Dec. 7, 1937. B. S. MINTERS 2,101,474

SUPPORTING DEVICE

Filed Aug. 2, 1934

Fig. 1.

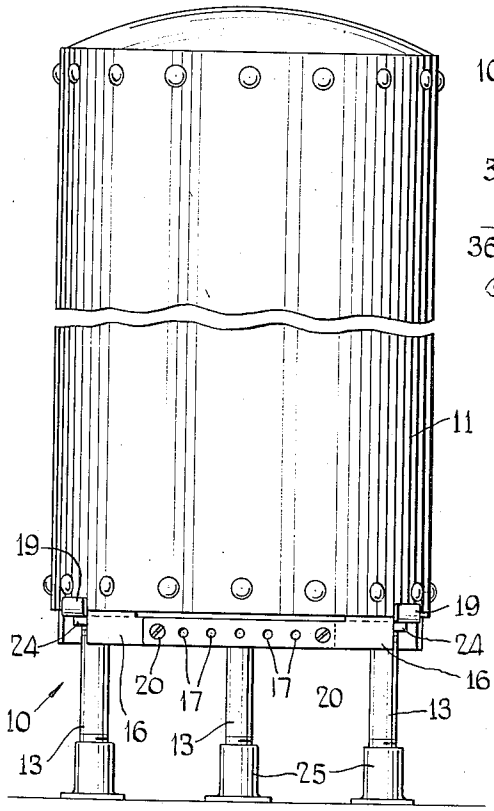


Fig. 5.

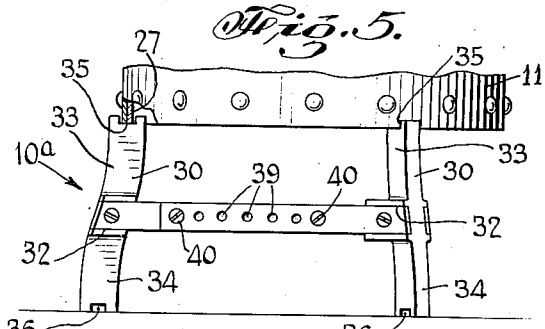


Fig. 6.

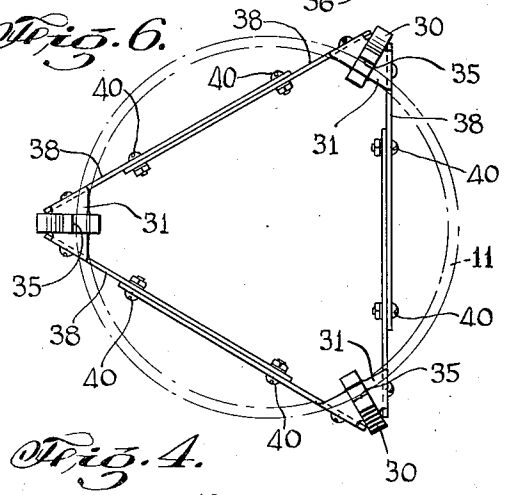


Fig. 4.

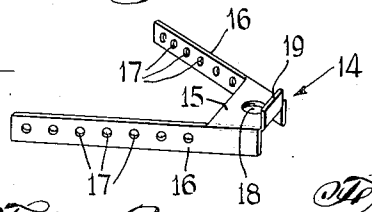


Fig. 2.

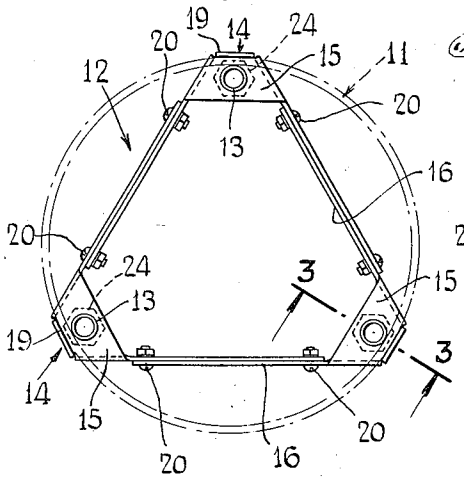


Fig. 3.

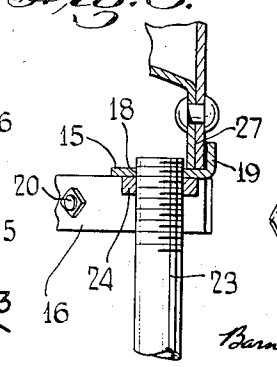
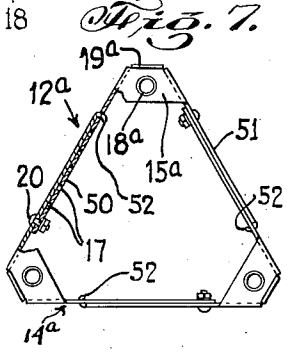


Fig. 7.



INVENTOR

Barnet S. Minters

BY

Ulysses Butterworth

ATTORNEY

Patented Dec. 7, 1937

2,101,474

UNITED STATES PATENT OFFICE

2,101,474

SUPPORTING DEVICE

Barnet S. Minters, Elmhurst, N. Y.

Application August 2, 1934, Serial No. 738,056

3 Claims. (Cl. 248—163)

This invention relates to supporting devices such as boiler tank stands and the like articles.

An object of this invention is to provide a boiler stand of the character described, adapted to be adjusted in height and also for supporting boilers or tanks of various diameters.

A further object of this invention is to provide a neat, strong and compact device of the character described which may be readily and easily adjusted, which shall comprise comparatively few and simple parts, be relatively inexpensive to manufacture and withal practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is an elevational view of a boiler tank stand embodying the invention, supporting a tank;

Fig. 2 is a top plan view of the stand shown in Fig. 1;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a perspective view of one part of my improved boiler stand;

Fig. 5 is an elevational view of a boiler stand embodying the invention and illustrating a modified construction thereof;

Fig. 6 is a top plan view of the stand shown in Fig. 5; and

Fig. 7 is a top plan view of another modified construction.

Referring now in detail to the drawing, 10 designates a stand or support embodying the invention, here shown for the purpose of illustration only as supporting a boiler tank 11, it being understood that my stand may be employed for supporting other objects. The stand 10 comprises a top frame 12, supported by a plurality of stanchions 13. The frame 12 is preferably constructed of a plurality of similar members 14, the frame being here shown for the purpose of illustration, as being triangular in shape and comprised of three of such members 14. The members 14 may be made of stamped sheet metal or as castings, each comprising a central or corner portion 15 from which extend diverging arms 16, disposed at a substantially 60° angle to one another. Each of said arms is preferably formed with a plurality of equally spaced openings or apertures 17, for the purpose hereinafter explained. The portion 15 which is located at the apex of the arms 16, is provided with a vertical tapped hole or opening 18. There also projects upwardly from the portion 15 a ledge, ridge or projection 19.

In assembling the frame 12, as shown in Fig. 2 of the drawing, each arm 16 overlaps or telescopes with an adjacent arm to form a triangle. As shown in Fig. 2, one arm of each member 14 contacts an outer surface of an arm of a second member 14 and the other arm thereof contacts an inner surface of the arm of a third member 14. The members 14 are so arranged so as to form substantially an equiangular triangle. The contacting arms are attached together by bolts and nuts 20 extending through registering openings 17 in said arms, preferably two bolts being provided for attaching each pair of contacting arms.

Each stanchion 13 comprises a nipple or pipe 23 screwed into a tapped opening 18 and fixed in position by a lock nut 24 preferably contacting the underside of a portion 15. A floor plate or cup 25 may be screwed to the bottom end of each nipple 23. The bottom rim 27 of the tank 11 may be received within the projection 19 of the frame to prevent side shifting of the tank.

It will now be understood that the support 10 may be adjusted to receive tanks of various diameters. To adjust the frame 12, it is merely necessary to remove the bolts 20 and position the members 14 to form a triangle of desired size, the bolts then being replaced to attach together the telescoping or contacting arms 16. Furthermore, the height of the support 10 may be adjusted either by screwing the nipples 23 or cutting the nipples to the desired length.

In Fig. 7 is shown a frame 12a comprising three similar members 14a each having a corner portion 15a and arms 50 and 51. The corner portion 15a of each member 14a is formed with a tapered opening 18a and a ledge 19a. The arm 50 of each member 14a has a plurality of spaced openings 17, while the arm 51 is formed with spaced openings and a hook 52 at the end thereof. It will now be noted that the hook 52 of each arm 51 may be received within an opening 17 of the arm 50 of an adjacent member 14a. Thus each pair of contacting arms 50 and 51 of adjacent members 14a are attached together by means of a bolt and nut 20 and the engagement of the hook 52 within one of the openings 17.

In Figs. 5 and 6 there is shown a support **10***a* illustrating a modified construction. Said support **10***a* comprises three upstanding similar members **30**. Each member **30** is formed at the mid-portion thereof with a triangular corner portion **31** provided on the outer surface thereof with grooves **32**. The grooved surfaces are preferably disposed at an angle of 60° to one another. Extending from the mid-portion **31** is an upwardly projecting, somewhat inwardly curved portion **33**; and extending downwardly from said portion **31** is a somewhat outwardly curved portion **34**. At the upper end thereof the portion **33** is formed with a notch **35** and at the lower end thereof the portion **34** is formed with a notch **36**. Received within each groove **32** is an arm **38**. The arms **38** are fixed to the portion **31** by riveting, or in any other suitable manner. There is thus an angle of 60° between the arms **38** of each member **30**. The support **10***a* may be assembled as shown in Fig. 6 of the drawing, by contacting or telescoping the arms **38** of the members **30** to form a triangle. Said arms **38** are each provided with a plurality of equally spaced openings **39**. The arms may be attached by bolts and nuts **40** extending through registering openings. When the members **30** are attached together to form the stand **10***a*, the tank **11** may be mounted thereon, the lower rim **27** of the tank being received within the notches **35**.

The device **10***a* may be adjusted for supporting tanks of various diameters, by removing the bolts and nuts **40** and attaching the members **30** together in different positions. Furthermore, the device **10***a* may be turned upside down so that the rim **27** of the tank is received in the notches **36** of the portions **34**. The notches **35** are on a circle of smaller diameter than are notches **36**. Thus a large range of adjustment may be made for accommodating tanks of different diameters.

Although supports **10** and **10***a* are shown to each comprise three interconnected members forming a triangle, it will be understood that my improved support may comprise any suitable number of angular members having arms at suitable angles to form a regular polygon. For example, four members **14** may be provided each having arms extending at 90° to one another, whereby upon assembling said members a square support is formed.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A support comprising a plurality of similar members each having a corner portion and diverging arms, one of said arms having a plurality of spaced openings, and an extension on said other arm adapted to be received within an opening of an arm of an adjacent member.

2. A support comprising a plurality of similar members each having a corner portion, and arms diverging at an angle of 60°, the arms of each member contacting adjacent arms of adjacent members to form a triangular frame, one arm of each member having a plurality of openings, the other arm of said member having an extension adapted to be received in one of the openings of an arm of an adjacent member, each pair of contacting arms having registering openings, and a bolt extending through said registering openings.

3. A support comprising a plurality of similar members each having a corner portion, and arms diverging at an angle of 60°, the arms of each member contacting adjacent arms of adjacent members to form a triangular frame, one arm of each member having a plurality of openings, the other arm of said member having an extension adapted to be received in one of the openings of an arm of an adjacent member, each pair of contacting arms having registering openings, a bolt extending through said registering openings, the corner portion of each member being formed with a tapped opening, and a pipe screwed within each tapped opening.

BARNET S. MINTERS.