Oct. 11, 1949. R. E. LEE 2,484,383

INSTRUMENT SUPPORTING DEVICE

Filed Aug. 25, 1947

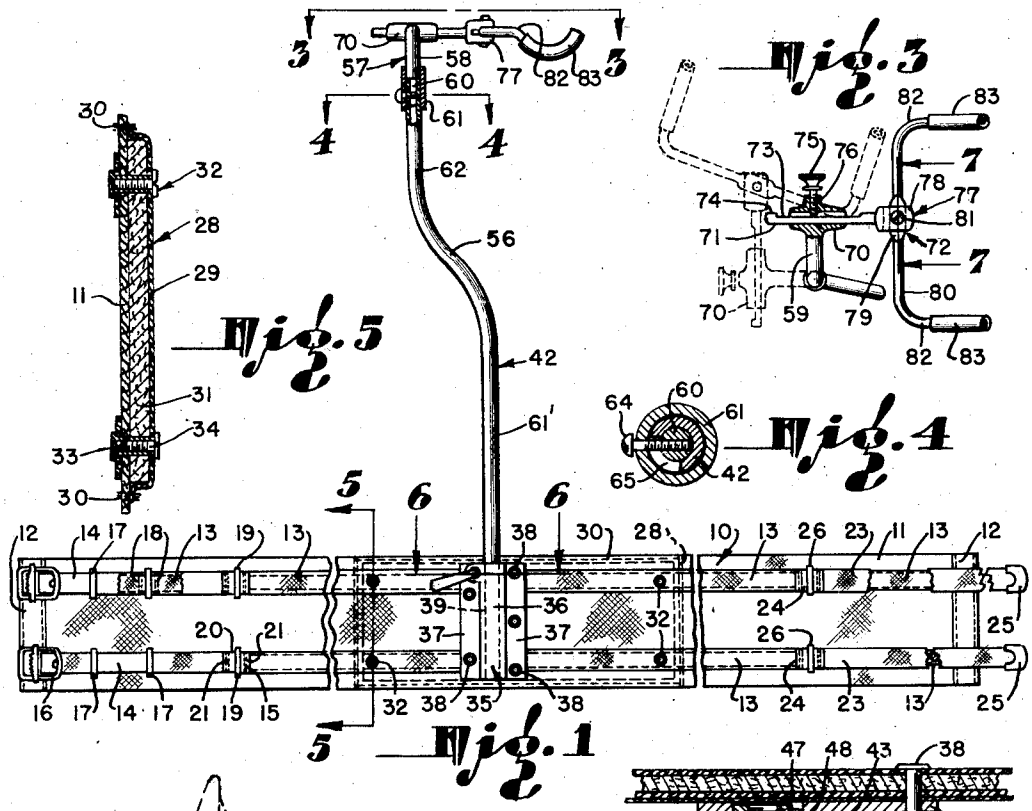


Fig. 1

Fig. 3

Fig. 4

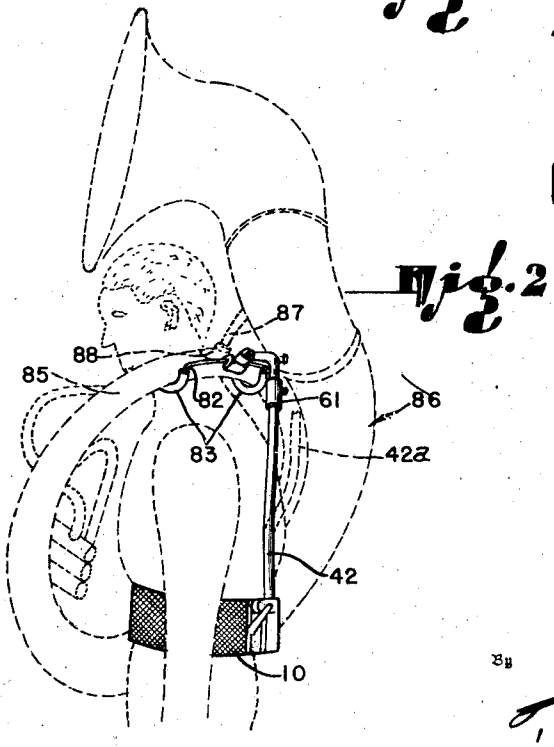


Fig. 2

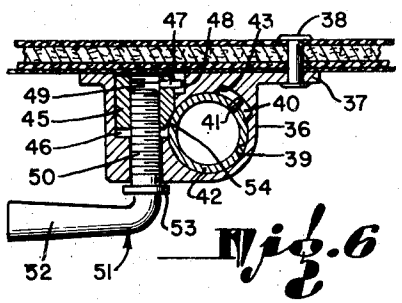


Fig. 6

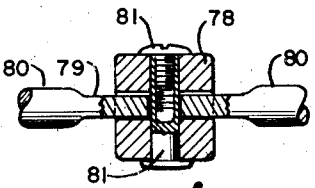


Fig. 7

Inventor

ROBERT E. LEE

By

Attorney

Patented Oct. 11, 1949 2,484,383

UNITED STATES PATENT OFFICE

2,484,383

INSTRUMENT SUPPORTING DEVICE

Robert E. Lee, Los Angeles, Calif.

Application August 25, 1947, Serial No. 770,425

3 Claims. (Cl. 224—5)

1

This invention relates generally to supporting devices, and more particularly to devices for supporting large musical instruments and the like.

While the invention is suitable as a support for various instruments, it is herein shown and described in connection with the "Sousaphone."

Band instruments, such as the "Sousaphone" are relatively heavy and are carried over the shoulder of the player, with the loop of the instrument resting on the shoulder itself. Due to the very considerable weight of the instrument on the shoulder, the latter often becomes sore and painful. This is particularly true when the player is marching. Besides the pain the player must endure, and largely because of it, his playing is hindered or adversely affected.

It is therefore an object of the present invention to provide an instrument supporting device which will overcome these difficulties.

Another object of the invention is to provide a device of this character wherein the weight on the shoulder is removed and the weight of the instrument is comfortably carried by the hips, the hands being left free to operate the instrument.

In playing heavy musical instruments, such as the "Sousaphone," it is highly important that the instrument be so carried as to "feel" right, so that the player's attention will not be occupied with the problem of carrying it and can devote substantially his entire attention to the playing of the instrument.

It is therefore another object of the invention to provide a supporting device whereby the instrument may be comfortably carried in such a position that it will feel just right and will naturally settle into its proper position.

A further object of the invention is to provide a device of this character which is adjustable so as to facilitate carrying out of the immediately preceding object.

A still further object of the invention is to provide a device of this character which is adjustable to meet variations in body size and body contour.

Another object of the invention is to provide a device of this character having a hip supported belt whereby the weight of the instrument is comfortably borne by the hips.

Still another object of the invention is to provide a device of this character wherein the belt has a reenforced section which prevents its sagging or twisting in use and thereby prevents the horn from sagging into contact with the user's shoulder.

2

Still another object of the invention is to provide a device of this character wherein the stiffener or reenforcing member is a functional part of the belt.

A further object of the invention is to provide a device of this character wherein the horn is maintained in its proper position not only when the player is standing but also when the player is seated.

A still further object of the invention is to provide a device of this character that is simple in construction and is easy to use.

Other objects and advantages of the invention will be brought out in the following part of the specification.

Referring to the drawings, which are for illustrative purposes only,

Fig. 1 is a rear view of a supporting device embodying the present invention with the supporting belt extended;

Fig. 2 is a perspective view of the device in use;

Fig. 3 is a plan view of the device without the belt, as seen on line 3—3 of Fig. 1;

Fig. 4 is a section taken on line 4—4 of Fig. 1;

Fig. 5 is a section taken on line 5—5 of Fig. 1;

Fig. 6 is a section taken on line 6—6 of Fig. 1; and

Fig. 7 is a section taken on line 7—7 of Fig. 3.

Referring more particularly to the drawings, there is shown a belt, indicated generally at 10, which comprises a relatively wide, flexible member 11, which may be of heavy canvas or other suitable material, having its ends protected by binding tape 12 which is sewed thereon. On the back side are strips of tape 13 which are sewed to the flexible member 11 adjacent the respective upper and lower edges. At one end of the member 11 there are a pair of straps 14 which overlie the strips 13 throughout a portion of their length, said straps being suitably attached to the flexible member 11, adjacent their inner ends, as by stitching 15 or the like. The free ends of the straps 14 are provided with suitable buckles 16, and spaced between the secured and free ends of said straps are metal loops 17 through which the straps extend. The inner side of each of the loops 17 is received beneath the strips 13, and stitching 18 retains said loops against longitudinal displacement. There are also metal loops 19, which are similar to the loops 17, secured adjacent the inner ends of the straps 14. As shown, the loops 19 have their inner sides disposed between folded end portions 20 of said straps 14, and are secured in position by stitching 21. It is to be understood of course, that these parts

may be secured by other means than stitching which is shown only by way of example. The opposite end of the flexible member 11 is provided with a pair of straps 23 which have their inner ends 24 secured to the flexible member at points spaced longitudinally from the adjacent free end of said member. The straps 23 are disposed over the adjacent portions of the strips 13 and have metal tips 25 for ease in insertion of said ends in the buckles 16. There may also be a metal loop 26 adjacent the inner end of each strap 23 and secured in substantially the same manner as the loops 19 are secured with respect to the straps 14.

On the inner side of the flexible member 11 there is a pocket 28 comprising a piece of fabric 29 or the like, which is marginally sewed at 30 to the flexible member 11, although said fabric may be otherwise secured. Within the pocket is stiffening means which is shown as comprising a flat member 31 of suitable material. This member may be of any suitable material, although in the present instance it comprises a strip of 4-ply machine belting which is formed of rubber-impregnated cotton fabric. However, leather may be used as well as other materials. The stiffening member 31 has its corner portions securely fixed to the flexible member 11 so that it forms a functional part of the belt. As shown, the fastening means comprises post fasteners, indicated generally at 32, which comprises internally threaded hollow members 33 and externally threaded screws 34, it being noted that the fabric of the pocket is also secured by the fasteners 32 which have enlarged heads on the respective members 33 and 34.

The belt is also provided with a bracket, indicated generally at 35, which comprises a hollow tubular body 36, the bore of which extends vertically, there being laterally extending flanges 37 having longitudinally spaced openings for reception of fasteners 38 which may also be of the post type. The fasteners 38 securely attach the bracket to the belt and stiffening member 31 at a location intermediate the ends of said stiffening member. At one side of the internal bore 39 is a groove 40, arcuate in cross section, which extends axially with respect to the axis of said bore 39. This groove 40 receives the outer free ends of a plurality of pins 41 secured to a rod-like member 42 adjacent one end thereof, said pins being spaced apart longitudinally of said rod and serve to limit rotation of said rod in the bore 39 by engagement with one or the other of the side walls 43 of said groove.

Means for securing the lower end of said rod-like member 42 within the bore 39 is provided and comprises a generally cylindrical block 45 slidably disposed within a cylindrical bore 46 and having a pin 47 disposed in a recess 48 which extends a limited distance along one side of the bore 46, thereby preventing rotation of the block 45 but permitting longitudinal movement thereof. The block 45 is longitudinally bored and threaded at 49, for reception of the threaded end 50 of a tightening member, indicated generally at 51, which has a laterally turned handle portion 52, there being an outwardly extending flange 53 adjacent the outer end of the threaded portion 50 of said tightening member 51. The flange serves as an abutment so that the block 45 may be positively urged into its clamping position whereat the bevelled side portion 54 of said block will wedge the member 42 securely in the bore 39.

The rod-like member 42 may be of any suitable construction but is shown here as being tubular, and has an offset portion 56 so that it is the general shape of an S and may be termed an S-bar or member.

Adjacent the upper end of the member 42 is mounted a swivel member, indicated generally at 57, which comprises a part in the general shape of an inverted L having a vertical part 58, and a generally horizontal part 59. The lower end 60 of the part 58 is of reduced diameter and there is a sleeve 61 which is press fitted over the large diameter part of said member 58 about the reduced diameter part 60, thereby providing a space in which the wall of the upper end of the tubular member 42 is received. The connection is such that the swivel member 57 may rotate on the member 42. It is to be noted that the end portions 61' and 62 of the member 42 at opposite sides of the S part 56, are substantially parallel with each other.

Means for connecting the swivel member 57 to the S member 42 is provided and comprises a screw 64 received in an opening provided therefor in the sleeve 61. The screw extends inwardly through an arcuate slot 65 in the member 42, and is screwed into an opening provided therefor in the reduced diameter portion 60. Thus the parts are secured together against longitudinal separation, while at the same time limited relative rotational movement is provided.

The free end of the part 59 of the swivel member 57 carries a transversely extending sleeve 70 for reception of a rod-like part 71 of the instrument-supporting device, indicated generally at 72. The rod 71 is flattened throughout the major portion of its length as indicated at 73. The outer end portion 74 of said rod 71 is full-sized and said rod is secured within the sleeve 70 by means of a knurled head screw 75 which is threadably received in a lug 76 projecting from the side of the sleeve 70. The inner end of said screw is adapted to engage the flattened surface 73 of the rod 71 for retaining same securely in its adjusted position. The purpose of the full-sized end 74 is to minimize accidental slipping of the rod 71 from the sleeve 70 when the screw 75 is slightly loosened.

The end of the rod 71, opposite the end 74, is provided with a clevis 77 comprising an enlarged portion 78 having a horizontal slot therein for reception of the central flattened portion 79 of a yoke member 80. The upper and lower sides of the clevis have axially aligned openings therein, and the flattened portion of the yoke is also provided with an opening. The parts are secured together by suitable means which, as shown, comprises a post fastener 81 extending through the openings in the clevis and the yoke. Thus the yoke may pivot on the fastener 81.

The free end portions 82 of the yoke are laterally turned and are generally hook-shaped so that the looped portion of the musical instrument to be supported will rest therein. The hook-shaped parts of the yoke are provided with a protective covering 83 which may be of any suitable material such as, for example, rubber tubing.

In use the belt 10 is secured about the player's waist, as shown in Fig. 2, with the bracket at the back, the S member 42 extending upwardly adjacent the back, the swivel member and yoke being disposed in the positions shown in said Fig. 2. It is to be noted that the yoke extends across the shoulder with the loop 85 of the instrument,

which is indicated generally at **86**, is received in the hook-like parts **82** of the yoke. The instrument or horn is provided with a brace **87** having its lower end secured, as at **88**, to the looped portion **85**. The point of attachment **88** of said brace **87** is the balancing point of the instrument and is disposed at substantially equal distances between the members **82**, so that the instrument settles into its proper position and is easily balanced by the player. In order to get the proper supporting feel the horn may be adjusted to the proper position as the result of the pivoting of the yoke in the clevis **77**, and also the pivoting of the swivel member **52**.

The S member **42** is adjustable in the bracket **35** so as to position the instrument **86** at the proper height so that the looped portion of the instrument **86** is somewhat spaced from the shoulder of the player, thereby relieving the shoulder of all weight. The S member may also be rotatably adjusted within the limits of the pin and groove arrangement **41** and **40** respectively, so that the S member will not press against the player's back. By rotatable movements of the S member **42** the device may be adjusted so as to accommodate various types of backs as shown in dotted lines **42***a* in Fig. 2. For example, should the player have prominent shoulder blades, or shoulder blades that protrude, the member **42** may be rotated so that the upper part of the member **42** will be spaced from said shoulder blades. When the S member has been properly adjusted for height and rotary position, the block **45** is tightened by means of the handle **52** of the clamping device so as to retain said S member in its adjusted position. Any further adjustments of the horn, for proper feel and the like, may be made by virtue of the yoke **72** and the swivel member **57**.

The weight of the instrument is carried by the hips through the medium of the belt **10** which rests on the player's hips. Thus the player's hands are left free for playing the instrument, and the sensitive part of the shoulder is relieved from all pressure. Further, the stiffening member **31** forms a functional part of the belt and prevents sagging or twisting of said belt which in turn prevents the instrument **86** from sagging and resting on the player's shoulder.

It is to be noted that in attaching the belt, the end thereof carrying the buckles **16** overlies the opposite end. The straps **23**, when secured by the respective buckles, are then passed through the loops **17** and **19** depending on the size of the person wearing the apparatus, and the length of said straps **23** extending beyond said buckles.

I claim:

1. In an instrument supporting device: a relatively wide body encircling belt adapted to rest on the hips; a bracket secured to said belt and having a generally vertical bore; a groove extending longitudinally along one side of said bore; a generally S-shaped upstanding member having one end received in said bore; a pin in said end of the S-shaped member, said pin being received in the groove and adapted to move longitudinally and laterally of said groove; means for securing the S-shaped member in the bore of the bracket; and an instrument carrying member adapted to extend over the user's shoulder in spaced relation thereto.

2. In an instrument supporting device: a relatively wide body encircling belt adapted to rest on the hips; an upstanding S-shaped member; means for securing the lower end of said member to the belt, said means providing vertical and rotatable adjustment of said member; a swivel member adjacent the upper end of said S-shaped member and adapted to rotate thereon, said swivel member having a generally vertical part and a generally horizontal part terminating at its free end in a sleeve which extends at substantially right angles thereto; an instrument carrying yoke having hook-shaped ends for reception of a portion of the instrument; a member pivotally connected to said yoke, said member being slidably adjustable in said sleeve; and means for securing said member in said sleeve.

3. In a belt for an instrument supporting device: an elongated relatively heavy flexible member; a relativly stiff reenforcing member secured to the flexible member intermediate its ends, said reenforcing member being adapted to extend across the back of the user; means for securing the reenforcing member, adjacent the corners thereof, to the flexible member; a bracket having a central tubular portion and laterally extending flanges secured to the flexible member and the reenforcing member, said bracket having a longitudinally extending groove in its interior wall; a laterally extending cylindrical recess offset with respect to the interior of the tubular part and having a communicating opening, adjacent its inner end, with the interior of the tubular member; a cylindrical lug slidable in said cylindrical recess; means for preventing rotation of said lug; and means for urging said lug into the communicating opening between said cylindrical recess and the interior of the tubular part.

ROBERT E. LEE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
180,795	Schonaker	Aug. 8, 1876
191,782	Smith	June 12, 1877
385,473	Mulhollan	July 3, 1888
413,807	Loeser et al.	Oct. 29, 1889
438,856	Muller	Oct. 21, 1890
700,117	Grove	May 13, 1902
758,924	Law	May 3, 1904
1,205,917	Merrill	Nov. 21, 1916
1,653,772	Knoche	Dec. 27, 1927