United States Patent [19]

Maeda

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[54] **SCAFFOLDING FOR WELDING OF PREFABRICATED HULL MODULES IN SHIPBUILDING**

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[52] **U.S. Cl.** **182/82,** 182/141, 182/128

[51] **Int. Cl.** **E04g 3/16**

[58] **Field of Search** 182/82, 148, 141, 128, 182/223

[56] **References Cited**

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Attorney, Agent, or Firm—Dorfman, Herrell and Skillman

[57] **ABSTRACT**

Scaffolding comprising a pair of lifting platforms each having a scaffold and vertically movably provided an inner wall of the prefabricated module to be connected other modules, and a scaffold connecting both platforms.

5 Claims, 7 Drawing Figures

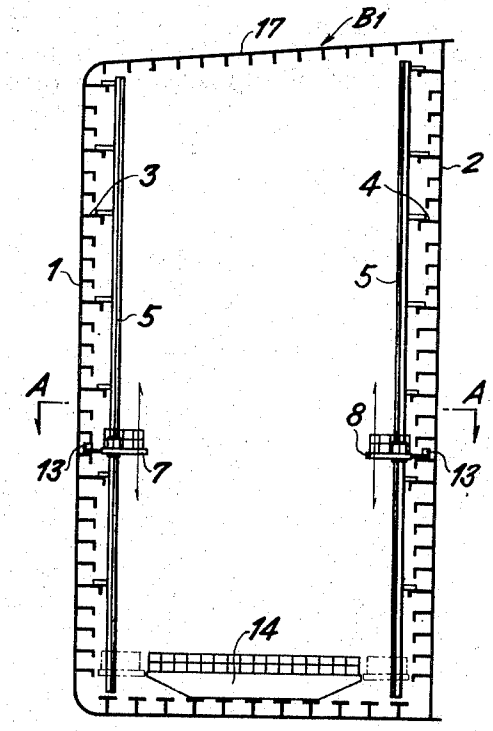


FIG. 1

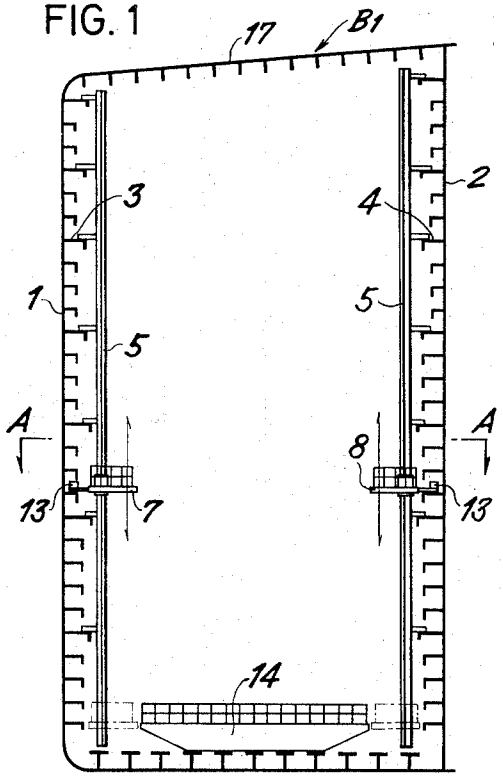


FIG. 3

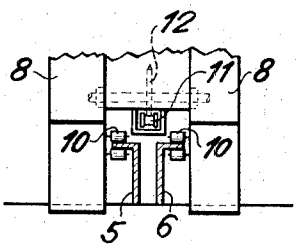


FIG. 2

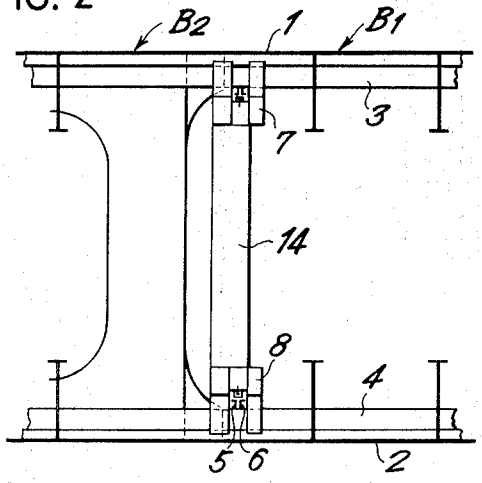


FIG. 6

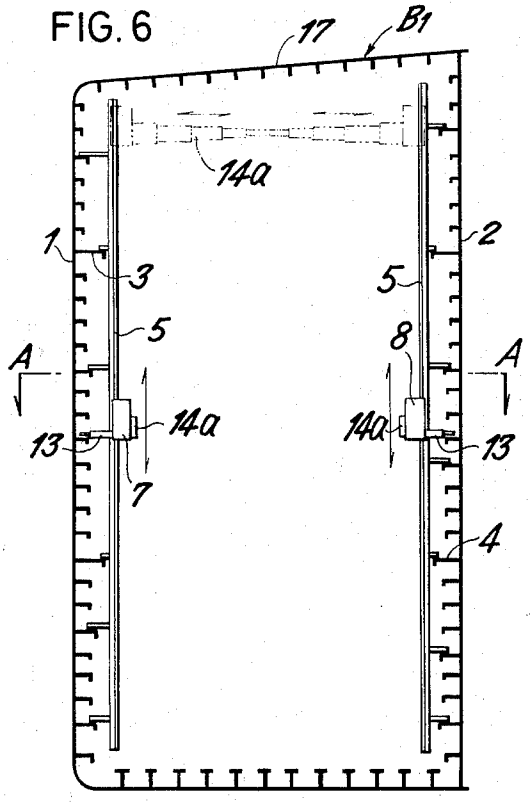


FIG. 4

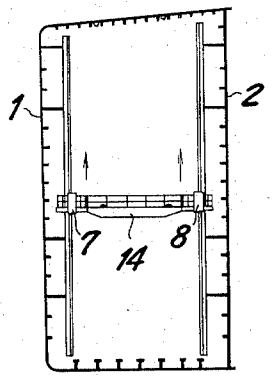


FIG. 5

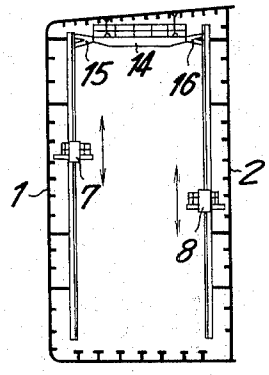
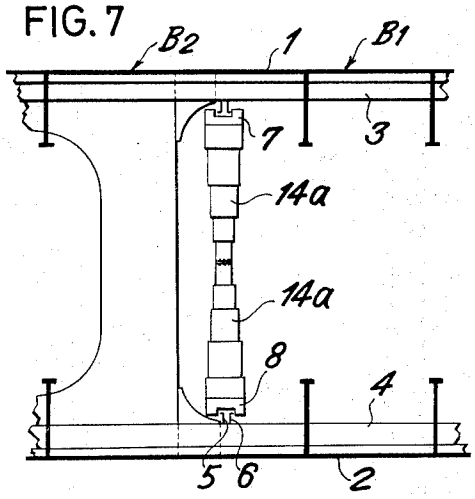


FIG. 7



SCAFFOLDING FOR WELDING OF PREFABRICATED HULL MODULES IN SHIPBUILDING

The present invention relates to a scaffolding for use in connecting prefabricated hull molules in shipbuilding.

An object of the present invention is to provide a scaffolding which permits efficient and safe welding work. To this end, there is provided according to the present invention a pair of guide rails along the opposite vertical walls of the module and a pair of lifting platforms each having a scaffold and arrange to be movable up and down along each said rail, said lifting platforms may be connected by scaffolds each other.

The invention is now described in detail with reference to the drawings:

FIG. 1 is a side view showing an embodiment of the present invention;

FIG. 2 is a sectional view taken along line A—A of FIG. 1;

FIG. 3 is an enlarged sectional view showing the rail holding mechanism in each lifting platform;

FIG. 4 and 5 are views showing a mode of operation of the present invention;

FIG. 6 is a side view showing another embodiment of the present invention; and

FIG. 7 is a sectional view taken along line A—A of FIG. 6.

As shown in FIGS. 1 and 2, opposed L-sectional rails 5, 6 are welded vertically to the horizontal members 3, 4 of side plating 1 and longitudinal bulkhead 2, respectively, in close proximity to the welded portion of the prefabricated hull module B_1 which is to be joined to the module B2. Lifting platforms 7 and 8 each provided with a suitable scaffold are slidably mounted on rails 5 and 6. In each of said platforms, there are provided two pairs of rollers 10 arranged in such that each pair engage with a corresponding rail as shown in FIG. 3, and a chain wheel 12 is provided in engagement with a chain 11 which suspends between the opposed rails. Each said platform is provided with means for driving the chain wheel 12 and arranged to be movable up and down with rotation of the wheel. Each platform also has a scaffold 13 which is slidably provided to be horizontally projected by a motive power means. It is also provided with coupling means (not shown) for joining it to the central scaffold 14.

In operation, each lifting platform is suitably moved up or down and the scaffold 13 of each platform is extended out to permit practising the welding works over the portions to be welded of the adjacent modules B1 and B2. At a suitable time, said both platforms are lowered to the lower limits of their strokes and they are joined to both ends of the central scaffold 14, and then the platforms with the central scaffold joined thereto are again lifted upwardly as shown in FIG. 4 until they reach the upper limits of their strokes, where the welding of the upper deck 17 is performed with the central scaffold. If desired, the central scaffold alone may be temporarily anchored to the module by coupling elements 15, 16 as shown in FIG. 5, and the platforms may be separated from said central scaffold so as to allow

welding at other parts by using the respective scaffolds 13, 14.

When the work is completed, the lifting platforms 7, 8 are again lifted up to join them to the central scaffold 14 and then the central scaffold is disengaged from the module, and lowered along with the platforms to the lower limits of their strokes. The platforms may be demounted from the rails 5, 6 and used with the central scaffold for similar works at another section requiring such works.

In the embodiment of FIGS. 6 and 7, each platform has a telescopic scaffold 14*a* which can be extended inwardly. These scaffolds 14*a* are projected and connected when the platforms are lifted to the top of the module and used for welding the upper deck 17.

As apparent from the foregoing, the scaffolding according to the present invention can be moved along the portions of module to be welded, so that the welding works can be conducted quickly and with safety. Further, the scaffold connecting both platforms is effectively used for welding of upper deck.

What is claimed is:

1. A scaffolding for welding prefabricated hull modules in shipbuilding, said modules having upright inner walls at opposite sides thereof, said scaffolding comprising a pair of rails vertically provided along the opposed inner walls of one of said modules, a lifting platform mounted adjacent each inner wall to be movable vertically along each of said rails, a scaffold on each platform for permitting welding along said inner wall adjacent thereto, a connecting scaffold to connect said both lifting platforms to each other for permitting welding of said modules in the space between said upright inner walls, and driving means on each platform to move the platform up and down along said rails.

2. A scaffolding for welding prefabricated hull modules according to claim 1 wherein said connecting scaffold comprises a central scaffold secured at each end to one of said lifting platforms.

3. A scaffolding for welding prefabricated hull modules according to calim 1 wherein said connecting scaffold comprises a telescopic scaffold mounted on each platform for projection horizontally toward the other platform, said telescopic scaffolds being interconnected intermediate said side walls to connect said platforms to each other.

4. A scaffolding for welding prefabricated hull modules according to claim 1 wherein said modules have an upper deck interconnecting said upright inner walls at the top thereof, said endwise-adjoining modules having aligned walls and decks, said rails of the scaffolding being mounted on the inner walls of one of said modules adjacent its end, the scaffold associated with each platform permitting welding of said aligned inner walls and said connecting scaffold permitting welding of said aligned upper decks.

5. A scaffolding according to claim 1 wherein said rails comprise a pair of L-shaped members having parallel legs welded to the walls and cross legs aligned in spaced parallel relation to said wall, said platforms being mounted on said cross legs by rollers engaging opposite surfaces of said cross legs.

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