

Description

STAND

The present invention relates to a table stand intended for use preferably in caravans and motorhomes, wherein the stand supports at the top thereof a frame-like part on which a tabletop is intended to be placed and which can be adjusted vertically so as to position the ~~table-top~~tabletop in different

height positions ~~as specified in the preamble of~~

~~claim 1 and as disclosed, for example, in US-A-4 558 648.~~

The tables provided in caravans/motorhomes normally have the form of a tabletop which is fitted to the top of a stand. This type of table is normally intended for two different purposes. Firstly, the table is intended for use as a conventional dining table, from which food and coffee can be partaken

in the caravan/motorhome.

Secondly, the table shall be capable of being raised and lowered, so as to enable the tabletop to be lowered to a position in which it will function as part of a bed in the caravan/motorhome. Lowering and raising of the table has hitherto been a complicated process, and

consequently ~~time~~time-consuming.

The object of the present invention is to eliminate this problem and to provide a tabletop stand which can be readily handled and manoeuvred when lowering and raising the same. This object has been achieved with a stand of the aforesaid kind which is characterized by the following combination of features ~~specified~~

~~in the characterizing portion~~: - The stand includes at least two leg members which are hinged or pivotally connected together such as to enable the parts of ~~claim 1~~said leg members located on mutually opposite sides of the hinge or pivot to be moved towards and away from one another in a scissor like fashion; - Each leg member has at each end thereof a transverse rod, of which the lowermost rod functions to support the stand against an underlying supporting surface, whereas the upper rods coact with the frame-like part in a manner such that the parts of the two leg members located on opposite sides of the hinge or pivot can be moved towards and away from each other so as to raise

or lower the frame-like part in relation to the underlying supporting surface;; - A gas-spring, or piston-cylinder device, so arranged in the stand as to enable the frame-like part of said stand to be adjusted vertically, both downwardly and upwardly, wherein the gas-spring can be blocked in its position, so as to maintain the position of the frame-like part and therewith the position of the tabletop in relation to the underlying supporting surface. This enables the frame-like part, and therewith the tabletop, to be adjusted continually to any selected vertical position, in which position the gasspring is locked.

A preferred embodiment of the invention will now be described in more detail with reference to the accompanying drawings, in which Figure 1 shows the inventive stand in a raised position and provided with a lockable gas-spring and a spring operating or activating means; Figure 2 illustrates the stand of Figure 1 in a lowered position; Figure 3 and Figure 4 show the attachment of the gasspring gas-spring to the upper part of the stand, wherein

Figure 4 shows the attachment from beneath; and Figure 5 illustrates the construction of the operating

means.

Figures 1 and 2 illustrate the inventive stand. The stand includes a frame-like part 1 which is carried by two leg members 2, 3. Each leg member 2, 3 includes two substantially parallel rods or bars 4, 5; 6, 7, wherein the two bars of each pair of bars are spaced from one another and are connected together at both ends thereof by means of a respective transverse rod 8, 9; 10, 11, wherein the lowermost transverse rods 8; 10 function to support the stand against the underlying support surface and wherein the upper, transverse rods 9; 11 are intended to coact with the frame-like part 1. The two leg members 2, 3, i.e. the pairs of bars 4, 5; 6, 7 are mutually connected by means of a hinge means or pivot in the form of a transverse rod 12, which extends through the bars approximately midway therealong the rods, preferably at a location which is slightly above centre. This enables the two ends of respective pairs of bars 4, 5; 6, 7 to be

5 moved towards and away from each other in a scissor-like fashion and therewith move the ~~framelike~~frame-like part 1 vertically.

part 1 vertically.

The frame-like part 1 and bars of the illustrated embodiment are made of varnished or lacquered steel plate and the frame-like part includes four bars 13-16 disposed in the form of a rectangle. The stand may, of course, be made of some other material and the frame-like part 1 may have the form of a square. At least two of the frame bars, the longitudinally extending bars 14, 15 of the illustrated embodiment have a substantially U-shaped cross-section with the legs of the U facing inwards. The upper transverse rods 9, 11 of the leg members 2, 3 are intended for coaction with the frame bars 14, 15. The one rod 9 is pivotally mounted in the bars 14, 15, whereas the other transverse rod 11 is provided at both ends with suitable means for sliding in the U-shaped part of the bars in order to achieve the aforesaid

scissor-like movement of the leg members.

An essential feature of the invention is that a blockable gas-spring 17, or piston-cylinder device, is provided for enabling the position of the frame-like part 1 to be adjusted vertically in a smooth continuous fashion, both in an upward and in a downward direction.

The gas-spring includes a bottom part 18 which is pivotally connected to the leg member 3 beneath the pivot rod 12, and an upper part 19 which is pivotally connected to the transverse frame-bar 15 on the same side of a vertical plane passing through the rod 12 as the lower part 18 (see also Figures 3, 4).

The gas-spring 17 is provided with a centrally positioned pin 20 which protrudes slightly from the upper part 19 of the gas-spring in an axial direction. This pin 20 is intended to activate a release valve provided within the gas-spring.

The pin 20 is intended to coact with a cylindrical bushing 21 which is pivotally connected to a

holder means 23, by means of screws 22 or the like, said holder means being mounted on the inside of the frame bar 15. The pin 20 thus extends straight through the bushing 21 in its transverse direction and protrudes slightly beyond the bushing for coaction with an operating means or activator 24 (see also Figure 5). Because the bushing 21 is pivotally connected to the holder means 23 and because the bottom part 18 of the gas-spring 17 is pivotally connected to the leg member 3, the gas-spring will take different angular positions in relation to the frame-like part 1 of the stand and the leg member 3. According to this embodiment, the leg member 3 includes two parallel bars or rods 6, 7. The bottom part 18 of the gas-spring 17 is therewith pivotally connected to a transverse rod 25, which mutually connects the bars or rod 6, 7 and which is positioned beneath the hinge or pivot rod 12.

The operating means 24 has an elongated shape and has a handle 26 provided on the rear thereof and a part 27 which functions to engage the end of the pin 20 on the front thereof. The part 27 is provided with a hole 28 by means of which the operating means is pivotally connected to the holder means 23 substantially immediately above the pivot 22 for attachment of the bushing 21. The position of the pivot 22 has been referenced X in Figure 5. The forward part 27 of the operating means 24 is also provided with a concave recess 29 which is intended to abut the end of the pin 20 and which includes substantially 90° of a circle. The radii R of the recess 29 are therewith essentially the same, taken from the X. One important advantage afforded hereby is that the force exerted on the pin 20 by the operating means will act substantially in the longitudinal direction of the pin, irrespective of the height position of the stand, i.e. irrespective of the angle between the operating means 24 and the longitudinal axis line of the pin 20. This fact enables the gas-spring 17 to be operated effectively. When the pin 20 is pressed inwardly by means of the operating means 24, the release valve in the gas-spring will open. The gas-spring is thereby compressed with a force which is greater than the resistance exerted by the gas-spring.

gas-spring, which takes place when the stand is to be pressed down to a low level. If it is wished to maintain the stand at this low level, the pressure on the pin is removed, thereby causing the pin to

return to its starting position.

This closes the release valve in the gas-spring and the spring will thereby be blocked and function as a rigid rod. When wishing to raise the stand, the pin 20 is pressed-in by means of the operating means 24, thereby raising the frame part of the stand to the desired position, whereafter the pressure on the pin

20 is removed.

It will be understood that the invention is not restricted to the described embodiment and that modifications can be made within the scope of the following Claims. For instance, each leg member may consist of a single rod instead of two mutually

connected rods, as illustrated in the described embodiment.

Claims

1. A table stand preferably for use preferable in caravans, motor-homes and motorhomes, wherein the like, comprising an upper top of the stand is provided with a frame-like part (4) on which a table-top/tabletop is intended to be placed, at least two leg members and which is adjustable vertically so as to enable the tabletop to be adjusted to different vertical heights, characterized by the following combination of features; - The stand includes at least two leg members (2, 3) which are hinged or pivotally connected together by a hinge or pivot (12) so as such as to enable the parts of said leg members located on either side mutually opposite sides of the hinge or pivot (12) to be moved towards and away from one another in a scissor-like fashion, thereby to adjust the height of the upper frame-like part (and the table top), a weight-equalizing means for compensating, among other things, the weight of the table top, and a locking means for locking the leg members in an angular position corresponding to the adjusted height, wherein said weight-equalizing means comprises a gas spring (17) which acts between one of the leg members and said upper frame-like part, characterized

in that the locking means comprises
a gas spring (17); - Each leg member (2, 3) has at each end thereof a transverse rod (8, 9; 10, 11), of
which can be blocked by
activation of a valve to a first position at an
angular value of the leg members adjusted the lowermost rod (8; 10) functions to a
20 selected height position, so that the position of
the upper frame-like part, and therewith the
position of the table top, relative to an underlying
support the stand against an underlying supporting surface can be maintained,
wherein the valve can be adjusted to a second
25 position in which the gas spring is released for
renewed adjustment of the height of the upper

, whereas the upper rods (9; 11) coact with the frame-like part (1) in a manner such that the parts of
the two leg members (2, 3) located on opposite sides of the pivot can be moved towards and away
from each other so as to raise or lower the frame-like part (1); in that the valve can be in relation to the
underlying supporting surface; - A gas-spring, or piston-cylinder device (17), so arranged in the
stand as to enable the frame-like part (1) of said stand to be adjusted vertically, both downwardly
and upwardly, wherein the gas-spring can be blocked in a set position so as to maintain the position
of the frame-like part and therewith the position of the tabletop in relation to the underlying
supporting surface.

switched between said first and said second
positions by means of a pin (20) which extends
30 through a bushing (21) connected to said gas
spring and pivotally connected to a holder
means (23) mounted in the upper frame-like
part (1); and in that said pin (20) can be moved
axially by means of an operating means (24)
35 pivotally connected to the holder means (23)
and having a concave recess (29) for actuable
coaction with the pin (20).

2. A stand according to Claim 1, characterized

40 characterized in that the cylinder of the gas spring is attached
to the (17) has an upper frame-like part (1) through
the intermediary of the bushing (21).

3. A stand according to Claim 1 or 2, character-
45 ized in that the gas spring cylinder (19) supports
said centrally placed pin (20) which is
intended to adjust the setting of the valve
mounted within the gas spring to either the first
valve setting or the second valve setting, in
50 response to rotary movement generated by the
operating means (24).

4. A stand according to Claim 1, characterized
in that the gas spring (17) has an upper part
55 (19) which is pivotally connected to the upper
frame-like frame-like part (1) on one side of a vertical
plane which passes through the pivot (12), and

a lower part (18) which is pivotally connected to the leg member (3) on the same side of said vertical plane as the upper part (19) and beneath

the pivot (12).

3. A stand according to Claim 2, characterized in that the gas-spring (17) is provided with a centrally located pin (20) which projects slightly beyond the upper part (19) of the gas-spring in its longitudinal direction and which is intended to activate a release valve located the gas-spring (17).

4. A stand according to Claim 3, characterized in that the pin (20) passes transversely through a bushing (21) which is pivotally connected to a holder means (23) mounted in the frame-like part (1); and in that the pin (20) is intended to be activated by means of an operating means (24) which is pivotally connected to the holder means (23).

5. A stand according to Claim 4, characterized in that the pivot for pivotal movement of the operating means (24) is mounted in the holder

means (23) adjacent the bushing is arranged substantially immediately above the pivot (22) for the bushing (21).

6. A stand according to Claim 5, characterized in that the operating means (24) includes a rear part in the form of a handle (26) and a

front part (27) which is intended for coaction with the pin (20); and in that said part is provided with a concave recess (29).

with the pin (20) through the intermediary of the concave recess (29).

7. A stand according to Claim 6, characterized in that the recess (29) includes substantially 90° of a circle; and in that the radii of the recess (29) includes generally 90°

of a circular arc are substantially the same, taken from the pivot (22) referenced.

8. A stand according to any one of the preceding

Claims, characterized in that each of the two leg members (2, 3) includes two substantially parallel bars (4, 5; 6, 7) which are mutually connected together at the bottoms thereof by a transverse first rod (8 or 10) and at the tops thereof by a transverse second rod (9 or 11), said second bars (9, 11) being intended to

~~coact~~for coaction with the ~~upper~~ frame-like part (1).

9. A stand according to Claim 8, ~~characterized~~
characterized in that the frame-like part (1) comprises four
~~beams~~ bars (13-16) which are ~~arranged~~disposed in the ~~form~~
shape of a square or a rectangle ~~or square~~, wherein two mutually
~~opposite beams~~ bars (14, 16) are intended ~~to coact~~
for coaction with the ~~second bars~~ upper rods (9; 11); and in that said
~~two beams~~ bars (14, 16) have a U-shaped ~~cross-section~~;
cross-section, wherein the legs of the U of the one beam bar are

~~directed towards the legs of the U on the other beam~~ bar (16).

10. A stand according to Claim 9, ~~characterized~~
characterized in that ~~the one of the second bars (9) of said two upper rods~~ is pivotally
~~connected to said beams~~ the bars (14, 16) ~~while~~, whereas the
~~second bar other (11) of said two upper rods~~ is provided at both ends thereof with suitable
~~means at its two ends to enable the U-shaped~~

~~parts to slide~~ for enabling sliding in the U-shaped part of the two beams bars (14, 16).

11. A stand according to Claim 9, ~~characterized~~
10, in that ~~a beam~~ which the bar (15) is intended to connect
~~parallel beams~~ connects the bars (14, 16) ~~together~~ at one of their
~~two ends, so and thus extend substantially at right angles to said bars~~, characterized in that
~~the beam (15) extends generally perpendicular to these beams; and in~~
~~that the holder means (23) is mounted generally~~
disposed substantially opposite ~~said beam~~ the bar (15) and has an
~~extension which is directed inwardly towards~~

~~the centre of the upper~~ frame-like part.