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 [33] **Norway**
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[56]

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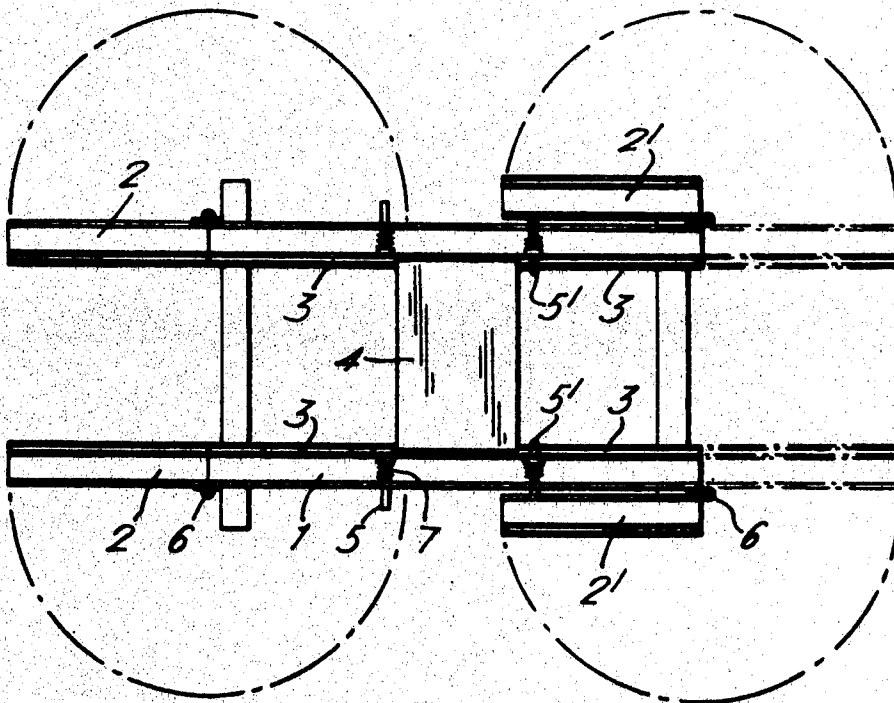
[54] **SAFETY BOLT**
1 Claim, 1 Drawing Fig.

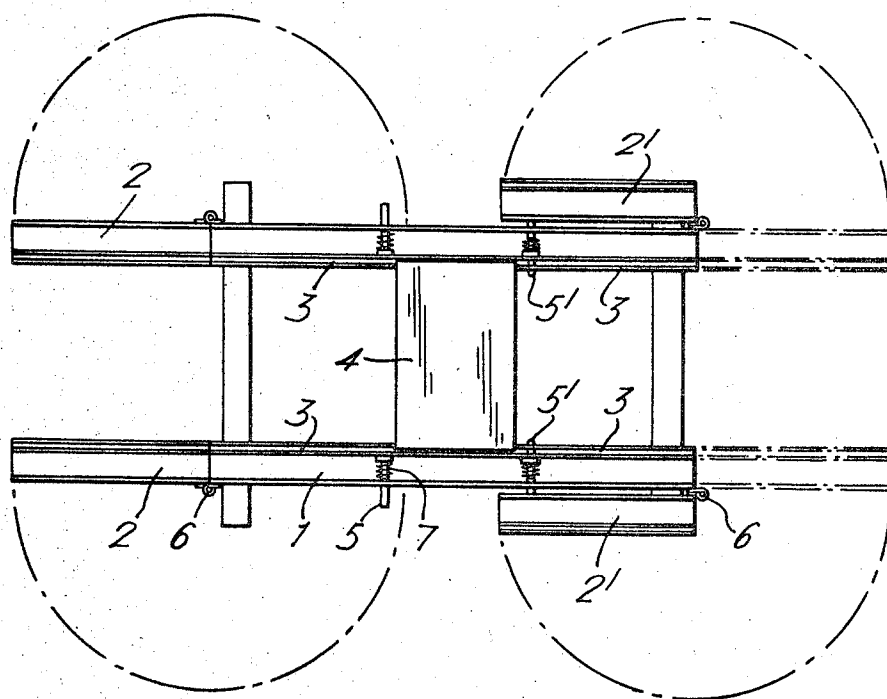
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[51] **Int. Cl.**..... **B66c 5/02**

[50] **Field of Search**..... **212/10, 11,**
13, 14, 15, 73, 124, 125, 128, 104/(Consulted);
105/(Consulted)

ABSTRACT: A gantry crane includes a framework supporting a main girder and a pair of swingable jibs which are movable between a first position in which they form an extension of the main girder and a second, stowed position in which they are parallel to the main girder. A trolley is mounted on rails provided on the girder and jibs. A stopper arrangement includes spring-loaded bolts which are displaced into the path of the trolley upon swinging of the jibs to the stored position to prevent the trolley from running off the rails.





SAFETY BOLT

The present invention relates to gantry cranes and especially ship gantry cranes of the kind which are provided with jibs, said cranes having rails or guidances for a trolley.

Such cranes have the drawback that when the jibs are swung out for loading on for example port side of a ship, while the jibs on starboard side are swung in to parked position, one inadvertently can run the trolley overboard on starboard side, if the crane operator is not attentive and stops the trolley in due time. To prevent such an accident the invention proposes a special safety element.

In accordance with the invention it is proposed a gantry crane of the kind mentioned above and so arranged that it is provided with stopper means to prevent the trolley from being run out from that side of the jibs which are swung in, the stopper means automatically being effective when the jibs move to swung-in position.

In accordance with a preferred embodiment said stopper means consist of spring-loaded bolts which by the swinging-in respectively jib are moved into the path of travel of the trolley.

To have a better understanding of the invention it shall now be described under reference to the preferred embodiment where the stopper means are spring-loaded bolts. It is, however, to be understood that the invention is not limited to such type of blocking arrangement or stopper means to prevent the trolley from being run out of the rails or guidances at that side of the gantry crane, where the loading and unloading work is not carried out i.e. that side on which the jibs are swung in to parked position.

Further it will be understood that even if such stopper means being shown and described in connection with a gantry crane also other kinds of cranes or technical structures working under corresponding conditions can make use of the inventive idea and thus fall within the scope of the present protection range.

In the diagrammatical illustration shown in the drawing a

gantry crane is seen in plane, its main girder 1 being provided with swingable jibs 2 which by convenient hinge connections 6 are secured to the ends of the main girder. The gantry crane main girder is provided with rails 3 on which a trolley 4 runs.

5 According to the invention stopper means are arranged for said trolley consisting of spring-loaded 7 bolts 5. These bolts are by convenient journaling in the main girder 1 axially displaceable in a direction across the longitudinal direction of the main girder. The length of the bolts and their position is so adapted that when they are left free their outer ends extend somewhat out from the main girders, while their inner ends are clear of the rails 3. The trolley 4 thus unobstructed can move on the rails 3.

15 When the jibs at the one end of the crane for instance the right jibs 2' in the drawing are swung in, they will strike against the outer ends of the bolts 5 and displace their inner ends against the spring loading to block the rails 3 so that the trolley 4 is stopped. By simple, safe and solid means it is thus provided an effective security against inadvertently to run the trolley overboard from the one end of the crane where the jibs are in parked position.

I claim:

1. A gantry crane comprising a framework supporting a main girder, a pair swingable jibs pivoted to each end of said main girder for swinging movement between a first position in which the jibs form an extension of said main girder, said main girder and jibs being provided with rails, a trolley mounted for movement along said rails, and a second position where the jibs are stored substantially parallel to said main girder, said main girder and jibs being provided with rails, a trolley mounted for movement along said rails, stopper means fixed to said main girder near each end for preventing said trolley from inadvertently running off said rails at that side where the jibs are in said stored position, said stopper means comprising 35 spring-loaded bolts wherein the jibs upon swinging to said stored position engage said spring-loaded bolts to displace said bolts into the path of movement of said trolley.

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