

E. C. SHERMAN.
LADLE CAR.

APPLICATION FILED APR. 22, 1911.

1,021,753.

Patented Mar. 26, 1912.

2 SHEETS-SHEET 1.

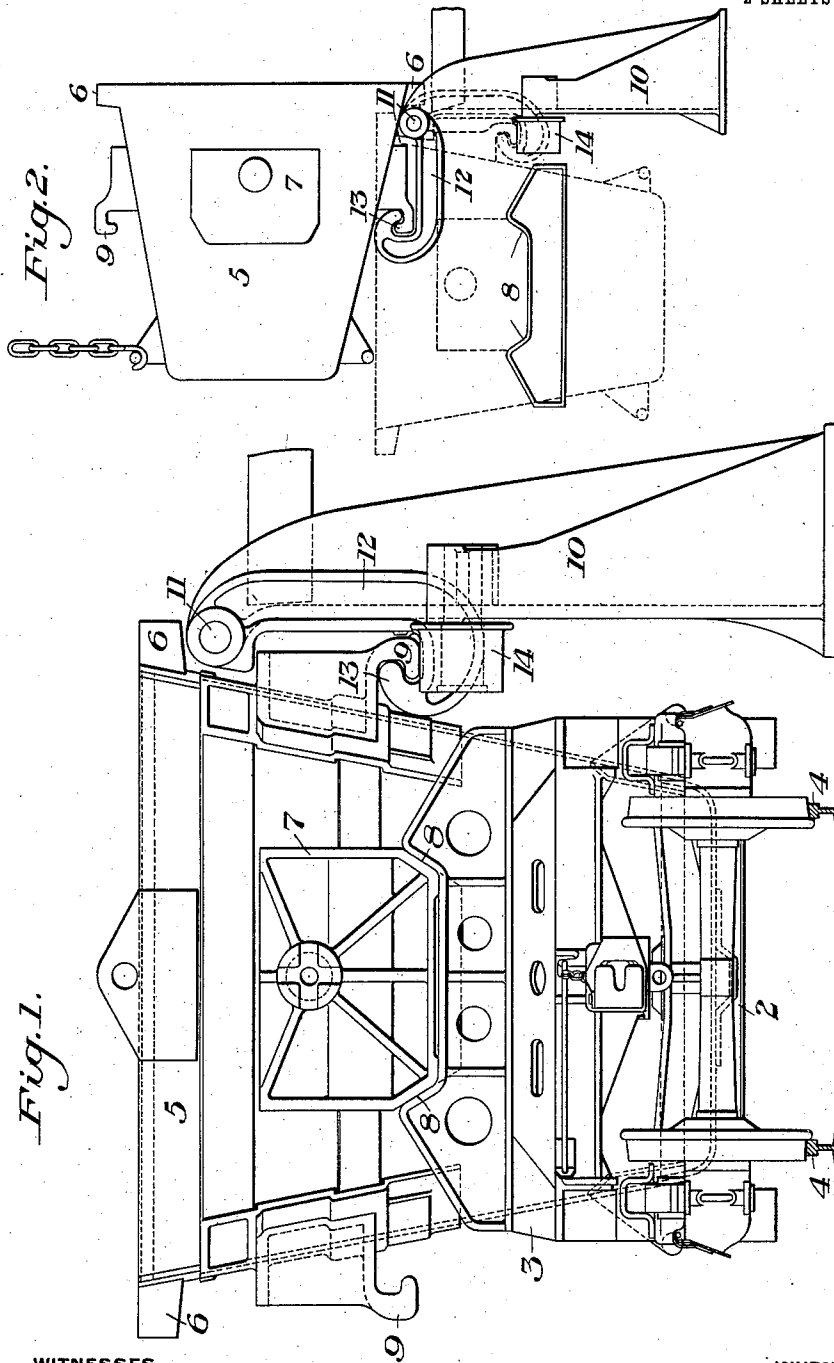


Fig. 1.

Fig. 2.

WITNESSES

R. A. Balderson
W. L. Lumariss

INVENTOR

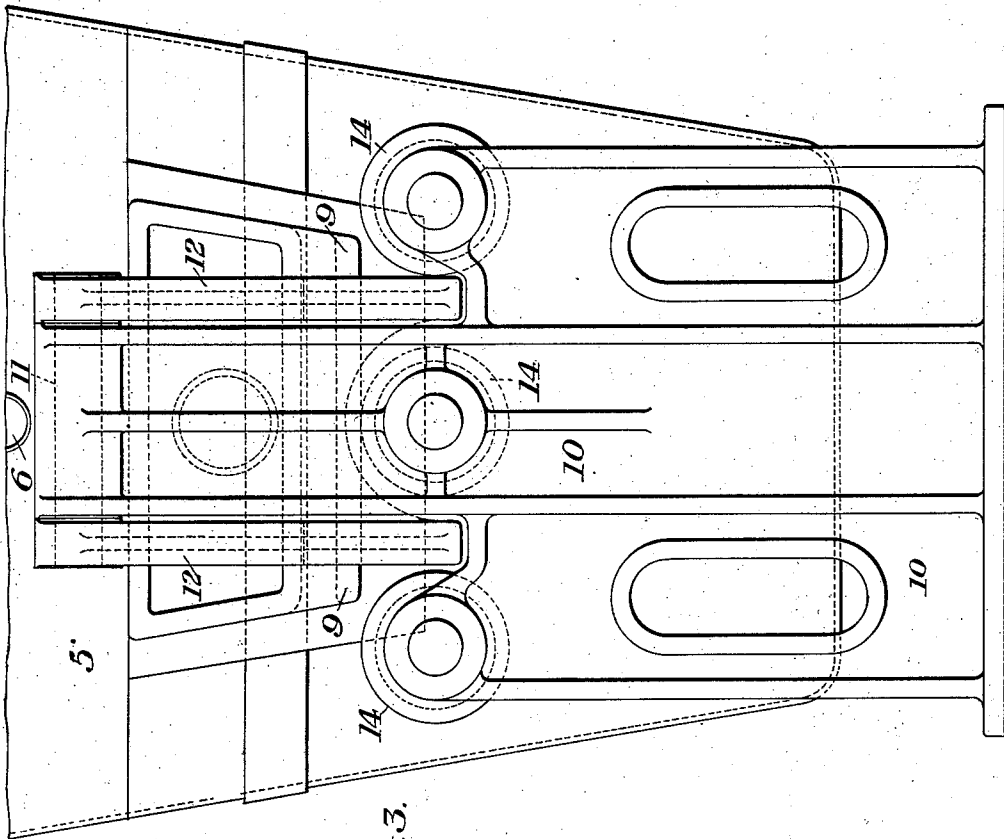
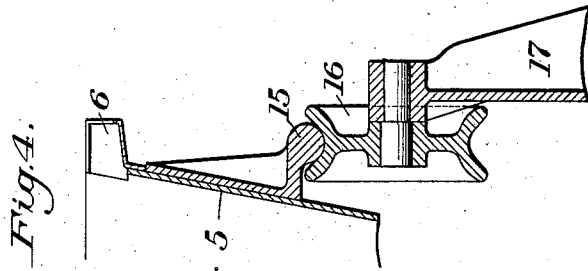
E. C. Sherman,
by B. H. Russell, Payson & Parmelee,
his Attys.

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UNITED STATES PATENT OFFICE.

ERWIN C. SHERMAN, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE WILLIAM B. POLLOCK COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

LADLE-CAR.

1,021,753.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed April 22, 1911. Serial No. 622,837.

To all whom it may concern:

Be it known that I, ERWIN C. SHERMAN, of Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Improvement in Ladle-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of a ladle car embodying my invention; Fig. 2 is a similar view largely diagrammatic illustrating the dumping movements of the ladle; Fig. 3 is a side view showing the stand, the cradle and the ladle; and Fig. 4 is a detail sectional view showing a modification.

My invention has relation to ladle cars of that type in which the ladles are emptied by pouring from the spout located at or near the top thereof. In cars of this character as ordinarily constructed heretofore, when the ladle is tipped in the frame of the car, there is considerable drop to the spout when pouring and in order to bring the final position of the spout in the proper relation to the receptacle poured into, it has been necessary either to allow considerable fall to the metal during the first part of the pouring, resulting in great loss due to the splashing of the metal, or to lift the ladle from the car by means of an overhead crane and place it in the tilting cradle, so arranged as to give a shorter fall to the metal or to provide a movable trough which moves with the spout of the ladle. My present invention is designed to overcome the inconvenience and expense of these operations and to provide a ladle car having a ladle capable of a novel tilting movement of such character as to greatly reduce the movement of the spout in pouring.

Referring to the drawings, the numeral 2 designates the truck of a ladle car and 3 the frame thereof, said truck and frame being, in general, of any well known or suitable character.

4 designates track rails upon which the car is mounted to travel; 5 designates the ladle having the pouring spouts 6 at opposite sides. The ladle is provided with the supporting brackets or castings 7, secured to opposite ends thereof, and which will normally rest in seats 8, in the car end frames. Secured to each side of the ladle is a hook member 9.

10 designates a fixed stand adjacent to and outside of one of the track rails 4, and to which is pivoted at 11 a swinging cradle 12, composed of two depending arms terminating in upwardly curved hooks 13. The stand 10 is also provided with a number of guide rollers 14.

The operation is as follows: As the ladle is tipped by lifting in the manner shown in Fig. 2, the first movement takes place between the foot of the hook 9 and the rollers 14, until the ladle comes in contact with the top of the swinging cradle. The cradle then commences to swing inwardly and upwardly, as indicated in Fig. 2, taking the weight of the ladle, the tipping movement being about the axis of the pivot 11, this tipping being practically all done about this center. As this center is located outside of the track rails at a point near the top of the ladle, it is obvious that the spout 6 will travel but a short distance in the complete tipping movement of the ladle. When the ladle is to be dumped in the opposite direction, a similar stand and cradle will be placed at the opposite side of the track.

While in the drawing, I have shown a slight clearance between the ladle and the top of the cradle, this is not essential, since the ladle may come in contact with the top of the cradle as soon as the tipping movement commences. In this case, all of the tipping movement will take place about the center 11. On the other hand, the clearance may be increased, so that the greater proportion of the movement may take place on the rollers 14. In lieu of these rollers, any other suitable bearing surface may be provided.

In some cases the swinging cradle may be omitted entirely and the ladle may be provided with a projection 15, which will bear on a suitable roller or other support 16, attached to a fixed stand 17, adjacent to the track, as shown in Fig. 4.

It will be noted that the tipping movement of the ladle is accomplished wholly on a bearing or bearings outside of the car.

It will be obvious that my invention is susceptible of various changes in the details of arrangement and construction of the several parts, without departing from the spirit and scope as defined in the appended claims.

I claim:

1. The combination of a ladle car, a track

upon which the car is mounted, a tiltable ladle supported on the car, a bearing support adjacent to the track, and a swinging cradle mounted on said support and adapted
5 to be engaged by the ladle, substantially as described.

2. The combination of a ladle car, a track upon which the car is mounted, a tiltable ladle mounted on the car, a fixed support
10 adjacent to the track, and a swinging cradle mounted on said support and adapted to be engaged by the ladle, the support also having other supporting means for engagement with the ladle, substantially as described.

3. The combination of a ladle car, a supporting track therefor, a tiltable ladle mounted on the car, a stand adjacent to the track and having bearing surfaces, and a swinging cradle also mounted on said stand, the ladle and cradle having cooperating en-
20 gaging means, substantially as described.

In testimony whereof, I have hereunto set my hand.

ERWIN C. SHERMAN.

Witnesses:

PAUL J. JONES,
W. G. WILSON.

Copies of this patent may be obtained for five cents each, by addressing the Commissioner of Patents,
Washington, D. C."
