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Yamauchi et al.

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[54] **SURFACE PLATE FOR ASSEMBLING MATERIALS FOR SHIP HULL**

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[52] **U.S. Cl.** **198/131,** 198/200

[51] **Int. Cl.** **B65g 13/00**

[58] **Field of Search** 198/131, 200

[56] **References Cited**

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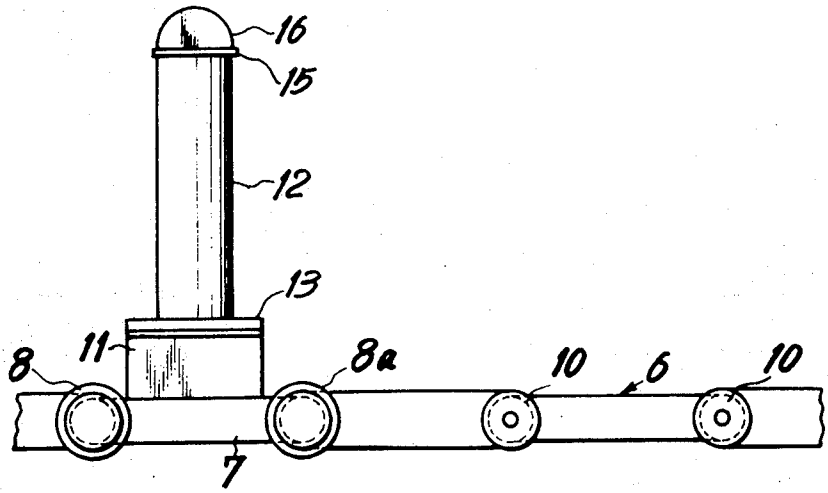
[57] **ABSTRACT**

Surface plate for assembling materials into the inner constructive member such as side transverse, bottom transverse and the like and for conveying the assembled member to the next station comprising a plurality of chain conveyers and projections secured to the chain for supporting the materials.

3 Claims, 5 Drawing Figures



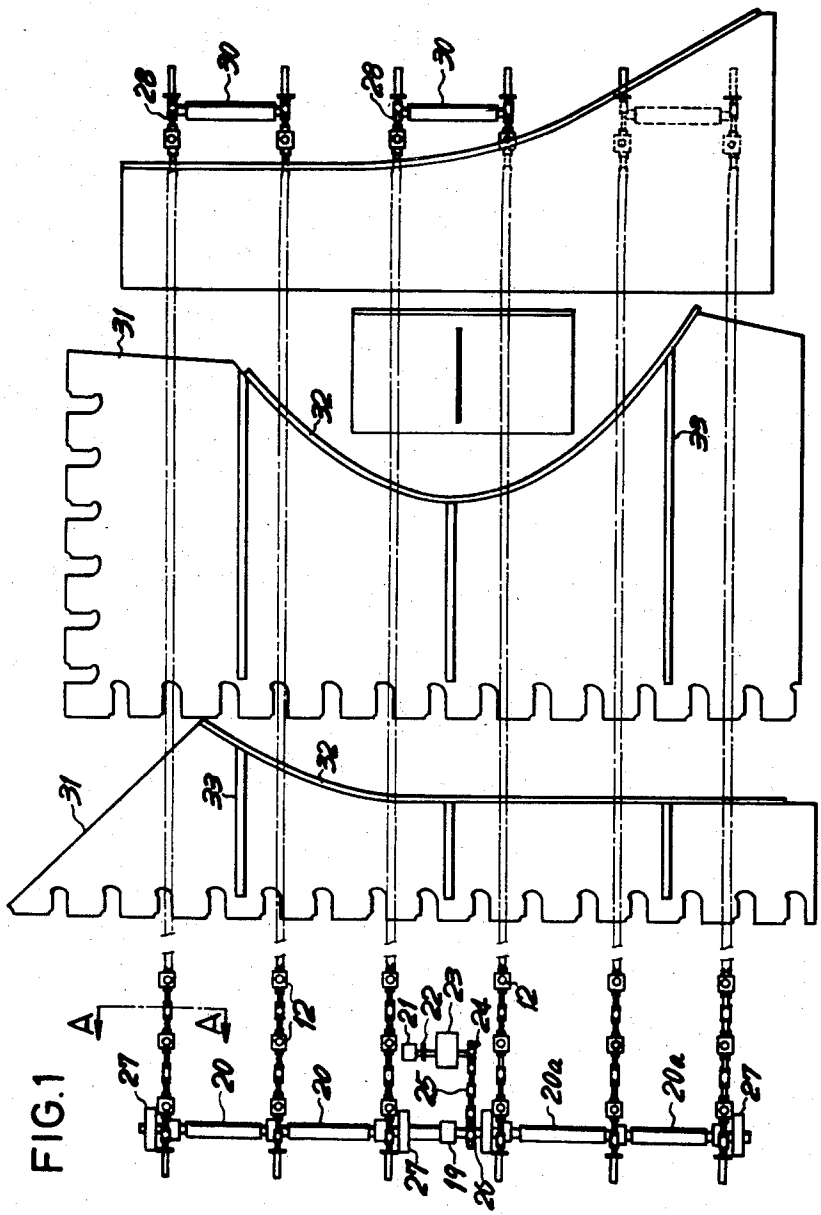


FIG. 1

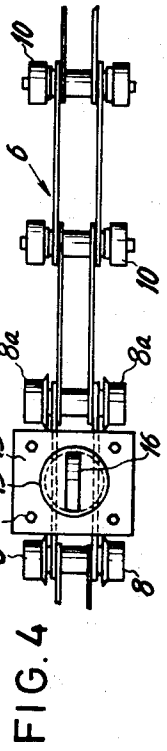


FIG. 4

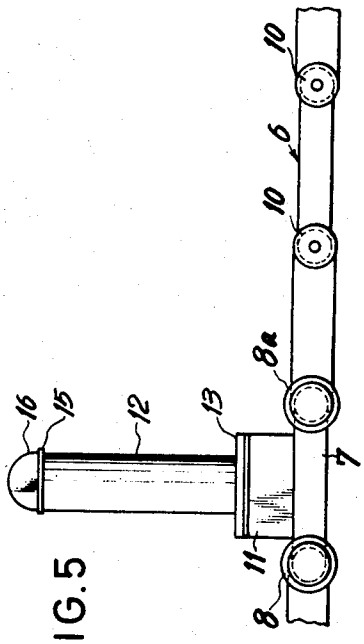


FIG. 5

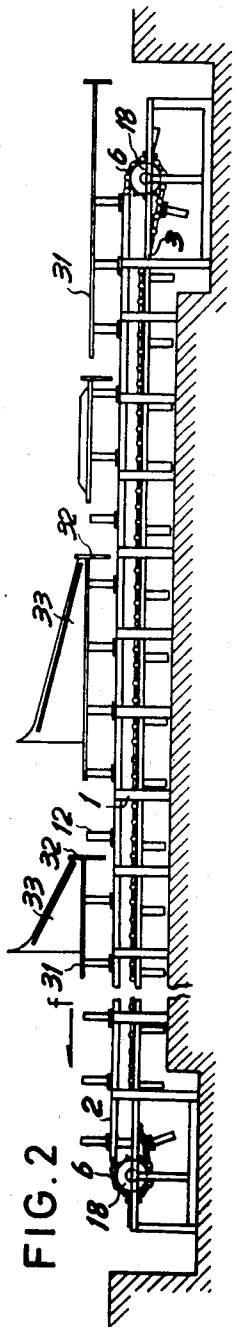
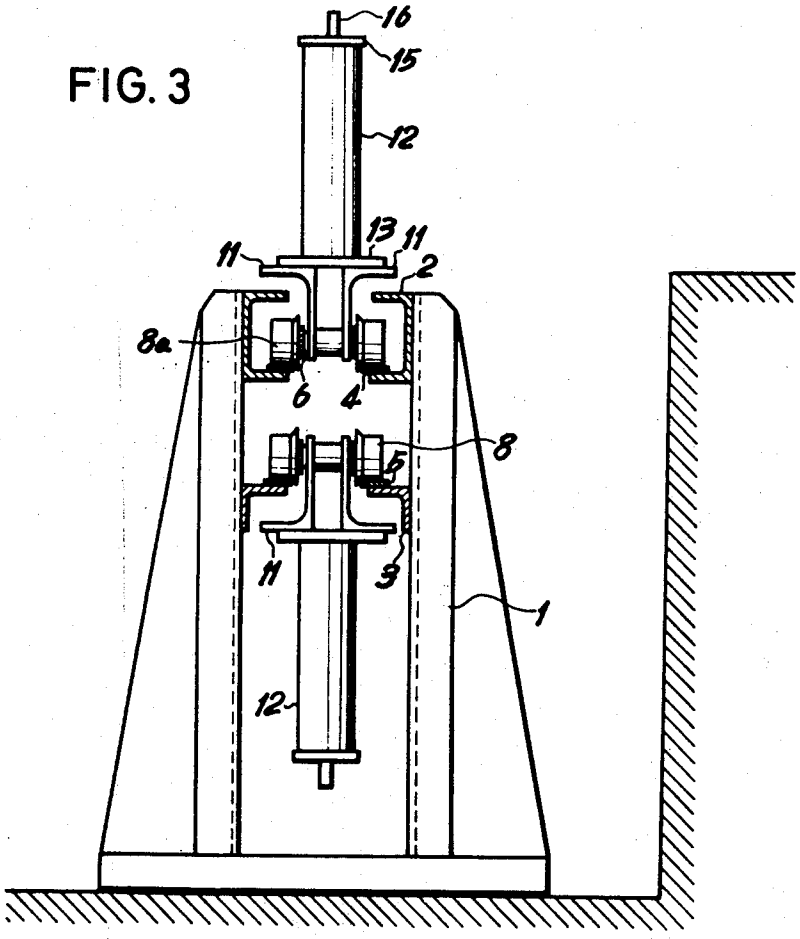


FIG. 2

FIG. 3



SURFACE PLATE FOR ASSEMBLING MATERIALS FOR SHIP HULL

This invention relates to a surface plate for assembling materials for ship hull such as side transverse, bottom transverse, and the like.

It has been proposed to provide a conveyer type surface plate on which materials are assembled and by which the assembled member is conveyed to the next working station. Conventional surface plate, however, is not adapted for supporting and conveying the inner constructive member such as side transverse, bottom transverse and the like, because such a member generally comprises web and a face plate vertically secured to the edge of the web and the face plate projects upward and downward from the both sides of the web.

Therefore it is an object of the present invention to provide a surface plate suitable for conveying the inner constructive member provided with projections on both sides.

The surface plate for assembling materials for hulls in accordance with the present invention comprises a plurality of chain conveyers arranged parallelly to one another, each of said chain conveyers carrying support posts suitably spaced from one another for supporting hull materials to be assembled, each of said support posts having a sufficient mechanical strength to convey said materials and a sufficient height in its operative state so that face plates vertically secured to the material such as web does not touch the chains.

In the drawings,

FIG. 1 is a plan view of a surface plate according to the present invention;

FIG. 2 is a side view of the same;

FIG. 3 is a sectional view taken along line A—A in FIG. 1;

FIG. 4 is an enlarged plan view of a part of chain conveyer; and

FIG. 5 is a side view of FIG. 4.

Referring now to the drawing, and more particularly to FIG. 3, on the frame 1 secured are rail bases 2 and 3 on which rails 4 and 5 are secured. Endless chain 6 has flanged wheels 8 and 8*a* at the both ends of links 7 which are provided at a suitable space and wheels 10 at every links other than link 7. These wheels are supported on and movable along the rails 4 and 5. Secured to each link 7 is a support post seat 11 to which is secured by bolts 14 a base plate 13 carrying a support post 12 secured thereto. The support post 12 carries a top plate 15 on which plate 16 is secured. The support plate has an arcuated top surface and extends to the direction of its travel.

As shown in FIG. 1, a plurality of chain conveyers of the above construction are arranged in parallel. Driving chain wheels 18 are connected by main shafts 20 and 20*a* coupled with a coupling 19, and are driven from a motor 21 through a coupling 22, reduction gears 23, chain wheel 24, chain 25 and chain wheel 26. Numerals 27 designate bearings for the main shafts. Driven chain wheels 28 are tied in pairs to respective shafts 30.

Materials for constructing inner constructive members, namely webs 31 are laid on support posts 12 in such positions that each edge of the webs on which the face plate 32 is to be secured is positioned between support posts 12. While the chains proceed in the direction of arrow *f*, in FIG. 2, welding of the face plates 32 and stiffeners 33 is performed. The support plates 16 directly supporting the web are arcuated in the direction of travel thereof, so that they can smoothly run around the end of the conveyer. More particularly, when the support plate rounds about the chain wheel, the top of support plate slips on the under surface of web and thereby the support post is subjected to bending force. The support post, however, does not experience a great force because of arcuated support plate. Also, since the support posts 12 are removably secured by bolts 14 to the respective chains, they may be readily removed if they become a hinderance to the work or they may be readily removed or replaced if they get crooked or otherwise damaged.

What is claimed is:

1. A conveyer for supporting web materials and face plates of a ship gull for assembly and conveyance comprising a plurality of conveyer chains having horizontal runs disposed parallel to one another and concurrently driven for longitudinal displacement in the direction of conveyance, said chains having supporting posts extending upwardly therefrom to support the web materials a distance above the chains sufficient to accommodate the face plates mounted perpendicular to the web material supported by said posts, each of said posts having a vertical support plate mounted at the top thereof parallel to the direction of movement of said chain runs, said support plate having an arcuate upper edge in the direction of conveyance.

2. A conveyer according to claim 1 wherein said support plate is semi-circular in outline.

3. A conveyer according to claim 2 including a horizontal top plate mounted on the top of said post intermediate said support plate and said post whereby said top plate distributes the load of said support plate over the entire cross section of said post.

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