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[54] **PORTABLE LIGHTWEIGHT FOLDABLE SUPPORT PLATFORM**
10 Claims, 9 Drawing Figs.

[52] U.S. Cl..... **108/64,**
 108/131, 108/161, 52/177, 52/615
 [51] Int. Cl..... **A47b 57/00**
 [50] Field of Search..... 108/64,
 131, 161; 52/615, 617, 621, 623, 177

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ABSTRACT: A portable, lightweight and foldable support platform comprising a planar support member and a pair of support leg assemblies secured to the support member at the lateral ends thereof with the support member being fabricated having a core of lightweight, high-strength material, such as a balsa wood composition, and having a plastic layer secured to the underside of said core and a nonskid textured plastic layer secured to the upper surface of the core, the longitudinal sides of the core having aluminum rails secured thereto; the leg assemblies being provided with pivotable hinges to enable the same to be folded flat against the underside of said support member for storage thereof; and the ends of said longitudinal side edges being provided with mating toggle latches to enable adjacent ones of said support platforms to be securely interconnected to form a support assembly.

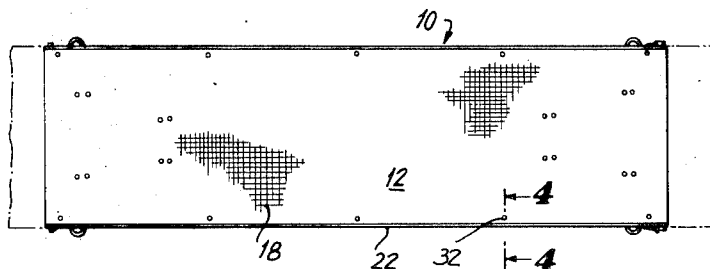


FIG. 1

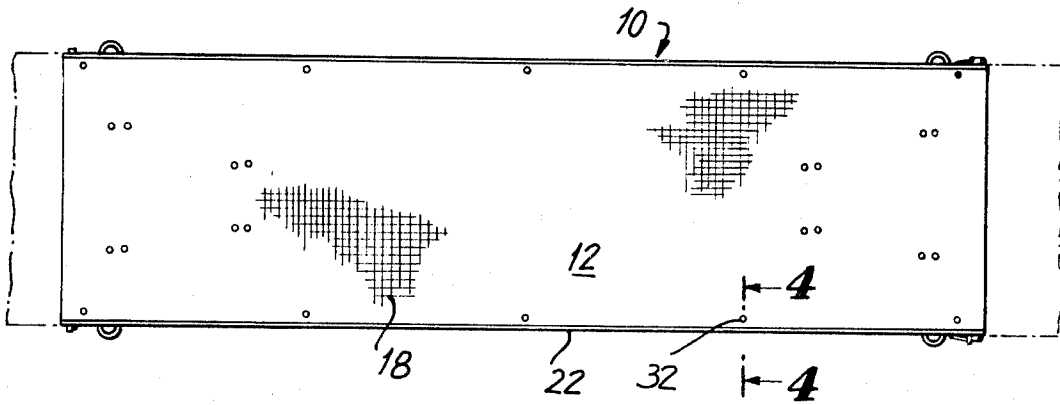


FIG. 2

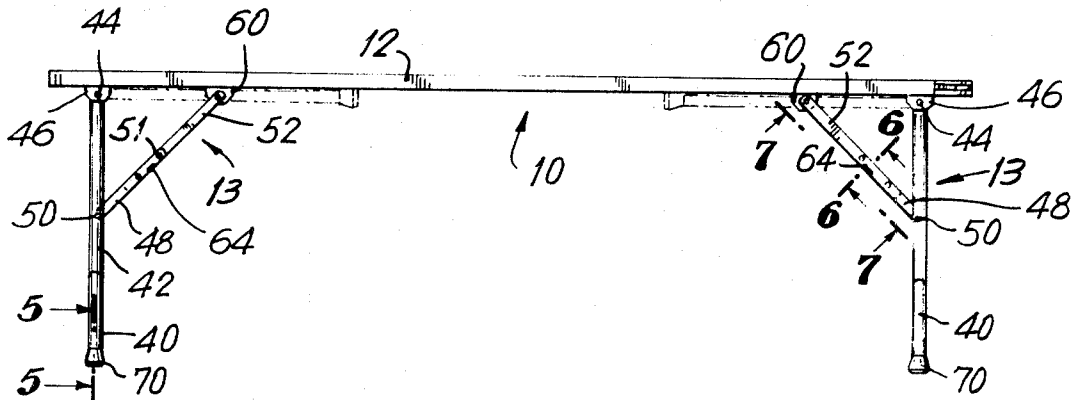
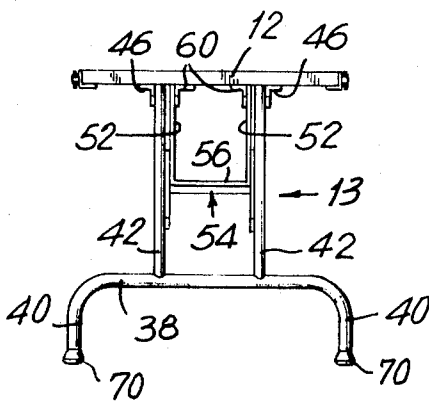


FIG. 3



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FIG. 4

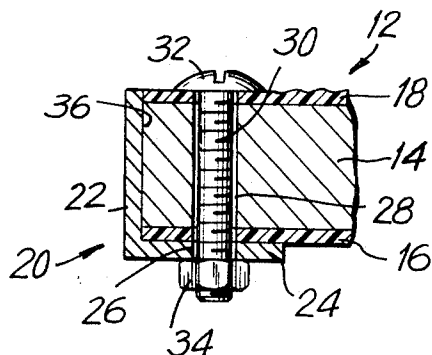


FIG. 5

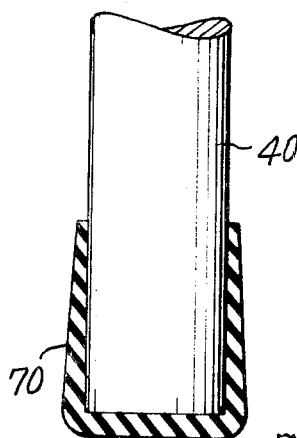


FIG. 6

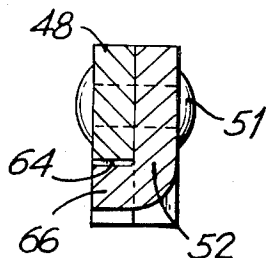


FIG. 7

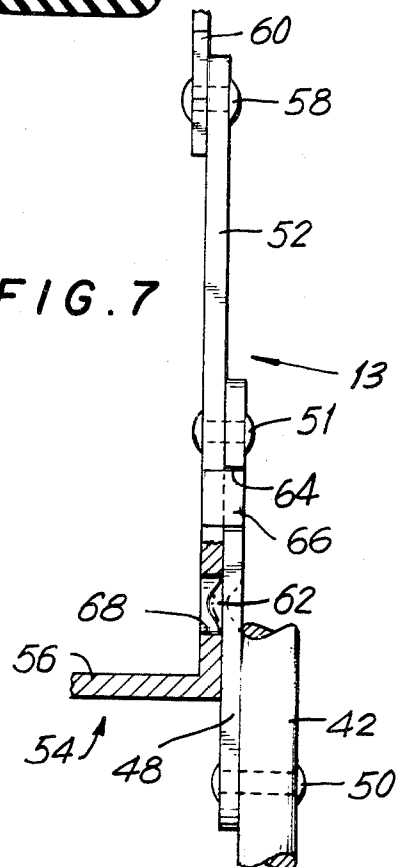


FIG. 8

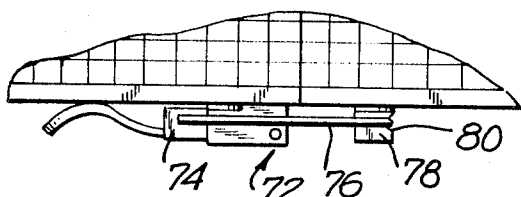
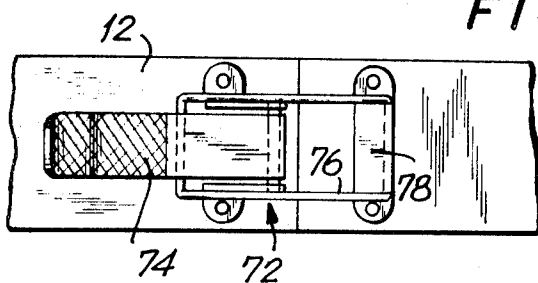


FIG. 9



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PORTABLE LIGHTWEIGHT FOLDABLE SUPPORT PLATFORM

BACKGROUND OF THE INVENTION

The present invention pertains to a new and novel lightweight portable support platform, pluralities of which may be securedly interconnected to form a support assembly.

Heretofore, there has not been available a relatively inexpensive, dependable support platform capable of constant reuse, especially for use in conjunction with the laying of cables in telephone systems where the cable disposition and connections are disposed at an elevated position from the floor.

Another problem encountered with prior art support platforms were that in order to provide the necessary compressive strength they were fabricated of heavy and bulky materials which occupied a great deal of space and which were difficult to store, in addition to the incumbent disadvantages of this type of construction.

SUMMARY

Accordingly, it is the primary object of the present invention to provide a new and novel lightweight foldable support platform which is portable and which may simply and easily be carried from place to place.

It is another object of the present invention to provide a support platform of the above type comprising a planar support member fabricated of a lightweight and high-strength wood composition and having a nonskid textured upper surface to prevent users of the platform from falling while standing on the same.

It is a further object of the present invention to provide a support platform of the aforementioned type provided with a pair of pivotally connected legs which are foldable in flat abutting position with the underside of the planar support member to thereby permit easy storage of the platform.

It is yet another object of the present invention to provide a support platform of the above type which includes snap-lock catches to permit adjacent platforms to be secured together to form a support assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, features and advantages of the present invention will become more apparent from the detailed description hereinafter considered in conjunction with the accompanying drawings wherein:

FIG. 1 is a top view of a portable lightweight foldable support platform constructed in accordance with the principles of the present invention;

FIG. 2 is a front elevational view of the support platform depicted in FIG. 1;

FIG. 3 is an end elevational view of the support platform shown in FIG. 1;

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 1;

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 2;

FIG. 6 is a sectional view taken on the line 6—6 of FIG. 2;

FIG. 7 is a sectional view taken on the line 7—7 of FIG. 2;

FIG. 8 is an enlarged top view of the connection of two support platforms to form a support assembly by means of mating snap-lock catches; and

FIG. 9 is a front view of the connection of the support platforms shown in FIG. 8.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings and, more particularly, to FIGS. 1 through 3 thereof, there is shown a portable, lightweight and foldable support platform constructed in accordance with the present invention and generally denoted by the reference numeral 10. The platform 10 comprises a planar support member 12 and a pair of longitudinally spaced supporting leg assemblies, generally indicated by the reference numeral 13, secured to the underside of the support member at the lateral ends thereof, in a manner which will be described in more detail hereinafter.

As best seen in FIG. 4, the planar support member 12 comprises a core 14 fabricated of a lightweight, high-strength material such as a balsa wood composition. A plastic layer 16 is laminated or similarly secured to the underside of the core 14. Laminated or otherwise suitably secured to the top surface of core 14 is a nonskid textured plastic layer 18. The plastic layers 16 and 18 are preferably laminated to the core 14 to form an integral support member 12 of planar configuration. The support member 12 is provided with siderails 20 along the longitudinal side edges of the member. The siderails 20 are of L-shaped configuration and comprise legs 22 and 24. The legs 24 of each of the siderails 20 are provided with a plurality of spaced-apart apertures or bores 26. The member 12 is also provided with a plurality of spaced-apart bores 28 on each of the longitudinal sides thereof which are disposed in coaxial alignment with the bores 26 in legs 24. A bolt 30 having a head 32 is positioned within each of the aligned bores and positionally secured therein by means of a nut 34 threadably engaged thereon. Tightening of nut 34 causes the same to abuttingly engage the underside of leg 24 and concomitantly therewith draws the head 32 downwardly into the textured plastic layer 18, so that the top of the head 32 is substantially coplanar with the exposed surface of the layer 18. It is to be noted, however, that in FIG. 4, for ease of illustration, the head 32 is shown positioned above the layer 18. The inner dimension of leg 22 is substantially coextensive with the thickness of the planar support member 12, whereby upon the completion of the above construction, the legs 22 of the siderails 20 are disposed in flush abutting engagement with the longitudinal edges 36 of the planar support member 12.

It is to be noted that in the actual fabrication of the platform 10, the siderails 20 will first be positioned with respect to member 12, whereafter the bores 26 and 28 will be formed and the bolts 30 and nuts 34 secured to the structure.

Referring now again to the supporting leg assemblies 13 and to FIGS. 2, 3 and 5 through 7 in conjunction therewith, the assemblies comprise a bowed bottom portion 38 which terminates in feet 40. Secured to portion 38 and projecting upwardly therefrom are a pair of spaced vertical members 42. Pivotally connected to the top of each of the members 42 by means of rivets 44 is an angle bracket 46.

A pair of links 48 are pivotally secured to the lower portion of the vertical members 42 by means of rivets 50. The ends of the links remote from the members 42 are pivotally connected by rivets 51 to the arms 52 of a U-shaped member generally denoted 54 which includes a crossbar 56 interconnecting the lower ends of the arms 52. Pivotally secured to the top of each of the arms 52 by means of rivets 58 is an angle bracket 60. The links 48 are provided with a rounded nib 62 positioned slightly below the notch 64 formed in the link.

The arms 52 of the U-shaped member 54 have projections 66 extending perpendicularly from one of the edges thereof while positioned slightly below the projections are apertures 68.

The brackets 44 and 60 are secured to the underside of the support member 12 in juxtaposition with the plastic layer 16 by any normal securing means, such as nails, threaded screws or the like.

The support platform 10 in its operative position is depicted in FIG. 2, wherein the leg assemblies 13 in their extended position are shown by full line representation. In this position the projection 66 extends into the notch 64 which acts as a stop therefor. Similarly, the nib 62 is disposed within the aperture 68, thereby positionally securing the links 48 with respect to the arms 52 and thus to the U-shaped member 54.

When it is desired to store the platform 10, the leg assemblies 13 are collapsed in the following manner. The crossbar 56 is grasped and pulled inwardly toward the center of the platform 10. This causes projection 66 to become disengaged from stop 64 and concomitantly causes the nib 62 to move outwardly from aperture 68, whereby the links 48 and the arms 52 become disengaged. Further pulling movement of the crossbar 56 results in pivotal movement of the respective members about the rivets 46, 50, 51 and 58, whereafter the

bowed portion 38 is pushed inwardly toward the center of the platform. This movement of the leg assemblies 13 results in their being placed in abutting engagement with the underside of the support member 12 (as shown in phantom in FIG. 2) which permits the platform to be stored in a folded condition where the required storage space is minimal.

With reference to FIG. 5, in particular, it is seen that the legs 40 are provided with rubber tips 70. The tips 70 are substantially open-ended cylindrical members which are forcibly inserted over the ends of the legs 40. The tips provide a secure nonslip engagement with the floor surface upon which the platform 10 is positioned to insure that the same does not move during use thereof.

It is to be noted that in many applications, a plurality of platforms will have to be used in conjunction with one another in the form of a support assembly. Accordingly, the individual platforms 10 are provided with means for interconnecting the longitudinal edges of adjacent platforms.

Referring now to FIGS. 8 and 9, in particular, there is shown two support platforms secured in abutting relationship by means of a toggle latch which is generally denoted by the reference numeral 72. The latch 72 includes a toggle lever 74 to which is pivotally secured a U-shaped bar 76 and these are connected to the leg 22 of the siderail 20 of one of the planar support members 12. The adjacent planar support member has a boss portion 78 which has an indentation or groove 80, secured thereto.

In the operation of the toggle latch 72, the U-shaped bar 76 pivotally connected to the toggle lever 74 positioned on one planar support member 12 is placed over the boss 78 and into the groove 80 secured to an adjacent support member. The toggle lever 74 is then pressed inwardly toward the edge of the support member to which it is secured causing the U-shaped bar 76 to be positionally secured in position within groove 80 and with respect to the boss 78. Thus, the lateral edges of adjacent support members are secured in abutting engagement, whereby a plurality of support platforms 10 can be interconnected to form a support assembly.

It will be appreciated that the toggle latch is preferably provided on both longitudinal edges of the support member.

In the actual use of the support platform 10, the tensile or compressive forces applied to the planar support member 12 are converted into shear stresses and the nuts 34 and bolts 30 in conjunction with the siderails 20 serve to absorb the same. Thus, the amount of compressive force the support platform of the present invention can withstand is many times greater than would be possible with a normal-type planar support member of standard wood construction.

It is to be noted that the support platform of the present invention is intended to withstand substantial compressive forces which are produced by having either one or a plurality of people standing on the individual platforms at the same time.

It is thus seen that I have provided a new and novel support platform and support assembly which is relatively simple and inexpensive to fabricate, which is of extremely lightweight and which is foldable and storable in a relatively small space, wherein the individual support platforms of a support assembly may be stacked one upon the other.

While I have shown and described the preferred embodiments of my invention, it will be readily apparent to those skilled in the art that there are many modifications, changes and improvements which may be made therein without departing from the spirit and scope thereof.

What is claimed is:

1. A portable, lightweight support platform comprising a substantially planar support member, at least a pair of leg assemblies, means for connecting said leg assemblies to the underside of said support member in proximity of the lateral ends thereof, said support member comprising

- a core,
a plastic layer, and
a nonskid plastic layer,
said plastic layer being secured to the underside of said core,
said nonskid plastic layer being secured to the upper surface of said core, and
said leg assemblies being pivotally connected with respect to said support platform to enable said leg assemblies to be folded and placed in abutting engagement with the underside of said support member in juxtaposition with said plastic layer to thereby place the support member in a folded and storable position.
2. A portable, lightweight support platform in accordance with claim 1, wherein
said core is fabricated of a balsa wood composition, and
said nonskid plastic layer is texturized.
3. A portable, lightweight support platform in accordance with claim 1, including
a pair of siderails, and
means for connecting said siderails along at least a portion of the longitudinal side edges of said support member.
4. A portable, lightweight support platform in accordance with claim 3, wherein
said siderails comprise L-shaped members having first and second legs,
said first legs being disposed in abutting engagement with the longitudinal side edges of said support member,
said second legs being disposed in abutting engagement with said plastic layer on the underside of said support member and having a plurality of longitudinally spaced apertures formed therein,
said support member having a plurality of longitudinally spaced apertures formed therein adjacent each of the longitudinal edges thereof,
said apertures being disposed in coaxial alignment,
said means for connecting said siderails to said support member comprising bolts extending through said coaxially aligned apertures having the heads thereof in abutting engagement with said nonskid plastic layer and nuts threadedly engaging said bolts in abutting engagement with said second legs, and
5. A portable, lightweight support platform in accordance with claim 4, wherein
said siderails are fabricated of aluminum.
6. A portable, lightweight support platform in accordance with claim 4, wherein
said siderails include complementary latching means secured to the spaced ends of the first legs adjacent the lateral ends of said support member,
the latching means adjacent one of the lateral ends of a first support member being engageable with a latching means adjacent one of the lateral ends of a second support member to enable said support members to be secured with respect to one another to form a support assembly.
7. A portable, lightweight support platform in accordance with claim 6, wherein
said latching means is a toggle mechanism.
8. A portable, lightweight support platform in accordance with claim 7, wherein
said core is fabricated of a balsa wood composition.
9. A portable, lightweight support platform in accordance with claim 8, wherein
said nonskid plastic layer is texturized.
10. A portable, lightweight support platform in accordance with claim 4, wherein
said core is fabricated of a balsa wood composition, and
said nonskid plastic layer is texturized.

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