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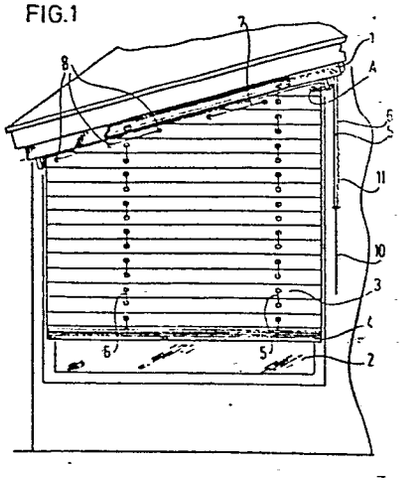
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(54) **Foldable sunblind.**

(57) A foldable sunblind essentially comprising a top bar 1, a band of sun-screening material 3 folded in zig-zag fashion and a lower bar 4 fastened to the underside of said band and suspended by means of two or more pull strings passed through the zigzag strip of the band and guided along the top bar, and wherein the top edge of the sunblind band 3 is inclined at an angle to be predetermined to the side edges and the top edge is connected with the top bar 1 at only one point and the remaining part of the top edge is freely displaceably guided along the top bar 1, whereby the lower bar 4 can be fully drawn against the top bar 1, whilst owing to the free guiding at the top side the band 3 still folds in the prescribed manner.

FIG.1



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Foldable sunblind

The invention relates to a foldable sunblind essentially comprising a top bar, a band of sun-screening material folded in zigzag fashion and a lower bar fastened to the underside of said band and suspended by means of two or more pull strings passed through the zigzag strip of the band and guided along the top bar.

Such sunblinds are usually suspended behind the panes of a window in houses and utility buildings; by veering out the pull strings the user can move the lower bar up and down for covering part of the whole window opening with the sun-screening band. However, the foldable sunblinds of this type hitherto known are only suitable for rectangular window openings, the lintel of the window having to be horizontal. However, it is becoming ever more frequent for window openings to have sloping lintels and the invention has for its object to provide a foldable sunblind suitable for use with a sloping lintel.

The foldable sunblind according to the invention is distinguished in that the top edge of the curtain band is inclined at an angle to be predetermined to the side edges and the top edge is connected with the top bar at only one point and the remaining part of the top edge is freely displaceably guided along the top bar.

Owing to this mode of suspension it is now possible to draw the lower bar fully against the top bar, whilst owing to the free guiding at the top side the band still folds in the prescribed manner. It is preferred to dispose the fastening point near the long side edge of the band, that is to say, at a topmost place.

In the case of less rigid sun-screening material the top edge of the band can freely slide by its own weight without the need for additional expedients for stretching the top edge.

In order to obtain a simple embodiment the invention proposes to form the guide of the top edge by means of a cord threaded through openings in the tissue band.

In a further embodiment the guide is integrally formed with the top bar as a spray-casting or an extruded profile. In the profile gliders or a thickened seam at the top edge of the band can provide the guiding effect.

When a common pulling member is used for the pull strings, for example, a common pull cord or eyelet or the like the cord is provided in accordance with the invention, if necessary with the exception of the longer pull string, with an elastic part in order to balance out the difference in length when the cord is drawn up and veered out.

The extensible part is preferably an elastic cord.

The invention furthermore relates to a foldable sunblind of the type set forth in the preamble, in which more than one band of material are suspended side by side to cover broad window structures. According to the invention the bands of material are suspended in off-set manner to the top bar so that the side edges overlap one another whilst leaving free a gap-like space. The overlap is so large that light does not directly penetrate between the bands of material, but owing to the gap-like space the appearance of the sunblind does not exhibit dark vertical strips at the overlap. This enhances the aesthetic appearence of the foldable sunblind.

The width of the zigzag strips of the band of material is at the most equal to half the width of the top bar and preferably amounts to about 15 mms. With this size the foldable sunblind thus formed will not be much broader than the conventional foldable sunblinds.

The invention will be described more fully with reference to a few embodiments.

The drawing shows in:

Fig. 1 a front view of a foldable sunblind suitable for a window having a sloping lintel,

Fig. 2 an elevational view like Fig. 1, the foldable sunblind being completely pulled up,

Fig. 3 a sectional view of an embodiment of a top bar with guide rail,

Fig. 4 a foldable sunblind comprising more than one band of material,

Figs. 5a and b two possible modes of suspension for the bands of material to the top bar in the case of a sunblind as shown in Fig.4,

Fig. 6 a sectional view of a top bar suitable for a sunblind as shown in Fig. 4 for a window having an inclined lintel.

Referring to Fig. 1 reference numeral 1 designates the top bar, which has to be secured ro the ceiling or to the wall of the room having a window 2. Fastening may be carried out in any suitable manner and is not shown in detail.

The foldable sunblind consists of a band of sun-screening material folded in zigzag fashion, which may be any suitable material, for example, a tissue or a tissue having a metal layer on one side, which may be heat and light reflecting. This metal layer may be applied by vapour deposition in high vacuum.

To the underside of the band of material is fastened a lower bar 4, which is suspended to pull strings 5 and 6. In conventional manner the pull strings are passed through holes in the zigzag strip of the band so that when drawing up the lower bar 4 by means of the pull strings the band will fold in the desired manner. The pull strings are passed either through holes in the top bar 1 or through eyelets on the top bar along said top bar towards one end of the top bar 1 and further down into the user's reach.

At the top edge the band of material is fastened at point A to the top bar 1. This point A is preferably located along the long side edge, that is to say, the right-hand side edge as viewed in Fig. 1, but it may be located at any other place.

Along the bottom side of the top bar 1 is stretched a cord 7, which is threaded through eyelets 8 in the inclined peripheral strip of the band of material.

The foldable sunblind can be actuated in a conventional manner, that is to say, by pulling the strings 5 and 6. Since the length of the top edge of the band exceeds the width thereof, this top edge will assume, in projection, the length of the lower bar 4, when the band of material is pulled up and the zigzag strips are simultaneously folded. This is illustrated in fig. 2, which shows that the lower bar is drawn against the top bar 1. When the band is being veered out or pulled up the lower bar 4 will occupy an intermediate position 4', from which it is apparent that the lower not only moves downwards but also sideways. The freedom of movement of the top edge owing to the variation in length is ensured by guiding it along the underside of the top bar 1, that is to say, along the cord 7.

When the pull strings 5 and 6 are connected with a pulling member 9, which is formed in this case by a knob of synthetic resin to which a common pulling cord 10 is fastened, the short pulling cord 6 includes an elastic part 11, which may be constructed in any convenient manner. The elastic part 11 serves to balance out the difference in length of the pull strings 5 and 6, since the pull string 5 has to be pulled further than the pull string 6 in order to move the lower bar 4 into an inclined position against the top bar 1.

Fig. 3 shows the sectional view of a potential form of the top bar 1, which may consist of an extruded profile of any suitable material, the top flange 12 of which can be secured to the wall or the ceiling, whereas the downwardly extending front flange 13 has an ornamental function. The underside of the top flange 12 is provided with a guide profile 14, along which the top edge of the band of material 3 can be guided by means of gliders 15. The gliders may have any apropriate form used for sunblinds. In the embodiment shown the pull strings 5, 6 are passed through an opening in the top flange 12 or the guide profile 14 respectively.

Fig. 4 shows a foldable sunblind formed by more than one band of material. The bands 3' and 3'' have a lower bar 4' and 4'' respectively and their own pull strings, which can be simultaneously actuated by means of the knot 9' and the common pulling cord 10'. The bands of material are fastened to the top bar 1 in off-set manner in two potential modes as shown in figs. 5a and 5b. Fig. 5a shows that the bands are parallel to the top bar 1, whereas Fig. 5 shows an imbricate composition. The rims of the bands overlap one another over a distance L. This distance is chosen so that a gap-like space 16 is left, which prevents the foldable sunblind from showing dark coloured strips.

Fig. 6 shows an embodiment having, for example, the composition of fig.5a, in which the top bar is formed by an extruded profile having two guide profiles 17 and 18. Therefore, this top bar is suitable for use on a window having an inclined lintel; the width if this window is such that more bands of material are required. Therefore, each band is provided with its own lower bar 4 and the top edge of the bands is freely slidable in the top bar.

As a matter of course, the invention is not limited to the embodiments described above. For example instead of having gliders the top edge of the band may have a thickened seam capable of reciprocatorily sliding in the guides 14, 17 and 18. Furthermore the elastic part in the pulling cords may be formed by tensile springs or the like. If desired, the pull strings 5, 6 may be tied to one another at the knot 9 and be slidably included in the knots.

WHAT IS CLAIMED IS:

1. A foldable sunblind essentially comprising a top bar, a band of sun-screening material folded in zigzag fashion and arranged below said bar and a lower bar fastened to the underside of the band and suspended by means of two or more pull strings passed through the zigzag strips of the band and guided along the top bar characterized in that the top edge of the band of material is inclined at an angle to be predetermined to the side edges of the band and the top edge in connected with the top bar at only one point, the remaining part of the top edge being freely slidable along the top bar.

2. A foldable sunblind as claimed in claim 1 characterized in that the fastening point is located near the long side edge of the band.

3. A foldable sunblind as claimed in claims 1 and 2 characterized in that the guide of the top edge is formed by a cord threaded through openings in the tissue band.

4. A foldable sunblind as claimed in claims 1 and 2 characterized in that the guide is integrally formed with the top bar as a spray-casting or an extruded profile.

5. A foldable sunblind as claimed in claims 1 to 4, in which the pull strings are connected with a common pulling member, for example, an eyelet, a handle or a cord characterized in that if necessary with the exception of the longer pull string the strings have an elastic part.

6. A foldable sunblind as claimed in claim 5 characterized in that the extensible part is elastic cord.

7. A foldable sunblind essentially comprising a top bar, one or more bands of sun-screening material folded in zigzag fashion and arranged below said bar and a lower bar fastened to the underside of each band and suspended by means of two or more pull strings passed through the zigzag strips of the band and guided along the top bar characterized in that the bands of material are suspended to the top bar in off-set manner so that the side-edges overlap one another whilst leaving free a gap-like space.

8. A foldable sunblind as claimed in claim 7 characterized in that the width of the zigzag strips of each band of material is at the most equal to half the width of the top bar and preferably amounts to about 15 mms.

9. A foldable sunblind as claimed in claims 7 and 8 constructed in the form of a foldable sunblind as claimed in anyone of claims 1 to 6.

10. A foldable sunblind as claimed in anyone of the preceeding claims characterized in that one side of the band of material is covered with a light- and heat-reflecting metal layer.

FIG.1

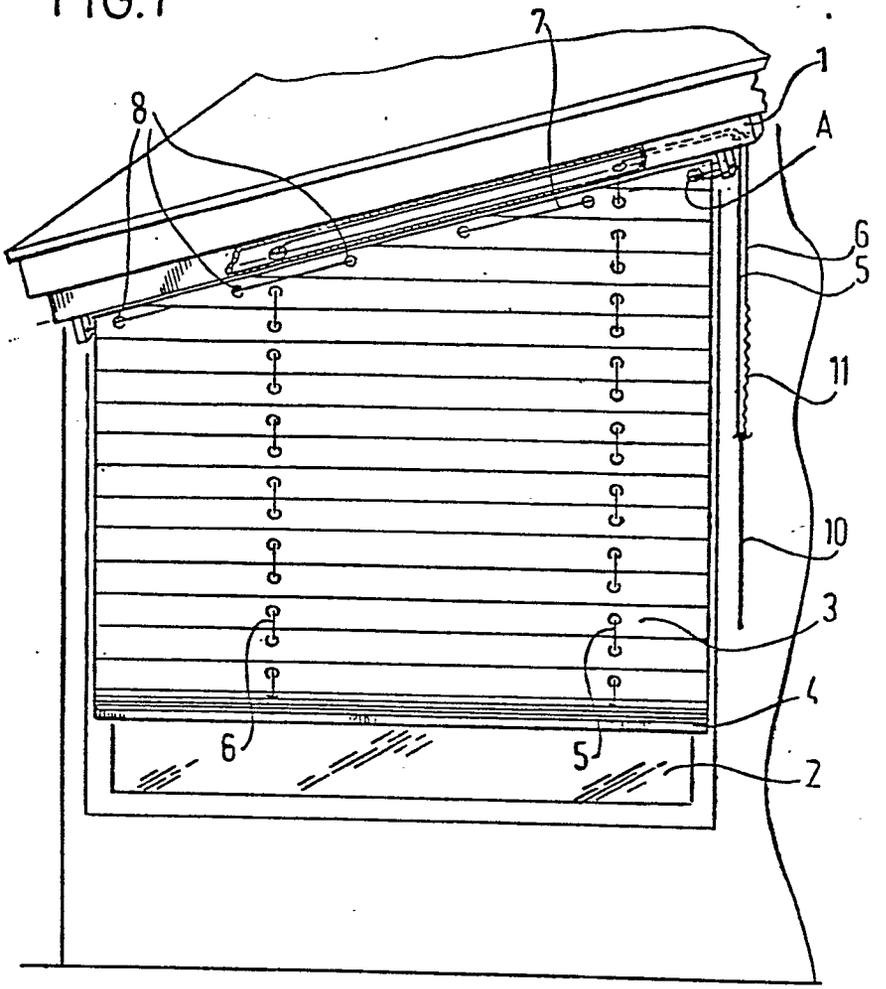


FIG. 2

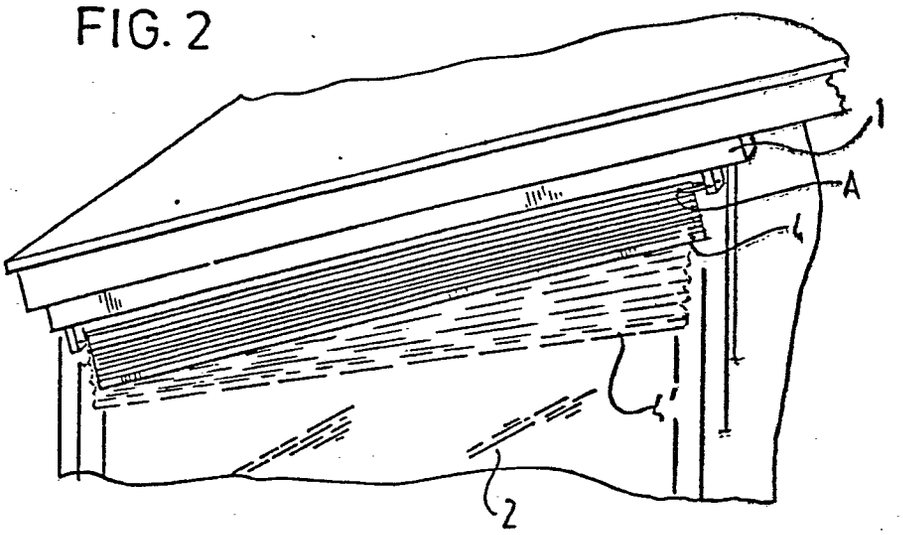
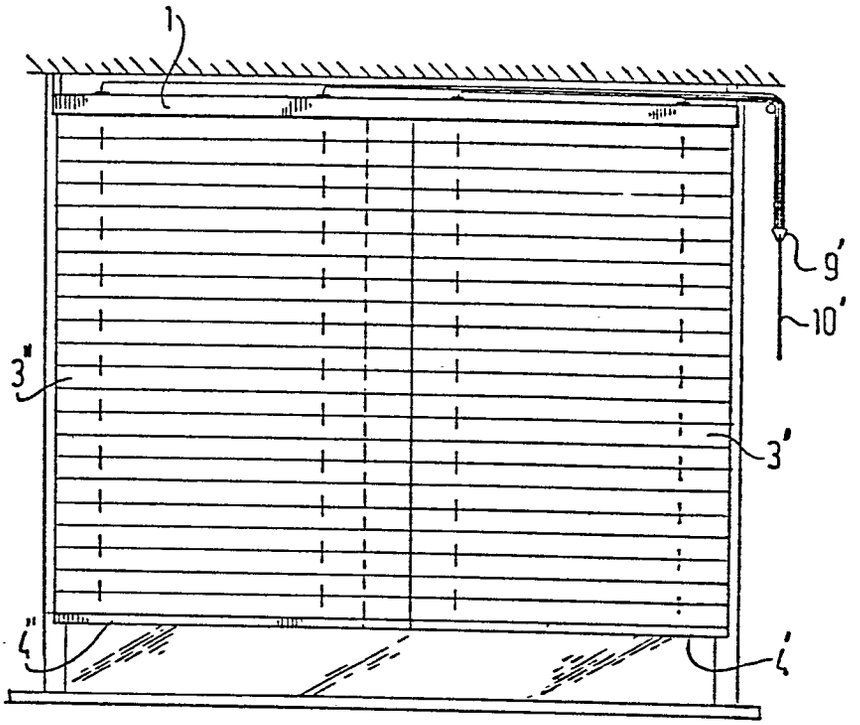


FIG.4



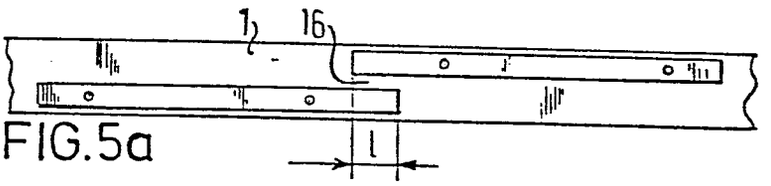


FIG.5a

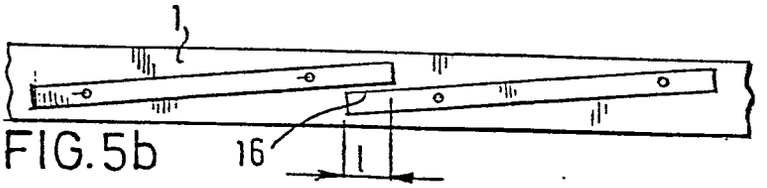


FIG.5b

FIG.3

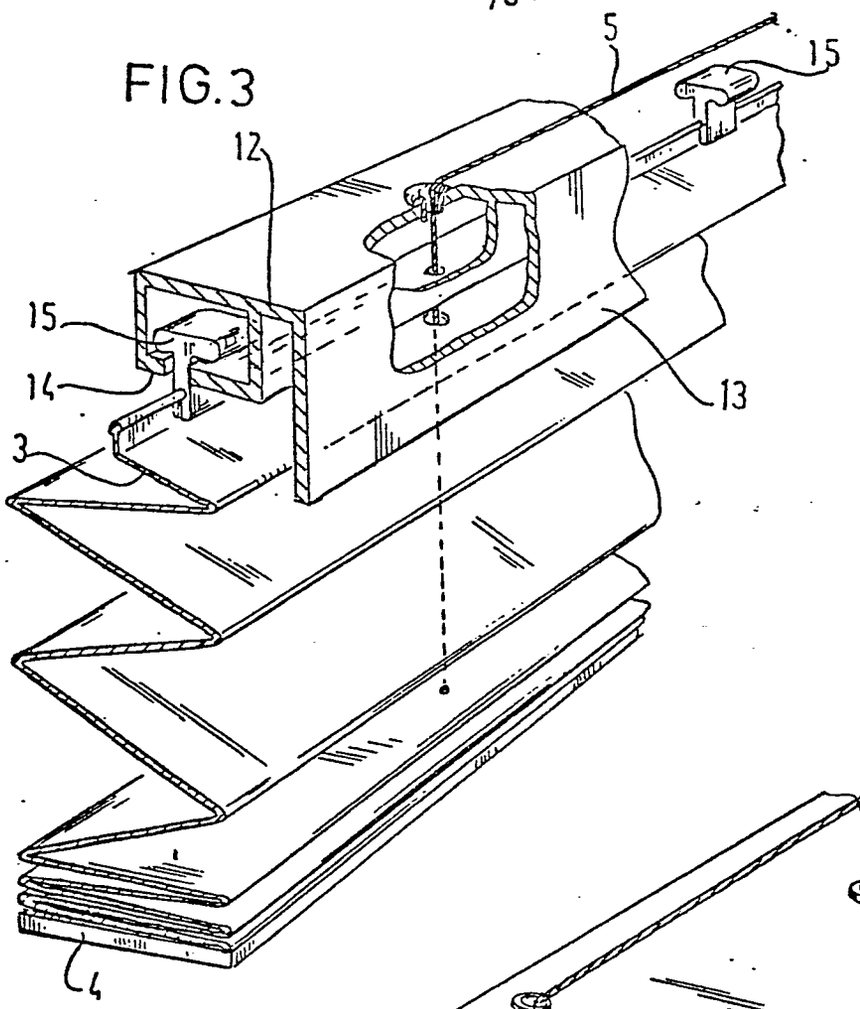
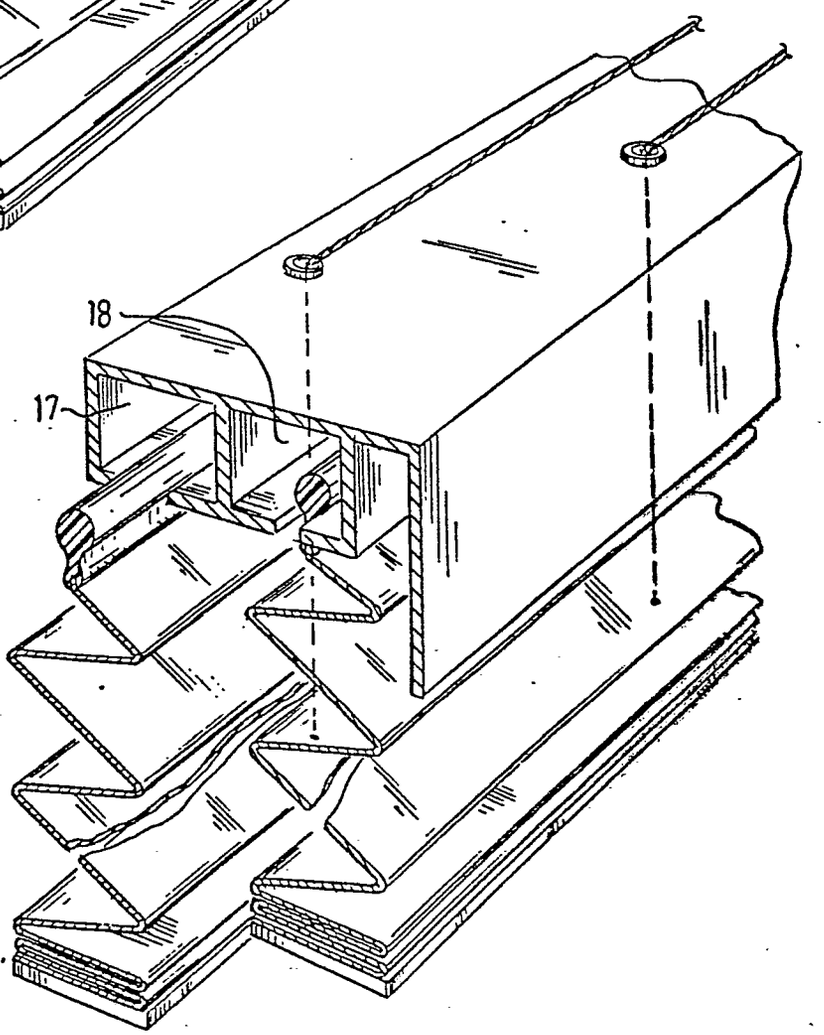


FIG.6



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EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	NL-A-7 307 075 (VEROSOL) *Claims and figure 1* -----	1,10	E 06 B 9/262

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

E 06 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	19-05-1982	VIJVERMAN W.C.

CATEGORY OF CITED DOCUMENTS

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