

Nov. 23, 1948.

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2,454,640

MAST FOR MARINE CRAFT

Filed June 30, 1945

2 Sheets-Sheet 1

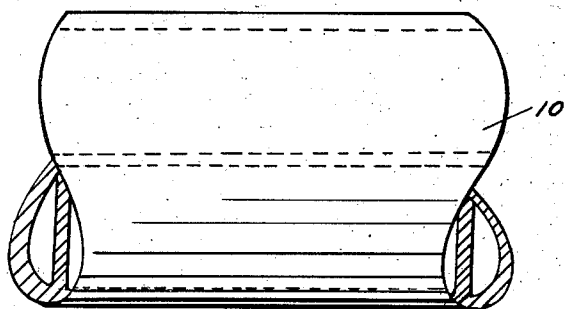
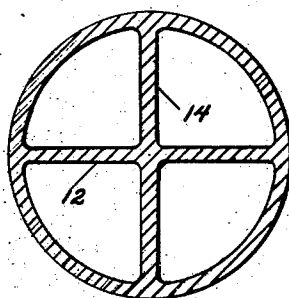


Fig. 1.

Fig. 2.

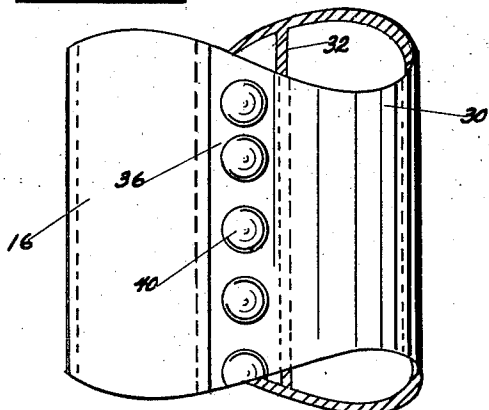
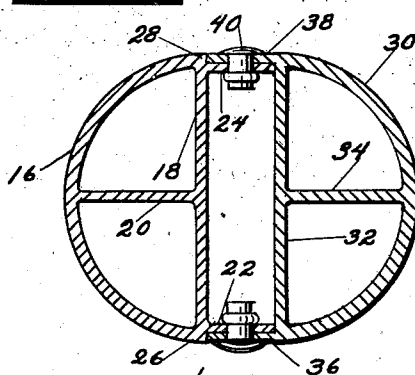


Fig. 3.

Fig. 4.

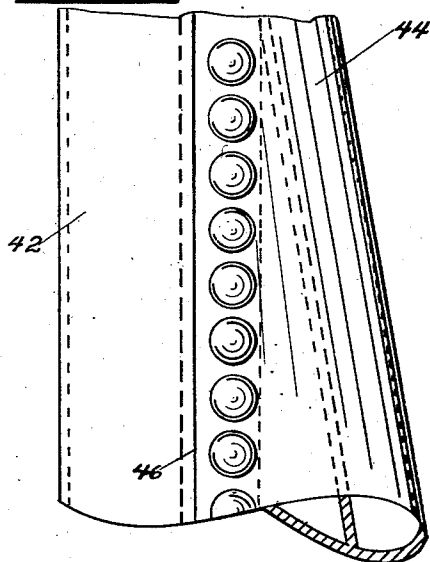
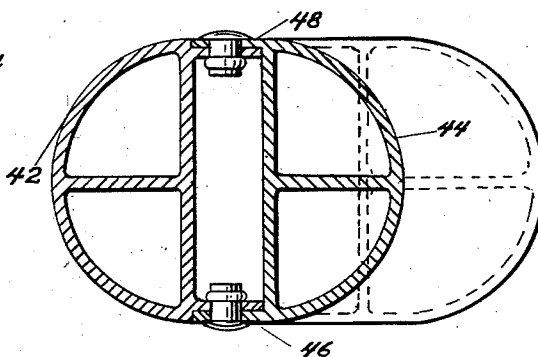


Fig. 5.

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2 Sheets-Sheet 2

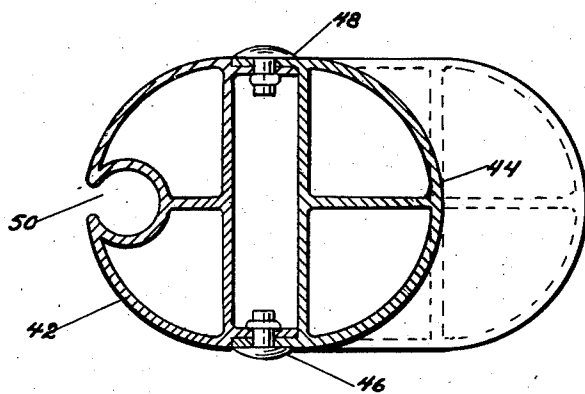


FIG. 7

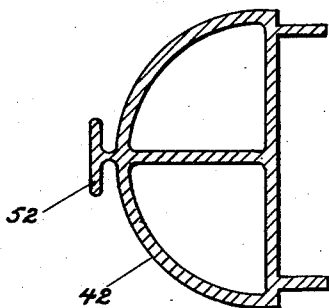


FIG. 8

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MAST FOR MARINE CRAFT

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Application June 30, 1945, Serial No. 602,503

4 Claims. (Cl. 114-90)

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This invention relates to spars and more particularly to spars or masts for marine craft.

Broadly the invention comprehends a pole of extremely light weight, of simple and inexpensive structure and yet of great strength, rigidity and durability.

The invention further comprehends a new method whereby spars or masts may be easily and quickly produced at an extremely low cost.

An object of the invention is to provide a metallic mast of light weight and rigid structure in which the amount of required machine operation and finishing during manufacture may be materially reduced.

Another object of the invention is to provide a spar or mast of exceptional strength and rigidity which may be extruded from any suitable metal.

Another object of the invention is to provide a spar or mast which may be extruded in two parts adapted to be machined and so assembled as to provide a tapered mast of exceedingly rigid structure.

Other objects of the invention will appear from the following description when taken in connection with the drawings forming a part of this specification and in which—

Fig. 1 is a fragmentary view in elevation of a pole embodying the invention;

Fig. 2 is a cross sectional view of the pole;

Fig. 3 is a side elevation of a mast embodying the invention;

Fig. 4 is a cross sectional view of the mast;

Fig. 5 is a side elevation of a tapered mast embodying the invention;

Fig. 6 is a cross sectional view of the tapered mast;

Fig. 7 is a cross sectional view of a tapered mast having a bolt rope groove; and

Fig. 8 is a cross sectional view of part of the mast having a sail track in lieu of the groove.

While the incident invention is particularly directed to spars or masts for marine craft it is at once apparent that the inventive concept has a very much broader scope, for it is clear that the basic idea might well be used in other structures such for example as vaulting poles, beams and etc.

Referring to the drawings and more particularly to Fig. 1 thereof for specific details of the invention 10 represents a hollow body which may be of any desired length and cross sectional contour. As shown the body 10 is cylindrical or tubular and has therein webs 12 and 14 extended throughout the length of the body. The webs radiate from the longitudinal axis of the body to the wall thereof and serve to lend strength to the

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body both longitudinally and transversely. It is of course understood that a greater or less number of webs than that shown may be employed depending entirely upon the strength and rigidity required of the structure. It is also clear that the structure as thus far described may be extruded from aluminum or any other suitable metal or alloy of light weight and that the finished product may be the result of a single operation.

In furtherance of the invention an extruded member 16 of any desired length and preferably semi-circular in cross section has a web 18 connecting oppositely disposed portions of the member 16, at its greatest width and a web 20 normal to the web 18. The webs are integral with the semi-circular member 16 and with one another and extend throughout the length of the member, and corresponding flanges 22 and 24 formed on the web 18 provide in conjunction with the edges of the semi-circular member 16 reversely disposed shoulders 26 and 28.

A similar extruded semi-circular member 30 has a web 32 connecting oppositely disposed portions of the member at its greatest width and a web 34 normal to the web 32, and the semi-circular member has flanges 36 and 38 complementary to the flanges 22 and 24 and abutting the shoulders 26 and 28 of the member 16 so as to preserve continuity of the structure and the flanges are suitably secured to one another as by rivets 40. The structure thus far described is that of a mast of uniform cross section.

A further development of the mast is illustrated in Figs. 5 and 6. In this structure an extruded member 42 corresponding in every detail to the member 16 has fitted thereto an extruded member 44 alike in structure to the member 30 except that the flanges 46 and 48 thereof corresponding to the flanges 36 and 38 of the member 30 are considerable wider so that they may be machined longitudinally on the bias to the end that when the members 42 and 44 are assembled in the same manner as the members 16 and 30, the member 44 has an inclined relationship to the member 42 resulting in a gradually tapered mast.

In some instances it may be found desirable to form the member 42 with a bolt rope groove 50 and again it may be equally desirable to construct the member 42 with a sail track 52. Either of these features may be incorporated in the extrusion of member 42.

While this invention has been described in connection with certain specific embodiments, the principle involved is susceptible of numerous

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other applications that will readily occur to persons skilled in the art. The invention is, therefore, to be limited only as indicated by the scope of the appended claims.

Having thus described the various features of the invention, what I claim as new and desire to secure by Letters Patent is:

1. A mast for marine craft comprising substantially alike semi-cylindrical members, webs for strengthening the members both longitudinally and transversely, longitudinally extended flanges on each of the members, the flanges on one of the members being biased and fitted on the flanges of the other member, and means for securing the flanges of one member to the flanges of the other member.

2. A mast for marine craft comprising similar members substantially semi-circular in cross section, webs for strengthening the members both longitudinally and transversely, flanges on each of the members extended throughout the length of each member, the flanges on one of the members being offset to provide oppositely disposed shoulders, the flanges on the other member being biased throughout the length thereof and fitted on the flanges of the other member with their longitudinal edges in abutting relation to the shoulders, and means for securing the flanges of one member to the flanges of the other member.

3. A mast for marine craft comprising similar members substantially semi-circular in cross section, longitudinally extended webs for strengthening the members, a longitudinally extended

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guide means on one of the members, flanges on the edges of each member, the flanges of one member being offset to provide shoulders for the reception of the flanges on the other member and means securing the flanges of one member to the flanges of the other member.

4. A mast for marine craft comprising similar members substantially semi-circular in cross section, longitudinally extended webs on each of the members, one of the members having a longitudinally extended groove, flanges on each of the members, the flanges on one member being offset to provide shoulders for the reception of the flanges on the other member and means for securing the flanges of one member to the flanges of the other member.

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