



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.08.2023 Bulletin 2023/31

(51) International Patent Classification (IPC):
G10D 3/18 ^(2020.01) **G10D 1/08** ^(2006.01)
G10G 5/00 ^(2006.01)

(21) Application number: **22153502.4**

(52) Cooperative Patent Classification (CPC):
G10D 1/08; G10D 3/18; G10G 5/00; G10G 5/005

(22) Date of filing: **26.01.2022**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
 Designated Extension States:
BA ME
 Designated Validation States:
KH MA MD TN

• **Frigerio, Jacopo**
6503 Bellinzona (CH)

(72) Inventors:
 • **FRIGERIO, Carlo**
6826 Riva San Vitale (CH)
 • **FRIGERIO, Chiara**
6592 Sant'Antonino (CH)
 • **FRIGERIO, Jacopo**
6503 Bellinzona (CH)

(71) Applicants:
 • **Frigerio, Carlo**
6826 Riva San Vitale (CH)
 • **Frigerio, Chiara**
6592 Sant'Antonino (CH)

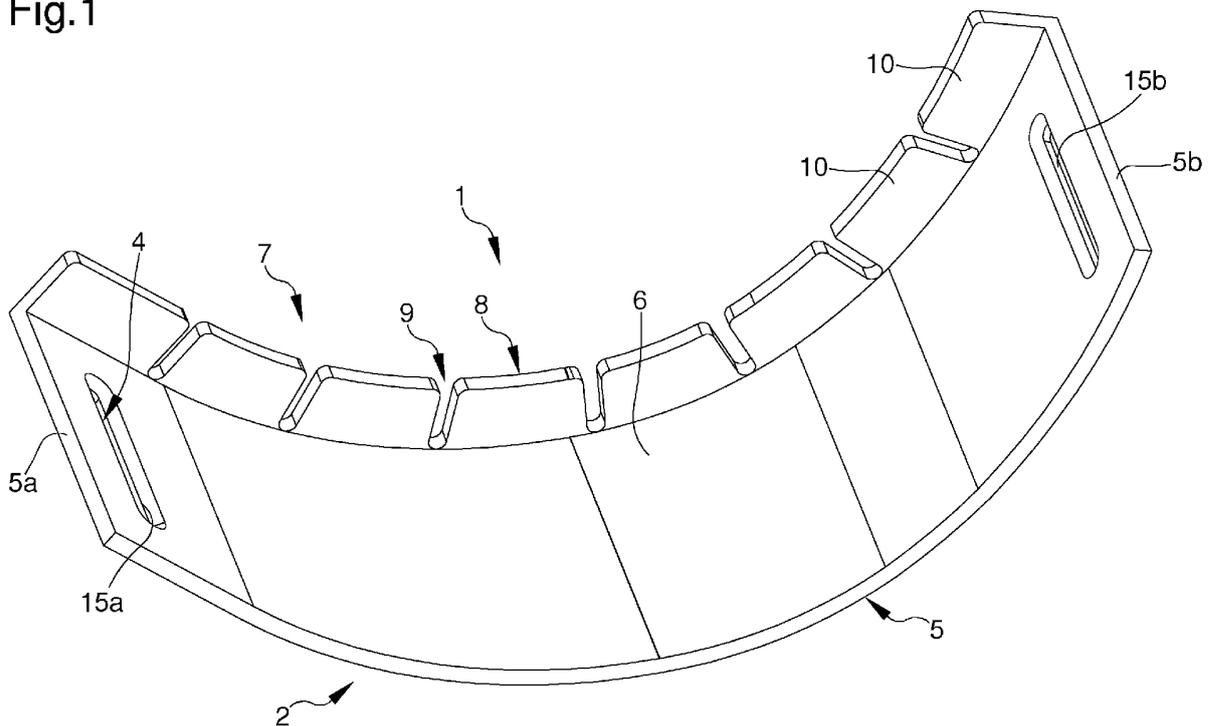
(74) Representative: **Brunacci, Marco**
BRUNACCI & PARTNERS S.r.l.
Via Pietro Giardini, 625
41125 Modena (MO) (IT)

(54) **STAND FOR MUSICAL INSTRUMENTS WITH HANDLE**

(57) The holder (1) for musical instruments with handle comprises:
 - a holding element (2) configured to at least partly wrap around part of a body part (C) of a musical instrument

(G), and
 - connecting means (4) associated with the holding element (2) and configured to connect to a sling (3) wearable by a user.

Fig.1



Description

Technical Field

[0001] The present invention relates to a holder for musical instruments with handle, preferably chordophones and provided with at least one body part.

Background Art

[0002] As is well known, the term "chordophone musical instrument with handle" means an instrument that generates a sound by means of the vibration of one or more strings. Such instruments are usually provided with a handle, adapted to support one or more strings taut, and a body part (or otherwise called main body) adapted to support the handle and to amplify the sound produced by the vibration of the strings.

[0003] Nevertheless, in the prior art there are also hybrid musical instruments, generally electronic, provided with a body part and a handle, but without strings, in which the function of the handle is also one of support and/or notation change. Patent publication no. WO2009111815 can be given as an example. Finally, there are also keyboards that substantially replicate the shape of a guitar called "keytar".

[0004] The holder of the present invention finds a preferred application in the holder for guitars, particularly of classical or acoustic guitars, and the following description will explicitly refer to such instruments without, however, losing generality.

[0005] Accordingly, in the remainder of the present description and in the subsequent claims, the term "guitar" is intended to mean, in addition to the guitar, any musical instrument with a handle, such as e.g. those listed above.

[0006] Musicians usually play guitars while sitting on a stool or standing. In both cases, the musician must grip and hold the guitar in a position of use that is comfortable and functional. Typically, in such a position of use, the guitar is held with the handle tilted upwards with respect to the ground by an angle of inclination which, more often than not, varies depending on the height, structure and preferences of the musician.

[0007] If, for example, the guitar is used in a sitting position, musicians usually support the guitar by leaning it on one of their legs and, in order to adjust the position and inclination thereof, they lift the latter using a footrest.

[0008] The use of the footrest, however, can lead to postural problems in the user, which become more severe with a prolonged use of the instrument.

[0009] In particular, the use of the footrest forces the user to have a non-optimal posture which involves, over time, the manifestation of postural and health problems in the back. In fact, during the use of the guitar, musicians are positioned with their pelvis and spine inclined and rotated. This posture can produce tensions in various points of the back, such as e.g. the cervical area, and cause muscle asymmetries as a result of a constant

stretching of the muscles on one side and of a compression on the other side.

[0010] In addition, musicians, in order to hold and maintain the instrument in position, exert a muscular effort which involves their shoulders and the cervical area and involves an exposure of these parts of the body to tensions which do not allow a perfect fluidity and freedom of movement during the use of the musical instrument.

[0011] At the current state of the art, there are some alternatives to the use of the footrest which, however, do not fully solve the problems mentioned above and, in addition, have several problems related in particular to the stability and reliability during executions.

Description of the Invention

[0012] Thus, the Applicants envisaged devising a holder which is capable of creating a resting point for the musical instrument which would allow musicians to hold the musical instrument in a comfortable position for its use, while allowing them to maintain a posture that would not be detrimental to their health. Another object of the present invention is to devise a holder which allows the musical instrument to be held in a stable position, while following every interpretative movement of the musician.

[0013] A further object of the present invention is to devise a holder for musical instruments which allows musicians to benefit from total freedom of movement of their fingers thanks to the relaxation of the cervical muscles and discharge of weight towards the elbows which promotes a measured use of the forces in ideal joint looseness.

[0014] Another object of the present invention is to devise a holder for musical instruments which allows the musician to maintain, during use of the musical instrument, a correct posture of the vertebrae and lumbar muscles.

[0015] Another object of the present invention is to devise a holder for musical instruments which allows the mentioned drawbacks of the prior art to be overcome within a simple, rational, easy and effective to use as well as affordable solution.

[0016] The aforementioned objects are achieved by the present holder for musical instruments having the characteristics of claim 1.

Brief Description of the Drawings

[0017] Other characteristics and advantages of the present invention will become more apparent from the description of a preferred, but not exclusive, embodiment of a holder for musical instruments, illustrated by way of an indicative, yet nonlimiting example, in the accompanying tables of drawings wherein:

- Figure 1 is a perspective view of the holder according to the present invention,
- Figure 2 is a perspective view of the holder in Figure

- 1 associated with a musical instrument with handle, Figures 3 and 4 are perspective views of the holder in Figure 1 used by a user which is positioned in a standing position and in a sitting position, respectively.

Embodiments of the Invention

[0018] With particular reference to these figures, reference numeral 1 globally indicates a holder for musical instruments with handle provided with at least one body part C.

[0019] According to the invention, the holder 1 is configured to hold the musical instrument in a position of use which is comfortable and practical for a user, the latter being able to position in a standing or a sitting position. In the case of a guitar, such a position of use involves arranging the guitar's handle tilted upwardly with respect to a horizontal plane.

[0020] Throughout the present disclosure, the terms "upper" and "lower", "front", "rear", "vertical" and "horizontal", as used with reference to the holder and to the musical instrument, shall be understood to refer to the conditions of normal use, i.e., those in which the musical instrument is used by a user as shown in Figures 3 and 4.

[0021] As anticipated above, the holder 1 has a preferred application in supporting a musical instrument of the type of a guitar. Therefore, the present description will specifically refer to such a musical instrument. It cannot, however, be ruled out that the holder 1 may support musical instruments with handle of different types and sizes. For example, the holder 1 may be intended to support guitars of different types and sizes. Therefore, the sizes of the holder 1 may vary depending on the musical instrument it is intended to support.

[0022] As shown in Figure 2, the guitar G comprises a handle N adapted to support a plurality of strings in tension and a body part C associated with the handle N and adapted to amplify the sound produced by the strings following a vibration thereof.

[0023] In the case of electronic musical instruments, the term "body part" is intended to mean the main body of the musical instrument which is adapted to support the handle N.

[0024] Preferably, the body part C has a substantially "8" shape in which a first portion A, with which the handle N is associated, and a second portion B are identified. Each of the first and second portions A, B has a substantially semicircular cross-section. Preferably, the second portion B has a larger diameter than the first portion A.

[0025] In this case, the body part C is laterally bounded by a side wall L and is enclosed by a front wall F, facing the strings, and a rear wall P facing, in use, the user's body.

[0026] Advantageously, the holder 1 comprises a holding element 2 configured to at least partly wrap around part of the body part C of a musical instrument G. In actual facts, the holding element 2 makes a resting point for the

guitar which allows the user to hold the musical instrument in a comfortable position for its use.

[0027] Preferably, the holding element 2 is configured to at least partly wrap around the second portion B of the body part C.

[0028] The holding element 2 is also intended to be associated with a sling 3 wearable by a user. The use of a sling 3, as described in detail here below, allows the user to maintain a comfortable posture that is not detrimental to their health while using the musical instrument.

[0029] Conveniently, the holder 1 comprises connecting means 4 associated with the holding element 2 and configured to connect to a sling 3 wearable by a user.

[0030] Conveniently, the holder 1 is part of at least one sling 3 adapted to be worn by a user. In the present case, the sling 3 is configured to be worn at one or more portions of the body so that the weight force exerted by the guitar on the holder 1 is discharged onto one or more portions of the user's body, thus allowing the user to benefit from total freedom of movement of their fingers. In particular, the weight force of the guitar is discharged on the holding element 2 along a substantially vertical direction passing through the midpoint of the holding element 2 and substantially parallel to the user's sternum.

[0031] This solution allows for the creation of an individual resting point for the guitar which keeps it in the predefined position of use, while allowing the user to maintain a comfortable and non-destructive posture.

[0032] In this case, the sling 3 comprises at least one wrapping portion 3a, adapted to wrap at least partly around the user's body, and a connecting portion 3b associated with the wrapping portion 3a and configured to connect to the holding element 2.

[0033] Preferably, the wrapping portion 3a and the connecting portion 3b are made of a single body piece.

[0034] Conveniently, when the wrapping portion 3a is worn by the user, the connecting portion 3b is arranged frontally to the user, thus allowing the holding element 2 to hold the guitar G in a frontal position.

[0035] As can be seen from Figure 1, the holding element 2 has an elongated body 5 having a resting surface 6 of a shape substantially complementary to at least part of the body part C to receive it in support and to hold it by shape coupling. In particular, the resting surface 6 has a substantially concave shape. In actual facts, the elongated body 5 mainly extends along its own longitudinal direction between a pair of ends 5a, 5b. The elongated body 5 is curved along this longitudinal direction, thus producing a resting surface 6 of a substantially complementary shape to a portion of the body part C.

[0036] Preferably, the elongated body 5 is configured to wrap at least partly around the second portion B of the body part C. In this case, the resting surface 6 is intended to receive in support the side surface L of the body part C. That is, the resting surface 6 is intended to adhere to at least part of the side surface L of the body part C.

[0037] Preferably, the elongated body 5 is made of a flexible or elastic material in order to accommodate dif-

ferent shapes and/or sizes of the body part C, which may vary from instrument to instrument.

[0038] It cannot, however, be ruled out that the elongated body 5 may be made of a rigid material in order to maintain a substantially fixed curvature.

[0039] In this case, the elongated body 5 is made at least partly of at least one material selected from a list of materials comprising: a thermoplastic material, a plastic material, cedar, mahogany, leather.

[0040] These materials allow the guitar to be protected during its use and at the same time allow the instrument to be held, preventing it from slipping and moving during use.

[0041] Conveniently, the elongated body 5 has a length comprised between 160 mm and 2000 mm, even better between 250 mm and 470 mm, preferably 360 mm; a width comprised between 30 mm and 120 mm, preferably 95 mm; and a thickness comprised between 2 mm and 5 mm, preferably 4 mm.

[0042] Conveniently, in the home configuration, the curvature and sizes of the elongated body 5 are such that in a projection thereof onto a plane X-Y perpendicular to the resting surface 6, the distance between the ends 5a, 5b projected onto an axis X-X of the plane X-Y is comprised between 140 mm and 190 mm, preferably 169 mm, while the distance between the ends 5a, 5b projected onto an axis Y-Y of the plane is comprised between 200 mm and 500 mm, preferably 360 mm.

[0043] Conveniently, the holder 1 is made of an elastic material so that it can vary its radius of curvature to be associated with the musical instrument G.

[0044] As shown in Figure 3, when the user is wearing the sling, the resting surface 6 is arranged in a substantially horizontal position and in front of the user. The user can thus place a certain portion of the body part C of the guitar G on the resting surface 6, arranging it in the position of use.

[0045] Furthermore, the holder 1 comprises retaining means 7 adapted to retain the guitar in said position of use. That is, once the user positions the guitar G on the holding element 2, the retaining means 7 operate on the guitar G in order to block it in said position.

[0046] For this purpose, conveniently, the holding element 2 has at least one sidewall 8 extending along the elongated body 5. The sidewall 8 protrudes cantilevered by a predetermined length from the resting surface 6. Preferably, the sidewall 8 protrudes cantilevered by a length comprised between 3 mm and 10 mm, preferably 5 mm.

[0047] More particularly, the sidewall 8 is arranged transversely to the resting surface 6. Even more particularly, the sidewall 8 is arranged perpendicularly to the resting surface 6. In other words, in cross section, the holding element 2 has a substantially "L" shape.

[0048] The sidewall 8 is arranged at one edge of the elongated body 5, i.e., the sidewall 8 makes a hem of the elongated body 5. In addition, the sidewall 8 serves as an abutment element in order to stop against the body

part C of the guitar G.

[0049] In use, the sidewall 8 is arranged frontally to the body part C, thus adhering to the front surface F of the guitar G to retain it in abutment. In actual facts, when the guitar G is arranged against the holding element 2, the resting surface 6 adheres to the side wall L of the body part C, while the sidewall 8 adheres to the front wall F.

[0050] By means of such an arrangement, the sidewall 8 can block the guitar G in abutment, by retaining it on the holding element 2. In other words, the sidewall 8 operates as a retaining means 7 of the musical instrument G.

[0051] Preferably, the sidewall 8 is locked together with the elongated body 5. Even more preferably, the sidewall 8 and the elongated body 5 are made of a single body piece.

[0052] Also, preferably, the sidewall 8 is made of the same material as the elongated body 5.

[0053] It cannot however be ruled out that the sidewall 8 and the elongated body 5 may be separated from each other and/or be made of different materials.

[0054] Preferably, the sidewall 8 extends for the entire length of the elongated body 5. The sidewall 8 has a thickness comprised between 3 mm and 10 mm, preferably 5 mm.

[0055] According to an embodiment shown in Figure 1, the sidewall 8 has a plurality of slits 9 obtained transversely to the longitudinal direction. In actual facts, the sidewall 8 is divided into a plurality of teeth 10 arranged side by side and spaced apart from each other along the longitudinal direction of the elongated body 5.

[0056] Such a conformation allows the elongated body 5 to be curved, thus modifying its radius of curvature based on the sizes of the body part C, without the sidewall 8 hindering the movement thereof.

[0057] Preferably, the sidewall 8 has eight teeth 10.

[0058] It cannot however be ruled out that the sidewall may have more or fewer teeth. Furthermore, the teeth 10 have a width, intended as a dimension parallel to the longitudinal axis of the elongated body 5, comprised between 40 mm and 50 mm.

[0059] Preferably, the teeth are spaced apart from each other by a distance comprised between 3 mm and 10 mm.

[0060] As can be seen from Figures 3 and 4, the sling 3 comprises at least one of either:

- a belt 11 adapted to wrap at least partly around the waist of a user, or
- a shoulder strap 12 adapted to wrap at least partly around the neck and/or the shoulder of a user.

[0061] According to one embodiment, the sling 3 comprises a strap 13 adapted to wrap around at least one part of the user's body. In particular, the strap 13 is adapted to wrap around at least one of the waist, neck, shoulder and/or back of the user. Preferably, the strap 13 is adapted to wrap around either the waist or the neck of the user.

In actual facts, conveniently, the strap 13 may serve as both a belt 11 and a shoulder strap 12, allowing the user to choose a preferred use.

[0062] Usefully, the sling 3 has a closure, not shown in the figures, adapted to join the ends of the strap 13 to each other in order to close it by wrapping around a portion of the user's body. In particular, the closure allows the strap 13 to be closed/opened to allow the user to wear the sling 3. For example, the closure may be of the type of a buckle and/or the like.

[0063] Conveniently, the sling 3 is adjustable by length in order to adjust the positioning of the holder 1 with respect to the user's body.

[0064] As mentioned above, the holder 1 may be used by a user in either a sitting position or a standing position.

[0065] Figure 4 shows an example wherein the user is placed in a sitting position and the sling is worn as a belt so that, by adjusting the length of the strap 13, the holding element can be arranged to rest on the legs of the guitarist.

[0066] Figure 3 shows an example wherein the user is in a standing position and the sling is worn over the shoulder in order to provide the user with stability and freedom of movement, while being comfortable and practical.

[0067] By means of these solutions, therefore, the user benefits from the total freedom of movement of the fingers thanks to the relaxation of the cervical muscles and the discharge of the weight towards the elbows which promote a measured use of the forces in the ideal looseness of the joints.

[0068] Conveniently, the connecting means 4 comprise at least one pair of openings 15a, 15b formed on the elongated body 5, each at one end thereof. The openings 15a, 15b are adapted to receive the sling 3 so as to connect it to the elongated body 5. In particular, the openings 15a, 15b are adapted to receive the connecting portion 3b of the sling 3. Even more particularly, the openings are adapted to receive the strap 13.

[0069] As shown in Figure 2, the strap 13 is fitted into the openings by wrapping at least partly around the elongated body 5, securing it to the user's body. Conveniently, the openings 15a, 15b are obtained transversely to the elongated body 5. That is, the openings 15a, 15b extend substantially perpendicularly to the longitudinal direction of the elongated body 5.

[0070] The conformation and dimensions of the openings 15a, 15b are substantially complementary to the connecting portion 3b of the sling 3. In particular, the openings 15a, 15b are substantially linear and have slightly greater length than the width of the strap 13.

[0071] Preferably, the openings 15a, 15b have a length comprised between 10 mm and 60 mm, preferably 51 mm; and a width comprised between 1 mm and 5 mm, preferably 3.2 mm.

[0072] Preferably, the openings 15a, 15b are obtained at a distance from the respective end of the elongated body 5 comprised between 10 mm and 30 mm, preferably 20 mm.

[0073] As anticipated above, the holder 1 comprises retaining means 7 adapted to block the instrument when arranged resting on the holding element to keep it in a predefined position. In particular, the holder 1 comprises at least one gripping element 16 associated with the sling 3, preferably with the strap, and configured to adhere to the musical instrument G to block it in the predefined position of use.

[0074] In other words, the musical instrument G is placed by the user on the holding element 2 and positioned in the predefined position of use. At this point, the gripping element 16 adheres to the surface of the musical instrument G to block it in such a position.

[0075] Conveniently, the gripping element 16 is associated in a sliding manner with the sling 3, in order to be able to adjust the positioning of the musical instrument G. Preferably, the gripping element 16 is associated in a sliding manner with the strap 13 to slide along the latter.

[0076] According to one or more embodiments, the gripping element 16 is of the type of a suction cup element 16 adapted to adhere to the surface of the musical instrument G to block it.

[0077] According to one or more embodiments, the gripping element 16 is of the type of a tear-off element, e.g. Velcro, i.e., it is provided with at least:

- a first portion associated with one of either the sling 3 or the musical instrument G and comprising a plurality of loops, and
- a second portion associated with the other of either the sling 3 or the musical instrument G and provided with a plurality of hooks adapted to engage with the plurality of loops.

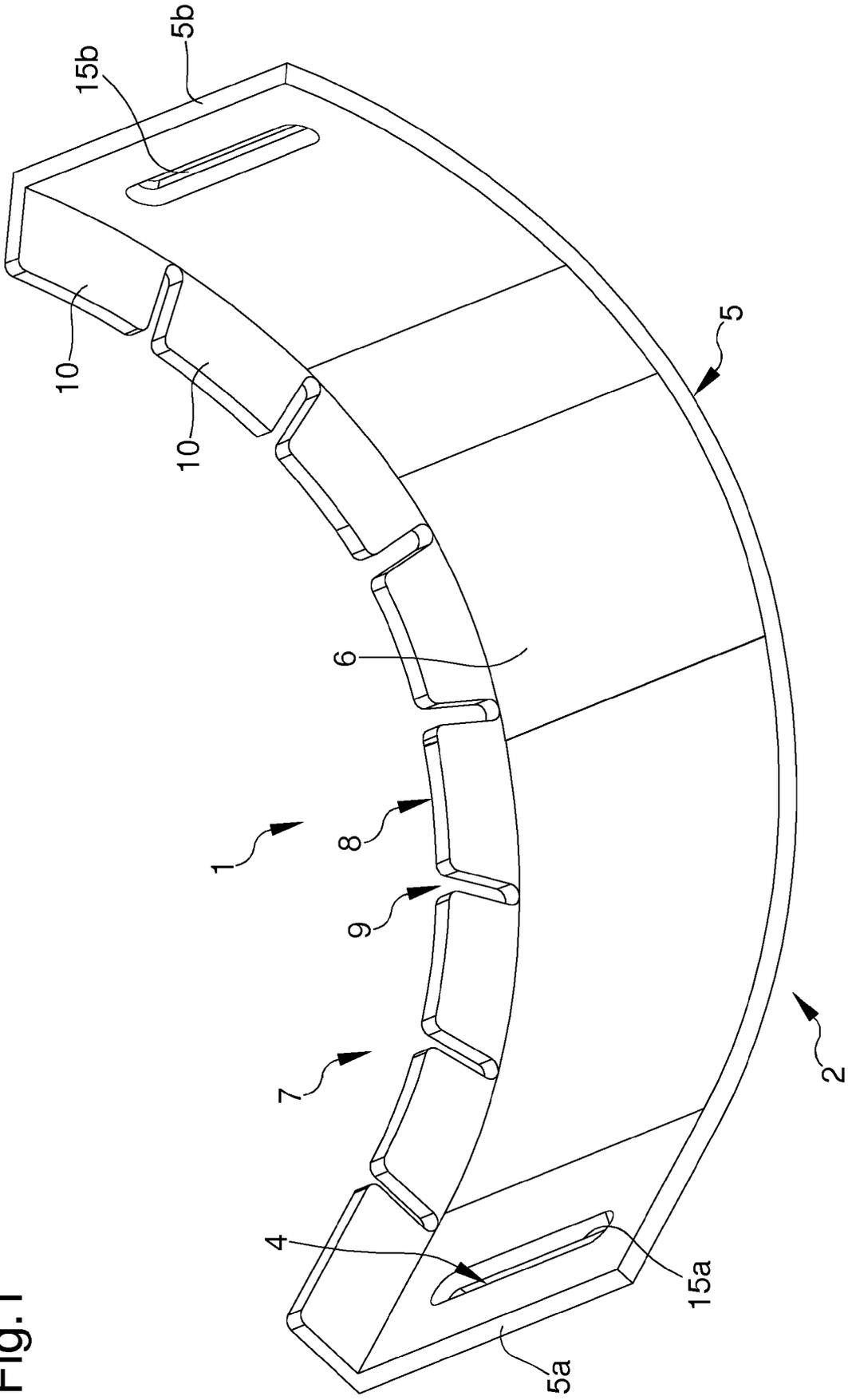
[0078] It has, in practice, been ascertained that the described invention achieves the intended objects and, in particular, the fact is emphasized that the holder allows creating a resting point for the musical instrument which allows the user to hold the musical instrument in a comfortable position of use, while allowing the same to maintain a posture that is not harmful to health. In addition, through the use of the holder, the user can benefit from the total freedom of movement of their fingers thanks to the relaxation of the cervical muscles and the discharge of weight towards the elbows which promotes a measured use of forces in the ideal looseness of the joints.

Claims

1. Holder (1) for musical instruments with handle provided with at least one body part (C), comprising:
 - a holding element (2) configured to at least partly wrap around part of a body part (C) of a musical instrument (G), and
 - connecting means (4) associated with said holding element (2) and configured to connect

- to a sling (3) wearable by a user.
2. Holder (1) according to claim 1, **characterized by** the fact that it is at least part of a sling (3) wearable by a user.
3. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said holding element (2) has an elongated body (5) having a resting surface (6) of a shape substantially complementary to at least part of said body part (C) to receive it in support and hold it by shape coupling.
4. Holder (1) according to claim 3, **characterized by** the fact that said resting surface (6) has, in use, a substantially concave shape.
5. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said connecting means (4) comprise at least one pair of openings (15a, 15b) formed on said elongated body (5), each at one end of said elongated body (5), said openings (15a, 15b) being adapted to receive said sling (3).
6. Holder (1) according to claim 5, **characterized by** the fact that said openings (15a, 15b) are formed transversely to said elongated body (5).
7. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said holding element (2) has at least one sidewall (8) extending along said elongated body (5), said sidewall (8) protruding cantilevered by a predetermined length from said resting surface (6).
8. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said elongated body (5) is made at least partly of at least one material selected from a list of materials comprising: a thermoplastic material, a plastic material, cedar, mahogany, leather.
9. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said sling (3) comprises at least one of either:
- a belt (11) adapted to wrap at least partly around the waist of a user, or
 - a shoulder strap (12) adapted to wrap at least partly around the shoulder and/or the neck of a user.
10. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that it comprises at least one gripping element (16) associated with at least one of either said sling (3) or said holding element (2) and configured to adhere to said musical instrument (G) to block it in a predefined position of
- use.
11. Holder (1) according to claim 10, **characterized by** the fact that said gripping element (16) is associated in a sliding manner with at least one of either said sling (3) or said holding element (2) in order to be able to adjust the position of use of said musical instrument (G).
12. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said elongated body (5) has a length comprised between 160 cm and 2000 cm.
13. Holder (1) according to one or more of the preceding claims, **characterized by** the fact that said elongated body (5) has a width comprised between 30 mm and 120 mm.

Fig.1



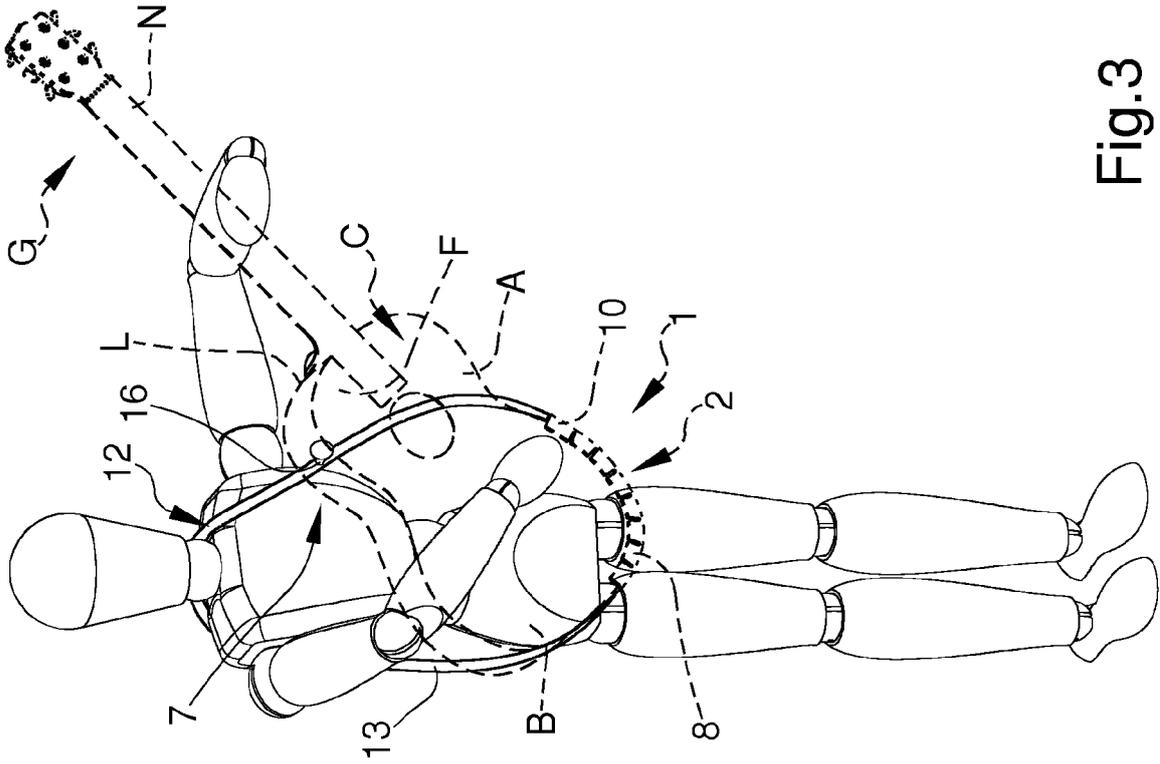


Fig.3

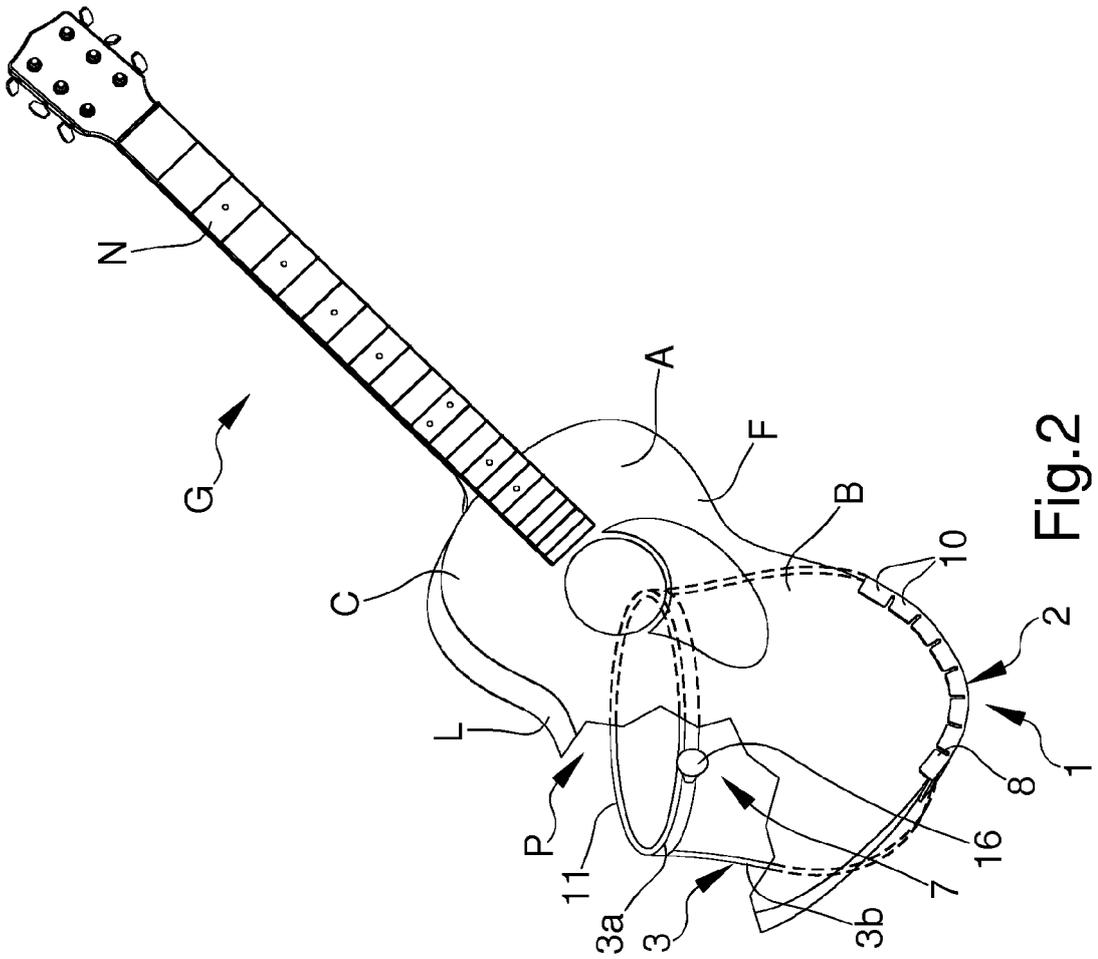


Fig.2

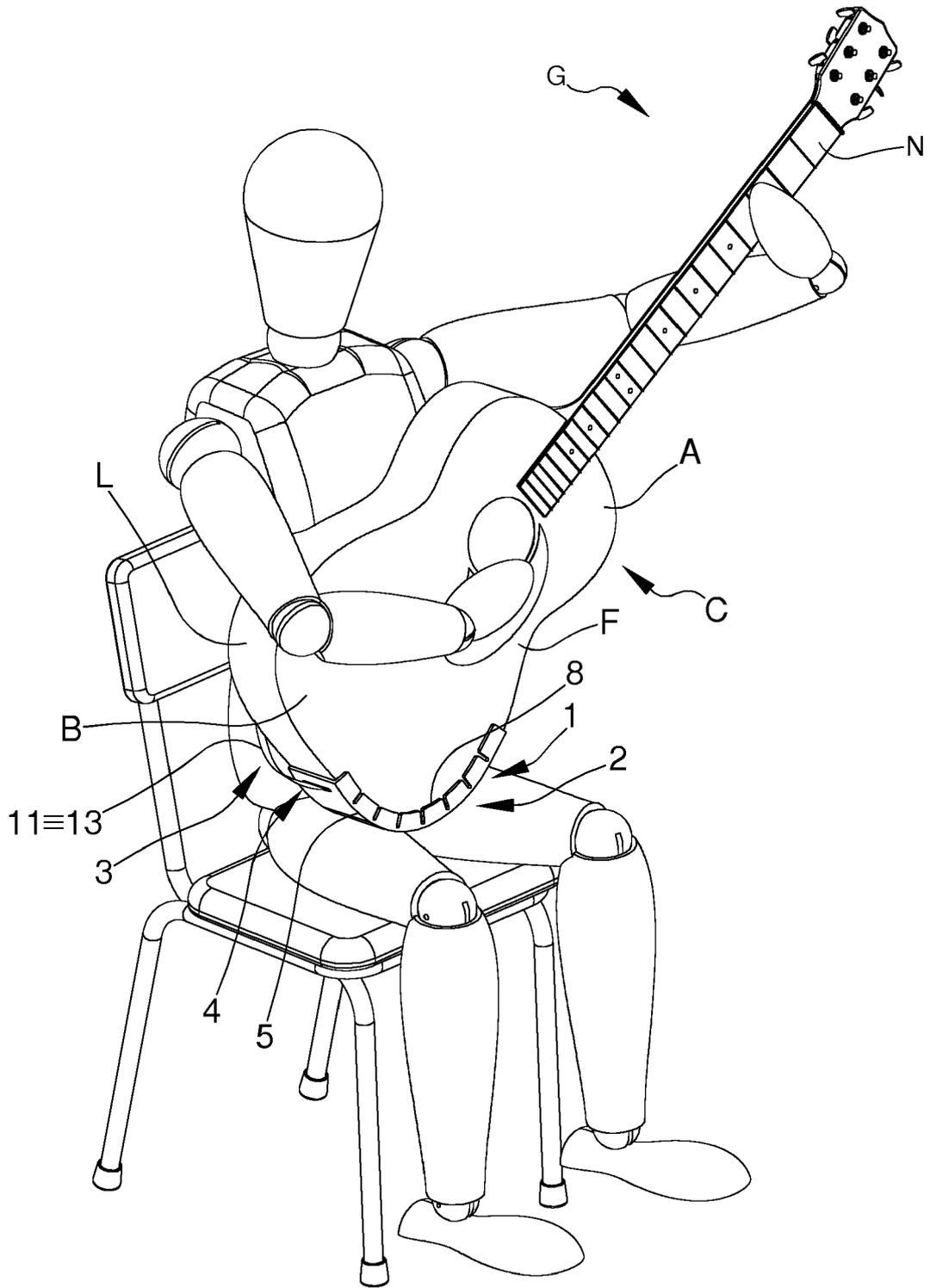


Fig.4



EUROPEAN SEARCH REPORT

Application Number
EP 22 15 3502

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2007/261532 A1 (NEAGLE GEORGE [CA]) 15 November 2007 (2007-11-15)	1-9, 12, 13	INV. G10D3/18
Y	* paragraph [0039] - paragraph [0050] * * figures 6, 8, 9 *	10, 11	G10D1/08 G10G5/00
Y	EP 1 105 866 A1 (PAPPILON MARC [FR]) 13 June 2001 (2001-06-13) * figure 1 *	10, 11	
			TECHNICAL FIELDS SEARCHED (IPC)
			G10D G10G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 9 June 2022	Examiner Breccia, Luca
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	

1
EPO FORM 1503 03:82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 22 15 3502

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-06-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007261532 A1	15-11-2007	NONE	

EP 1105866 A1	13-06-2001	AU 5171599 A	06-03-2000
		CA 2305006 A1	07-10-2001
		EP 1105866 A1	13-06-2001
		FR 2782407 A1	18-02-2000
		WO 0010159 A1	24-02-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2009111815 A [0003]