Dec. 6, 1960 E. H. SMITH 2,962,996

DEMOUNTABLE FLOATING STRUCTURE

Filed March 30, 1959 2 Sheets-Sheet 1

FIG. 1

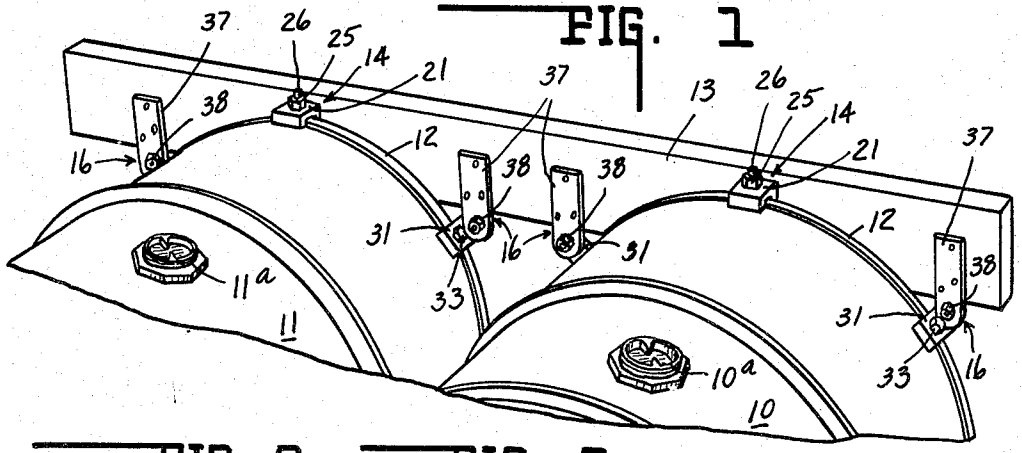


FIG. 2

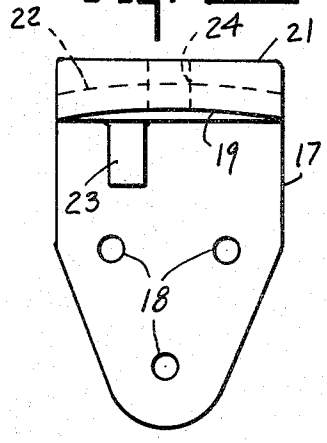


FIG. 3

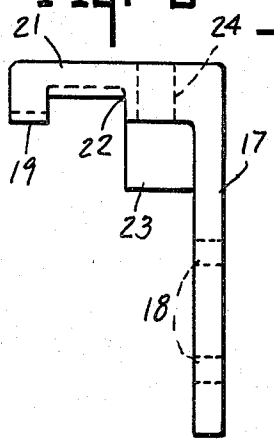


FIG. 4

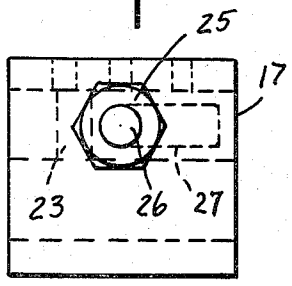
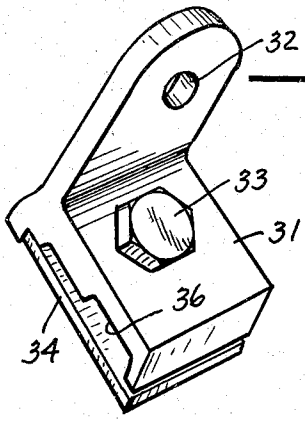


FIG. 5



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Filed March 30, 1959 2 Sheets-Sheet 2

FIG. 6

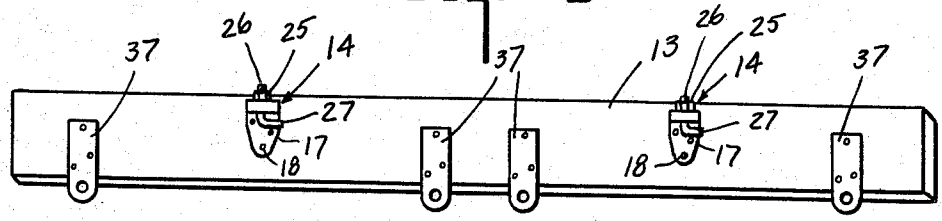
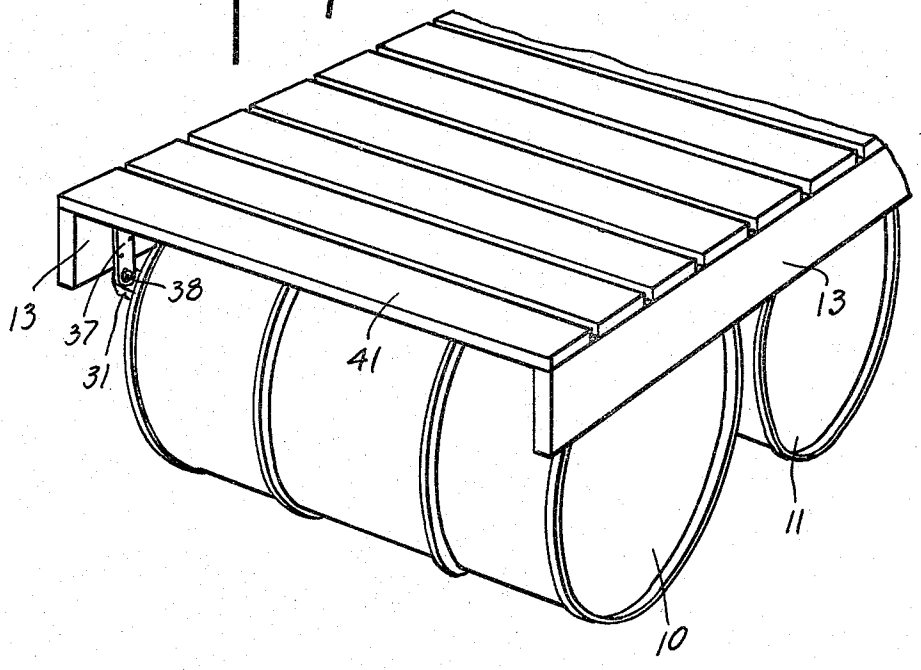


FIG. 7



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DEMOUNTABLE FLOATING STRUCTURE

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5 Claims. (Cl. 114—.5)

This invention relates generally to structures supported by floating pontoons and in particular to a simplified, demountable pontoon supported structure which permits ready access to the pontoons to facilitate their repair or replacement.

In conventional pontoon supported structures, such as floating docks, rafts, temporary bridges or the like, the pontoons often take the form of metal barrels or drums held in position by a permanently assembled framework including side beams and cross braces. Considerable time is required in assembling such frameworks and should one of the drums or barrels develop a leak, the whole structure must be dismantled to gain access to the bun opening of the faulty drum for pumping water therefrom.

It is the primary object of the present invention to provide a pontoon supported structure which is of simplified structure and which permits ready access to the pontoons for repair or replacement.

It is a further object of the present invention to provide a pontoon supported structure utilizing detachable brackets or hangers to attach the pontoons to side beams so that the pontoons themselves act as cross braces for the structure.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a fragmentary perspective view showing a partially assembled structure embodying the present invention.

Fig. 2 is a bottom plan view of a component of the structure.

Fig. 3 is a side view of the component shown in Fig. 2.

Fig. 4 is a top plan view of the component shown in Fig. 2.

Fig. 5 is a perspective view of a further component of the structure.

Fig. 6 is a perspective view of a portion of the structure shown in Fig. 1.

Fig. 7 is a perspective view of a completed structure embodying the present invention.

Referring initially to Fig. 1, there is shown a portion of a floating dock structure or raft assembly embodying the present invention and including aligned pontoons which may take the form of metal drums **10** and **11** having bung fittings **10***a* and **11***a*. The drums are of conventional type and at each end are provided with beads **12** which extend axially beyond the end faces of the drums. The assembly includes support beams **13** (only one of which is shown in Fig. 1) which extend in parallel relation across the aligned end faces of the drums and adjacent their upper margins.

The means for securing the drums to the support beams **13** comprise central hangers **14** and side hangers **16**, the end of each drum being secured to one central hanger and two side hangers. It will be understood that by attaching side hangers to one end of the drum and a central hanger at the drum's opposite end, a three point suspension of the drum may be provided. Similarly, two or more side

hangers only might be used at each end of the drum to provide a multiple point suspension.

Each of the central hangers **14** includes an L-shaped bracket **17** which is apertured at **18** to accommodate nails, screws or bolts for rigidly fastening the bracket to the support beam **13**, as indicated in Fig. 1. The under face **19** of the leg **21** forming a part of bracket **17**, has a slightly curved configuration, as indicated in Fig. 2, so as to accommodate the curved surface of the drum. The under face of the leg **21** is also provided with a groove **22** which is sized so as to accommodate the bead **12** of the drum. A clamp stop **23** is formed in the bracket and is positioned to one side of the center line thereof as indicated in Fig. 2. Adjacent the clamp stop the leg **21** of the bracket is provided with an aperture **24**.

In Fig. 4 there is shown in place within the aperture **24** the generally L-shaped clamping member **26** which is threaded to receive a nut **25** and is provided with a sidewardly extending portion **27**. The shank of the member **26** extends freely through the aperture **24** and by displacing the portion **27** from its position of Fig. 4 to a position 90° clockwise therefrom so as to extend across the groove **22** and by subsequently tightening nut **25** the bead portion of the drum may be locked within the groove. The stop **23** defines this clamping or locking position of the portion **27**.

Each of the side hangers **14** includes a dual-jawed clamp comprised of an L-shaped bracket **31** having an aperture **32** in one leg thereof. A bolt **33** extends through the other leg of the bracket and through a clamping plate **34**. The leg accommodating bolt **33** is notched, as indicated at **36**, to accommodate the bead portion of a drum. As may be seen in Fig. 6, the side hangers also include a plate **37** which is adapted to be rigidly mounted on the support beam **13**. Bolts **38** (Fig. 1) are utilized to secure the brackets **31** to the corresponding plates **37** at the desired angle of extension.

The relative positioning of the central hangers and the side hangers will be evident from Fig. 1. With the central hangers **14** and the plates **37** secured to the support beams **13**, as shown in Fig. 6, the side hanger assemblies may be completed, the members **26** moved to clamping position in the central hanger assembly and the nuts **25** tightened. In the rigid structure thus provided the drums themselves act as cross braces. The assembly may be completed as indicated in Fig. 7, by placing a conventional slatted floor structure **41** across the support beams **13**.

By arranging the drums so that their bung fittings are top side, access to the interior of the drums may be had by removing the floor structure **41**. As will be evident from Fig. 1, the direction of extension of the brackets **31** from the plates **37** may be varied so that the structure may accommodate support beams of various depth. The structure may be assembled and disassembled conveniently, requiring the use of only a properly sized wrench.

While the invention has been disclosed and described in some detail in the drawings and foregoing description, they are to be considered as illustrative and not restrictive in character, as modifications may readily suggest themselves to persons skilled in this art and within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. A floating raft or dock structure including a plurality of aligned, barrel-like pontoons each having beads extending axially beyond the pontoon end faces, support beams adapted to extend in parallel relation across the aligned end faces of said pontoons at the upper margins thereof, and means for detachably securing the support beams to each of said pontoons comprising a central hanger carried by said beam and engaging the uppermost section of the pontoon bead, side hangers carried by the

beam and engaging the pontoon bead at areas equally spaced on opposite sides of said central hanger, said central hanger comprising a bracket rigidly secured to said beam having a portion overlying said pontoon bead and grooved to accommodate said bead, a manually movable abutment disposed at the under face of said overlying bracket portion and movable to extend transversely across said groove to lock said pontoon bead therein, said side hangers each comprising a dual-jawed clamp adapted to detachably engage said pontoon bead, and means attached to said beams to permit angular adjustment of the direction of said clamp therefrom, whereby said pontoons serve as cross-braces for said structure and the adjustability of the angle of extension of said side hangers permits accommodation in the structure of support beams of various depth.

2. A floating raft or dock structure including a plurality of aligned, barrel-like pontoons each having beads extending axially beyond the pontoon end faces, support beams adapted to extend in parallel relation across the aligned end faces of said pontoons at the upper margins thereof, and means for detachably securing the support beams to each of said pontoons comprising a central hanger carried by said beam and engaging the uppermost section of the pontoon bead, side hangers carried by the beam and engaging the pontoon bead at areas equally spaced on opposite sides of said central hanger, said central hanger comprising a bracket rigidly secured to said beam having a portion overlying said pontoon bead and grooved to accommodate said bead, a manually movable abutment disposed at the under face of said overlying bracket portion and movable to extend transversely across said groove to lock said pontoon bead therein, said side hangers each comprising a dual-jawed clamp adapted to detachably engage said pontoon bead, said clamps being attached to said beams, whereby said pontoons serve as cross-braces for said structure.

3. A floating raft or dock structure including a plurality of aligned, barrel-like pontoons each having beads extending axially beyond the pontoon end faces, support beams adapted to extend in parallel relation across the aligned end faces of said pontoons at the upper margins thereof, and means for detachably securing the support beams to each of said pontoons comprising a central hanger carried by said beam and engaging the uppermost section of the pontoon bead, side hangers carried by the beam and engaging the pontoon bead on opposite sides of said central hanger, said central hanger comprising a bracket rigidly secured to said beam having a portion overlying said pontoon bead and grooved to accommodate said bead, a manually movable abutment disposed at

the under face of said overlying bracket portion and movable to extend transversely across said groove to lock said pontoon bead therein, said side hangers each including means adapted to detachably engage said pontoon bead, said means being attached to said beams, whereby said pontoons serve as cross-braces for said structure.

4. A floating raft or dock structure including a plurality of aligned, barrel-like pontoons each having beads extending axially beyond the pontoon end faces, support beams adapted to extend in parallel relation across the aligned end faces of said pontoons at the upper margins thereof, and means for detachably securing the support beams to each of said pontoons comprising a central hanger carried by said beam and engaging the uppermost section of the pontoon bead, side hangers carried by the beam and engaging the pontoon bead on opposite sides of said central hanger, said central hanger comprising a bracket rigidly secured to said beam having a portion overlying said pontoon bead and grooved to accommodate said bead, means for locking said pontoon bead in said bracket groove, said side hangers each including means adapted to detachably engage said pontoon bead, said means being attached to said beams, whereby said pontoons serve as cross-braces for said structure.

5. A floating raft or dock structure including a plurality of aligned, barrel-like pontoons each having beads extending axially beyond the pontoon end faces, support beams adapted to extend in parallel relation across the aligned end faces of said pontoons at the upper margins thereof, and means for detachably securing the support beams to each of said pontoons comprising side hangers carried by the beam and engaging the pontoon bead, said side hangers each comprising a dual-jawed clamp adapted to detachably engage said pontoon bead, means attached to said beams to permit angular adjustment of the direction of said clamps, whereby said pontoons serve as cross-braces for said structure and the adjustability of the angle of said clamps on said side hangers permits accommodation in the structure of support beams of various depth.

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