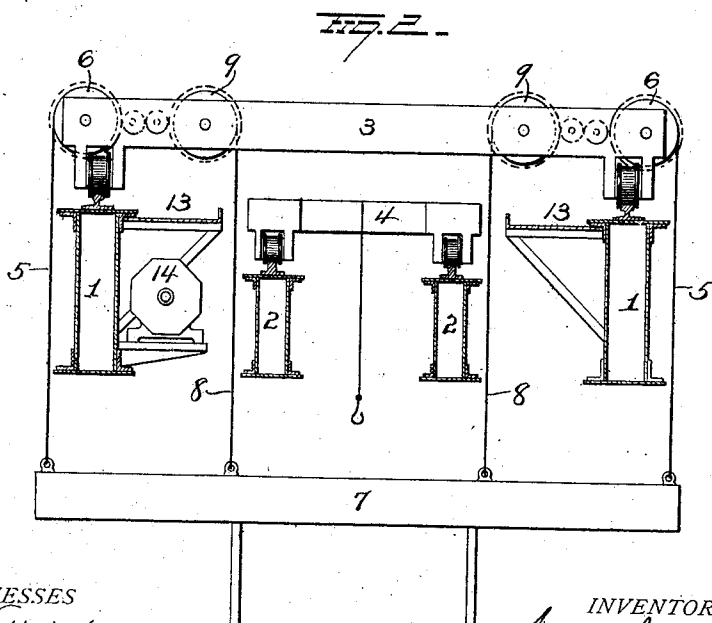
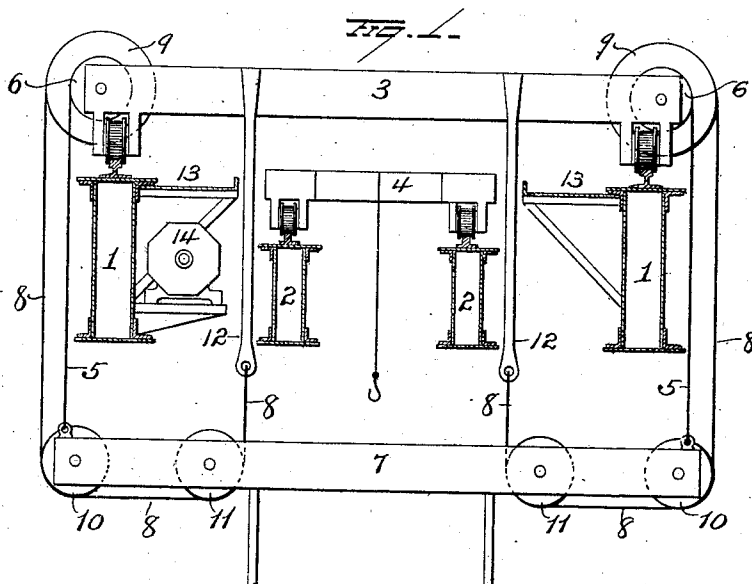


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LADLE CRANE.
APPLICATION FILED MAY 7, 1910.

974,196.

Patented Nov. 1, 1910.



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LADLE-CRANE.

974,196.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed May 7, 1910. Serial No. 560,048.

To all whom it may concern:

Be it known that I, HENRY A. SEYMOUR, of Washington, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Ladle-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 ap-
10 pertains to make and use the same.

My invention relates to an improvement in double trolley electric cranes and especially to that type of cranes known as ladle cranes.

15 The object of the invention is to provide safety appliances to prevent the overturning of the ladle should one of the main hoisting chains break and also to prevent the displacement or overturning of the main trolley in the event of the breaking of one of the main hoisting chains or ropes and also one of the safety ropes on the same side of the crane.

25 With these objects in view the invention consists in certain features of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings,—Figure 1 is a view partly in vertical cross-section, and Fig. 2 is a modification.

30 1, 1, are main girders and 2, 2, are auxiliary girders, all of which are preferably of the box girder type although plate girders may be used if desired. The main trolley 3 is mounted on rails supported on the main girders and travels thereon, while the auxiliary trolley 4 is mounted on rails supported on the auxiliary girders and travels thereon. The main hoisting chains 5, 5, are located
40 outside the main girders and depend from the main hoisting drums 6, 6, their lower ends being secured to the opposite ends of the ladle bar 7.

8, 8, represent safety chains or ropes, the upper ends of which are secured to drums 9, 9, while their lower ends pass over sheaves 10—11 and are secured to the rods 12, the upper ends of which are securely fastened to the main trolley. These rods 12 are preferably located in close proximity to the auxiliary girders so as to afford ample space between the main and auxiliary girders for the location of footwalks 13, 13, and also for the bridge driving motor 14. Instead of se-

curing the safety ropes or chains to the lower ends of the depending rods 12, the latter may be dispensed with and the ends of the safety ropes or chains extended upwardly and secured directly or indirectly to the main trolley. By this arrangement of safety ropes or chains the overturning of a ladle filled with molten metal is practically obviated because in the event of the breaking of one of the main hoisting chains or ropes, the descent of the ladle on that side of the crane will be prevented by the safety rope or chain on that side of the crane. However, if by any possibility both the hoisting rope or chain and the safety rope or chain on one side of the crane should break, such an accident could not result in displacing the main trolley from its supporting rails or in overturning the main trolley due to the fact that the entire load on the ladle bar would then be transmitted through the safety rope or chain on the opposite side of the crane to the main trolley at a point inside of the main girder which would operate to retain the main trolley in its position on its supporting rails.

From the foregoing it will be observed that the safety ropes or chains arranged as above described perform the two fold function of safe guarding the ladle from overturning and spilling its molten steel, and further in preventing the displacement or overturning of the main trolley in the remote contingency of the overturning of the ladle.

In Fig. 2 the safety ropes or chains are secured at their upper ends to drums 9, 9, located on the main trolley at a point between the main and auxiliary girders and depend therefrom, their lower ends being secured to the ladle bar. Hence in this construction the drums 9, 9, may be of the same diameter as the main hoisting drums, while in the construction before described they must be of greater diameter.

The safety ropes or chains are so adjusted and arranged with respect to the main trolley and the ladle bar that they perform no function with respect to carrying the load of the ladle and its contents as that function is performed by the main hoisting chains or ropes, but they simply serve to insure against the accidental overturning of the ladle or of the displacement or overturning

of the main trolley in the event of the breaking of one of the main hoisting chains or ropes.

It is evident that the improvement will permit of wide variations in the construction and relative arrangement of parts, it only being essential that the safety chains or ropes shall be located at a point inside the main girders in order that they may form the two fold functions which have been pointed out.

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

1. In a double trolley crane, the combination with the main trolley, ladle bar and main hoisting chains or ropes located outside the main girders, of safety ropes or chains arranged to connect the ladle bar and main trolley at points inside the main girders.

2. In a ladle crane, the combination with the main trolley mounted in the main girders, an auxiliary trolley mounted in the auxiliary girders, of main hoisting chains or ropes connecting the main trolley and ladle bar outside the main girders, and safety ropes or chains connecting the main trolley and ladle bar at points inside the main girders.

3. In a ladle crane, the combination with

a main trolley mounted on the main girders, an auxiliary trolley mounted on the auxiliary girders, of main hoisting ropes or chains located outside the main girders, and safety ropes or chains connecting the main trolley and ladle bar at points slightly outside of the vertical plane of the auxiliary girders.

4. In a ladle crane, the combination with main and auxiliary girders and footwalks interposed between the same, of main hoisting ropes or chains located outside of the main girders and safety ropes or chains located between said footwalks and the auxiliary girders.

5. In a ladle crane, the combination with main trolley mounted on the main girders, of hoisting ropes or chains located outside the main girders, and safety ropes or chains depending from the main trolley outside the main girders and passing under sheaves attached to the ladle bar and connected directly or indirectly with the main trolley at a point inside the main girders.

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

HENRY A. SEYMOUR.

Witnesses:

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