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(54) A chin rest for use in playing a musical instrument.

(57) A chin rest (2) for use in playing a musical instrument of a type which has strings and which is held under a player's chin, which chin rest (2) comprises attachment means (4) for attaching the chin rest (2) to the musical instrument, a chin pad (6) for receiving the player's chin, and first adjustment means (8) for enabling adjustment of the height of the chin pad (6) with respect to an upper face part of the musical instrument and for enabling adjustment of the angle of tilt of the chin pad (6) across the upper face part of the musical instrument. The chin rest (2) may include second adjustment means (10) for enabling rotational adjustment of the chin pad (6) over the upper face part of the musical instrument.

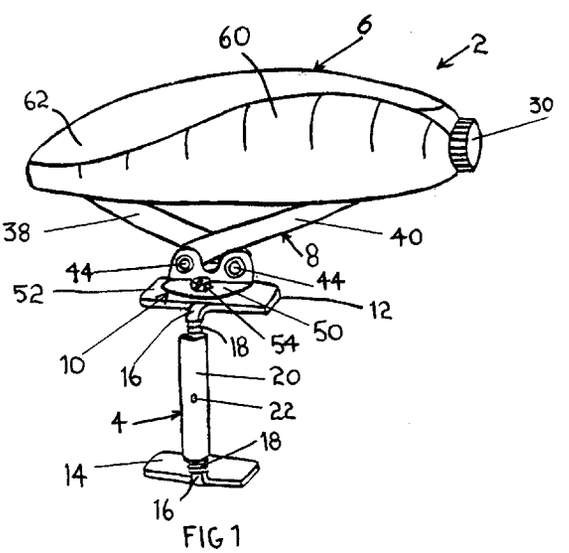

FIG 1

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This invention relates to a chin rest for use in playing a musical instrument and, more especially, this invention relates to a chin rest for use in playing a musical instrument of the type which has strings and which is held under a player's chin. The musical instrument may be for example, a violin or a viola.

Prior to the introduction and use of chin rests, musical instruments such as violins were held by the fingering arm, with the body of the musical instrument resting upon the player's shoulder. When the hand necessitated movement along the fingerboard of the musical instrument, the body of the musical instrument became unstable, thereby affecting the fingering technique. In order to avoid this, the player was compelled to grip the musical instrument around its tailpiece area between the player's chin and the player's shoulder. Such gripping of the musical instrument between the chin and the shoulder is not always effective. Furthermore, it is somewhat awkward due to the contours and slippery surface of the body of the musical instrument. Still further, skin contact and sweat tend to erode the varnish coating of the musical instrument.

The above problems led to the introduction of chin rests. A chin rest when attached to the tailpiece area of the musical instrument provides a means by which the player may grip the musical instrument between the player's shoulder and chin. Playing musical instruments using chin rests has today become standard practice. There are a variety of known chin rest designs available in fixed height settings for a player to choose from.

There are advantages and disadvantages in using the known chin rests. The advantages are an improved motion of the fingering arm for more precise change of position, and a better grip between chin and shoulder. Furthermore, since the chin rests act as receptacles shaped to accommodate the chin, some degree of physical comfort is provided for the strain placed on the chin, neck and shoulder area of the player during playing in this somewhat uncomfortable position.

The disadvantages are that the musical instrument is held in a restricted position between the player's chin and shoulder for prolonged periods of time during practice and performing. This creates strain, stress, discomfort and possible injury to the player's chin, neck, shoulder and general body posture. Also, there is often excessive strain and stress involved when playing in the higher fingering positions. Due to the musical instrument being restricted in movement on the shoulder, the upper area of the fingerboard is often out of easy reach to the fingering arm, whereby the player is forced either to lean forward with the chin, which in turn moves the player's head off its centre of balance thus causing harmful strain upon the spinal cord and muscle structure, or to stretch excessively with the fingering arm, thus causing problems in other areas.

It is widely taught and acknowledged that the head of a player should be held upright as much as possible when playing a musical instrument such as a violin, especially for prolonged periods of time during long sessions of practicing and performing.

Because the known chin rests are of various fixed heights, it is often necessary to fit a shoulder rest attachment or pad to the back of the musical instrument, for example the violin. Thus today, the combined use of a shoulder rest and a chin rest has become widespread.

Shoulder rest attachments are designed for providing padding between the musical instrument and the shoulder for securing the musical instrument on the shoulder and for setting the angle of the musical instrument on the shoulder. They are advantageous to some degree but they tend to cause immobility of the musical instrument on the shoulder, resulting in physical rigidity and the problems associated therewith. Also, in many cases, the shoulder rest attachments restrict the freedom of movement of the fingering arm, especially in reaching the higher fingering positions. Most shoulder rests also raise the musical instrument off the shoulder, thereby offsetting the correct seating of the musical instrument on the collar bone. This in turn displaces the clamping forces between the player's chin and shoulder, thereby increasing the effort to secure the musical instrument on the shoulder.

It is an aim of the present invention to obviate or reduce the above mentioned problems.

Accordingly, the present invention provides a chin rest for use in playing a musical instrument of the type which has strings and which is held under a player's chin, which chin rest comprises attachment means for attaching the chin rest to the musical instrument, a chin pad for receiving the player's chin, and first adjustment means for enabling adjustment of the height of the chin pad with respect to an upper face part of the musical instrument and for enabling adjustment of the angle of tilt of the chin pad across the upper face part of the musical instrument.

The chin rest of the present invention is thus an adjustable chin rest which is able to provide height and tilt adjustment as required by a player. The use of the chin rest of the present invention enables the head of the player of the musical instrument to be relatively free and able to tilt, swivel and turn as required. A player is able to regulate and control desired movement of the chin rest and the musical instrument simply by applying pressure from the chin and the shoulder.

Preferably, the chin rest of the present invention includes second adjustment means for enabling rotational adjustment of the chin pad over the upper face part of the musical instrument. The use of the second adjustment means provides yet further available ad-

justment and resulting comfort for the player of the musical instrument.

The attachment means is preferably a clamp device. Other types of attachment means may however be employed.

The chin rest is preferably one in which the first adjustment means is a single adjustment means for enabling both the adjustment of the height and the adjustment of the angle of tilt. If desired however, the first adjustment means may comprise a separate device for effecting the height adjustment and a separate device for effecting the angle of tilt adjustment.

Preferably, the first adjustment means is a single adjustment means which comprises a lead screw and follower assembly, a pair of arms which are caused to move and adjust the height of the chin pad consequent upon rotation of the lead screw of the lead screw and follower assembly, and a base member to which the arms are connected at their ends remote from the chin pad, the arms being tiltable about the base member. The lead screw and cam follower assembly may comprise a rotatable control knob.

The chin rest may be such that the first adjustment means comprises one lead screw and one follower. Alternatively, the first adjustment means may comprise two lead screws and two followers.

The second adjustor means may include a friction washer sandwiched between the base member and another member. Other types of second adjustment means may be employed and an alternative type of second adjustment means is formed by radially splined facing surfaces on adjacent parts of the base member and the other member.

The chin rest may include locking means for locking the first adjustment means in an adjusted position. The first locking means may comprise one or more lockable pivot screws.

The chin rest may include second locking means for locking the second adjustment means in an adjusted position. The second adjustment means may comprise a locking pivot screw.

Embodiments of the invention will now be described solely by way of example and with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a first chin rest;

Figure 2 is a perspective view similar to Figure 1 but without a chin pad part of the chin rest;

Figure 3 is an underneath plan view of part of the chin rest shown in Figure 1 and illustrates how part of first adjustment means fits in a recess in the chin pad;

Figure 4 is a perspective view of a second chin rest;

Figure 5 is a perspective view of part of a third chin rest and omits the chin pad;

Figure 6 is a front view on an enlarged scale of an attachment means part of a chin rest; and

Figure 7 is a side view of the attachment means as shown in Figure 6.

Referring to Figures 1 to 3, there is shown a chin rest 2 for use in playing a musical instrument (not shown). The musical instrument is of a type which has strings and which is held under a player's chin. The musical instrument is typically a violin.

The chin rest 2 comprises attachment means 4 for attaching the chin rest 2 to the musical instrument. The chin rest 2 also comprises a chin pad 6 for receiving the player's chin. The chin rest 2 still further comprises first adjustment means 8 for enabling adjustment of the height of the chin pad 6 with respect to an upper face part of the musical instrument and for enabling adjustment of the angle of tilt of the chin pad 6 across the upper face part of the musical instrument. The chin rest 2 still further comprises second adjustment means 10 for enabling rotational adjustment of the chin pad 6 over the upper face part of the musical instrument.

The attachment means 4 is a clamp device as shown. The attachment means 4 comprises an upper clamp jaw 12 and a lower clamp jaw 14. The upper and lower clamp jaws 12, 14 each have an arm 16 with a screw threaded portion 18. The screw threaded portions 18 are received one in each end of a threaded tube 20. The screw threaded portions 18 and the tube 20 are appropriately threaded such that rotation of the tube 20 one way causes the upper and lower clamp jaws 12, 14 to come together for the purpose of tightening the chin rest 2 on the musical instrument, and rotation of the tube 20 the other way causes the upper and lower clamp jaws 12, 14 to move apart for the purpose of releasing the chin rest 2 from the musical instrument. Rotation of the tube 20 is effected by placing a rod (not shown) in one of three apertures 22 which are equi-distantly positioned around the circumference of the tube 20. The apertures 22 are thus offset from each other so that it is not possible to push the rod completely through the tube 22 and thus possibly scratch the musical instrument during tightening or loosening of the attachment means 4.

The first adjustment means 8 is a single combined adjustment means 8 which enables both the adjustment of the height and the adjustment of the angle of tilt. More specifically, the first adjustment means 8 comprises a lead screw and follower assembly 24 comprising a lead screw 26, two followers 28 and a rotatable control knob 30. The lead screw 26 passes through a support block 32 which is mounted on a guide rail 34. A retainer pin 36 passes through the support block 32 as shown and is used to positionally locate the lead screw 26, whilst not interferring with rotation of the lead screw 26.

The first adjustment means 8 still further comprises a pair of arms 38, 40 which are pivotally attached by pivots 42 at their upper ends to the two followers 28. The arms 38, 40 cross over near their other

ends. The other ends of the arms 38, 40 are pivotally attached by pivots 44 to an upstanding wall 46 of a base member 48.

The first adjustment means 8 is such that rotation of the knob 30 causes the followers 28 to move inwardly and outwardly along the lead screw 26. This in turn causes the arms 38, 40 to operate with a scissor action to raise and lower the entire first adjustment means 8 with respect to the attachment means 4. Thus the chin pad 6 which is attached to the first adjustment means 8 is also raised and lowered with respect to the attachment means 4.

The second adjustment means 10 is formed by a plate part 50 of the base member 48, an upper surface 52 of the upper clamp jaw 12, and a friction washer (not shown) positioned between the plate part 50 and the upper surface 52. A nut 54 can be tightened or loosened to control the amount of friction between the plate part 50 and the upper surface 52 during rotation of the first adjustment means 8 with respect to the attachment means 4.

The pivots 44 are advantageously formed as screw threaded pivots which are tightenable. The pivots 44 may have recessed formations for receiving an Allen key (not shown) for enabling the pivots 44 to be tightened and loosened. The pivots 44 thus form first locking means for locking the first adjustment means 8 in an adjusted position.

The nut 54 may similarly be a tightenable nut so that in addition to the nut having a shank forming a pivot about which the rotation of the first adjustment means 8 takes place, the nut 54 may be tightened to lock the second adjustment means 10 in position. Thus the nut 54 forms second locking means. The nut 54 may be replaced by a pivot contruction similar to the pivot construction 44 if desired.

Referring now to Figure 3, it will be seen how the lead screw and follower assembly 24 fits in a recess 56 formed in the underside 58 of the chin pad 6. Figure 1 shows how the upper surface of the chin pad 6 is contoured to have an initial curved raised portion 60 which falls away into a valley portion 62.

Figure 4 shows a chin rest 2 which is similar to the chin rest 2 shown in Figures 1 to 3. In Figure 4, the chin rest 2 has a locking nut 54 of the type having an arm 62. In Figure 4 it will be seen that the two arms 38, 40 are connected together at their lower ends by a single pivot 64.

In Figure 4, the compression washer which is sandwiched between the plate part 50 and the upper surface 52 is replaced by different second adjustment means 10 in the form of radially splined portions (not shown) on the upper surface 52 and the facing surface of the plate part 50.

Figure 5 shows part of a third chin rest 2. The third chin rest 2 is like that shown in Figure 2 except that only one follower 28 is employed and the other follower 28, part of the lead screw 26 and the support block 32 are omitted. The construction shown in Figure 5 is lighter than that shown in Figure 2. The construction shown in Figure 5 is also cheaper to manufacture than the construction shown in Figure 2 since the construction shown in Figure 5 employs less parts. The block 43 is fixed in the chin pad 6.

Referring now to Figures 6 and 7, there is shown attachment means 4 which is like the attachment means 4 shown in Figures 1, 4 and 5. The attachment means 4 shown in Figure 6 and 7 employs cork strips 66 on the facing surfaces of the upper and lower clamp jaws 12, 14. Cork strips 68 are also employed where shown on the vertical parts of the upper and lower clamp jaws 12, 14. The cork strips 66, 68 prevent any damage to the musical instrument as the attachment means 4 is clamped on to the musical instrument and tightened.

Also with a view to ensuring that the chin rest 2 cannot damage the musical instrument during use, the chin rest 2 as shown in Figure 4 is provided with stop members 70, 72. The stop members 70, 72 prevent the arms 38, 40 over rotating and causing the chin pad 6 to strike the body of the musical instrument. The chin rest 2 is such that any desired tilting of the chin pad 6 is simply attained by pressing on an appropriate part of the chin pad 6, whereupon pivoting of the chin pad 6 on the arms 38, 40 takes place.

When the arms 38, 40 are at their minimum height position, much of the lead screw and cam follower assembly 24 is received in the recess 56 as will be appreciated from Figure 3. The lead screw and cam follower assembly 24 can be mounted on a backplate 74 as shown in Figure 3. The backplate 74 can be fixed in the recess 56 by screws or adhesive (not shown).

Referring back to Figures 6 and 7, the illustrated attachment means 4 is advantageous in that the upper and lower clamp jaws 12, 14 have recessed portions 76 which allow a more flush low profile fitting of the attachment means 4 to the musical instrument such as the violin. The chin rest 2 then does not stick out as much from the musical instrument as it might otherwise do. Still further, the strips 68 form pads which prevent the tube 20 from touching and damaging the musical instrument during rotation of the tube 20. The strips 66, 68 also improve the clamping forces achieved with the attachment means 4 and they also help to improve stability of the attachment means 4 in its clamping position. A cut out portion on the upper clamp jaw 12 allows the attachment means 4 to clear the saddle at the tail piece end of the violin when the musical instrument is a violin. The cut out portion allows the attachment means 4 to be positioned as close a possible to the tailpiece and therefore nearer to the centre of the musical instrument, which is an advantage for good playing posture. A boss 78 on the top of the upper clamp jaw 12 is provided with a screw threaded aperture 80 as shown for receiving rotary

mounting means enabling the rotation of the first adjustment means 8 and the chin pad 6 with respect to the attachment means 4.

The arms 38, 40 are preferably mounted one on either side of the base member 48 for helping to give the chin rest 2 stability during use and also to help to prevent the arms 38, 40 from rubbing together during height adjustments made to the chin rest 2.

The chin pad 6 may be pressed moulded or injection moulded from any suitable and appropriate plastics materials. Alternatively, the chin pads 6 may be produced from wood such for example as mahogany.

The chin rests of the present invention provide the means to remove rigidity from players. They simplify the principles for applying good posture and they allow a player, by the provision of the height adjustment, to customise the height setting to dispense with the use of shoulder rests, although shoulder rests may be employed if desired. The chin pad 6 is very easy to align where desired. The profile of the chin pad 6 is designed to give maximum comfort to the convex curvature of the player's neck. The valley portion 60 forms a cup portion which is profiled to receive the jaw bone for maximum playing comfort and for effective control of the chin rest and the musical instrument during playing. The height control facility may also be used to alter the height setting to relieve tired neck muscles during long spells of practice or performing. The chin rests of the present invention enable players to feel more relaxed during playing and to let the musical instrument respond to the natural movements of the bowing and fingering arms. Very little pressure is required by the player's chin to control the musical instrument during change of position and vibrato. The chin rests can be used in their non-locked position so that they can float to different positions as required by the player. Alternatively, they can be locked in a desired optimum position. In its non-locked position, the chin rest 2 allows the body of the musical instrument to move freely and independently in phase with the movements of the player's shoulder and at the same time the chin rest holds the musical instrument on the shoulder firmly and with minimum effort, without obstructing or impeding the natural movement of the musical instrument during playing. This in turn enhances the playing performance of the player so that, for example, when reaching to finger the G-string, the shoulder's natural movement lowers the E-string side of the musical instrument, thereby giving easier access to the G-string. This natural movement mobility applies for the more difficult higher position changes and stability is always maintained.

The chin rest will normally be attached and fitted over the tailpiece of the musical instrument such as the violin, in order to obtain a perfect balance along the central line of gravity of the musical instrument. If need be however, for some players, the chin rest can be attached beside the tailpiece. The various parts of the chin rest 2 can move one at a time or together as required by the player of the musical instrument.

It is to be appreciated that the embodiments of the invention described above with reference to the accompanying drawings have been given by way of example only and that modifications may be effected. Thus, for example, the friction washer forming part of the second adjustment means 10 may be replaced by a dished spring washer. Also, other types of first and second adjustment means 8, 10 may be employed. The cork strips 66, 68 can be of materials other than cork.

Claims

1. A chin rest for use in playing a musical instrument of a type which has strings and which is held under a player's chin, which chin rest comprises attachment means for attaching the chin rest to the musical instrument, a chin pad for receiving the player's chin, and first adjustment means for enabling adjustment of the height of the chin pad with respect to an upper face part of the musical instrument and for enabling adjustment of the angle of tilt of the chin pad across the upper face part of the musical instrument.

2. A chin rest according to claim 1 and including second adjustment means for enabling rotational adjustment of the chin pad over the upper face part of the musical instrument.

3. A chin rest according to claim 1 or claim 2 in which the attachment means is a clamp device.

4. A chin rest according to any one of the preceding claims in which the first adjustment means is a single adjustment means for enabling both the adjustment of the height and the adjustment of the angle of tilt.

5. A chin rest according to claim 4 in which the first adjustment means comprises a lead screw and follower assembly, a pair of arms which are caused to move and adjust the height of the chin pad consequent upon rotation of the lead screw of the lead screw and follower assembly, and a base member to which the arms are connected at their ends remote from the chin pad, the arms being tiltable about the base member.

6. A chin rest according to claim 5 in which the lead screw and cam follower assembly comprises a rotatable control knob.

7. A chin rest according to claim 5 or claim 6 in which the first adjustment means comprises one lead screw and one follower.

8. A chin rest according to claim 5 or claim 6 in which the first adjustment means comprises two lead screws and two followers.

9. A chin rest according to claim 2 or to claim 2 and any claim when appendant to claim 2 in which the second adjustment means includes a friction washer sandwiched between the base member and another member.

10. A chin rest according to any one of the preceding claims and including first locking means for locking the first adjustment means in an adjusted position.

11. A chin rest according to claim 2 or to claim 2 and any claim when appendant to claim 2 and including second locking means for locking the second adjustment means in an adjusted position.

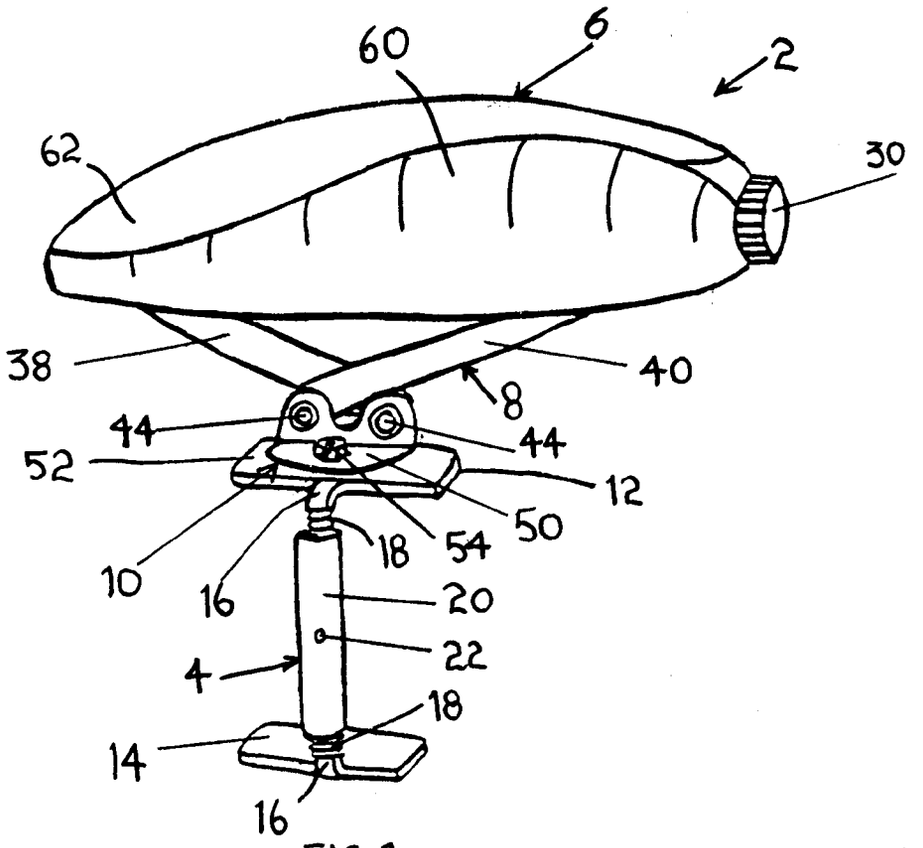
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FIG 1

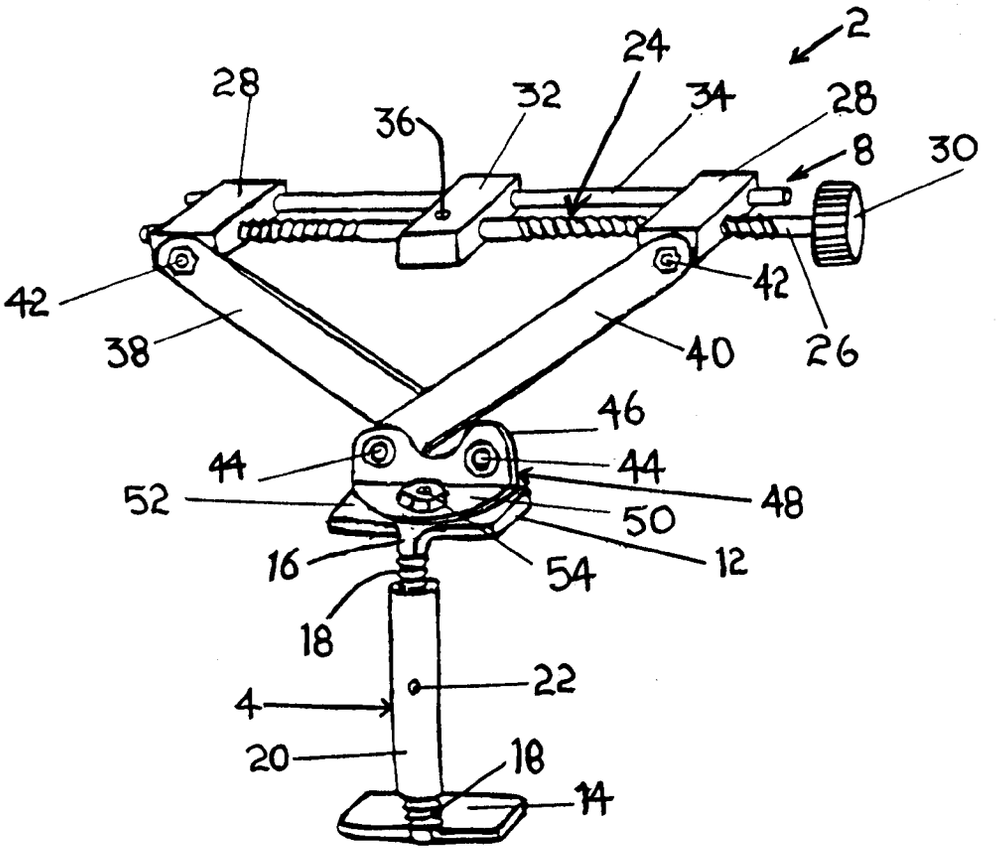
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FIG 2

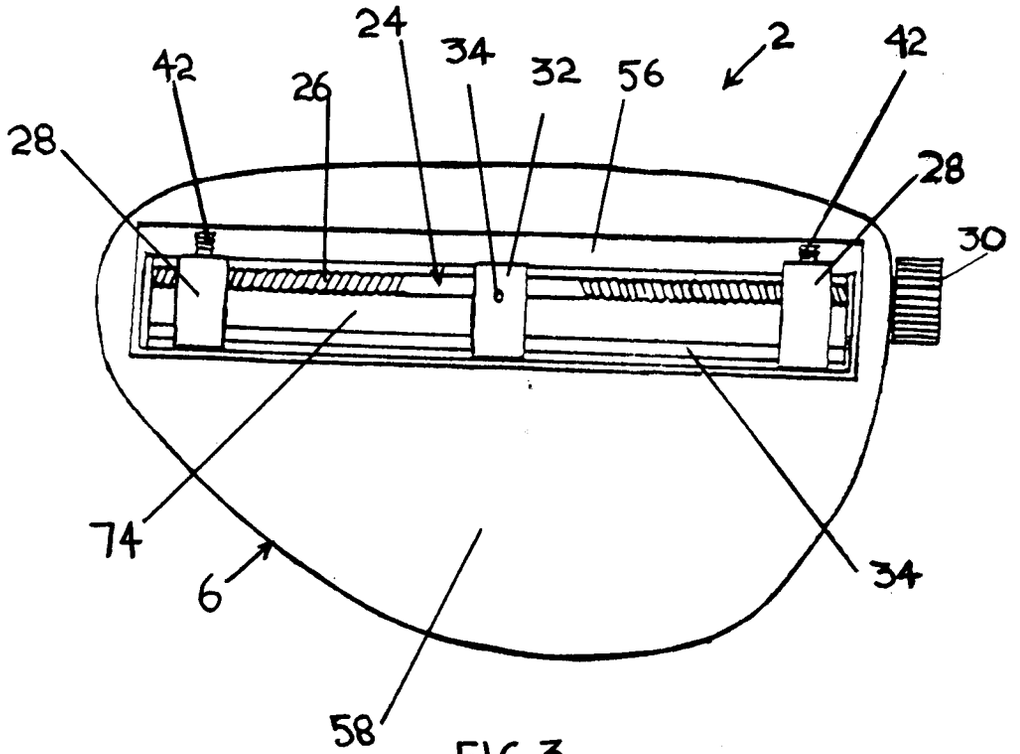
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FIG 3

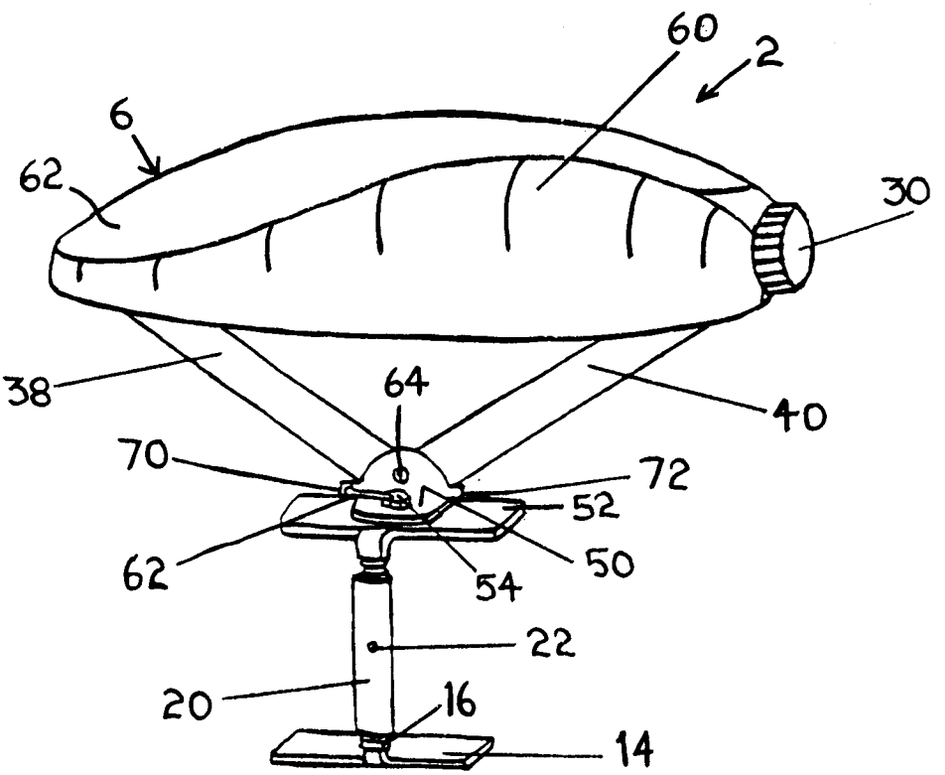
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FIG 4

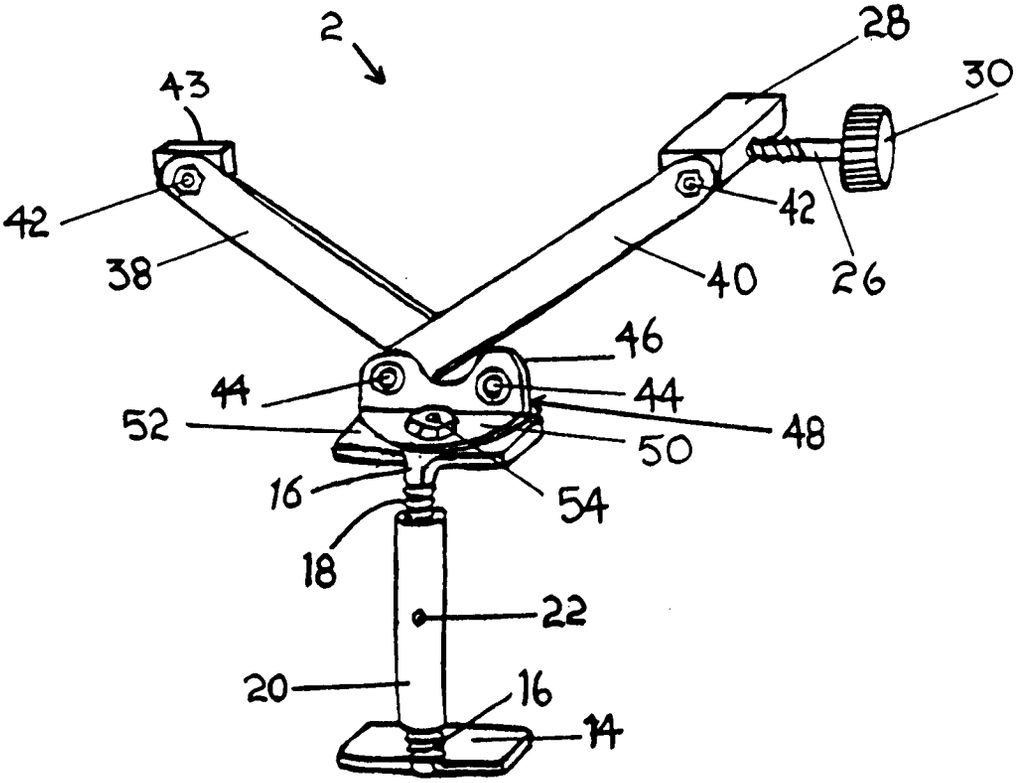

FIG 5

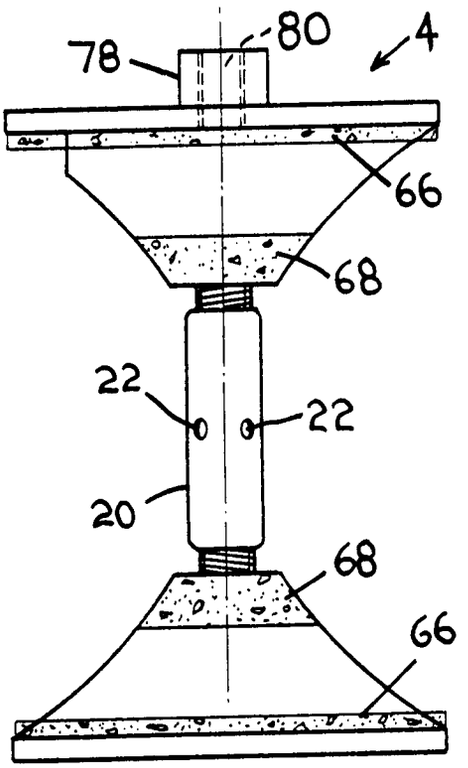

FIG 6

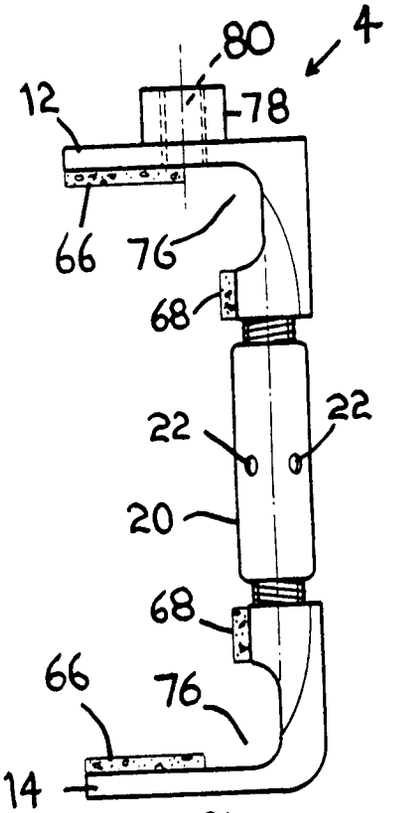

FIG 7