



(11) Publication number : **0 497 750 A1**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **92870015.2**

(51) Int. Cl.⁵ : **A47C 9/00, A47C 16/04**

(22) Date of filing : **23.01.92**

(30) Priority : **30.01.91 ES 9100278 U**

(43) Date of publication of application :
05.08.92 Bulletin 92/32

(84) Designated Contracting States :
AT BE CH DE DK ES FR GB GR IT LI LU MC NL PT SE

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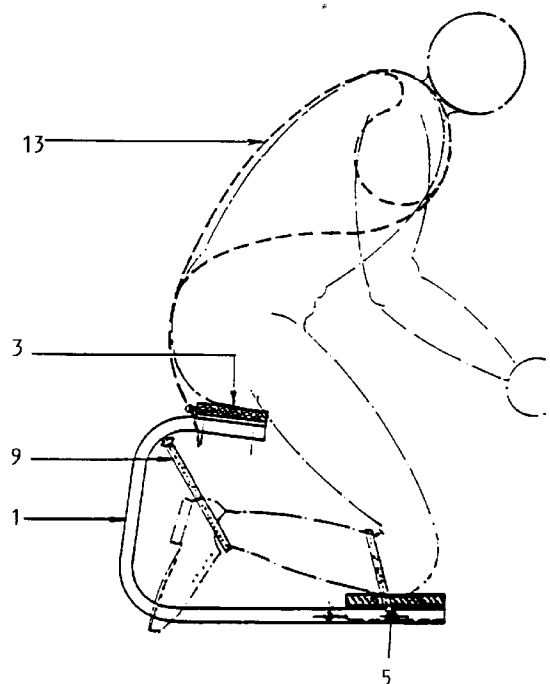
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(54) **Bench for ground level low surfaced work.**

(57) The present invention relates to a bench for ground level low surfaced work comprising a substantially J-shaped profiled frame (1), which is provided at its ends respectively with a transversal knee (2) and seat supporting panel (3) provided with foam material or the like. The knee supporting panel (2) is hingedly connected to the frame (1) by hinge means (5). The bench comprises moreover belts (8, 9, 13) adapted to fix the user's knees, feet and body to the bench. The bench according to the invention allows to reduce or avoid physical pains when performing work at ground level.



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The present invention relates to a bench designed for work on ground level low surfaces.

More particularly, the present invention provides a bench type for many kinds of work having remarkable advantages and innovations with respect to the benches which are presently on the market.

Benches for performing work at ground level are already presently known, but they only consist of elemental basic parts.

Indeed these benches consist of low-height platforms or simple cushions. The benches allow the worker using the same to sit down while working at a low height and the cushions, carpets or platforms allow to work in a kneeling position. These positions often adopted in a repetitive and alternative way oblige workers to realize muscular tensions due to the uncomfortable position to do the work.

The users of these known benches undergo extreme troubles and physical pains on performing such kind of work and they are quickly tired which has a negative effect on the amount of work that can be done.

Actually a device for performing at the same time the double function of working simultaneously in a kneeling and sitting position is unknown, and such a device is precisely the subject of the present invention.

The bench of this invention solves the problem of the prior art and is constituted by a main frame provided with a suitable zone for sitting down and another for holding up the knees and by providing means for fastening the conjunct to the user's feet and legs, so that the user can even move carrying along said bench, meaning this is a clear additional advantage with respect to the independent elements of seat and base. Moreover, the bench, subject of the invention, is variable in length by means of optional extendible assembly points so that it can be adjusted to the user's length.

The bench disclosed is advantageously characterised in such a manner that when a work, which is extremely troublesome and corporally painful, is performed at ground level, such a bench allows to do this work most comfortably and it allows consequently to avoid tiredness, troubles and corporal pain.

To facilitate the disclosure, the present description is accompanied by some drawings wherein an embodiment of a bench according to the invention is shown by way of example.

In the drawings:

Figures 1, 2 and 3 are respectively a side elevation view, a front elevation view and a top plan view of a bench according to the invention.

Figure 4 pertains to a detailed view of the bench and its assembly.

Figure 5 shows a detailed view of the tilting support designed to protect the knees.

Figure 6 is a side elevation view showing the

bench assembly fixed to the user's legs.

Figure 7 is a side elevation view showing the bench assembly in a work position and during physical strain.

Returning to the figures, in the embodiment illustrated can be well discerned a bench comprising a main frame 1 suitably and comfortably adapted to the user's feet and legs. This bench is preferably provided with extendible assembly points 10 so that its height can be adapted to the user's length. The frame 1 consists mainly of two parallel, substantially J-shaped profiles.

To achieve said comfortable position, a tilting support 2 protecting the knees and a seat 3 have been arranged on the frame as clearly shown in figures 6 and 7. Both the support 2 for the knees and the seat 3 are covered by a foam material. The foam material on the knee support 2 is especially important for protecting the knees. Instead of a foam material, use can also be made of other appropriate resilient materials. The knee support 2 is connected to the frame 1 by means of a hinge shaft 5.

In the figures 6 and 7 can be seen how the bench is fixed to the user's legs and feet with flexible belts 8 and 9, respectively so that it is carried along when the user is moving. These belts 8 and 9 are fixed respectively to projecting extremities of the hinge shaft 5 and to the frame 1 near the seat 3. The extremities of the hinge shaft 5 are provided with cutouts 12 to enable to fasten the belt 8.

Belts 13 attached to the user's body have also been provided to avoid any possible corporal damages, since on performing work at ground level, the user's trunk undergoes the consequences of the effort. With these belts 13, the knee protector 2 and the seat 3, said corporal damages are substantially avoided and a highly comfortable position is thereby achieved on performing such work. To ensure a good bench bearing position, the frame 1 is provided with stops 7.

The bench can be assembled and disassembled by means of the shaft 4 and the bolts 11 designed to clamp the seat 3 so that a volume reduction may be achieved for packaging and transport.

When the user stands up, as shown in figure 6, the bench can comfortably be moved from one location to another, since the bench construction is based on light weight materials and can be displaced easily.

Claims

1. A bench for ground level low surfaced work, characterized in that it comprises a substantially J-shaped profiled frame (1), which is provided at its ends respectively with a transversal knee (2) and seat supporting panel (3) provided with foam material or the like in the contact area with the

user, and in that the knee supporting panel (2) is hingedly connected to the frame (1) by hinge means (5), the frame (1) being provided with a transversal shaft (4) and with seat clamping bolts (11) arranged in such a manner that the bench can be assembled and disassembled and with belts (8,9,13) adapted to fix the user's knees, feet and body to said bench.

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2. A bench according to the previous claim, characterized in that the frame (1) has extendible assembly points (10) allowing to adjust its length.

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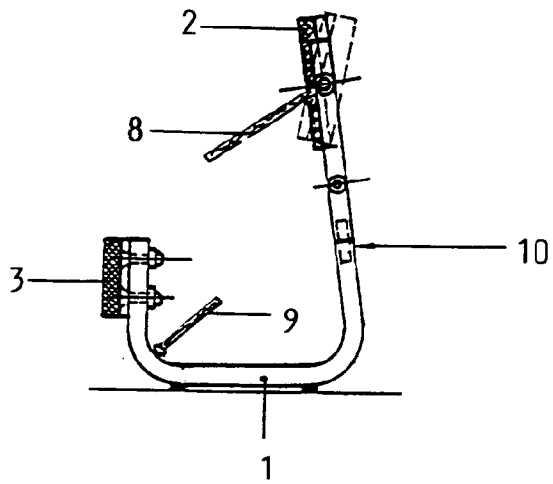


Fig. 1.

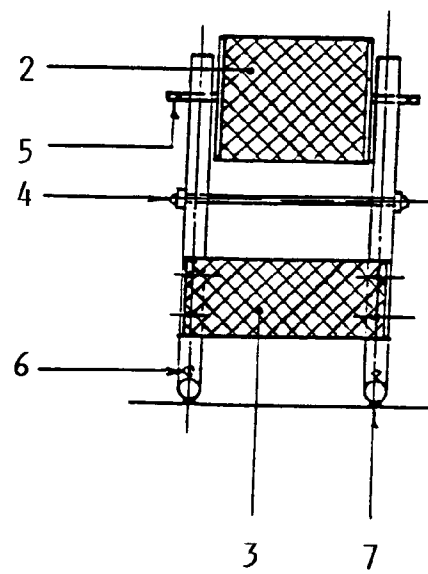


Fig. 2.

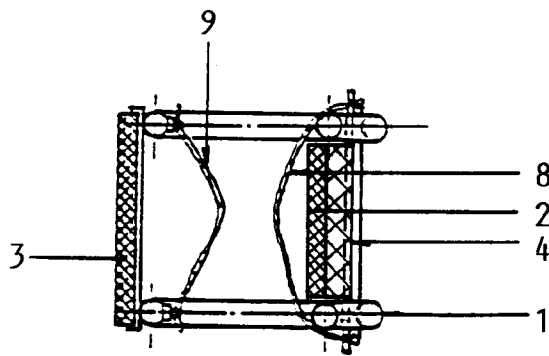


Fig. 3.

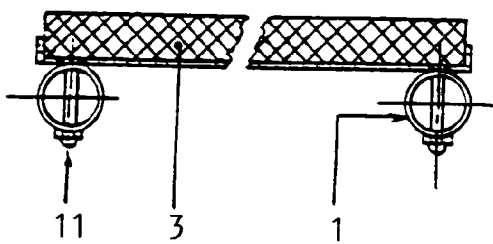


Fig. 4.

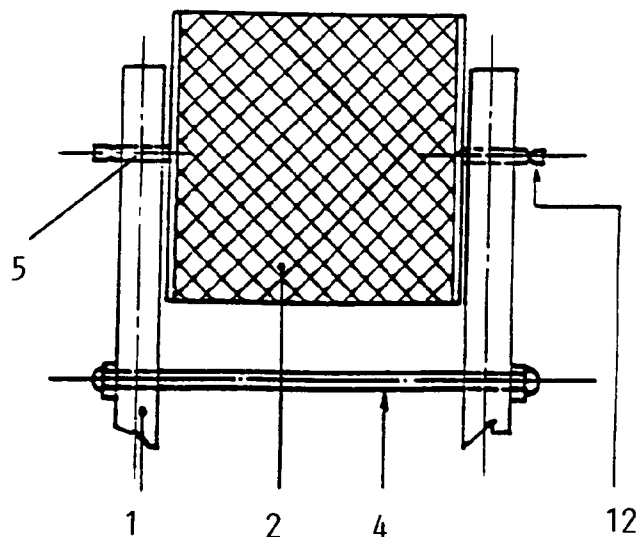


Fig. 5.

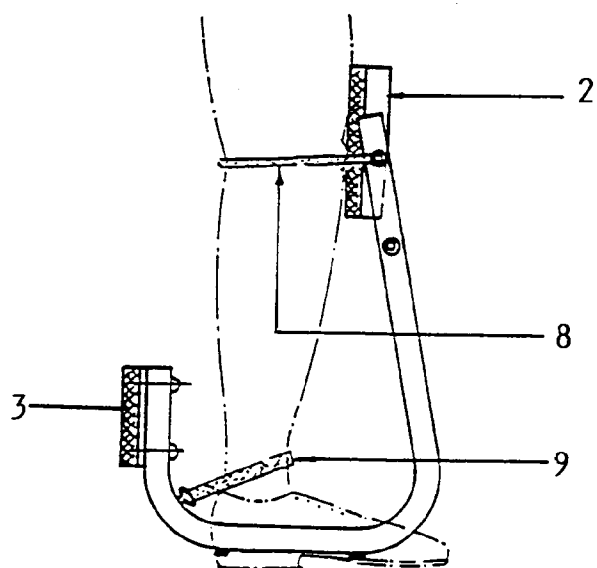


Fig. 6.

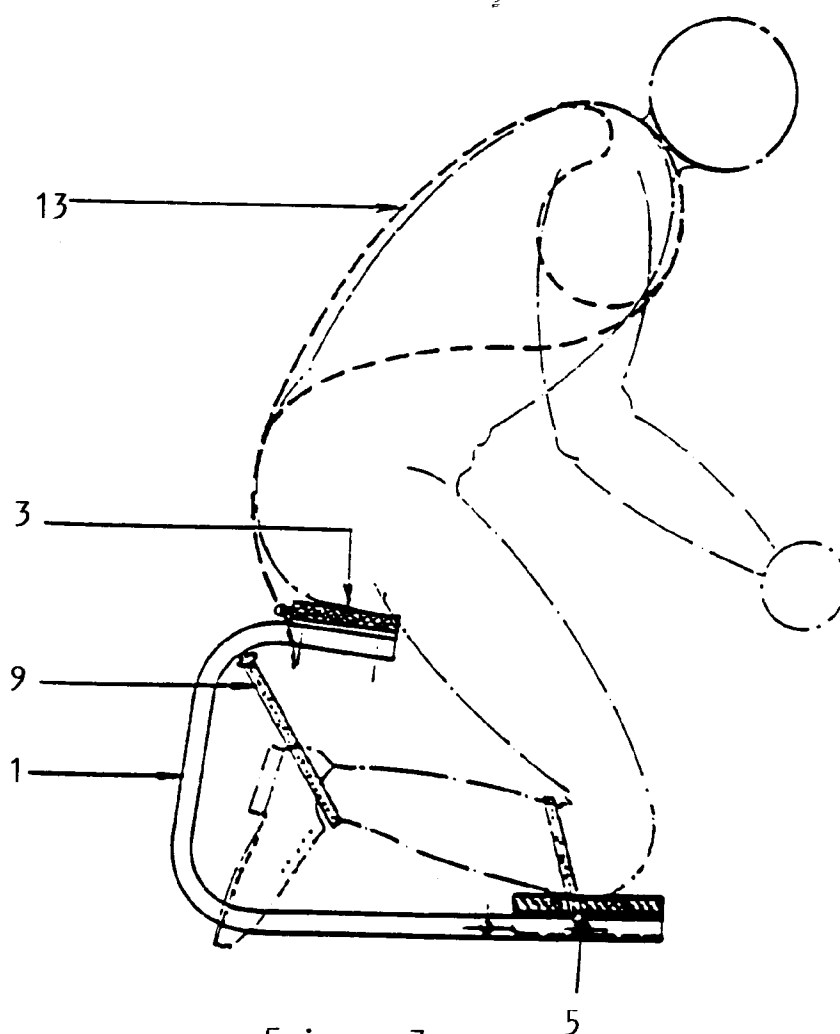


Fig. 7.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 87 0015

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.5)
A	DE-U-8 622 521 (METAD PTY. LTD.) * page 4, line 1 - line 8; figures 1,2 * ---	1	A47C9/00 A47C16/04
A	US-A-2 656 875 (HUTCHINSON) * figure 1 * ---	1	
A	US-A-2 631 652 (BANNISTER) * figure 1 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20 MARCH 1992	Examiner MYSLIWETZ W. P.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P0401)