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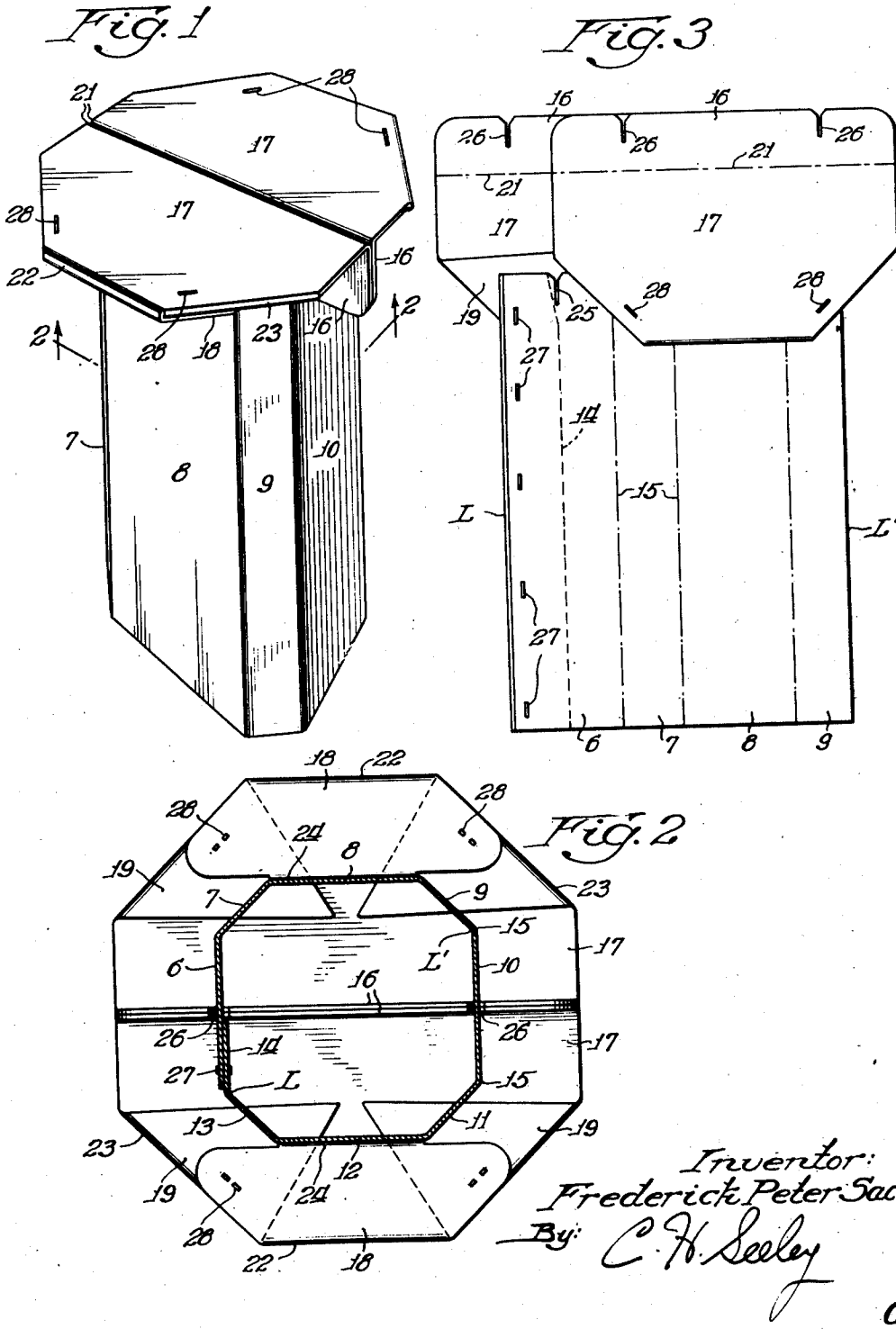
F. P. SACHS

2,361,875

COLLAPSIBLE STOOL OR THE LIKE

Filed Nov. 24, 1941

2 Sheets-Sheet 1



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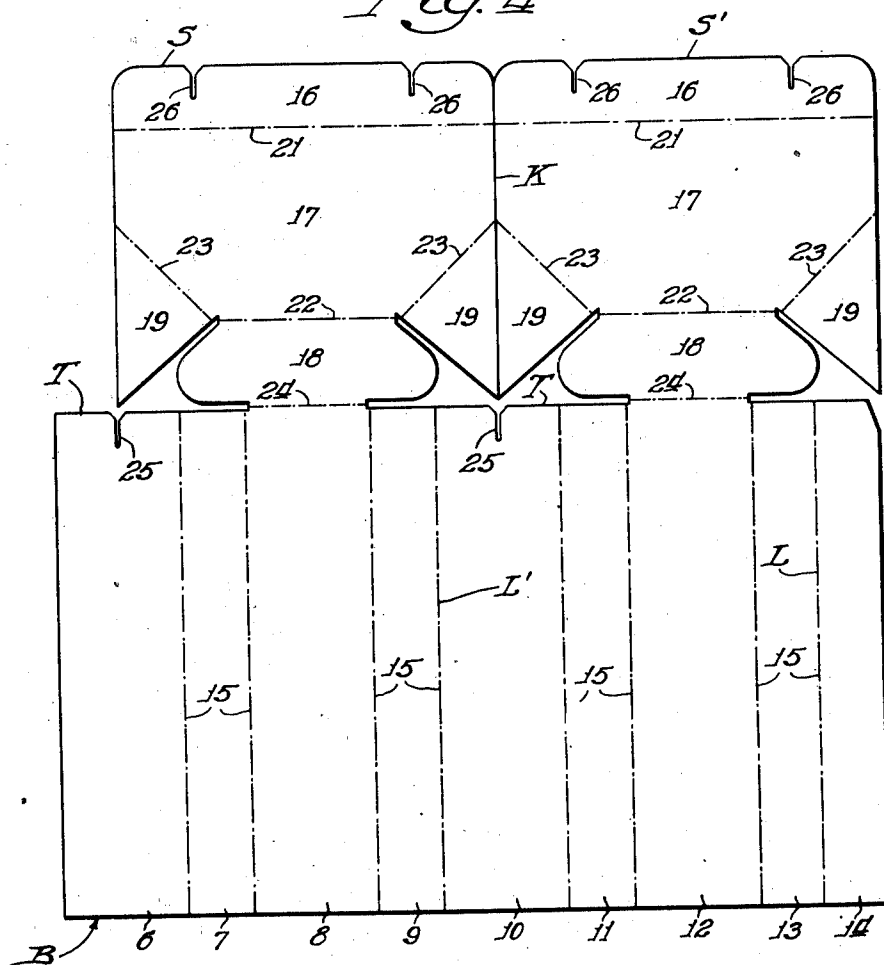
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Fig. 4



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UNITED STATES PATENT OFFICE

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COLLAPSIBLE STOOL OR THE LIKE

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Application November 24, 1941, Serial No. 420,157

5 Claims. (Cl. 155—149)

This invention relates to the construction of stools, seats, stands, tables and similar articles from paper or fiber board and the like and, more particularly, relates to an article of the character mentioned so designed and arranged that it may be shipped, stored or transported in a flat blank condition or in a folded but collapsed state and easily transformed into its final folded and expanded or "set-up" form.

One of the principal objects of the invention is to provide a stool, seat, stand, table and the like which, while of simple and light economical construction, is sturdy and strong and capable of sustaining heavy loads.

Another important object is to provide an article of the character described so constructed that its formation from the blank into folded or final form as well as from the folded and collapsed state into the final set-up form may be quickly and easily accomplished even by the relatively unskilled.

A further object is to provide a construction wherein advantage is taken of the compression and tensile strengths of the material of which the article is made, at the same time avoiding construction wherein any material load will place any substantial unsupported or unreinforced area under bending or torsional stresses.

Many other objects as well as the several advantages and uses of the invention will become apparent and be understood after reading the following description and claims, and viewing the drawings, in which:

Fig. 1 is a perspective view of a tabouret or pedestal type seat or stool embodying a preferred form of the invention;

Fig. 2 is a sectional view, taken along the line 2—2 of Fig. 1, looking in the direction of the arrows;

Fig. 3 illustrates the appearance of the seat of Fig. 1, after the same has been collapsed or, as it would appear in form for shipping or carrying after being constructed from the blank of Fig. 4; and

Fig. 4 illustrates a cut and scored blank ready to be folded and stapled or otherwise secured in the form shown in Fig. 3, from which further folding and manipulation may provide the article of Fig. 1.

The portable seat preferably is constructed from a fairly heavy fiberboard sheet and, when cut and scored in the blank state, has the appearance shown in Fig. 4, to which reference will be made first. The blank may be considered as divided

into two portions, namely, a pedestal or base portion and a top or seat portion. The pedestal portion comprises side panels 6, 8, 10 and 12, corner panels 7, 9, 11 and 13, and a securing strip or lap panel 14, having about one-half the width of panel 6, adapted to lap preferably inside of the side panel 6 to which it is to be secured in the finished product. These several panels and the lapstrip are defined by scoring the blank along parallel lines 15 running in a direction substantially perpendicular to the bottom edge B upon which the seat or tabouret is to be stood.

The seat portion is divided into two substantially equal, similar and complementary sections: S and S' separated from one another by a cut, or kerf K. Each of sections S and S' comprises a flap 16, a seat panel 17, a reinforcing and hinge panel 18 and a pair of reinforcing flaps or tabs 19, the flaps, seat and hinge panels and the tabs being connected to but differentiated from one another along score or fold lines 21, 22 and 23, as will be understood. Seat section S is integrally connected with pedestal side panel 8 through its hinge panel 18 between which and panel 8 is a horizontal score or fold line 24 adapted to serve as a hinge for this seat section. Similarly, seat section S' is integrally joined with pedestal panel 12 along the score or fold line 24', the number, dimensions and arrangement of the pedestal panels being such that the panels 8 and 12 will be disposed substantially opposite to one another when the pedestal is folded into tube shape as shown in Fig. 1.

Since the pedestal is octagonal in the illustrated embodiment, the panels 6 and 10 will be substantially oppositely disposed and at right angles to panels 8 and 12 when the pedestal portion is expanded. Consequently, panels 6 and 10 will extend perpendicular to the outer free edges of the flaps 16 and, as the flaps 16 and the panels 6 and 10 are intended to be interlocked with one another, the top edge T of each of panels 6 and 10 is slotted as at 25 to a depth preferably equal to one-half of the perpendicular distance between a score line 21 and the outer free edge of a flap 16. Each slot 25 may be located midway of its panel edge and is of a width substantially equal to twice of the thickness of the material of which the blank is composed. It may also be desirable to flare the mouth of each slot as shown to admit of easy insertion of the edges of flaps 16 which are received therein as will become apparent as the description proceeds. Each of the flaps 16 is provided with a pair of slots 26 comparable in shape and dimensions to the slots 25, but the dis-

tance between the pair of slots 26 in each flap should be substantially equal to the distance between the inside faces of the panels 6 and 10 when the pedestal is in its final tubular form.

In folding the blank into the shape in which it may leave the factory, it may be found preferable first to form the pedestal portion into tubular shape, as shown in Fig. 3 by folding along the score lines 15 indicated at L and L' with the flap or securing strip 14 lapped on the inside of panel 6, and securing that portion in such shape as by staples 27 or by any other suitable fastening means. Thereafter the two seat sections S and S' may be folded outwardly away from one another on hinge scores 24 and 24', respectively, then the two reinforcing tabs of each seat section may be folded over and against the bottom surfaces of the seat panels 17 along score lines 23, and thereafter each seat section is folded back toward the other along score lines 22 until the panels 17, tabs 19 and hinge panels 18 are parallel to and substantially against one another in which relative positions and condition they may be secured by staples 28 or other suitable fastening means. The seat or tabouret is then ready to be shipped or stored and appears as shown in Fig. 3.

When the stool, seat or tabouret is to be set up for use, it is only necessary to expand the pedestal portion to octagonal tubular shape, bend or fold the flaps 16 down on score lines 21 to right angular positions with respect to panels 17, and swing the panels toward one another and down against the top edges T of panels 6, 7, 8, 9, 10, 11, 12 and 13 and securing strip 14, the two flaps 16 abutting one another and with the bottoms of their slots 26 abutting against the bottoms of slots 25. Thus the parts are securely locked together against accidental displacement and any loading upon the top of the panels 17 tends to hold them down and the flaps 16 firmly interlocked with the panels 6 and 10; the interlocking of flaps 16 and panels 6 and 10 also preventing the pedestal from collapsing from its tubular shape. The area of the seating portion is somewhat greater than the area bounded by the walls (panels) of the pedestal portion so that the major part of the loading is at all times and under all conditions transferred to the upper edges of the pedestal portions directly or through the flaps 16 and received by the pedestal panels in compression which the material is well adapted to withstand. It is an easy matter to collapse the device whenever desired, and the lightness and simplicity of the structure make it easy to transport or store.

A preferred embodiment has been disclosed for illustrative purposes only and should not be considered as circumscribing the invention which is susceptible of other embodiments as well as modification and variation within the scope of the appended claims.

I claim:

1. A collapsible stool composed of fibrous sheet material and comprising a plurality of substantially vertically extending supporting panels interconnected by integrally formed and substantially vertically extending hinges, said supporting panels being disposable in tube-forming relationship and collapsible therefrom to flat form, two of said supporting panels being substantially oppositely disposed when the supporting panels are in tube-forming relationship, a pair of complementary seat-forming panels of which one is hinged by one of a pair of opposite edges to an

upper portion of one of said two oppositely disposed supporting panels and the other is similarly hinged to the other of said two supporting panels, the other of the said pair of opposite edges of one seat-forming panel being substantially in abutment against the corresponding edge of the other seat-forming panel, and means carried by the substantially abutting edges of said seat-forming panels for interlocking engagement with upper portions of certain of said supporting panels when the latter are in tube-forming relationship.

2. A collapsible stool composed of fibrous sheet material and comprising a plurality of substantially vertically extending supporting panels interconnected by integrally formed and substantially vertically extending hinges, said supporting panels being disposable in tube-forming relationship and collapsible therefrom to flat form, two of said supporting panels being substantially oppositely disposed when the supporting panels are in tube-forming relationship, a pair of complementary seat-forming panels of which one is hingedly connected by one of a pair of opposite edges to an upper portion of one of said two oppositely disposed supporting panels and the other is similarly hinged to the other of said two supporting panels, the other of the said pair of opposite edges of one seat-forming panel being substantially in abutment against the corresponding edge of the other seat-forming panel, and means carried by the substantially abutting edges of said seat-forming panels for interlocking engagement with upper portions of said supporting panels when the latter are in tube-forming relationship, the hinge connection between each seat-forming panel and its connected supporting panel including a reinforcing panel attached by one edge to the supporting panel and by a substantially opposite edge to its seat-forming panel a substantial distance outwardly of the outer side of its supporting panel.

3. A cut and scored blank of fibrous sheet material for the manufacture of a device of the character described comprising, a generally rectangular pedestal-forming portion and an integrally connected seat-forming portion, said pedestal-forming portion including a plurality of panels defined by substantially parallel score lines whereby the pedestal portion may be folded into tube shape, the number and widths of the pedestal panels being such as to provide one pair of substantially oppositely disposed panels when the pedestal portion is in tube shape, said seat-forming portion comprising a pair of seat panels, one of which has integral connection at one edge along a score line at right angles to said pedestal portion score lines with one end of one of said pair of substantially opposite pedestal panels, the other of said pair of seat panels being similarly connected with the corresponding end of the other of said pair of pedestal panels, each of said integral connections including an intermediate reinforcing panel, and a securing strip attached to another edge of each seat panel along a score line substantially parallel to the hinge line of such panel having a plurality of slots therein adapted to engage the upper portions of certain of said pedestal panels when the latter are in tube shape, said seat panels being complementary to one another and adapted to fold to positions substantially at right angles to and at rest upon the pedestal panels at the upper edges of the latter.

4. A collapsible stool according to claim 1 in-

cluding a reinforcing panel hingedly joined by parallel score lines to each of said seat-forming panels and to its corresponding supporting panel, each of said reinforcing panels being secured against the lower surface of its associated seat-forming panel.

5. A collapsible stool according to claim 1 including a reinforcing panel hingedly joined by

parallel score lines to each of said seat-forming panels and to its corresponding supporting panel, and a pair of additional reinforcing panels hingedly joined to edge portions of each of said seat-forming panels, each of said reinforcing panels being secured by staples or the like to the lower surface of its associated seat-forming panel.

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