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COMPRESSED GAS CYLINDER

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COMPRESSED-GAS CYLINDER.


To all whom it may concern:

Be it known that I, DAVID AHLIDIN, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Compressed-Gas Cylinders, of which the following is a specification.

This invention relates to improvements in metal cylinders of the character commonly employed as containers for shipping and storing gases under high pressures. Cylinders of this type are equipped with an outlet valve fixture projecting from one end whereby a hose or pipe line may be connected and the flow of the gas therethrough controlled. The primary object of the present invention is to provide means for adequately protecting the outlet valve and its associated parts from injury during shipment or storage.

The numerous expedients heretofore resorted to, to accomplish this result have been only partially successful due to a number of reasons. The use of a threaded protective cap, screwing on to a threaded shoulder on the cylinder is objectionable from a standpoint of cylinder construction and also because frequently the cap becomes lost or misplaced while the cylinder is being emptied. The use of covers for the valve which are so arranged that they have no rigid connection with the cylinder afford very little real protection for the valve during the rough handling which the cylinders frequently receive in transit. The use of cylinders having concave heads and having outlet valves disposed in the pocket formed by such heads are open to the objection that the heads, when stored outdoors or standing on railroad platforms, frequently collect water which freezes and injures the valves, or prevents their operation.

My invention involves a cylinder so constructed as to afford adequate protection for the valve and hose pipe connection, to avoid the use of detachable protecting caps, to obviate the danger of freezing, and to negative the possibility of weakening the cylinder itself by forming threaded flanges of any kind thereon.

The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein

Figure 1 is a side elevation of the upper part of a cylinder, the protecting means being shown in section and

Figure 2 is a top plan view.

The cylinder shown is of a construction commonly employed and includes an elongated body portion 10 and convexly curved or hemispherical upper end wall 10a. A valve casing or fixture 11 is secured to said wall preferably by threaded connections, and has a valve operated by a valve stem 12 for controlling the flow of gas under pressure to an outlet 13 which is adapted for the coupling thereto of an inlet or outlet hose or pipe. The valve casing 11 is so constructed that the outlet faces upwardly and the valve stem extends vertically so that both of them may engage with cooperating parts applied from above rather than from the side.

As the important feature of my invention, I provide an open ended protective collar or flange 14 brazed or welded electrically or by oxy-acetylene flame at its lower end 15 to the convex top of the cylinder. The collar is preferably substantially a cylinder, larger than the fixture and of such height that its upper end is slightly above the upper end of the fixture, as the upper end is open and the hose or pipe coupling faces upwardly, the collar 14 does not interfere with the attachment of the hose thereto and the position of the valve stem 12 is such that the encircling collar will not hinder free operation thereof.

Adjacent to its point of attachment to the cylinder, the collar 14 is provided with one or more drain openings 16 which prevent water from collecting inside of the collar and consequently the danger of freezing a solid block of ice around the valve casing. The drain hole or holes should be below the valve fixture or at least below the operating parts thereof.

Inasmuch as the collar is welded to the tank, the latter is not structurally weakened. The protective collar cannot become lost by virtue of its permanent attachment and it adequately protects the enclosed valve during the rough handling to which the cyl-
inder is often subjected in the course of shipment. Furthermore, the collar being spaced from the valve fixture does not interfere with the removal or replacement of the latter as such fixture has threaded connection with the tank.

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

1. A metal shipping cylinder for gas under pressure, having a valve fixture including a valve and a hose connection, and a protective collar permanently secured to said cylinder encircling and spaced from said valve fixture, and having an open outer end terminating beyond the valve fixture and through which the valve may be operated and the hose connected.

2. A cylinder for the shipment or storage of gas under high pressure, having a convex end, a valve fixture threaded thereto and having a vertically disposed valve stem and a vertically delivering outlet passage, and a cylindrical collar welded to the tank end and encircling the valve fixture, said collar being slightly taller than the fixture and spaced therefrom and having a drain hole through the wall thereof below the operating parts of the valve.

3. A metal shipping cylinder for gas under pressure, having a convex end, a valve fixture carried thereby and having a valve and a hose connection, and a protective collar secured to said convex end and encircling said fixture, said collar having an open end terminating beyond the valve fixture and through which the valve may be operated and the hose connected, the lower end of said collar adjacent to said convex end having a drain hole.

Signed at Chicago, in the county of Cook and State of Illinois this 9th day of December, A. D. 1924.

DAVID AHLDIN.