Sept. 28, 1954 W. L. DIEHL 2,690,214

SCREEN AND DOOR STRUCTURE

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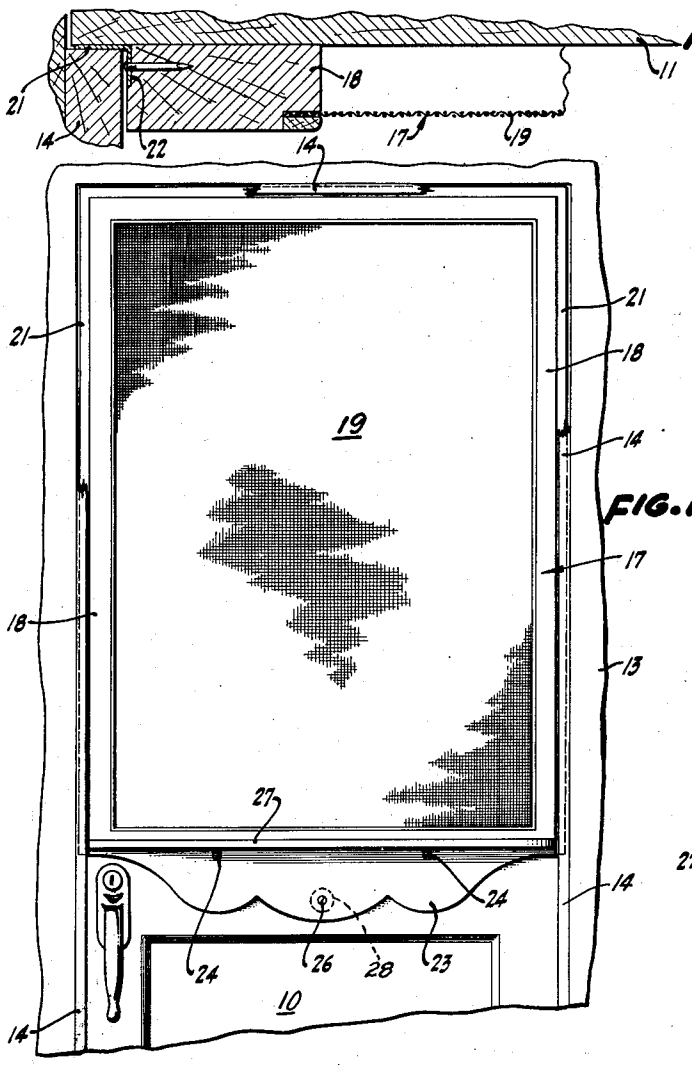


FIG. 3

FIG. 1

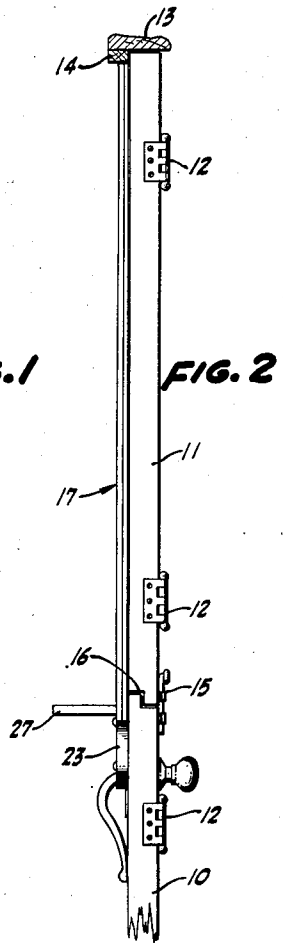


FIG. 2

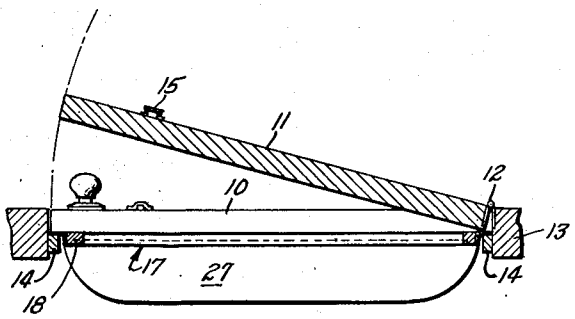


FIG. 5

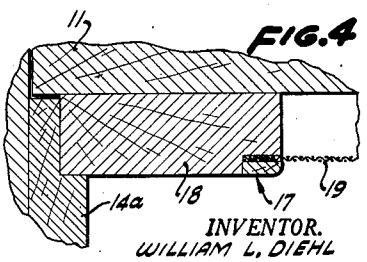


FIG. 4

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SCREEN AND DOOR STRUCTURE

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7 Claims. (Cl. 160—97)

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The present invention relates to the screening of a two-part swinging door commonly known as a Dutch door in which the top part or half of the door can be swung to open position independently of the bottom half.

It is a general object of the invention to provide an improved method of screening such doors which eliminates the undesirable factors in present methods and to provide a full screen for the upper portion of the door which requires no hardware or precise fitting and which does not have to be handled in any way to facilitate ingress or egress through the doorway.

Another general object is to provide a new screen construction for doors.

Another object of the invention is to provide a screen for a Dutch door which allows the door to function in its normal and intended method whether the door is hung to swing inwardly or outwardly.

Another object of the invention is to provide a screen for a Dutch door which is securely held in place so that no warping due to weather changes is likely.

Another object of the invention is to provide a Dutch door screen construction which adds to the attractiveness of the door installation and which will not interfere with the operation of the door, particularly in inclement weather.

Another object of the invention is to provide a Dutch door screen construction which can be easily and quickly installed and which is economical in cost.

The above among other objects of the invention are attained as described in connection with a preferred embodiment of the invention, as illustrated in the accompanying drawings, in which:

Figure 1 is a front elevational view of a Dutch door construction embodying my invention.

Figure 2 is a fragmentary vertical sectional view with the door shown in elevation.

Figure 3 is a fragmentary detail horizontal section of the screen construction taken at an intermediate point along the left side of Figure 1.

Figure 4 is a section similar to Figure 3 and showing a modified form of the invention.

Figure 5 is a horizontal sectional view showing the upper door half in partially open position.

The present methods of screening Dutch doors are to provide a full independently hung screen which requires a construction in which the screen must be hung to swing one way and the door is hung to swing the other way, or to provide a type of roll screen which is awkward and interferes somewhat with the normal use of the door and

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with ingress and egress through the door opening.

The present invention obviates the undesirable features of the known methods of screening Dutch doors and basically comprises mounting a screened frame over the upper half of the door and attaching said frame to the bottom half of the door which screened frame is offset with respect to the top half so that both the top and the bottom half of the door can close normally. The screen incorporates a fin or seal construction around its edge which engages the door stop and is engaged by the upper half of the door when it is closed. This screening of the upper half of the door can be effected by construction of the door with the screen as an integral part of the lower half of the door or as a separate attachment thereto which can be readily installed on existing doors. As shown herein, the particular embodiment is concerned with the second type of construction.

Referring to the drawings, the invention includes a Dutch door construction comprising a lower half 10 and upper half 11 hinged respectively at 12 to a door frame 13 having a conventional form of door stop or strip 14 therein. Both the upper half and the lower half have their closed position determined by this door stop in the usual fashion. A latch 15 is provided for connecting the two halves. As shown, the upper and lower half have an offset meeting point at 16 to provide an overlapping conventional ship lap seal, although this may be eliminated if desired.

Attached to the outer surface of the lower half 10 is a screen 17 comprising a frame 18, a screen fabric 19 of the usual construction and mounted in the usual manner therein, and a metallic rib or fin 21 extending around the periphery of the screen at the two sides and at the top. As seen in the Figure 3, this fin is positioned substantially flush with the inner surface of the screen frame 18 and engages the stop 14 with the body of the screen disposed inside of the stop, so that the upper door half 11 can close against the stop and the fin 21 is caught between the stop and the upper half 11. This fin may be of any suitable sheet metal, plastic or screen construction and is attached in a rabbeted portion 22 of the screen frame by suitable fastening means. The lower part of the screen frame 18 is provided with a bracket extension 23 having upper and lower sets of fastening screws 24 and 26 by means of which it is attached to the lower door half 10. If desired a suitable shelf 27 can be supplied in the frame construction of the screen for decorative purposes.

When the screen is in the form of an attachment to be applied after the swinging of the doors or to existing Dutch door installations, the installation may be effected in the following manner. With the lower door half **10** closed, the screen is placed manually in the position shown and the upper door half **11** is then also closed so that it holds the metal fin **21** against the door stop **14**. Then centering and adjusting the screen to the proper position with respect to the door, the three installing screws as shown are set in place. If upon opening the top half of the door **11**, the metal fin **21** does not securely engage the door stop at all places, suitable adjustments can be made to tilt the screen, by installing cardboard or other suitable shims beneath either the upper or the lower screws. A shim **28** is indicated in dotted lines in Figure 1. If by chance, the fin should not clear in a particular door installation in swinging in and out, a simple trimming operation with a pair of shears is all that is required.

Figure 4 shows a modified construction in which a rabbeted stop **14***a* is employed to be engaged by the peripheral edge of the screen frame **18**.

While I have shown certain preferred forms of the invention, it will be apparent that it is capable of variation and modification therefrom so that its scope should be limited only by the scope of the claims appended hereto.

I claim:

1. In a Dutch door structure having upper and lower halves for installation in a door frame having a stop extending around the inner periphery thereof, a screen construction mounted on the lower door half and having a peripheral edge portion adapted to engage against the stop, said upper half of said door being engageable with said peripheral edge portion in closed position.

2. In a Dutch door structure having upper and lower halves for installation in a door frame having a stop extending around the inner periphery thereof, a screen construction mounted on one door half and having a peripheral edge portion adapted to engage against the stop, said other half of said door being engageable with said peripheral edge portion in closed position.

3. In a Dutch door structure, having upper and lower halves for installation in a door frame having a stop extending around the inner periphery thereof, a screen construction mounted on one door half and having a peripheral edge portion adapted to engage against the stop, said other half of said door being engageable with said peripheral edge portion in closed position, the mounting of said screen including means for effecting tilting adjustment thereof.

4. In a Dutch door construction, an upper door half, a lower door half, a screen mounted on the lower door half in a plane offset with respect to the plane of the lower half, said screen being engageable by the upper door half in the closed position thereof and swingable with said lower door half in opening and closing thereof, and a thin peripheral edge portion around the two sides and the top of said screen for engagement with the door stop for the door and interposed between the door stop and said upper half of said door in the closed position thereof.

5. In a screen construction for a Dutch door having a lower door half and an upper door half, said halves being hinged and adapted for swinging movement to engage a door stop in a door frame, a screen mountable on the lower door half in offset relation with respect thereto. said screen having a frame positionable inside the said door stop in closed position and having a peripheral fin to overlap the door stop and engageable by the upper door half in closed position.

6. In a screen construction for a Dutch door having a lower door half and an upper door half, said halves being hinged and adapted for swinging movement to engage a door stop in a door frame, a screen mountable on the lower door half, in offset relation with respect thereto, said screen having a frame positionable inside the said door stop in closed position and having a peripheral fin to overlap the door stop and engageable by the upper door half in closed position, said screen including vertically spaced mounting means for attachment to said lower door half.

7. In a screen construction for a Dutch door having a lower door half and an upper door half, said halves being hinged and adapted for swinging movement to engage a door stop in a door frame, a screen mountable on one door half, said screen having a frame positionable inside the said door stop in closed position and having a peripheral fin to overlap the door stop and engageable by the other half in closed position.

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