

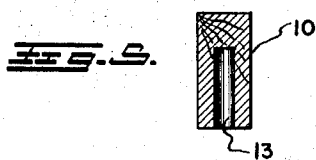
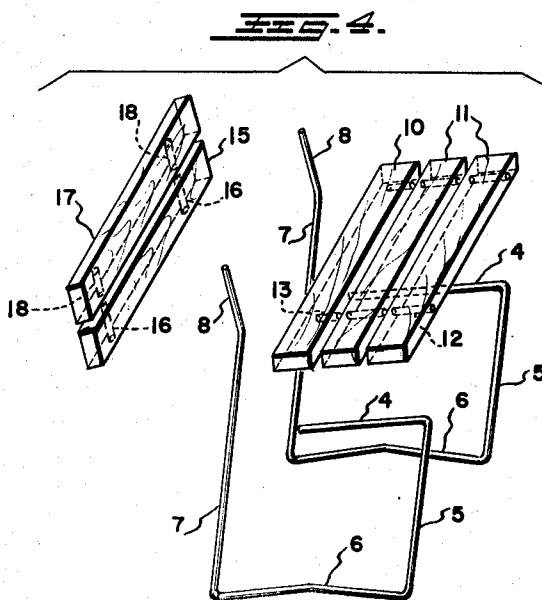
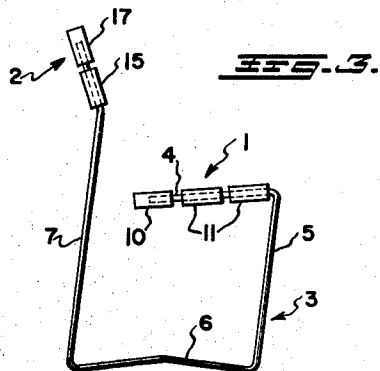
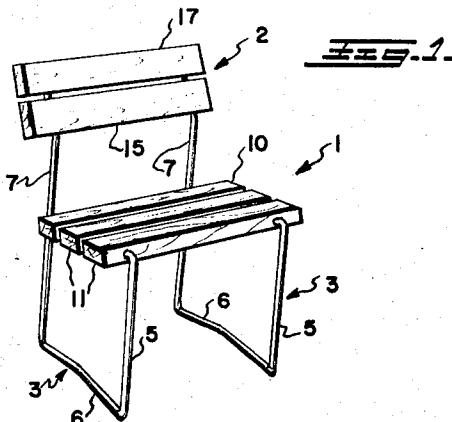
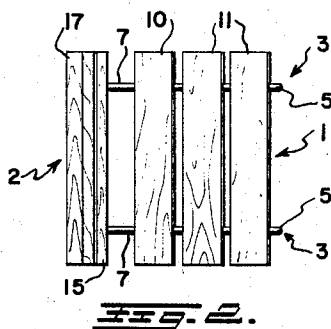
Oct. 11, 1960

W. BRIGGS
ARTICLES OF FURNITURE

2,955,646

Filed Dec. 5, 1956

2 Sheets-Sheet 1



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Oct. 11, 1960

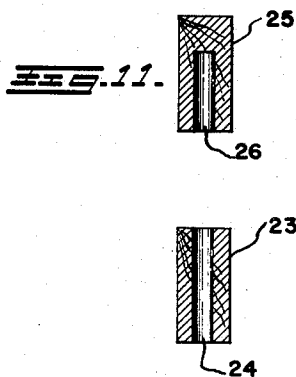
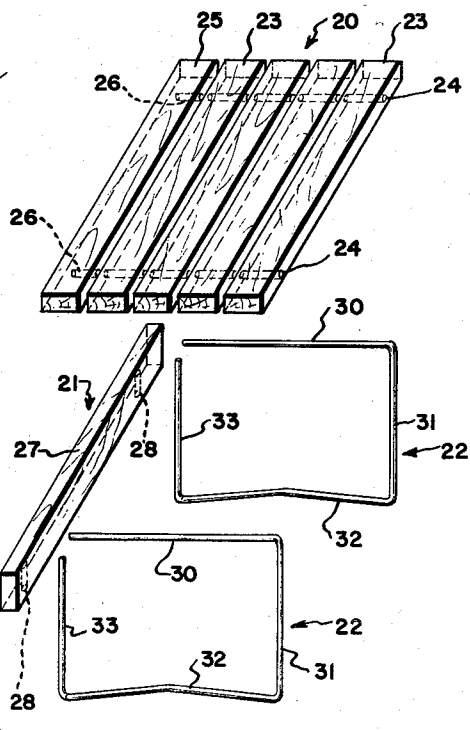
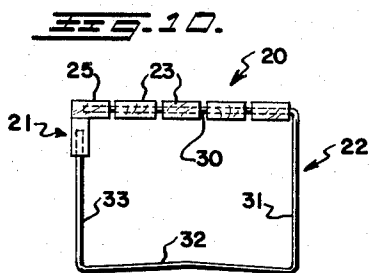
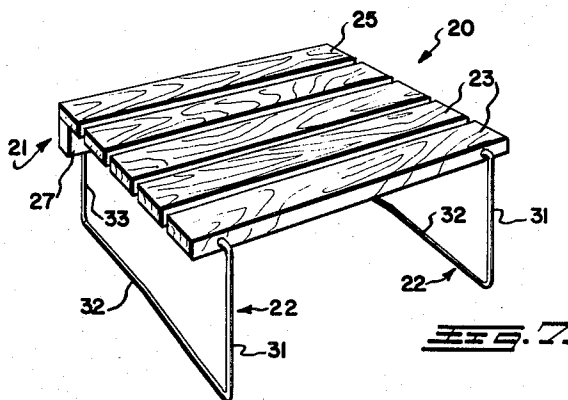
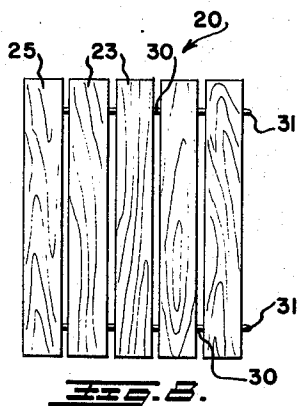
W. BRIGGS

2,955,646

ARTICLES OF FURNITURE

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2 Sheets-Sheet 2



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ARTICLES OF FURNITURE

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6 Claims. (Cl. 155—191)

The present invention relates to articles of furniture, and more particularly to such structures as chairs, benches, tables and the like, which include a substantially horizontal member such as a table top or a chair seat, and a substantially vertical supporting leg structure.

A primary object of the invention is to provide an exceedingly simple structural relationship of a minimum number of parts connected in an unusually secure assembly presenting a novel and striking appearance.

Other objects are concerned with providing attractive styling, effected with a minimum of material, manufacturing operations, and parts, capable of being shipped in knockdown form and being assembled by an operation requiring no tools, no skill or experience, and no fastening means or material.

The foregoing and other objects are achieved by disposing the horizontal member of the table, chair or the like in cantilever fashion on one end portion of each of a pair or more of lengths of strong rod stock, each of which lengths is continued through several bends to form leg and foot elements for supporting the horizontal member, in combination with means connecting the several leg or foot elements to hold them against relative movement and thus prevent collapse of the support.

The principles of the invention will be explained in connection with certain preferred forms of embodiment which have been tested in actual use and found to be entirely satisfactory and hence are at present preferred and have therefore been selected for illustration in the accompanying drawings in which

Figure 1 is a perspective view of a chair or bench embodying the principles of the invention;

Fig. 2 is a top plan view of the chair or bench of Fig. 1;

Fig. 3 is a side elevational view;

Fig. 4 is an exploded perspective view;

Fig. 5 is a transverse sectional view of the upper bar of the chair back (or of the rearmost bar of the chair seat);

Fig. 6 is a transverse sectional view of the lower bar of the chair back (or of one of the other bars of the chair seat);

Fig. 7 is a perspective view of a table embodying the principles of the invention;

Fig. 8 is a top plan view of the table of Fig. 7;

Fig. 9 is an exploded perspective view of the table;

Fig. 10 is an end elevational view;

Fig. 11 is a transverse sectional view of the endmost or terminal bar of the table top (or of the vertical member of the table); and

Fig. 12 is a transverse sectional view of one of the other bars of the table top.

Referring first to the chair structure shown in Fig. 1, this embodiment of the invention comprises a chair seat member 1, a chair back member 2, and a plurality of supporting leg structures 3, 3, here shown as two in number. The seat member 1 is disposed in a generally or substantially horizontal plane, although of course it may very

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appropriately be made to slope downwardly and rearwardly at a greater or less angle, as suggested in Fig. 3, and the seat back member 2 is disposed in a generally vertical plane, although of course it may very appropriately be positioned to slope somewhat upwardly and to the rear, as suggested in Fig. 3. For convenience in defining these and analogous portions in the broader of the appended claims, however, they have been designated respectively horizontal and vertical members.

Each of the two members comprises one or more slabs or bars of any suitable shape and material, including preferably the plurality of elements of the shape shown in the drawings. Each of these illustrative elements is a bar or board of generally oblong shape in plan, made of a single length of wood of suitable furniture quality. However, it is deemed to be obvious that many other materials could well be substituted, such as metal, plastic, compressed fiber and the like.

The leg structures 3, 3 are preferably made of metallic rod or tube stock, hereinafter generically designated rods, but here also the specific material forms no part of the present invention and can be varied as long as the material selected has the requisite factors of strength, resilience, general durability, etc.

To constitute the leg structures for the chair or bench of Figs. 1, 2 and 3, each of the two or more lengths of rod stock is bent to the shape best shown in Fig. 4. This comprises an upper substantially horizontal portion 4, a front leg portion 5 continuous with the forward end of the portion 4, with the leg portion in turn bent rearwardly to provide a foot portion 6 and thence upwardly into substantial parallelism with the front leg portion 5 to provide a rear leg portion 7, which terminates at the other end of the rod in a substantially vertical end portion 8.

The seat or substantially horizontal member 1 in the preferred embodiment illustrated in the drawings is made up of a plurality of bars, including one terminal or rear end bar 10 and one or more additional bars 11, all fastened in some manner to the horizontal portions 4 of the leg structures. According to the preferred manner of effecting this connection the bars 10 and 11 are identical, except that the bars 11 have holes 12, one for each leg structure, drilled entirely through them, whereas the bar 10 has holes 13, of similar bore, drilled only partially through it. In the case of each bar used in a chair having two leg structures the holes are two in number and are directed laterally through the bar as shown in Fig. 4 and are spaced apart along the bar and inwardly from its ends, as shown in the figure.

In the illustrated embodiment the back or substantially vertical member 2 of the chair comprises a pair of bars which are respectively similar to or identical with the bars 10 and 11 of the seat member. Thus, in the illustrated chair which is provided with two leg structures the lower of the two back member bars 15 has a pair of holes 16 extending completely through it in a transverse direction, spaced apart along the length of the bar and spaced inwardly from the ends of the bar, and the upper terminal bar 17 of the back member has a pair of holes 18 extending only partially through it, drilled in a lateral direction and spaced apart along the length of the bar and spaced inwardly from the ends of the bar, as shown in Fig. 4.

The parts thus shaped are assembled by fitting the seat member 1 on to the portions 4 of the two leg structures 3. If, as is preferred, a plurality of bars are used for the seat member, it is convenient to space them apart substantially equally, as shown in the figures, and this makes it desirable to have the bars fit the holes in reasonably tight friction, so as to maintain the spacing. The terminal bar 10 is driven in place until the end of each rod portion 4 fits in the end of one of the holes 13.

It will be evident that the structure thus far assembled is subject to easy collapsing, resulting from relative rotation of the rod portions 4 and the bars 10 and 11.

Such collapse is prevented by mounting the vertical member or chair back 2 on the terminal rod portions 8 in the relationship shown in Figs. 1 and 3. This mounting is accomplished by inserting the portions 8 through the holes 16 in the bar 15 in a reasonably tight friction fit, and then fitting the upper bar 17 in place with the ends of the rod portions 8 seated in the ends of the holes 18.

It will be evident that the connection of the two end portions 8, 8 of the leg structures by the bars 15 and 17 keeps these end portions fixed relatively to each other and prevents rotation of the other end portions 4 in the holes 12 and 13 of the bars 11 and 10. Thus the seat member 1 is securely mounted in cantilever fashion on the front legs 5 when the feet 6 are set on the ground or floor, and collapse of the structure is prevented. It will be evident also that within the broad principles of the invention connection of the leg structures to the seat and back members may be effected otherwise than by insertion through or into holes in the bars. The insertion type of connection is preferred because of its simplicity, strength and general attractiveness.

Depending on the resilience of the metal or other material forming the leg structures 3, the seat member and back member will have desirable yield and spring.

Figs. 7-12 show application of the principles of the invention to form a table.

The table in the form shown in these figures comprises a horizontal member 20, a vertical member 21, and a pair of leg structures 22, 22. The horizontal member 20, comprising the table top, consists of a plurality of bars 23, which are similar to or identical with the bars 11 of the seat member 1, each having a pair of spaced holes 24 extending entirely through it in a lateral direction, and the member includes also a single terminal bar 25 which is similar to or identical with the terminal bar 10 of the seat member 1, having a pair of holes 26 drilled only partially through the bar, in a lateral direction, spaced apart along the length of the bar and spaced inwardly from each end.

The vertical member 21 of the table is a bar 27 that may be identical with the bar 25, having a pair of holes 28 extending only partially through it.

Each of the preferred two leg structures 22 is made of bent rod stock of the kind previously specified for the leg structures 3 of the chair embodiment of the invention. The table leg structures are bent to provide an upper end portion 30 which in use is disposed in a horizontal plane and is fitted through the holes 24 of the bars 23 and into the hole 26 of the bar 25. The end portion 30 extends outwardly from the front edge of the table top 20 and is bent downwardly to provide a front leg portion 31, then rearwardly to form a foot 32, and then upwardly to provide a rear leg portion 33, the end of which is seated in the holes 28 of the bar 27 comprising the vertical member 21 of the table.

Broadly speaking, it is immaterial whether the rear leg portion 33 be long enough to dispose the bar 27 close to or in contact with the horizontal member 20, as shown in the drawings, or be short enough to dispose the bar 27 very slightly above the ground or floor. In either case the bar 27 functions to hold the rear leg portions 33 of the two leg structures equally spaced and thereby prevent rotation of the portions 30 relative to the bars 23 and 25 and hence prevent collapse of the table. Substantial engagement of the bars 25 and 27 as shown in the drawings enhances the rigidity of the structure and improves the support provided for the table top, whereas spacing of the bar 27 below the bar 25 would give the table top a more resilient or yielding support.

It will be evident that, with the holes in the bars prop-

erly sized with relation to the rod stock, the bars and rods can be assembled from knockdown packaged relationship into an assembly with good drive or friction fit of the rods in the holes, with no requirement of any tools and no necessity for the exercise of any skill.

It is deemed to be evident also that the invention may be embodied in other and further modified forms within the principles as defined by the broader of the appended claims, so that all such embodiments are to be deemed within the spirit of the invention and hence within the scope of the claims. In this connection it may be noted that, while the illustrated embodiments of the invention are styled in the general manner now popular for lawn and porch use, the specific appearance of the articles forms no part of the mechanical invention concept, since, with proper selection of different materials and/or the use of additional elements and parts (such as cushions, covers, upholstery and the like) requiring no exercise of the inventive faculties, the invention can readily be embodied in forms well adapted for interior use.

Moreover, while one advantage of the invention in its preferred forms is the solid and stable set-up that results from the driven friction fit of the rods in the holes, it may be desirable to provide for quick and easy disassembly of some embodiments, such as heavy outdoors tables, benches and the like, for knockdown, off-season storage. In such cases the fit of the rods in the holes may be made with greater clearance, resulting in a slip-fit relationship to be tightened by driving screws, such as ordinary countersunk wood screws, or threaded elements in the nature of setscrews, into the wood or other material of the bars, from the bottom or rear, for engagement up against the rods. Such assemblies are adequately rigid and stable and are more readily knocked down and set up than the otherwise preferred tight friction fit embodiments of the invention. These forms of construction are suggested as typical of such modifications and developments as will occur to those skilled in the art, and hence they are to be regarded as within the spirit of the invention and the scope and purview of the broader of the appended claims.

I claim:

1. An article of furniture comprising separate rigid cross members, one disposed in a substantially horizontal plane and containing a pair of laterally spaced horizontal bores open at the front of the member and extending substantially to the rear thereof and the other member being disposed in a substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the member and disposed respectively in the same vertical planes as the bores in the horizontal plane member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the horizontal plane member and terminating therein at substantially the inner end of the bore and having its other free end portion extending vertically and penetrating one of the bores in the vertical plane member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the horizontal plane member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at their lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a rear leg; and all portions of said rear leg below said vertical plane member being spaced from said horizontal plane member.

2. An article of furniture comprising separate rigid cross members, one disposed in a substantially horizontal plane and including a plurality of parallel transverse rigid bar elements each containing a pair of laterally spaced horizontal perforations providing bores open at the front of the member and extending substantially to the rear thereof and the other member comprising at least one rigid bar element extending transversely and disposed in a

substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the member and disposed respectively in the same vertical planes as the bores in the horizontal plane member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the horizontal plane member and terminating within the rearmost bar element thereof and having its other free end portion extending vertically and penetrating one of the bores in the vertical plane member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the horizontal plane member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at their lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a rear leg, and all portions of said rear leg below said vertical plane member being spaced from said horizontal plane member.

3. A chair comprising a rigid seat member disposed in a substantially horizontal plane and containing a pair of laterally spaced horizontal bores open at the front of the seat member and extending substantially to the rear thereof and a rigid back member disposed in a substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the back member and disposed respectively in the same vertical planes as the bores in the seat member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the seat member and terminating therein at substantially the inner end of the bore and having its other free end portion extending vertically and penetrating one of the bores in the back member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the seat member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at the lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a rear leg, and all portions of said rear leg below said back member being spaced from said seat member.

4. A chair comprising a rigid seat member disposed in a substantially horizontal plane and including a plurality of transverse rigid bar elements each containing a pair of laterally spaced horizontal perforations providing bores open at the front of the seat member and extending substantially to the rear thereof and a rigid back member comprising at least one rigid bar element extending transversely and disposed in a substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the back member and disposed respectively in the same vertical planes as the bores in the seat member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the seat member and terminating within the rearmost bar element thereof and having its other free end portion extending vertically and penetrating one of the bores in the back member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the seat member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at their lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a

rear leg, and all portions of said rear leg below said back member being spaced from said seat member.

5. A table comprising a substantially horizontal rigid member containing a pair of laterally spaced horizontal bores open at the front of the member and extending substantially to the rear thereof and another rigid member disposed in a substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the member and disposed respectively in the same vertical planes as the bores in the horizontal plane member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the horizontal plane member and terminating therein at substantially the inner end of the bore and having its other free end portion extending vertically and penetrating one of the bores in the vertical plane member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the horizontal plane member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at their lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a rear leg, the rear portion of the horizontal plane member being superposed on and supported by the upper surface of the vertical plane member, and all portions of said rear leg below said vertical plane member being spaced from said horizontal plane member.

6. A table comprising a substantially horizontal cross member including a plurality of parallel transverse rigid bar elements each containing a pair of laterally spaced horizontal perforations providing bores open at the front of the member and extending substantially to the rear thereof and the other member comprising at least one rigid bar element extending transversely and disposed in a substantially vertical plane and containing a pair of laterally spaced vertical bores open at the bottom of the member and disposed respectively in the same vertical planes as the bores in the horizontal member, in combination with a pair of separate horizontally spaced supporting leg structures each comprising a single bent rod having one free end portion extending horizontally and penetrating one of the bores in the horizontal member and terminating within the rearmost bar element thereof and having its other free end portion extending vertically and penetrating one of the bores in the vertical member and terminating therein to prevent rotation of the horizontally extending end portion in the bore in the horizontal member, the portions of each rod adjacent said member-penetrating portions being vertical and serving as legs and being connected at their lower ends by an intervening portion serving as a foot, said legs comprising a front leg and a rear leg, the rearmost element of the horizontal member being superposed on and supported by the upper surface of the vertical member, and all portions of said rear leg below said vertical plane member being spaced from said horizontal plane member.

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