PATENT SPECIFICATION (11) 1 561 038

1 561 038

(21) Application No. 35301/76 (22) Filed 25 Aug. 1976 (19)
(31) Convention Application No. 7 526 682 (32) Filed 29 Aug. 1975 in
(33) France (FR)
(44) Complete Specification published 13 Feb. 1980
(51) INT. CL.³ A47D 13/00 B62B 7/10
(52) Index at acceptance
A4J 11C 11E2
A4U 27
A5X 20
B7B 391 406 TF1

(54) FRAMEWORK FOR AN ITEM OF CHILDREN'S FURNITURE OR ACCESSORY OR THE LIKE

(71) We, EUROLANDO S.A., a French Body Corporate of Attiches (Nord), France, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a collapsible framework, particularly but not exclusively for forming, in erected condition, the framework of an item of children's furniture or accessory.

Accordingg to the present invention there is provided a framework which is particularly but not exclusively usable as a framework for an article of children's furniture, and which can be erected from a collapsed condition into a three dimensional form for the support of supple sheet material to define for example a child's cot, said framework comprising a plurality of rigid longitudinal members which lie substantially parallel in a bundle in the collapsed condition, and, at each end of the longitudinal member bundle, a plurality of rigid strut rods which in the collapsed condition also lies in a bundle extending substantially parallel to the longitudinal members, the ends of the strut rods at one end of the strut rod bundle being pivotally connected to a common connection member, and the ends of the strut rods at the other end of the strut rod bundle respectively being pivotally connected to the adjacent ends of the longitudinal members, whereby in the erected framework, the common connection members and strut rods define respective end frames in each of which the strut rods lie substantially in a common plane and the end frames are connected by the longitudinal members.

The invention is particularly applicable to the manufacture of children's furniture and accessories, for example carry-cots, bodies of baby carriages, foldable cots, play pens or child's seats.

The invention will be more readily understood with reference to the accompanying drawings, in which:

Fig. 1 is a schematic view of an embodiment of a framework according to the invention suitable for use in a baby carriage body and hood arrangement;

Fig. 2 shows a schematic view of the arrangement of Fig. 1, but showing an alternative position of the framework;

Fig. 3 shows a child's play pen comprising another embodiment of a framework according to the invention.

Fig. 4 shows the bare framework of the play pen according to Fig. 3;

Fig. 5 shows the framework of Fig. 4 in partially folded position;

Fig. 6 shows the frame of Fig. 4 almost completely collapsed;

Fig. 7 shows in detailed perspective view a sphere constituting a connector for the articulated connection of a longitudinal member end to a cross-piece end;

Figs. 8, 9 and 10 respectively show detailed perspective views of one of the connection members in three different positions; and

Fig. 11 shows a child's foldable bed comprising a further embodiment of a framework according to the invention.

Referring now to the drawings, the framework comprises four rigid horizontal members, two upper (3 and 4) and two lower ones (5 and 6). This frame is associated with walls made of supple sheet material to form the body of a baby carriage, (Fig. 1 and 2), a child's play pen (Fig. 3) or a child's bed (Fig. 11).

In accordance with the invention, these four parallel longitudinal members may be moved together and brought into a bundle, thus reducing the volume occupied by the framework, the body 6 being formed of an envelope of supple material (fabric, plasticised fabric, synthetic material or the like).

According to an essential feature of the

invention, the longitudinal members may be brought into a bundle, due to the folding of the rigid rods 7, 8, 9 and 10 and 7^1, 8^1 9^1, and 10^1 which form cross-pieces. In the unfolded or framework erected position, these cross-pieces act as spacer members for the longitudinal members 3, 4, 5 and 6. The unfolded position is shown clearly in Fig. 4.

The cross-pieces 7, 8, 9 and 10 are themselves connected to a central connection member 16 on which each is pivoted at its end opposite the end pivoted on the respective longitudinal member.

The cross-pieces 7, 8, 9 and 10 may be displaced between the unfolded position as shown in Fig. 4 (in which the cross-pieces 7, 8, 9 and 10 radiate from the member 16 and with such member form on such frame of which the cross-pieces 7, 8, 9 and 10 lie substantially in the same plane), and a folded position as shown in Fig. 6 (in which the cross-pieces 7, 8, 9 and 10 lies in a bundle which is parallel to the bundle of members 3, 4, 5 and 6, the member 16 being inwardly displaced). Fig. 5 shows an intermediate folding position. The cross-pieces 7^1, 8^1, 9^1 and 10^1 and connection member 16 are identical with, function the same as, and are arranged symmetrically relative to cross-pieces 7, 8, 9 and 10 and member 16.

Figs. 1 and 2 shows a first embodiment in which the framework according to the invention is used to constitute a body or cot associated with a baby carriage.

In this embodiment of Figs. 1 and 2 the upper longitudinal members 3 and 4 bear supports 31, 32, 31^1 and 32^1 which are articulated at 33 and 34 to form the hood 30, Fig. 2 showing the hood in the down position.

Fig. 3 shows an adaptation of the framework made in accordance with the invention to constitute a child's play pen.

The framework (whose elements have the same reference as in Figs. 1 and 2) is associated with protective elements forming a padding 11 which surrounds the upper longitudinal members; on the short sides, the child's play pen comprises, at the top, a supple tie 12, 12^1 and there may also be provided an identical tie 13, 13^1 at the bottom; on the upper tie 12, 12^1 is mounted the padding 11 which thus follows the periphery of the upper edge of the pen.

The movement of folding of the framework may be seen with reference to Figs. 4, 5 and 6, wherein Fig. 4 shows the framework erected Fig. 5 shows it partially folded (or extended) and Fig. 6 shows the framework in the almost collapsed condition. In Fig. 6, the cross-piece on the one hand and the longitudinal members on the other hand are folded into substantially parallel positions in order to form bundles (in the Figure, the elements remain slightly apart from one another, and the completely folded position is not shown in order to clarify the Figure).

The join between each of the longitudinal member ends and the end of the respective cross-piece is conveniently defined by an intermediate connector which is here constituted by a substantially spherical ball 15. A notch 17 is provided in ball 17 is divided substantially at its centre by a separating member 18, thus defining two individual notches 19 and 20 for accommodating the respective ends of the longitudinal members 5 and of the cross-piece 10^1.

The cross-piece and longitudinal member are here constituted by metal tubes and a spherical connector as described is provided at each end of each longitudinal member.

The outer surface of each round ball member is enveloping and substantially without edges, thus contributing to the pleasant appearance of the item and ensuring perfect safety by avoiding any sharp edges that may injure the child's fingers.

Figs. 8, 9 and 10 show an embodiment of a connecting member for pivotally supporting inner ends of the cross-pieces the connecting member comprises a cruciform plate or body on which is rotatably mounted a cap 21. Cap 21 is rotatable on a centre pivot 22 and as shown has a flange in which are formed bayonet slots 23, 23^1. The slots 23, 23^1 are arranged so that the cross-pieces 7, 8, 9 and 10 engage in the entry portions of the slots when the framework is erected as shown in Fig. 9. By rotating the cap 21, from the Fig. 9 position as indicated by the arrow in Fig. 10 the slots 23, 23^1 are fully engaged by the cross-pieces 7, 8, preventing the cross pieces 7, 8, 9 and 10 from pivoting relative to member 16.

The slots 23, 23^1 accommodate the cross-piece in their locked position as may be seen in Fig. 10. The cap 21 may be rotated by means of handle 24 acting on the pivot 22. The cross-pieces are imprisoned in their locked position by tongues 25, 25^1, in the manner of a bayonet-type locking system.

The cap 21 could optionally be limited to a four-armed cross, each of the arms being able to be rotated, by means of the handle 24, into locked position, i.e. behind each of the cross-pieces, thus opposing the angular displacement of the cross-piece; the rotation of the cap and of each of the arms enable these latter to be placed in lateral or non-blocking position with respect to the cross-pieces, thus allowing their rotation and folding towards the position shown in Fig. 8.

Fig. 11 shows another application of the invention, in which the framework, provided with a suitable outer envelope, comprises a child's bed or carry-cot. In this case, the lower cross-pieces are extended by articulated, foldable feet members 26, 27 and 28,

which may possibly be provided with rollers 29 to facilitate movement.

WHAT WE CLAIM IS:—

1. A framework which is particularly but not exclusively usable as a framework for an article of children's furniture, and which can be erected from a collapsed condition into a three dimensional form for the support of supple sheet material to define for example a child's cot, said framework comprising a plurality of rigid longitudinal members which lie substantially parallel in a bundle in the collapsed condition, and, at each end of the longitudinal member bundle, a plurality of rigid strut rods which in the collapsed condition also lie in a bundle extending substantially parallel to the longitudinal members, the ends of the strut rods at one end of the strut rod bundle being pivotally connected to a common connection member, and the ends of the strut rods at the other end of the strut rod bundle respectively being pivotally connected to the adjacent ends of the longitudinal members, whereby in the erected framework, the common connection members and strut rods define respective end frames in each of which the strut rods lie substantially in a common plane, and the end frames are connected by the longitudinal members.

2. A framework according to claim 1, wherein there are four longitudinal members, and four strut rods connected to each connection member, and in the erected condition, the connection points between the longitudinal members and the strut rods of each end frame, lies on the corners of a square.

3. A framework according to claim 1 or 2, wherein, in the erected condition, the strut rods are lockable relative to the common connection members to which they are attached to prevent relative pivoting between the common connection members and strut rods and inadvertent collapse of the framework.

4. A framework according to claim 3, wherein, in the erected condition of the framework, each of the common members has a cap which is rotatable in order to effect engagement of the connected strut rods in bayonet fitting slots of the cap to effect the said locking of the strut rods to the common connection members.

5. A framework according to any preceding claim wherein, each longitudinal member end is connected to a strut rod end by means of a connector of spherical form to which said ends are pivotally connected and in notches of which said ends are received.

6. A framework according to any preceding claim, wherein, to define an item of children's furniture, the framework is covered in supple sheet material which folds and unfolds as the framework is moved between said two positions.

7. A framework substantially as hereinbefore described with reference to Figs. 4 to 10 of the accompanying drawings, or provided with supple sheet material to define an item of children's furniture substantially as illustrated in Figs. 1 and 2 or Fig. 3 or Fig. 11 of the accompanying drawings.

BAILEY WALSH & CO.,
Chartered Patent Agents,
9 Park Place, Leeds, LS1 2SD.
Agents for the Applicants.

Printed for Her Majesty's Stationery Office by Burgess & Son (Abingdon), Ltd.—1980.
Published at The Patent Office, 25 Southampton Buildings, London, WC2A 1AY
from which copies may be obtained.

1561038 COMPLETE SPECIFICATION
5 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 1

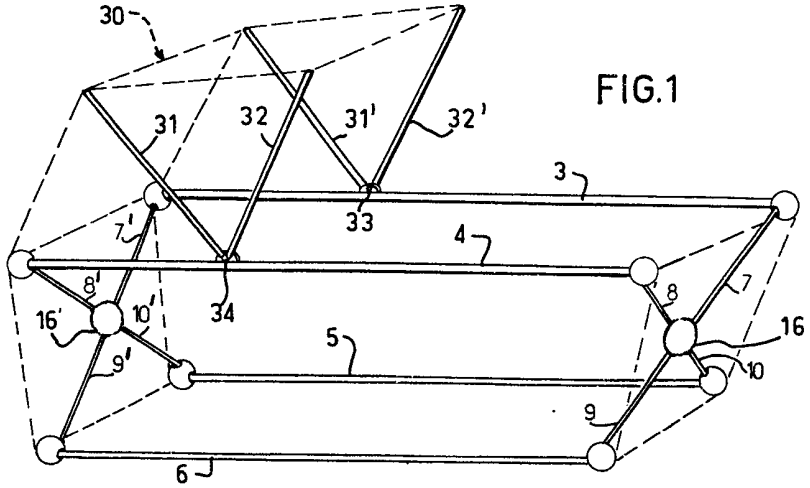


FIG.1

FIG.2

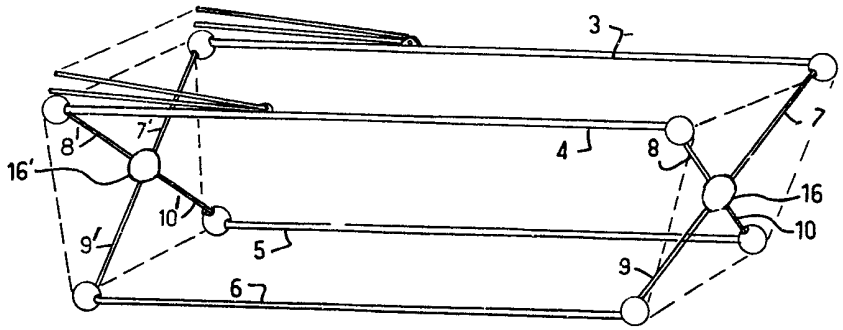


Fig:3

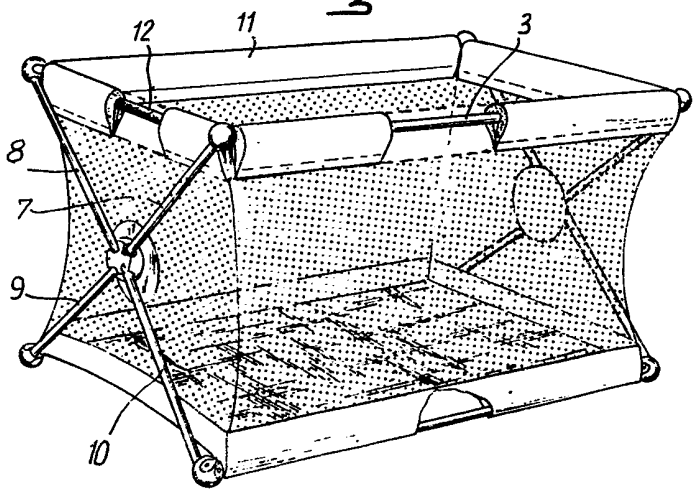


Fig:4

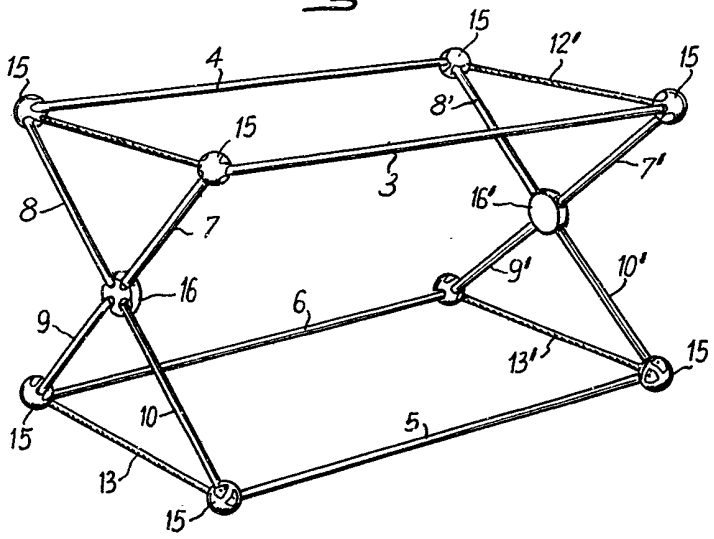


Fig. 5

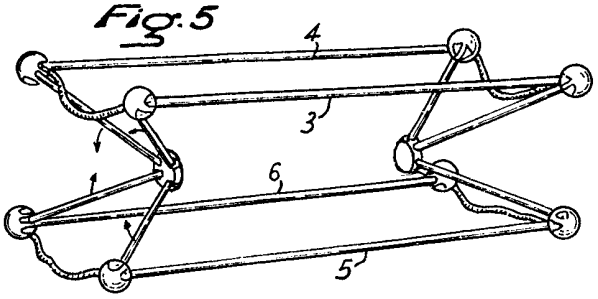


Fig. 6

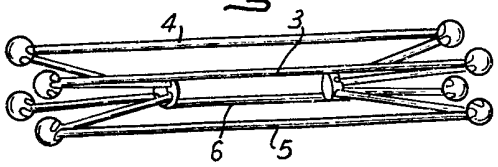
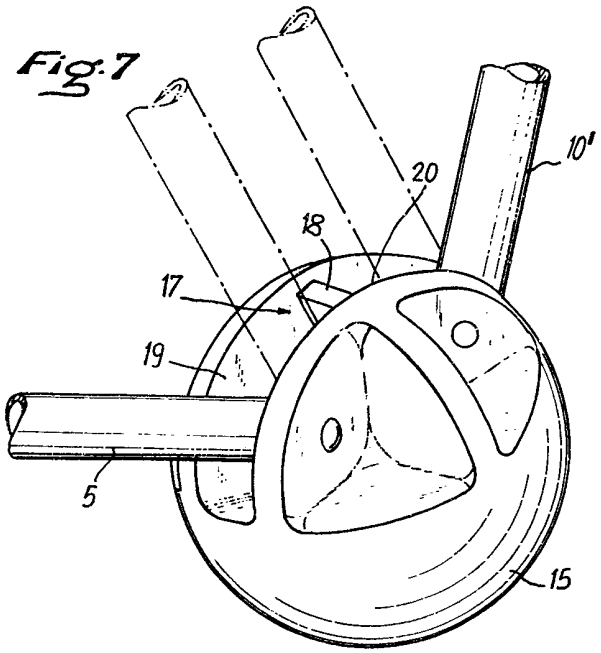


Fig. 7



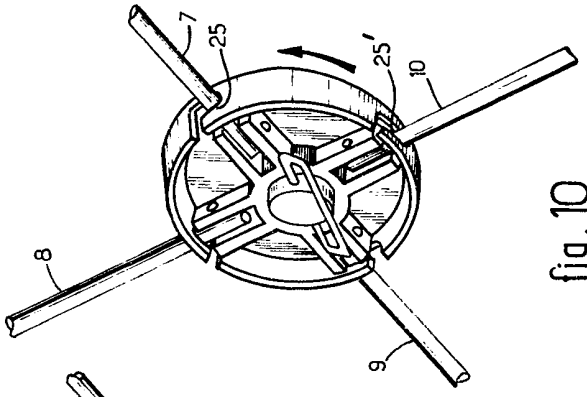


fig. 10

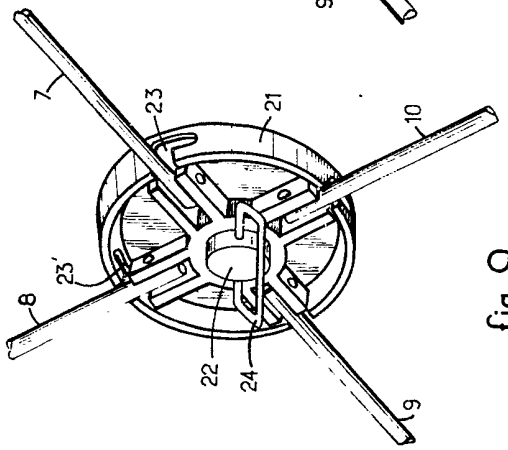


fig. 9

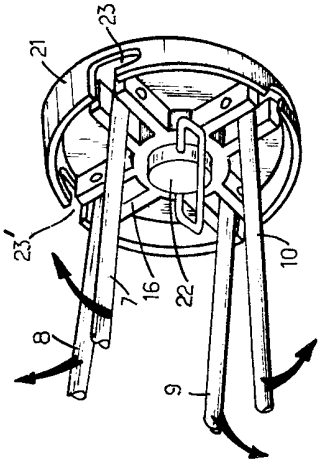


fig. 8

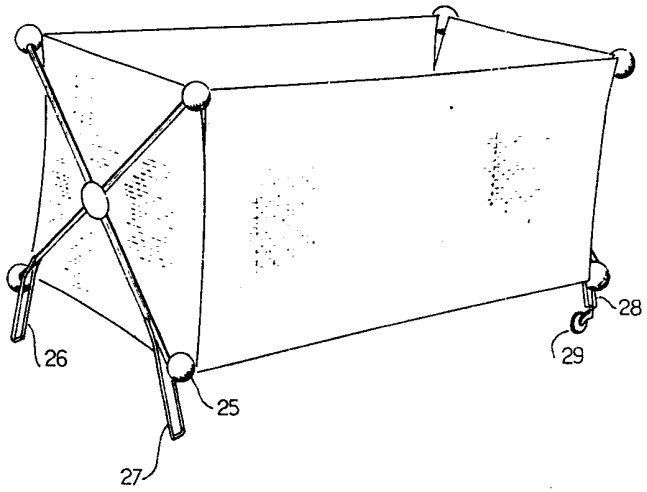


fig:11