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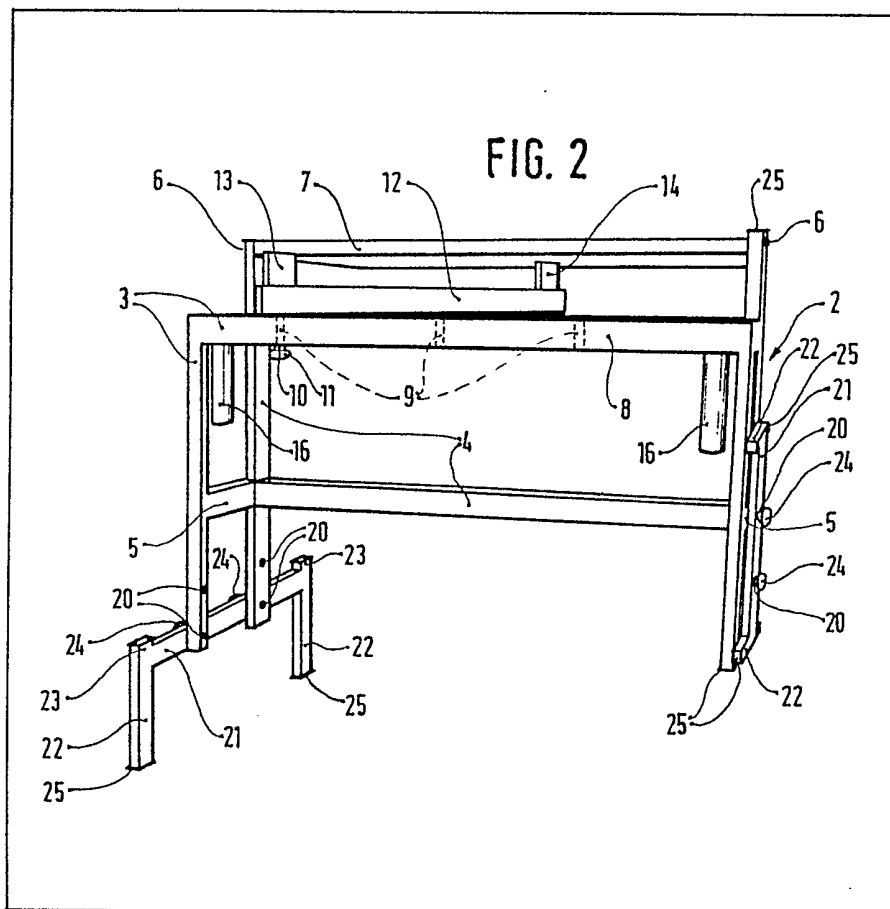
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- (54) **A work bench comprising a pivotable work top**

- (57) The work top 7 which is pivotally mounted on a frame 2 for movement through 180° from a first position

overlying the frame to a second position extending outwardly from the frame is supported in both positions by an arm 12 mounted on the frame 2 for movement about a vertical axis. Tubes 16 for mounting vices to the workbench are provided on the frame.



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FIG. 1

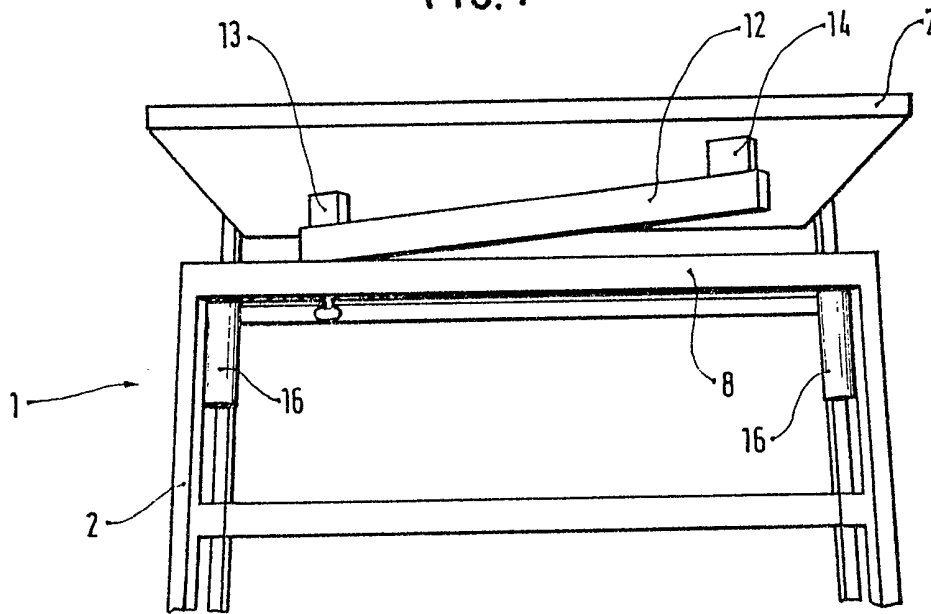
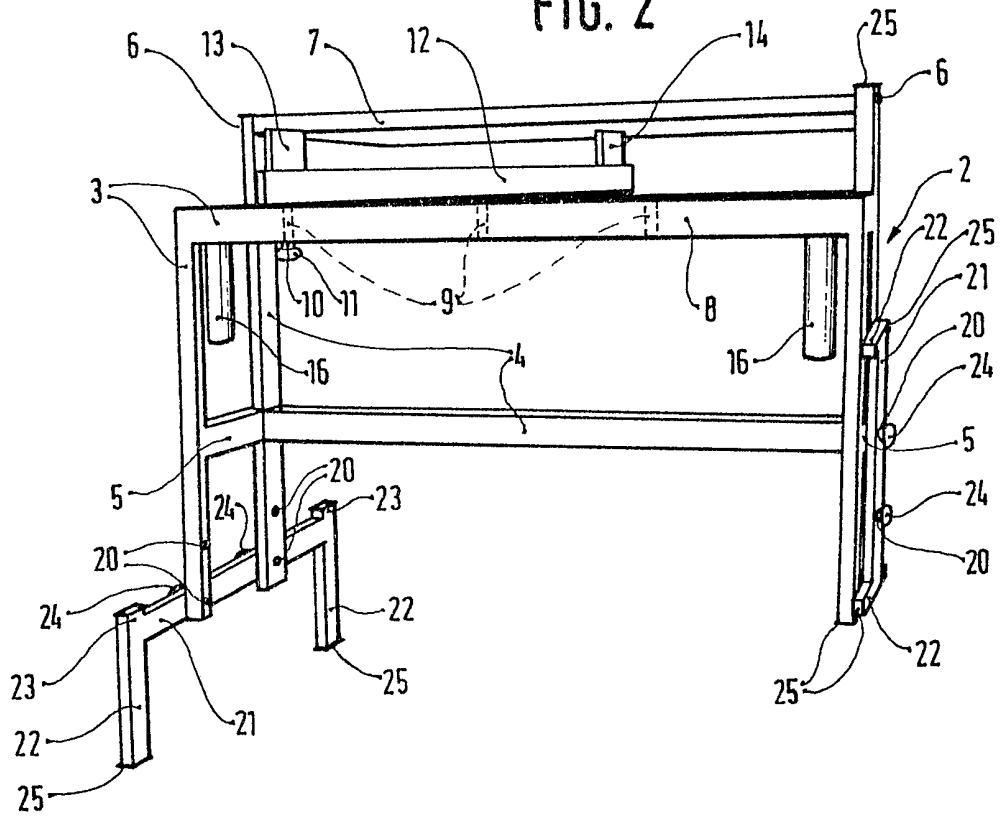


FIG. 2



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FIG. 3

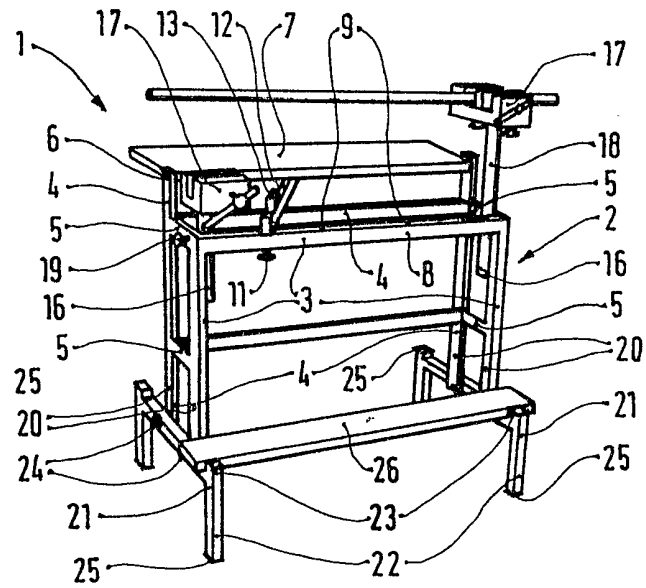


FIG. 4

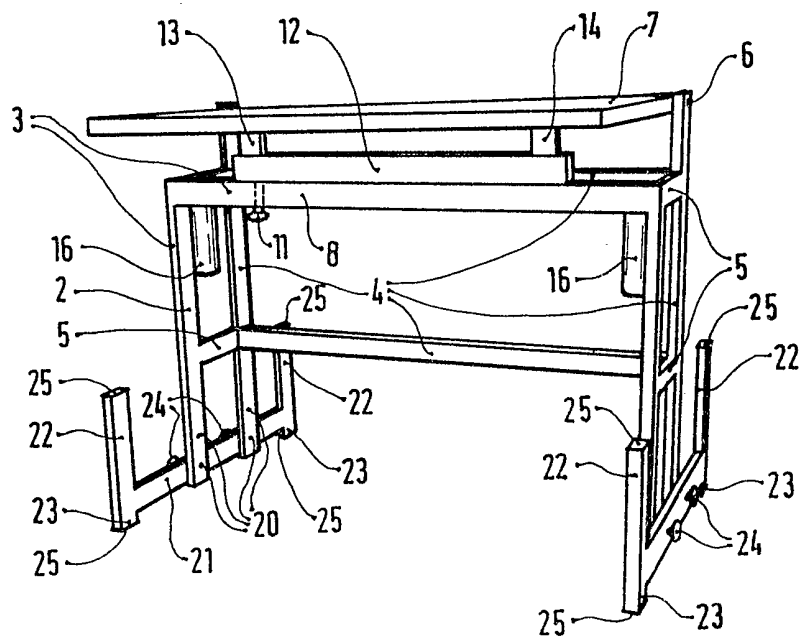


FIG. 5

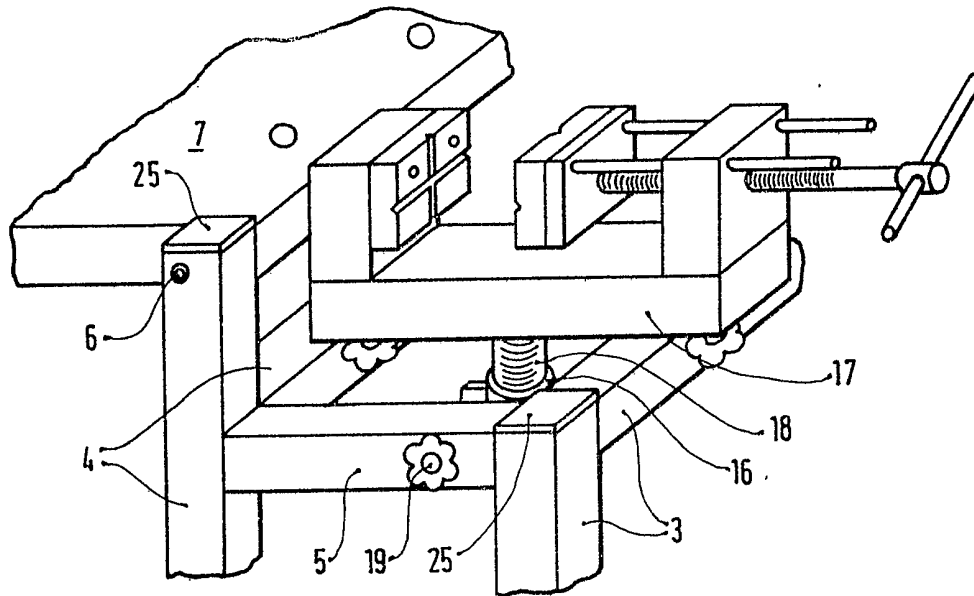
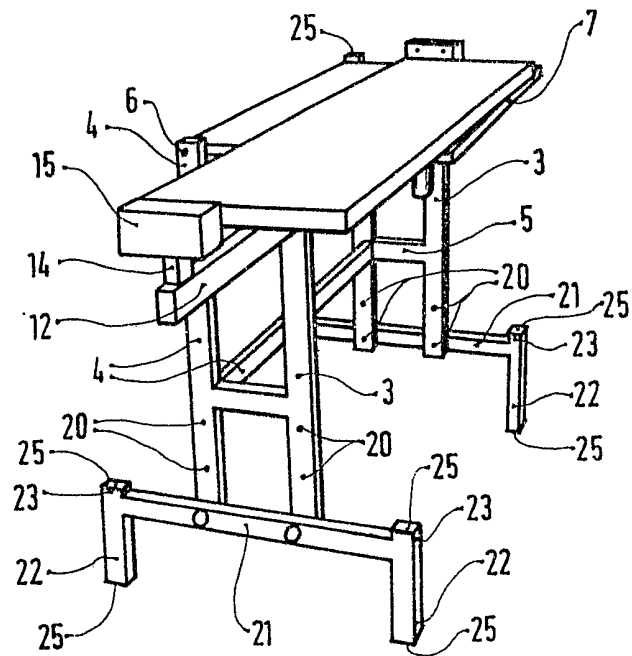


FIG. 6



SPECIFICATION

A work bench comprising a pivotable work top

State of the Art

The invention originates from a work bench according to the preamble to the main claim. Such a work bench has already been proposed (Patent Application P 31 09 692.1) in which different working positions of the work top can only be set by the fact that the work top can be clamped between its two pivot bearings. Such clamping in the vicinity of the bearing can only be loaded to a comparatively small extent. Thus, this work top has only one truly loadable working position. This working position is that in which the work top can be supported on fixed frame parts or clamping means fixed thereto, for example removable vices. Moreover, that has the disadvantage that the work top and the clamping means cannot be used simultaneously for working operations with normal loading.

Advantages of the Invention

As opposed to this, the work bench in accordance with the invention comprising the characterising features of the main claim has the advantage that the work top can be used with normal loading for working operations in a plurality of pivotal positions. In so doing, the clamping means for the working operations carried by the work bench are still accessible also in at least one rigidly supported working position of the work top. The movable support used to support the work top can be pivoted into various working positions and into a rest position in which it remains within the counter of the closed work bench.

Advantageous further developments and improvements of the work bench set forth in the main claim are made possible by the measures set forth in the sub-claims.

The formation of the movable support as a pivotable arm mounted on the frame and having two supporting blocks for the work top, preferably at its ends, is particularly advantageous. By arranging the supporting block in the vicinity of the free end of the pivotable arm as a receiver for a clamping means, the said pivot arm can, in addition to its supporting function for the work top, make the work bench usable for fixing work pieces which are larger than the work top.

50 Drawing

An embodiment of the subject matter of the invention is illustrated in the drawing and is explained in detail in the following description. Figure 1 shows a perspective representation of the upper portion of a work bench in accordance with the invention viewed obliquely from below with the work top located in a first supported working position, Figure 2 is a perspective representation of the entire work bench with the work top located in a second supported working position and the arrangement of removable foot portions increasing the height of the work bench, Figure 3

is a perspective representation of the entire work bench viewed obliquely from above with the work

top located in the second supported working position, two vices carried by the frame of the work bench, the arrangement of the removable foot portions increasing the height of the work top and a board acting as a foot rest mounted on the foot portions, Figure 4 is a perspective representation of the entire work bench with the work top located in the first supported working position and with the arrangement of the removable foot portions supporting the work bench in a lower position, Figure 5 is a perspective representation of a vice arrangement on the work bench in accordance with the invention and Figure 6 is a perspective representation of the entire work bench with the work top located in the first supported working position and a supporting arm extending beyond one end of the top in a clamping position for a work piece extending beyond the work top.

Description of the Embodiment

A work bench 1 consists of a frame 2 provided in the form of a rigid beam construction. The frame 2 is composed of two sub-frames 3 and 4 made of rectangular tubing which are connected together by webs 5, likewise of rectangular tubing. The vertical tubes of the sub-frame 4 extend beyond the vertical tubes of the sub-frame 3. Bearing bores for pins 6 which are fixed in a work top 7 are located at the upper end of the sub-frame 3. Moreover, the pins 6 are located near to the longitudinal edge of the work top (7). The horizontal upper cross beam 8 of the sub-frame 3 is provided with a plurality of upright bearing bores 9. A bearing pin 10 with a handle 11 can be inserted into these bearing bores 9 and the other end of which extending beyond the beam 8 is screwed into an arm 12 or fixed therein in some other manner. Thus, the arm 12 is pivotable about the bearing pin 10. The ends of the arm 12 are provided with upwardly extending supporting blocks 13 and 14. The supporting block 14 at the free end of the arm 12 has a recess for the reception of a clamping means 15 which can be formed as fixed or movable clamping jaws. Upright receiving tubes 16 for vices 17 are fixed to the ends of the beam 8. For that purpose, the vices 17 have corresponding tubular pins 18. Clamping screws 19 provide the rigid clamping of the tubular pins 18 in the receiving tubes 16 in any desired possible extended position. The ends of the feet of the sub-frames 3 and 4 are provided with horizontally extending threaded bores 20. Removable foot portions 21 are each composed of one long rectangular tube and two short rectangular tubes welded together. In so doing, care has been taken that the two short rectangular tubes are of the same length and secondly form two limbs extending in the same direction with respect to the long rectangular tube. Moreover, one of the unidirectional pairs of limbs is shorter than the other. Thus, each foot portion 21 has two long limbs 22 and two short limbs 23 which form

the actual feet of the work bench. The foot portions 21 have two bores passing through them which can be brought into alignment with a respective two of the threaded bores 20. Thus, threaded bolts provided with handles can be pushed through the bores in the foot portions 21 and be screwed into two threaded bores 20. Thus, positions of the foot portions 21 are possible in which the long limbs 22 or the short limbs 23 are directed downwards and serve as feet. In this way, different working heights of the work top 7 can be provided. The foot portions 21 can be fixed at different heights by rigidly screwing with the long limbs 22 directed downwards. For the lowest height of the work top 7, the foot portions 21 are so fixed to the frame 2 that the short limbs 23 serve as feet for the work bench 1. One of the sub-frames 3 and 4, for example the sub-frame 4, has threaded bores 20 the vertical spacing of which corresponds to the spacing of the bores in the foot portions 21 passing through them. Moreover, the spacing of the respective lower threaded bore 20 from the end of the foot of the sub-frame 4 is substantially equal to the spacing of the bores in the foot portions 21 from the outer edge of the limb lying nearest to it. Thus, the foot portions 21 can also be fixed in a space saving manner along the vertical rectangular tubes of the sub-frame 4 with the horizontal limbs fixed to the frame 2 (Figure 2 on the right). Having regard to this desired possibility, the total length of the limbs somewhat matches the spacing of the sub-frames 3 and 4 from one another. Each of the open ends of the rectangular tubes connected to the frame 2 and to the foot portions 21 are closed by plastics plugs 25. A foot rest 26 is of such a width that it can fit between the upwardly directed limbs of the foot portions 21 and the tubes of the sub-frame 3 lying opposite thereto. The length of the foot rest 26 must, of course, be so calculated that it extends from one of the foot portions 21 to the other. Recesses or abutment ribs in the foot rest 26 fitting the base tube of the foot portions 21 can stabilise its position on the frame 2 of the work bench still further.

If the work top 7 is to be used in its first working position achievable by pivoting (Figures 1, 4 and 6) the vices 17 are removed. In plan view, the work top 7 overlaps the two sub-frames 3 and 4. Both supporting blocks 13 and 14 of the pivotable arm 12 support the work top 7. Moreover, the pivotable arm 12 can be set parallel to the sub-frame 3 or inclined with respect thereto. The inclined position clearly shown in Figure 1 has the advantage that the work top 7 is supported by a supporting block 14 as far as possible away from its bearings (9/10). If, in order to work with the work bench, the work top 7 needs to release the receiving tubes 16 for the vices 17, then it is pivoted through a 180° out of the first working position into the second working position. Then, the arm 12 still supports the work top 7 with its supporting block 14. For this purpose, it is pivoted as far as possible in order to secure the work top 7 by a three point bearing

(Figures 2, 3 and 5). As Figure 3 in particular clearly shows the rigidly supported work top 7 and two vices are then available for working with the work bench 1. Moreover, the working height of the vices 17 can be varied within the extent of the length of the extension of the tubular pins 18 out of the receiving tubes 16.

Figure 6 shows a special case of working with the work bench 1. The work piece to be handled is larger than the work top 7. Nevertheless, it can be clamped with the aid of the work bench 1. The arm 12 is pivoted outwardly so that its free end provided with the supporting block 14 projects a comparatively long way. The clamping means 15 fixed to the supporting block 14 can be applied to one edge of the work piece and the latter be fixed by another clamping element fixed in known manner to the work top 7 and arranged opposite the clamping means 15. Also in this case the adjustability of the working height by reversing the foot portions 21 is an advantage because not only can the thickness of the clamped work piece but also the working operations under consideration require different working heights of the work top 7. Also in the last described special case, the work top 7 remains securely supported by the supporting block 13.

When the work bench 1 is not in use, the arm 12 is pivoted inwards and lies above the beam 8 of the sub-frame 3. The work top 7 is pivoted beyond the second rigid working position downwards and upright. The foot portions 21 are fixed to the work bench 1 in the likewise space saving position illustrated to the right of Figure 2.

100 CLAIMS

1. A work bench comprising a pivotable work top which can be brought into a rest position and more than one working position, characterised in that, a support (12) is movably mounted on its frame (2) which support can engage beneath the work top (7) in a supporting manner in a plurality of pivotal positions of the work top (7).

2. A work bench according to claim 1, characterised in that, near one of its edges, the work top (7) has parts of two pivot bearings (6) with which are associated corresponding bearing portions on one side of the top end of the frame (2) of the work bench (1) so that the work top (7), pivoted about the said bearings (6), can take up a first horizontal working position over lying the frame and a second horizontal working position projecting away from the frame and that the support is an arm (12) mounted on the frame (2) and pivotable in an horizontal plane beneath the work top (7).

3. A work bench according to one of claims 1 and 2, characterised in that, in the region which can be covered and released by the work top (7), the frame (2) has at least one receiver (16) for a removable clamping device such as a vice (17) or the like.

4. A work bench according to one of claims 1 to 3, characterised in that, the arm (12) preferably has two supporting blocks (13, 14) which can

engage the respective under surface of the work surface (7).

5. A work bench according to one of claims 1 to 4, characterised in that, the work top (7) has

5 recesses for the reception of clamping elements.

6. A work bench according to one of claims 1 to 5, characterised in that, the arm (12) has a supporting block (13) near its pivotal axis (10) and a supporting block (14) near its free end and that

10 the supporting block (14) near to the free end of the arm (12) has a recess for the reception of a

clamping means (fixed or movable clamping jaws (15)).

7. A work bench according to one of claims 1 to 6, characterised in that, the frame (2) has a plurality of pivot bearings (9/10) for the arm (12) distributed along its upper surface and which are removed as far as possible from the pivotal axis of the work top (7).

20 8. A work bench comprising a pivotable working top, substantially as herein described with reference to the accompanying drawings.