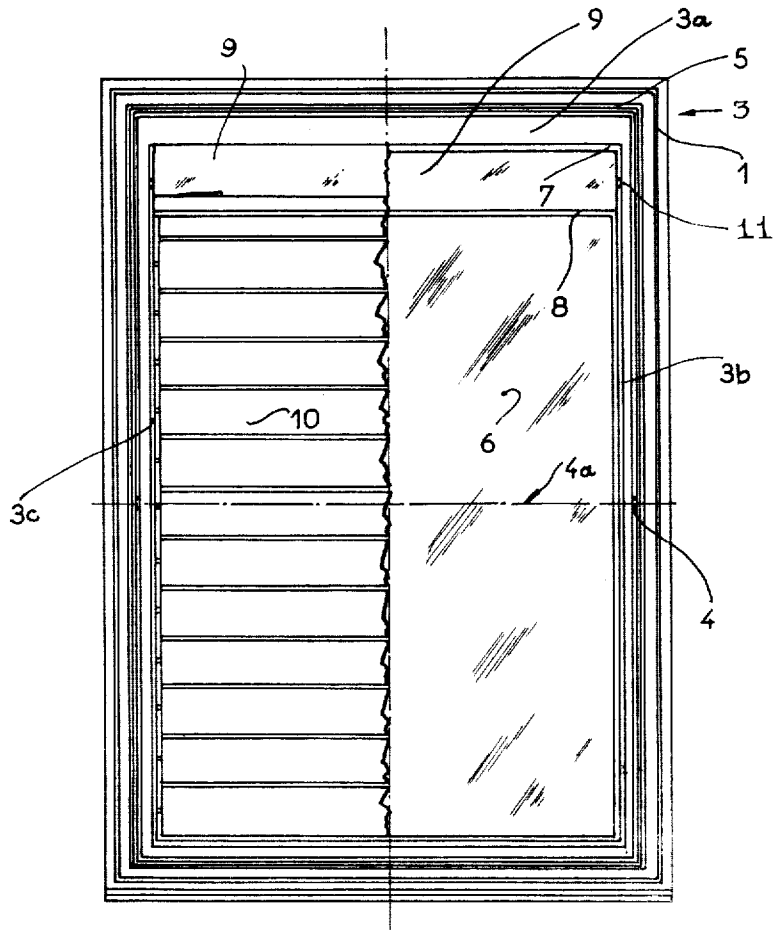
July 16, 1963 J. L. SCHWARTZ 3,097,688

BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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FIG 1



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BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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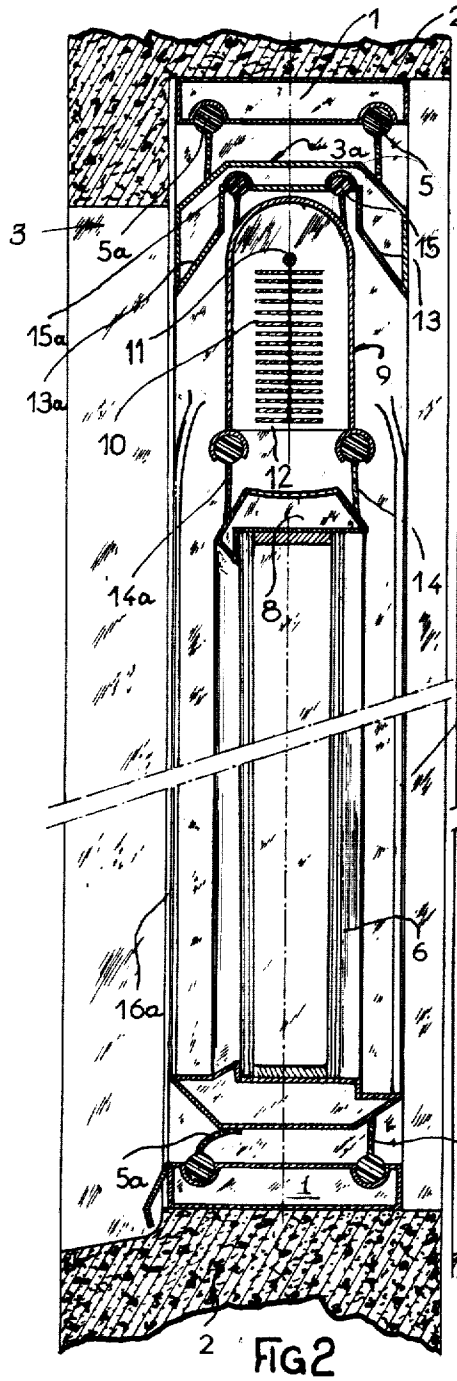


FIG2

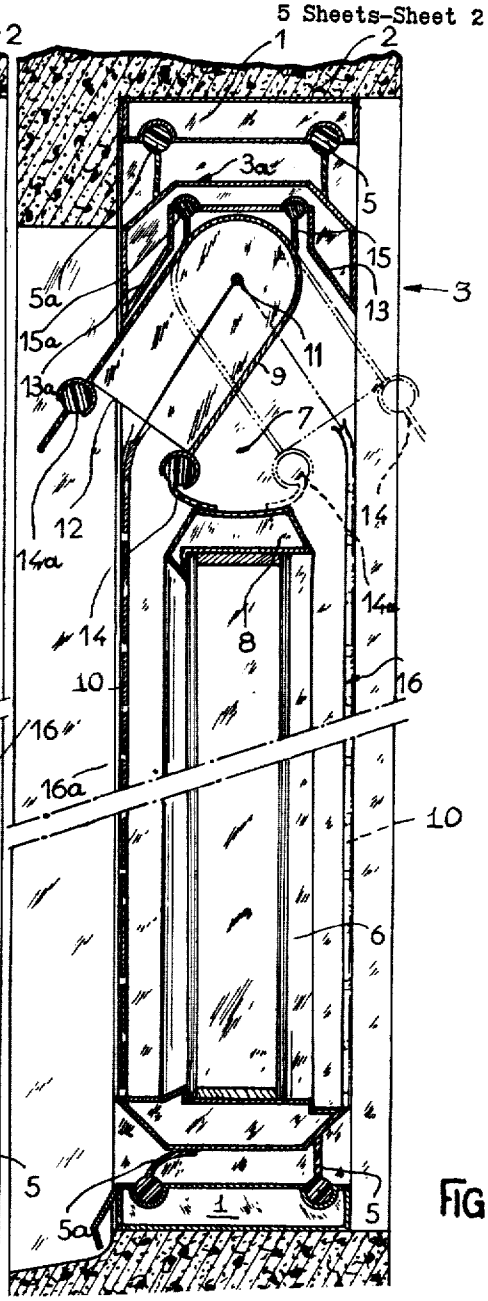


FIG3

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BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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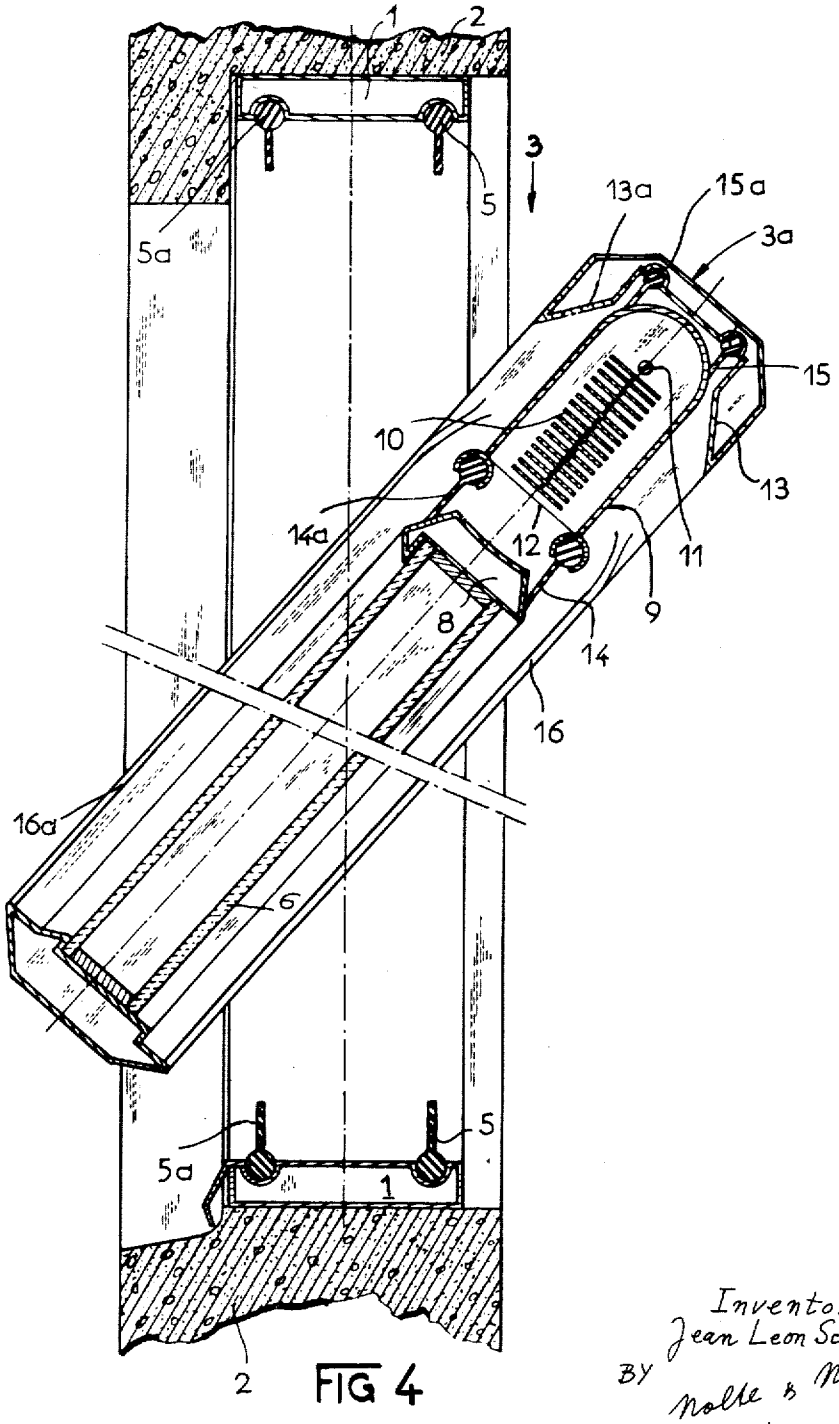


FIG 4

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BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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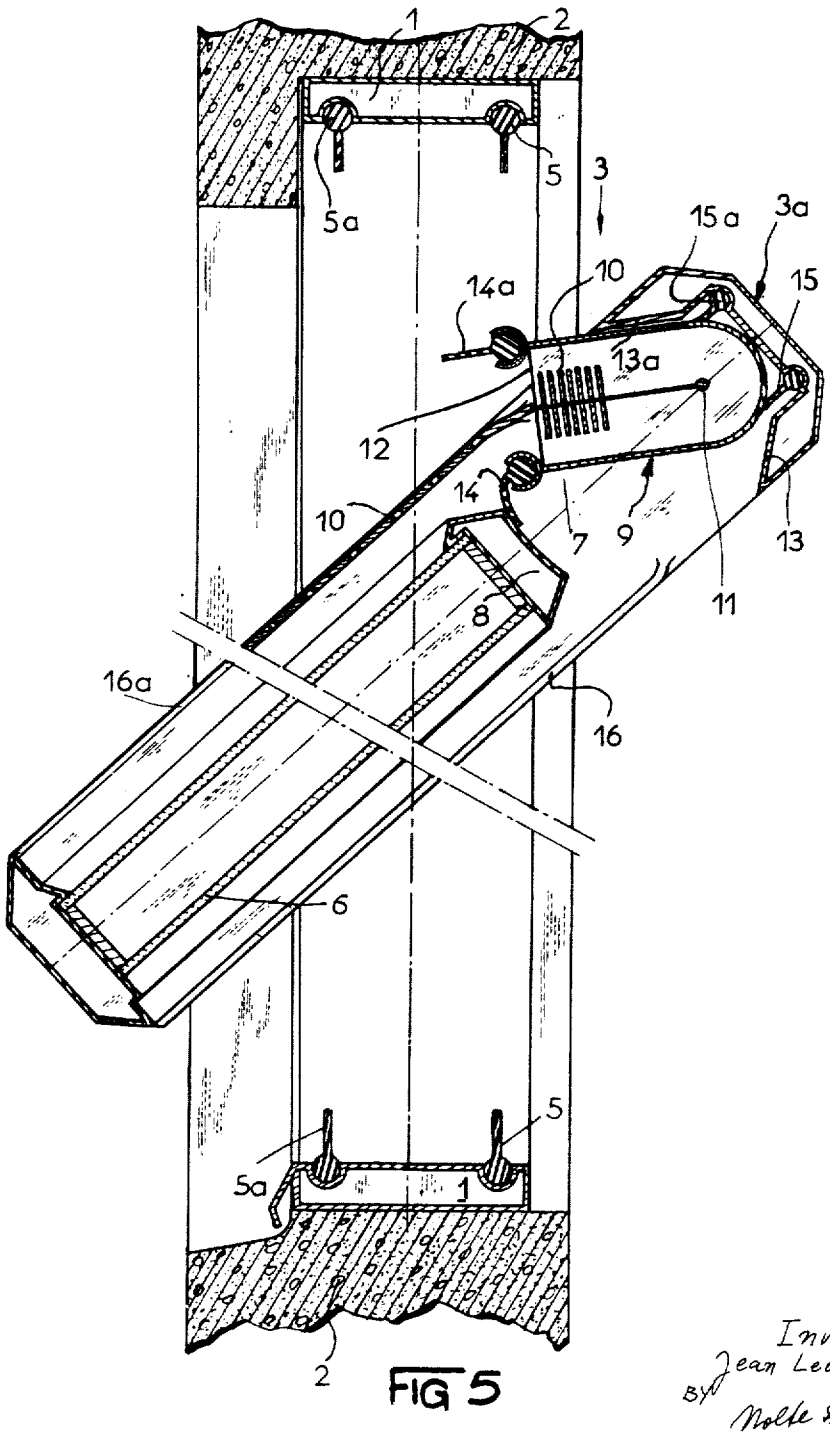


FIG 5

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BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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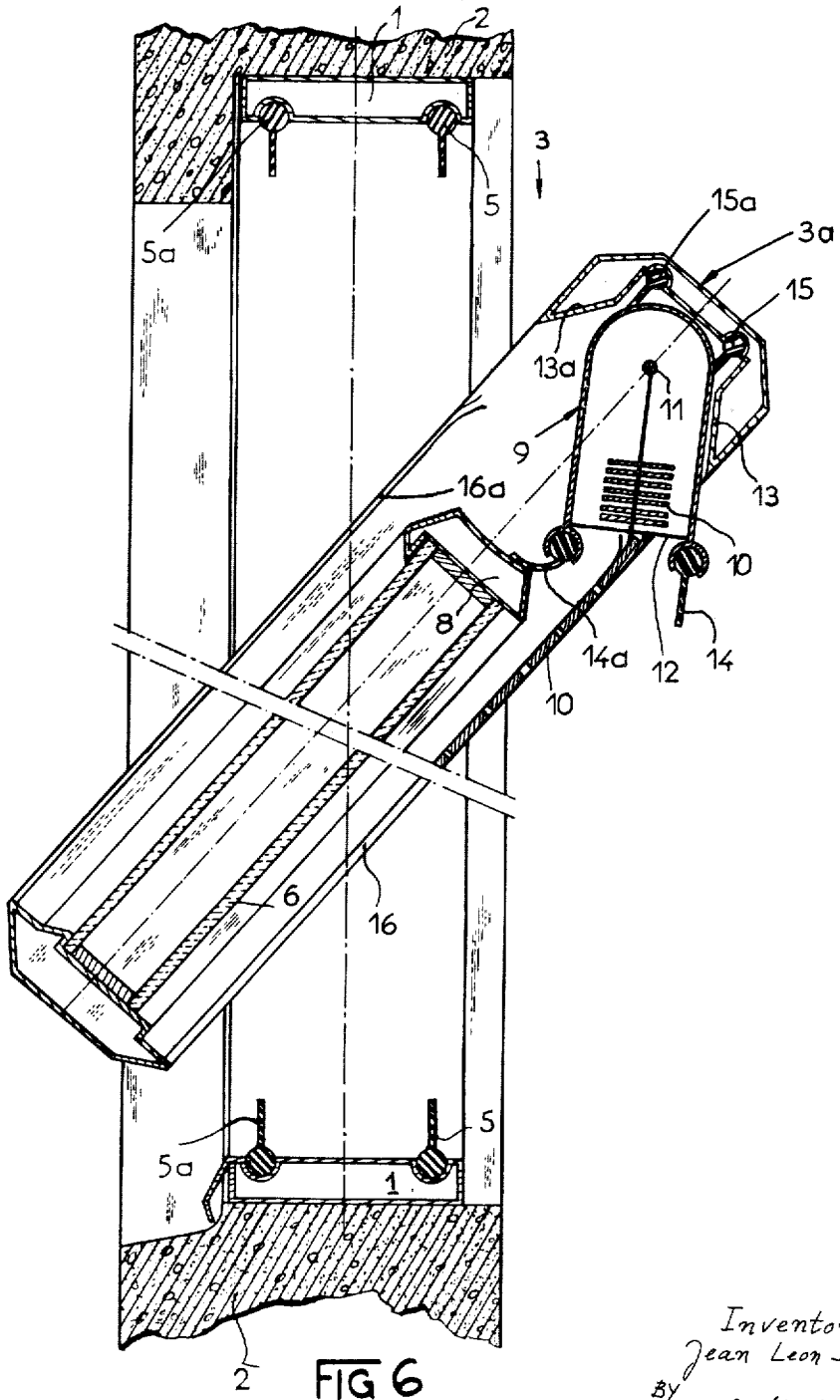


FIG 6

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United States Patent Office 3,097,688 Patented July 16, 1963

3,097,688

BAY CLOSURE DEVICE WITH BUILT-IN BLIND

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5 Claims. (Cl. 160—30)

This invention relates to the construction of windows, doors and like structures of any type, comprising at least one fixed or movable element, whether the latter is pivoted about a vertical or a horizontal axis, or slidably mounted in guide channels, etc.

Modern windows are generally equipped with a shutter or like closure device, for example a blind, mounted internally or externally of the bay. Therefore, in the second case the shutter or blind is exposed to weather conditions whenever in use, and this is obviously detrimental to blinds made of fabric or wooden slats which have a relatively short useful life.

With the window, door or like structure according to this invention this inconvenience is avoided for the present invention provides a structure remarkable notably in that it comprises at its upper portion a casing or frame adapted to pivot or tilt about a substantially horizontal axis, or to perform a movement of translation, this casing or frame containing a closure device such as a blind, whereby the latter can be unfolded at will on one or the other side of the window, door or the like. It will be understood that owing to the novel arrangement it is possible to use the built-in blind, at least part of the time, within the window, that is, on its side facing the inside of the building. The blind will have to be unfolded on the outside of the window only occasionally, thereby considerably increasing its life performance.

According to another feature of this invention, the aforesaid casing or frame is mounted on the leaf or sash of the window, door or like structure, or in the window- or door-frame above the leaf or leaves.

It is also the purpose of the present invention to provide a door or window construction of the type set forth hereinabove, wherein two stops are provided for limiting the tilting or other movement, in either direction, of said casing or frame.

The invention also contemplates providing a structure of the type set forth hereinabove, wherein slideways or other guide means are provided on the side stiles of the door or window, both internally and externally of the bay, in order properly to guide and hold the blind or like device.

The advantages resulting from the window or door construction provided by the present invention will be readily apparent, since the user may unroll the blind associated therewith either internally or externally of the bay.

With the foregoing and other objects in view, the invention resides in the novel arrangement and combination of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the actual embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

Other objects and advantages will become apparent from the following description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is an elevational front view of a window constructed according to the teachings of this invention, the right-hand half of the movable element being broken away in order more clearly to show the structure;

FIGURE 2 is a vertical section, taken on a larger scale, across the window structure of FIG. 1, the shutter or blind being folded up;

FIGURE 3 is a view similar to FIG. 2 but showing the operation of the shutter device;

FIGURE 4 is a vertical sectional view similar to that of FIGURE 2, the window sash being inclined on top toward the inside;

FIGURE 5 is a view similar to that of FIGURE 3, the window sash being inclined as in FIGURE 4, but with the blind partly descended on the outer side of the window; and

FIGURE 6 is similar to FIGURE 5, but with the blind partly descended on the inner side of the window.

In the example illustrated in the drawings the window comprises a frame **1** embedded in a wall **2**, and a movable window leaf or sash **3** pivotally mounted on pivot pins **4** for movement about a horizontal axis **4***a*.

Weather strips **5**, **5***a* of suitable flexible material are interposed between the frame **1** and the sash **3** in order to seal the frame against the ingress of air and rain water. Similar weather strips may be provided at the other end of the window or the like, as shown in FIGS. 2 and 3.

The sash **3** of the window is divided into two frames **6**, **7** by a cross member **8**. Mounted in the lower frame **6** covering the greater part of the window is a glass panel which, as shown in this example, may be a double panel.

Mounted in the upper frame **7** is a casing **9** adapted to receive a blind or like closure device **10** adapted to be folded or rolled up within this casing. The casing **9** is mounted for pivoting or tilting movement, for example, about the common axis of a pair of aligned lateral pivot pins or trunnions **11** mounted in lateral stiles **3***b*, **3***c* of the window. In the example illustrated the casing **9** is of substantially parallelepipedic configuration with a semi-cylindrical top portion, the axis of tilting of this casing being substantially coincident with the axis of this semi-cylindrical portion. The base **12** of casing **9** is open to permit the passage of the blind **10**.

Of course, the casing **9** may have any other suitable shape without departing from the spirit and scope of the invention.

The amplitude of the angular movement of the casing **9** is limited for example by flanges **13**, **13***a* secured to the upper cross member **3***a* of window leaf or sash **3**, its longitudinal walls abutting against these flanges. The flanges **13**, **13***a* conceal the upper portion of the casing **9** and improve the appearance of the window.

Weather strips **14**, **14***a* are fitted between the casing **9** and the cross member **8**. Other weather strips **15**, **15***a* seal the joints between the top of casing **9** and the upper member **3***a* of the window, and between the transverse walls of the casing and the stiles **3***b*, **3***c*, so that a reliable protection against the ingress of rainwater and air is obtained irrespective of the position in which the casing **9** may be set.

On the other hand, slideways **16**, **16***a* are provided on the two sides of the bay, on the lateral stiles of the sash **3**, for guiding and maintaining the blind **10** in position. At their upper ends these slideways comprise a portion bent or curved inwardly which has its opening aligned with the axis of the casing **9** when the latter is in the corresponding tilted end position.

Preferably, the opening of each slideway **16**, **16***a* is slightly flared to facilitate the ingress of the lower end of the blind.

FIG. 3 is a view similar to FIG. 2 but showing in full lines, in its left-hand portion, the blind **10** lowered on the outer side of the bay within slideway **16***a*, the casing **9** being inclined in the proper direction, the right-hand portion of the figure showing in dotted lines the same device **10** lowered on the inner side of the bay, that is, within slideway **16**.

The operation of the blind of this invention is extremely simple. A control device of any suitable type, for ex-

ample in the form of a cable or cord, is provided for moving the casing **9** to the desired position with a view to unfold or lower the blind **10** either externally or internally of the bay. Then the blind **10** is actually lowered, its lateral guide members or sliders engaging one of the slideways **16**, **16***a* and being held in position thereby. Thus, if it is desired to shield the window from outside, e.g., from the rays of hot sunshine, the blind may be unfolded on the left-hand side, as viewed in FIGS. 2 and 3. On the other hand, for example in inclement weather, or for night use, the blind may be unfolded inside the window, that is, on the right-hand side. FIGURES 4–6 are views similar to FIGURES 2 and 3, but with the sash inclined on top toward the inside of the window, or the like structure.

Of course, the device described hereinabove is applicable to windows of a different type. Thus, in the case of windows pivoted about a vertical axis, sash window, fixed windows, etc. the device of this invention may be used without difficulty.

It will be readily understood that the device of this invention is easily adaptable to each case and that it is only necessary to select the type of support in which the casing **9** is to be secured; this support may consist of the window leaf or sash itself, or its frame, or of any other suitable element.

In the foregoing there is described a window in which the casing is mounted for pivotal movement, but if desired this casing may be adapted to perform a movement of translation, without departing from the spirit and scope of the invention.

Of course, many modifications and variations may be brought to the details and relative proportions of the embodiment illustrated and described herein, without departing from the purview and scope of the invention as set forth in the appended claims.

What I claim is:

1. A window means comprising at least one movable sash frame, a casing open at its base and mounted at the upper portion of said frame to be movable relatively thereto, a blind in said casing adapted to be lowered through said open base and to slide on either face of said frame according to the position of said casing, and weather strips of flexible material interposed between said casing and said frame to ensure a proper tightness of the window for any position of said casing.

2. A window means comprising at least one movable sash frame, a casing open at its base and pivotally mounted about a horizontal axis at the upper portion of said frame, a blind in said casing adapted to be selectively lowered on either side of said frame through said open base according to the position of said casing, and weather strips of flexible material interposed between said casing and said frame to ensure a proper tightness of the window in any position of said casing.

3. A window means comprising at least one movable frame, a casing open at its base and being pivotally mounted about a horizontal axis at the upper portion of said frame, a blind in said casing adapted to be lowered at will on either side of said frame through said open base according to the position of said casing, stop members provided on said frame to limit the pivoting motion of said casing in both directions, and two pairs of guide members provided along internal and external vertical lateral stiles of said frame for guiding and holding the side edges of said blind, the upper ends of said guide members having inwardly bent portions, the bent portions of a respective pair being substantially in alignment with the longitudinal axis of said casing when the latter is abutting against the respective stop member.

4. A window means as claimed in claim 3 further comprising weather strips of flexible material are interposed between said casing and said frame to ensure proper tightness of the window in any position of said casing.

5. A window means comprising a stationary window frame having an opening, a horizontally pivotable sash in said opening, said frame having attached thereto a casing at its upper end for swinging movement forwardly and rearwardly of said opening, an extendable blind carried in said casing of a size to substantially cover said sash when lowered from the bottom of said casing to either side of said opening.

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