Dec. 13, 1966 MATSUICHI OKUMOTO 3,290,823

JALOUSIE SLATS

Filed April 8, 1964

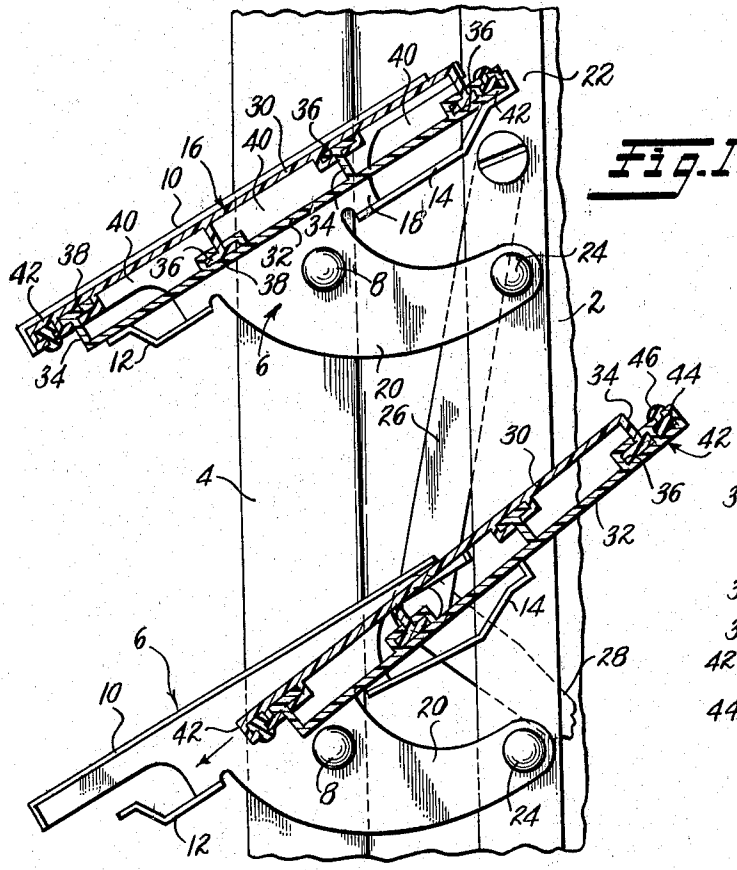


Fig. 1.

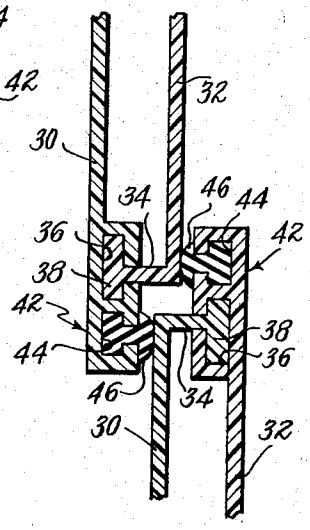
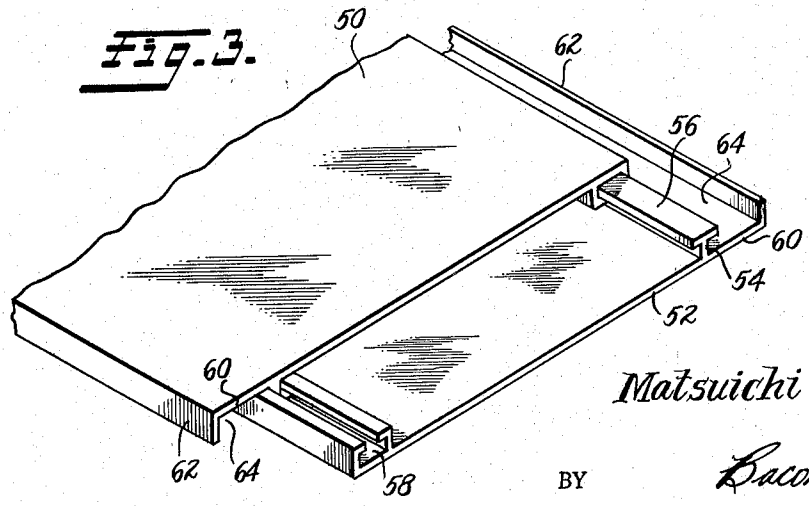


Fig. 2.

Fig. 3.



INVENTOR

Matsuichi Okumoto

BY Bacon & Thomas

ATTORNEYS

United States Patent Office 3,290,823 Patented Dec. 13, 1966

3,290,823

JALOUSIE SLATS

Matsuichi Okumoto, 1849 Vancouver Place, Honolulu, Hawaii

Filed Apr. 8, 1964, Ser. No. 358,313
4 Claims. (Cl. 49—403)

This invention relates to the construction of slats for jalousies or the like structures and comprises a construction involving a minimum number of parts and yet permitting a wide choice of color and heat transmitting characteristics.

In general, the jalousie slat of the present invention comprises a pair of substantially identical structures having interlocking portions whereby they may be interlockingly assembled without the use of any special tools, to form a complete jalousie slat having a hollow interior and the opposite surfaces of which are separate pieces whereby any color combination or light transmitting characteristics desired may be produced. The invention further includes features whereby when the slats are in closed position inter-engaging portions thereof define a weather stripping seal throughout the length of each slat.

It is, therefore, an object of this invention to provide a novel jalousie slat of simple and economical construction comprising readily interchangeable parts whereby a slat can be assembled or reconstructed to give any desired color combination or light transmitting characteristics and which at the same time is adapted to provide heat insulation and weather stripping.

Additional and further objects will become apparent to those skilled in the art as the description proceeds with reference to the accompanying drawings wherein:

FIG. 1 is a fragmentary vertical sectional view through a jalousie assembly and showing the supporting structure and the slats of the present invention;

FIG. 2 is an enlarged fragmentary sectional view through adjacent edges of a pair of slats when the jalousie structure is in closed position; and

FIG. 3 is a fragmentary perspective view of one end of a modified jalousie slat structure illustrating the manner in which the parts are assembled.

FIG. 1 fragmentarily illustrates a portion of a building structure **2** having a jalousie frame comprising a fixed member **4** secured in any suitable manner to the building structure **2**. The frame member **4** has pivoted therethrough a plurality of slat supporting brackets **6**, mounted on pivots **8** on frame member **4**. Each bracket **6**, as shown, is of conventional construction and comprises laterally extending flanges **10**, **12** and **14**, adapted to embrace and hold the ends of a jalousie slat, indicated generally at **16**. The flange **14** is preferably secured to the bracket structure by a relatively narrow neck **18** whereby it can be flexed downwardly as seen in the lower portion of FIG. 1 to admit a jalousie slat. The lower portion of FIG. 1 shows such a slat while being inserted in the bracket and it will be apparent that movement of the slat in the direction of the arrow will result in its left edge being seated between the flanges **10** and **12**, as shown in the top of FIG. 1, whereupon the resilient flange **14** will snap into holding position shown at the top of FIG. 1.

Each bracket **6** is provided with an extending arm **20**, each of which is pivoted to an operating lever **22**, as at **24**. The operating lever **22** is in turn caused to oscillate upwardly or downwardly by means of a link **26** pivoted to a swinging arm **28**. The arm **28** may be manually manipulated or may be operated by a suitable crank mechanism. The structure thus far described is more or less conventional in jalousie supporting structures and is described herein merely to illustrate the adaptability of applicant's invention to existing structures.

The jalousie slat **16**, constituting the subject matter of the present invention, is assembled from two substantially identical structures **30** and **32**. Each of the structures is preferably an extrusion which may be of plastic material or metal and either of which may be of any color desired and may be formed to have any desired light transmitting characteristics. Each of the structures **30** and **32** comprises a generally flat planar element having a length many times its width. The sectional view of FIG. 1 being taken transversely of its length. Each of the flat bodies is provided with laterally directed longitudinally extending flanges **34**, one being at one edge of the member and another being intermediate its edges. Each is also provided with means defining undercut longitudinal grooves **36** complementary in shape to cross-heads or beads **38** formed on the free edges of the flanges **34**. Thus, the slat may be assembled from two separate members **30** and **32** by telescopically engaging the beads **38** in the grooves **36**, at one end of the slat and sliding the members longitudinally, as indicated generally in FIG. 3, to the position where their ends are aligned. When the two parts have thus been assembled they may be mounted in the brackets **6** ready for use and it will be apparent that it is not necessary that they be cemented or otherwise secured together since the brackets **6** will hold them in assembled relation. As indicated previously, the assembled slat is provided with interior air spaces **40**, serving as thermo-insulation means. In addition, either or both of the members **30** or **32** may be formed of material having any desired light-transmitting characteristics or any desired color. In fact, either or both of the members may be changed from time to time to harmonize with corresponding changes in interior or exterior changes in decoration or paint. Thus, the interior member **32** may be of a color harmonizing with the interior of a room and the exterior member **30** may be of a different color to harmonize with the exterior paint on the structure. Furthermore, either or both of the members may be substantially transparent, translucent, or actually opaque and reflective. In addition, strips or slats of insulating material may be inserted in the spaces **40** if desired. It will be apparent that a multitude of different color and light transmitting characteristics may be combined to suit the individual purposes.

It is also to be noted that the flange **34** at one edge of each of the members **30** and **32** engages an undercut groove **36** which is spaced inwardly from the adjacent edge of the other member, thus leaving a projecting portion **42** on each member of the slat. Each of the projecting portions **42** extends laterally from opposite surfaces of the assembled slat, as clearly shown in FIGS. 1 and 2. As illustrated, the projecting portions **42** are provided with an inwardly facing and longitudinally extending undercut groove **44** in which a strip of resilient weather stripping material **46** is positioned. Obviously, the material **46** may be mounted on the slat by simple telescopic sliding movement into the groove **44** from one end thereof. As more clearly shown in FIG. 2, the laterally extending portions **42** are so arranged that each overlaps a portion of an adjacent slat when the jalousie structure is in closed position. Thus, the weather striping **46** on each slat engages a surface portion of an adjacent slat along the entire length of a longitudinal edge thereof to form a double weather stripping seal in the region between adjacent edges of both adjacent slats.

FIG. 3 illustrates a slightly modified form of the invention wherein each of the members **50** and **52** is provided with only one laterally extending flange **54** having a bead or head **56** thereon and each is provided with only one structure defining an undercut groove **58** complementary to the bead or head **56**. This form of construction is quite satisfactory for relatively narrow slats whereas slats

of greater width would preferably be formed in the manner shown in FIG. 1 having the intermediate inter-engaging elements for structural reinforcement. As also shown in FIG. 3, the undercut grooves **44** containing the weather stripping **46** are omitted and instead the projecting portions **60** are merely provided with a lateral flange **62** extending toward the center plane of the slat. The width of the portions **60** is such that when a structure employing the slats of FIG. 3 is closed to the position shown substantially in FIG. 2, each of the flanges **62** will enter the groove or space **64** between a flange and the adjacent edge of the other member of the slat to merely provide an overlapping at the slat junctures to shed rain or the like. Such slats will be preferable and less expensive for installations in warm regions where tight weather stripping is not necessary.

While a limited number of specific embodiments in the invention have been shown and described, it is to be understood that the same are merely illustrative of the principles involved and that other embodiments may be resorted to within the scope of the appended claims. For example, the heads or beads **38** and **56** and the undercut grooves **36** and **58** need not be rectangular in section but may be cylindrical or "dove-tailed" or of other equivalent interlocking shape. The scope of the patent is contemplated as including such other embodiments as may fall within the scope of the appended claims.

I claim:

1. A jalousie slat comprising: a pair of identical elongated, generally flat slat members arranged in spaced parallel relation; at least one longitudinal rib on that surface of each member which faces the other member; each of said ribs having at least one laterally extending formation extending along its crest; each member having means thereon, spaced laterally from the rib thereon, defining a longitudinal undercut groove substantially complementary in shape to said laterally extending formation; each said formation on one member being slidably nested in a corresponding groove in the other member, said ribs, lateral formations and grooves including opposed surfaces preventing relative lateral separation of said members whereby said slat may be assembled and disassembled only by sliding one member longitudinally of the other, a pair of brackets pivotally supported on a fixed structure; said brackets having means respectively engaging the end portions of said slat to pivotally support the same and including means on each bracket abutting the ends of both said members to restrain them against relative longitudinal sliding movement.

2. A jalousie slat comprising: a pair of elongated, generally flat slat members arranged in spaced parallel relation; at least one longitudinal rib on that surface of each

member which faces the other member; each of said ribs having a laterally extending formation extending along its crest; the other member having means thereon, spaced laterally from the rib thereon, defining a longitudinal undercut groove substantially complementary in shape to said laterally extending formation; each of said formations on one member being slidably nested in a corresponding groove in the other member whereby said slat may be assembled and disassembled by simply sliding one member longitudinally of the other, one of said ribs extending along one lateral edge of one member and the corresponding groove extending inwardly of the adjacent edge of the other member whereby an edge portion of said other member extends laterally of said slat at one edge thereof, said laterally extending edge portion being provided with a longitudinal flange at its outer edge, said flange extending toward the center plane of the slat.

3. A jalousie slat comprising: a pair of elongated, generally flat slat members arranged in spaced parallel relation; at least one longitudinal rib on that surface of each member which faces the other member; each of said ribs having a laterally extending formation extending along its crest; the other member having means thereon, spaced laterally from the rib thereon, defining a longitudinal undercut groove substantially complementary in shape to said laterally extending formation; each of said formations on one member being slidably nested in a corresponding groove in the other member whereby said slat may be assembled and disassembled by simply sliding one member longitudinally of the other, each of said members is provided with at least two ribs and grooves, one of said ribs of each member extending along one lateral edge thereof and another rib extending adjacent but spaced inwardly from the other edge whereby edge portions of said members extend laterally of said slat at respectively opposite faces thereof and from opposite edges.

4. A jalousie slat as defined in claim **3** wherein the inner face of each of said laterally extending edge portions is provided with weather stripping means extending the length thereof.

References Cited by the Examiner

UNITED STATES PATENTS

3,110,936	11/1963	Berard	160—236 X

FOREIGN PATENTS

555,947	4/1923	France.
576,387	4/1946	Great Britain.

HARRISON R. MOSELEY, *Primary Examiner.*

P. C. KANNAN, *Assistant Examiner.*