

Feb. 1, 1966

C. W. NELSON

3,232,252

FOLDING SUPPORT

Filed June 24, 1964

2 Sheets-Sheet 1

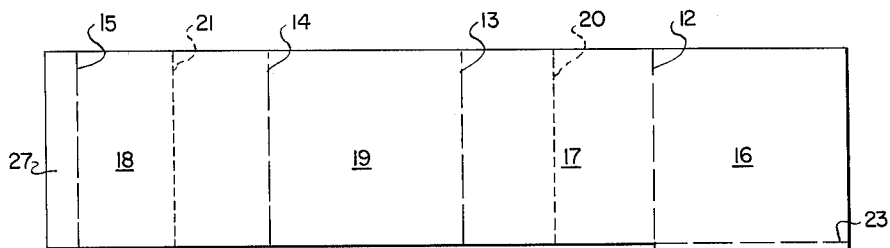


FIG. 1

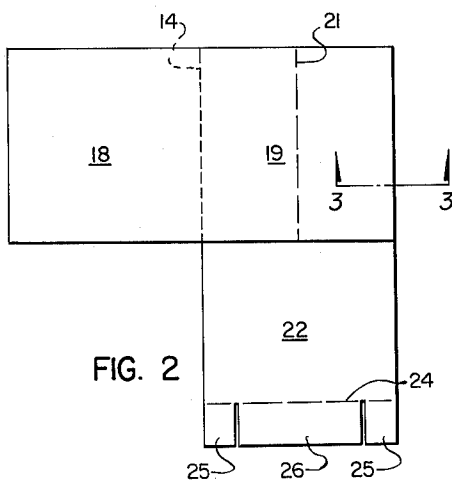


FIG. 2

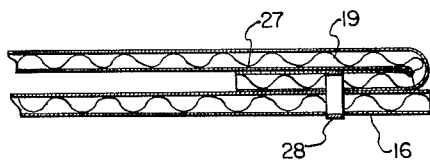


FIG. 3

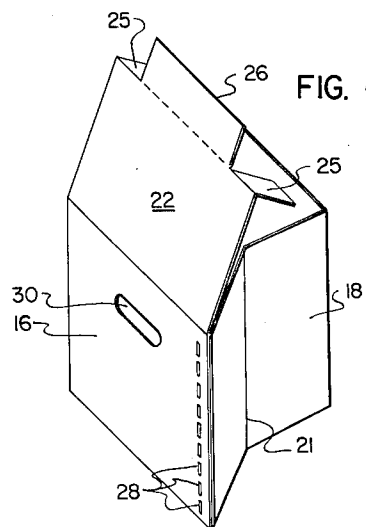


FIG. 4

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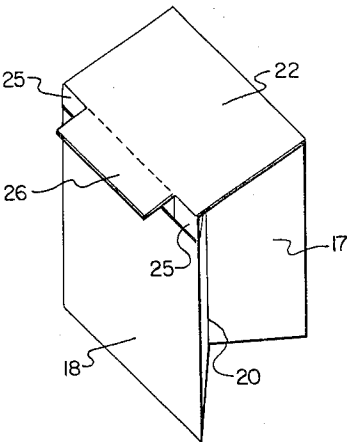


FIG. 5

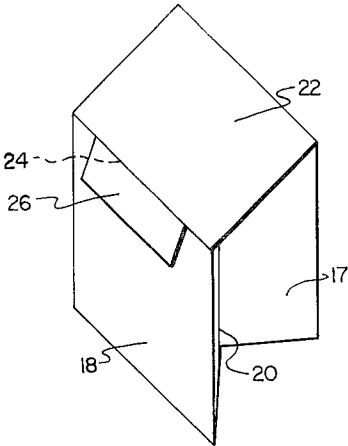


FIG. 6

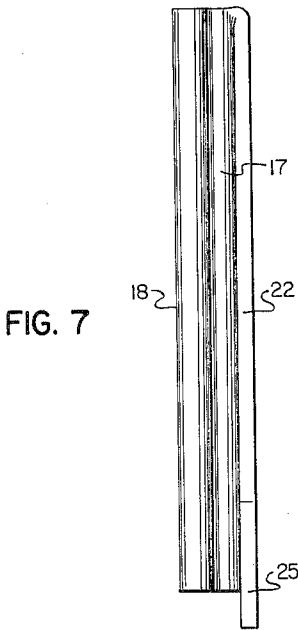


FIG. 7

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FOLDING SUPPORT

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2 Claims. (Cl. 108—115)

This invention relates to foldable supporting structures and is concerned particularly with providing a folding support of low cost construction that can be made in various sizes, for example, to serve as a stool or a table.

I have determined that there is a definite need for strong, low cost, lightweight, conveniently carried stools that can be distributed at sporting events, fairs, parades, etc., where spectators may otherwise have to stand for substantial periods of time, and that can be conveniently carried from place to place; also, that there is a need for low cost, and lightweight structures that can be compactly folded for carrying and be quickly and easily set up for use by picnickers and campers as seats or tables. Although various attempts have been made to fill these needs, an entirely satisfactory device has not been developed heretofore.

A principal object of the present invention is to provide a new structural arrangement enabling unusually low cost, quantity production of exceptionally strong and rigid seat or table types of supports from foldable sheet material, preferably a paperboard material, such as corrugated box board.

Other objects are to provide essentially unitary construction, utilizing a prepared, foldable blank of the sheet material and only a minimum amount of staples, tape, or other fastening materials; to provide for convenient folding and unfolding of the device; and to provide for simple but secure locking of the device in its set-up, load-supporting condition.

These objects are accomplished by a construction utilizing a foldable base structure, made up of front panel and a rear panel articulatively interconnected by infolding side panels. When the side panels are infolded between the front and rear panels in the setting up of the structure, a very firm and strong supporting base results. To securely lock the base in this position, a top panel is articulatively attached to either the front or the rear panel, so as to be foldable over and supported upon the base.

Locking or anchoring means are carried by the top panel and comprise tuck-in tabs at opposite ends of the margin edge remote from the articulated connection of the rear panel, with the tuck-in tabs each being arranged for insertion between an infolded side panel and its adjoining front or rear wall panel, as the case may be.

There is shown in the accompanying drawing a specific embodiment of the invention representing what is presently regarded as the best mode of carrying out the generic concepts in actual practice. From the detailed description of this presently preferred form of the invention, other more specific objects and features will become apparent.

In the drawings:

FIG. 1 is a plan view of the prepared blank used to make the support comprising the invention;

FIG. 2, a plan view of the assembled invention prior to its being set up;

FIG. 3, an enlarged vertical section taken on line 3—3 of FIG. 2;

FIG. 4, a perspective view taken from a rear corner of the support in set up condition, and with the top raised;

FIG. 5, another perspective view taken from a front corner and with the top partially lowered;

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FIG. 6, a similar view showing the top in its lowered position, and

FIG. 7, an enlarged side elevation of the support in folded condition.

Referring now to the drawings:

In the illustrated preferred embodiment the support, shown generally at 10, comprises a blank 11 of corrugated box board, or other similar flat, stiff, and foldable sheet material. Because of its light weight and low cost, corrugated box board has been found ideally suited for the purpose, but it should be apparent that other materials having the same specified characteristics can be employed.

Blank 11 is desirably of substantially L-shape, with the long leg of the L scored on one side to form creases or fold lines thereacross at 12, 13, 14 and 15. The creases divide the leg into a rear wall panel 16, side wall panels 17 and 18, and front wall panel 19 of a base of the support.

Additional scoring extends across the long leg on the side opposite lines 12—15 and provides fold lines 20 and 21 centrally dividing the side wall panels, thus forming articulated side panels for a purpose to be explained.

The short leg of the L-shaped blank forms a support top panel 22, and matching score lines 23 on opposite sides of the blank provide a two-way pivot fold connection for the top. Another score line 24 on the same side of the blank as the score lines 12—15 desirably provides the pivot connection for a pair of insert tabs 25 and a support flap 26, although as will become apparent, score line 24 can be omitted and it is still a relatively simple matter to set up the support since tabs 25 are easily bent. Fold line 24 facilitates the setting-up operation somewhat, however.

As will become apparent, a substantially T-shaped blank could also be employed, with top panel 22, tabs 25, and flap 26 connected to and extending outwardly from front wall 19. But because of its ease of construction, the L-shape blank illustrated and disclosed is preferred, however.

Construction of the support is completed by folding panels 18 and 19 about score line 13 to overlie panels 16 and 17, respectively. A marginal flap 27, shown as a continuation of side wall 18, is folded between panels 16 and 18 about score line 15 and staples 28 interconnect flap 27 and the margin of panel 16. Obviously, marginal flap 27 could, if desired, be formed as a continuation of rear panel 16.

In setting-up the support the base is first formed into a rectangular shape by folding it along the score lines 12, 13, 14 and 15 separating the front, rear and side panels. The articulated side walls are then folded inward into a V-formation, with score lines 20 and 21 forming the bottom of the V. The top is positioned by folding it along score line 23 over the base, and inserting tabs 25 into the acute angles formed between front wall panel 19 and side wall panels 17 and 18. Support flap 26 extends over front wall panel 19 such that the score line 24 is positioned above and rests on the front wall.

The distance between score line 23 and score line 24 must be less than the distance between the front panel and the rear panel when the side panels 17 and 18 are in their flat, unfolded, condition, such that the side panels can be infolded to provide the necessary support for the top panel and the tabs 25 can be inserted to lock the support in its set-up condition.

The support thus formed is extremely sturdy since the front and rear wall panels give support beneath four spaced corners of the top, and respectively extend completely between the front corners and the rear corners. In addition, the articulated, infolded side panels extend

from the ends of the front and rear panels inwardly beneath the top to greatly reduce the otherwise unsupported span distance of the top.

The interlocking of tabs 25 with the base prevents undesired folding of the side panels and effectively holds the support in shape. The configuration formed by the ground engaging ends of the front, rear, and side walls insures a stable support.

To facilitate transporting the support in its set-up condition, a slot 30 is provided in rear wall panel 16, adjacent its connection with the top panel. This slot allows a user to grip the support with his fingers inserted through the slot and his thumb placed on the top panel. The top panel is therefore held securely in position and the support maintains its shape as it is transported.

To put the support in its flat, folded, condition for carrying or storage it is only necessary to pivot top panel 22 about the score lines 23 forming the two-way pivot fold connection until the top panel rests flat against rear wall panel 16, as shown in FIG. 7. The front wall panel is then pushed toward the rear wall panel, collapsing the infolded side wall panels between them.

Although the panels 16 and 17 herein have been respectively identified as rear and front panels and panels 17 and 18 have been identified as side panels it should be obvious that such terminology is employed for descriptive purposes only and that the panels can be faced in any desired direction.

A band of elastic material, not shown, may be employed to surround and hold the support in its folded condition and to serve as a convenient carrying means, or other conventional means such as a tie string and hook, or a plurality of tie strings can be attached to the support for the purpose.

Whereas there is here illustrated and specifically described a certain preferred construction of apparatus which is presently regarded as the best mode of carrying out the invention, it should be understood that various

changes may be made and other constructions adopted without departing from the inventive subject matter particularly pointed out and claimed herebelow.

I claim:

1. A foldable support made from a prepared blank of L-shaped, stiff sheet material having adjacent back, front, and side wall panels, and a marginal flap forming one leg thereof, and a top panel forming the other leg thereof, fold lines on one side of said blank segmenting the respective panels, the top flap and the marginal flap, additional fold lines on the opposite side of the blank dividing the side panels, and a pair of slots in the edge of the top panel forming an end of the L-shaped blank, said slots defining with the edges of the top panel, small outer tabs adapted to be folded into the acute angle intersection between the front panel and the side panels when the support is in its set-up position and a central support flap adapted to rest on the front panel and provide support for the top panel when it rests on the side panels; and means fixing said marginal flap to an edge of the back panel forming an edge of the other leg of the blank.

2. A foldable support according to claim 1, wherein the blank is formed to have an elongate slot, large enough to receive the fingers of one hand, positioned in the rear panel near the fold line between the rear panel with the top panel and with the slot extending substantially parallel to the fold line segmenting the top flap.

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