March 20, 1956 K. L. BILLGREN 2,738,521

FOLDING BEDSTEAD FOR CHILDREN, ESPECIALLY INFANTS

Filed April 8, 1952 2 Sheets-Sheet 1

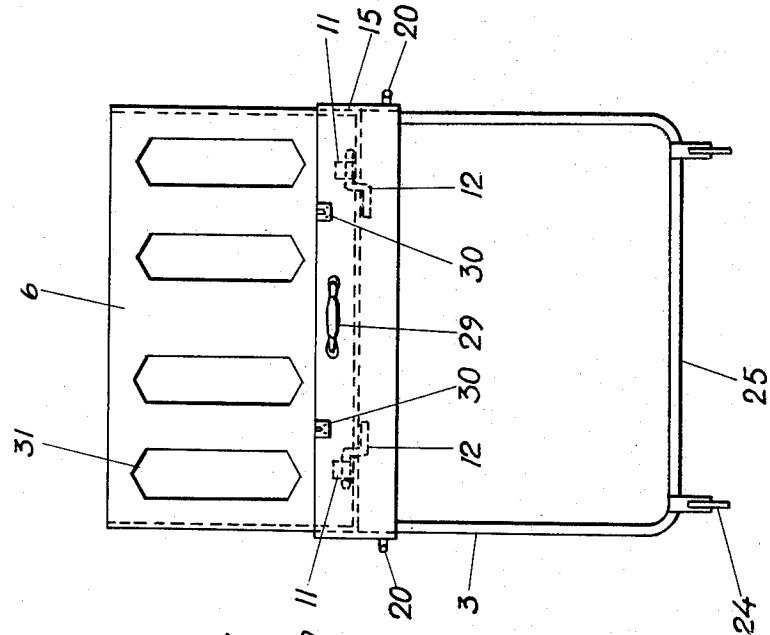


Fig. 2

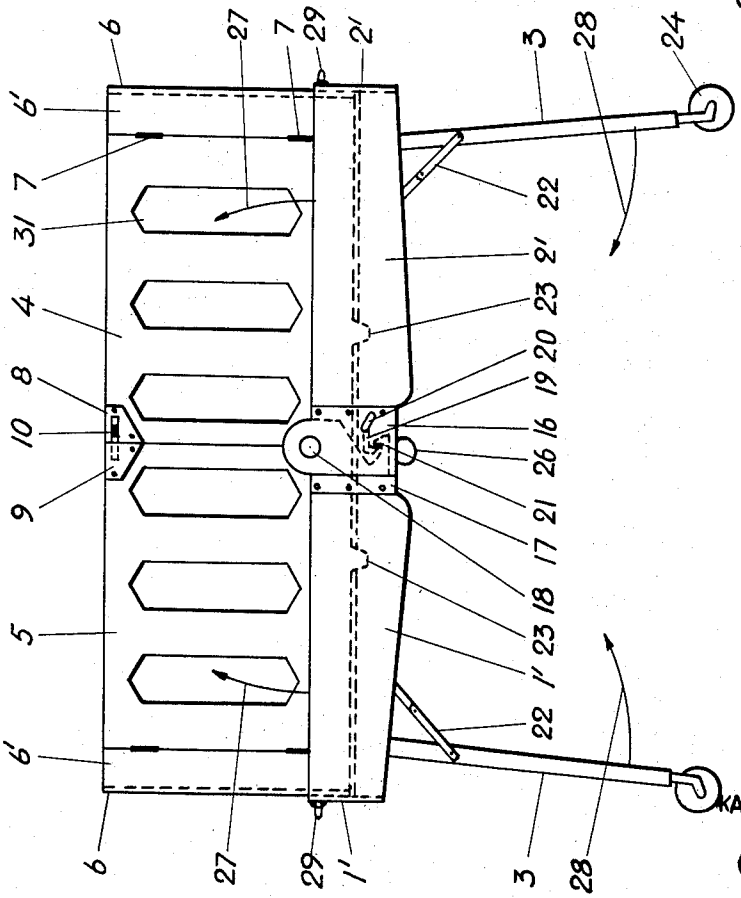


Fig. 1

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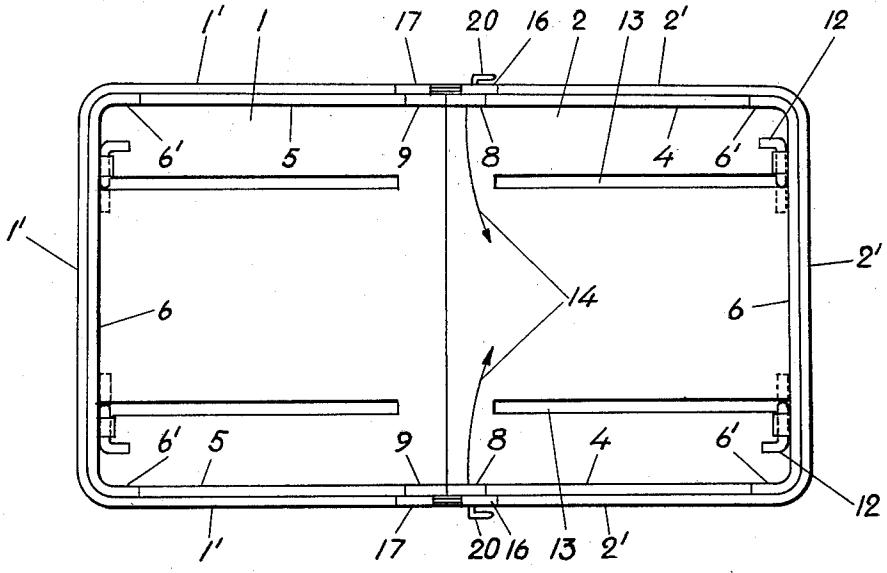


Fig. 3

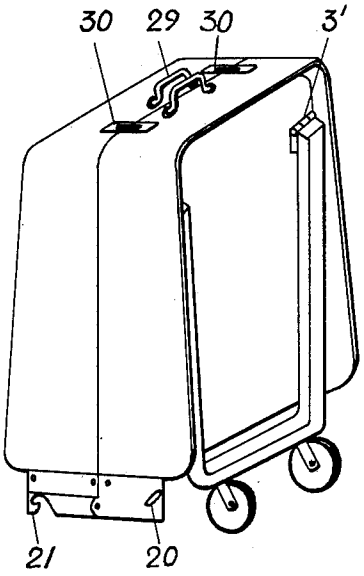


Fig. 4

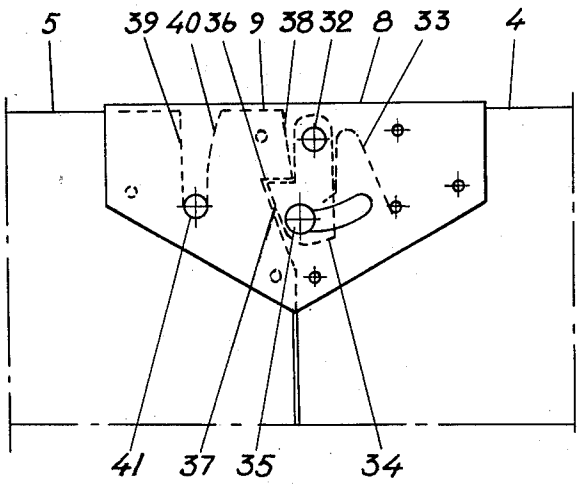


Fig. 5

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FOLDING BEDSTEAD FOR CHILDREN, ESPECIALLY INFANTS

Karl Lennart Billgren, Sundbyberg, Sweden

Application April 8, 1952, Serial No. 281,198

Claims priority, application Sweden April 24, 1951

11 Claims. (Cl. 5—99)

The present invention relates to a folding bedstead for children, especially infants up to 12–16 months old. This bedstead is provided with a rectangular bottom, which is foldable along a transverse axis, preferably its middle axis, and with tiltable legs arranged at or near the bottom corners, and furthermore with side walls and end walls arranged along the long and the short sides respectively of the bedstead. Each of the side walls consists of two side wall parts joined or joinable by means of coupling elements. Each of the side wall parts is, by means of hinges, foldably connected to one end wall. The substantially characterizing feature of the bedstead, according to this invention, consists in the end walls of the bedstead with respect to the longitudinal direction of the bedstead which are displaceably connected to the bedstead bottom and foldable towards it in such a manner that their outer sides will be turned towards the top side of the bottom of the bedstead.

The invention is described below, reference being made to the accompanying drawings which shows an embodiment chosen by way of example.

Figure 1 shows a side view of the open bedstead;

Figure 2 shows an end view of the open bedstead;

Figure 3 is a plan view of the open bedstead;

Figure 4 is a perspective view of the folded bedstead; and

Figure 5 shows an embodiment of the coupling elements.

The bedstead consists, in its main parts, of a rectangular bottom in two parts 1 and 2, which are foldably connected to each other. Part 1 has attached to three of its edges upstanding flanges or frames 1' and part 2 has attached to three of its edges upstanding frames 2'. The edges of each of the parts 1 and 2 not provided with upstanding frames are abutting and foldably connected as noted above. The bedstead also consists of legs 3 which are foldable and arranged at or near the bottom corners of the bottom parts and, finally, of two side walls, each of which consist of two parts 4 and 5 and of two end walls 6. The side wall parts are, by means of hinges 7, foldably connected to the end walls which are bent at the corners and extend around to the sides of the bedstead as indicated at 6'.

The side wall parts 4 and 5 are provided with fittings 8 and 9 forming coupling elements by means of which the two parts are connected to each other when in their set-up position. These coupling elements consist, in their simplest form, of a movable bolt 10 arranged in one fitting 8, which bolt when in its operative position enters a corresponding notch in the other fitting 9 and is, by a friction braking arrangement of some kind, for instance a spring, maintained in this position. The two side wall parts can, by means of the hinges 7, be folded back upon the end walls. These latter are at their bottom provided with fittings 11, and each of these embraces a hook 12. The hooks are placed in oblong grooves, slits or the like 13 in the bottom parts and thus connect the end walls

to the bedstead bottom in such a manner that the end walls 6 and the hooks 12 are movable in relation to the bedstead in a longitudinal direction. The fittings 11 are, furthermore, arranged as hinges, so that the end walls can be folded down against the bedstead bottom. To permit the folding down of the end walls the joint between the side wall parts 4 and the side wall parts 5 must, however, be broken and the parts be turned inwards in the direction of the arrows 14 in Figure 3 so that the ends of the parts 4 are clear of the ends of the parts 5. Furthermore, the end walls must be displaced in the longitudinal direction of the bedstead towards the center so that the frames 1' and 2' belonging to the bottom parts 1 and 2, respectively, do not prevent the end walls from being folded down.

The bedstead bottom parts 1 and 2 and their frames 1' and 2', respectively, form, in the put-up position of the bedstead, an upwardly open case. The fittings 16 and 17 are connected to the frames 2' and 1', respectively, and form hinges foldable around pivots 18 along the transverse rotor axis of the bedstead in such a manner that the top edges of the frames of the two bottom halves may be folded in against each other. The fittings 16 and 17 are also provided with a locking device consisting of a catch 19 arranged in one of the fittings 16 and movable by means of a handle 20 or the like, the catch entering a notch 21 in the other fitting 17 and locking the hinges when the bedstead is in its put-up position.

The legs 3 are, by means of hinges 3' or the like, foldably connected to the bottom parts 1 and 2 so that they can in pairs be folded up against the underside of the bedstead bottom. Furthermore, the legs are provided with so-called flap supports 22 with a catch by means of which the legs are fixed in their set-up position. On the side wall parts there are projections or pegs 23 which enter recesses in the bedstead bottom near the frame and maintain, in conjunction with the locking or coupling elements, the side walls in their folded-out position. The legs are provided with rollers or wheels 24 which are placed on a transverse bar 25 between the legs. The joint between the two bottom parts 1 and 2 is on the underside covered by a strip 26, suitably of cloth, for instance, canvas or another supple material fixed along the edges of the bottom parts.

The bedstead can be folded without the removal of bedding contained therein. The abutting ends of the side wall parts are first disconnected from each other by moving the bolts 10. Then one of the end walls is tilted outwardly sufficiently far that the projections 23 of the side wall parts belonging to this end wall are lifted out of their recesses in the bedstead bottom. These side wall parts are then folded inwardly sufficiently far that the bottom of the end wall can be displaced toward the middle line of the bottom parts and the end wall laid flat upon its associated bottom part with the outer surface of the end wall turned downwardly toward the upper surface of the bedstead bottom. During this operation the bedding is lifted somewhat at this end so that the end wall can be moved in under it. After the end wall has been laid flat upon its associated bottom part, the side wall parts can be folded down over the top of the bedding. The other end wall with its side wall parts is then folded in the same manner. After this, the bottom is folded in the direction of the arrows 27, in Figure 1, after the catches 19 of the frame fittings 16 have been opened and the legs are folded up in the direction of the arrows 28, in Figure 1, and maintained in this folded position by means of suitable catching devices which may be placed on the inside of the frames 1' and 2'. The bedstead has then the appearance shown in Figure 4. The bed and the side walls and end walls are enclosed in and protected

by the bottom parts 1 and 2 and by the frames 1' and 2'. The bottom side of the case thus formed is covered by the strip 26 which is stretched in this position and prevents the bed from sliding out this way. Thus the folded bedstead need not be provided with any cover of cloth or a similar material to protect the bed itself.

The frames 1' and 2' are at their short sides provided with carrying handles 29, and the two bedstead halves are kept together in their folded position by means of spring catches or similar locking devices 30.

The bedstead described above is intended to be manufactured of glued layer-wood, plastics or similar sheet material. The end walls and side walls are preferably provided with openings 31 which partly reduce the weight of the bedstead and make it airier and partly may have a purely decorative effect.

As is to be seen from Figure 4, the frames 1' and 2' reach outside the bedstead bottom also on its underside and, in the space thus formed, the legs are placed when the bedstead is folded.

In the embodiment shown in Figure 5, the coupling elements consist of two fittings 8 and 9 which are riveted to the side wall parts 4 and 5, respectively, and which both consist of plates bent over the side wall parts. The plate 8 is larger than and embraces the other plate 9, thus reaching over the joint between the two side wall parts. This plate 8 encloses a ratchet 34 which is turnable about a pivot 32 and acted upon by a spring 33. The ratchet is provided with a handle 35 which can be operated from the outside. The ratchet cooperates with a notch 36 in the other fitting 9 and is kept engaged in this by the spring 33. The ratchet is further so arranged that it prevents, when in its operative position, an upward movement of the fitting 8 without this fitting being at the same time accompanied by the fitting 9. Sliding surfaces 37 and 38 on the ratchet 34 and the fitting 9, respectively, move the ratchet 34 aside when the fitting 8 with the side wall part belonging to it is moved downwards towards the position in which the side wall parts are connected to each other. The fitting 9 is also provided with a recess 39 which is open upwards and one edge of which 40 is directed obliquely upwards or curved with approximately the axis of motion of the fittings 11 as curvature center. In the fitting 8 there is a pin 41 which cooperates with the slot 39 in such a way that the side wall part 4 is prevented from being turned upwards as long as the ratchet 34 is engaged in the notch 36. In other words, the two side wall parts lock each other in this position as the pin 41 and the slot 39 prevent the moving apart of the fittings 8 and 9 in the longitudinal direction of the bedstead which is required when the side wall parts 4 and 5 move about their respective axes. This embodiment of the coupling elements gives to the side wall parts a good stability and ensures a practically automatic connecting of the side wall parts in all directions when the bedstead is being put up.

What is claimed is:

1. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means for connecting the end walls to the bedstead bottom and providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedsteam bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

2. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis in such a direction that their top sides are turned toward each other when the bedstead is folded, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means for connecting the end walls to the bedstead bottom and providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

3. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means comprising longitudinal slots in the bedstead bottom, fittings slidable therein and means hingedly connecting the end walls to the fittings for longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

4. A folding bedstead including a rectangular bottom which comprises two sections, the two bottom sections each including an upstanding frame extending around the sides and outer end thereof and means for folding the two bottom sections about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom and positioned inwardly of the upstanding frames, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means for connecting the end walls to the bedstead bottom and providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

5. A folding bedstead including a rectangular bottom which comprises two sections, the two bottom sections each including an upstanding frame extending around the sides and outer end thereof, means mounted on adjacent portions of the upstanding frames for folding the two bottom sections about a transverse axis and disengageable locking means for preventing folding of the two bottom sections about the transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom and positioned inwardly of the upstanding frames, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the

top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

6. A folding bedstead including a rectangular bottom which comprises two sections, the two bottom sections each including an upstanding frame extending around the sides and outer end thereof and having means mounted on adjacent portions of the upstanding frames for folding the two bottom sections about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom and positioned inwardly of the upstanding frames, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover, the top edges of the bedstead bottom frames being in abutting relation when the bedstead is folded and forming a closed case containing the end and side walls of the bedstead as well as bed clothes.

7. A folding bedstead including a rectangular bottom which comprises two sections, the two bottom sections each including an upstanding frame extending around the sides and outer end thereof and having means mounted on adjacent portions of the upstanding frames for folding the two bottom sections about a transverse axis, a strip of flexible material joined to each of the two sections and extending across the transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom and positioned inwardly of the upstanding frames, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover, the top edges of the bedstead bottom frames being in abutting relation when the bedstead is folded and forming a closed case containing the end and side walls of the bedstead as well as bed clothes, and having the flexible strip extending between the sides of the case not closed by the abutting frames.

8. A foldable bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, the lower edges of side wall parts and the bottom of the bedstead being provided with interengaging means to fix the side walls in a set-up position, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, and means longitudinally displaceably and foldably connecting the end walls of the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

9. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably coupling adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, the releasable coupling means each comprising a ratchet associated with one of the side wall parts and a cooperating notch associated with the adjacent side wall part, a slot associated with one of the side wall parts and a protruding element associated with the adjacent side wall part, the coupling means, when in their operative position, preventing the side wall parts from being displaced apart in the longitudinal direction of the bedstead, and means longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

10. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably coupling adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, the releasable coupling means each comprising a pair of fittings mounted on adjacent side wall parts in overlapping relationship, a ratchet and a projection mounted on the outer of the overlapping fittings and a notch for cooperating with the ratchet and a slot for cooperating with the projection provided in the inner of the overlapping fittings, the coupling means, when in their operative position, preventing the side wall parts from being displaced apart in either a longitudinal or transverse direction of the bedstead, and means longitudinally displaceably and foldably connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned downwardly toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover.

11. A folding bedstead including a rectangular bottom which comprises two sections foldable about a transverse axis, side walls, end walls, the side walls and end walls being arranged along the long and short sides respectively of the rectangular bottom, each of the side walls comprising two parts, means for releasably connecting adjacent side wall parts together, means foldably connecting each of the side wall parts to its adjacent end wall, means connecting the end walls to the bedstead bottom providing for displacement of the end walls longitudinally inwardly along the bedstead bottom and foldably downwardly upon the bedstead bottom with their outer surfaces turned toward the top side of the bedstead bottom, the end walls when folded downwardly having their adjacent side walls foldable inwardly thereover, and two pairs of legs, rollers attached to the lower ends of each of the pairs of legs, each of the pairs of legs being hinged to the bedstead bottom, foldable against the underside of the bedstead bottom on an axis extending transversely of the bedstead and provided with means for locking the legs in a set-up position, said rollers each extending beyond the bedstead bottom when the bedstead is in a folded condition and the legs are folded against the underside of the bedstead bottom.

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