

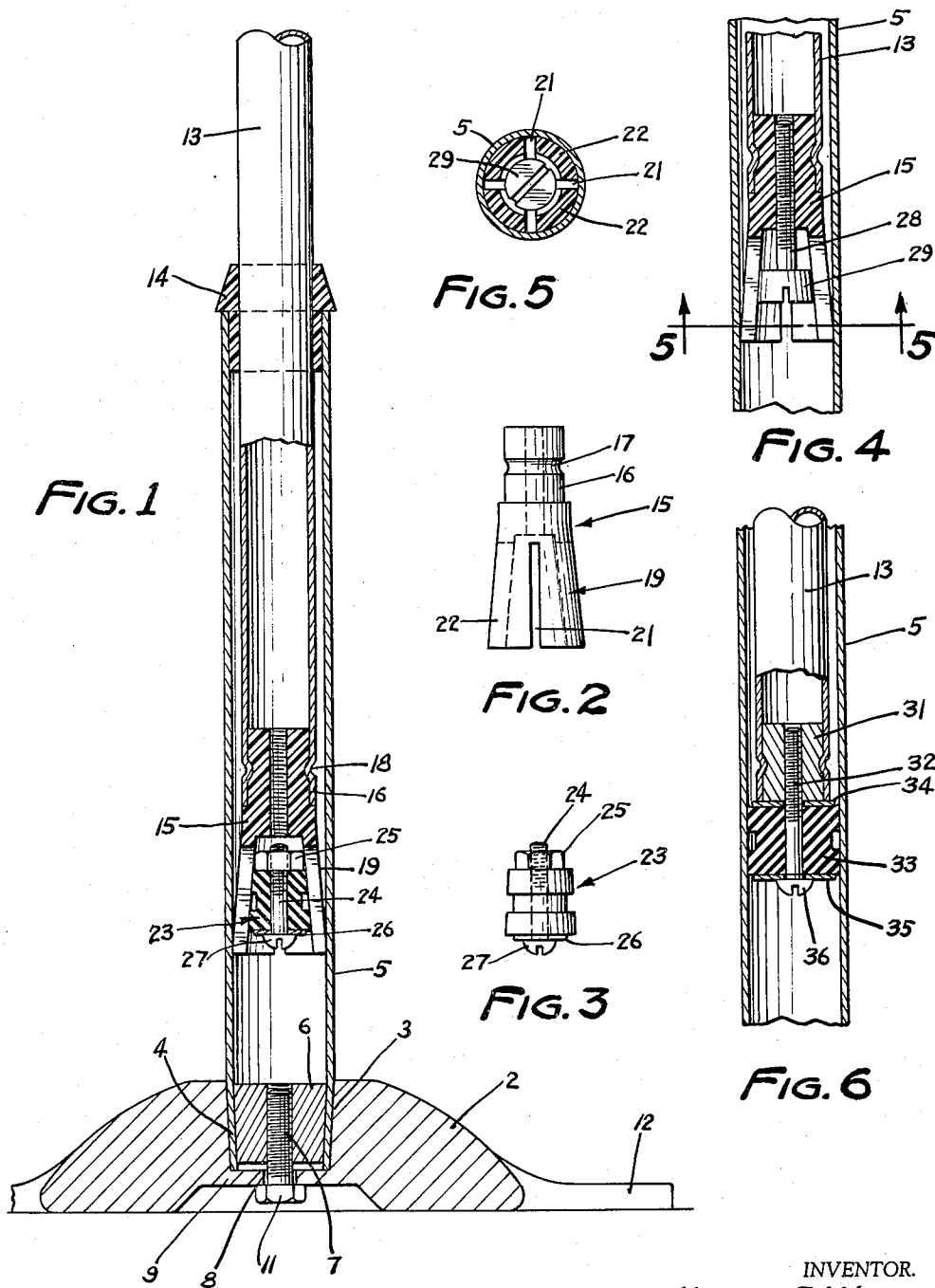
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MUSIC STANDS

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MUSIC STANDS

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This invention relates to new and useful improvements in music stands such as commonly utilized by the members of an orchestra or band, and by the director of the group. Such stands are usually made vertically adjustable so that they may be adjusted to support the music at the desired elevation for each individual player or musician.

There are now available on the market music stands comprising an upright standard composed of a pair of telescopic members, one of which is axially movable in the other to permit vertical adjustment of the usual music rack of the stand. Such stands as now commonly constructed are usually provided with one or more screws or threaded elements for securing the movable telescopic member in adjusted position in the fixed telescopic member. Such screws or securing elements must be normally operated when it is desired to raise or lower the music stand. It may also be necessary for the musician to use both hands when adjusting such a stand which, at times, may prove highly impractical.

The present invention aims to provide a simple and inexpensive music stand comprising a novel and uniquely constructed securing means for securing the movable member of the supporting standard in adjusted position in the fixed member, and whereby the movable member may be readily slid from one position to another by the player or operator, by simply grasping it and moving it to the desired position. No separate tools are required to free the movable member from the relatively fixed member.

A further object is to provide a vertically adjustable music stand, a composite supporting standard comprising a fixed lower member and a movable upper member, said members being disposed in axial alignment, and the upper member being slidable in the lower member to vertically adjust the rack secured to the upper end thereof, and means being provided within the fixed member for securing the movable member in adjusted position within the fixed member, such adjustment being readily effected by simply grasping the movable member and manually pulling it upwardly, or forcing it downwardly in the fixed member, thereby to bring the music rack into alignment with the player's eyes.

A further and more important object is to provide a vertically adjustable music stand comprising inner and outer tubular members telescopically connected together, one of said members having its lower end fixed to a suitable base, and the other member having its lower end portion slidably received in the fixed member, said fixed member having a non-metallic bushing secured in its upper end for guidingly supporting the inner member therein, and the lower end of said inner member having a non-metallic plug secured thereto having means for laterally expanding it into frictional engagement with the wall of the bore of the outer member, thereby to retain the movable member in fixed relation therein.

A further object of the invention resides in the specific construction of the plug provided in the lower end of the inner member, said plug being constructed of nylon and having a skirt depending from its lower end and slightly flared outwardly in position to engage the wall of the bore of the outer member when the wall of said skirt is outwardly expanded, an expanding element being movably mounted within said skirt and constantly engaging said skirt with an expanding force thereby to force the

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wall of the skirt into frictional engagement with the wall of said fixed upright member, the frictional engagement between said plug and the fixed member being sufficient to adequately support the vertically slidable inner member in any position within the fixed supporting member.

Other objects of the invention reside in the specific construction of the nylon plug secured to the lower end of the inner member, and the means provided for radially expanding or contracting the depending skirt to permit sliding movement of the upper telescopic member within the lower fixed telescopic member to vertically adjust the music rack, as hereinbefore stated; and in an adjustable music stand, wherein the guide means for the inner tubular member and the bushing provided at the lower end thereof are made of nylon to provide ample wear and free sliding movement of the inner member within the outer fixed member.

These and other objects of the invention and the means for their attainment will be more apparent from the following description taken in connection with the accompanying drawings.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

FIGURE 1 is a view showing a sectional elevation of the lower portion of a music stand embodying my invention;

FIGURE 2 is a view showing the nylon plug detached from the inner tubular member to show the simple construction thereof;

FIGURE 3 is a view showing the expandable plug preferably used within the skirt of the nylon plug shown in FIGURE 2 to expand the walls of the skirt into frictional engagement with the wall of the lower fixed member of the stand; movable member in vertically adjusted position therein;

FIGURE 4 is a view showing a slightly modified construction wherein a screw is utilized for expanding the skirt of the nylon plug;

FIGURE 5 is a cross-sectional view on the line 5-5 of FIGURE 4; and

FIGURE 6 is a view showing a modified construction wherein a non-rigid plug is fixed in the lower end of the inner telescopic member and has a threaded hole there-through for receiving a screw having its lower end portion traversing a resilient plug, which, when compressed in an axial direction by manipulation of said screw, is radially expanded into frictional engagement with the wall of the fixed telescopic member, thereby to frictionally secure the inner member in adjusted position therein.

The novel music stand herein disclosed is shown comprising a base 2 having a socket 3 therein which preferably is slightly tapered as shown for receiving the tapered terminal 4 of an upright tubular member 5. An anchoring plug 6 is shown fitted into the lower end of the tubular member 5, and has a screw 7 received in threaded engagement therewith which passes through an aperture 8 in the wall portion 9 of the base 2. The head 11 of screw 7 may seat against the bottom surface of wall portion 9.

The anchoring plug 6, it will be noted, is tapered to fit the taper of the inner lower end of the tubular member 5, whereby when screw 7 is manipulated to draw the plug downwardly, the plug will compress the tapered wall portion of the tubular member against the wall of the tapered socket 3 in the base, thereby to firmly secure the upright member 5 in position in the base 2. The base may be provided with a plurality of radial extending arms

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12 to add stability thereto and prevent the music stand from readily tipping over when accidentally engaged by an individual passing thereby.

Slidably mounted within the fixed tubular member 5 is a relatively smaller tubular member 13. Member 13 is guidingly supported in the tubular member 5 by means of a bushing 14, fitted into the upper end of member 5, and a plug 15 fitted into the lower end of the inner member 13, as clearly illustrated in FIGURE 1.

An important feature of the present invention resides in the construction of the bushing 14 and plug 15. These elements are constructed of nylon, which is highly impervious to moisture, and provides an extremely smooth and hard wearing surface for the inner slidable member 13. The bushing 14 is pressed into the upper end of the tubular member 5, and its bore snugly fits the periphery of the telescopic member 13, whereby said member is freely slidable in member 5.

The nylon plug 15 secured to the lower end of the inner member 13 has a portion 16 snugly fitted into the lower end of member 13. An annular groove 17 may be provided in the periphery of plug 15 into which a portion of the wall of member 13 may be compressed, as indicated at 18 in FIGURE 1, thereby to prevent the plug from accidentally becoming detached from member 13.

The plug 15, it will be noted, has a depending skirt 19, which is vertically slit as indicated at 21 in FIGURES 2 and 5, whereby the sections 22 between adjacent slits 21 may readily be pressed outwardly into frictional engagement with the wall of the lower fixed member 5 by manipulation of the expandable plug 23, generally designated by the numeral 23.

The expandable plug 23 is preferably constructed of a synthetic resilient material such as rubber, which is compressible axially to cause it to radially expand into engagement with the wall of the skirt 19, as is shown in FIGURE 1. The plug 23 is axially apertured to receive a bolt or screw 24 having a nut 25 received in threaded engagement therewith. An enlarged washer 26 is shown seated against the opposite or bottom end of the plug 23, to be engaged by the head 27 of screw 24. Thus, when the nut 25 is tightened on the screw 24, the plug 23 is compressed between the nut 25 and washer 26, which causes it to expand into engagement with the wall of skirt 19.

The wall of the skirt is outwardly tapered from its upper end, and the exterior of the plug 23 is similarly tapered so that the plug may snugly fit into the tapered socket defined by the skirt 19. The plug 23 is readily retained within the skirt by friction, and from actual experience has shown it is not likely to become detached from the skirt 19. Should the frictional engagement of the skirt 19 with the wall of the upright tubular member 5 become insufficient to retain the inner tubular member 13 in adjusted position, the plug 23 may be expanded by manipulation of the screw 24, thereby to expand the diameter of the plug 23 to force the skirt into frictional engagement with the wall of the fixed tubular member 5, as will be understood. Access to the screw 24 of the expandable plug 23 may be had by removal of the screw 7 from the bottom of the base. When this screw is removed, the aligned holes in the wall member 9 of the base and the plug 6 are exposed. A small screw driver may then be inserted through said aligned holes into engagement with the slotted head 27 of screw 24, whereby the screw may readily be tightened to produce the necessary frictional contact between the skirt 19 and the wall of member 5, as will readily be understood by reference to FIGURE 1.

When the screw 7 is returned to its normal position, as shown in FIGURE 1, the screw head 27 in plug 23 is completely concealed and can not be tampered with.

In FIGURE 4 there is shown a slightly modified construction wherein a screw 28 is received in threaded engagement with the upper end of plug 15 and has an en-

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larged head 29 with a tapered periphery which fits against the inner surface of the tapered wall of the skirt 19. When the frictional engagement of the skirt with the member 5 is to be varied, the screw head 27 is rotated by the insertion of a screw driver through the bottom of the base, as hereinbefore stated, whereby the skirt may readily be expanded to the desired degree, as will be readily understood.

In FIGURE 6 there is illustrated another modified construction, wherein the non-resilient plug 31 is secured in the lower end of the tubular member 13 and has a threaded bore therein for receiving the threaded terminal of a screw 32. The lower end portion of the screw traverses an axial bore in a resilient plug 33 supported on the screw 32 between disks or washers 34 and 35. The screw has a head 36 which may readily be manipulated by a conventional screw driver, whereby the frictional engagement of the plug 33 with the wall of the upright member 5 may readily be varied by relatively rotating the screw in the plug 31. This will readily be understood when it is noted that by tightening the screw in plug 31, the resilient plug 33 is compressed between disks 34 and 35, and thus is radially expanded into frictional engagement with the wall of member 5, as will be understood.

The usual rack or music supporting head of the upper end of the music stand is suitably pivoted to the upper end of member 13 in the usual manner, and as it forms no part of the present invention, it has been omitted from the drawing.

The nylon bushing 14 and plug 15 have proven extremely practical in the operation of the music stand herein disclosed. The nylon skirted plug 15 at the lower end of the inner telescopic member 13 makes it possible to so adjust the frictional contact between said plug and the wall of member 5, that the upper telescopic member 5 may be supported in any desired position in the fixed telescopic member 5 without the use of separable locking elements, such as screws, and the like. The nylon from which the bushing 14 and the plug 15 are made, wears extremely well, and has the inherent ability to maintain a free sliding contact between the parts, and with the assurance the upper member 13 is not likely to accidentally shift its position in member 5.

In actual use, the frictional engagement of the skirt of the plug 15 with the wall of the telescopic member 5 is so adjusted by manipulation of the expandable plug 23, that the upright movable member 13 will readily support all of the music to be played at a given concert by a single player. In other words, the frictional engagement of the skirt of the plug 15 is so adjusted that the weight of the sheet music for a full concert which is placed on the stand is not likely to cause the stand to shift or sag from its original position during a concert. At the same time the use of the nylon guide means for the inner member 13 permits said member to be readily slid up and down in the stationary member by simply grasping the member 13, as will be understood.

The novel stand herein disclosed also presents a very neat appearing device of this general type, as the upright has no projections, such as lock screws, etc., usually found in most conventional stands of this general type.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

I claim as my invention:

1. A base having a tapered bore therein, an outer member having a tapered end fitting the tapered bore of said base, a tapered plug within said outer member and

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expanding said tapered end of said outer member into frictional gripping engagement with the tapered bore of said base when said plug is forced downwardly, a cap screw traversing an aperture in the bottom wall of said tapered plug and threadably engaging the tapered plug in said base outer member to draw said tapered plug into wedging engagement with said outer member, a bushing in the top of said outer member, an inner member slidably engaging said bushing and extending into said outer member, a friction plug secured to the lower end of said inner member, said friction plug having a split skirt, a resilient member frictionally retained within said split skirt, and a screw thread operated means clamping said resilient member axially; whereby tightening of said screw thread operated means compresses said resilient member axially and expands it radially to force said split skirt into frictional engagement with the inside of said outer member, said cap screw being removable to provide access to said screw thread operated means of said resilient member; whereby said screw thread operated means may be operated independently of relative rotation between said inner and outer members.

2. A music stand comprising inner and outer telescopic members, a non-metallic plug fixedly secured in the lower end of said inner member and having its lower end portion projecting well below the lower end of said inner member, said plug having an axial tapered bore therein defining an annular tapered wall, said wall having a plurality of slits therein extending upwardly from its lower edge, a resilient element fitted into said tapered bore for expanding the slitted wall of said bore into frictional en-

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gagement with the wall of said outer telescopic member, thereby to frictionally resist relative axial movement between said telescopic members, said resilient element having an aperture extending axially therethrough, a screw traversing said aperture and having a threaded terminal, a nut received in threaded engagement with the threaded end of said screw, said screw having an enlarged head at its opposite end, and means permitting an instrumentality to be inserted into the lower end of said outer telescopic member and into engagement with the head of said screw, whereby said screw may be relatively rotated to expand said resilient element to vary the frictional engagement between the wall of said outer telescopic member and said skirt.

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