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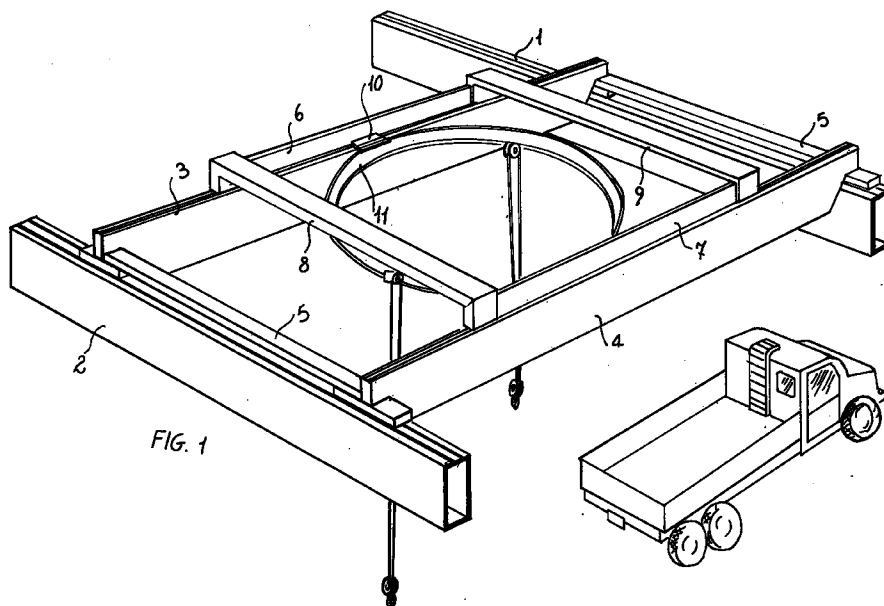
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(54) Bridge trolley with circular rail to be suspended underlying the frame to improve the working envelope of the chain blocks

(57) On rails (1 and 2) a running overhead-travelling crane with bridge guide bearings (3 and 4) connected by bars (5) is provided. Into said guide bearings (3 and 4) the bridge trolley consisting of a frame with longitudinal bars (6 and 7) and cross bars (8 and 9) to be slid. Said frame underlying brings the circular monorail (11)

to be solidarily connected by radial supports (10). For acting the catching and the unloading of the load with the exit bounds the chain blocks (12 and 13) are connected by a bar (14).



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Description

The invention refers to a bridge trolley with monorail in which the same monorail is assembled underlying from the frame to be run on the overhead-travelling crane. This particular assembly for permitting, also with the possible symmetric projection from the bars, to heighten the throwing action of the chain block in both ways. This kind of bridge trolley permits in circular way the transport of high loads from a catching position to an arriving one by using one or both the chain blocks, the throwing action of which depends on the monorail radius. Owing that currently in said bridge trolleys the monorail is assembled into the running frame, said monorail must necessarily be contained into the space between the cross-bars of the frame and consequently the throwing action of the chain blocks can only be inside the same frame. The limit of the current bridge trolleys, in which the throwing action of the chain blocks depends on the width of the frame supporting the monorail, comes to be an obstacle to the use of said bridge trolley because it is necessary to provide a frame of bigger dimension in comparison of that really necessary. The invented bridge trolley permits this problem solution by providing a different assembly of the monorail in which the chain blocks are running. Said monorail is suspended underlying the running frame and it is solidarily connected to the frame by means of radial supports which coming to bear the monorail suspended in the air. In this way is possible to correlate the running frame dimension only to the loading necessity and consequently it is provided a monorail with a radius to be related with the throwing action that the chain blocks must have. According to the invention on rails 1 and 2 a running overhead-travelling crane with bridge guide bearings 3 and 4, connected by bars 5, is provided.

Into said guide bearings 3 and 4 the bridge trolley consisting of a frame with longitudinal bars 6 and 7 and cross bars 8 and 9 to be slid. Said frame underlying brings the circular monorail 11 to be solidarily connected by radial supports 10. For acting the catching and the unloading of the load within the exit bounds the chain blocks 12 and 13 are connected by a bar 14. For using, beginning from the catching position A2, the two chain blocks 12 and 13 in converging on the loading axis bring the from themselves supported load in maximum exit position with parallel disposition in comparison with the bridge guide bearings 3 and 4. Then going on with a rotation of 90° of the two chain blocks 12 and 13 together with the bar 14 the loading becomes on the flatcar 15 for the unloading. Then said supporting means rotate in advancement of other 90° so becoming to the position A1 from which the cycle is repeated with opposite direction motion. Moreover being assembled the circular monorail underlying the frame consisting of the longitudinal bars 6 and 7 and cross bars 8 and 9 and having said frame a smaller height in comparison with the guide bearings 3 and 4 it follows that, in comparison with the current apparatuses, a smaller overall dimension

and a smaller height of the overhead-travelling crane are necessary conditions of loading being equal. An execution version of the invented apparatus is shown in schematic views in the drawings of sheets 1, 2 and 3. In sheet 1 fig. 1 is perspective partial view of the rails with the overhead-travelling crane to show a side top view of the monorail with the chain blocks 12 and 13 not connected.

In sheet 2 fig. 2 is section view of the monorail with the two chain blocks 12 and 13 of which only one is in unloading position.

Fig. 3 is section view of the two chain blocks 12 and 13 connected by the bars 14 acting the unloading on the flat car 15. In sheet 3 fig. 4 is view from the bottom of the monorail with the chain blocks 12 and 13 connected by the bar 14 in maximum exit position for the unloading.

Claims

1. Bridge trolley with circular monorail to be suspended underlying the frame to heighten the chain block throwing action in which on rails (1 and 2) a running overhead-travelling crane with bridge guide bearings (3 and 4), connected by bars (5), is provided and where into said guide bearings (3 and 4) the bridge trolley consisting of a frame with longitudinal bars (6 and 7) and cross bars (8 and 9) to be slid; characterized in that:
 - said frame underlying brings the circular monorail (11) to be solidarily connected by radial supports (10),
 - for acting the catching and the unloading of the load within the exit bounds the chain blocks (12 and 13) are connected by a bar (14).
2. Bridge trolley with circular monorail to be suspended underlying the frame to heighten the chain block throwing action, as per claim 1), characterized in that beginning from the catching position A2, the two chain blocks (12 and 13) in converging on the loading axis bring the from themselves supported load in maximum exit position with parallel disposition in comparison with the bridge guide bearings (3 and 4); then going on with a rotation of 90° of the two chain blocks (12 and 13) together with the bar (14) the loading becomes on the flatcar (15) for the unloading; then said supporting means rotate in advancement of other 90° so becoming to the position A1 from which the cycle is repeated with opposite direction motion.
3. Bridge trolley with circular monorail to be suspended underlying the frame to heighten the chain block throwing action, as per claim 1), characterized in that being assembled the circular monorail underlying the frame consisting of the longitudinal bars (6 and 7) and of the cross bars (8 and 9) and having said frame a smaller height in comparison

with the guide bearings (3 and 4) it follows that, in comparison with the current apparatuses, a smaller overall dimension and a smaller height of the overhead-travelling crane are necessary conditions of loading being equal.

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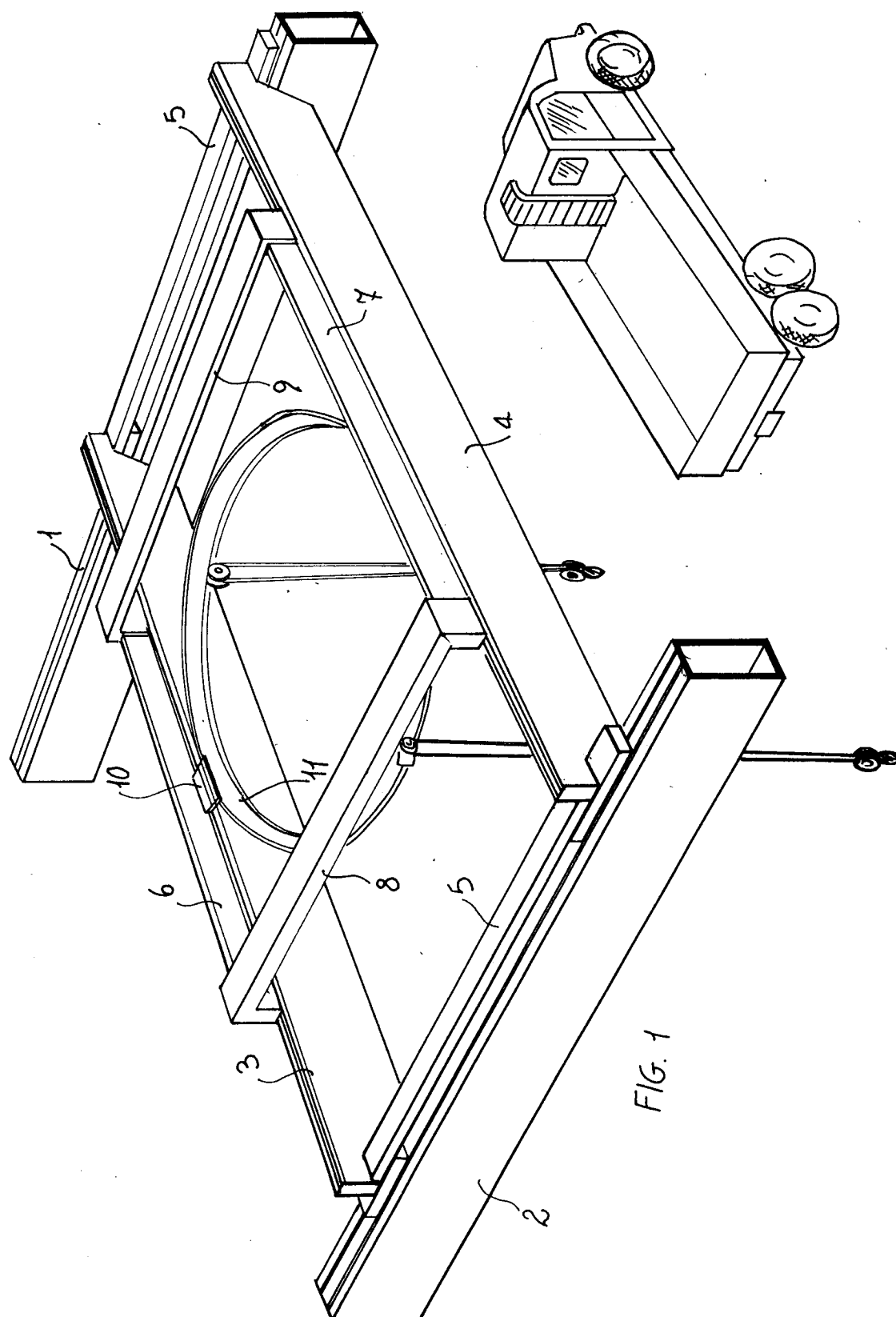
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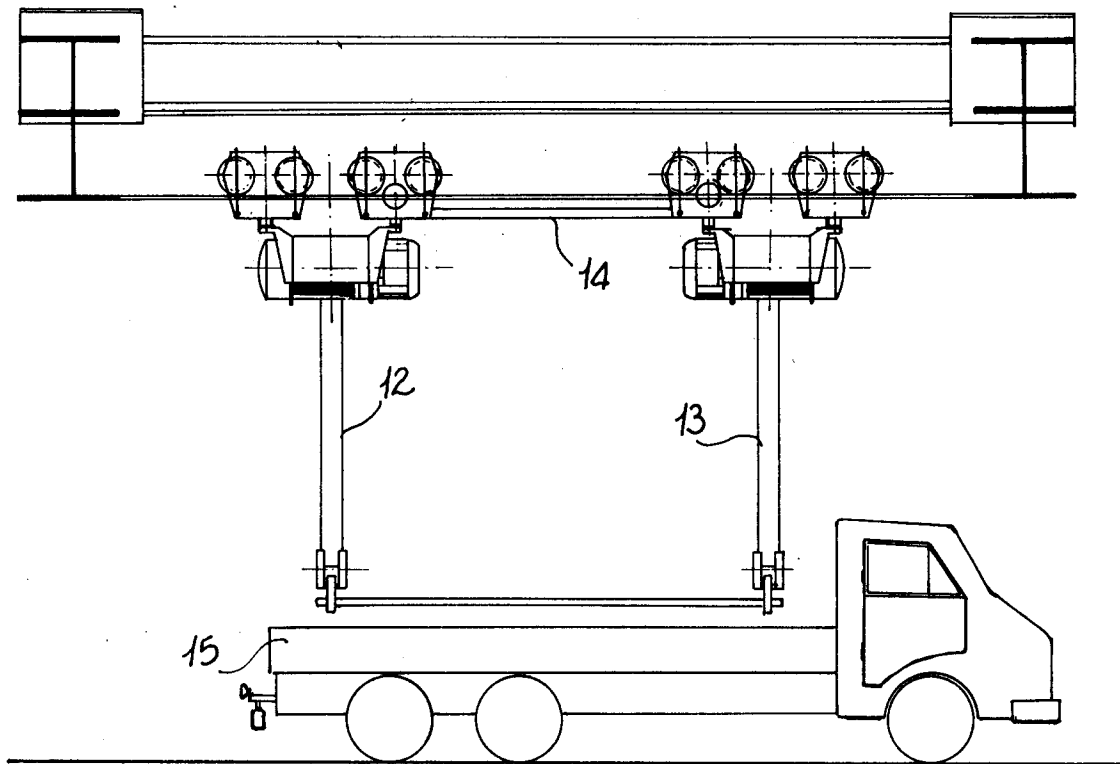
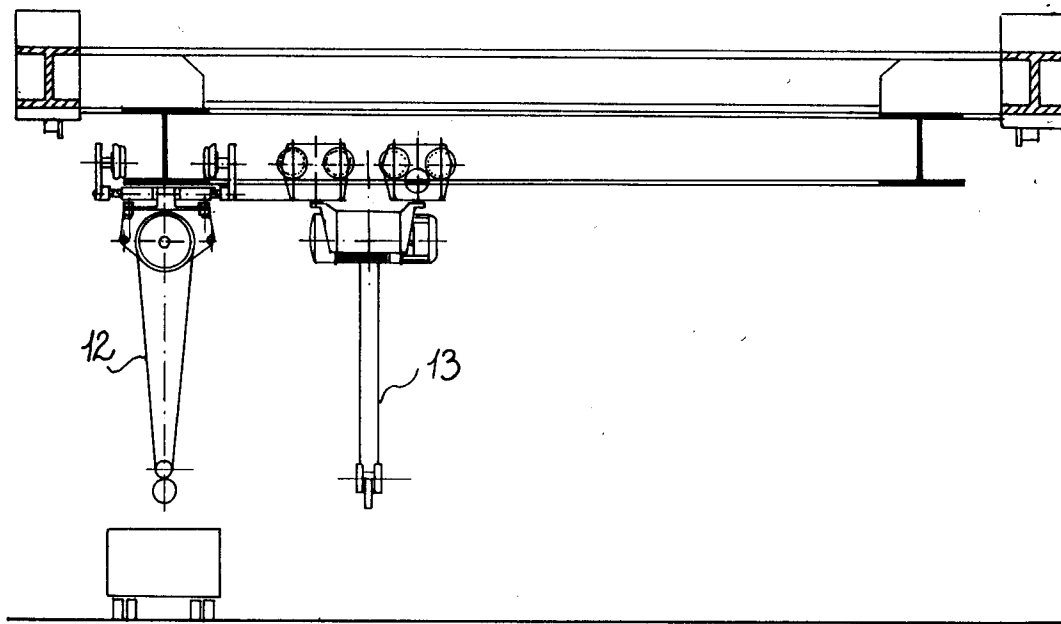
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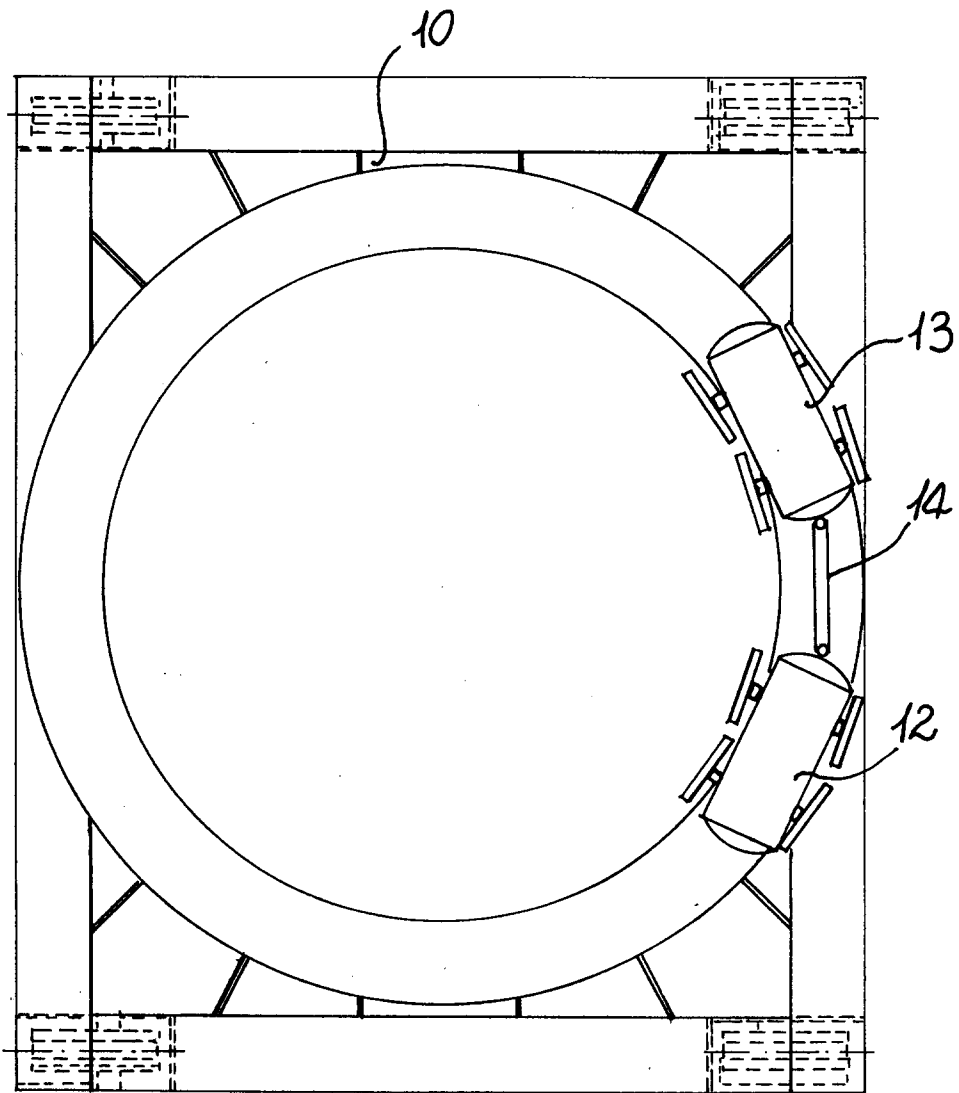


FIG. 4