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TANK CLAMP SUPPORT HOLDER

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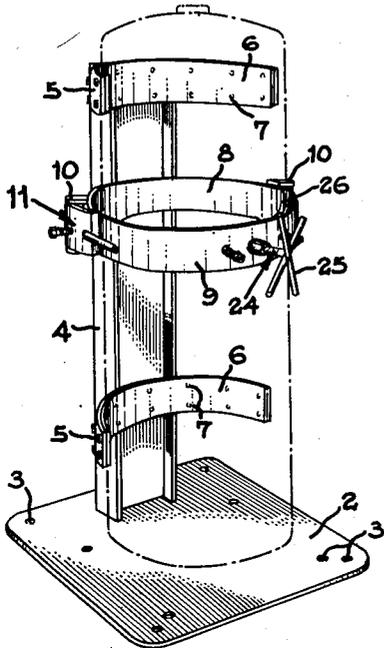


Fig. 1

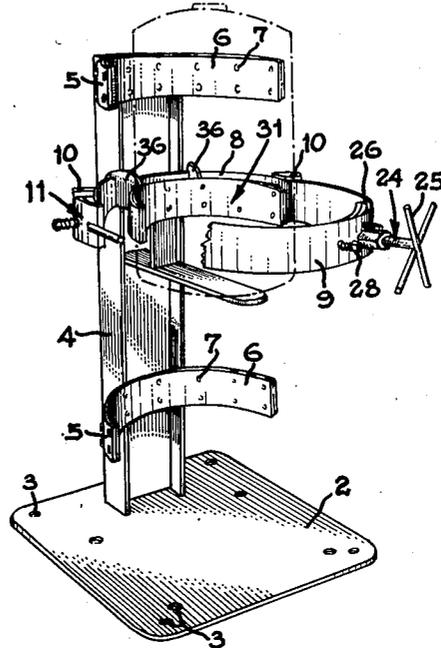


Fig. 2

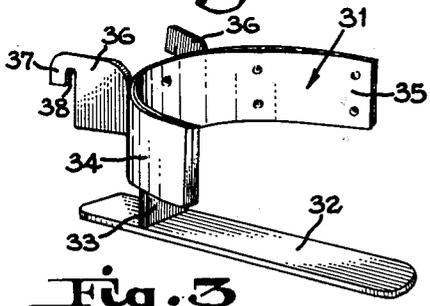


Fig. 3

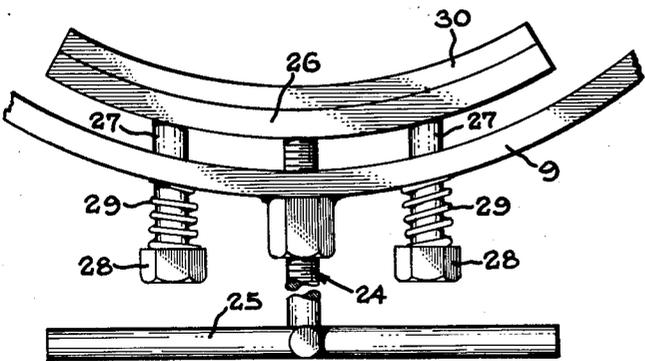


Fig. 5

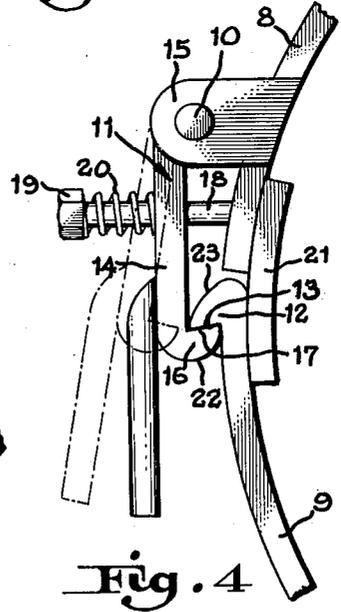


Fig. 4

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TANK CLAMP SUPPORT HOLDER

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1 Claim. (Cl. 29—288)

1

This invention relates to a holder for quickly clamping tubular bodies in fixed position so that they may be held firmly in position while being worked upon and then quickly released. It especially relates to a holder for acetylene or oxygen gas tanks which have heads or fittings screw threaded into the ends of the tanks. The heads or fittings are very tightly screwed into the tanks, and much force has to be applied in attaching them to or removing them from the tanks. These tanks are used for welding, cutting and scarfing steel, and the life of the heads or fittings is much shorter than that of the tanks. Consequently the fittings or heads need to be often replaced during the life of a tank. Moreover, the tanks are of widely varying lengths and one aim of the invention is to provide a common holder which is adapted to receive all lengths of tanks and hold them at a convenient elevation for the workman in attaching or removing the heads or fittings.

The invention, generally described, comprises a base having a vertical post secured thereto, a back rest section against which the tank seats for being clamped in position and a clamp. Two or more back rest sections in vertically spaced apart relation and preferable since the tanks are relatively long, but they could be effectively held against only one back rest section. One back rest section disposed near the top and another disposed near the bottom of the post has been found advantageous. The back rests are preferably arcuate, conforming generally to the cylindrical contour of the tanks. However, the back rest sections may be of any conformation, it being only necessary that they provide points of support for the tank. The inner surfaces of the back rest sections are advantageously faced with friction material, such as rubberized fabric or the like.

A sectional ring or strap is fitted to the vertical post with one of the sections movable to be opened for inserting in and removing from the support the tanks. The ring or strap has a back section fitted to the post, and a front section detachably connected to the back section. The front section may be advantageously hinged to one end of the back section and be provided with a latch for being releasably engaged with the opposite end of said back section. A screw clamp is mounted for radial adjustment on one of the sections, preferably the movable section, for impinging a friction member against the wall of a tank that is placed in an upright position on the base to be clamped tightly between it and the

2

back rest section or sections. With the bottom of the standard large size tank resting on the base, the top end is at a convenient height or elevation for a workman to screw the heads or fittings in or out of the tank. The base of the unit is conveniently bolted to a foundation floor.

To more readily accommodate relatively short length tanks, an attachment may be readily attached to support, said attachment having a base and a back rest section to cooperate with the screw clamp on the front piece section. The attachment may be as readily removed from the support.

For a better understanding of the invention, reference is made to the accompanying drawings in which:

Fig. 1 is a perspective view of a tank holder embodying the invention;

Fig. 2 is a perspective view of the tank holder with an accessory attachment for supporting shorter length tanks;

Fig. 3 is a perspective view of the accessory attachment;

Fig. 4 is a horizontal cross-section of the latch portion of the ring or strap; and

Fig. 5 is a horizontal cross-section of the screw clamp mechanism on the front section of the ring or strap.

Referring specifically to the drawings in which like numerals are used to designate like parts, numeral 2 is a metal base provided with sets of screw holes 3 for bolting the base to a shop floor or other solid foundation. A vertical post 4, such as a metal channel or I-beam, is fixed to the base by any suitable means, such as welding.

A back rest section 5, preferably two of them, are vertically spaced-apart on one side of the post. The sections are preferably arcuate to conform generally to the cylindrical contour of the tanks, and are advantageously lined on the inner or contacting faces with anti-friction material 6, such as rubberized fabric or the like. The lining or facing may be secured in any conventional manner as by screws or bolts 7.

A back band or strap 8 also is attached in any suitable manner, as by welding, to the post, preferably about midway between the two back rest sections. The band or strap is semi-cylindrical and complementary to a front semi-cylindrical strap or band section 9, with the back and front band sections forming a ring to be disposed about the tank. One end of each of the two sections is jointed at 10, preferably by a hinge, while the opposite ends of the two sec-

3

tions are mated to provide an interlocking catch 11. The catch is constructed with a lip 12 on the end of the front section which has an inclined surface 13. The adjacent end of the back section has a pawl 14 pivoted to it by means of lug 15, the pawl having a lip 16 with an inclined surface 17 complementary to inclined surface 13.

A rod 18 has one end welded to the back section and is projected through a recess in the pawl with a nut or knob 19 on its opposite end. A spring 20 is inserted on the rod between the nut or knob and the back of the pawl to spring press the pawl into engagement with the lipped end of the front section. A reinforcement 21 may be welded to the end of the back section to project behind the lipped end of the front section. The opposite inclined surfaces 22 and 23 of the pawl and lipped end of the front section automatically open the pawl to engage the parts of the latch when the front piece or gate is swung shut.

A member 24, with a handle 25 on one end, is screw threadedly engaged with the front section of the ring or band to impinge the opposite end against a shoe 26 which is movably mounted on the front section. The shoe has fixed guide rods 27 projecting through the front section and terminating in enlarged heads 28. A spring 29 is fitted about each of the projections between the heads 28 and the front section to normally retract the shoe when the screw is retracted. The face of the shoe towards the tank is advantageously lined with anti-friction material 30.

An accessory unit, designated generally by numeral 31, is provided for seating tanks of smaller lengths, and is constructed for ready assembly and disassembly with the main support. It comprises a horizontal base 32 of any conformation provided to extend from a vertical post 33 to which it may be fixed as by welding. A back section 34, similar to the back sections on the main vertical post, is attached to the vertical post 33 and likewise is provided with a frictional lining 35. The vertical post 33 is fixed to the base 32 and substantially spaced from its rear end so that the rear end will abut against the main vertical post 4, when the accessory unit is hooked on the main support by a hook member or members 36. There are preferably at least two of these hook members, so that the accessory member will not tilt, and they can be welded at one end to the back section of the accessory unit and have overhanging hooks 37. The hooks are obtained by an undercut recess 38 conforming generally to the top edge of the back strap or band.

The accessory member can be assembled on the main support simply by fitting it in place with

4

the hooks engaging the top edge of the back section. The weight of the accessory member will hold same in hooked position with the rear end of the base of the accessory member abutting against the main post. The weight of the accessory unit, which is of metal, will hold same in place while being used. When no longer needed for use, the accessory unit can be lifted off and placed aside until needed again.

While I have illustrated and described in detail a preferred embodiment of the invention, it will be understood that there may be various changes in details of construction without departing from the spirit of the invention.

Having described the invention, I claim:

A supporting device for holding a tank comprising a base provided with means for fixing the device to a foundation, a vertical post fixed to the base, a plurality of spaced apart back rest sections for the tank, a band or strap attached to the post between two of the spaced apart back rest sections and in position to encircle the tank, a gate forming a section of the band or strap hinged at one end to another section of the band or strap which is fixed to the post and having a catch on the opposite end for engaging with the fixed section of the band or strap, an accessory base unit provided with a back rest and bottom tank support for being readily detachable from the tank circling band or strap, and means on the band or strap for impinging the tank against the back rest of the accessory unit.

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