

(12) PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. **AU 200162034 B2**
(10) Patent No. **770367**

(54) Title
Bottle support for compressed-air bottles

(51)⁶ International Patent Classification(s)
A62B 009/04

(21) Application No: 200162034 (22) Application Date: 2001.04.06

(87) WIPO No: W001/91857

(30) Priority Data

(31) Number	(32) Date	(33) Country
10027916	2000.05.31	DE

(43) Publication Date : 2001.12.11
(43) Publication Journal Date : 2002.02.28
(44) Accepted Journal Date : 2004.02.19

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(56) Related Art
US 4685846
DE 3540516
DE 19541286

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG(19) Weltorganisation für geistiges Eigentum
Internationales Büro(43) Internationales Veröffentlichungsdatum
6. Dezember 2001 (06.12.2001)

PCT

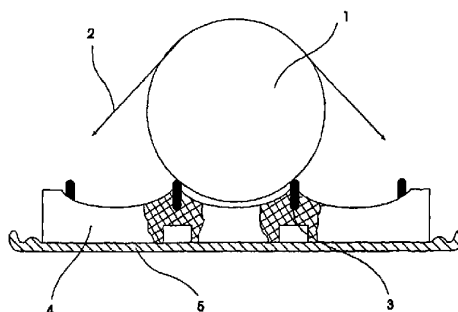
(10) Internationale Veröffentlichungsnummer
WO 01/91857 A1

- (51) Internationale Patentklassifikation: A62B 9/04 (71) Anmelder (für alle Bestimmungsstaaten mit Ausnahme von
US): MSA AUER GMBH [DE/DE]; Thiemannstrasse 1,
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- (21) Internationales Aktenzeichen: PCT/DE01/01458
- (22) Internationales Anmeldedatum: 6. April 2001 (06.04.2001) (72) Erfinder; und
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- (25) Einreichungssprache: Deutsch
- (26) Veröffentlichungssprache: Deutsch (74) Anwalt: WABLAT, Wolfgang; Postdamer Chaussee 48,
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- (30) Angaben zur Priorität: 100 27 916.3 31. Mai 2000 (31.05.2000) DE (81) Bestimmungsstaaten (national): AU, US.

[Fortsetzung auf der nächsten Seite]

(54) Title: BOTTLE SUPPORT FOR COMPRESSED-AIR BOTTLES

(54) Bezeichnung: FLASCHENAUFLAGE FÜR DRUCKLUFTFLASCHEN



(57) Abstract: The invention relates to a bottle support (4) for compressed-air bottles (1), which is preferably used for the application of frames (5) and that is interposed between the compressed-air bottle(s) (1) and the frame (5). The inventive bottle support comprises glide inserts (3) that project from the surface of the bottle support (4) in the direction of the compressed-air bottles (1) so that every filled compressed-air bottle (1), when not braced, is received by the frame and can be glidingly moved. Under the action of force of a tightening strap (2) between the compressed-air bottle (1) and the frame (5) and thus a simultaneous action of force on the glide inserts (3), the glide inserts are sunk in the bottle support (4). The glide inserts (3) are configured as pins, knobs, buttons or ribs, at least two of the inserts acting on the periphery of one compressed-air bottle (1). They preferably consist of a synthetic material and are vulcanized, glued or buttoned into the bottle support (4).

(57) Zusammenfassung: Die Flaschenaufgabe (4) für Druckluftflaschen (1), die bevorzugt bei der Verwendung von Tragegestellen (5) genutzt wird und zwischen der oder den Druckluftflaschen (1) und dem Tragegestell (5) angeordnet ist, verfügt über Gleiteinsätze (3), die aus der Oberfläche der Flaschenaufgabe (4)

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WO 01/91857 A1



(84) Bestimmungsstaaten (regional): europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

Veröffentlicht:

- mit internationalem Recherchenbericht
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in Richtung Druckluftflaschen (1) herausragen, so dass jede gefüllte Druckluftflasche (1) im unverspannten Zustand auf ihnen gelagert und gleitend bewegbar ist. Unter der Kraftwirkung eines Spannbandes (2) zwischen Druckluftflasche (1) und Tragegestell (5) und damit einer gleichzeitigen Kraftwirkung auf die Gleiteinsätze (3) sind sie in der Flaschenauflage (4) versenkbar. Die Gleiteinsätze (3) sind Stifte, Noppen, Knöpfe oder Rippen, wobei mindestens zwei auf den Umfang einer Druckluftflasche (1) wirken. Sie bestehen bevorzugt aus Kunststoff und werden in die Flaschenauflage (4) einvulkanisiert, eingeklebt oder eingeknüpft.

Bottle support for compressed-air bottles

The invention relates to a bottle support for compressed-air bottles as it is commonly used on support frames. The compressed-air bottles are strapped to the bottle support and frame using a tightening strap. The bottle support, which is usually made of rubber, compensates tolerances, ensures safe and nonskid tightening of the compressed-air bottles and has a shock-absorbing effect (DE 35 40 516 A 1 or DE 195 41286 A 1).

These advantages of the bottle support are reversed when the compressed-air bottles are mounted, however, as it is difficult to turn or move the compressed-air bottles once they rest against the bottle support. But the bottles have to be turned and moved as the fitting of the bottle valve must be aligned with the fitting of the pressure reducer to connect the compressed-air bottles; otherwise any slanted position of the bottles may cause jamming and leaking in the joint section of the bottle valve.

It is the problem of this invention to ensure that the compressed-air bottles can be moved on the bottle support when they are mounted. This problem is solved by the characterizing features of claim 1 while advantageous embodiments are the subject of the dependent claims.

The inventive bottle support for compressed-air bottles that is preferably used with support frames and interposed between the bottle(s) and the support frame comprises glide inserts that project from the surface of the bottle support in the direction of the compressed-air bottles so that every filled compressed-air bottle, when not braced, is received by the frame and can be glidingly moved and that the glide inserts can be sunk in the bottle support under the action of force of a tightening strap between the compressed-air bottle and the frame and thus a simultaneous action of force on the glide inserts.

The glide inserts are configured as pins, knobs, buttons or ribs, at least two of the inserts acting on the periphery of one compressed-air bottle. They preferably consist of a synthetic material and are vulcanized, glued, or buttoned into the bottle support.

The spring action of the compressed-air bottle is thus achieved by the bottle support alone. Also conceivable is a variant in which the glide inserts are pressed against the compressed-air

bottle using a spring, or a combination of both designs. The glide inserts can also be spring-mounted parts of the support frame that penetrate the bottle support.

If the bottle support is made of a highly elastic material, in particular, of rubber it has proven useful to provide hollow spaces underneath the glide inserts in the bottle support into which the glide inserts can be sunk. The glide inserts can also be sunk by being elastically bent sideways and pressed into the bottle support or a corresponding recess therein. The decisive characteristic is that the glide inserts dip far enough into the bottle support so that the elastic bottle support can compensate variations between one or more compressed-air bottle(s) strapped to it and the support frame. Naturally, the invention is primarily meant for handling compressed-air bottles on support frames. But there are other fields of application and uses wherever compressed-air bottles have to be moved for alignment while resting on supports the greatest possible static friction is to be produced between support and compressed-air bottle or container when the latter are braced.

The figure shows an embodiment of the invention:

The Fig. shows a compressed-air bottle 1 that rests on glide inserts 3 of the bottle support 4. The compressed-air bottle 1 can be strapped to the support frame using the tightening strap 2 when the high-pressure fitting and the pressure reducer are connected. The glide inserts 3 project from the surface of the bottle support 4 in the direction of the compressed-air bottle 1 so that the filled compressed-air bottle 1, when not braced, can be glidingly moved in every direction on them. Under the action of force of a tightening strap 2 on the compressed-air bottle 1 and thus on the glide inserts 3, the glide inserts can be sunk into the bottle support 4.

The force of pressure that the glide inserts 3 exert on the compressed-air bottle 1 is achieved by the resilience of the rubber bottle support 4 into which the glide inserts are firmly inserted. Hollow spaces 6 are provided underneath the glide inserts 3 in the bottle support 4. The glide inserts 3 and the adjacent material of the bottle support 4 move into these hollow spaces 6 as a result of the tightening force of the tightening strap 2. The bottle support 4 is dimensioned not only for receiving the compressed-air bottle under the tightening action but also for compressing it somewhat.

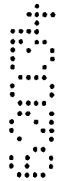
- 3 -

When the tightening strap 2 is loosened, the glide inserts 3 protrude due to the resilient action of the deformed portions of the bottle support 4, slightly lift the compressed-air bottle 1 and release it from the friction forces of the bottle support 4.

5 The embodiment shown uses two pins that act on the periphery of a compressed-air bottle 1 as glide inserts 3. When the high-pressure fitting and the pressure reducer are disconnected, these glide inserts allow exact inserting, tilting, panning and rotational movement of the compressed-air bottle 1. This ensures that the screw fittings are in true alignment when the high-pressure fitting and the pressure reducer are connected.

10 Throughout the specification and the claims which follow, unless the context requires otherwise, the word "comprise", and variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or
15 steps.

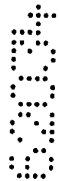
The reference to any prior art in this specification is not, and should not be taken as, an acknowledgment or any form of suggestion that that prior art forms part of the common general knowledge in Australia.



- 4 -

We claim:

1. A bottle support for compressed-air bottles against which one or more compressed-air bottle(s) are pressed using a tightening strap after connecting high-pressure fitting and
5 pressure reducer, characterized in that
the bottle support comprises glide inserts that protrude from the surface of the bottle support in the direction of the compressed-air bottle so that every filled compressed-air bottle, when not braced, is received by these and can be glidingly moved, and in that the glide inserts can be sunk into the bottle support under the action of force of the tightening
10 strap on the compressed-air bottle and therefore simultaneously on the glide inserts.
2. The bottle support according to claim 1, characterized in that
the glide inserts are configured as pins, knobs, buttons or ribs, at least two of the inserts acting on the periphery of a compressed-air bottle.
- 15 3. The bottle support according to claim 1, characterized in that
hollow spaces are provided underneath the glide inserts in the bottle support made of a highly elastic material, in particular, of rubber, for sinking the glide inserts into the bottle support.
- 20 4. The bottle support according to claim 1, characterized in that
the glide inserts are sunk by resiliently bending them sideways.
5. The bottle support according to claim 1, characterized in that
25 the glide inserts are pressed against the compressed-air bottle by a spring.
6. The bottle support according to claim 1, characterized in that
the glide inserts consist of a synthetic material.
- 30 7. The bottle support according to claim 1, characterized in that
the glide inserts are vulcanized, glued or buttoned into the bottle support.



- 5 -

8. The bottle support according to claim 1, characterized in that the glide inserts are spring-mounted parts of the support frame that penetrate the bottle support.

- 5 9. A bottle support for compressed-air bottles, substantially as herein described with reference to the accompanying figure.

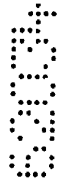
DATED this 8th day of September, 2003

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MSA Auer GmbH

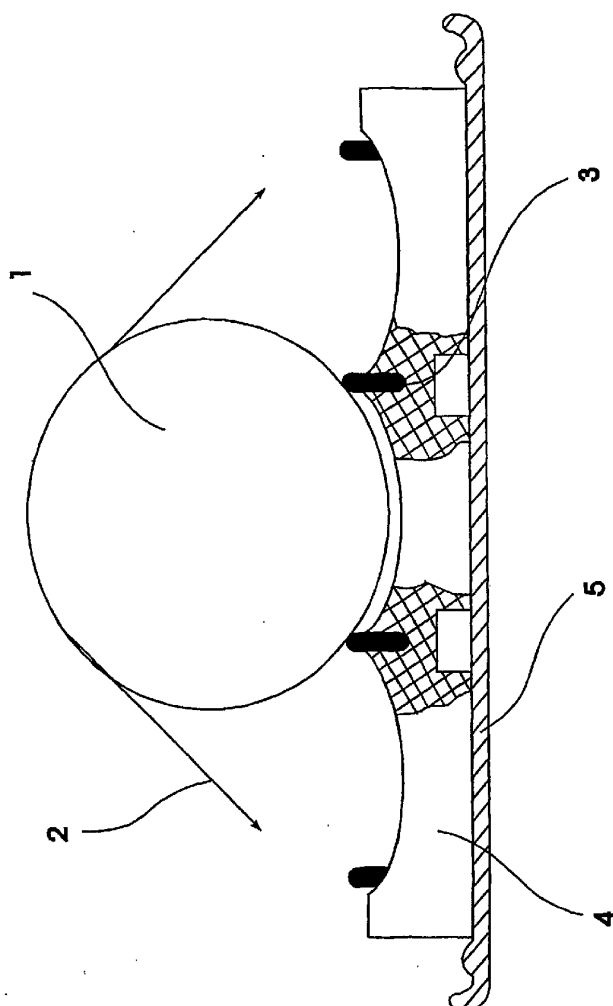
By Their Patent Attorneys

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WO 01/91857

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