

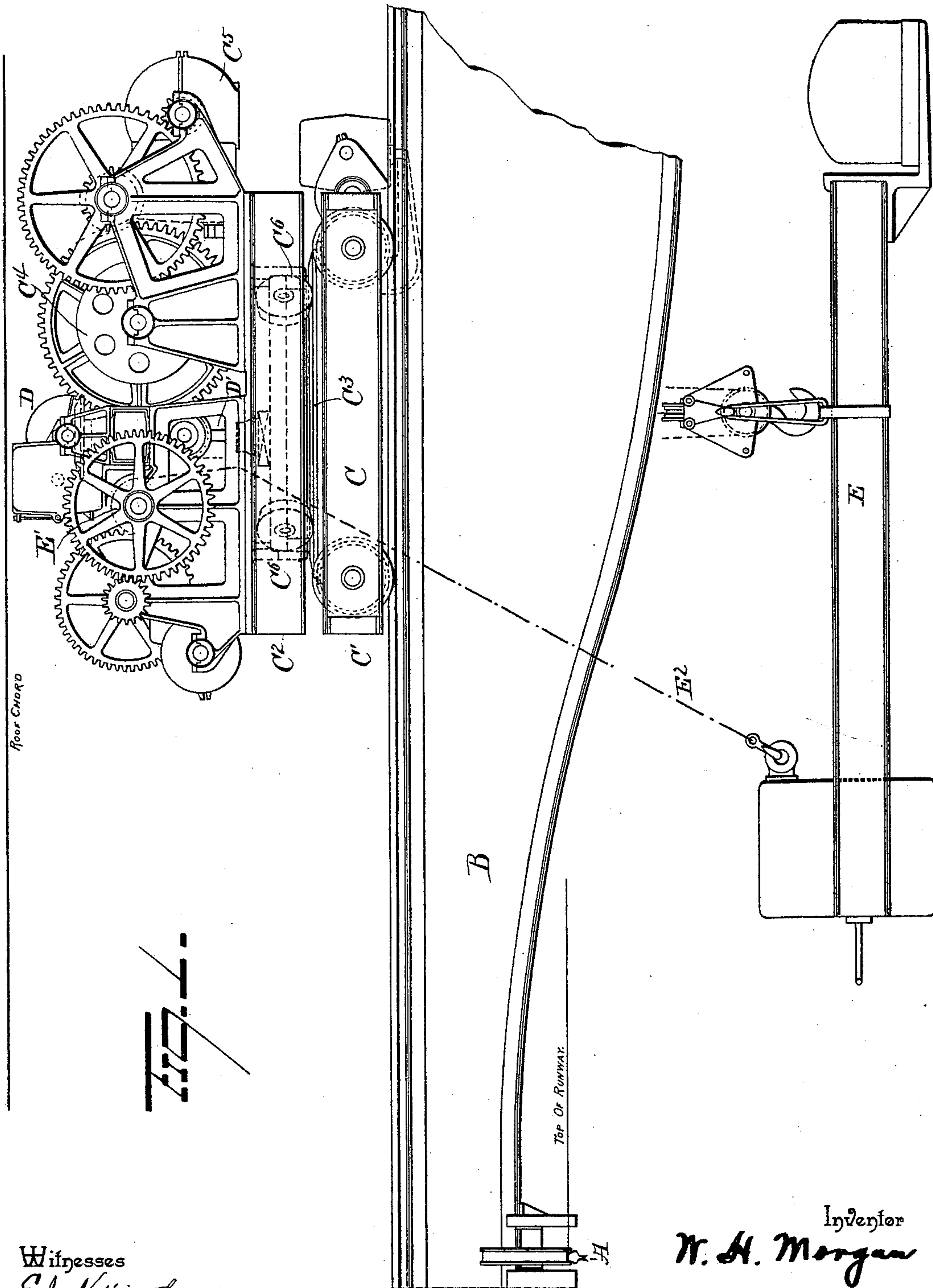
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3 Sheets—Sheet 1.

W. H. MORGAN.
OVERHEAD TRAVELING CRANE.

No. 582,662.

Patented May 18, 1897.



Witnesses
E. J. Nottingham
G. F. Downing.

A
 Inventor
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 By H. Seymour
 Attorney

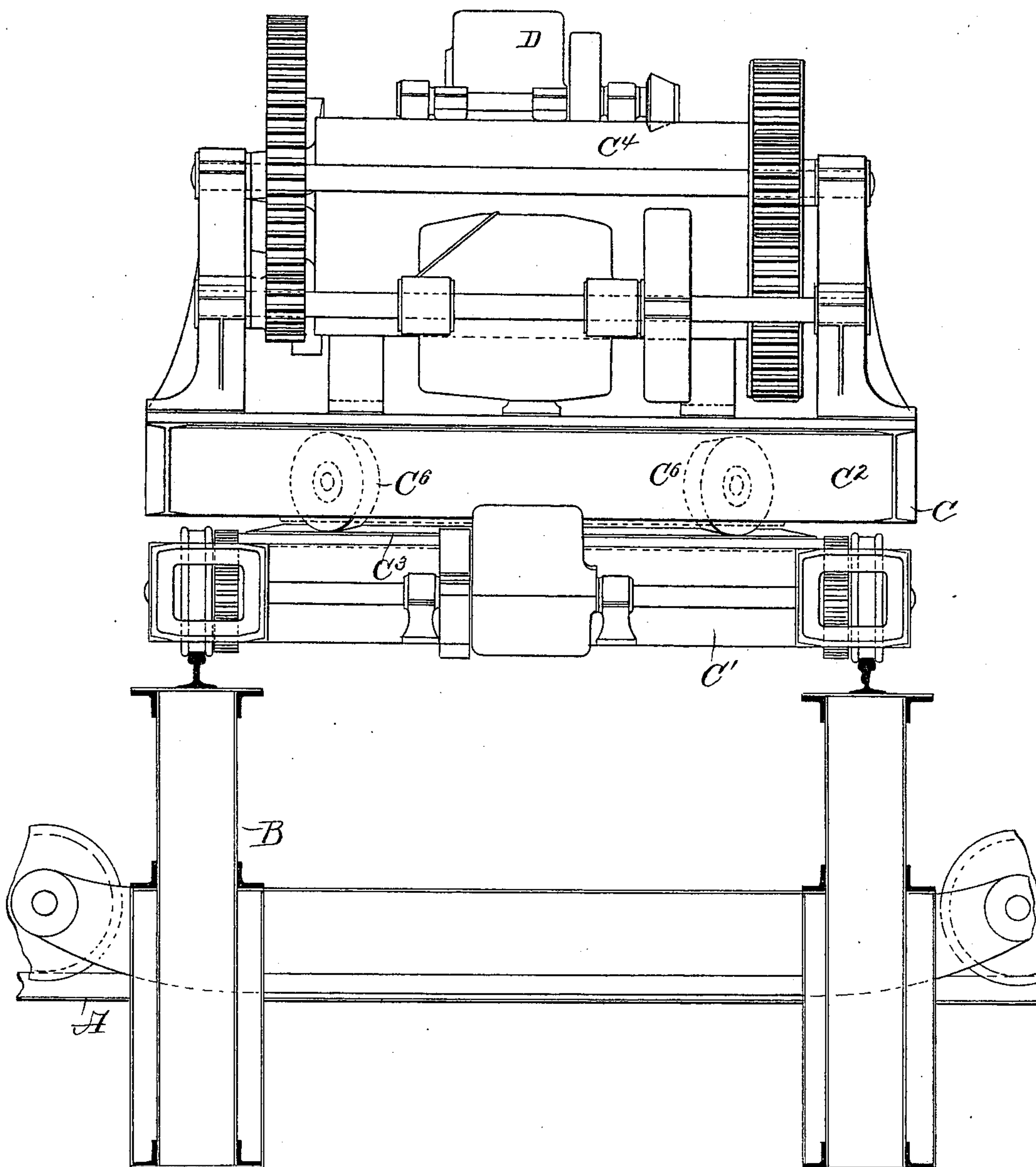
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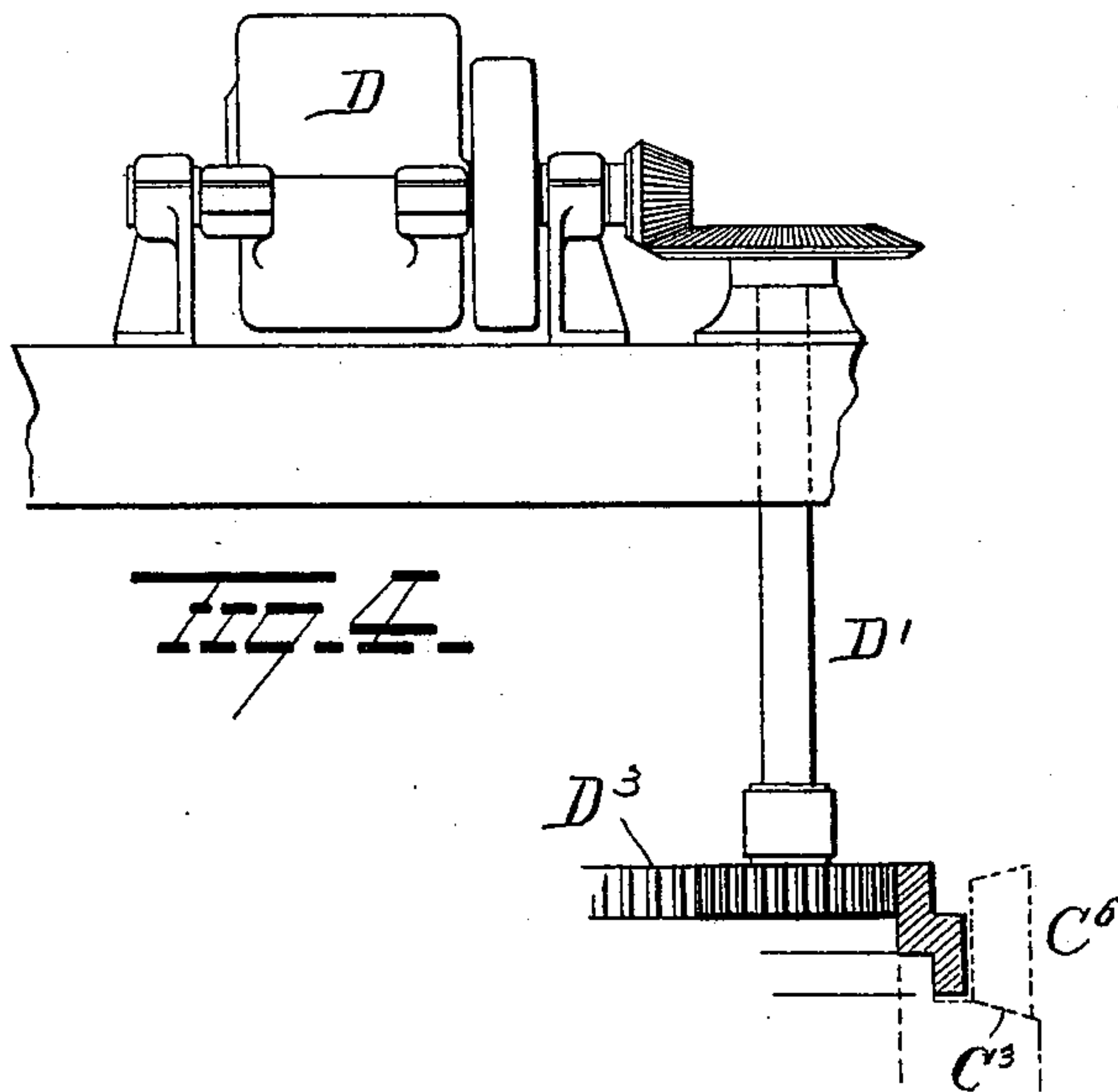
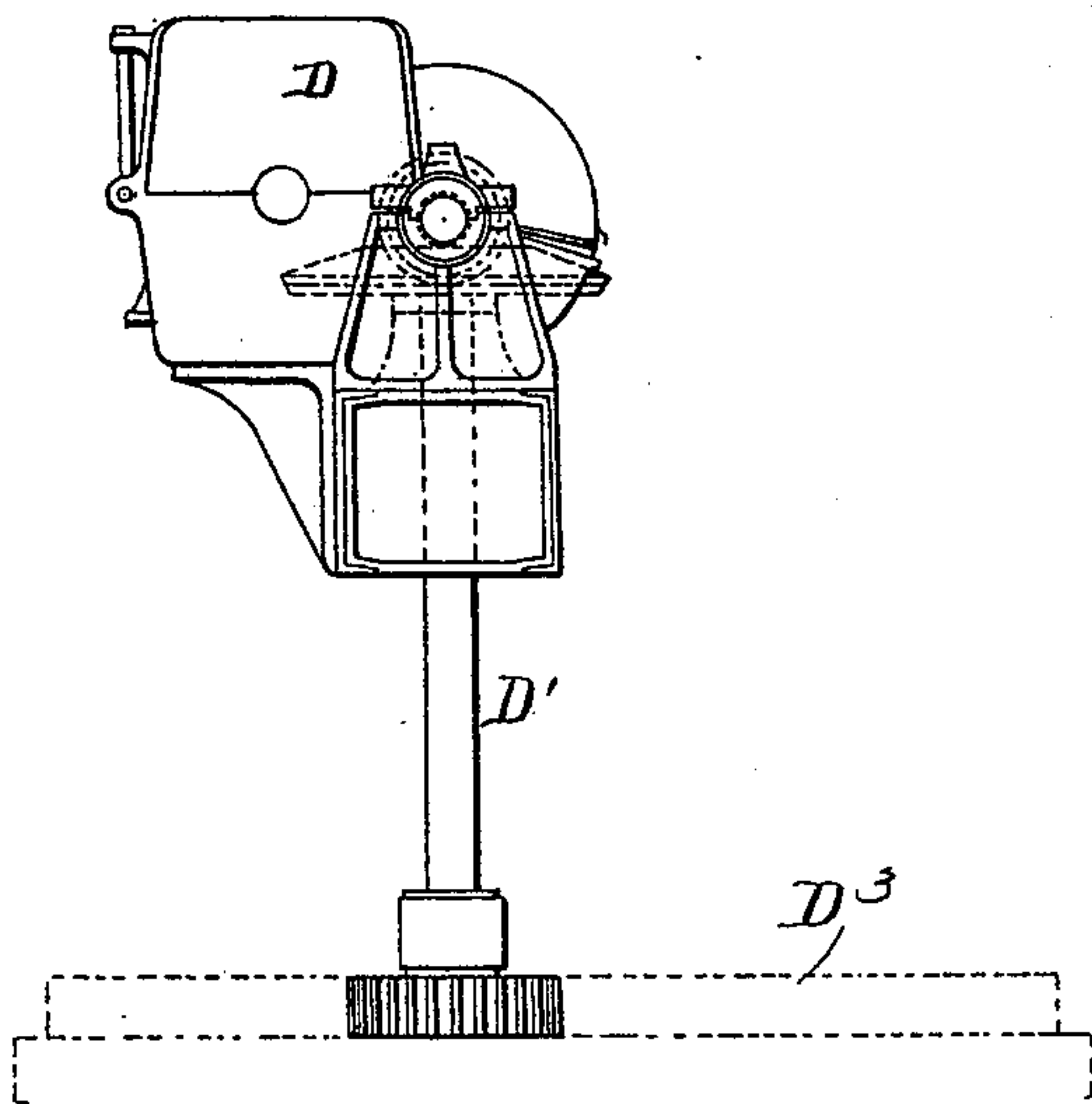
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Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORGAN, OF ALLIANCE, OHIO.

OVERHEAD TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 582,662, dated May 18, 1897.

Application filed March 19, 1896. Serial No. 583,946. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY MORGAN, a resident of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Overhead Traveling Cranes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in overhead traveling cranes.

In the overhead traveling cranes of the type herein shown, wherein a bridge travels lengthwise the shop, and a trolley carrying hoisting drum and chain travels lengthwise the bridge, no provision is made whereby the ladle or other receptacle or device carried by the hoisting-chains can be turned horizontally without twisting the hoisting-chains.

The object of my invention is to provide means whereby the device carrying the hoisting-chain can be rotated horizontally, and thus turn the load carried by the hoisting-chains; and it consists in the parts and combinations of parts as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of a portion of the crane, showing my invention applied thereto. Fig. 2 is a view in end elevation of the same. Figs. 3 and 4 are views of the motor-shaft, pinion, and circular rack.

A represents an elongated trackway running lengthwise the shop, on which the traveling bridge B moves. This bridge may be propelled by a square shaft and gearing such as are now used, or it can be propelled by an electric motor.

Mounted on the bridge and adapted to travel lengthwise the same is the trolley C. This trolley is composed of two sections C' and C², the lower section C' of which is provided with wheels which move on the rails of the bridge and with a motor for propelling the trolley. This section C' is also provided on its upper face with a circular trackway C³, on which the upper section C² of the trolley rests and moves. This upper section of the trolley is in effect a turn-table and carries a series of wheels C⁶, which rest and move on the circular trackway C³, and also carries the hoisting-

drum C⁴ and motor C⁵ for actuating the latter. The hoisting-chain is carried wholly by the section C² of the trolley or by parts on said part C². Hence it will be seen that the upper section C² can be rotated or turned on the section C', and thus turn in a horizontal plane the load carried by the hoisting-chain.

Secured on the upper section C² of the trolley is a motor D, which latter actuates a vertical shaft D'. This shaft D' carries a pinion which meshes with a circular rack D³, rigid with the lower section C', and hence it will be seen that by rotating shaft D' the upper section C² of the trolley can be turned either to the right or left.

With the cranes now in use no provision is made for turning the load, and as it frequently happens the load has to be turned it is evident that when the load is turned by hand the chains are wrapped or twisted, and as they are then in contact it is practically impossible to either elevate or lower the load.

By providing the trolley with a turn-table carrying the hoisting-drum the operation of turning the load in a horizontal plane becomes a simple matter, and as the operation of turning does not change the relative positions of the several parts of the chain it follows that there is nothing to prevent the load from being moved vertically during the operation of turning or after it has been turned.

In the drawings I have illustrated my improved device in connection with a counterweighted lever E, employed for placing receptacles containing tin-plate into and removing it from furnaces. When such a device is used, I prefer to connect the weighted end of the lever by a chain or cable E² with a drum E' on the section C² of the trolley. By winding up on the chain E² the front end of the lever can be depressed, so as to enter under a receptacle, and then by unwinding the chain E² the lever is, by means of the weight, brought to a horizontal position. By now moving the trolley C on the bridge the lever is withdrawn from the furnace, and after withdrawal, by partly rotating the upper section C² of the trolley, the receptacle can be brought into a position over a car located to one side.

It is evident that numerous slight changes might be made in the general arrangement

and combination of parts herein shown and described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not limit myself
5 to the precise details of construction shown, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In an overhead traveling crane, the combination with a traveling bridge, of a trolley mounted on the bridge and composed of upper and lower sections, the trolley as a whole
15 adapted to travel lengthwise the bridge, while the upper section of the trolley is adapted to rotate on the lower section, substantially as set forth.

2. In an overhead traveling crane, the combination with a traveling bridge, of a traveling trolley thereon, the said trolley being composed of upper and lower sections, the upper section of which carries the hoisting
20 apparatus, and is adapted to rotate on the lower section.

3. In an overhead traveling crane, the combination with a traveling bridge, of a two-part trolley mounted on the bridge, the trol-

ley as a whole adapted to travel lengthwise
30 the bridge, hoisting devices carried by the upper section of the trolley and comprising a drum, gearing for actuating same and hoisting rope or chain the latter passing downwardly through the lower section of the trolley and through the bridge, and means for
35 rotating the upper section of the trolley on the lower section.

4. In an overhead traveling crane the combination with a traveling bridge, of a sectional trolley on the bridge, the upper section adapted to rotate on the lower section and carrying the hoisting mechanism.

5. In an overhead traveling crane, the combination with a traveling bridge and a traveling trolley thereon, the latter comprising upper and lower sections, of means for propelling the trolley lengthwise the bridge, means for rotating the upper section of the trolley and hoisting devices carried by said upper
45 section, substantially as set forth.

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

WILLIAM HENRY MORGAN.

Witnesses:

E. C. WOOLGAR,
T. D. RUSSELL.