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DETACHABLE NESTABLE THREE-PIECE MUSIC STAND

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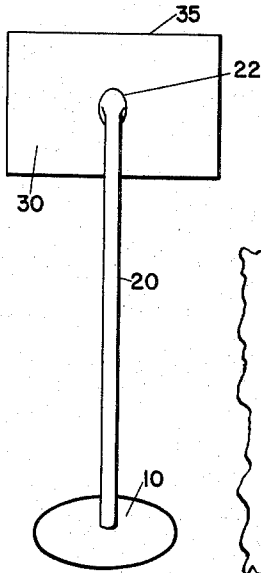


FIGURE - 1

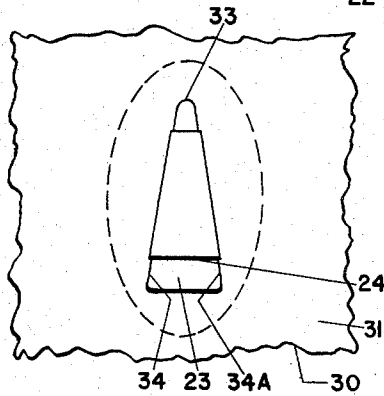


FIGURE - 2

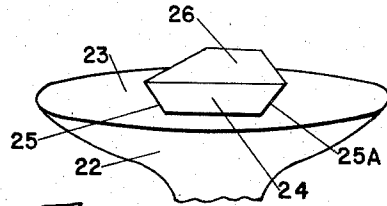


FIGURE - 3

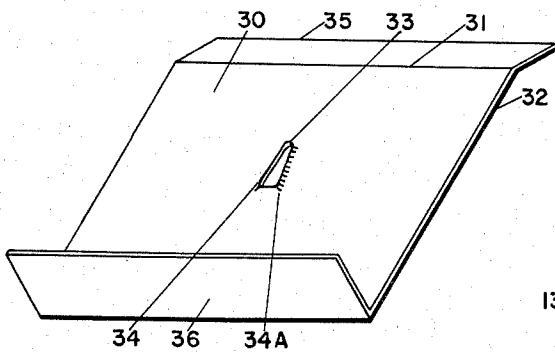


FIGURE - 4

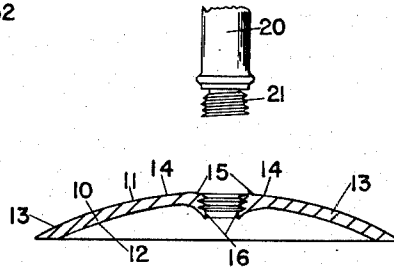


FIGURE - 5

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1

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DETACHABLE NESTABLE THREE-PIECE MUSIC STAND

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2 Claims. (Cl. 45—121)

This invention relates to detachable, nestable stands and more particularly to detachable, nestable stands which are light weight and easily portable. More specifically, the classification of stands to which this invention relates, embraces such devices as portable detachable music stands and display stands.

One object of this invention is the provision of a detachable stand which combines the advantages of rigidity and stability found in conventional non-portable music stands with the advantages of light weight and easy portability found in conventional foldable music stands.

Another object of this invention is to provide a stand which may be quickly and easily assembled and disassembled.

A further object is to provide a stand of such configuration that when it is disassembled its parts may be nested together with similar parts of a plurality of such stands, whereby a plurality of disassembled stands may be arranged in a relatively small and very compact unit which may be carried by one or two persons.

While this invention may be utilized to great advantage in numerous devices falling within the broad category of portable detachable stands, e. g., display stands, advertising signs, and easels, I shall, for purposes of simplicity, describe my invention as it applies to the single category of structures known as music stands.

Conventional modern day music stands are of two general types collapsible and non-collapsible. By their very nature the heretofore known collapsible stands have been uniformly rather delicate and unstable; that is, their foldable members become bent and their joints become loose with continued usage and moderately rough handling, and they tend to vibrate excessively when accidentally bumped.

The non-collapsible music stands possess excellent stability and wearability, but are so bulky and heavy that they cannot be easily transported or stored. Therefore, it is impossible for a band or orchestra which moves about for its performances, or uses a dual purpose rehearsal hall, to easily transport or house its music stands. The reasons for these difficulties are twofold in basic nature.

(1) All studio stands of the non-collapsible type are designed with desks with protruding parts for connecting them to the upright piece which prohibits nesting of a plurality of desks.

(2) The bases, generally a heavy casting, have no provision in their design for nesting.

This invention however, combines the advantages of stability and wearability, found in non-collapsible music stands, with the advantages of light weight and easy portability displayed by collapsible music stands. Additionally, this invention provides a stowability feature not found in either the collapsible or non-collapsible varieties of music stand, since the separate parts of this invention may be nested with a plurality of similar parts in a compact unit which may be easily transported or stowed.

The above-enumerated advantages accrue from the

2

invention described here below and illustrated in the accompanying drawing, in which:

Figure 1 is a rear elevation view of a music stand embodying my invention.

Figure 2 is an enlarged fragmentary plan view of the central portion of the desk, together with the upper portion or head, of the standard, for the music stand shown in Figure 1.

Figure 3 is an end oblique view, partially enlarged, of the upper portion, or head of the standard shown in Figure 1.

Figure 4 is a perspective view of the desk shown in Figure 1.

Figure 5 is an exploded sectional view of the base and the lower portion of the standard of the music stand shown in Figure 1.

The detachable stand embodying this invention consists primarily of three major parts, a base 10, a vertical standard 20, and an object-supporting desk 30. The base 10 is adapted to firmly engage the lower end of the standard 20 in such a manner that the two may be quickly and easily detached. Likewise, the upper end of the standard 20 is adapted to firmly engage the desk 30 in such a manner that the latter may be quickly and easily detached from the standard.

The disk-like base 10 is formed of substantially rigid sheet material, in order to keep its weight to a minimum and to provide an upper surface 11 and a lower surface 12 having substantially identical contours or configurations. It is only by reason of these substantially identical configurations together with the absence of any vertical walls on the base, that it becomes possible to nest a plurality of such bases one to another.

While there are numerous configurations which would satisfy the specifications enumerated in the foregoing paragraph, a preferred embodiment of this invention comprises a disk-like base 10 of sheet material whose outer annular area 13 slopes upwardly and inwardly and merges with an elevated annular portion 14 as shown in Figure 5. Merging with the elevated annular portion 14 is an inner annular portion 15 having downwardly and inwardly sloping sides terminating in a vertically threaded aperture 16. It is preferred that the material surrounding the aperture receiving the thread be conical in shape, i. e., it will have walls disposed at less than 90° from the horizontal. This facilitates the nesting together of a plurality of bases. The cone thus formed stabilizes the dome of the base and furnishes sufficient material in which to cut threads. By providing the downwardly sloping sides 15, it is possible to cut a significantly greater number of threads in the base 10 than could be provided by perpendicularly threading an aperture in a flat sheet of material of the same thickness.

The standard 20 is provided with a threaded lower end 21, which is adapted to be screwed into the threaded aperture 16 of the base 10. The upper end of the standard 20 is provided with a head 22 having a planar face 23. Centrally located on the face 23 is a short upwardly projecting key 24 having two sides 25 and 25a whose intersections with the top 26 form a V shape. An end elevation of the key 24, as seen in Figure 3, reveals that the sides 25 and 25a slope upwardly and outwardly from the face 23, describing a truncated V shape.

The desk 30 is formed of substantially rigid sheet material providing an upper surface 31 and a lower surface 32 of substantially identical configurations. This configuration provides a rigid, stable, light-weight structure which may be nested with a plurality of similarly formed desks. Centrally located in the desk 30 is a V-shaped aperture 33 adapted to receive the V-shaped

3

key 24. The edges 34 and 34a which form the V-shaped sides of the aperture 33 are formed with a slightly upward slope from the surrounding material of the desk 30.

The desk 30 is attached to the head 22 by sliding the V-shaped aperture downwardly over the V-shaped key 24 until the planar face 23 contacts the lower surface 32 of the desk 30. A light downward manual tap on the top edge 35 of the desk will cause the desk to slide downward across the planar face 23 a slight amount. This in turn will cause the upwardly and outwardly sloping sides 25 and 25a of the key 24 to depress the slightly upwardly sloping edges 34 and 34a of the desk, whereby the downward wedging action of the V-sided key 24 against the spring tension of the edges 34 and 34a provides a firm engagement between the desk 30 and the head 22.

The desk can be very quickly and easily detached from the head by applying an upward manual tap to the ledge 36 which is affixed to the bottom edge of the desk 30 to support light objects such as sheet music, and then lifting the desk away from the head 22.

By providing a detachable stand having the configurations and attaching means described above, it is possible to stow twenty-five of such stands in a carrying case measuring 9" x 14" x 37". In this connection it must be remembered that in Figure 1 each standard is 34" long, each desk is 12" high and 18" wide, and each base is 13" in diameter. A further advantage accruing from this invention in addition to those enumerated heretofore, is the fact that this stand may be disassembled and stowed in the carrying case in not more than ten seconds; the time for removing the parts from the carrying case and assembling in a stand is a few seconds longer. Furthermore, with only three detachable parts to the entire structure, the chances of losing a part are diminished over those devices consisting of more parts.

I claim:

1. A detachable, nestable, three-piece stand including a disc-like base member, a vertical cylindrical standard, a head affixed to the upper end of said standard, said head having at least one planar face, a relatively short flat-topped key centrally affixed to the planar face of said head, said key having two non-parallel opposing sides presenting a V-shape when viewed from the top and a truncated V-shape when viewed in cross-sectional elevation, and a desk member composed of substantially rigid and relatively thin sheet material formed to present upper and lower surfaces of substantially identical configurations whereby a plurality of desks formed identically to said desk may be nested together in such manner that

4

the upper surface of one desk contacts substantially all of the lower surface of the upwardly adjoining desk, said desk having a centrally located V-shaped aperture formed to receive said key, and the material forming the V-like edges of said V-shaped aperture having a slightly upward slope from the surrounding material constituting the desk.

2. A detachable, nestable, three-piece stand including a sheet-material base whose entire outer portion slopes upwardly and inwardly and merges with an elevated portion, said elevated portion having a central annular portion composed of downwardly and inwardly sloping sides terminating in a threaded aperture, the upper and lower surfaces of said sheet-material base having substantially identical configurations whereby a plurality of bases formed identically to said base may be nested together in close proximity, a two-ended vertical standard whose lower end is threaded to engage the threaded aperture in said base, a head affixed to the upper end of said standard, said head having at least one planar face, a relatively short flat-topped key centrally affixed to the planar face of said head, said key having two non-parallel opposing sides presenting a V-shape when viewed from the top and a truncated V-shape when viewed in cross-sectional elevation, and a desk member composed of substantially rigid and relatively thin sheet material formed to present upper and lower surfaces of substantially identical configurations whereby a plurality of desks formed identically to said desk may be nested together in such manner that the upper surface of one desk contacts substantially all of the lower surface of the upwardly adjoining desk, said desk having a centrally located V-shaped aperture formed to receive said key, and the material forming the V-like edges of said V-shaped aperture having a slightly upward slope from the surrounding material constituting the desk.

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