Nov. 27, 1951 E. H. GIBSON 2,576,832

CYLINDER HOLDER

Filed Oct. 9, 1947

Fig. 1.

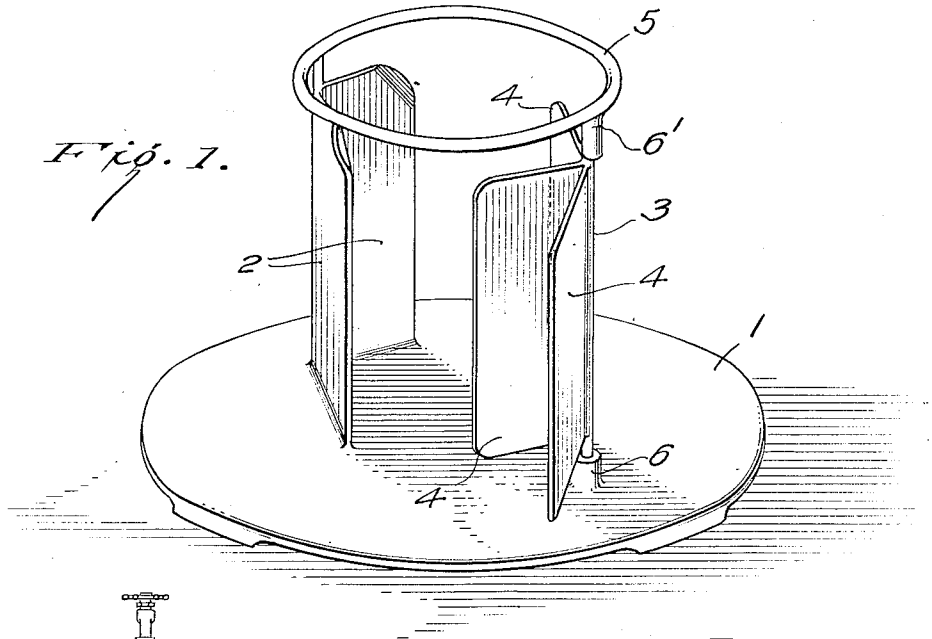


Fig. 2.

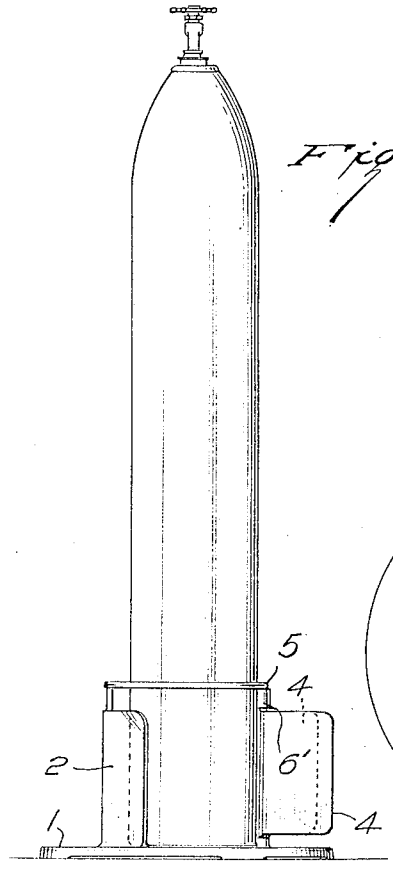


Fig. 3.

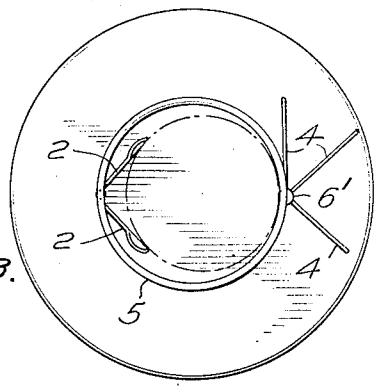
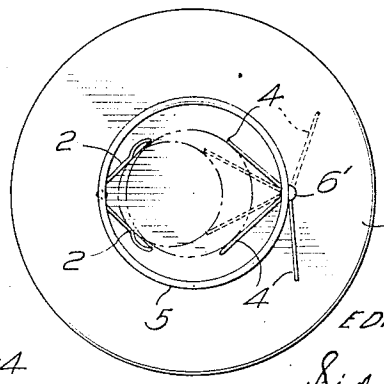


Fig. 4.



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Patented Nov. 27, 1951

2,576,832

UNITED STATES PATENT OFFICE

2,576,832

CYLINDER HOLDER

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Application October 9, 1947, Serial No. 778,895

3 Claims. (Cl. 248—149)

1

The present invention relates to a holder for cylinders, more particularly for cylindrical containers for, say, compressed gases.

It is an object of the invention to provide a holder for cylinders, such as those containing compressed gas, that will not only be convenient to employ, but will also be capable of holding cylinders of various sizes and will be capable of doing so with the necessity of making only a slight adjustment in the holder.

With the above and other objects in view, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawing, and particularly pointed out in the appended claims.

In the accompanying drawing like characters of reference indicate like parts in the several views, and—

Figure 1 is a perspective view of the holder of the present invention.

Figure 2 is an elevation showing the holder containing the largest size cylinder of which it is capable.

Figure 3 is a plan view corresponding to Figure 2 and showing the holder containing the largest size cylinder of which it is capable of containing.

Figure 4 is also a plan view showing in particular the disposition of holder parts when the holder contains smaller sized cylinders.

In the embodiment of the invention as here shown, there is provided a base 1. Secured to said base and rising vertically therefrom are fixed stops 2, forming an angle, and post 3. Said post carries a plurality of movable stops 4, which form a plurality of angles at the post. Supported by the fixed stops and the post is ring 5, the center of which preferably coincides with the center of the aforementioned base. Also, the angle formed by the fixed stops is diametrically opposed to post 3, i. e., the angle formed by said fixed stops is halved by a line drawn from post 3 to the apex of said angle. Still further, the segments of the circle described by said ring between either the apex of the angle formed by the fixed stops (or the point of intersection of the aforementioned line drawn thereto) and the point of support on the post are equal. The movable stops are mounted with relation to the post 3 so as to permit their being freely moved about the axis of said post. Said stops may be permanently secured to the post, as, for example, by being welded thereto, the entire post and stop assembly being held at either end of said post

2

by studs 6 and 6' which may be an integral part of the base and ring, respectively.

The aforementioned base should be of sufficient area to provide a suitable degree of stability against tipping when the holder contains a cylinder. The area required for such stabilization depends largely upon the height and the diameter of the cylinder contained in the holder, it being necessary to have a base of larger area in order to adequately secure a cylinder of greater height and diameter. Said base may take a wide variety of shapes and may be circular, square, oval, rectangular, and the like. Likewise, the base may be of greater thickness to increase its weight without increasing its area while increasing the stability.

The angle formed by the fixed stops 2 may be any angle within the range of 60–120 degrees, since the cylinder is thereby held with great stability. It is still more preferable, however, that said angle be approximately 90 degrees. The angles formed by the movable stops 4 may vary somewhat more widely. While the largest angle may be greater than 180 degrees if so desired, it is preferred that it be no greater. With an angle of 180 degrees, a cylinder of largest diameter of which the holder is capable of containing may be held. Fixing the movable stops so as to form an angle of less than 20 degrees does not permit securing a cylinder with sufficient stability so that it is preferred to fix the movable stops so as to form angles greater than this value. When an angle of 180 degrees is presented by the movable stops, the cylinder is secured by the fixed stops on the one side and by the ring on the other side, the movable stops playing no part in securing the cylinder. With the movable stops so fixed with regard to each other as to form acute angles of decreasing degree, it is possible to hold cylinders of progressively smaller diameter. Thus, using movable stops permanently secured to each other they may be so fixed as to form angles of, for example, 180 degrees, 90 degrees, 60 degrees, and 30 degrees, and thus permitting cylinders of four different diameters to be held in the holder of the present invention. In order to hold the cylinder of smallest diameter the only adjustment that is required is moving the movable stops so as to present the angle of 30 degrees diametrically opposite the angle formed by the fixed stops. If the cylinder to be held is one of intermediate diameter, said movable stops are turned so as to present an angle of 60 or 90 degrees. Also, if desired the largest angle may be, say, 150 or 120

degrees. In such a case the largest cylinder capable of being held in the holder is secured by the fixed stops on the one side and by the movable stops on the other side in the same manner as are held the cylinders of intermediate diameter. With such an angle as the largest angle formed by the movable stops, the angles formed by said stops may consist of 150, 120, and 90 degrees, of 150, 90, 60, 40, and 20 degrees, of 120, 90, 75, 50, and 25 degrees, or of 120, 90 55, 45, 30, and 20 degrees.

In employing the apparatus of the invention, it is only necessary to turn the aforementioned movable angle members so as to present an angle of suitable magnitude diametrically opposite from that formed by the aforementioned fixed stops. Upon removing a cylinder and replacing it with one of different diameter, the only adjustment required is to turn the movable stops so as to present a greater or smaller angle.

While the apparatus of the invention has been described with particular reference to specific embodiments, it is not to be limited thereby but is to be construed broadly and restricted solely by the scope of the appended claims.

What is claimed is:

1. A cylinder holder comprising a base, two fixed stops forming an angle to each other rising vertically from the said base, a plurality of vertically rising stops rotatable on a vertical post fixed to said base, said rotatable stops being spaced from each other in a plurality of angles,

the open faces of which are respectively rotatably opposable to the open face of the angle formed by the fixed stops, and a ring substantially in a plane with the base, said ring positively securing the post and the upper apex of the fixed stops, the combination being adapted to hold a cylinder resting on said base when the cylinder is placed within the said ring, in contact with the two stops assemblies.

2. The cylinder holder according to claim 1 in which the fixed stops form an angle within the range of 60 to 120 degrees and the rotatable stops form a plurality of angles within the range of 20 to 180 degrees.

3. The cylinder holder according to claim 2 in which the fixed stops form an angle of substantially 90 degrees.

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