Oct. 29, 1968 R. L. DOYLE 3,407,825

UMBRELLA HOLDER AND ASSEMBLY USING SAME

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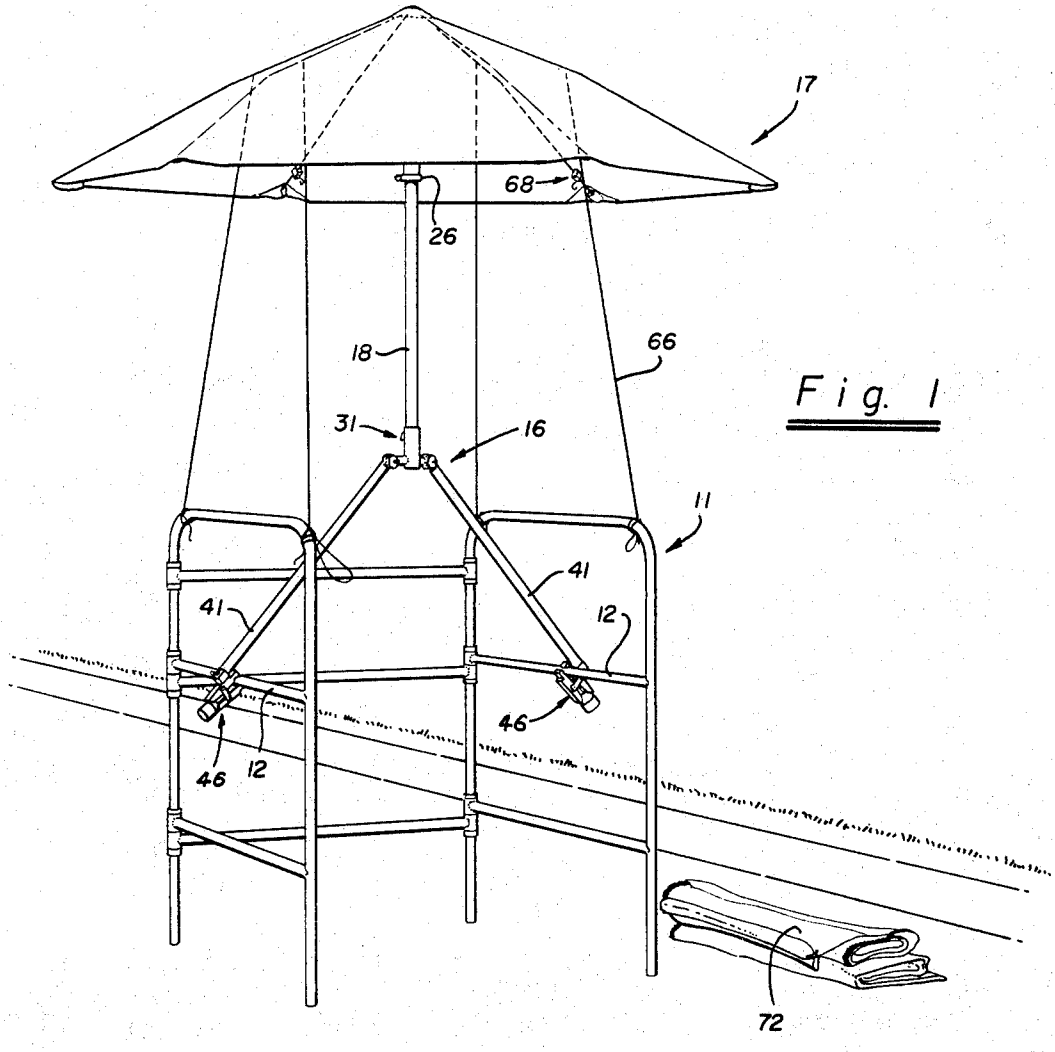


Fig. 1

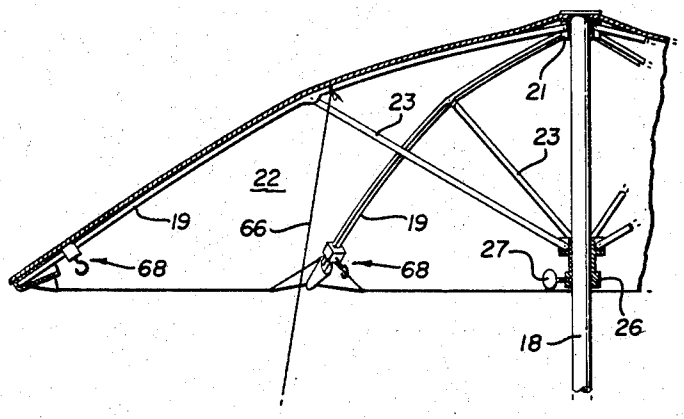


Fig. 2

INVENTOR.
Robert L. Doyle
BY Fleht, Hohbach, Test, Albritton & Herbert
Attorneys

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Fig. 3

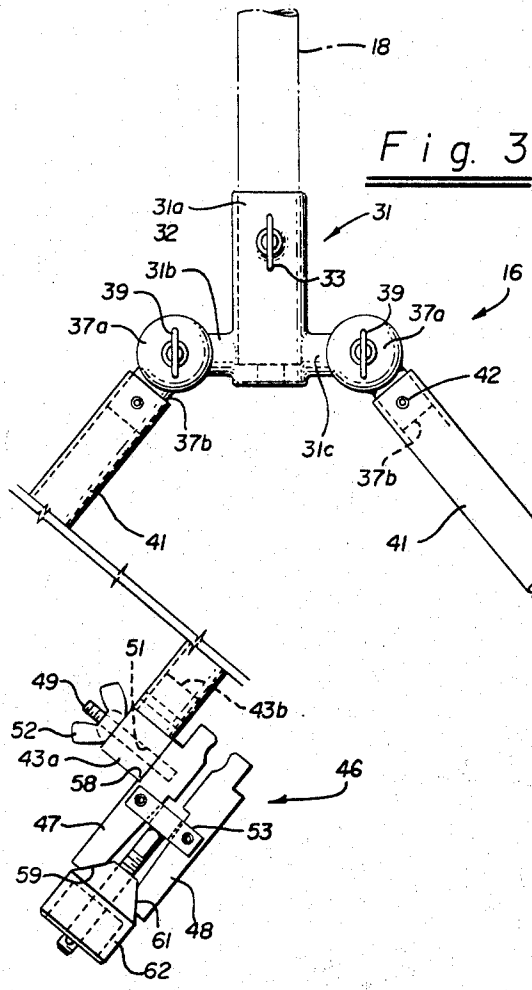
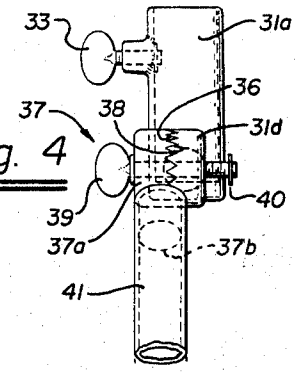


Fig. 4



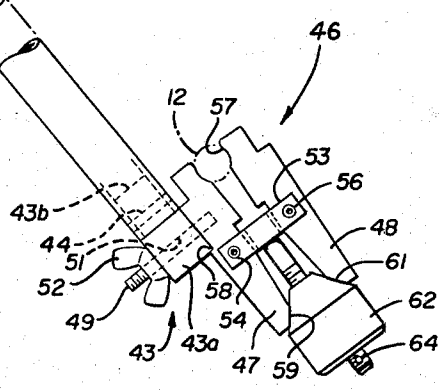


Fig. 5

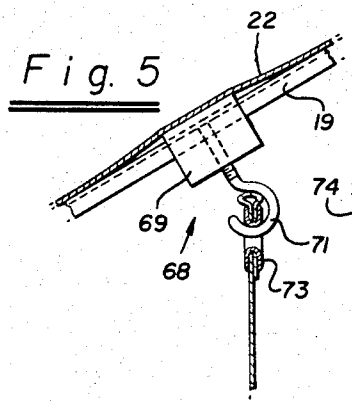
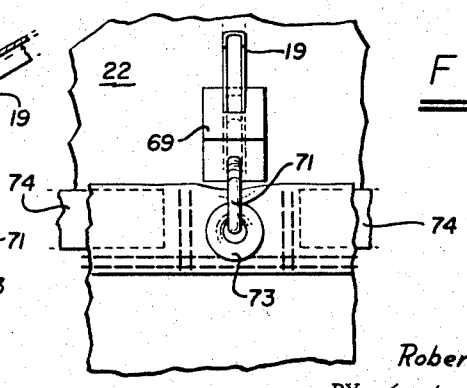


Fig. 6



INVENTOR.
Robert L. Doyle
BY Fleehr, Hohbach, Test, Albritton & Herbert
Attorneys

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UMBRELLA HOLDER AND ASSEMBLY USING SAME

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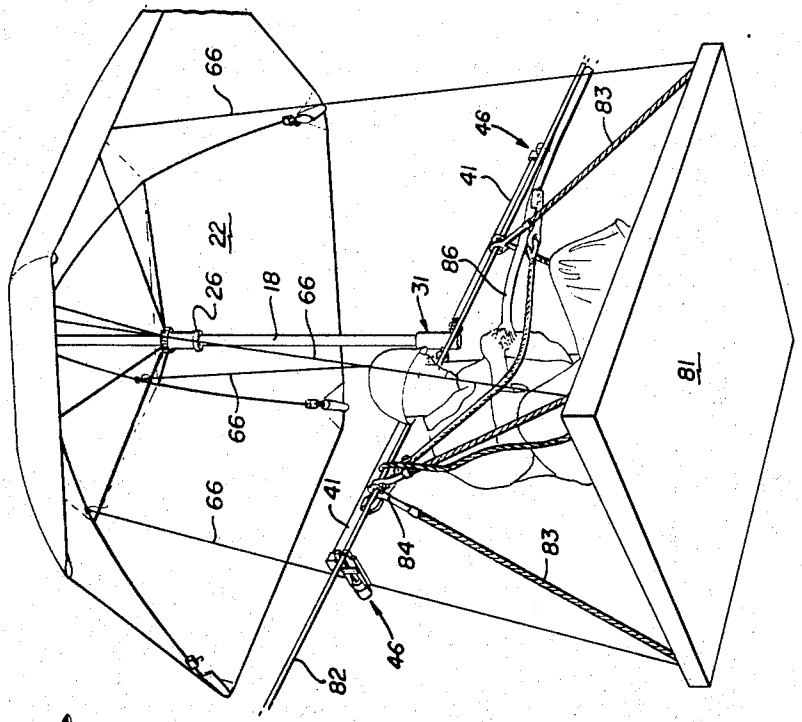


Fig. 8

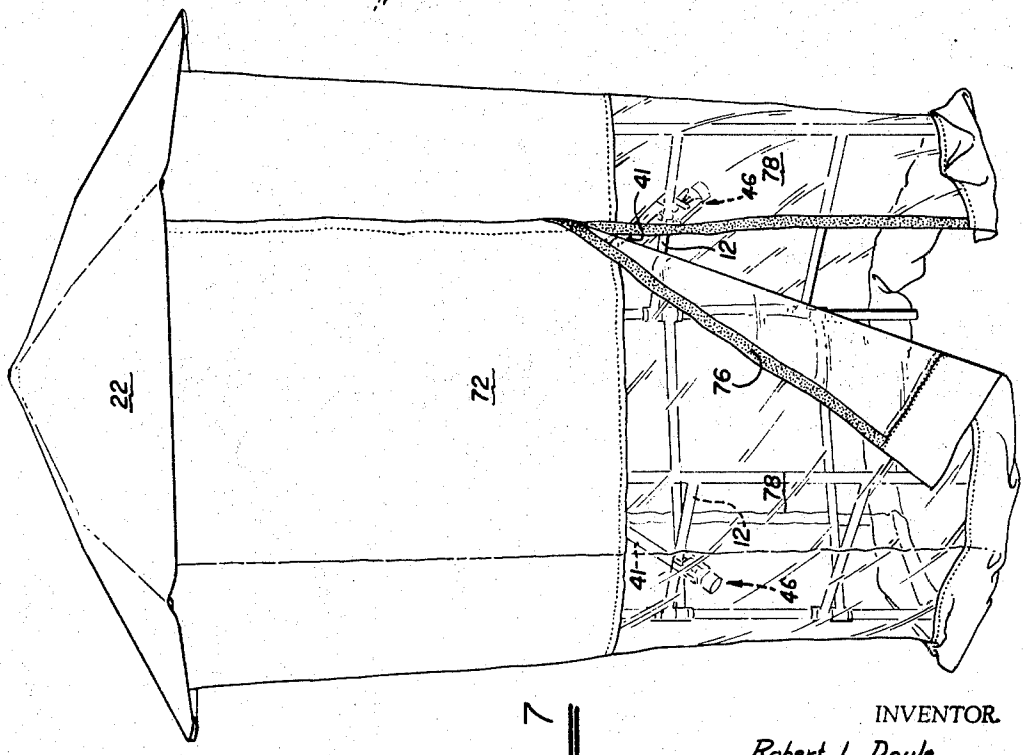


Fig. 7

INVENTOR.
Robert L. Doyle
BY Fleht, Hobbach, Test, Albritton & Herbert
Attorneys

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UMBRELLA HOLDER AND ASSEMBLY USING SAME

Robert L. Doyle, Palo Alto, Calif., assignor to Western Progress, Inc., Mountain View, Calif., a corporation of Nevada

Filed Apr. 10, 1967, Ser. No. 629,807
17 Claims. (Cl. 135—5)

ABSTRACT OF THE DISCLOSURE

Assembly formed of a manhole guard rail or a platform carried by a strand and an umbrella holder and an umbrella mounted in the holder with the umbrella holder supported by the guard rail or the strand and with elongate elements tying certain of the stays of the umbrella to the guard rail or to the platform.

Background of the invention

In the past attempts have been made to mount umbrellas upon guard rails and aerial platforms to protect the worker from rain and also to provide means for protecting the workmen from the wind and other types of inclement weather. However, there has been difficulty in utilizing such an assembly because of the manner in which the umbrella was attached.

Summary of the invention

The assembly is comprised of support means which include at least one elongate support element. An umbrella of the type having a plurality of outwardly extending stays and a downwardly depending umbrella pole is provided. An umbrella bracket having a hole therein and receiving the umbrella pole is also provided. First and second arms are provided. Means is provided which secures the arms to the umbrella bracket so that the arms extend from the bracket at a predetermined angle. The means securing the arms to the umbrella bracket includes means permitting adjustment of the angle at which the arms extend from the bracket. Clamping means is secured to the outer ends of the arms and is also secured to the support elements to support the arms. Means is secured to the umbrella and to the support means for preventing the umbrella from tipping. In one embodiment of the invention the support means is a manhole guard rail in which the support elements are a part of the guard rail. In another embodiment, the support means is an aerial platform which is secured to aerial strand and in which the aerial strand forms the elongate support element. The means for securing the arms to the support elements is particularly unique.

Brief description of the drawings

FIGURE 1 is a perspective view of an umbrella holder incorporating the present invention and an assembly including a manhole guard rail for utilizing the same.

FIGURE 2 is a partial cross-sectional view of the umbrella shown in FIGURE 1.

FIGURE 3 is an enlarged detail view of the umbrella holder shown in FIGURE 1.

FIGURE 4 is a partial side elevational view of the umbrella holder shown in FIGURE 3.

FIGURE 5 is an enlarged detail view showing the manner in which the protective curtains are carried by the umbrella.

FIGURE 6 is a partial view at right angles to the view shown in FIGURE 5.

FIGURE 7 is a perspective view of the assembly shown in FIGURE 1 with the addition of protective curtains carried by the umbrella.

FIGURE 8 is an assembly in which a workman's platform is suspended upon an aerial strand or messenger and in which the umbrella holder is mounted upon the strand.

Description of the preferred embodiments

As shown in FIGURES 1–6, the assembly consists of support means in the form of a manhole guard rail **11** of a conventional type. Such a guard rail is comprised of a plurality of tubular members and in particular includes a pair of spaced elongate parallel relatively rigid support elements **12** which are disposed in a horizontal plane. An umbrella holder **16** is mounted upon the guard rail **11** in the manner hereinafter described and carries an umbrella **17**.

The umbrella **17** is of a conventional type and is provided with an umbrella pole **18** formed of a suitable material such as wood. The umbrella is provided with a plurality of outwardly extending bowed stays **19** which are pivotally connected to a fitting **21** carried by the upper end of the pole **18**. The stays **19** carry a covering **22** preferably of a waterproof or water-repellent material. The stays **19** are movable between an open position and a closed position in close proximity of the pole **18** by support armst **23** which are pivotally connected to the stays at **24** and which are pivotally connected to another fitting **26** slidably mounted upon the pole **18**. Suitable means such as thumb screw **27** is provided for holding the fitting **26** in the desired position.

The umbrella holder **16** consists of a bracket **31** which is provided with a cylindrical body-like portion **31***a* which has a bore **32** provided therein which is adapted to receive the bottom end of the umbrella pole **18**. Suitable means is provided in the form of a thumb screw **33** for retaining the umbrella pole **18** within the bore **32**. The bracket **31** is also provided with portions **31***b* and **31***c* which extend at right angles to the body portion **31***a*. Each of the extensions **31***b* and **31***c* has a cylindrical end portion or boss **31***d* formed integral therewith which is provided with a plurality of serrations **36** on one side thereof. The cylindrical end portions **31***d* with the serrations **36** are adapted to cooperate with end fittings **37** which are provided with a cylindrical portion or boss **37***a* having serrations **38** adapted to cooperate with the serrations **36** on the end portions **31***d*. A thumb screw **39** is rotatably mounted in the end portion **37***a* and is threaded into the end portion **31***d*. A washer **40** is mounted on the outer end of the thumb screw **39** for retaining the thumb screw within the end portion **31***c*.

Each of the end fittings **37** is provided with a cylindrical portion **37***b* which is disposed in one end of a tubular member or arm **41** and retained therein by a rivet **42** extending through the cylindrical portion **37***b* and through the arm **41**. An end fitting **43** is mounted on the other end of each of the arms **41** and is provided with a square portion **43***a*. Each end fitting **43** is also provided with a cylindrical portion **43***b* which is disposed within the other end of the tubular member **41** and is retained therein by a rivet **44**.

A clamping assembly **46** is mounted for rotational movement on each of the end fittings **43** and each includes a pair of jaws **47** and **48**. The jaw **47** carries a threaded stud **49** which extends through a bore **51** provided in the square portion **43***a* and which is retained therein by a wing nut **52**. The other jaw **48** is pivotally connected to the jaw **47** by a link **53** which is pivotally connected to the jaw **47** by a rivet **54** and which is pivotally connected to the jaw **48** by a rivet **56**. Each of the jaws **47** and **48** is provided with an arcuate recess **57** which are adapted to receive a tubular elongate member as shown in broken lines in FIGURE 3. The jaw **47** is provided with a shoulder **58** which extends at right angles to the longitudinal axis of the jaw **47** and to the axis of ro-

tation of the clamping means and is adapted to cooperate with the square portion 43*a* of the fitting 43 to provide cooperative means for retaining the clamping assembly 46 in the desired angular position. Each of the jaws 47 is provided with an inclined surface 59 at the other ends of the jaws which are adapted to be engaged by a bevelled or inclined surface 61 provided on a large knurled nut 62 threaded onto a threaded stud 63 carried by the link 53. A pin 64 is provided on a large knurled nut 62 threaded onto a threaded stud 63 carried by the link 53. A pin 64 is provided in the outer end of the stub to prevent accidental removal of the nut 62.

Means is provided for stabilizing the umbrella 17 after it has been mounted in the umbrella holder 16 and consists of a plurality of elongate flexible elements such as ropes 66. Each of the ropes has one end tied about the stays 19 above the point where the arm 23 is connected to prevent the rope from sliding downwardly on the stay. The other end of the rope is secured to an appropriate part of the manhole guard rail 11 as shown particularly in FIGURE 1. As can be seen from FIGURE 1, four of such ropes 66 are provided to secure at least four points of the umbrella 17 to the manhole guard rail.

A boss and hook assembly 68 is provided on each of the stays of the umbrella 17 and consists of a boss 69 which is slidably mounted upon the stay 19. A hook 71 is threaded into the boss and engages the stay 19 to hold the boss 69 in a predetermined position on the stay 19. The boss and hook assemblies 68 are utilized for carrying a pair of curtains 72.

The curtains 72 can be formed of a suitable material such as a vinyl-coated nylon which is yellow on the outside and which has a white interior. A plurality of spaced grommets 73 are provided on the top of the curtain and are adapted to be hooked onto the hooks 71. Metal stiffeners 74 are also provided on the upper ends of the curtains 72 and are sewn into hems provided on the upper ends of the curtain. Suitable fastening means are provided on the sides of the curtain to facilitate fastening the two curtains together in the manner shown in FIGURE 7 and consists of strips 76 provided on both side edges of each of the curtains which extend substantially the entire length of the curtains. One of the strips 76 is provided on the inside of one side edge, whereas the other of the strips 76 is provided on the outside of the other side edge of the curtain. The strips are preferably formed of "Velcro" in which one of the strips carries hooks and the other of the strips carries eyes to facilitate the fastening together of the curtains. In addition, each of the curtains 72 is provided with a lower transparent panel 78 formed of a suitable material such as vinyl.

In using the assembly thus far described, the manhole guard rail 11 is first set up so that the support elements 12 are spaced apart in the manner shown in FIGURE 1. Thereafter, the umbrella holder 16 is taken and the thumb screws 33 and 38 are loosened. In addition, the large knurled nuts 62 are also loosened. The wing nuts 52 are then loosened and the clamping assemblies 46 are shifted on the square portions 43*a* so that the shoulders 58 engage the bottom extremities of the square portions 43*a* and so that the clamping assemblies are in alignment with the arms or members 41. Thereafter, the wing nuts 49 are tightened. The clamping assemblies 46 are then shifted so that the intermediate portions of the support elements 12 are engaged by the clamping assemblies 46. Thereafter, the large nuts 62 are tightened so that the bevelled surfaces 61 engage the inclined surfaces 59 provided on the jaws 47 and 48 to spread the same apart and to urge the other extremities of the jaws 47 and 48 into clamping engagement with the support elements 12 to support the umbrella holder upon the support elements. The bracket 31 is then shifted so that the hole 32 in the bracket is extending vertically. At this time, the thumb screws 38 are tightened to cause the serrations 36 and 38 to engage each other and to hold the bracket 31 in the desired position with respect to the arms 41.

Next, the umbrella is opened and the umbrella pole 18 is inserted into the hole 32 and secured therein by tightening of the screw 33. Then the ropes 66 secured to the stays are tied to the guard rail 11 at the four opposite corners of the guard rail to hold the umbrella securely in place. The assembly thus far described can be used in a number of applications. For example, it can provide the necessary shade for the workman in the manhole and it also can provide some protection from rain. However, if additional protection is desired, the curtains 72 can be installed by placing the grommets 73 on the hooks 71 with the stiffeners 74 disposed between the hooks 71. After both curtains have been hung upon the hooks 71 carried by the umbrella 17, the two curtains 72 can be fastened together by pressing the Velcro strips 76 against each other. With the assembly in this condition, it can be seen that complete protection is provided from wind, rain and sun. If desired, the workman can only use one of the curtains.

The assembly is very advantageous in that it has the necessary stability and will withstand any ordinary winds encountered. It will provide the necessary protection from the weather as, for example, sun, wind and precipitation. The transparent panels 78 provided in the curtains 72 make it possible for the workman when he is emerging from the manhole to see whether traffic is approaching in the event the manhole is located in the street. The transparent panels 78 also ensure that there is adequate light for the manhole. The bright coloring provided on the curtains 72 ensures that the entire assembly is visible to an approaching motorist. The white interior provided for the curtains ensures that light having the normal wavelengths will be seen in the manhole so that it does not affect the workman in operations where color coding is required as, for example, in cable splicing.

Another embodiment of the invention is shown in FIGURE 8 in which the support means is in the form of a rectangular platform 81. The support means also includes an elongate support element in the form of a strand or messenger 82 and ropes 83 which are secured to the four corners of the platform 81 and removably hooked by hooks 84 onto the strand 82. The umbrella holder 16 which is identical to that hereinbefore described is utilized in connection with the platform 81. However, in this case, the clamping assemblies 46 which form a part of the umbrella holder 16 are first released by loosening the wing nuts 52 and the clamping assemblies are rotated through 90° and the wing nuts fastened so that the clamping assemblies extend in a direction which is at right angles to the longitudinal axis of the members 41. In addition, the thumb screws 33 and 39 are released and the arms 41 are positioned so they extend substantially at right angles to the bracket 31 and are in general alignment with the strand 82. The clamping assemblies 46 are then secured to the strand or messenger 82 in the manner in which they were attached to the support elements 12. The umbrella pole 18 is placed in the hole 32 and fastened there in by the thumb screw 33. The ropes 44 carried by the umbrella are then secured to the four opposite corners of the platform 81 to prevent tipping of the umbrella. With this arrangement it can be seen that an umbrella can be readily provided for a workman who is working in the air and who is performing certain operations such as splicing a cable 86. In addition, it should be appreciated that, if desired, curtains 72 of the type hereinbefore described can be hooked onto the umbrella 17 to provide additional protection to the workman upon the platform 81.

It is apparent from the foregoing that there has been provided an assembly which is particularly useful in providing protection to a workman and an umbrella holder which is utilized in the assembly to support the umbrella. The assembly and the umbrella holder are of a type which can be readily set up and put into

use. They are also ones which can be readily and economically manufactured.

I claim:

1. In an assembly of the character described for use by a workman, support means including at least one elongate support element, an umbrella of the type having a plurality of outwardly extending stays and a downwardly depending umbrella pole, an umbrella bracket having a hole therein receiving the umbrella pole, first and second arms, means securing the arms to the umbrella bracket so that said arms extend from the bracket at a predetermined angle, means including means permitting adjustment of the angle at which the arms extend from the bracket, clamping means pivotally secured to the outer ends of the arms and secured to said support elements to support said arms, cooperative means carried by the clamping means and the arms including a member having a surface and a shoulder engaging the surface facing at right angles to the direction of pivotal movement of the clamping means to retain the clamping means in a predetermined angular position with respect to the associated arm, and means secured to said umbrella and secured to said support means for preventing said umbrella and said umbrella holder from tipping.

2. An assembly as in claim 1 wherein said support means is a manhole guard rail and wherein the support elements are a part of the manhole guard rail.

3. An assembly as in claim 1 wherein said support means is a platform and said elongate element is an aerial strand, and means securing the platform to the strand.

4. An assembly as in claim 1 wherein said clamping means secured to the ends of each of said arms includes first and second jaws, means pivotally interconnecting the jaws, a threaded stud carried by the means pivotally interconnecting the jaws, a nut threaded onto said stud, said nut and said jaws having cooperating surfaces whereby as the nut is threaded onto the threaded stud, the jaws are moved toward a closed position.

5. An assembly as in claim 4 together with means for releasably retaining said clamping means on the outer end of said arm in either of at least two predetermined angular positions with respect to said arm.

6. An assembly as in claim 1 wherein said member is a rectangular block carried at the outer end of said arm, and wherein said shoulder is carried by one of said jaws and is adapted to engage the outside of the block to retain the clamping means in a predetermined angular position.

7. An assembly as in claim 1 wherein the means securing the arms to the umbrella bracket include a pair of serrated bosses and means extending through the bosses for retaining the bosses in a predetermined angular position with respect to each other.

8. An assembly as in claim 1 together with at least one curtain carried by and depending from the umbrella.

9. In an assembly of the character described for use by workmen, support means including at least one elongate support element, an umbrella of the type having a plurality of outwardly extending stays and a downwardly depending umbrella pole, an umbrella bracket having a hole therein and receiving the umbrella pole, first and second arms, means securing the inner ends of the arms to the umbrella bracket so that said arms extend from the bracket at a predetermined angle, means including means permitting adjustment of the angle at which the arms extend from the bracket, clamping means secured to the outer ends of the arms and secured to the support elements to support said arms and the umbrella bracket carried thereby, and at least one curtain carried by the umbrella and depending from the umbrella.

10. An assembly as in claim 9 wherein said curtain has a transparent panel adjacent the lower extremity thereof.

11. An assembly as in claim 9 together with a plurality of hooks carried by the stays of said umbrella, said curtain having grommets mounted therein and fastened onto the hooks.

12. An assembly as in claim 11 together with stiffeners disposed in the upper portion of the curtain between the grommets.

13. An assembly as in claim 9 wherein the outer surface of said curtain has a relatively brilliant color to warn approaching motorists and wherein the inner surface of the curtain has a substantially white effect.

14. An assembly as in claim 9 wherein at least two separate curtains are provided and wherein fastening means is provided on the edges of the curtains so that the two curtains can be fastened together to provide a protective covering which extends around the umbrella.

15. In an umbrella holder, an umbrella bracket having a hole therein adapted to receive an umbrella pole, first and second arms, means securing the arms to the umbrella bracket so that said arms extend from the bracket at a predetermined angle, means including means permitting adjustment of the angle at which the arms extend from the bracket, clamping means pivotally secured to the outer ends of the arms, cooperative means carried by the clamping means and the arms including a member having a surface and a shoulder engaging the surface facing at right angles to the axis of pivotal movement of the clamping means for retaining the clamping means in a predetermined angular position with respect to the associated arm.

16. A holder as in claim 15 wherein said means permitting adjustment of the angle at which the arms extend from the brackets includes pairs of serrated bosses and releasable means for clamping the pairs of serrated bosses together to permit angular adjustment of the bosses with respect to each other.

17. A holder as in claim 15 wherein said clamping means includes first and second jaws, means pivotally interconnecting the jaws, a threaded stud carried by the means pivotally interconnecting the jaws, and a nut threaded onto the stud, said nut and said jaws having cooperating surfaces whereby as the nut is threaded onto the threaded stud, the jaws are moved toward a closed position.

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DAVID J. WILLIAMOWSKY, *Primary Examiner.*

PETER M. CAUN, *Assistant Examiner.*