Jan. 18, 1944. C. D. ALIÓ 2,339,315

DOOR CONSTRUCTION AND THE LIKE

Filed June 28, 1941

Fig. 1.

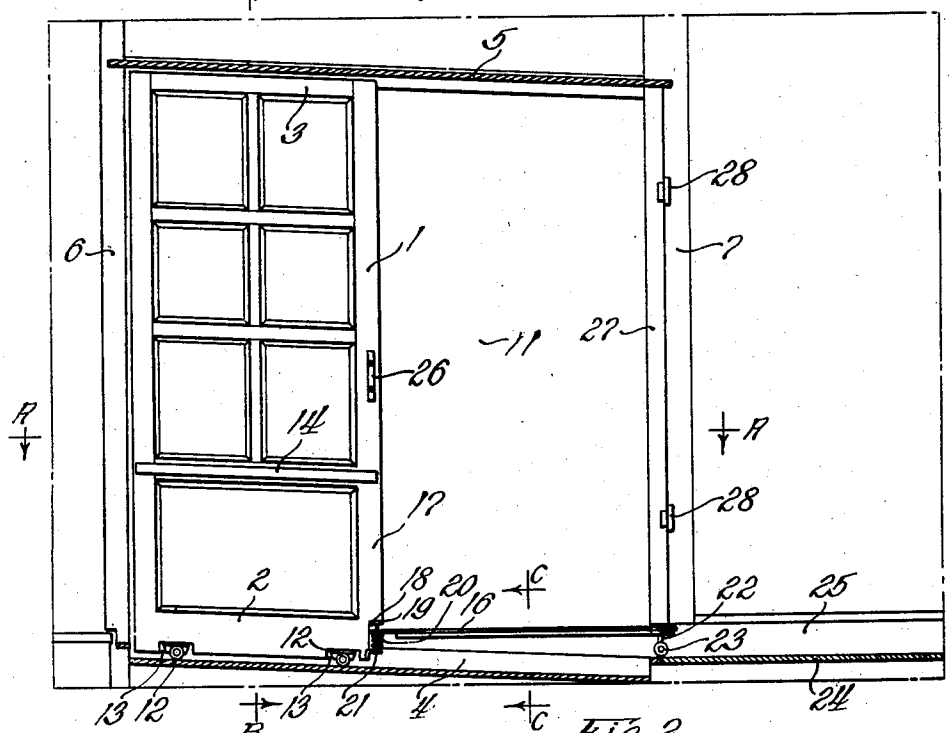


Fig. 2.

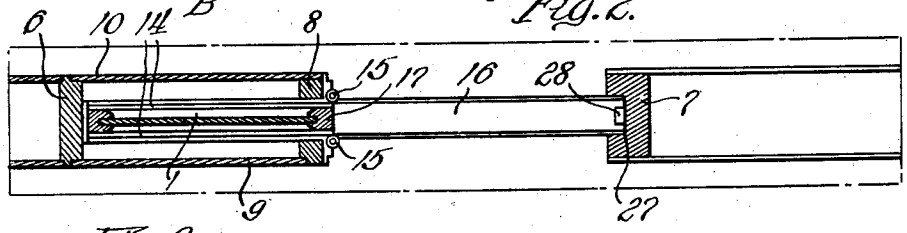


Fig. 3.

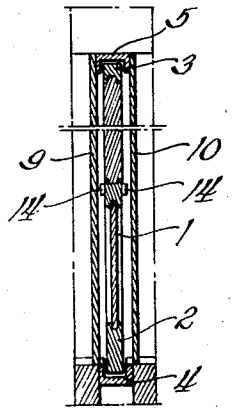


Fig. 4.

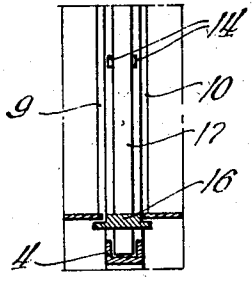
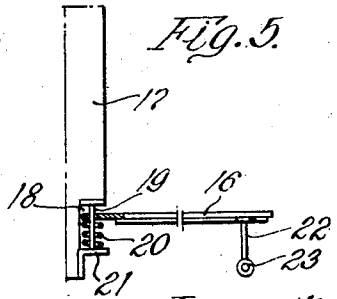


Fig. 5.



Inventor:
Carolina Delia Alió
By Brown, Jackson, Battelle & Dyano
Attys.

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DOOR CONSTRUCTION AND THE LIKE

Carolina Delia Alió, Buenos Aires, Argentina

Application June 28, 1941, Serial No. 400,264
In Argentina December 19, 1940

1 Claim. (Cl. 20—19)

The present invention relates to a new type of construction for doors, windows and like closures, and more particularly to closures which are moved by gliding.

The object of the invention is to provide automatic closure of door or window openings by means of gravitation.

The construction consists essentially of a wall with a suitable opening therein, having parallel vertical members and a lintel member mounted on the parallel vertical members in oblique relation thereto and a base or threshold member suitably formed in oblique relation to the parallel vertical members and in parallel relationship to the oblique lintel member. Bearing surfaces and grooved guide rails in the threshold and lintel members provide convenient means for facilitating movement of the door or window.

Adjacent the lower part of the opening is a blocking device which is mounted in such a manner that when the door is in its open position the oblique portion of the threshold is covered and the blocking device lies in a true horizontal position, flush with the floor surface, and at a ninety degree angle in relation to the two vertical side members, thus avoiding the possible danger of one stumbling over the uneven floor surface between the rooms.

Reference is had to the accompanying drawing in which:

Figure 1 is a front elevation view of the door opening construction of my invention;

Figure 2 is a horizontal sectional view taken on the line A—A of Figure 1;

Figure 3 is a vertical sectional view taken on the line B—B of Figure 1;

Figure 4 is a sectional view taken on the line C—C of Figure 1 and showing particularly the oblique threshold member and the blocking device; and

Figure 5 is a detailed view of the blocking device.

Referring now in detail to the drawing, a door or window 1 is shown with suitable upper frame member 3 and lower frame member 2 in fixed relation to vertical frame members 17. The two parallel members 9 and 10 of the side wall are spaced apart by means of vertical frame members 6, 7 and 8. A grooved lintel member 5 and a grooved threshold member 4 are suitably mounted on and in fixed relation to vertical frame members 6 and 7. The grooved lintel member 5 and the grooved threshold member 4 being in parallel relation to each other and in oblique relation to the vertical frame members 6, 7 and 8. Vertical frame members 7 and 8 abut the opening 11, while vertical frame member 6 is contained within the space formed between side walls 9 and 10 and spaced in such relationship that it limits the movement of the door 1 when it is moved to its maximum open position. When the door member 1 is moved to its maximum open position, it is wholly contained within the open portion between the side walls 9 and 10 and is hidden from view as is indicated by Figure 2. The door member 1 is slidably mounted within the grooved members 4 and 5, which act as guide members when the door is moved to its closed position.

Roller bearing members 12, mounted in openings 13 of the frame member 2, facilitate the sliding movement of the door member 1 within the channel provided by the oblique member 4. Roller bearing members 12 are shown mounted on the vertical frame member 8 and they also provide for a more easily movable positioning of the door member 1 as it is placed in either its opened or closed position.

The floor 29, shown in Figure 4, is provided with a suitable opening 30. When the door 1 is in its maximum open position, this opening 30 is of sufficient width to be of danger to a person walking from one room to another. Therefore, I provide a plate member 16, as best shown in Figure 5, to close the opening 30, the upper surface of the plate member 16 being flush with the surface of the floor 29. This plate member is mounted at one end to vertical frame member 17 of the door 1, by means of a bearing and guide member 18. An expansion spring 20 is fixably secured at its lower end to an L-shaped member 21, which in turn is secured to the member 17. Spring member 20 acts as an adjusting means to correct the position of the bearing and guide member 18. At the opposite end of plate member 16 is a roller 23 mounted on support 22 and fixed to the under surface of plate member 16. Roller 23 is guided in its movement by channel member 24, which channel member is in parallel relationship to the floor 29, and is contained in the space 25 which has been provided beneath the surface of the floor. The length of channel member 24 is approximately equivalent to that of plate member 16.

The door 1 is provided with suitable handles 26 placed on both sides of vertical frame member 17 as indicated. When the door 1 is pushed back within the space formed between side walls 9 and 10 to its maximum open position, as shown in Figure 1, it is held in place securely by any

well known locking means, not here indicated in the drawing.

When the locking device is released, the door will slide along grooved guide members 4 and 5 until it abuts vertical frame member 8, thus closing the opening 11. Suitable rubber plugs 28 secured to frame member 7 of the door member 1 act as buffers against the vertical frame member 8 when the locking device is released and door member 1 slides to its maximum closed position. Also, during the sliding of door member 1 to its maximum closed position, plate member 16 is carried along on its roller 23, down oblique grooved member 4, and into space 25 which has been provided for it. At the same time, the movement is not hindered, due to the oscillatory connection of the support and guide 18, the height of which is predetermined and when the door reaches its maximum closed position, the upper surface of plate member 16 remains in contact with the upper end of the support and guide member 18, thus compensating for the difference in level between the two vertical frame members 7 and 8 during the maximum open position and the maximum closed position.

While I have shown a specific embodiment of the invention, it is understood that this is not limiting, but illustrative, and that various arrangements of parts and modifications of details may be made within the scope of the present invention.

I claim:

In combination, a door, a lower guide rail disposed in oblique relation to the vertical edges of said door, rollers mounted on the lower end of said door for movement in said lower guide rail, a plate member mounted at one end adjacent the lower portion of one edge of said door and above said lower guide rail, a roller mounted adjacent the other end of said plate member, and a channel member extending longitudinally of said lower guide rail for guiding the roller on said other end of said plate, said plate member covering said lower guide rail upon movement of said door upwardly of said lower guide rail.

CAROLINA DELIA ALIÓ.