

E. H. ELLISON.
AIR PORT CLOSURE.
APPLICATION FILED JULY 18, 1917.

1,274,151.

Patented July 30, 1918.

Fig. 1.

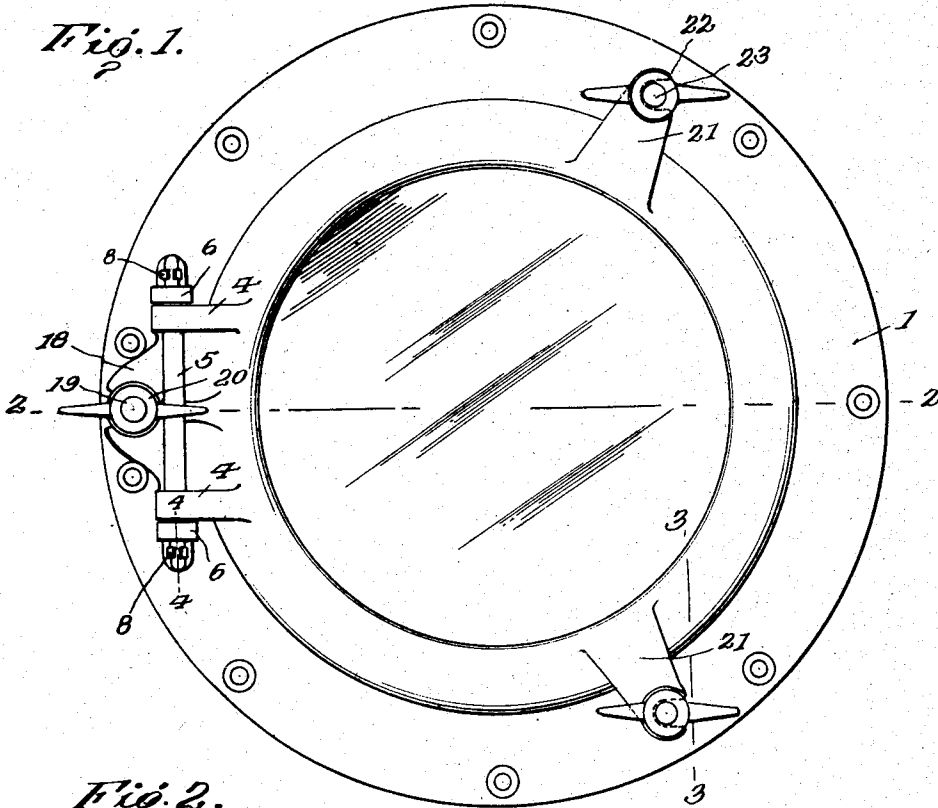


Fig. 2.

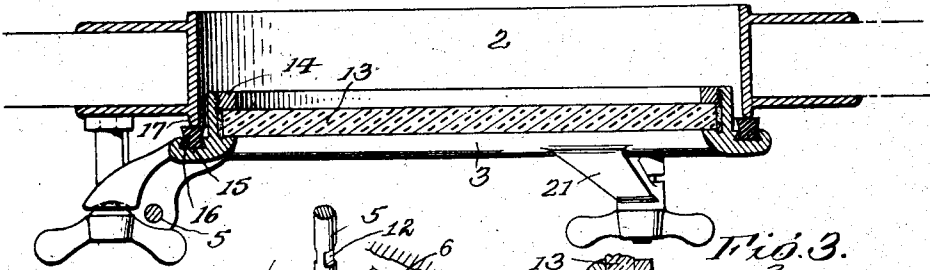


Fig. 3.

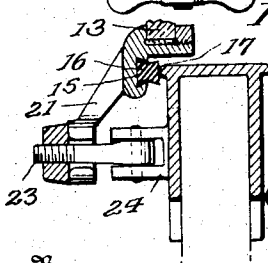
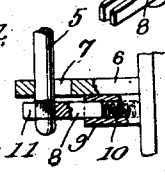


Fig. 4.



Witness
H. H. Mumay
Walter P. Anderson

Inventor

Edward H. Ellison

By

Sturtevant Mason
Attorney

UNITED STATES PATENT OFFICE.

EDWARD H. ELLISON, OF JAMESTOWN, NEW YORK, ASSIGNOR TO INTERNATIONAL CASEMENT COMPANY, OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

AIR-PORT CLOSURE.

1,274,151.

Specification of Letters Patent.

Patented July 30, 1918.

Application filed July 18, 1917. Serial No. 181,213.

To all whom it may concern:

Be it known that I, EDWARD H. ELLISON, a citizen of the United States, residing at Jamestown, in the county of Chautauqua, State of New York, have invented certain new and useful Improvements in Air-Port Closures, of which the following is a description, reference being had to the accompanying drawing, and to the figures of reference marked thereon.

The invention relates to new and useful improvements in air port closures and more particularly to an air port closure which is capable of being swung about a hinge and which may also be firmly clamped in place when closed so as to make a tight joint all the way around the closure.

An object of the invention is to provide the means for hinging the door for closing the air port which will permit the door at the side where it is supported by the hinge to be forced against the supporting frame so that the closure will be water tight all the way around.

A further object of the invention is to provide a construction of the above character wherein the door is mounted so as to swing about a vertical axis and wherein the supporting means for the door is so constructed as to provide a firm and durable support for the door and at the same time to permit the door to be clamped tightly against the seat about the air port.

These and other objects will in part be obvious, and will in part be hereinafter more fully described.

In the drawings, which show by way of illustration one embodiment of the invention,

Figure 1 is a front view of an air port closure embodying my improvement;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view on the line 4—4 of Fig. 1; and

Fig. 5 is a perspective view of the parts shown in Fig. 4, said parts being separated.

The invention broadly consists in a supporting frame having an opening formed with a seating rib extending all the way around the edge thereof, this opening is closed by a door which is provided with a gasket adapted to engage said rib. The door

is mounted to swing about a vertical axis. The door is provided with a bolt which is rigid with the door structure and this bolt is mounted in spaced ears having longitudinal slots through which the bolt extends. Adjacent each supporting ear there is a sliding member which is forced outwardly by a spring and this sliding member is formed with a bearing socket adapted to engage the bolt above referred to. These sliding members normally hold the bolt at the outer ends of the elongated slots and the door swings in the bearings formed by the ends of the slots and the sockets in the sliding member. Clamping devices are also provided for moving the door bodily so as to cause the gasket to engage the rib and the sliding members yield to permit this bodily movement of the door.

Referring more in detail to the drawings, my improved air port closure consists of a metal frame 1, which is formed with an opening 2 and laterally extending flanges, one of which is movable relative to the frame proper and these flanges are clamped together by suitable bolts thus firmly securing the frame to the structure in which the air port is formed. The opening 2 is closed by a door 3. Extending laterally from the door are integral ears 4—4. Rigidly mounted in these ears is a supporting bolt 5. Rigidly supported by the frame 1 are two spaced brackets 6—6, each bracket is formed with an elongated slot 7. The bolt 5 extends through these slots and projects beyond the brackets. Adjacent each bracket is a sliding member 8. Each sliding member is mounted in a sleeve 9 which is rigidly attached to or formed integral with the frame 1. A spring 10 located in the sleeve, normally forces the sliding member 8 outwardly. Suitable means may be provided for limiting the outward movement of the sliding member 8. Said sliding member 8 is formed with a socket 11 at its outer end. The bolt 5 is cut away slightly back from each end thereof, as indicated at 12 to receive respectively, the socketed ends of the sliding members 8. The springs normally force the sliding members outwardly so that the elongated slots 7 and the inner ends of the sockets form the bearings for the bolt of the door. The weight of the door of course in part rests on the lower bracket 6. The door swings about a vertical axis cen-

trally through this bolt 5. This makes a very firm and durable support for the door and prevents any possible rattling.

The door is preferably formed with a glass panel indicated at 13 in the drawings. This panel is seated in the door structure and is held therein by suitable clamping ring 14. The door is also provided with a dovetail recess 15 in which is seated a gasket 16. The frame 1 is formed with a rib 17, which projects outwardly from the frame and the gasket 16 is adapted to engage this rib so that the rib will be embedded in the gasket when the door is properly closed, and thus form a tight joint all the way around the door. When the door is closed, it is moved bodily by suitable clamping means to bring about this seating of the gasket against the rib. The door proper is formed with projecting lugs 18—18, a bolt 19 is rigidly carried by the frame 1 and these lugs 18—18 are spaced so as to straddle the bolt when the door swings to closed position. A winged nut 20 threaded onto the bolt 19 overlaps the lugs and as this nut is turned onto the bolt the lugs 18 will be forced toward the frame. The sliding members 18 yielding to permit this movement of the door toward the frame. The door is also provided with projecting lugs 21—21 disposed on the opposite side from the center of the door from the lugs 18—18. Each of the lugs 21 has a forked end 22. A pivoted bolt 23 carried by a bracket 24 is adapted to be swung horizontally into this forked end of the lug and serves as a means for forcing the door bodily toward the frame. Through these clamping bolts the door may be firmly seated so as to form a tight joint all the way around. By releasing these bolts, then the door may be readily swung on its supporting bolt and the sliding members 18 will force the bolt outwardly to the end of the elongated slots.

From the above description it will be apparent that I have provided an air port structure which may be cheaply made and which is very durable and wherein the door is supported so that it may be easily swung to closed position or open, and when in closed position it may be moved bodily against its seat to form a tight joint.

It is obvious that minor changes in the details of construction may be made without departing from the spirit of invention as set forth in the appended claims.

What I claim is:

1. An air port closure comprising a supporting frame having an opening, a door for closing the opening and means for support-

ing said door including a bolt carried by the door, spaced brackets having elongated slots for said bolt, sliding members having sockets in their outer ends adapted to engage said bolt, means independent of the brackets for supporting and guiding the sliding members and springs for forcing said sliding members outwardly for holding the bolt yieldingly against the outer ends of said slots, and means for moving the door bodily against its seat for closing the same.

2. An air port closure comprising a supporting frame having an opening, a door for closing the opening, means for supporting the door including lugs carried by the door, a vertically disposed bolt mounted in said lugs, brackets carried by the frame and having elongated slots for the bolt, a sliding member adjacent each bracket, means independent of the brackets for supporting and guiding said sliding members, said sliding members having sockets in the outer ends, sleeves carried by the frame for said sliding members, a spring for forcing each sliding member outwardly to cause its outer end to engage the bolt, and clamping means for moving the door bodily against its seat for closing the same.

3. An air port closure comprising a supporting frame having an opening and a seating rib for the door; a door for closing the opening, a gasket carried by the door and adapted to engage said rib, lugs projecting horizontally from the door, a bolt mounted in said lugs, spaced brackets carried by the frame and having elongated slots through which said bolt passes, said slots being elongated in a direction perpendicular to the plane of the frame, a sleeve adjacent each bracket, a sliding member in each sleeve, a spring in the sleeve for forcing the sliding member outwardly, each sliding member having a socket in its outer end adapted to engage the bolt, said bolt being cut away to receive the socketed end, spaced lugs projecting from the door between the brackets when the door is closed, a bolt fixed to the frame and having a winged nut adapted to engage said spaced lugs, a lug on the opposite side of the door from the spaced lug and having a forked end, a swinging bolt carried by the frame adapted to engage said forked end and a winged nut for said bolt, said winged nuts serving as a means for shifting the door bodily to engage the rib on the frame, and said sliding members yielding to permit the bodily movement of the door.

In testimony whereof, I affix my signature.

EDWARD H. ELLISON.