(No Model.)

# D. SULLIVAN.

## MAN HOLE AND HAND HOLE STOPPER.

No. 247,225. Patented Sept. 20, 1881.

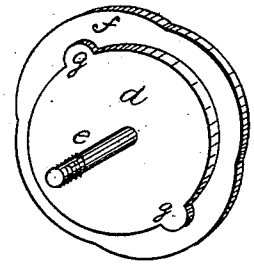



Fig. 3.

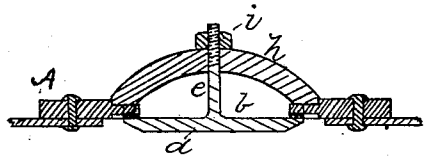



Fig 1.

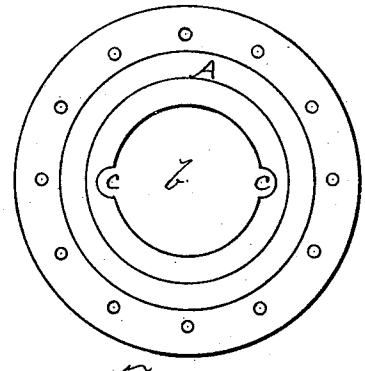



Fig 2

Witnesses
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# UNITED STATES PATENT OFFICE.

DANIEL SULLIVAN, OF CENTRAL FALLS, RHODE ISLAND.

## MAN-HOLE AND HAND-HOLE STOPPER.

SPECIFICATION forming part of Letters Patent No. 247,225, dated September 20, 1881.

Application filed January 26, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL SULLIVAN, of Central Falls, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Man-Hole and Hand-Hole Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows a section of my invention; Fig. 2, plan of plate A; Fig. 3, perspective of stopper.

Same letters show like parts.

My invention consists of a man-hole or hand-hole stopper for steam boilers, generators, &c., so arranged as to be readily removed and replaced, while at the same time securely closing the opening when in position.

My invention will be understood by reference to the accompanying drawings.

A shows a plate securely bolted to the boiler, and provided with the opening *b*, circular in form, with the exception of the small semicircular sections *c c* removed from its opposite edges.

At *d* is a circular stopper of the size of the opening *b*, provided with the screw-bolt *e*, and having around its lower edge an elliptical flange, *f*, the width of which at its narrowest diameter being slightly less than the width between the semicircles *c c*, thus allowing it to pass through the opening *b*.

At *g g* are semicircular projections fitting the openings *c c*.

When the stopper is to be inserted a rubber packing is placed around the flange *f* and the stopper passed through the opening and turned one-fourth way round, so that the projections *g g* enter the openings *c c*, filling them. The cup or yoke *h* is then put on the screw-bolt projecting through it, and the nut *i* screwed in place, tightening the whole.

It will be observed that the entire opening is filled by metal, and then any necessary power may be applied to a refractory bolt without danger of turning the stopper. All the surfaces to be packed are circular in form, and hence may be turned to a ground joint, which cannot be done when the shape of the stopper is oblong.

In some cases the plate A may be dispensed with, the stopper being applied directly to the boiler, which, in such case, is the equivalent of the plate, or the plate may be placed on the top of or form part of a dome, the end of a cylinder, or the like; but I do not regard these variations as affecting my invention; nor do I limit myself to the form of the openings *c c* or projections *g g*, provided they correspond with each other.

I am aware that man and hand hole apertures circular in form have been used before, and that various devices have been employed for filling or closing them with metal plugs or stoppers. I do not therefore claim, broadly, these features; but

What I claim, and desire to secure by Letters Patent, is—

In combination with a plate, A, provided with the openings *b c c*, the stopper *d*, and flange *f*, having projections *g g* thereon corresponding to the openings *c c*, together with the screw-bolt, nut, and cup or yoke, as common, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of January, 1881.

DANIEL SULLIVAN.

Witnesses:

DANL. P. MCGILLICUDDY,

JOSEPH F. HARRIGAN.