No. 722,868. PATENTED MAR. 17, 1903.

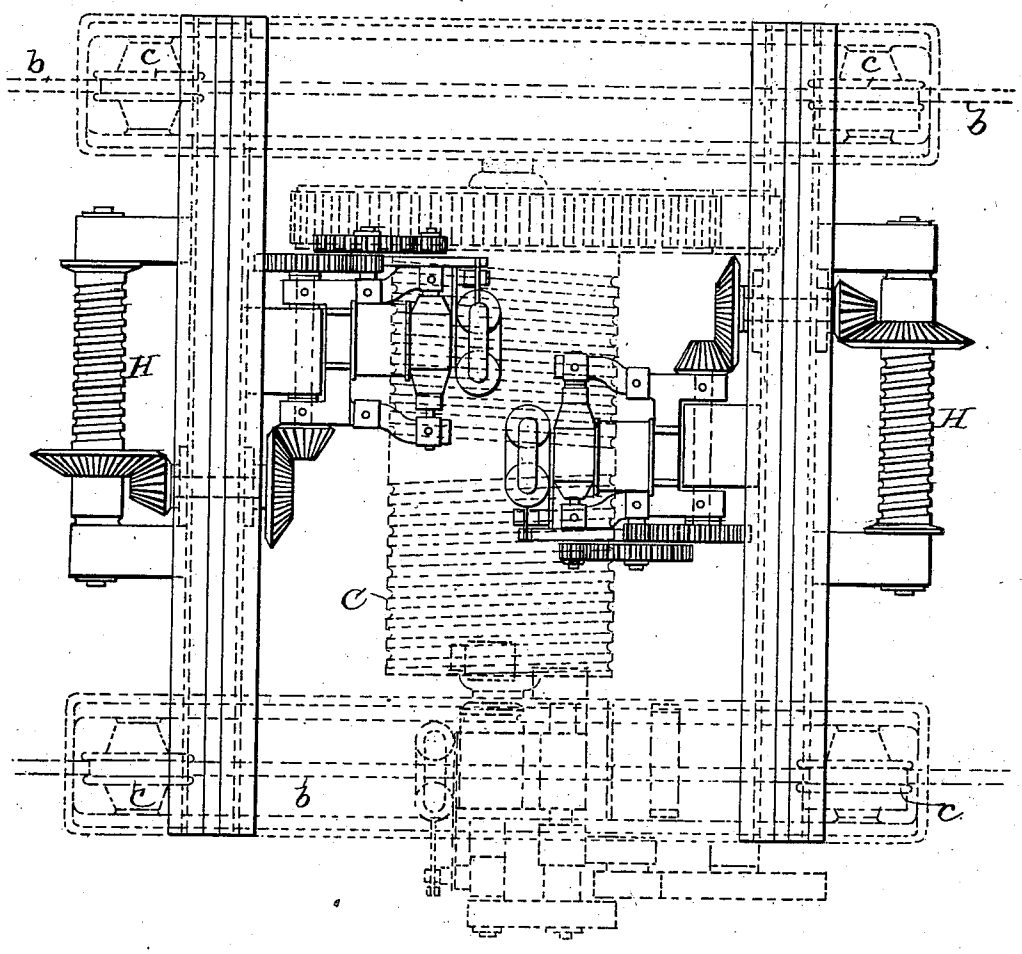
G. MITCHELL.

OVERHEAD TRAVELING CRANE.

APPLICATION FILED JULY 3, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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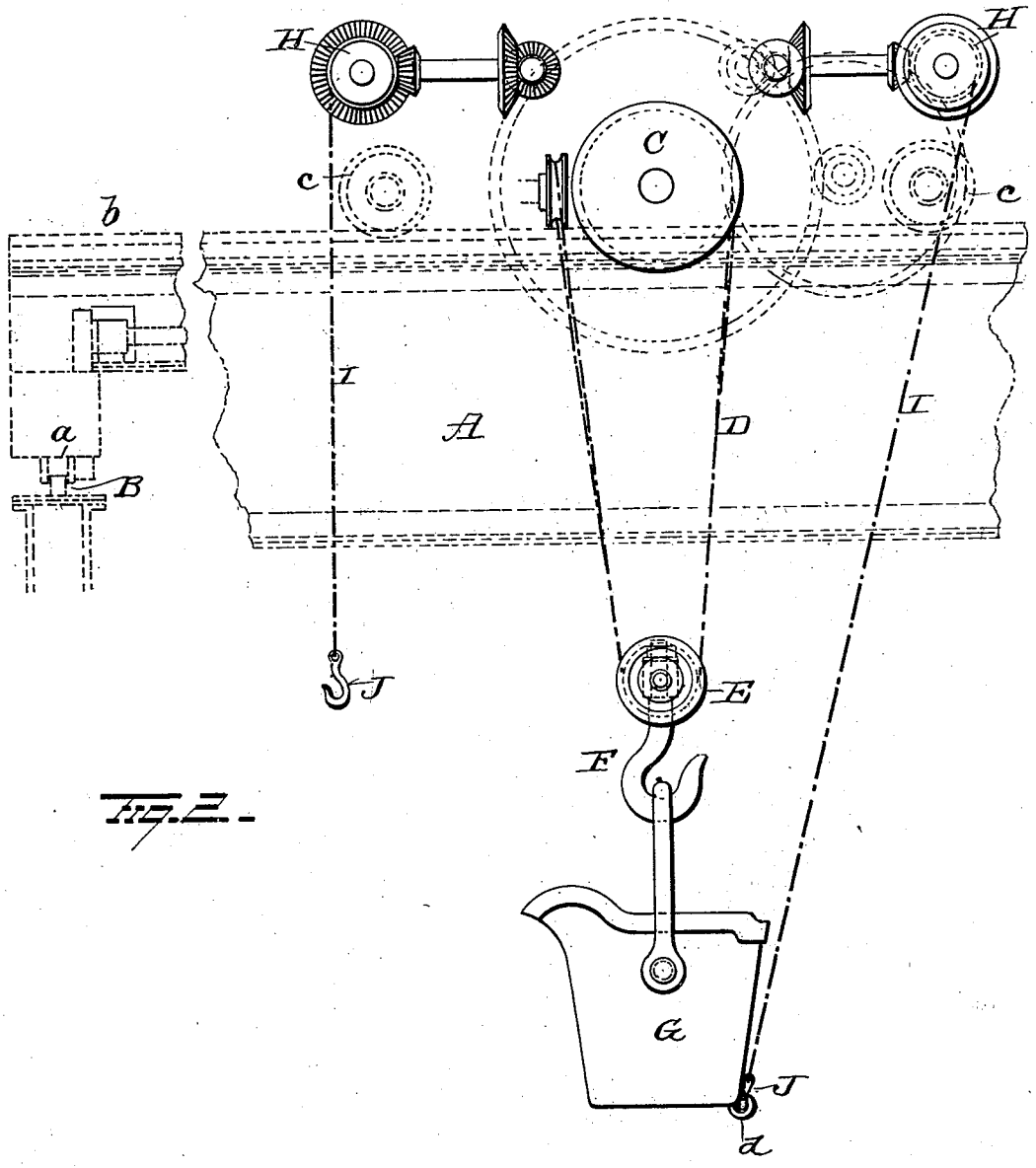


Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE MITCHELL, OF NACO, ARIZONA TERRITORY.

OVERHEAD TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 722,868, dated March 17, 1903.

Application filed July 3, 1902. Serial No. 114,280. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MITCHELL, a resident of Naco, in the county of Cochise and Territory of Arizona, 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, and more particularly to a trolley designed for carrying a ladle to and from converters, the object being to provide the trolley with ladle-tilting devices located on opposite sides of the ladle, whereby the latter may be tilted to discharge its contents into converters located on opposite sides of the path traversed by the bridge carrying the trolley.

With these ends in view my invention consists in a traveling bridge and a traveling trolley thereon, the said trolley having a main hoisting or ladle-carrying drum and an auxiliary drum on each side of the main drum, each auxiliary drum carrying a ladle-tilting chain and each actuated by a motor independent of the ladle-hoist motor, whereby either auxiliary drum can be rotated while the ladle-carrying drum is rotating or at rest and at varying speeds, thereby permitting the auxiliary drums and their chains to tilt a ladle suspended from the main drum irrespective of the position of the latter and while, if necessary or desired, the ladle is moving vertically either up or down and discharge the contents of the ladle into converters located on either side of the path traversed by the bridge.

In the accompanying drawings, Figure 1 is a view in side elevation of the bridge, showing my improved trolley thereon; and Fig. 2 is a view of the trolley, showing the ladle and the tilting-chains.

A represents the traveling bridge mounted at its ends on wheels *a*, which latter rest and move on the elevated trackway B. This bridge is composed of parallel beams or girders connected at their ends by end carriages and is provided with a motor (not shown) geared up to the wheels *a* in the usual manner for propelling the bridge and is also provided on its upper face with rails *b*, on which the grooved track-wheels *c* of the trolley rest and move.

The trolley is propelled longitudinally on the bridge by a suitable electric motor and is provided with a main hoist-drum C, on which the main hoist-chain D is wound. This chain carries a pulley-block E, provided with a depending swiveled hook F, on which the ladle G is mounted.

My improved apparatus is designed, primarily, for carrying and manipulating ladles which carry and deposit molten metal into converters and which may also receive the charge from the converters. These converters are located adjacent to the opposite sides of the path traveled by the bridge. Hence it is necessary to provide means for tilting the ladle toward both sides, and this I accomplish by providing the trolley with two auxiliary drums H, located parallel with and on opposite sides of the main hoist-drum C. Each auxiliary drum carries a chain I and hook J, the latter being constructed to engage an eye *d* on or adjacent to the rear lower end of the ladle G. Each auxiliary drum is rotated by an independent electric motor, so that each may be actuated independently of the other and also of the main hoist-motor.

The hook F is, as before stated, swiveled to the chain-block E, so that it can be turned to rotate the ladle, whereby the discharge-spout of the latter may be directed toward the converters on either side, and by then connecting the hook J at the rear of the ladle to the eye *d* and rotating the auxiliary drum in a direction to elevate the hook J the ladle will be tilted. With this construction it will be seen that the ladle can be transported by the bridge and trolley to any part of the works traversed by the bridge and tilted to either side by the arrangement of auxiliary drums and chains, as above described.

All the motors are controlled by mechanism located within an operator's cage carried by the bridge, and the reverse or unwinding movements of the main hoist-drum are regulated and controlled by the ordinary electric brake now in common use in machines of this character. Hence when the current to the main hoist-motor is cut out, either through

the switches or by any other means, the brake is automatically applied and prevents the load from running away.

It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction of parts shown and described; but,

Having fully described my invention, what 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 thereon, a main hoisting-drum and its chain carried by the trolley and an auxiliary hoisting-drum and chain on each side of the main hoisting-drum.

2. In an overhead traveling crane, the combination with a bridge, of a trolley thereon, a main hoisting-drum and its chain carried by the trolley, an auxiliary hoisting-drum and its chain located on the trolley at each side of the main hoisting-drum, and a motor for each hoisting-drum.

3. In an overhead traveling crane, the combination with a traveling bridge, of a trolley thereon, a main drum and its chain, and two auxiliary hoisting-drums, one on each side of the main drum, a block carried by the main chain, a ladle swiveled to the block, and a chain carried by each auxiliary drum.

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

GEORGE MITCHELL.

Witnesses:
S. G. NOTTINGHAM,
A. W. BRIGHT.