

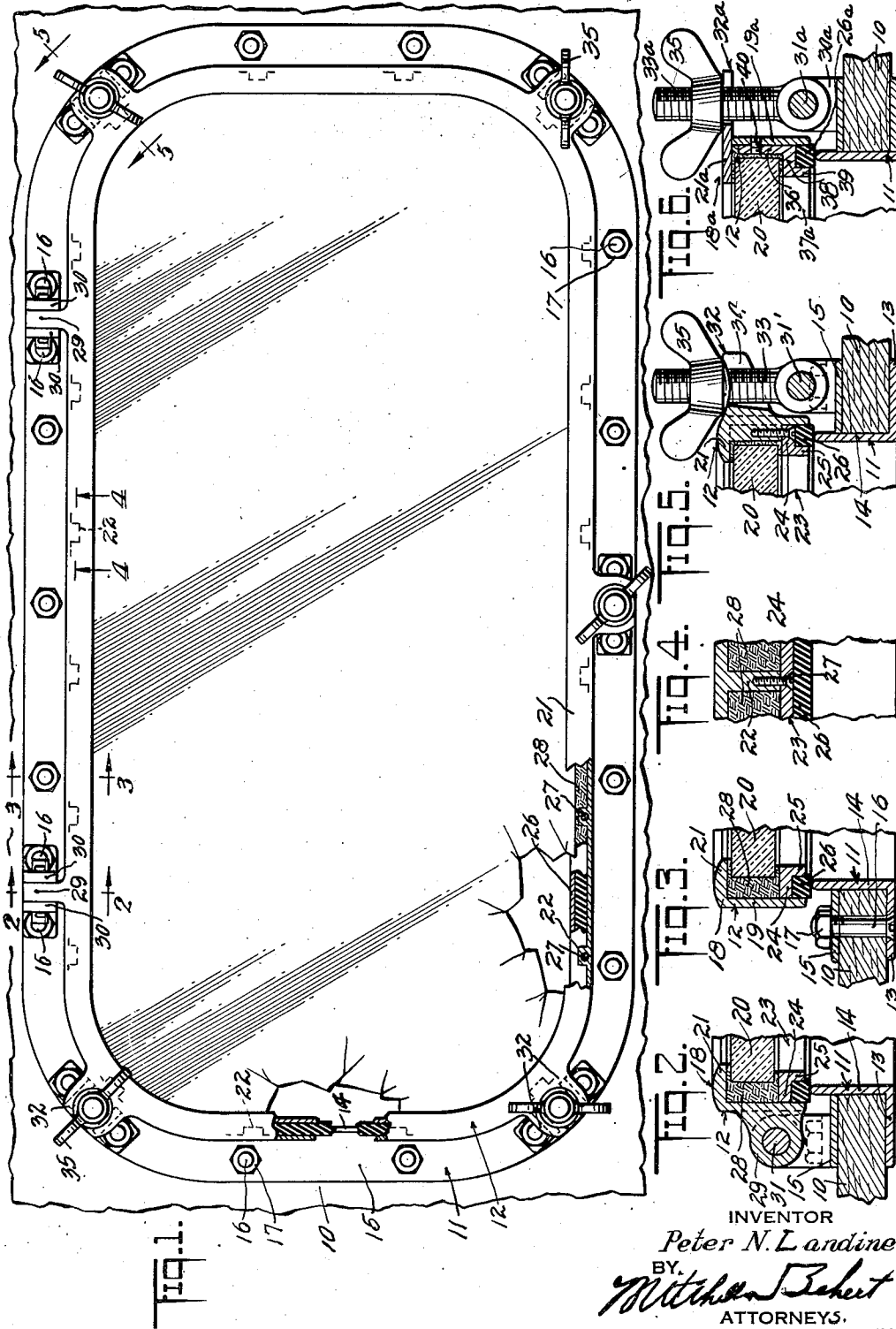
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WINDOW

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WINDOW

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1 Claim. (Cl. 189—78)

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My invention relates to window structure for port-holes and the like adapted for use in boats having either wooden or metal shells.

It is a general object of my invention to provide improved window structure for port-holes and the like.

Another object is to provide an improved window structure which is adapted for easy and economical construction, assembly and installation.

Another object is to provide an improved window sash which is particularly adapted for easy and economical construction, assembly and installation, and is strong and not only water-tight but adapted to cooperate with a suitable frame and provide a water-tight seal.

A further object of the invention is to provide a window frame which is easy and economical to manufacture and install and is adapted for sealing contact with certain window sashes.

In the drawings which show, for illustrative purposes only, a novel and preferred embodiment of the invention—

Fig. 1 is a view in elevation of one embodiment of the invention, parts being broken away to show interior features;

Fig. 2 is a sectional view taken substantially in the plane of the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken substantially in the plane of the line 3—3 of Fig. 1;

Fig. 4 is a sectional view taken substantially in the plane of the line 4—4 of Fig. 1;

Fig. 5 is a sectional view taken substantially in the plane of the line 5—5 of Fig. 1; and

Fig. 6 is a sectional view similar to Fig. 5, of a modified form.

The window structure illustrated is installed to close a port-hole opening in the shell 10 of a boat and comprises a window or port-hole frame 11 and a window or window sash 12. The shell 10 is illustrated as made of wood or planking but may be made of metal or plating. The frame 11 comprises a preferably endless angle member having one flange 13 engaging one face of the shell around the opening and another flange 14 extending through and around the periphery of the opening, and a flat endless strip 15 extending around the opening at the face opposite the flange 13 and at the outer surface of the flange 14. These frame members may be held in position by bolts 16 having their heads sunk into the outer side of the flange 13 and extending through the shell and the strip 15, and nuts 17 on said bolts. As illustrated in Figs. 1 and 3, bolts 16 are close to said flange 14. It should be understood that if the shell were of metal the parts

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of the window frame could be be welded together.

The sash 12 includes an endless member 18 of angle cross-section constituting a main sash frame and including a peripheral flange 19 receiving glass 20 therein, and a flange 21 extending inwardly over the edge of the glass to prevent movement of the glass out of the corresponding side of the peripheral flange 19. The edge of the glass 20 is spaced from the inner face of the peripheral flange 19 by lugs 22 at the inner face of peripheral flange 19 and extending from the flange 21, and lugs 22 also serve to limit the movement of an endless glass-retaining member 23 of angle cross-section into the peripheral flange 19.

The member 23 has an outwardly extending flange 24 fitting in the flange 19, and a flange 25 extending away from the glass and providing a recess or groove to receive a gasket 26 of sealing material such as rubber. The glass retaining member 23 is secured in position by screws 27 passing through the flange 24 and into the lugs 22 which are integral with the main sash frame 18 and not only serve to reinforce the same by themselves but also by their connection at their lower ends with glass-retaining member 23. The glass 20 is surrounded at its edges by resinous material or mastic 28, which not only holds the glass in place but also provides a water-tight seal. Said flange 24 confines the mastic and due to pressure thereon compresses the mastic.

The sash 12 may be hinged to the frame 11 and shell. To this end the main sash frame 18, which is here shown as having straight and parallel opposite sides and rounded corners, is provided at one side with two hinge lugs 29 which lie between pairs of lugs 30 on the window frame and are connected thereto by pins 31. The hinge lugs may be secured to the frame 11 and shell 10 by bolts 16 of somewhat greater length than those at other positions. Preferably the axes of the pins 31 are substantially in the plane of the face of the glass 20 adjacent to the glass-retaining member 23 whereby the gasket 26 is pressed directly against the edge of the flange 14 and produces an effective seal at this locality.

The hinged support for the window sash 12 renders it more convenient to open and close the window. However, it is necessary to secure the window firmly in closed position, for example during a storm, and to obtain a water-tight seal. Obviously, pressure of gasket 26 against the sealing edge of flange 14 will produce a water-tight seal. Such pressure may be attained

close to the hinges by merely closing the window and at other locations by means of slotted dogs 32 provided at suitable intervals around the main sash frame 18 just outside certain interior lugs or pairs of lugs 22 where the frame is stronger, dog bolts 33 pivoted by pins 31' in lugs 30 for swinging into and out of slots 34 in the dogs, and wing nuts 35 on said bolts. It should be noted that the pins 31' are located close to the peripheral flange 19 of the sash frame and that when the window is sealed, the slotted dogs 32 are so located and formed that the dog bolts are adjacent and parallel to the sash flange 19 and the wing nuts 35 engage the upper faces of slotted dogs 32 at the general level of flange 21.

In the modified form shown in Fig. 6, the main sash frame 18a is made up of a peripheral flange 19a secured at one edge to an inwardly extending flange 21a which has slotted dogs 32a formed in the same plane therewith, said dogs being adapted to cooperate with dog bolts 33a pivoted by means of pins 31a passing through lugs 30a secured to the frame and shell. At the inside of peripheral flange 19a, there is a reinforcing flange 36 of a glass-retaining member 37a, which also comprises an inwardly projecting glass-retaining flange 38, and a flange 39 at the inner edge of the glass-retaining flange and projecting away from the glass to cooperate with peripheral flange 19a and provide a recess to hold gasket 26a. Screw 40 holds the parts assembled.

While the invention has been described in considerable detail and a preferred structure disclosed, it is to be understood that various changes and modifications may be made within the scope

of the invention as defined in the appended claim.

I claim:

In a sash for port-holes and the like, the combination of a main frame having a peripheral flange within which glass is placed and an inwardly extending flange at one side of the glass, retaining means for said glass comprising a plurality of lugs on said main frame for spacing said glass from said inwardly extending flange, a peripheral flange generally opposite said first peripheral flange to hold the glass in the main frame, sealing material between the glass and the peripheral flanges and the inwardly projecting flange, and means securing said second peripheral flange to said lugs, whereby pressure may be adjustably applied to seat the glass in a cushion of sealing material in the frame while maintaining the glass in spaced relation with respect to the inwardly projecting flange.

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