Sept. 2, 1930. M. C. YOUNG 1,774,863

CARRIER

Filed Aug. 6, 1928 3 Sheets-Sheet 1

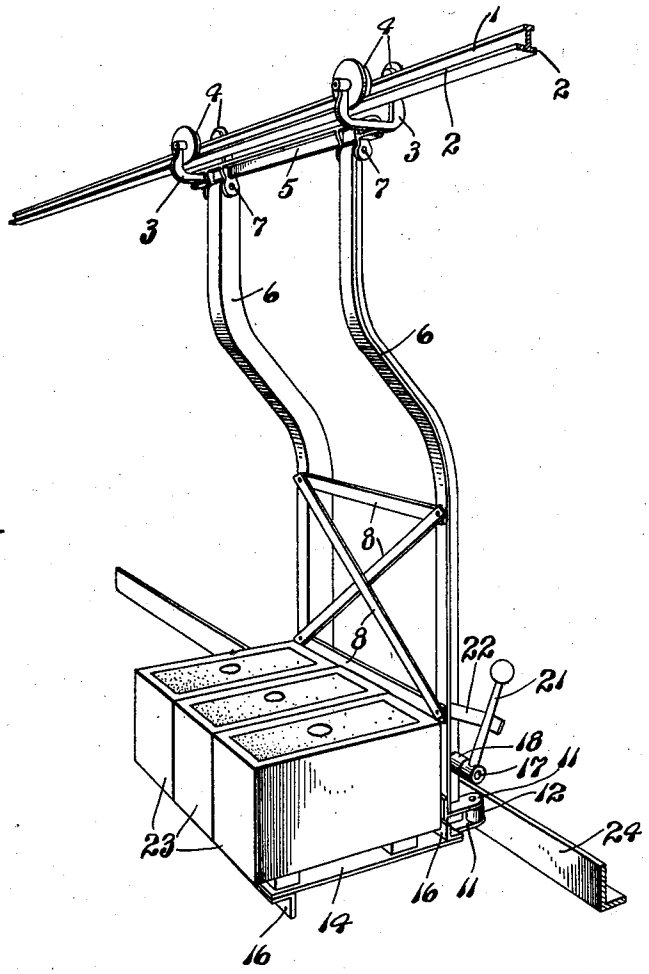


Fig. 1.

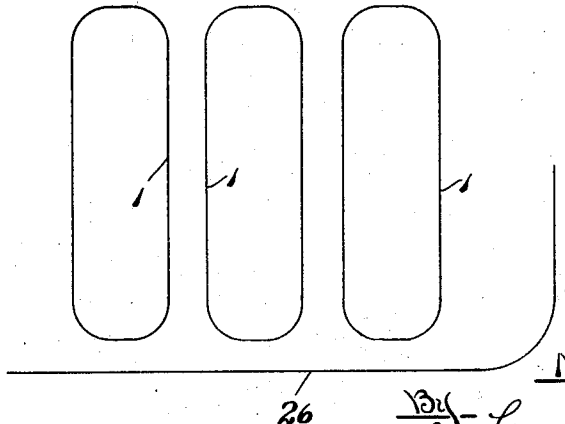


Fig. 2.



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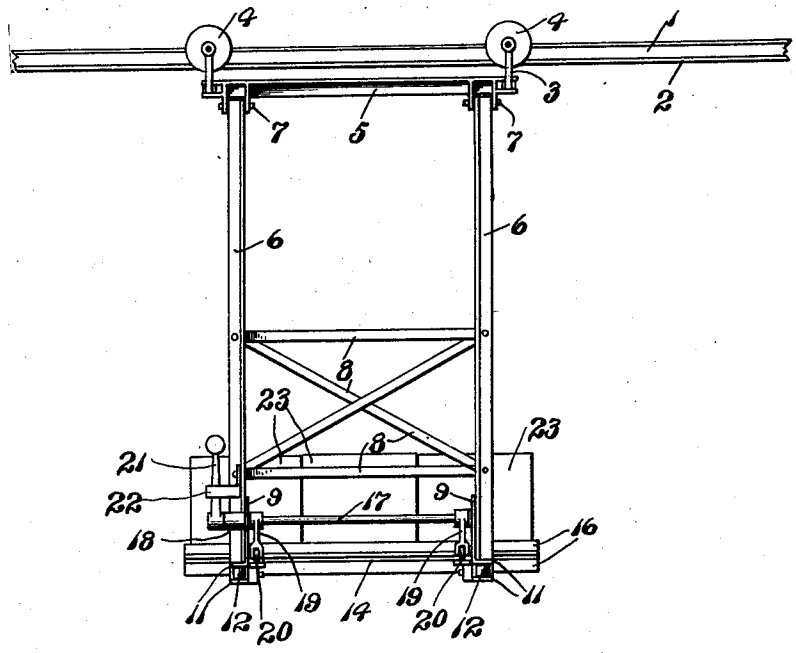


Fig. 3.

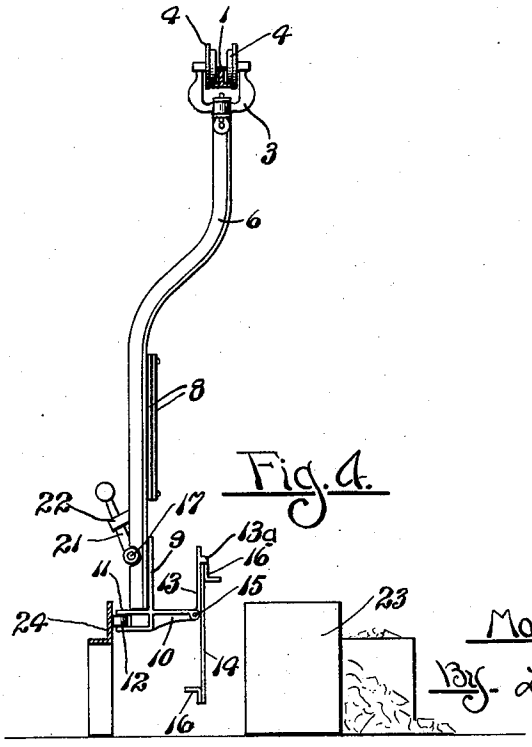


Fig. 4.

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Fig. 5.

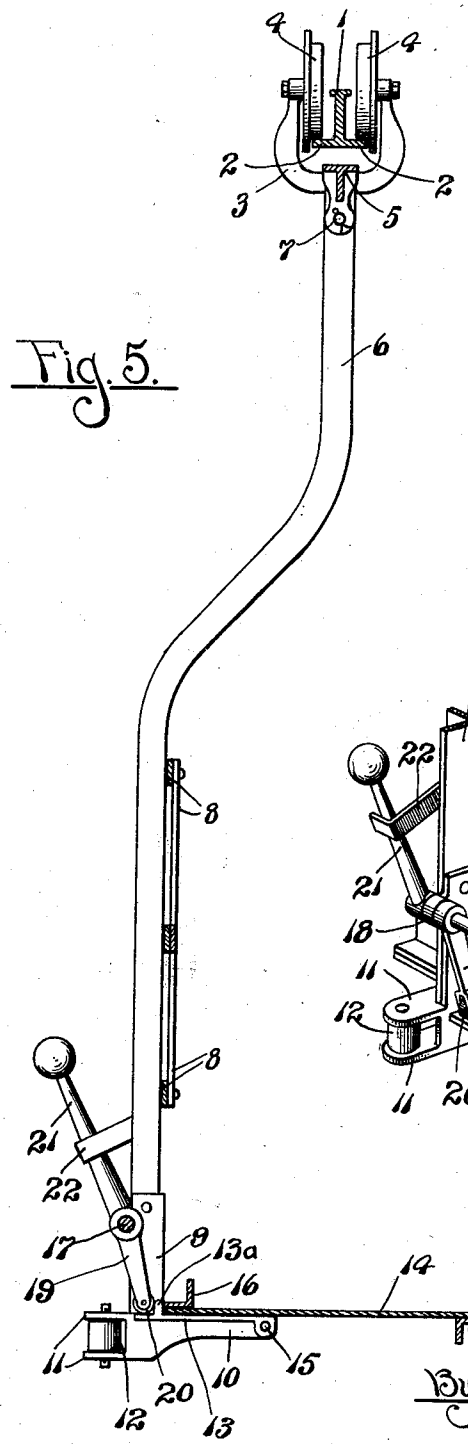
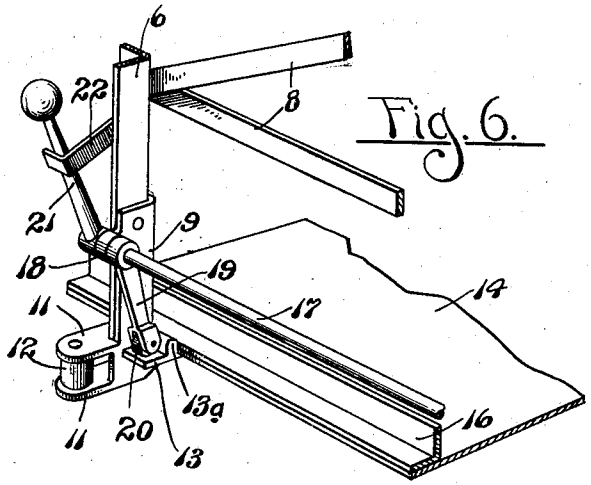


Fig. 6.



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UNITED STATES PATENT OFFICE

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CARRIER

Application filed August 6, 1928. Serial No. 297,645.

This invention relates to a carrier which, while particularly useful in conjunction with foundries, may be used in many relations for carrying articles from one place to another.

It is an object and purpose of the present invention to provide a carrier structure on which articles may be moved from one place to another and which, if desired, may be tripped to dump the articles carried from the carrier, this being very desirable in foundry practice where the articles carried are flasks with molds therein which, after the molds have been poured, are dumped from the carrier so as to dislodge the sand and the casting within the same from the mold.

An understanding of the invention for the attainment of the ends stated may be had from the following description taken in connection with the accompanying drawings, in which,

Fig. 1 is a perspective view of the carrier construction showing the same carrying a plurality of molds.

Fig. 2 is a diagrammatic view of a plan of using the carriers in a foundry for the easy pouring of molds therein.

Fig. 3 is a rear elevation of the construction shown in Fig. 1.

Fig. 4 is a side elevation thereof, the carrying platform being tripped to dump the flasks therefrom.

Fig. 5 is a somewhat enlarged vertical section through the carrier and the track on which it is mounted, and

Fig. 6 is a fragmentary perspective view, partly in section, of the lower end of the movable carrier illustrating the manner in which the platform is latched in operative position.

Like reference characters refer to like parts in the different figures of the drawings.

In the construction, an overhead track is used which preferably is of inverted T-shape including an upwardly extending web 1 with integral flanges 2 at the lower end thereof extending in opposite directions from the web. A carriage is mounted on the track comprising spaced apart yokes 3 on the arms of which rollers 4 are mounted to bear against the flanges 2 of the track. The two yokes are connected by a bar 5 and the yokes are pivotally mounted on and extend upwardly from the ends of the bar whereby they are permitted to turn about vertical axes, this allowing the carriage to run on curved tracks and around bends in tracks as is evident.

Two suspending bars 6, preferably of angle iron, are pivotally connected at their upper ends to turn about a horizontal axis at 7 near the ends of the bar 5. The suspending bars 6 extend vertically downward from the carriage for a distance, are then bent laterally to one side and again extended vertically downward, as shown. They are held in rigid relation to each other and properly spaced apart at their lower portions by the various cross connecting and bracing bars 8 as shown.

At the lower end of each suspending bar 6 a bracket 9 is permanently secured which includes a horizontal arm 10 and two vertically spaced apart ears 11 extending opposite to the arm 10, between which ears a roller 12 is rotatably mounted. A member 13 lies alongside of each arm 10 and near its rear end is provided with an upwardly projecting lug 13^a. A platform 14 is permanently secured to the members 13, which at one end are pivotally connected to the free ends of the arms 10, as shown at 15 in Figs. 4 and 5. The platform 14 bears at one edge against the lugs 13^a and extends considerably beyond the members 13 to which it is secured and is reinforced by angle bars 16, one above the platform at what may be termed its rear edge, and the other below the platform at its opposite front edge. Normally, unless the platform is latched in place, it will tilt about the pivots 15 to the substantially vertical position shown in Fig. 4.

A horizontal rock shaft 17 is mounted for rocking movement in suitable bearings 18 near the upper ends of the brackets 9, to which spaced apart downwardly extending arms 19 are secured. The arms 19 at their lower ends are equipped with rollers 20 adapted in one position to lie above the rear ends of the members 13 and against the lugs 13^a, as best shown in Figs. 5 and 6. This latches the platform and holds it in horizontal position. At one end the shaft 17 is

equipped with an operating handle 21 for rocking the shaft 17 about its axis to disengage the rollers from the members 13 and the handle is held against too far movement in one direction by a retaining member or bar 22 secured at one end to one of the suspending bars 6 and having a laterally turned section at its free end against which the handle engages to limit the extent of movement thereof in the direction noted.

The platform 14, held in horizontal position by engagement of the latching arms 19 and rollers 20 thereon with the members 13, may carry articles of any desired character. In Fig. 1 a plurality of flasks 23 containing molds are shown carried on the platform. The carrier may be moved along the track 1 and, where it is desirable or necessary, fixed abutments, like that indicated at 24, are permanently secured in place, against which the rollers 12 described engage to hold the construction from swinging about the axes of pins 7. This is particularly desirable at the points where the flasks are poured, or receive the molten metal in the molds, in order that there shall be no swaying of the carrier construction or undesirable movement when the pouring takes place. It is to be understood that the invention is not limited in use in any respect to foundries alone. There are many other places where the carrier may be very useful. For instance, in manufacturing plants certain elements of construction which enter into a complete machine are made in different parts of the plant and have to be carried to the points of assembly, and this carrier is particularly useful in conjunction therewith especially in the latching and dumping feature, whereby the platform may be held in a horizontal position while the articles are being carried to a desired place and then by releasing the latching means said articles may be deposited at the place where they are to be used.

In Fig. 2 a diagrammatic outline of one way in which the construction may be very useful is shown. The tracks 1 are endless tracks around which the carriers described may be moved. A cupola furnace is indicated at 25 and a track 26 leads from in front thereof to one end of the several tracks 1 for transporting the ladles carrying the molten metal from the furnace to adjacent the tracks 1, it being evident that the ladles may be lifted when their destination is reached and the flasks poured. After the flasks are poured, the carriers are moved on the tracks 1 to another position in which, after the molten metal has sufficiently cooled, the platforms 14 are unlatched, as shown in Fig. 4, whereupon the same tilt to vertical position dumping the flasks and shaking out the sand and castings therefrom. The flasks may be replaced on the platforms after the same have been turned back and latched in horizontal position, the carriers moved to the place where the molds are made and then again moved to the pouring station. It is evident that the platform automatically latches in place when it is moved from vertical to horizontal position as the rear ends of the members 13 engage with the arms 19 and rollers 20 automatically.

The construction described is very practical and efficient and has proved its value in actual practice. Many variations in the detail of construction may be resorted to without departing from the invention defined in the appended claims, which is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. In combination an overhead track, a carriage mounted on said track to traverse the same, spaced apart bars connected at their upper ends to the carriage and extending downwardly therefrom, brackets secured to the lower ends of said bars having horizontal extensions, a platform pivotally mounted at the free ends of said extensions and normally overbalancing to occupy a vertical position, and releasable latching means for holding the platform in a horizontal position.

2. A carrier comprising, a carriage, suspending means connected to and extending downwardly from the carriage, brackets secured to the lower end of the suspending means having laterally extending horizontal arms, a platform pivotally mounted to turn about a horizontal axis at the free end of said arms and normally occupying a vertical position when free to do so, latching means engaging with said platform to hold the same in horizontal position, and means for releasing the latching means.

3. A carrier comprising, a carriage adapted to traverse a track, spaced apart bars connected at their upper ends to said carriage and extending downwardly therefrom, means connecting said bars at their lower portions to hold the same against movement with respect to each other, brackets secured one to each lower end of said bar, each having a laterally extending horizontal arm, a platform pivotally mounted on said arms to turn about a horizontal axis and normally tilting to vertical position when free to do so, latching means mounted on said bars and engageable with said platform to hold the same in horizontal position, and means for releasing the latching means.

4. A construction containing the elements in combination defined in claim 3, each of said brackets adjacent its lower ends carrying a roller mounted to turn about a vertical axis at the side thereof opposite said laterally extending arm, and means for pivotally connecting each of said bars at its upper end to said carriage whereby the bars may swing about a horizontal axis.

5. A carrier comprising, a carriage, bars secured at their upper ends to and depending from said carriage in spaced relation to each other, brackets attached, one to the lower end of each of said bars, each of said brackets having a horizontal arm at its lower end, a member pivotally connected at one end to the outer end of each arm, a platform permanently secured to and extending over and between said members, said platform normally tilting to a vertical position when free to do so but adapted to be turned to a horizontal position, a horizontal rod mounted for rocking movement on and between said bars adjacent the upper ends of the brackets, and arms fastened to said rod extending downwardly therefrom to engage with said members when the platform is in horizontal position and hold the same against tilting to vertical position.

6. A construction containing the elements in combination defined in claim 5, each of said members adjacent its free end having an upwardly extending lug, a roller mounted at the lower end of each arm to engage against said lugs and the upper sides of the free ends of said members, and an operating handle secured to one end of said rod for rocking the rod to disengage said rollers from said members, for the purposes described.

7. In combination, an overhead track, a suspending structure traversably supported on said track, and a horizontal platform mounted at the lower end of said suspending structure and entirely at one side thereof, the center of said platform being located substantially in vertical alignment with said track.

8. In combination, an ovehead track, a suspending structure traversably mounted on said track, a horizontal platform pivotally supported at the lower end of said suspending structure and extending wholly from one side thereof, the center of said platform being located substantially in vertical alignment with said track and means for releasably retaining said platform in horizontal position.

In testimony whereof I affix my signature.

MATHIAS C. YOUNG.