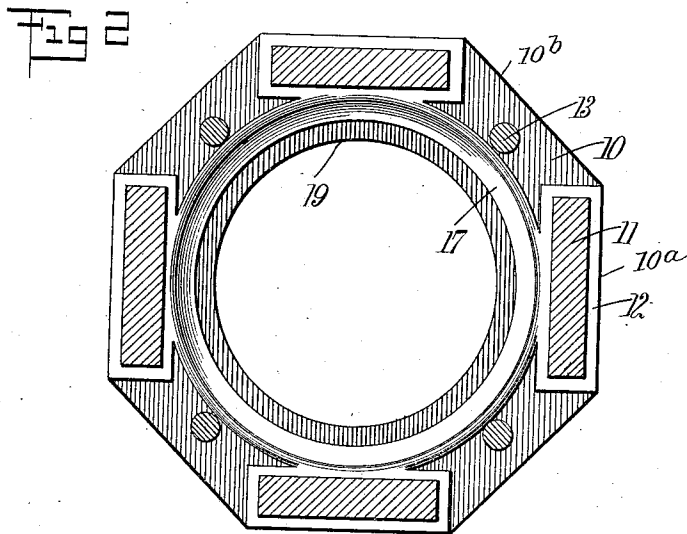
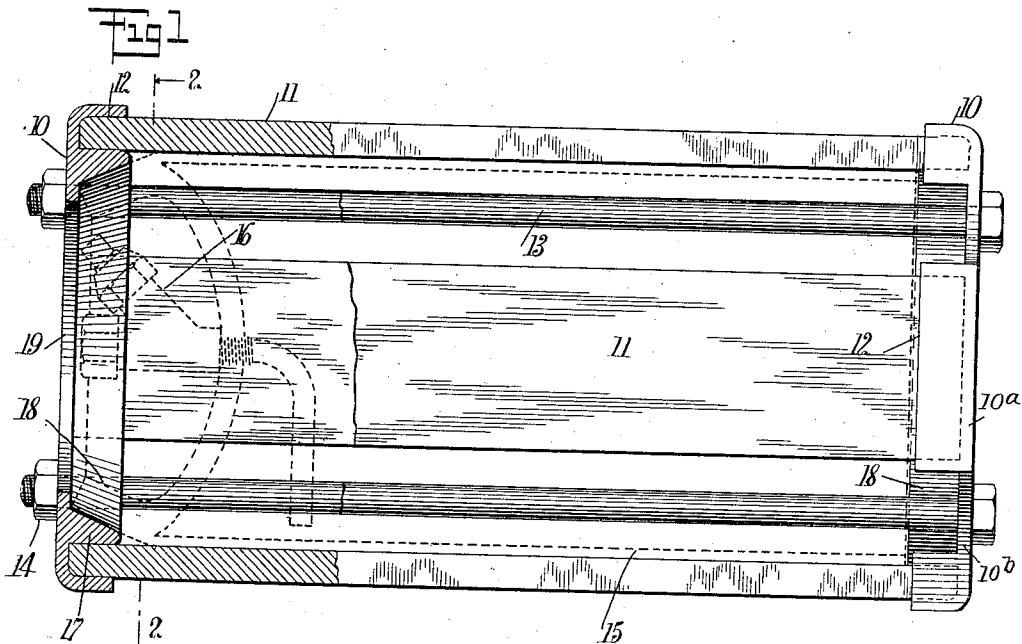


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 CRATE FOR METAL CYLINDERS.
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1,060,522.

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CRATE FOR METAL CYLINDERS.

1,060,522.

Specification of Letters Patent.

Patented Apr. 29, 1913.

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To all whom it may concern:

Be it known that I, LOUIS WERLIIN, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Crate for Metal Cylinders, of which the following is a full, clear, and exact description.

The invention relates to a crate for the protection during transportation of metal cylinders or drums containing compressed gases.

Steamship and railroad regulations, particularly those of the companies engaged in foreign transport require that all cylinders or drums of the character referred to when transported over their lines shall be inclosed in a strong box or crate, to protect the cylinder or drum from damage. The forms of crates ordinarily employed fall short of giving the required strength; their form is not convenient for handling and storing, and they are necessarily heavy and unwieldy. Moreover, in practice, not less than 50% of the crates are useless after one trip, and in practically all cases the crates require extensive repairs; also the crates of ordinary construction have no provision for the emptying and refilling of the cylinder without removal from the crate.

By means of my invention a crate is provided having a maximum of strength with a greatly reduced weight. It has a form which permits of long continued use, and constitutes, if desired, a permanent attachment to the cylinder, since the latter may be charged and emptied without the removal of the crate.

In construction, my improved crate comprises heads formed and arranged to firmly engage the bell-shaped ends of the cylinder, and in practice, the heads of the crate are open at the center so that access can be had to the charging and emptying valve at one end of the cylinder. In connection with the novel heads of the crate, staves are employed, extending longitudinally along the sides of the crate to house and protect the cylinder along its length, the ends of the staves being received in aligned pockets provided by the formation of the inner faces of the heads, and the whole being clamped together by elongated bolts extending between the heads to constitute tie rods. Desirably the mentioned heads are of metal and the staves of wood. In the preferred form of

the crate the staves are four in number, and the rods advantageously alternate with the staves and thus serve to constitute protecting elements to the parts between the staves.

The distinctive features of the invention and the novel elements of the illustrated constructional embodiment will be further explained in the more specific description hereinafter to be given.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a partly sectional side elevation of a crate embodying my invention, the cylinder being indicated in dotted lines; and Fig. 2 is a cross section on the line 2—2 of Fig. 1.

In constructing a crate in accordance with my invention, heads 10 are provided, and staves 11 extend longitudinally of the crate between the heads, the ends of the staves being received in pockets 12 formed in the inner faces of said heads. Longitudinal bolts 13 extend between the heads, preferably alternating with the staves to extend in the spaces therebetween, the bolts passing through the heads and being suitably fastened as by nuts 14. The heads are formed with a central opening, or at least that head has an opening which is adjacent to the charging valve of the cylinder, which cylinder is indicated in dotted lines at 15 and the valve fitting indicated by the numeral 16, the opening exposing substantially the whole end of the cylinder and affording ready access to the valve for charging and emptying the cylinder.

On the inner face of a head 10 of the crate, flanges 17 are formed inside of the stave pockets 12, and the inner face of the flanges is beveled to conform to the usual bell shape of the ends of cylinders containing compressed gases, as clearly indicated in Fig. 1, so that the head firmly and tightly engages the cylinder end, preventing all movement thereof in the crate. The central opening in the head 10 is defined by an inwardly-extending flange 19, which when the crate is applied to the cylinder overlies the edge of a bell-shaped end 18 of the cylinder. The heads are formed with outer, lateral, polygonal, surfaces, as seen in Fig. 2, there being flat surfaces 10^a ranging transversely of the staves and adjacent thereto, and alter-

nating flat surfaces 10^b between the staves, on either of which surfaces the crate may rest. The bolts 13 are adjacent to and within the surfaces 10^b.

5 By providing metal heads as described, and employing wooden staves with the tie bolts, a light crate is provided, possessing great strength to withstand the rough usage to which such articles are subjected in
10 transit. The cylinder can be emptied and recharged without removal from the crate, and the latter can be ordinarily employed without renewal or repair for a long period.

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

20 A polygonal crate for cylinders, comprising a series of broad longitudinally ranging staves spaced from each other; metallic heads each formed as an integral, unitary member having alined pockets therein at their inner surfaces, the walls of the pockets being integral with the heads and receiv-

ing the ends of the staves, there being flat external surfaces on the heads adjacent to 25 the staves and ranging transversely therewith, and flat external surfaces between the staves; and longitudinal clamp bolts alternating with the staves and uniting the heads; the said heads serving to engage the 30 ends of a cylinder, and one of said heads having an open center, there being a member on the head around the open center extending in the direction of the opposite head and presenting a beveled side surface at the 35 opening, and a flange extending radially inward and overhanging at the open center of said head, inward from the beveled surface.

In testimony whereof I have signed my name to this specification in the presence of 40 two subscribing witnesses.

LOUIS WERLIIN.

Witnesses:

WILLIAM C. SCOTNEY,
GEORGE KINKAID.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."