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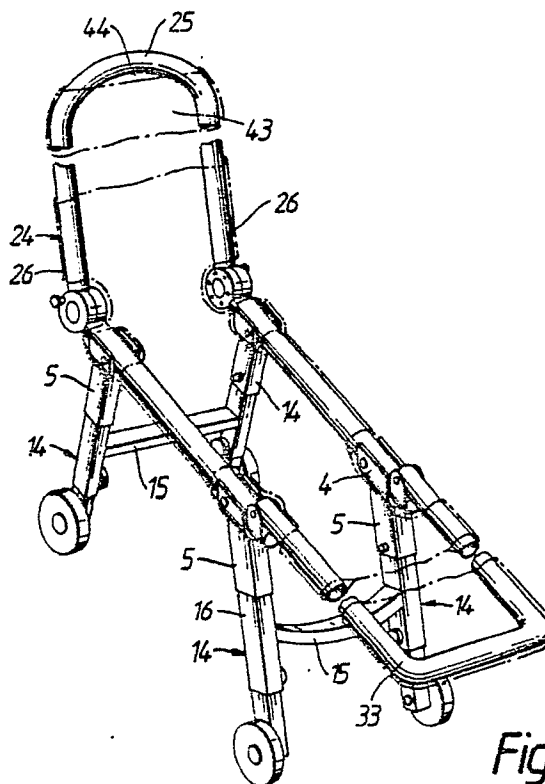
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**Multipurpose furniture/equipment.**

Multipurpose furniture/equipment, wherein a seat frame (1) is provided with stub legs (5) pivotable between stowed or user positions and adapted interchangeably to receive differing constructions of leg assemblies (14,15) and attachments (9) therefore, the arrangement being such as to enable establishment of differing user functions for the furniture/equipment. The leg assemblies are selectively lengthwise adjustable thereby to enable selective adjustment of user height of the seat frame. In addition wheel assemblies (34) are adapted for connection to the stub legs or leg arrangements whereby the furniture/equipment can be wheeled from place to place.



*Fig.7.*

**EP 0 341 909 A1**

## MULTIPURPOSE FURNITURE/EQUIPMENT

This invention relates to interchangeable use multipurpose equipment/furniture.

In particular, but not exclusively the present invention is concerned with the provision of a system of furniture or equipment forming components involving a seat frame which can be selectively altered/modified to provide an alternative function for example, as a low or high seat unit, as a bed or so-called lounge unit, or as a trolley unit etc.

It is intended that a particular usage for the system is in relation to sporting activities that call for a sports person to be at rest or otherwise constrained to a particular location for considerable periods of time.

Such sporting activities can include, for example, match fishing, specialist sports fishing, bird watching, animal studying and the like.

In commenting upon a particular activity it is convenient to consider briefly, specialist sports fishing activities during the course of which the fisherman sets out to catch a particular type of fish and/or perhaps fish exceeding a particular weight, size or combination thereof. For example, bream, catfish, roach, pike, and/or carp. The fishing of particular species of fish involves a very wide range of fishing techniques whereby the specialist fisherman becomes involved with a very wide range and quantity of actual fishing equipment and also fishing activity support equipment.

Whilst, as is very well known, the techniques involved in the specialist fishing of species such as above mentioned differ considerably from fish species to species there is, however, a factor common to all of them namely the need for the fisherman to spend a great deal of time constrained to a particular location. Consequently, there is a prime need for some form of fisherman furniture to assist in his ongoing comfort and well being. For instance, a seat upon which the fisherman may sit. In addition, as is also well known, it is a common practice for at least the more highly enthusiastic fisherman to remain fishing for long periods not only during the daytime but also into and even through the night, and at least for this reason it is a common practice for such fishermen to include amongst their fishing equipment some form of a portable bed or lounge unit.

In addition, to the articles above mentioned the fisherman usually requires not only an extensive range of actual fishing equipment, such as a variety of rods, and an associated selection of line reels but also a very large number of the many items considered important as aids for successful fishing. These aids include items such as keep-nets, keep-sacks, rod supports, bait containers, hooks etc.

Furthermore, there remains the various requirements for the personal comfort of the fisherman, such as equipment for making hot beverages and food together with possibly various articles specifically intended for protecting the fisherman against the environment such as wind shields, umbrellas.

From the forgoing it is very clearly apparent that the specialist sports fisherman has considerable logistical problems in transporting such equipment not only to and from the place of fishing but also from fishing swim to fishing swim.

It will also be appreciated that whilst a fisherman is located at the place of fishing his equipment will be disposed around him at locations convenient to the various operations involved in connection with his particular fishing techniques and in relation to the local terrain.

As is very well known a fisherman frequently finds it necessary to change or vary the particular place or swim at which he is fishing in order to enhance his chances of catching success. As will be clear from the above in view of the plethora of equipment the problems involved in moving from a fishing location to location are considerable and in consequence time consuming, bearing in mind the routes, paths or the like involved in such position change are rarely easy to negotiate and that the amount of equipment to be physically handled.

It is an object of the present invention to provide a system of interchangeable function furniture which seeks to at least reduce problems and disadvantages such as above mentioned.

Broadly, according to a first aspect of the invention there is provided a multipurpose furniture/equipment, wherein a seat frame is provided with stub legs adapted interchangeably to receive differing constructions of leg assemblies and attachments therefore, the arrangement being such as to enable establishment of differing user functions for the furniture/equipment.

Conveniently said seat frame is provided with stub legs which are each pivotable between a stowed or folded position and an erected or use position, and wherein the free end region of each stub leg is adapted to receive extension leg arrangements,

Preferably, each leg arrangement is selectively lengthwise adjustable thereby to enable selective adjustment of user height of the seat frame.

Conveniently, the leg arrangements are connected together in such manner to provide assemblies each including two leg arrangements whereby after their mounting to associated stub legs the leg arrangements are mechanically braced.

In a preferred construction there is provided a unit of furniture incorporating a basic seat frame provides a section adapted interchangeably to receive differing constructions of leg assemblies and attachments therefor which enables establishment of differing functions for the unit of furniture.

According to a further aspect of the invention the seat frame is adapted to mount a back rest which is foldable between open and closed positions, and also to provide a pulling handle arrangement for a trolley produced by providing wheels on on selected ones of the leg assemblies.

For a better understanding of the invention and to show how to carry the same into effect reference will now be made to the accompanying drawings in which:-

Figure 1 is a very schematic illustration of a first embodiment of a seat rest unit of a system of readily convertible multi-purpose unit of furniture/equipment of the invention;

Figure 2 is a schematic view of a detail of a leg assembly;

Figure 3 is a very schematic representation of a first embodiment of a leg frame unit incorporating leg assemblies of the invention;

Figure 4 schematically illustrates a first embodiment of a chair incorporating the concepts of the invention;

Figure 5 schematically illustrates a second embodiment of a chair convertible into a bed or lounge and incorporating the concepts of the invention;

Figure 6 schematically illustrates a first embodiment of a chair converted to provide a trolley and incorporating the concepts of the invention;

Figure 7 schematically illustrates a second embodiment of a chair converted to provide a trolley and incorporating the concepts of the invention; and

Figure 8 schematically illustrates to an enlarged scale of a wheel assembly for use with the chair of the present invention.

Referring now to the drawings it is convenient to note that for convenience of explanation it is proposed to consider the formation of the system of the invention by progressively introducing constructional features that can be involved in the system.

Thus referring now to Figure 1 this Figure very schematically shows a seat rest frame unit 1 comprising two side rails 2 positioned in side-by-side spaced apart relationship. Each side rail can be formed from solid or tubular metal bar or rod. A leg assembly support element 3 is provided at each end of each side rail 2. Each element includes a mounting portion 4 by which it is connected to the associated side rail and a relatively short stub leg 5

which provides a mounting element for readily releasably receiving either externally or internally leg extension forming assemblies (not shown in Figure 1) or wheel assemblies.

The mounting portion 4 is pivotally mounted by pivot means 6 to its associated side rail 2 such that it is pivotable between a folded or stowed setting in which the stub leg 5 lies effectively against and lengthwise of the associated side rail and an extended operational setting as shown in the Figure 1. When in this latter setting the stub legs 5 are so inclined with respect to their associated mounting portions 4 that the associated leg assemblies will incline outwardly in line with the direction of the associated side rails 2 when in the extended setting to enhance the operational stability of this frame unit.

As is indicated in the Figure 1 the side rails are conveniently bridged by a seat rest 7 comprising a woven material such as a natural or man-made fibre fabrics such as a canvas, Nylon or from other suitable material such as a plastics sheet fabric. If desired, the seat rest 7 can comprise a solid shaped seat pan (not shown) and adapted releasably to connect with the side rails. Bridging bars 8 serve to hold the side rails 2 in a predetermined spaced apart relationship relative to each other. These bridging bars can be foldable so as to facilitate the packaging of the seat frame.

As so far described it will be noted that the proposals of the invention provide for various seat rest formations for a readily foldable low level seat rest or stool.

In the case of the Figure 2 this illustrates a foot rest 9 for spreading the pressure exerted by a leg 5 on the ground over a larger area. These foot rests 9 can be particularly used in an embodiment with the rigid seat pan 7 or one using the bracing bars 8.

The foot units 9 include a stem 10 engageable with the stub legs 5 and a load spreader plate 11. The addition of the foot units 9 facilitates the use of the stool with the short stub legs. The foot units are held in place by spring loaded locking pins arrangements schematically shown at 12 engaging with holes 13 on the stem 10.

Constructions of the leg assemblies 14 incorporating the features of the invention for mounting to the stub legs 5 will now be considered in relation to Figure 3 in which two separate leg assemblies 14 are coupled in spaced apart arrangement by a stretcher bar 15 which can be of such design as to be readily interchangeable with alternative stretcher bar constructions. The Figure schematically illustrates two forms of stretcher bar, one in full lines and the other 15A in dashed lines. Each leg assembly 14 includes an upper section 16 which is tubular and conveniently of square cross-section

and which is adapted for engagement with a stub leg 5. The upper section 16 can engage internally or externally with the stub leg. In the Figure 2 internal fitting is shown. The upper section is releasably lockable in place by a resiliently loaded pin and locating hole arrangement schematically indicated by a pin 12. It will be appreciated that the length of the stretcher bar 15 allows the leg assemblies upper sections 16 to engage simultaneously with adjacent stub legs 5.

To enable further adjustment of the working height of the seat rest 7 during use each leg assembly is provided with a positionally adjustable foot forming member 17 including a stem 18 telescopically engageable with the upper section 16. The stem can be selectively set to any of a number of possible settings by engagement of a locking pin 19 mounted to the upper section 16 and engageable with location bores 20 provided in the stem 18. The lowermost ends 21 of the stems 18 are provided with load spreader plates 22 which are intended to reduce the extent of penetration of the feet into soft ground.

The spreader plates can be of any convenient form. It should be understood that any suitable form of interconnection arrangement may be used for coupling the stems 18 to the member 17. For example a U-shaped leaf spring (not shown) carrying adjacent the end of one of its arms of the U-shape a detent that is permanently engaged in a bore provided in the inner one of the interengageable members and which is intended to engage into a selected one of a lengthwise series of bores provided in the other member. With this arrangement as soon as one of the latter mentioned bores aligns with the detent the latter automatically engages therewith. Release is effected by depressing the detent and exerting relative displacement force on the interengaging members.

If desired, the stretchers 15 can be shaped and oriented so as to provide shaped support elements for carrying a readily removable platform (not shown) which thus provides beneath the seat rest 7 a shallow storage space.

In the case of the fisherperson the shaped stretcher bars 15 or 15A could serve as a foot rest or pressure bar to assist in control of the line when playing a fish.

If it is desired to provide a chair rather than a stool as hitherto discussed two of the adjacent end regions of the seat rails are provided with mounting brackets 23 for mounting a back rest frame 24. This proposal is shown in Figure 4. As shown the back rest frame 24 comprises a U-shaped hoop having a curved portion 25A and side rails 25 whose free ends 26 are provided with mounting brackets 27 adapted for pivotal mounting to mounting brackets 23 provided at adjacent ends of the

side rails 2 in such position that movement of the back rest does not impede positional adjustment of the leg assemblies 14.

The back rest 24 can be mounted as to be pivotal between a folded setting lying adjacent the seat rails 2 and selectable angular raised settings relative to the seat rails plane. For this purpose the mounting brackets 23 and 27 respectively comprise a flat circular plate 28,29 which plates 28 and 29 are intended to mate in face-to-face relationship. The two mating pairs of plates 28 and 29 are pivotally connected by a retaining bolt or the like 30. A resiliently loaded detent member 31 is provided in/on one of the plates 28,29, the detent member 31 being intended selectively to engage in and locate with any one of a plurality of bores 32 provided in the other associated plate. It will be understood that the angle of the back rest relative to the seat rest 7 is determined by the particular selection of the location hole.

The back rest 24 can be covered by a suitable cover (not shown) which effectively bridges the side rails 25 of the hoop.

As an alternative possibility the complete back rest frame can be enclosed by a unitary cover. If desired, this cover can be adapted or arranged to provide both the back rest and the seat rest material so that when in use a waist level strip of the user's back regions is not exposed.

As so far described the system of multipurpose furniture or equipment is seen to include a low level stool or seat with short stub legs together with heightwise adjustable leg assemblies to provide higher adjustable level seating facility and a readily removeable back rest which converts the stool into a chair. In practice, the back rest when detached can be utilised as a wind break or shade.

The other ends of the side rails 2 are adapted pivotally to mount a second U-frame 33. Figure 5 illustrates an embodiment of the proposals of the invention when provided with the second U-frame.

The second frame 33 is so pivotally connected to the side rails 2 that it is pivotal between a position in which it extends forwardly of the seat rest rails 2 and a stowed setting in which it overlies the seat rest rails 2. Arrangements can be provided for locking the second frame 33 at desired pivotal angles to the plane of the seat frame. The mounting arrangements can be similar to those used for the back rest. Alternatively if it is considered that the second frame 33 should be restricted in the extent of the angular movement allowable, the pivotal connection with the side rails can be such that when in the generally horizontal extended setting the second frame locks against the seat rest side rails.

With the back rest 24 and the second frame 33 both arranged in a horizontal setting the unit pro-

vides a so-called couch or bed lounge structure.

Conveniently, in consequence of the bed function, the seat rest, the back rest and the second frame can be provided with a cover arrangement (not shown in Figure 5) which presents a continuous surface without breaks or gaps along the length thereof.

The arrangement of Figures 4 and 5 can be readily converted into a wheeled trolley by replacing the foot forming sections by wheels units. Figure 6 illustrates a first arrangement for converting the bed forming unit into a two wheeled trolley. As will be seen the leg assemblies adjacent the back rest 24 have been folded to their retracted positions, and the second frame 33 folded to its inboard lowered setting. The feet of the still extended leg assemblies 14 are have been replaced by castorable wheel assemblies 34. Obviously non-castorable wheels may be used if desired.

Figure 7 schematically illustrates a second form of trolley, namely a four wheeled trolley. The wheel assemblies indicated at shown in greater detail in Figure 8 in which the wheel 35 is carried from an axle 36 connected with a stub leg 37 adapted for entry into the lower end of a leg member 14. The stub leg 37 is held in place by a detent 38 carried by an arm 39 of a U-form leaf spring 40 and normally projecting through an aperture 41 in the stub leg. The detent is intended to lock into apertures 42 provided in the leg member 14. It will be understood the the frame 33 can be as shown, vertical, or otherwise positioned as desired.

Figure 7 illustrates a fragment of a bed forming cover 43 which is continuous so that the frames 24 and 33 can combine to provide a surface onto which articles that are required to be moved can be loaded. If desired, the second frame 33 can be left in a raised setting during loading and subsequently folded downwards to assist in retaining a load in place.

The above described trolley is conveniently towed by the back rest. For this purpose the cover can be provided with a leather or other material towing handle (not shown). As a further possibility a opening 44 is provided in the seat cover arrangement 43 so as to leave exposed a short length of the curved region 25A of the frame 24 so that the back rest can be used for the towing function.

If a towing handle or leash is used the back rest can be used to retain a load on the trolley.

## Claims

1. Multipurpose furniture/equipment, wherein a seat frame is provided with stub legs adapted interchangeably to receive differing constructions of leg assemblies and attachments therefore, the ar-

angement being such as to enable establishment of differing user functions for the furniture/equipment.

2. Multipurpose furniture/equipment as claimed in claim 1, wherein said seat frame is provided with stub legs which are each pivotable between a stowed or folded position and an erected or use position, and wherein the free end region of each stub leg is adapted to receive extension leg arrangements.

3. Multipurpose furniture/equipment as claimed in claim 2, wherein each leg arrangement is selectively lengthwise adjustable thereby to enable selective adjustment of user height of the seat frame.

4. Multipurpose furniture/equipment as claimed in claim 2 or 3, wherein the leg arrangements are connected together in such manner to provide assemblies each including two leg arrangements whereby after their mounting to associated stub legs the leg arrangements are mechanically braced.

5. Multipurpose furniture/equipment as claimed in claim 1,2,3 or 4, wherein the end of each leg stub leg or leg arrangement that is remote from the seat frame when fitted to the associated stub leg is adapted interchangeably to receive a load spreader means.

6. Multipurpose furniture/equipment as claimed in claim 5, and wherein the load spreading means is lengthwise positionally adjustable with respect to the associated leg arrangement or stub leg.

7. Multipurpose furniture/equipment as claimed in any of the preceding claims, wherein wheel assemblies are adapted for connection to the stub legs or leg arrangements whereby the furniture/equipment can be wheeled from place to place.

8. Multipurpose furniture/equipment as claimed in any preceding claim, wherein means provided for operationally locking interengaging elements together includes a resilient means enterable into one of the elements to be connected and carrying a detent or the like which is adapted for locking engagement with the other of the elements to be joined.

9. Multipurpose furniture/equipment as claimed in claim 8, wherein the resilient means includes a U-form leaf spring enterable into the interior of the inner one of a pair of telescopically engageable elements and carrying on one of the arms of the U an outwardly directed detent that projects outwardly of said inner one of the elements and which is adapted for engagement in a bore or selected ones of a series of bores provided in the outer one of the telescopically engageable elements.

10. Multipurpose furniture/equipment as claimed in any of claim 7, 8 or 9, wherein any back rest or bed cover arrangement provided for the furniture/equipment is adapted to leave a portion of the back rest exposed, thereby to provided a hand gripping region for the purposes of wheeling the furniture/equipment .

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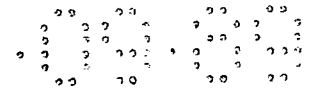
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Nouvellement déposé

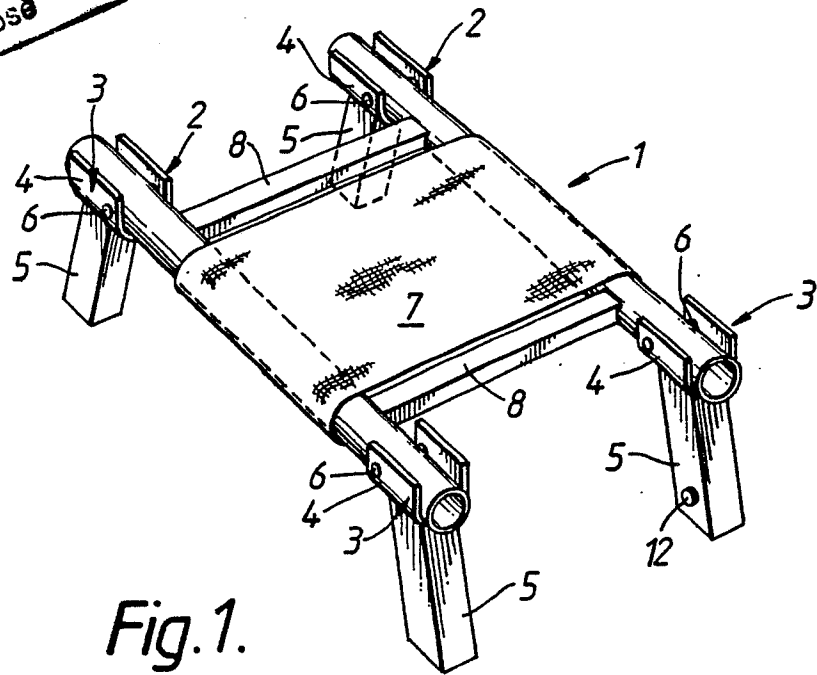


Fig. 1.

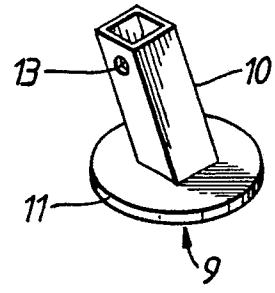


Fig. 2.

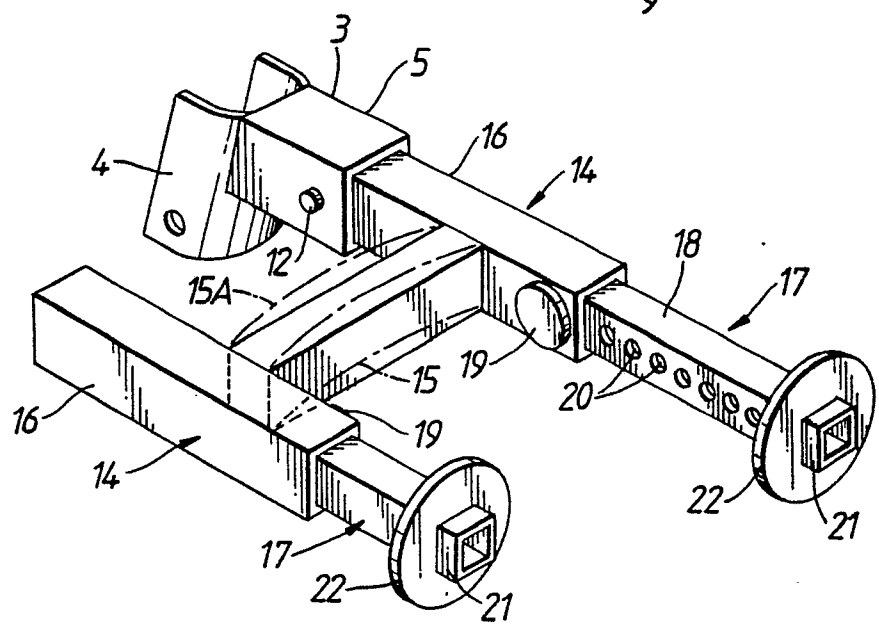
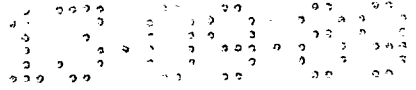


Fig. 3.



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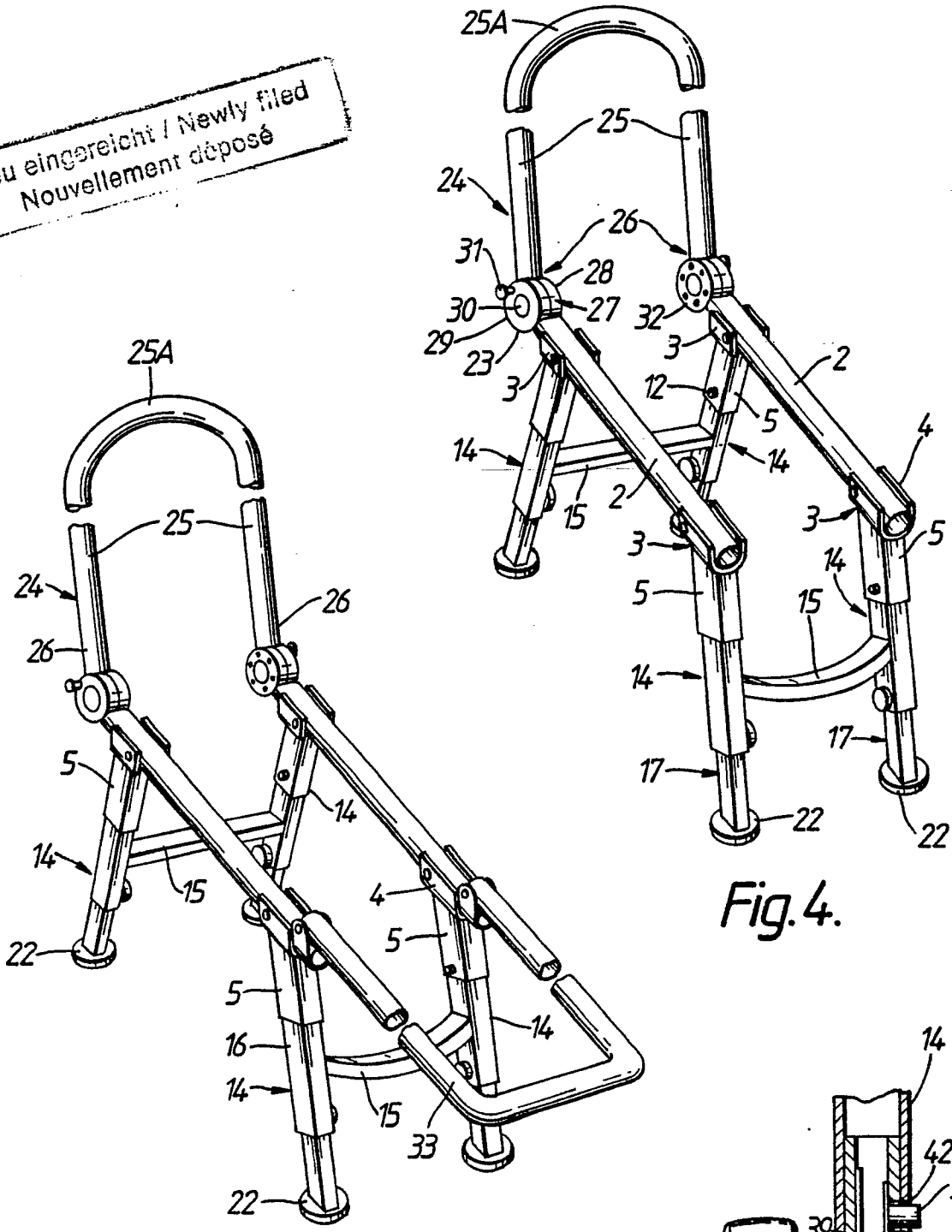


Fig. 4.

Fig. 5.

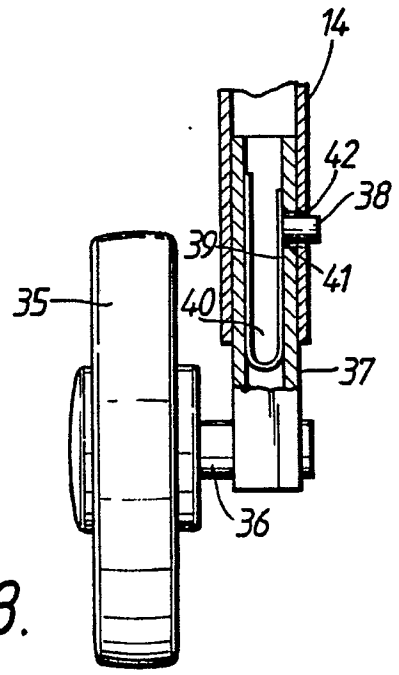
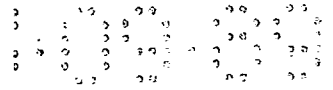


Fig. 8.





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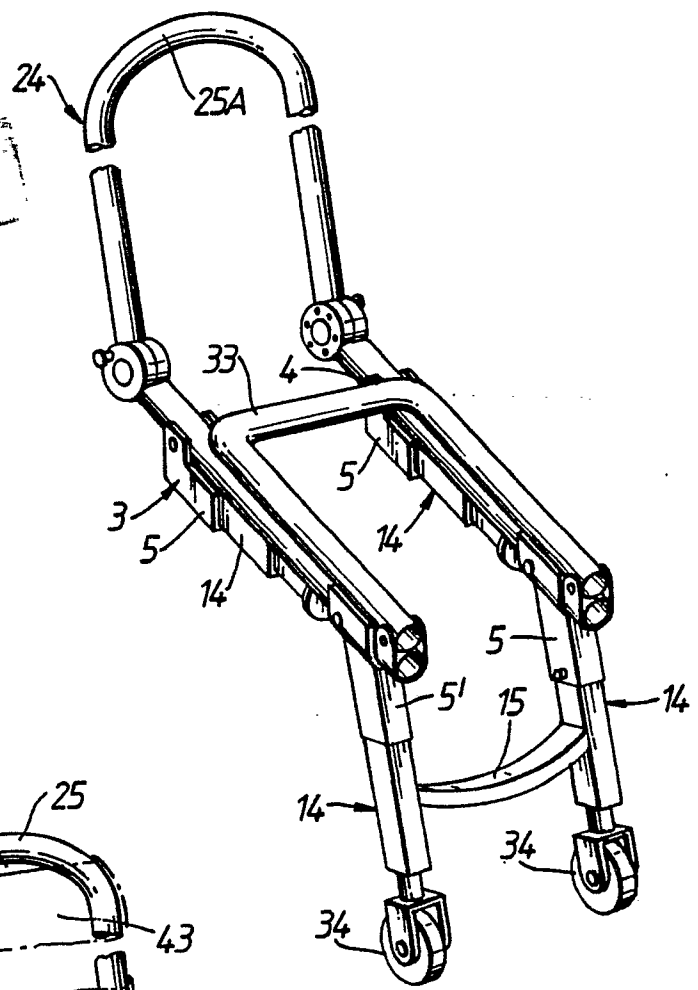


Fig. 6.

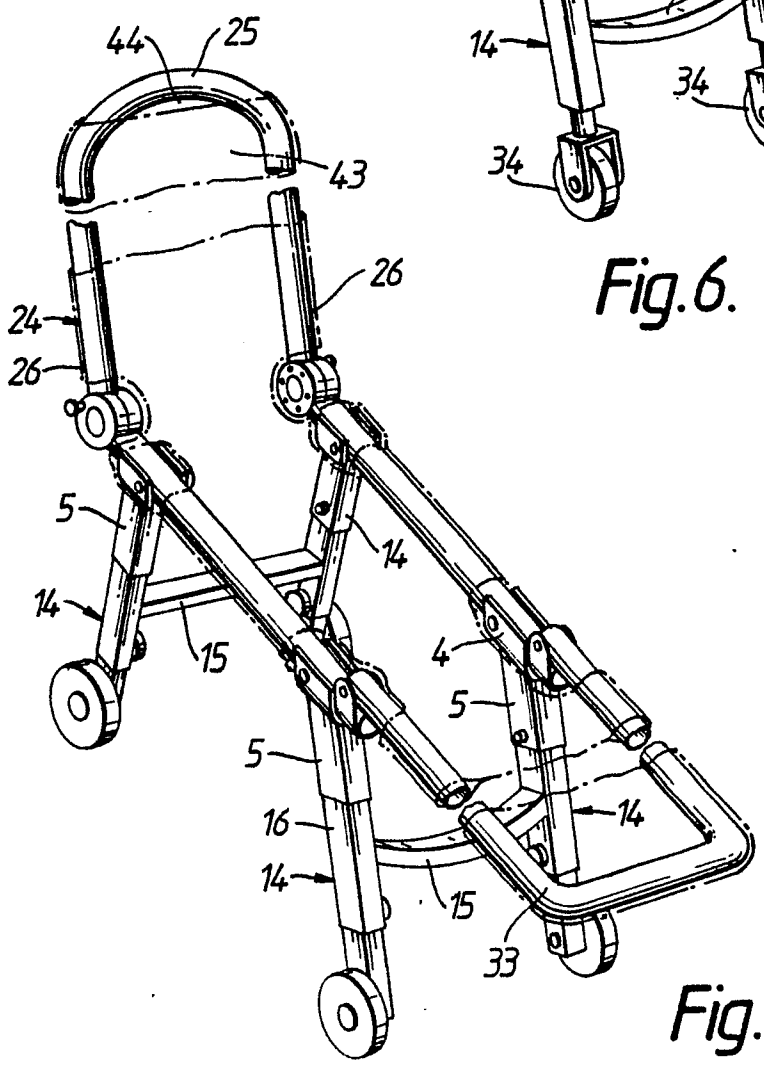


Fig. 7.



| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |   |   |
|---|---|---|---|
| Category  | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim   | CLASSIFICATION OF THE APPLICATION (Int. Cl.4) |
| X   | GB-A-2 129 288 (C.B.M. DISPLAY GROUP)<br>* Figures 1-6,10; page 1, lines 27-54;<br>page 1, line 97 - page 2, line 104;<br>page 3, lines 14-34; claims 1-6,9 * | 1-3,5,6<br>,8-10  | A 47 C 9/10                                   |
| A   | ---   | 4   |   |
| A   | FR-A-2 595 559 (CUGNART et al.)<br>* Figure 3; page 3, line 29 - page 4,<br>line 4 *<br>-----   | 7   |   |
| The present search report has been drawn up for all claims  |   |   | TECHNICAL FIELDS SEARCHED (Int. Cl.4)         |
|   |   |   | A 47 C  |
| Place of search   | Date of completion of the search  | Examiner  |   |
| THE HAGUE   | 20-07-1989  | MYSLIWETZ W.P.  |   |
| CATEGORY OF CITED DOCUMENTS   |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |   |
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