

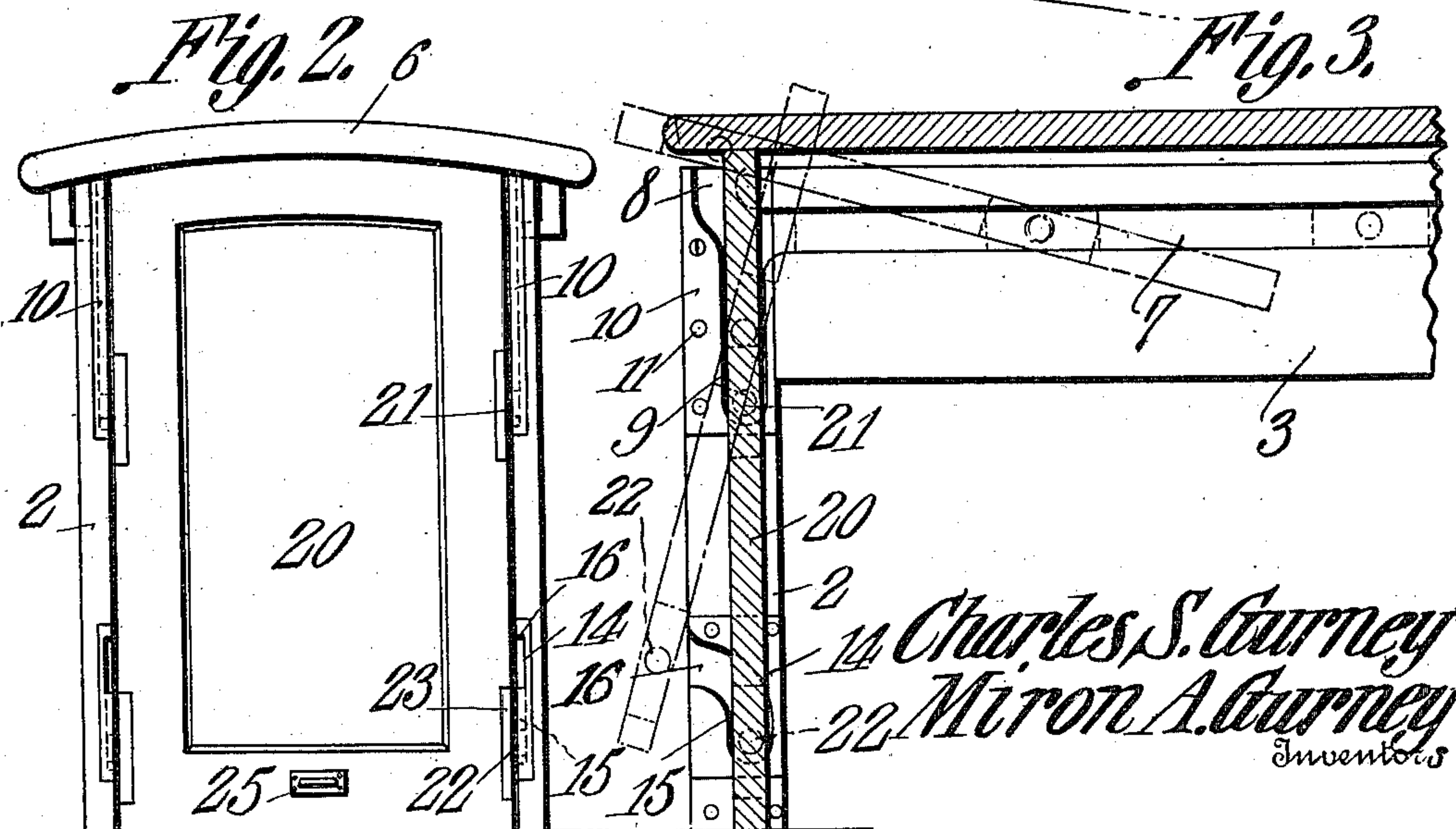
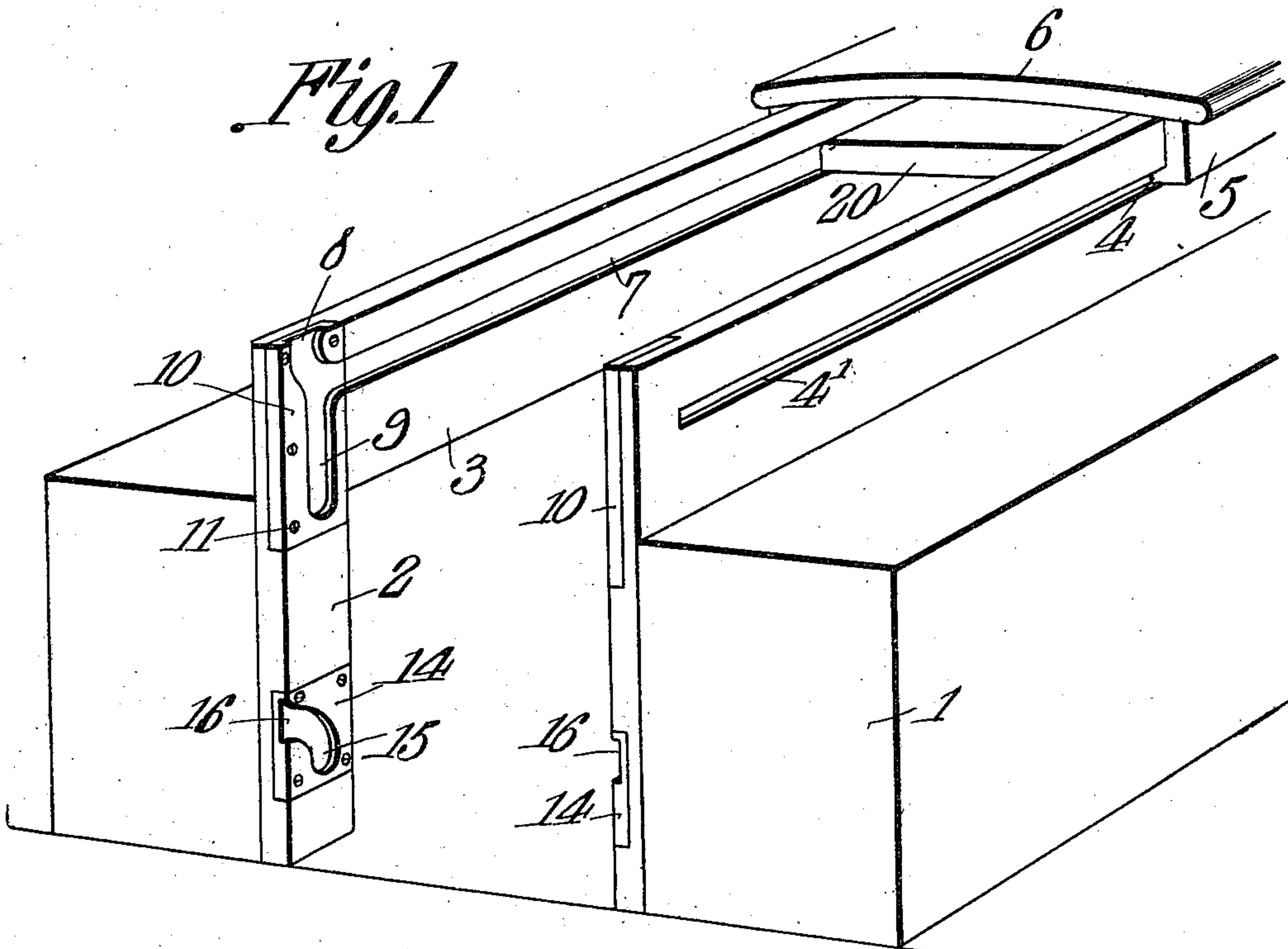
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DOOR.

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989,702.

Patented Apr. 18, 1911.



Witnesses  
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*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

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## DOOR.

989,702.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed February 24, 1910. Serial No. 545,613.

### *To all whom it may concern:*

Be it known that we, CHARLES S. GURNEY and MIRON A. GURNEY, citizens of the United States, residing at Wareham, in the county of Plymouth and State of Massachusetts, have invented a new and useful Door, of which the following is a specification.

This invention relates to doors, and while it is particularly adapted for use in connection with the doors of cabins and the like on boats, wherein angular door frames are employed, it is to be understood that the invention can be used in many other connections.

The principal object of the invention is to dispense with the use of hinges.

A further object of the invention is to employ in connection with an angular door frame, that is a door frame having openings extending in different directions or at angles to each other, a pair of doors which can be readily moved out of the way in order to open or afford free access to the door opening, and which are capable of being easily and quickly moved into position to close the entire opening.

A further object of the invention is to arrange the two doors in such position that one of them will serve to hold the other in closed position and both of them can be readily and securely locked against movement.

Further objects of the invention are generally to improve and simplify the construction of such devices.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the claims without departing from the spirit of the invention.

In the accompanying drawings forming part of this specification:—Figure 1 is a perspective view of a boat cabin or similar structure equipped with the improved door of the present invention. Fig. 2 is a front elevation of the door showing the same in closed position. Fig. 3 is a vertical longitudinal section through a door constructed in accordance with the present invention.

Fig. 4 is a detail sectional view showing one of the edges of one of the doors.

Like reference numerals indicate corresponding parts in the different figures of the drawing.

The reference numeral 1 indicates a structure in connection with which the improvements of the present invention are employed, the structure 1 being either the cabin of a boat, or any other kind of structure on which it is desired to employ a door such as forms the subject matter of the present invention. The structure 1 has a door opening therein which is defined by an angular door frame made up of the extensions 2 and 3 which in the embodiment of invention herein disclosed are arranged at a right angle with respect to each other, one of the extensions of the door frame being vertical and the other horizontal. The extension 3 of the angular door frame, projects above the upper surface or roof of the cabin 1 as is usual in boat construction, but it is to be understood that this arrangement of the door frame is only desirable when used on boats and can be dispensed with when the invention is otherwise employed. The extension 3 of the angular door frame is formed, preferably in its outer faces, with a pair of longitudinally extending grooves 4' which are intended to receive inwardly projecting portions 4 formed on depending flanges 5 which are connected with one of the doors 6. It will be apparent that the door 6 is adapted to slide longitudinally in the grooves 4'. The extension 3 of the angular door frame is also formed, preferably in its inner faces, with a pair of longitudinally extending grooves 7, each of which has at the forward end thereof an entrance throat 8 which preferably opens out of the upper edge of the door frame as shown. Each of the grooves 7 at the forward end thereof preferably is also formed with a downward extension 9. The portions 8 and 9 of the grooves 7 preferably are formed in a metallic plate 10 which is suitably set into the door frame and secured therein in any suitable manner such as by means of the screws 11 the function of the plate 10 being to take up wear which might prove injurious to a wooden groove.

The angular extension 2 of the door frame has suitably set thereinto a pair of metal



plates 14 each of which is formed with a groove 15 having an entrance throat or opening 16, the throat or opening 16 being preferably arranged at an angle to the body of the groove 15.

The reference numeral 20 indicates a second door which is provided along its side edges with two sets of oppositely projecting pins 21—21 and 22—22, the pins 21 and 22 normally engaging the grooves 7 and being slidable therein. The pins 21 and 22 preferably are carried by metallic plates 23 which are suitably set into the edges of the door 20 and secured therein by means such as screws 24.

The operation of the device is as follows: When the parts are in the open position shown in Fig. 1 and it is desired to close the doors, the door 20 is pulled forward until the pins 22 thereof are in the forward end of the grooves 7, upon which said door is lifted by means of handles 25 shown in Fig. 2, thereby causing the pins 22 to pass out of the throat 8 of the grooves 7. The door 20 is then pulled slightly forward and is permitted to drop into the dotted line position shown in Fig. 3, after which the pins 22 are guided into the throat 16 of the grooves 15 and are permitted to drop down therein. Simultaneously with the dropping of the pins 22 into the grooves 15, the rear pins 21 drop down into the extension 9 of the grooves 7, thus securely holding the door 20 in vertical position in the forward extension 2 of the door frame. The upper door 6 is then pulled forward so that its forward edge covers the upper edge of the door 20 as shown clearly in Fig. 3. A padlock or other suitable locking device is then applied to the meeting corners of the doors 6 and 20 to hold them in locked position. It will be obvious that if desired, merely the door 6 can be locked closed, for the reason that when said door 6 is locked it is impossible to move the door 20. The doors are opened by reversing the operation; that is by first sliding back the upper door 6, then lifting the lower pins 22 out of the grooves 15 and elevating the door to the dotted line position shown in Fig. 3 and causing the pins 22 to enter the entrance throat 8 of the grooves 7 after which the door 20 can be slid back into position beneath the door 6.

The device of the present invention is strong, simple, durable and inexpensive in construction, as well as thoroughly efficient and practical in use.

What is claimed as new is:—

1. An angular door frame having a plurality of doors therein, all of said doors being slidable and one of said doors being ca-

pable of swinging movement, one of said doors being movable into position to lock the other door in closed position.

2. An angular door frame having a plurality of grooves in one angle thereof, a pair of doors engaging said grooves, one of said doors being capable of swinging into alignment with the other angle of the door frame, and means for locking this latter door.

3. An angular door frame having a plurality of guiding grooves in one angle thereof, and a plurality of slots in the other angle thereof, and a pair of doors movable in said grooves, one of said doors being adapted to swing into engagement with the slots.

4. An angular door frame having a plurality of sets of guiding grooves in one angle thereof, one set of grooves having an angular extension and an entrance throat at one end thereof, the other angle of said door having therein a pair of curved slots, an outer and an inner door engaging said grooves, the inner door having a plurality of pins engaging the groove which is provided with the entrance throat, the forward pins being adapted to leave said entrance throat and to swing down into engagement with the slots in the other angle of the door frame.

5. An angular door frame, having in one angle thereof a pair of outer grooves and a pair of inner grooves, said inner grooves having at one end thereof an entrance throat and an angular extension, the other angle of said door being formed with a pair of curved slots having entrance throats, an outer door engaging the outer groove of said door frame, an inner door having a plurality of pins engaging the inner grooves, the forward pins of said inner door being adapted to leave said entrance throat and to swing into engagement with the entrance throat of said slot.

6. A door construction comprising a pair of guide grooves, a pair of slots arranged in an angular position with regard to the guide grooves, and disconnected therefrom, and a door having projections fitting into said guide grooves, said door being adapted to be moved along said guide grooves until one set of projections thereon moves out of engagement with said guide grooves into position to be swung into engagement with said slots.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

CHARLES S. GURNEY.  
MIRON A. GURNEY.

Witnesses:

JOSEPH H. BURGESS,  
PRINCE H. SWIFT.