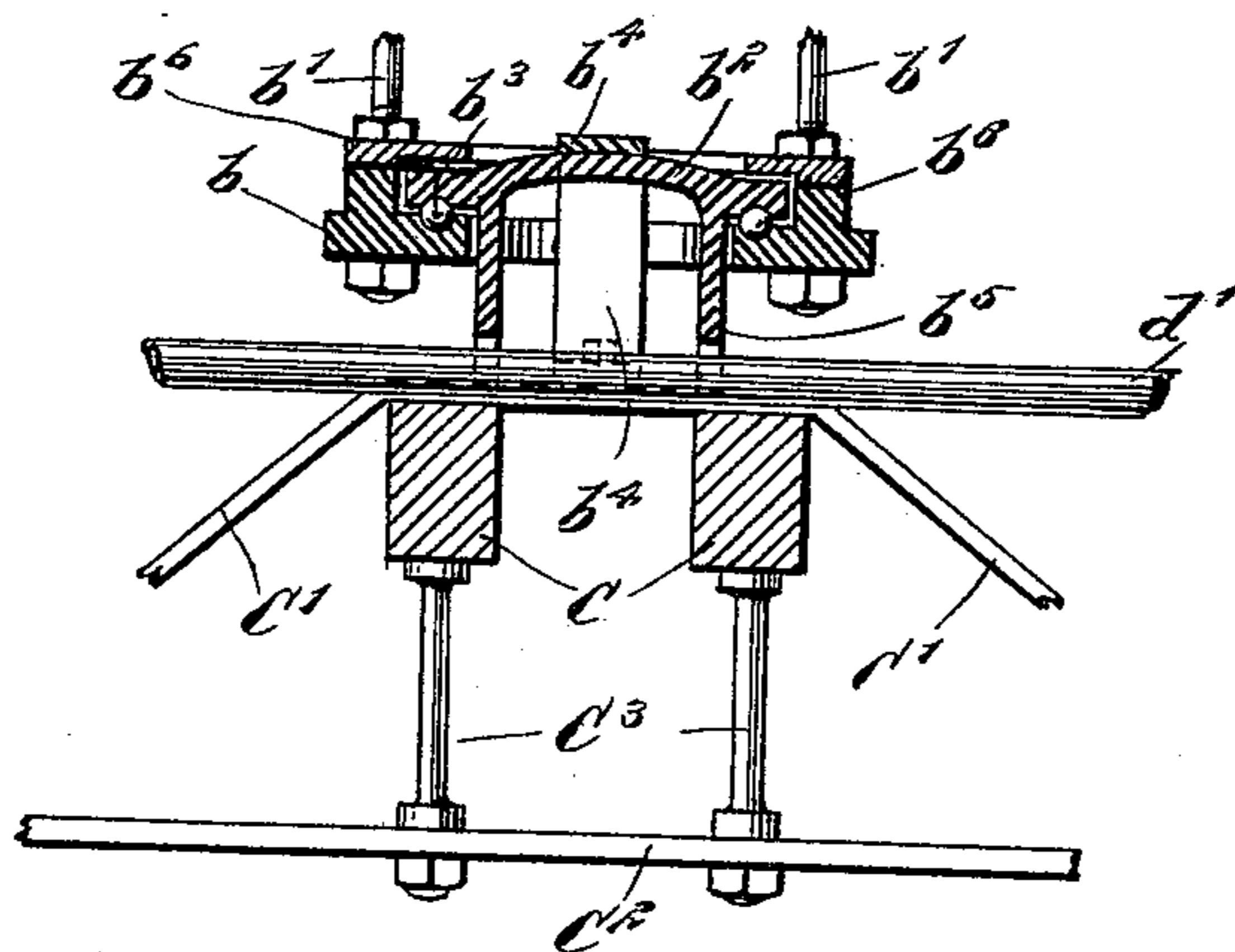


Fig. 4

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# UNITED STATES PATENT OFFICE.

MICHAEL BUTLER, OF AUSTIN, TEXAS.

## FREIGHT-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 620,015, dated February 21, 1899.

Application filed August 31, 1898. Serial No. 689,905. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL BUTLER, of Austin, in the county of Travis and State of Texas, have invented a new and Improved Freight-Conveyer, of which the following is a full, clear, and exact description.

My invention relates to improvements in devices for transporting freight and packages of all kinds; and the invention comprises the novel features which will be hereinafter described and claimed.

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

Figure 1 is a side elevation of my device, parts being in section. Fig. 2 is an elevation at right angles to that shown in Fig. 1. Fig. 3 is an inverted plan view of the mechanism for giving lateral movement to the carrying-rods, and Fig. 4 is a sectional elevation taken through the supporting swivel or pivot.

The object of my invention is to provide a device which may be readily operated by a single man to handle freight or packages of any kind to be transported from one place to another.

The invention is especially designed for use in connection with the handling of brick about a brick-yard, but is adapted for use in connection with the handling of freight or packages of any kind.

In using my device a traveling crane is constructed, the same being mounted upon tracks so that it may be moved laterally, and thus cover a certain amount of territory. Upon this traveling crane is mounted a truck, from which my device is suspended, such truck being provided with means by which it may be moved to any point upon the traveling crane. This construction makes it possible to pick up or deliver a package at any point within the area covered by the traveling crane.

In the drawings the traveling crane is not shown in detail. It may be constructed in any suitable or desired manner. As shown in the drawings, the crane is provided with laterally-extending beams A, upon the upper surface of which are mounted the rails A<sup>4</sup>, which form the track for the truck carrying my device. At the ends the crane is provided with a cross-beam A' and wheels A<sup>2</sup>,

which run upon stationary rails A<sup>3</sup>, located one beneath each end of the crane. The crane may be moved by any suitable mechanism, and as these features do not form an essential definitive part of my invention they have not been shown in detail.

Upon the traveling crane is mounted a truck consisting of a frame B, having wheels B' journaled therein and running upon the rails A<sup>4</sup> of the crane. A gear-wheel B<sup>2</sup> is mounted upon the axle of one set of wheels B', and upon a shaft B<sup>7</sup>, which projects beyond one side of the truck, is mounted a pinion B<sup>3</sup>, which meshes with the gear B<sup>2</sup>. Upon the outer end of the shaft B<sup>7</sup> is secured a wheel B<sup>6</sup>, preferably a grooved wheel, adapted to receive a chain B<sup>5</sup>, and the upper end of the wheel B<sup>6</sup> is preferably covered by a guard B<sup>4</sup>, which prevents the chain from being displaced. The chain B<sup>5</sup> is an endless chain and hangs down alongside of the truck to such a point that it may be conveniently engaged by the operator, so that by pulling down upon the chain the truck may be moved to any point upon the crane.

Four suspension-rods b' are secured to the truck and extend downward upon each side of the beams A, forming the crane. To the lower ends of said rods is attached a plate b, forming the lower member of the swivel and having a central aperture through which extend the ears b<sup>5</sup> of a plate b<sup>2</sup>, forming the upper part of the swivel, said plate b<sup>2</sup> having a flange projecting over a portion of the plate b. Between the two plates are placed a series of balls b<sup>3</sup>, working in grooves in both plates, thus forming a ball-bearing by means of which the device may be readily turned as may be needed in handling the load. The lower plate b is also provided with a detachable flange or ring b<sup>6</sup>, which extends over the outer edge of the plate b<sup>2</sup> and prevents the possibility of the latter rising. The plate b<sup>2</sup> may be further secured to the frame which carries the load by means of a bar b<sup>4</sup>, which passes through openings in the plate b<sup>2</sup> and has its ends secured to a frame beneath the swivel. This construction of a swivel joint or pivot is simply one form which may be used, as swivel-joints of other construction may be used instead of that described, the exact construction of the joint not being ma-

terial, except that it should be such as will prevent its suspended frame from tilting side-wise. Suspended by means of said swivel-joint is a frame upon which is mounted the operating mechanism of my device. Beams C extend laterally of this frame and carry at each end trusses formed by the inclined bars C', rods C<sup>2</sup>, and bolts C<sup>3</sup>. Bars C<sup>4</sup> extend from the upper portion of each truss and connect at their outer ends with posts C<sup>5</sup>, which extend downward to a connection with the inclined bars C'. Upon each end of the trusses is secured a bar D, which at its ends is inclined downward to form inclined tracks upon which the carrying-rods are moved in order to raise the freight. Near their lower ends these bars D are secured to a bar D', which is secured to the lower side of the truss ends. This gives a firm support for the inclined track-bars D. At each corner of the frame thus formed is a carrying-rod G, which extends downward to near the floor of the warehouse in which the device is to be operated or to near the floor of the surface upon which the freight is to be deposited. At its lower end each rod G is preferably slightly increased in diameter and is bent to one side, forming a hook G', and the ends of two rods G upon the same side are connected by a bar G<sup>2</sup>, which, as herein shown, is of angle-iron. These bars G<sup>2</sup> are adapted to be placed beneath the freight or package to be handled and to have said package carried thereon while being transported. The upper ends of the carrying-rods G are supported upon shafts D<sup>2</sup>, extending between two of the carrying-rods, and upon said shafts are secured grooved wheels D<sup>3</sup>, which roll upon the inclined tracks D. Upon said shafts and inwardly of the tracks D are also secured grooved wheels d<sup>2</sup>.

Upon the upper and central portion of the frame is secured a shaft d', which has at each end drums d, forming a windlass. To these drums are secured one end of cables D<sup>4</sup>, which pass about the wheels d<sup>2</sup> and have their other end either secured to the frame or passing onto the wheels upon the opposite side of the device. As herein shown, the latter construction is used, the two ends of the cables being secured to the windlass-drums and the body thereof passing about the wheels d<sup>2</sup> and guide wheels or pulleys D<sup>5</sup>. Upon the shaft d' is mounted a gear-wheel F<sup>5</sup>, in mesh with a pinion F<sup>4</sup>, mounted upon a second shaft F, to which latter is secured a hand-wheel F' and a ratchet-wheel F<sup>2</sup>, a pawl F<sup>3</sup>, secured to the frame, engaging the ratchet-wheel and preventing backward rotation of the wheel, the pawl being freed by means of a hand-lever F<sup>4</sup>, connected thereto, as shown in Fig. 1. By turning the hand-wheel F' the windlass may be operated so as to wind up the cable D<sup>4</sup>, which will cause the rollers D<sup>3</sup> to travel upward upon the inclined tracks D and thus raise the carrying-bars G and whatever is supported thereby.

For convenience in lowering a load the wind-

lass-shaft d' is provided with a friction-drum E, about which passes a friction or brake band E', secured to a lever E<sup>2</sup>, which may be operated by means of a rod or cord E<sup>3</sup>, connected to the outer end of the lever and extending downwardly within convenient reach of the operator. By releasing the pawl F<sup>3</sup> and applying pressure to the brake-band the load may be lowered gradually and easily without any danger of breaking even the most fragile materials.

A bar H is loosely attached to each one of the carrying-rods G, which are connected by the bar G<sup>2</sup> at the lower end. Each bar H is constructed, as clearly shown in Fig. 3, having a loop h formed in each end and surrounding the carrying-rods G, and the bar is suspended from the frame by means of links H'. The central portions of the bars H are connected by the arms H<sup>2</sup> and links I' with a lever I, movable in a guide I<sup>2</sup>. The arms H<sup>2</sup> are preferably secured rigidly to the bar H, and the links I' are pivoted to the arms and to the operating-lever I. The lever I is pivoted centrally upon the frame, and by swinging the lever I in one direction the two bars H upon opposite sides of the device will be drawn toward the center, thus swinging the lower ends of the carrying-rods G inwardly. They may be thus handled so as to place the bars G<sup>2</sup>, secured to their lower ends, beneath the edges of the package to be raised.

In the special use of this device mentioned—that is, in handling brick in the process of manufacture—the brick would be stacked upon a platform having its edges projecting in such a manner as to accommodate the bars G<sup>2</sup>. This is shown in Fig. 2, in which the platform J has several layers of brick stacked thereon, the brick being supported by frames J'. By the means described and also by the use of cars running upon depressed tracks within the drying-sheds bricks may be cheaply transported from the machine to the drying-sheds and also to the kilns. In the same manner freight may be readily handled in a warehouse or material transported during manufacture.

The use of my device is not limited to any special purpose. It is adapted for use in any place where large quantities of material are to be handled, and especially for manufacturing purposes where material has a certain uniformity in character.

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

1. A freight-conveyer, comprising a truck mounted to roll upon a track, a hoisting mechanism supported from the truck, freight engaging and carrying rods suspended from the truck and having laterally-projecting arms at their lower ends adapted to pass beneath the freight-package, and pivoted to swing sidewise to engage and disengage the freight-package, substantially as described.

2. A freight-conveyer, comprising a truck

mounted to roll upon a track, freight engaging and carrying rods suspended from the truck and having at their lower ends laterally-projecting arms adapted to pass beneath the freight-package, a windlass supported from the truck, cables on the windlass, engaging the carrying-rods, the carrying-rods being pivoted to swing sidewise to engage and disengage the freight-package, substantially as described.

3. A freight-conveyer, comprising a truck mounted to roll upon a track, freight engaging and carrying rods having rollers upon their upper ends, and laterally-projecting arms at their lower ends adapted to pass beneath the freight-package, inclined bars supported from the truck and engaged by the said rollers, means for moving the rollers upon the inclined bars, the carrying-rods being pivoted to swing sidewise to engage and disengage the freight-package, substantially as described.

4. A freight-conveyer, comprising a truck mounted to roll upon a track, freight engaging and carrying rods having rollers upon their upper ends, and laterally-projecting arms at their lower ends adapted to pass beneath the freight-package, a windlass supported from the truck, cables on the windlass, connected with the carrying-rods, inclined bars supported from the truck and engaged by the said rollers, the carrying-rods being pivoted to swing sidewise to engage and disengage the freight-package, substantially as described.

5. A freight-conveyer, comprising a truck mounted to roll upon a track, a hoisting mechanism supported from the truck, freight engaging and carrying rods suspended from the truck and having laterally-projecting arms at their lower ends adapted to pass beneath the freight-package, a lever, and links connecting said lever with the carrying-rods, whereby the rods may be swung sidewise to engage and disengage the freight-package, substantially as described.

6. A freight-conveyer, comprising a truck mounted to roll upon a track, a hoisting mechanism supported from the truck, freight engaging and carrying rods suspended from the truck and having laterally-projecting arms at their lower ends adapted to pass beneath the freight-package, bars connecting the upper ends of the carrying-rods upon each side, suspension-links therefor, and a lever having links connecting it with said bars, whereby the rods may be swung so as to engage and disengage the freight-package, substantially as described.

7. A freight-conveyer, comprising a truck mounted to roll upon a track, freight engaging and carrying rods suspended therefrom in pairs, and having side projecting arms at their lower ends, bars carried by the side projecting arms of each pair and adapted to pass beneath and support the freight-package, and means carried by the truck for swing-

ing the carrying-rods sidewise to engage and disengage the freight-package, substantially as described.

8. A freight-conveyer, comprising a truck mounted to roll upon a track, freight engaging and carrying rods suspended therefrom in pairs and having side projecting arms at their lower ends, bars carried by the side projecting arms of each pair and being adapted to pass beneath and support the freight-package, bars loosely connecting the upper ends of the carrying-rods of each pair, suspension-links therefor, and a lever having links connecting it with said bars, whereby the carrying-rods may be swung so as to engage and disengage the freight-package, substantially as described.

9. A freight-conveyer, comprising a truck mounted to roll upon a track, a frame supported therefrom by a swivel or vertical pivot, a hoisting mechanism upon the frame, carrying-rods suspended from the frame and provided with hooks at their lower ends adapted to pass beneath and support the load, and means carried by the truck for swinging the carrying-rods laterally to engage and disengage the freight-package, substantially as described.

10. A freight-conveyer, comprising a truck mounted to roll upon a track, a frame supported therefrom by a swivel or vertical pivot, carrying-rods suspended from the frame and provided with hooks at their lower ends adapted to pass beneath and support the freight-package, a windlass upon the frame, cables thereon connected with the carrying-rods, and means carried by the truck for swinging the carrying-rods laterally to engage and disengage the freight-package, substantially as described.

11. A freight-conveyer, comprising a truck mounted to roll upon a track, a frame supported therefrom by a swivel or vertical pivot, carrying-rods suspended from the frame and provided with hooks at their lower ends adapted to engage and support the freight-package, rollers upon the upper ends of the carrying-rods, inclined bars upon the frame, forming tracks for said rollers, means for drawing the rollers up or down said tracks, and means for swinging the carrying-rods laterally to engage and disengage the freight-package, substantially as described.

12. A freight-conveyer, comprising a truck mounted to roll upon a track, a frame supported therefrom by a swivel or vertical pivot, carrying-rods suspended from the frame and provided with means at their lower ends for engaging and supporting the freight-package, and rollers upon their upper ends, inclined bars upon the frame, forming tracks for said rollers, a windlass upon the frame, cables thereon connected with the carrying-rods, and means for swinging the carrying-rods laterally to engage and disengage the freight-package, substantially as described.

13. A freight-conveyer, comprising a truck

mounted to roll upon an overhead track, carrying-rods having suspension connections with the truck guides for the rods means for engaging and supporting the packages by the rods, a windlass supported from the truck, and cables running from the windlass to the carrying-rods, substantially as described.

14. A freight-conveyer, comprising a truck mounted to roll upon an overhead track, carrying-rods suspended from the truck and having means for engaging and supporting the package, a lever, links connecting the lever with the carrying-rods to swing them side-wise, a windlass supported from the truck, and cables running from the windlass to the carrying-rods by which the latter may be raised, substantially as described.

15. A freight-conveyer, comprising a truck mounted to roll upon a frame, track carrying-rods suspended from the truck and having means for engaging and supporting the package, a windlass supported from the truck, cables running from the windlass to the carrying-rods by which they may be raised and lowered, and a brake upon the windlass, substantially as described.

16. A freight-conveyer, comprising a truck mounted to roll upon a track, a shaft having rotative connection with the truck-wheels, a chain-wheel upon the shaft, a suspended endless chain on said wheel, a frame supported from the truck by a swivel connection or vertical pivot, carrying-rods suspended from the frame and adapted to engage and support the load, a windlass upon the frame, cables run-

ning from the windlass to the carrying-rods, and a brake on the windlass, substantially as described.

17. A freight-conveyer, comprising a truck mounted to roll upon a track, a shaft having rotative connection with the truck-wheels, a chain-wheel upon the shaft, a suspended endless chain on said wheel, a frame supported from the truck by a swivel connection or vertical pivot, inclined track-bars on the frame, carrying-rods having rollers adapted to run upon the inclined track-bars, and provided at their lower ends with load engaging and supporting means, a windlass upon the frame, cables thereon engaging the upper part of the carrying-bars whereby the rollers are caused to travel up or down the inclined track-bars, and a brake upon the windlass, substantially as described.

18. A freight-conveyer, comprising a frame provided with means for support and traverse and having inclined track-bars at its corners, carrying-rods adapted to engage and support the load and having rollers upon their upper ends supported on the track-bars, shafts connecting said rollers in pairs and having grooved wheels thereon, a windlass mounted upon the frame, cables connected to the windlass and passing about the grooved wheels, and a brake upon the windlass, substantially as described.

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