United States Patent

[11] 3,536,202

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[73] Assignee **The Vernon Company**

[54] **SELF-LOCKING CALENDAR SUPPORT**
7 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **211/50,** 220/31
[51] **Int. Cl.** **A47g 29/00**
[50] **Field of Search** ..... 211/50, 11, 42; (Des.), 44/24.1; 206/57(last UX & last original); 229/(Inquired); 312/50; 16/128(B), 150; 220/31(SR last 3 U.S.); 40/23X, 11 last orig & last X

[56] **References Cited**

UNITED STATES PATENTS

470,050	3/1892	Jewell	211/42UX
207,477	8/1878	Baldwin	211/51
1,875,288	8/1932	Welk	211/43
2,206,775	7/1940	Hoofer	40/23X
3,144,942	8/1964	Peebles	211/11
3,186,574	6/1965	Davidson	220/31(SR)X
3,216,582	11/1965	Cross	211/50
3,421,658	1/1969	Cooksey	220/31(SR)X
3,385,450	5/1968	Nadler	211/42

Primary Examiner—Roy D. Frazier
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ABSTRACT: A plastic, integrally formed support comprising a base plate with a pair of spaced walls disposed at opposite sides thereof and joined thereto by a thin hinge. A plurality of lugs are spaced about the base, and a like plurality of recesses are formed adjacent thereto. The lugs exert a camming action upon the walls and momentarily deform same as the walls are pivoted toward an erected, vertical position. The resiliency of the walls causes their return to unstressed condition and snap locks them into upright position within the recesses in the base plate. Support is U-shaped in vertical cross section in erected condition.

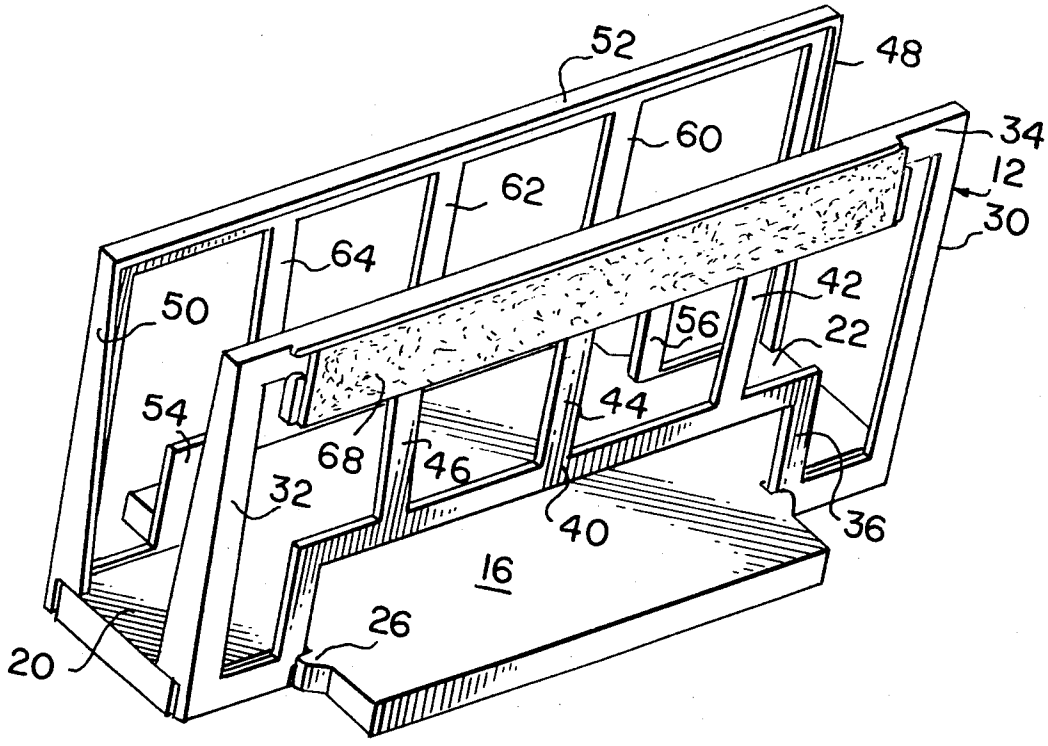


Fig. 1.

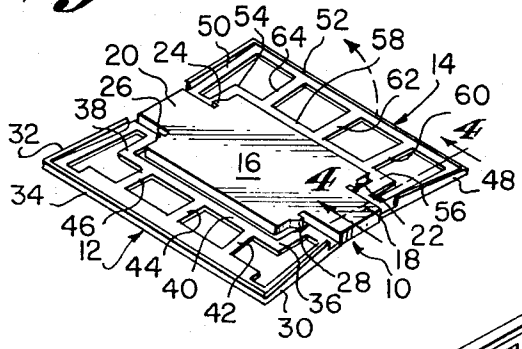


Fig. 2.

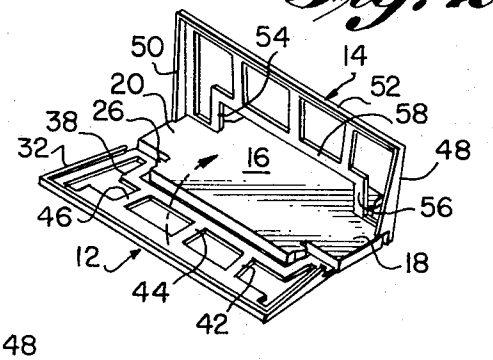


Fig. 3.

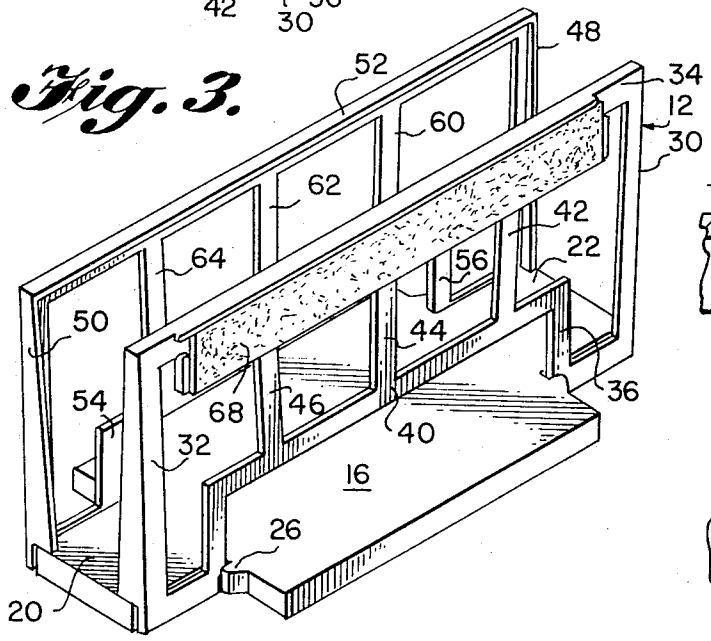


Fig. 4.

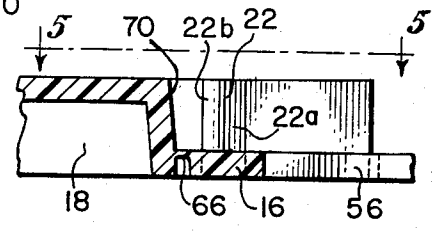


Fig. 5.

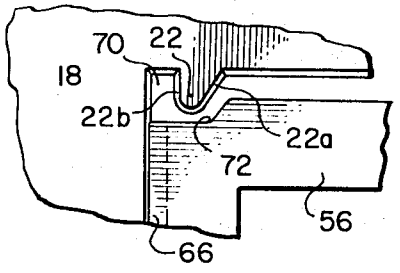


Fig. 7.

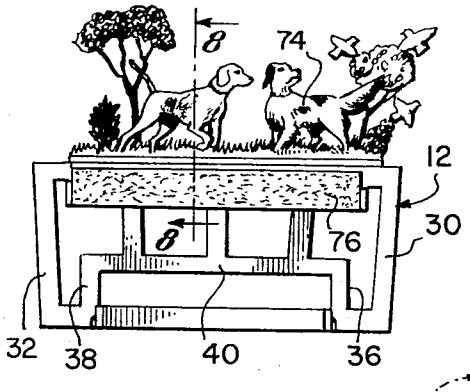


Fig. 8.

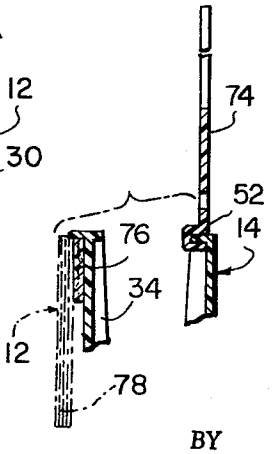
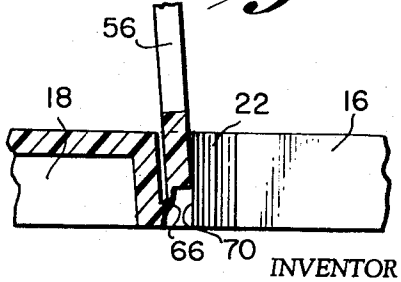


Fig. 6.



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SELF-LOCKING CALENDAR SUPPORT

BACKGROUND OF THE INVENTION

1. Field of the Invention

The instant invention relates generally to supports for calendars, pads, napkins, mail and the like, and novel methods of fabricating and erecting same.

2. Description of the Prior Art Known calendar supports have been fabricated and assembled in shapes and sizes too diverse to enumerate. However, all of these supports have suffered from one or more of the following defects.

The widely used paperboard calendar supports are susceptible of being easily sheared or mutilated along their fold lines. Additionally, in order to assemble these supports into a rigid unit capable of supporting the weight of a calendar pad, one must carefully insert, and subsequently bend, paper tabs of unique shapes into appropriate slots in the base member. The misalignment or shearing of any one of these numerous interlocking paper tabs destroys the structural rigidity of the support. U.S. Pat. No. 594,591, granted to M. F. Berry, and U.S. Pat. No. 2,755,582, granted to G. E. Nichols are illustrative of this variety of paperboard supports.

One proposed solution for increasing the structural rigidity of the calendar support has been to fabricate such members from light weight metal; for example, note U.S. Pat. No. 1,835,033, granted to H. L. Fischer. However, such materials substantially raise production costs and the resultant structure cannot readily be folded flat for easy storage and/or shipment through the mails. Thus, the higher costs of such supports severely limit their value as an advertising medium.

SUMMARY

Thus, with the deficiencies of the known supports enumerated above in mind, the instant invention contemplates an inexpensive, integrally molded plastic support that can be shipped in a flattened condition and can be easily erected into a rigid structure. The instant support is characterized by the provision of a plurality of lugs and recesses on its base plate; the lugs exert a camming action on the flexible walls and cause same to momentarily deform. The inherent resiliency of the walls causes them to return to their unstressed condition and snap into locking position within the recesses.

Other objects and advantages of the instant invention will become apparent in light of the following description of the invention when construed in connection with the accompanying sheet of drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view, on a reduced scale, of a calendar support constructed in accordance with the principles of the instant invention, such support being shown prior to assembly;

FIG. 2 is a similar perspective view of the support, such view showing the rear wall of the support in erected position;

FIG. 3 is a perspective view, on an enlarged scale, of the calendar support in fully erected position;

FIG. 4 is a horizontal cross-sectional view of a detail of the support, such view being taken along line 4–4 of FIG. 1 and in the direction indicated;

FIG. 5 is a top plan view of the locking member of FIG. 4, such view being taken along line 5–5 of FIG. 4; and in the direction indicated;

FIG. 6 is a side elevational view of the locking mechanism of FIGS. 4 and 5;

FIG. 7 is a perspective view, on a reduced scale, of an alternative embodiment of the calendar support; and

FIG. 8 is a vertical cross section taken through a portion of the alternative embodiment of the calendar support, such view being taken along line 8–8 of FIG. 7 and in the direction indicated.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in greater detail to the drawings FIG. 1 depicts a calendar support executed in highly polished polyethylene plastic in accordance with the instant invention. Such support comprises a planar base plate indicated generally by reference numeral **10**, a front wall indicated generally by reference numeral **12** and a rear wall indicated generally by reference numeral **14**.

For purposes of discussion, base plate **10** is divided into a central rectangular portion **16** with end sections **18** and **20** disposed at opposite sides thereof. Central portion **16** extends forwardly and rearwardly of the end sections. A series of lugs **22**, **24**, **26** and **28** are spaced about the periphery of portion **16** in a regular pattern.

Front wall **12** comprises a pair of spaced vertically extending end posts **30**, **32** joined together by a horizontally extending span **34**. Flexible ribs **36** and **38** are located a short distance interiorly of the end posts. The ribs are joined together by a second, shorter horizontal span **40** extending parallel to span **34**. A series of vertical spokes **42**, **44** and **46** complete the front wall and divide the wall into a lattice-like configuration.

Rear wall **14** is generally similar in configuration and includes end posts **48**, **50** joined together by a span **52**. Flexible ribs **54** and **56** are located a short distance interiorly of the end posts. The ribs are joined together by a second shorter horizontal span **58**, and a series of vertical spokes **60**, **62** and **64** complete the rear wall and divide the wall into a lattice-like configuration.

Whereas FIG. **1** shows the calendar folded flat for shipping purposes, FIG. **2** shows rear wall **14** in its erected position. To erect the real wall, such member is simply pivoted about hinge **66** which connects the rear wall to base plate **12**. Hinge **66**, which is best seen in FIGS. 4—6, is integrally formed between the central section **16** of base plate **10** and rear wall **14**. A similar hinge (not shown) is integrally formed between the opposite side of the central section of the base plate and front wall **12**. The directional arrows in FIGS. **1** and **2** indicate the direction of the two steps of pivotal movement for erecting the calendar support.

FIG. **3** shows the calendar, in full scale, in its erected condition. Front wall **12** further includes a strip of pressure sensitive adhesive material **68** to which a calendar pad or the like can be easily affixed. Such strip extends horizontally along the major portion of span **34**.

The unique self-locking feature of the instant calendar support is also best seen in FIGS. 4—6. Such enlarged, detailed views show lug **22** and its structural and functional relationship to flexible rib **56** of rear wall **14**. Lugs **24**, **26** and **28** coact with flexible ribs **54**, **38** and **36**, respectively, in a similar manner, and accordingly, for purposes of clarity and conciseness, only the coaction between lug **22** and rib **56** is described hereinafter. FIGS. **4** and **5** depict these relationships prior to the erection of rear wall **14**, while FIG. **6** shows rear wall **14** in fully erected condition.

Turning now to FIGS. **4** and **5**, the outline of lug **22** formed on the portion of central rectangular section extending rearwardly beyond end section **18** is clearly visible. Surface **22***a* gradually slopes away from the base plate, while the opposite side **22***b* of the lug returns at a right angle into the base plate. As will become apparent from the following discussion, the pivotal movement of the front and rear walls causes the flexible ribs to ride along the sloping surfaces of the lugs and momentarily deform same outwardly; the ribs then return to their normal unstressed condition when they ride along the opposite surfaces, such as **22***b*.

The recess **70** situated between surface **22***b* of lug **22** and end section **18** is also visible in FIGS. 4—6. Such recess is dimensioned so as to accommodate therein the thickness of rib **56** when rear wall **14** is pivoted about hinge **66** into its vertical, erected condition. Similar recesses (not shown) are formed in central section **16** adjacent lugs **24**, **26**, and **28** to accommodate therein ribs **54**, **38** and **36**, respectively.

FIG. 5 shows the same relationships in a top plan view. Of particular significance is notch 72 removed from the upper left corner of rib 56 of rear wall 14. Notch 72 enables rib 56 to be pivoted into a vertical erected position without binding between rib 56 and lug 22. The dimensions of these members are selected so that rib 56 is cammed slightly outwardly as it starts to ride along the surface 22*a* of lug 22. As the pivotal movement continues, rib 56 reaches surface 22*b* and returns elastically to its unstressed condition, thus snap locks the rib within recess 70 at right angles to the base plate 10. The same process occurs at the three remaining corners of the base member for each rib has a similar notch removed therefrom. The thin hinge 66 is indicated by dotted lines in FIG. 5, and such hinges possess sufficient strength for the support to be assembled and disassembled numerous times without encountering structural failure.

While FIGS. 4 and 5 show rear wall 14 in its flattened condition suitable for mailing or storage purposes, FIG. 6 shows the rear wall in its fully erected condition. Thus, hinge 66 is bent over and rib 56 is firmly locked within recess 70.

FIG. 7 depicts an alternative embodiment of the instant support. The distinguishing feature of this embodiment is the provision of a placard or silhouette 74 that is secured to the edge of the upper span 52 of rear wall 14. Placard 74 may contain advertising material or it may present pictorial representations that enhance the visual impression of the support.

The configuration of placard 74 is best seen in FIG. 8. In such view the manner in which the silhouette is secured to the lip of span 52 of rear wall 14 is readily apparent. Furthermore, the spacing from the rear wall 14 to the front wall 16 is indicated by brackets extending therebetween. Front wall 12 has a strip of pressure sensitive adhesive 76 secured thereon and a calendar pad 78 is secured thereto.

Although the instant invention has been set forth as a support for a calendar pad, it would be equally applicable as a holder for mail, napkins or stationery. Manifestly, its low cost, ease of assembly, and attractive appearance enable the instant convention to be used in numerous other environments.

Accordingly, since numerous additional modifications of the invention may be made without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative in nature and not in a limiting sense.

I claim:

1. A plastic, self-locking support for calendars, napkins or the like comprising:
   a. a substantially planar base plate;
   b. a pair of flexible walls integrally formed with said base plate, said plate and said walls resting in the same horizontal plane prior to erection of the support;
   c. each of said walls including a pair of spaced vertically extending end posts joined by a first horizontally extending span;
   d. each of said walls further including a pair of spaced vertically extending ribs located interiorly of said end posts;
   e. integrally formed hinge means for joining said walls to said base plate;
   f. lug means extending outwardly in a regular pattern from said base plate;
   g. said pair of ribs on each wall being momentarily flexed as they engage said lug means and then being retained in an upright position by their inherent resiliency after being pivoted along said hinge means past said lug means; and
   h. said walls and said base plate defining a substantially U-shaped support when viewed in vertical cross section.

2. A plastic support as defined in claim 1 wherein said base plate comprises an enlarged central rectangular portion with a pair of end sections located at opposite ends of said central portion, and said lug means are located on said central portion in proximity to said end section.

3. A plastic support as defined in claim 2 wherein said central rectangular portion of said base plate has a plurality of recesses formed therein, each of said recesses being located between one of said end sections and said lug means so as to receive one of said ribs therein.

4. A plastic support as defined in claim 1 wherein each of said walls has a minor segment removed therefrom at points adjacent to said lug means, whereby clearance is provided between each of said walls and said lug means.

5. A plastic support as defined in claim 1 wherein said lug means comprises a first surface sloping away from said base plate, and a second surface returning at right angles to said base plate.

6. A plastic support as defined in claim 1 wherein said pair of ribs are joined together by a second shorter horizontal span.

7. A plastic support as defined in claim 6 wherein a series of vertical spokes extend between said first and second horizontal spans and divide the wall into a lattice-like configuration.