

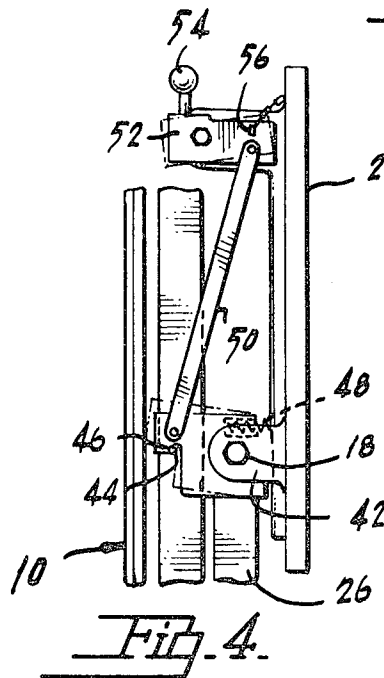
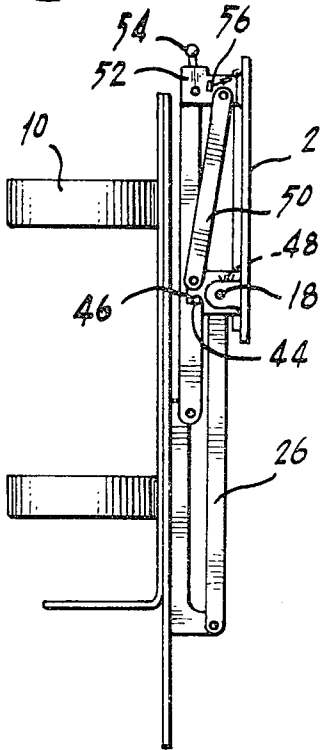
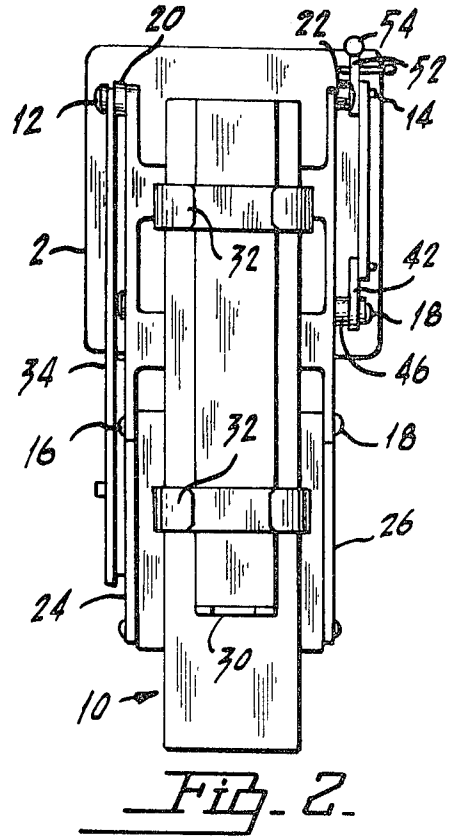
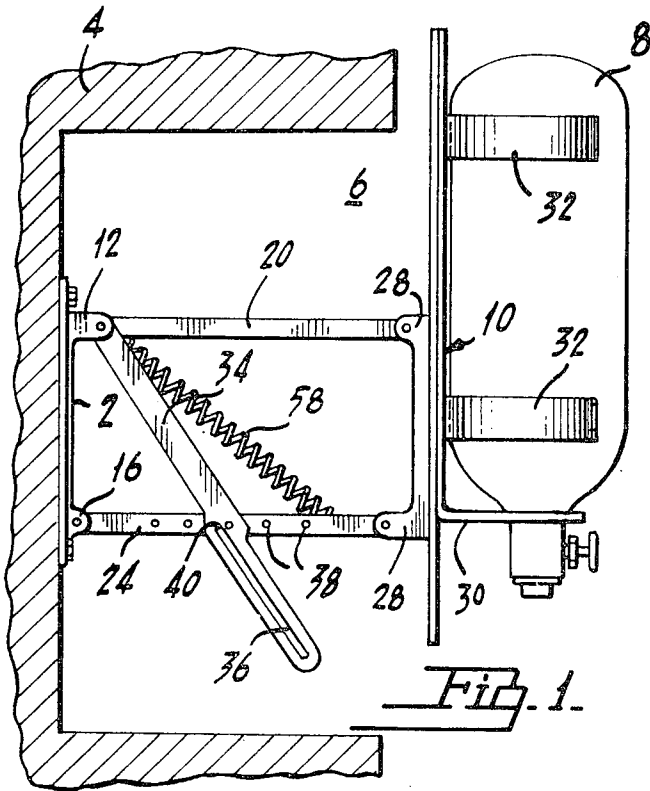
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TANK SUPPORT

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3,667,714
TANK SUPPORT
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5 Claims

ABSTRACT OF THE DISCLOSURE

A bracket for supporting a tank, cylinder, or other container such as an oxygen tank, compressed air cylinder, fire extinguisher or the like, is movable to a retracted or inactive position wherein the tank may be housed within a cabinet or recess in a wall, fire apparatus or the like and is movable to an extended or operative position permitting easy removal of the tank for use. Means are further provided for releasably holding the bracket and tank in either of its alternative positions.

FIELD OF INVENTION

Life saving, fire fighting and other equipment such as under-water apparatus are frequently provided with a tank such as a compressed air cylinder, oxygen tank, fire extinguisher and the like which may have a harness connected thereto for attaching the tank to a user. Such cylinders are normally stored in a cabinet or compartment when not in use and may be mounted on a bracket. However, when the cylinder is to be used, and particularly under emergency conditions, it is necessary for the cylinder to be moved quickly and easily to an extended position where it will be supported in a position where it will be supported in a convenient position permitting the harness to be applied quickly and easily to a wearer, or permit the fire extinguisher to be grasped for instant removal from the brackets.

Those brackets heretofore provided for supporting and mounting tanks and the like have not always been movable into and out of stored and active positions, and even when movable, the brackets have not always served to hold the tank or other receptacle in a predetermined and convenient position.

In accordance with the present invention, a bracket adapted for supporting a tank is provided with means for securely holding the tank in either an inactive or an operative position and means are provided for releasably securing the bracket in either of said positions. The construction further includes a spring means for aiding in the movement of the bracket from one position to the other together with means for adjusting the position of the bracket when in its operative or extended position.

THE DRAWINGS

FIG. 1 is a side elevation of one typical embodiment of the present invention with the bracket located in its active or extended position;

FIG. 2 is a front view of the construction as shown in FIG. 1;

FIG. 3 is a view similar to FIG. 1 with the bracket located in its inactive or retracted position; and

FIG. 4 is a side elevation illustrating a latch and actuating means used with the bracket shown in FIGS. 1 to 3.

In that form of the invention chosen for purposes of illustration, the bracket is provided with a mounting plate 2 adapted to be secured to a fixture 4 which may be fire apparatus or a building, boat or the like. The fixture preferably is provided with a compartment indicated at 6 in which the bracket is located and which serves to house the tank 8 and its support 10 when the bracket is in a

retracted position as shown in FIG. 3. However, the bracket is constructed so as to be quickly movable to an extended position as shown in FIG. 1 wherein the tank or cylinder 8 and its support 10 are positioned outside the compartment 6 and held securely in place and in a predetermined position for ready use.

The mounting plate 2 is provided near the upper portion thereof with two horizontally spaced pivot means 12 and 14 and with two lower pivot means 16 and 18. The inner ends of a pair of upper arms 20 and 22 are connected to the upper pivot means 12 and 14 respectively whereas the inner ends of a pair of lower arms 24 and 26 are connected to the lower pivot means 16 and 18 respectively. The outer ends of the upper and lower arms are pivotally connected to horizontally and vertically spaced pivot means 28 carried by a tank support 10 which may have a plate 30 on which the bottom of the tank rests and yieldable side clamps 32 for releasably holding the tank on the support.

The arrangement of the upper and lower arms and the pivot means to which they are connected serves to provide a parallelogram linkage between the mounting plate 2 and the tank support 10. The tank or cylinder 8 therefore can be maintained in an upright position at all times when it is in its retracted or extended position and during its movement to and from its housed position within the cabinet 6. As a result, there is no danger of spillage or mixing of the contents of a tank which would be premature with certain types of fire extinguishers.

It is also of importance in many cases to assure the location of the tank support and tank in a predetermined elevated position when it is moved to an extended position for use. Thus, oxygen tanks used for lifesaving purposes are generally provided with a harness by which the tank can be carried by a fireman or other person. For this purpose the harness and tank are assembled in readiness for instant use and mounted on the bracket in such a way that a person may back up against the bracket and tank, grasp and buckle the harness, and step away from the bracket with the tank in place on his back. It is therefore important for the bracket and tank, when moved to an extended position, to be firmly supported in a predetermined location and elevation so that it will not be necessary for them to be shifted about or to be moved up and down by another person to enable the harness to be applied to a wearer.

In order to lock the bracket firmly in place and in a predetermined position when extended, a link 34 is pivotally mounted on the upper pivot means 12, preferably on the left hand side of the mounting plate 2. The link 34 is slotted near its lower free end as at 36 to receive a selective one of the spaced pins 38 carried by the lower arm 24 on the left hand side of the bracket. The slot 36 has its upper end offset at 40 to lock the arm 24 and the entire bracket, tank support, and tank in a fixed position. By proper selection of the pin 38 to be engaged by the link 34, the elevation of the extended tank support 10 and tank 8 can be predetermined and the bracket can be mounted in any of various available compartments 6 in a fire apparatus, building, boat or the like. Further, it will be apparent that the bracket can be mounted within a compartment 6 for movement either outward and downward or outward and upward to its extended and predetermined locked position by simply inverting the assembly when securing the mounting plate 2 to the fixture 4. It is therefore possible to assure the best and most convenient positioning of the tank support for any application or use thereof.

In order to hold the bracket, tank support, and tank in place within the compartment 6, latching means 42 are provided. As shown the latch member 42 may be pivotally mounted on the lower pivot means 18 on the right hand

3

side of the mounting plate 2. The outer free end of the latch member 42 is provided with a recess 44 engageable with a pin 46 on the lower right hand arm 26. The latch is urged toward a latching or pin engaging position by a spring 48. Actuating means for moving the latch member to bracket releasing position include a link 50 connected to the actuating lever 52 mounted for movement on the upper right hand pivot means 14 on a mounting plate 2. The actuating lever 52 has a knob 54 carried thereby so that when the knob is pulled forward the rear portion of the lever 52 is raised to pull upward on the link 50. The front end of the latch 42 is then raised to disengage pin 46 on tank support 10 whereby the bracket is released for movement to the extended or active position of FIG. 1. If desired, a safety pin 56 may be passed through a portion of the actuating lever 52 and the support for pivot means 14 whereby the bracket will be securely held against release during rough travel of fire apparatus or vibration of the fixture on which the bracket is mounted.

Since the tank 8 mounted on tank support 10 may be relatively heavy, it is generally desirable to provide spring means for urging the bracket and tank support toward their extended position. For this purpose a spring 58 may be connected at one end to the mounting plate 2 and at the other end to tank support 10, so as to urge the bracket toward its extended position as shown in FIG. 1 when the actuating lever 52 is moved to raise latch 42 to release the bracket for movement outwardly. The bracket may be released for return to its retracted position by movement of the free end of link 34 to disengage the offset portion 40 of slot 36 from the pin 38 engaged thereby, whereupon the bracket, with its tank support and tank or cylinder may be readily returned to their retracted position wherein they are housed within the compartment 6.

The construction thus provided renders it possible to lock the bracket securely in place in either its retracted or extended position and to select the location of the tank support or other means carried by the bracket when they are in an extended position so as to assure the most convenient and accessible positioning thereof. At the same time, the bracket is simple and economical to produce and is extremely simple and easy to operate.

I claim:

1. A tank bracket comprising a mounting plate adapted to be secured to a fixture, a tank support movable to extended and retracted positions, said mounting plate having two upper pivot members thereon located in horizontally spaced relation and having two lower pivot members located thereon in similar horizontally spaced rela-

4

tion, four arms each of which has an inner end thereof connected to a different one of said pivot members and having the outer end thereof connected to said tank support, spring means urging said tank support toward said extended position, latch means engageable with one of said arms to hold said arms and tank support in said retracted position, an actuating member connected to said latch means and located adjacent to one of said upper pivot means for movement to actuate said latch to release the arms for movement of the tank support to said extended position, and locking means engageable with one of said arms for holding said tank support in said extended position.

2. A tank bracket as defined in claim 1 wherein said latch means is located on one side of said bracket and said locking means is located on the opposite side of said bracket.

3. A tank bracket as defined in claim 1 wherein said latch means is pivotally mounted on one of said mounting means for holding said tank support in said retracted position, said actuating member is pivotally mounted on another of said mounting means, and a link extends from said actuating member to said latch for moving said latch to release said bracket for movement to said extended position.

4. A tank bracket as defined in claim 1 wherein locking means are provided for holding said arms and tank support in said extended position.

5. A tank bracket as defined in claim 4 wherein said locking means is selectively engageable with one of said arms at various different positions thereon for holding said tank support at a selected elevation with respect to said fixture when said tank support is in said extended position.

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211—75, 88; 248—313