

LOUVRE SHUTTERS ✓

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FIELD OF THE INVENTION

The present invention relates to louvre shutters for use in doors and windows,
5 and in particular relates to adjustable louvre shutters.

BACKGROUND OF THE INVENTION

Louvre shutters have been used in windows and doors for many years. They are
practical as they allow light and provide ventilation while providing security
10 against intruders.

Prior art systems traditionally comprise a plurality of louvres (often wooden or
glass slats) set horizontally within the frame of a window or door. The slats are
held loosely at both ends so as to be pivotable, and usually all slats may be
15 adjusted so that the shutter may be opened and closed.

However, these prior art systems have been subject to problems inherent with
their structure. In particular, mechanisms utilised to uniformly open and close the
shutter have typically been cumbersome and visually very obvious, or have been
20 integral with the frame and thus generally inaccessible for maintenance and
repair.

OBJECT OF THE INVENTION

25 It is an aim of the present invention to provide a louvre shutter which is simple in
operation and appearance, and which allows for easy access for maintenance
and repair.

SUMMARY OF THE INVENTION

30 The present invention provides a louvre shutter for doors or windows, the louvre
shutter comprising: a frame having opposing end members and opposing side
members; a plurality of louvres arranged substantially in parallel, each louvre
being pivotally connected at both ends thereof to a respective side member; at

least one louvre adjustment means pivotally connected to each louvre at one end thereof, the adjustment of which allows uniform movement of all louvres, and the louvre adjustment means being secured to an end edge of each louvre at a location spaced from the pivotal connection of the louvre to the side member,
5 wherein the louvre adjustment means locates within a side member recess when the louvres are closed to be substantially hidden from view.

The side member recess is preferably configured so as to be within the side member itself, and not to be within the area defined by the louvres. In this way,
10 the provision of a louvre adjustment means having a shape and size so as to fit within the recess (when closed), allows for a snug-fit for the louvre adjustment means and thus for an overall appearance which is simple and uncluttered by external mechanisms.

15 Therefore, in the preferred form of the invention, the pivotal connection of each louvre to the louvre adjustment means is at a location at or towards one side of one end edge thereof, the louvres of course generally being elongate and substantially flat with end edges and front and rear edges. The louvre adjustment means is itself preferably elongate, lying transverse to the axes of the louvres and
20 generally extending across the full distance of the plurality of louvres. In this way, connection of the louvre adjustment means to one end edge of each louvre allows uniform operation of all louvres.

It is further preferred that the side member adjacent the louvre adjustment means
25 at least comprises both a louvre receiving portion and the side member recess, the louvre receiving portion having a plurality of pivotal connection means for allowing pivotal connection of the louvres thereto. In this form, the louvre receiving portion and the louvre adjusting means are of complementary shape such that when together, when the shutter is closed, they appear as a single side
30 member.

It will be appreciated that the various members of the frame described above need not be identifiable as separate members in a door or window utilising the

invention. For instance, the side members referred to may be integral with the door or window frame. In that situation, the use of the present invention will provide a louvre shutter which is very simple in appearance. Indeed, without paying due attention, an observer may not even notice the louvre adjustment mechanism.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will now be described in relation to the accompanying drawings which illustrate a preferred embodiment. In this respect, it will be appreciated that the following description is not to limit the generality of the above description.

In the drawings:

Figure 1 is a perspective view of a first embodiment of a louvre shutter in accordance with the present invention;

Figure 2 is a schematic side view of the embodiment of Figure 1; and

Figure 3 is a perspective view of the embodiment of Figure 1 with the shutter closed.

DESCRIPTION OF THE EMBODIMENTS OF THE INVENTION

Illustrated in Figure 1 is a louvre shutter 10 for use in a door or window or the like. The louvre shutter 10 may be constructed of any material, and may for instance comprise a wooden frame 12 and wooden louvres 14. Of course, the frame and the louvres may alternatively be constructed of metal, plastic or glass (the latter only for the louvres).

The frame 12 includes opposing end members (16 and 18) and opposing side members (20 and 22). One side member 22 has a louvre receiving portion in the form of a raised edge 24, and a recess 26 which is the side member recess referred to in the general description above.

The louvres 14 are pivotally connected at their ends to respective side members (20 and 22) in a conventional manner. Specifically, the pivotal connection 28 of

each louvre 14 to a side member is at a central location on an end edge 30 of each louvre 14. The louvres 14 are configured so as to overlap an adjacent louvre, and at the bottom of the shutter to abut a holding shoulder 32 (better illustrated in Figure 2). This allows the louvres to adopt a tightly closed position
5 along the full length of the shutter.

The louvres 14 are given uniform movement and adjustability by virtue of the louvre adjustment means which is shown provided in the form of an elongate member 34 extending the full height of the louvres 14 (when together), and
10 located at one end thereof.

The elongate member 34 is similarly pivotally connected to the end edge 30 of each louvre 14 such that movement of the elongate member 34 causes uniform movement of each of the louvres 14. The pivotal connection 36 of each louvre 14
15 to the elongate member 34 is at a location spaced from the central location on the end edge 30, at which the louvre is pivotally connected to the side member 22.

As will be apparent from Figures 1 and 3, the elongate member 34 is sized and configured so as to fit snugly within the side member recess 26 of the side
20 member 22 when the shutter is closed. As a result, the general appearance of the closed shutter is a simple, uncluttered one that is aesthetic and quite desirable from the point of view of modern design.

Figure 2 well illustrates the complementary configurations of the elongate member 34, the raised edge 24 and the recess 26, the recess being of a shape
25 suitable to receive the elongate member 34 and thus being dictated by its shape.

The raised edge 24 includes male portions 38 that project generally into (in a notional sense) the recess 26. The male portions 38 engage correspondingly
30 shaped female portions 40 that extend generally into the elongate member 34. The engagement of the male and female portions (38 and 40) assists in the proper alignment of the elongate member 34 within the recess 26 and assists in providing a secure closure for the louvres. Additionally, both ends of the recess

26 are provided with inclined surfaces 42 that engage with correspondingly tapered end surfaces 44 on the elongate member 34.

5 If desired, the shutter may be provided with additional locking assistance by the provision of, for instance, a ball detent locking system. By providing a sprung ball (not shown) and a correspondingly shaped catch position 48, the elongate member may be better secured in its closed position. Of course, several catch positions may be provided to provide a variety of positions in which the louvres may be secured.

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Finally, any suitable grip mechanism may be provided to allow a user to easily grip the elongate member 34 to adjust the louvre angle. For instance, a recessed slot 50 may be provided in the side wall of the elongate member 34 for a user to grip.

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It should be appreciated that there may be other configurations and modifications that are also within the scope of the present invention.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A louvre shutter for doors or windows, the louvre shutter comprising: a frame having opposing end members and opposing side members; a plurality of
5 louvres arranged substantially in parallel, each louvre being pivotally connected at both ends thereof to a respective side member; at least one louvre adjustment means pivotally connected to each louvre at one end thereof, the adjustment of which allows uniform movement of all louvres, and the louvre adjustment means being secured to an end edge of each louvre at a location spaced from the pivotal
10 connection of the louvre to the side member, wherein the louvre adjustment means locates within a side member recess when the louvres are closed to be substantially hidden from view.
2. A louvre shutter according to claim 1 wherein the pivotal connection of
15 each louvre to the side members is at a central location on an end edge of each louvre.
3. A louvre shutter according to claim 1 or claim 2 wherein the pivotal
20 connection of each louvre to the louvre adjustment means is at a location away from the central location on the end edge thereof.
4. A louvre shutter according to any one of claims 1 to 3 wherein the side
member adjacent the louvre adjustment means at least comprises a louvre receiving portion and the side member recess, the louvre receiving portion having
25 a plurality of pivotal connection means for allowing pivotal connection to the louvres.
5. A louvre shutter according to claim 4 wherein the louvre receiving portion
and the louvre adjusting means are of complementary shape such that when
30 together, when the louvre shutter is closed, they appear as a single side member.



6. A louvre shutter according to claim 4 or claim 5 wherein the louvre receiving portion has male portions extending towards the louvre adjustments means, there being complementary female portions in the louvre adjustment means, the male and female portions assisting in the alignment the louvre adjustment means with the louvre receiving portion.

7. A louvre shutter according to any one of claims 1 to 6 wherein a locking means is provided between the side member and the louvre adjustment means.

8. A louvre shutter according to claim 1 wherein the locking means is a ball detent.

9. A louvre shutter according to claim 7 or claim 8 wherein more than one locking means is provided to allow for a plurality of lockable positions.

10. A louvre shutter according to any one of claims 1 to 9 wherein a louvre adjustment means is provided at each end of the louvres.

11. A louvre shutter according to claim 1 substantially in accordance with the accompanying drawings.

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