(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 045 151**
A2

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **81303198.6**

(22) Date of filing: **13.07.81**

(51) Int. Cl.³: **A 47 C 7/00**

(30) Priority: **11.07.80 GB 8022778**

(43) Date of publication of application: **03.02.82 Bulletin 82/5**

(84) Designated Contracting States: **BE DE FR GB IT NL**

(71) Applicant: **WETHERELLS CONTRACTS LIMITED, The Crescent, Selby North Yorkshire, YO8 0PD (GB)**

(72) Inventor: **Wetherell, Paul Russell Lucas, 9 The Crescent, Selby North Yorkshire (GB)**

(74) Representative: **Harrison, Michael Robert, URQUHART-DYKES & LORD 11th Floor Tower House Merrion Way, Leeds LS2 8PB (GB)**

(54) **Support bases for furniture.**

(57) A support base for a chair, table or other free standing article of furniture comprises a single plastics moulding 1 with a central hub portion 3 and a plurality of leg members 5 extending substantially radially from the hub portion 3. In the central region of the hub portion 3 is a circular hole 7 into which a column supporting, for example, a chair seat, may be located. The structure is light in weight and easy to manufacture.

EP 0 045 151 A2

0045151

TITLE MODIFIED
see front page

SUPPORT BASES

The present invention relates to support bases, for instance, for chairs, tables, display stands or other free standing articles of furniture.

There are many instances, for example, for aesthetic, functional or manufacturing reasons, where it is desirable that instead of having a plurality of individual supporting legs a free-standing article of furniture, such as a chair or table, has a single supporting column at the bottom of which is a support base. This support base may be of various forms. For instance it may comprise a central portion to hold the supporting column. Disposed radially around the central portion may be a plurality of leg members which are intended to distribute the weight of the central supporting column and its associated article of furniture and so to balance and hold the article of furniture in a stable position. Such a support base has been made out of aluminium.

It is an object of the present invention to provide a support base which is lighter in weight and cheaper and easier to manufacture than known support bases whilst retaining the stability and

strength of known support bases.

According to the present invention there is provided a support base comprising a single plastics moulding, said base having a hub portion for locating a column extending downwardly from a chair seat or other structure, and, extending substantially radially outwardly and downwardly from said hub portion, a plurality of leg members, said leg members being for engagement, at their ends remote from the hub portion, with the ground or with ground-contacting elements such as castors.

Preferably each leg member is of substantially U-shaped section. More preferably each leg member includes along its length a portion which is of substantially E-shaped section.

Preferably the hub portion comprises a hollow cylindrical portion. More preferably the hub portion includes an inner hollow cylindrical portion and an outer, coaxial and concentric hollow cylindrical portion, said portions being inter-connected between adjacent upper ends thereof. Most preferably there are also inter-connecting radial ribs between the inner and outer hollow cylindrical portions.

Preferably the outer cylindrical portion inter-connects with the leg members by ribs extending substantially radially from the external surface of the outer cylindrical portion. More preferably some of the ribs should extend at least a part of the way along the length of each of the leg members.

Preferably the number of leg members is at least four. More preferably the number of leg members is five.

An embodiment of the present invention will

now be described, by way of example only, and with reference to the accompanying drawings, in which:-

Figure 1 is a top plan of a support base according to the present invention;

Figure 2 is a bottom plan of a support base of Figure 1: and

Figure 3 is a side elevation of the support base of Figure 1.

A support base 1 in accordance with the present invention is a single plastics moulding and comprises a central hub portion 3 with five leg members 5 extending substantially radially from the central hub portion 3. In the central region of hub portion 3 is a circular hole 7 into which a support column for an article of furniture such as a chair or table may be inserted.

Referring particularly to Figure 2 of the drawings it can be seen that hub portion 3 comprises an inner hollow cylindrical portion 9 and an outer hollow cylindrical portion 11. These are connected together at their respective top ends by the upper, substantially horizontal wall 12 of the support base and along their lengths by radially extending inter-connecting ribs 13. Extending radially outwardly from the outer surface of outer hollow cylindrical portions 11 are five radially extending equally spaced apart short ribs 14 which connect said outer hollow cylindrical portions 11 with portions of the plastics moulding lying between adjacent leg members 5.

Each leg member 5 includes a major central portion 15 of E-shaped section with the central rib 17 extending from hub portion 3 to a position 16 located a short distance radially inwardly

of the outer extremity of the leg. Rib 17 inter-connects from its end at position 16 with the outer vertical walls 18 and 20 of leg member 9 by means of short ribs 22 which are inclined at an angle with respect to the longitudinal axis of leg member 5. Somewhat similar inclined short ribs 24 extend between rib 17 of each leg member 5, from a position approximately one third of a distance along the rib from the outer surface of hollow cylindrical portion 11, to that portion of the moulding inter-connecting leg member 5 in question and an adjacent leg member.

Each rib 17 can be considered to extend from position 16 near the outer extremity of leg member 5 to outer cylindrical portion 11 and to continue from portion 11 through to inner hollow cylindrical portion 9 by means of an appropriate one of the inter-connecting ribs 13. Indeed, although each inter-connecting rib 13 extends vertically downwardly to the bottom 26 of cylindrical portions 9 and 11, and said cylindrical portions 9 and 11 project downwardly beyond the adjacent portions of the base as best seen in Figure 3, each rib 17 is shaped, adjacent outer hollow cylindrical portion 11 so as to curve downwardly to a position close to said bottom 26 of portions 9 and 11. These downwardly curved portions are shown at 28 in Figure 3.

At the extreme end of each leg member 5 is a circular portion 19 in the middle of which is hole 21. Circular portion 19 projects below the bottom edge of the adjacent portion of leg member 5 and can either contact the floor directly of can have attached thereto a floor contacting element such as a castor.

The material used may be any suitable plastics material and construction may be by any suitable method. For instance, the plastics material may be a glass fibre reinforced polypropylene resin containing approximately 30% glass-fibre.

The use of such a plastics material and/or the construction of the base, including the ribbing system described above, allows stresses applied to the central supporting column, which in use is located in the central hole 7 of the base, to be transmitted across the base and absorbed therein. As a result the structure as a whole can withstand large loads, whether constant or intermittant and sudden. In the case where the base supports a chair, this distribution of stresses applied from the chair seat down the central colum into the chair base and disbursed therein gives the chair a particularly comfortable "feel".

Stresses applied to the central supporting column which, in use, is located in central hole 7 in the base, are transmitted from the column to inner hollow cylindrical portion 9 of hub portion 3, through radial inter-connecting ribs 13 to outer hollow cylindrical portion 11. Such stresses are therefore distributed circumferentially as well as radially around the cylindrical portions 9 and 11 and then transmitted substantially uniformally along leg members 5 along all the wall portions thereof including central rib 17.

CLAIMS:-

1. A support base for free standing articles of furniture, characterised in that the base comprises a single plastics moulding with a hub portion for locating an upwardly extending column supporting a chair seat or other structure, and, extending substantially radially outwardly from said hub portion, a plurality of leg members, said leg members being for engagement with the ground or with ground contacting elements such as castors.

2. A support base according to claim 1, characterised in that each leg member is of substantially U-shaped section.

3. A support base according to claim 2, characterised in that each leg member includes a portion along its length containing a central longitudinal strust, giving the portion a substantially E-shaped section.

4. A support base according to any of the preceding claims, characterised in that the hub portion comprises a substantially hollow cylindrical portion.

5. A support base according to claim 4, characterised in that the hub portion includes an inner hollow cylindrical portion and an outer, coaxial and concentric hollow cylindrical portion, said portions being interconnected at adjacent upper ends thereof by a web of plastics material.

6. A support base according to claim 5, characterised in that the inner and outer hollow cylindrical portions are interconnected by a plurality of radially extending ribs.

7. A support base according to any of the preceding claims, characterised in that the outer hub portion is connected to each of the leg members by

a rib extending substantially radially from the hub portion.

8. A support base according to claim 7, characterised in that the radial ribs also extend along at least a part of the length of the leg members, on, or parallel to, the longitudinal axis of the leg member.

9. A support base according to any of the preceding claims, characterised in that the number of leg members is at least four.

10. A support base according to claim 9, characterised in that the number of leg members is five.

11. A support base according to any preceding claim characterised in that the leg members extend downwardly from the hub portion.

12. A support base according to any preceding claim characterised in that the leg members contact the ground at their ends remote from the hub portion.

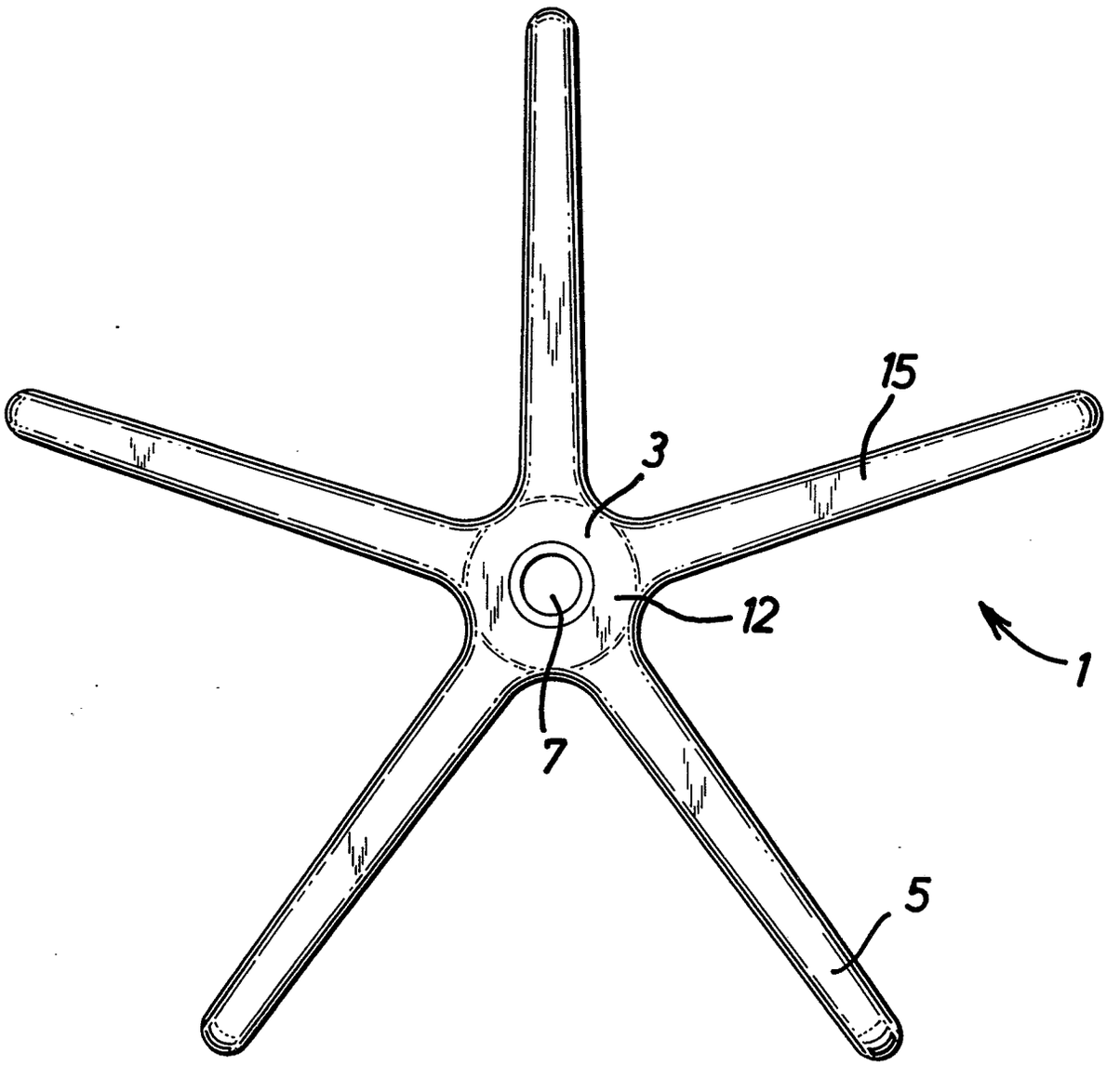

FIG.1

0045151

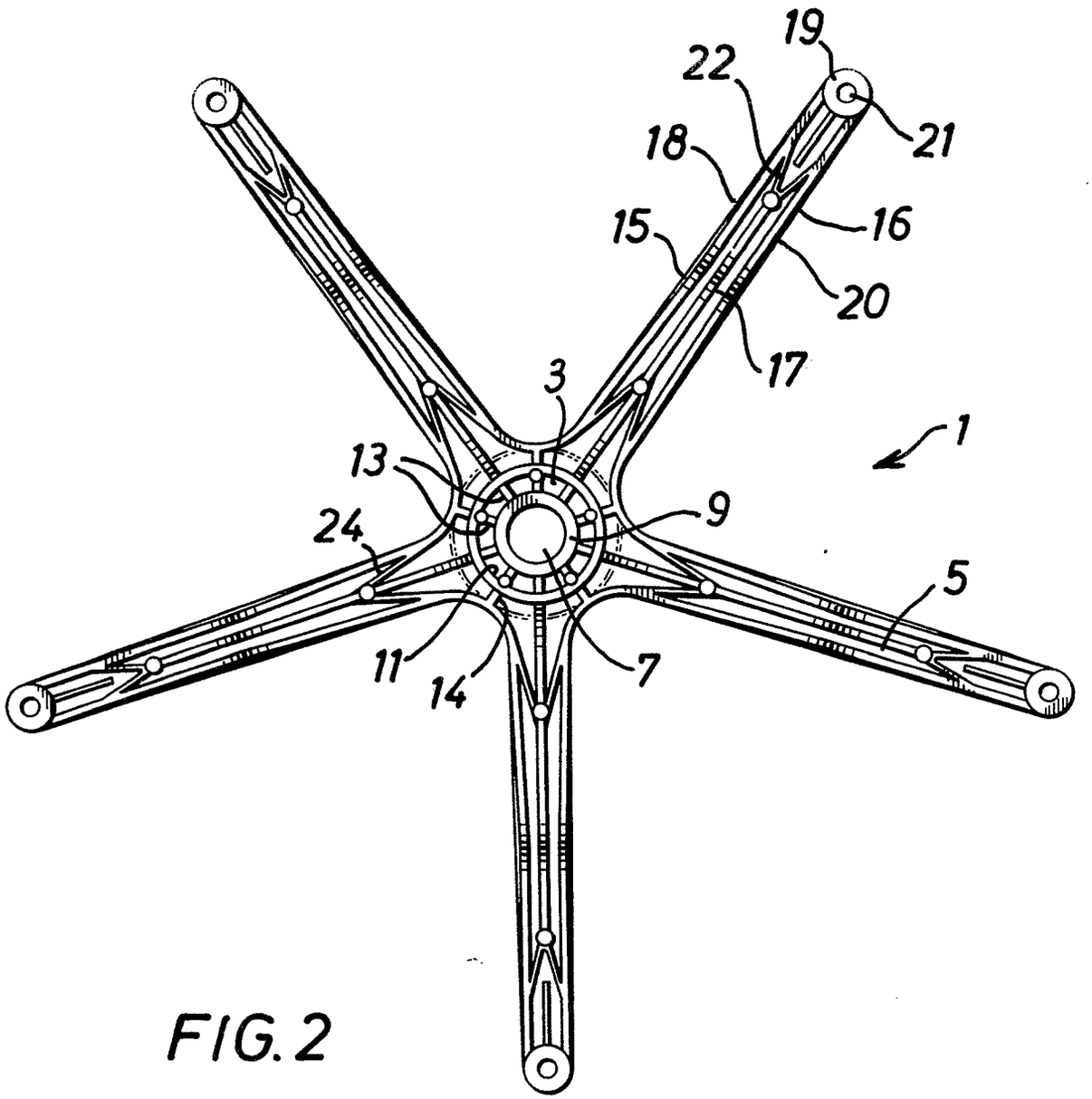

FIG. 2

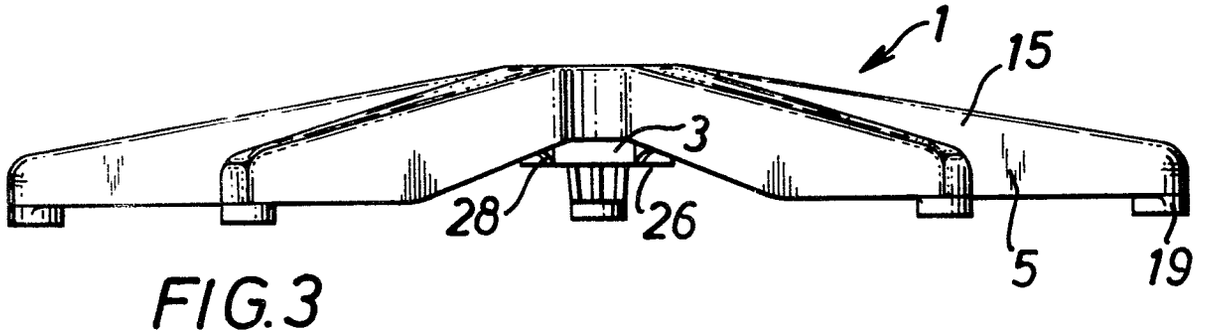

FIG. 3