AERIAL PLATFORM UTILITY ENCLOSURE ASSEMBLY

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References Cited

UNITED STATES PATENTS
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3,189,602 2/1965 Myers 182/46
3,404,751 10/1966 Norworthy 182/46
3,414,079 12/1968 Wacht 182/46
3,605,941 9/1971 Edwards 182/2
3,625,305 12/1971 Mueller 182/46
3,642,096 2/1972 Valentine 182/46
3,695,390 10/1973 Leigh 182/2

ABSTRACT
A modular three-part preformed lightweight synthetic resin panel assembly comprising an aerial platform utility enclosure designed to be installed upon the outer structural surfaces of the frame members of an otherwise unenclosed aerial platform cage, wherein each respective panel member of the utility enclosure has an outwardly extending integrally molded tool and equipment storage compartment, with one such compartment being further provided with interiorly affixed laterally positioned rib panels to support transparent plastic accessory and parts drawers, wherein also the utility enclosure design is such that, when installed, there is no reduction in the available preexisting aerial platform operator/worker occupancy space.

7 Claims, 6 Drawing Figures
AERIAL PLATFORM UTILITY ENCLOSURE ASSEMBLY

BACKGROUND OF THE INVENTION

The present invention relates to a modular three-part panel assembly which comprises an aerial platform utility enclosure designed to be installed upon an otherwise unenclosed aerial platform structure such as that exemplified and illustrated in U.S. Pat. No. 3,727,722 to Hedges et al.

Various types of enclosed aerial platform disclosures, which incorporate utility features of one kind or another, show platform means primarily designed for accomplishing specific aerily performed functions, such as exemplified by those aerial platforms developed for orchard harvesting operations as taught in U.S. Pat. No. 3,182,827 to Frost, dated May 11, 1965; U.S. Pat. No. 3,299,290 to Lowery, dated July 4, 1967; and U.S. Pat. No. 3,690,092 to Ross et al., dated Sept. 12, 1972.

The disclosure set forth in U.S. Pat. No. 3,809,180 to Grove, dated May 7, 1974, teaches a partially enclosed aerial platform having installed at the forward vertical face thereof a pipe grab for engaging, holding, and lifting a length of pipe to an elevated work location.

Other enclosed aerial platform disclosures, such as those taught in U.S. Pat. No. 3,396,814 to Garnett, dated Aug. 13, 1968; U.S. Pat. No. 3,404,751 to Nosworthy, dated Oct. 8, 1968; and U.S. Pat. No. 3,625,305 to Mueller et al., dated Dec. 7, 1971, show additional utility features such as integrally formed toe offsets near the base of the platform, as well as integrally formed bumper members and dual purpose interior/exterior foot steps on the sides of the platform enclosure, in addition to detachable foot steps which are mountable over an upper edge of the platform enclosure and depend interiorly of the platform.

Yet another enclosed aerial platform design as shown in U.S. Pat. No. 3,695,390 to Leigh, dated Oct. 3, 1972, teaches the incorporation of integrally formed protrusions in the enclosing side walls of said platform, which protrusions serve as recesses for the storage of accessories employed by a worker in the platform, as well as incorporating also an integrally formed arm rest, about the upper peripheral edge of the platform enclosure, in addition to a collapsible and/or removable cushioned seat within the platform.

Notwithstanding all of the utility features taught by the aforementioned disclosures, one of the inherent primary problems encountered upon the incorporation of such features in an enclosed aerial platform structure is the addition of weight, which additional weight operates over the aerial lift extension capability of the lifting means as it is employed to elevate and position said aerial platform at extended locations, thereby causing an excess load and resultant wear upon the intermediate lifting means connections, as well as the mounting point of the lifting means base and other fulcrum points of a lifting means not otherwise designed to accommodate the additional weight effect. The aforementioned additional weight factor is of particular significance when utility modification features are incorporated into the design of an enclosed unconstructed aerial platform molded from synthetic resin material, where the weight of the resin required to form the aerial platform is determined by the thickness of resin which is necessary to provide structural rigidity and strength, that being a considerably heavier weight of resin material than would otherwise be required if the basic structural strength and rigidity for the aerial platform assembly were provided by some other less heavy construction means, and a thinner caliper of resin material could be advantageously utilized in accomplishing the utilitarian inventive ends.

Although the present invention is, in some structural and functional aspects, somewhat similar to the previously cited disclosures, the present invention nevertheless is distinguishable from the same in one or more ways, as will hereinafter be pointed out, as said present invention has serviceability features and new and useful advantages, applications, and improvements in the art of aerial platform utility enclosures not heretofore known.

SUMMARY OF THE INVENTION

It is the principal object of the present invention to provide a modular three-part enclosing panel assembly for installation upon the two side and the front structural frame members of an otherwise unenclosed aerial platform cage structure, whereby the basic structural frame member strength and rigidity of said cage structure is imparted to said enclosing panel assembly members upon connection of the same thereto, thereby enabling the utilization of a lighter caliper lower weight enclosing panel assembly construction than would otherwise be possible while at the same time obtaining improvement features which enhance the utility of said aerial platform without inordinately increasing the basic structural weight thereof.

It is an additional object of the present invention to provide an aerial platform utility enclosure assembly wherein the modular three-part panel members thereof are dimensionally formed into configurations which enables the direct retrofit attachment of said panel members to the respective side structural frame members of an otherwise unenclosed aerial platform cage structure without requiring dimensional modification, or any further forming, shaping, or cutting of said panel members.

It is another object of the present invention to provide an aerial platform utility enclosure assembly which incorporates convenient storage compartments and drawers for stowing and securing tools, parts, and accessory equipment in such a manner so that said tools, parts, and accessory equipment is readily accessible to an operator/worker occupant within the aerial platform.

A further object of the present invention is to provide an aerial platform utility enclosure assembly design which incorporates the aforementioned tools, parts, and accessory equipment storage compartment and drawer means in such a manner so as not to decrease the available preexisting aerial platform interior operator/worker occupancy space.

It is still another object of the present invention to provide tool, parts, and accessory storage compartment drawer means whereby said drawers are fabricated from a transparent impact-resistant plastic material, thereby providing content visibility without requiring removal of the same.

It is still a further object of the present invention to provide tool, parts, and accessory storage compartment drawer support means which are designed to enable the employment of drawers of different multiples of depth of the basic unit.
It is also an additional object of the present invention to provide an aerial platform utility enclosure assembly which affords operator/worker occupant protection from the weather elements.

It is further an additional object of the present invention to provide an aerial platform utility enclosure assembly which furnishes the means for modifying an existing unenclosed aerial platform into a more utilitarian aerial lift component member than otherwise, without also requiring either further equipment modifications or involving a significant capital cost.

Yet another object of the present invention is to provide an aerial platform utility enclosure assembly which may be easily installed with standard tools by one not possessed of special skills.

Yet a further object of the present invention is to provide, as auxiliary utility components thereof, a set of attachment bars for "quick-clamp" mounting of cable splicing equipment.

Yet even another object of the present invention is to provide, as an additional auxiliary utility component thereof, a mounting bracket for detachable erecting either an enclosing protective canopy or an umbrella above the aerial platform utility enclosure assembly.

Details of the foregoing objects and of the invention, as well as other objects thereof, are set forth in the following specification and illustrated in the accompanying drawings comprising a part thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded front perspective elevation view of the component panel members of an aerial platform utility enclosure assembly embodying the principles of the present invention.

FIG. 2 is a front perspective elevation view of an aerial platform utility enclosure assembly shown installed upon the frame of an otherwise unenclosed aerial platform cage structure.

FIG. 3 is a top plan view of the installed aerial platform utility enclosure assembly as seen along the line 3—3 of FIG. 2.

FIG. 4 is an interior side elevation of the installed utility enclosure side panel member as seen along the line 4—4 of FIG. 3.

FIG. 5 is an interior side elevation of the installed utility enclosure front panel member as seen along the line 5—5 of FIG. 3.

FIG. 6 is an interior side elevation of the installed utility enclosure side panel member as seen along the line 6—6 of FIG. 3.

DETAILED DESCRIPTION

Referring to FIG. 1, the present invention is shown which comprises a modular three-part panel assembly which provides a utility enclosure means 10 for an otherwise unenclosed aerial platform cage structure 12 having a workbench shelf 14 affixed thereto, said utility enclosure means 10 including as components thereof a first side panel member 16, a second side panel member 18, and a front panel member 20, and further including as additional utility enclosure means cooperating components a protective canopy and umbrella mounting bracket 22, as well as a detachable forward cable splicing machine mounting bar 24 and a detachable side-mounted cable splicing machine mounting bar 26, said cable splicing machine mounting bars 24 and 26 not being shown in FIG. 1, but, however, illustrated in FIG. 3 and certain of subsequent Figures.

Referring again to FIG. 1 to explain the details of utilizing the present invention. Each of the respective utility enclosure side panel members 16 and 18, as well as the front panel member 20, have integrally formed connecting flanges 28 which are configured to retrofit dimensionally in flush abuttment to each other and the respective outer frame member surfaces of the unenclosed aerial platform cage structure 12 for respective installation of said panel members 16, 18, and 20 thereto, as well as assembly of the same to each other, by means of rivet or bolt connections through openings 30. An installed utility enclosure means 10, with the respective side and front panel members 16, 18, and 20 thereof being shown connected by rivets or bolts 32 to the otherwise unenclosed aerial platform cage structure 12 and to each other, as heretofore described, is illustrated in FIG. 2.

Each of the side panel members 16 and 18 respectively have outwardly disposed integrally molded implement storage compartments 34 and 36, and the front panel member 20 has an integrally molded drawer cabinet compartment 38, all of said compartments 34, 36, and 38 providing places in which to store tools, parts, and equipment to be carried aloft by an operator/worker occupant within the enclosed aerial platform cage structure for use by said operator/worker occupant in accomplishing tasks performed at elevated locations from within said platform. It should be noted that the utility enclosure design thereby increases the usefulness of an otherwise unenclosed aerial platform by providing storage compartments for tools, parts, and equipment without reducing the available preexisting unenclosed aerial platform operator/worker occupancy space. Also, as a result of rivetly connecting the utility enclosure panel members 16, 18, and 20 to the frame members of the unenclosed aerial platform cage structure 12, which frame members provide structural support for said panel members 16, 18, and 20, a thinner caliper lighter weight material may be employed in fabricating the panel members than would otherwise be possible if such structural frame members were not utilized, thereby enabling employment of the present invention with a minimal resultant increase in the overall basic aerial platform weight while at the same time enhancing the overall aerial platform cage structural rigidity.

Also shown in FIG. 1 is the protective canopy and umbrella mounting bracket 22 which clampingly engages an enclosing canopy or umbrella mounting pole, not shown, to secure said canopy or umbrella in an erected position above the aerial platform 12. Said mounting bracket 22 is installed by threadable connection of compression bolts 40 to mounting member 42, which in turn is secured to the aerial platform base 44 by connecting bolts 46.

The utility enclosure means as disclosed in FIG. 1 may be constructed of metal, or plastic, or a combination thereof, or any other suitable material.

The view shown in FIG. 2, as previously stated, illustrates the installation of a utility enclosure means 10 upon an aerial platform cage structure 12 as earlier described and set forth in the present disclosure. Additionally shown in FIG. 2 is a fragmentary section of an attachment assembly member 48 whereby the aerial platform cage structure 12 is pivotally connected to an articulating aerial lift means, not shown.

In FIG. 3 a top plan view of an aerial platform cage structure 12 with a utility enclosure means 10 installed
thereon, as seen along the line 3—3 of FIG. 2, is shown. Additionally shown in FIG. 3 is the detachable forward mounting bar 24 for a cable splicing machine 24 and the mounting bracket means 50 therefor, as well as also showing the detachable side mounting bar 26 for a cable splicing machine, which may be detachably installed on either side apron of the work-bench shelf 14, depending upon the work location, and the mounting bracket means 52 therefore. It should be noted that the detachable cable splicing machine mounting bars 24 and 26 are employed for "quick-clamp" installation of a cable splicing head 54, such as those employed in splicing cables and being similar to that one shown in phantom in a stowed position in the first side panel member storage compartment 34 of FIG. 4. When said mounting bars 24 and 26 are not in use they may be removed to provide full work-bench shelf utilization. Also shown in FIG. 3 are eyebolts 56 by which means safety chains 58 are secured to the aerial platform cage structure 12.

The views shown in FIGS. 4 and 6 are respective side elevations of the installed first side panel member 16 and the second side panel member 18 as seen along the lines 4—4 and 6—6 of FIG. 3, which views further illustrate features of the respective side panel members 16 and 18 as heretofore described and discussed. Also shown in each of the subject respective Figures are storage compartment 34 and 36 retaining partitions 60 and 62, said retaining partitions 60 and 62 being rectangular shaped impact-resistant, clear plastic sheets affixed by means of screws 64 to respective side panel members 16 and 18 of utility enclosure means 10. Additionally shown, in phantom in FIG. 6, is an exemplary acetylene torch 66, typically employed in making soldered connections in cable splicing operations, stowed in storage compartment 36 of panel member 18.

In FIG. 5, a side elevation of the installed front panel member 20 is shown as seen along the line 5—5 of FIG. 3, wherein is illustrated the front panel member drawer cabinet compartment 38 which accepts and supports unit depth drawers 68 as well as multiple unit depth drawers 70, the drawer support means being provided by affixment of rib panels 72 to the interior lateral side surfaces of the drawer cabinet compartment 38 of the front panel member, said rib panels 72 respectively comprising a base sheet having a plurality of integrally molded, equally spaced laterally aligned inwardly disposed U shaped ribs 74 upon which the underside lateral surface support edges of said drawers 68 and 70 are slidably upheld. It should be noted that drawers 68 and 70 are fabricated from impact resistant clear plastic material, thereby enabling content visibility thereof without having to remove said drawers. Also shown is the drawer retaining bar 76, which secures drawers 68 and 70 in place within the front panel member drawer cabinet compartment 38 during transport of the aerial lift means, not shown, to which the aerial platform cage structure 12 is pivotally connected.

While the invention has been described and illustrated in its several preferred embodiments, it should be understood that the invention is not to be limited to the precise details herein illustrated and described since the same may be carried out in other ways falling within the scope of the invention as illustrated and described.

1 claim:

1. An unenclosed aerial lift platform having a base member with a plurality of vertically extending interconnected structural frame members affixed thereto, in combination with means to enclose the front and two sides of the otherwise unenclosed structural frame of said platform, said enclosing means comprising a modular three-part panel assembly having a first unconstructed panel member thereof being dimensionally formed into a peripheral geometric side planar profile configured to fit and be fixedly connected in flush abuttment to the outer structural frame member surfaces of one side of said unenclosed platform, and having molded within the peripheral dimensional limits of said first panel member an outwardly deposed geometrically configured implement storage compartment; a second unconstructed panel member dimensionally formed into a peripheral geometric side planar profile configured to fit and be fixedly connected in flush abuttment to the outer structural frame member surfaces of another side of said unenclosed platform, and having molded within the peripheral dimensional limits of said second panel member an outwardly deposed geometrically configured implement storage compartment; a third unconstructed panel member dimensionally formed into a peripheral geometric side planar profile configured to fit and be fixedly connected in flush abuttment to the outer structural frame member surfaces of the front side of said unenclosed platform, and having molded within the peripheral dimensional limits of said third panel member an outwardly deposed geometrically configured accessory drawer cabinet compartment; whereby the attachment of said enclosure means to the structural frame members of said unenclosed aerial lift platform imparts increased structural rigidity to the aerial lift platform with a minimal increase in total aerial platform weight, while at the same time providing utilitarian self-contained readily accessible implement and accessory storage compartments within said aerial platform.

2. An enclosing means according to claim 1, wherein said panel members are shaped so as to not decrease the available preexisting unenclosed interior operator/worker occupancy space of the unenclosed platform.

3. An enclosing means according to claim 1, wherein the accessory drawer cabinet compartment has affixed to the opposite interior lateral sides thereof a plurality of horizontally deposed inwardly facing respectively aligned supporting rib means to slidably receive a plurality of transparent impact-resistant plastic drawers.

4. An enclosing means according to claim 1, wherein said accessory drawer cabinet compartment has horizontally deposed to inwardly face respectively aligned rib means which have a uniform vertically deposed unit dimension therebetween.

5. An enclosing means according to claim 1, wherein said plurality of transparent impact-resistance plastic drawers have a vertically deposed drawer depth of at least one vertically deposed unit dimension.

6. An enclosing means according to claim 1, wherein the same additionally includes as an auxiliary utility member thereof at least one geometrically configured attachment bar member and a detachable mounting bracket means therefore adapted for "quick-clamp" mounting of electrical cable splicing equipment thereon.

7. An enclosing means according to claim 1, wherein the same further includes as an auxiliary utility member thereof mounting bracket means adapted for detach-
ably erecting a protective canopy assembly above said aerial platform.