

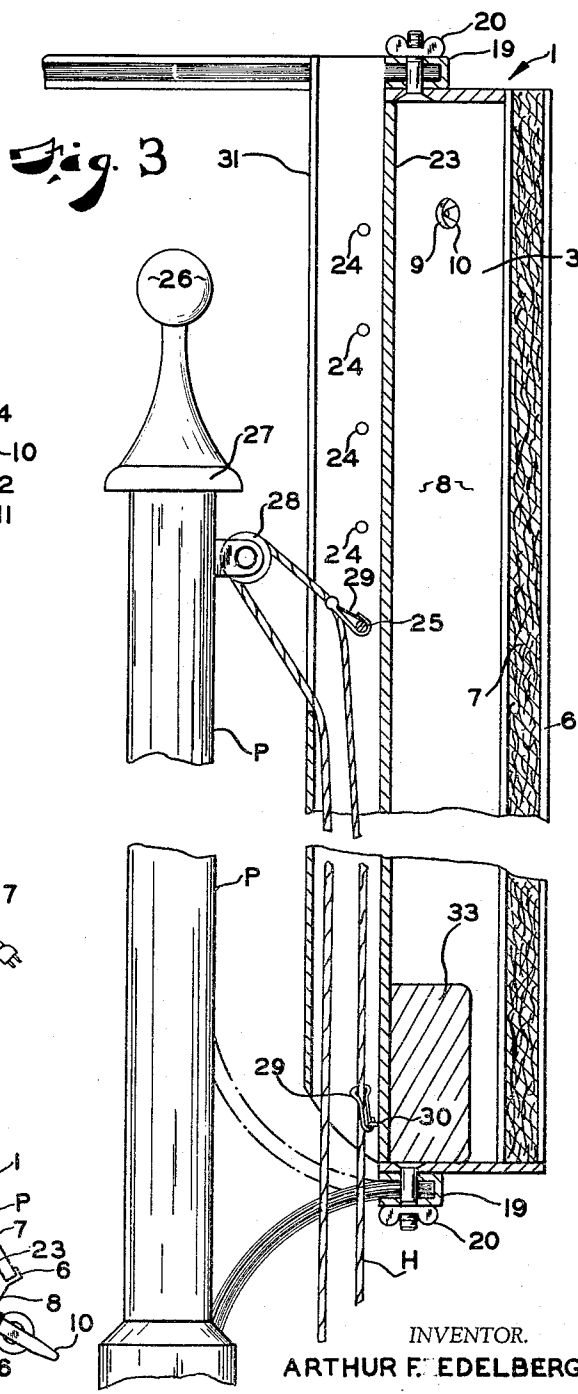
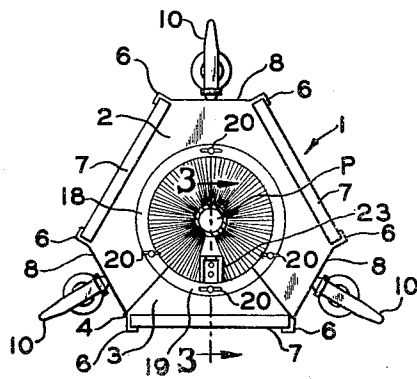
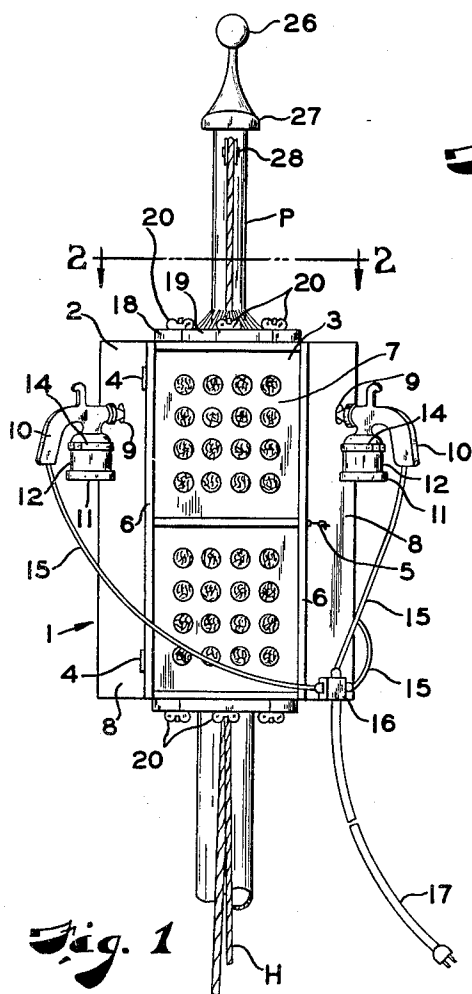
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DEVICE FOR PAINTING FLAGPOLES, SUSPENSION CABLES AND THE LIKE

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DEVICE FOR PAINTING FLAGPOLES, SUSPENSION CABLES AND THE LIKE

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The present invention relates generally as indicated to a device for painting flagpoles, vertical suspension cables of suspension-type bridges, etc.

Hitherto, in the art of painting flagpoles, for example, it has been necessary for the painter to climb to the top of the pole with his paint can and brush and then progressively work down from the tip of the pole, cleaning and painting the pole as he descends. Obviously, such climbing and descent involves a certain amount of danger to the safety of the painter and also is an expensive proposition, since it may take several hours to paint the average sixty foot high flagpole. Similarly, the use of ladders or scaffolds for painting a tall flagpole is dangerous and time-consuming.

As a substitute for climbing of flagpoles or for using ladders or scaffolds it has been proposed heretofore to connect a spray painting device to the halyard of the flagpole, to hoist the device to the top of the pole, and then to turn on the spray guns to paint the flagpole as the device is lowered by gravity and under the control of the halyard. However, with such known spray painting device, spray dust is distributed over a wide area and, besides, such device can only be hoisted to the level of the halyard pulley which is located several inches below the spherical tip and collar assembly. Thus the tip of the flagpole is left unpainted when using such known type of spray painting device.

Accordingly, it is one principal object of this invention to provide an automatic painting device with which tall flagpoles, suspension cables, and the like may be quickly painted in a few minutes.

It is another object of this invention to provide a spray painting device of the character indicated which eliminates the spray dust problem.

It is yet another object of this invention to provide a spray painting device of the character indicated which is provided with a halyard guide tube which prevents painting of the halyard.

It is still another object of this invention to provide a painting device of the character indicated which has a casing positioned around the pole or cable to be painted, and spray devices in the casing operative to spray the paint inwardly onto the surface of the pole or cable, the casing further being provided with bristle brushes, or the like, that serve a two-fold purpose, namely, to seal the top and bottom ends of the casing from leakage of spray dust and to smooth on the sprayed paint on the pole or cable as the device is lowered.

It is still another object of this invention to provide a painting device in which the brushes mentioned in the next preceding paragraph are readily removable for cleaning and for replacement by wire brushes or the like, which are effective to remove loose paint, scale, and rust from the surface of the pole or cable when the device is raised and lowered several times.

It is yet another object of this invention to provide a painting device for flagpoles, cables and the like, which is of lightweight and simplified construction so that it may be economically manufactured.

It is still another object of this invention to provide a spray painting device for flagpoles, cables and the like, in which the side walls of the casing are constituted by air filters which permit flow of air therethrough but exclude the spray dust.

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Other objects and advantages of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail a certain illustrative embodiment of the invention, this being indicative, however, of but one of the various ways in which the principle of the invention may be employed.

In said annexed drawing:

FIG. 1 is a side elevation view showing the painting device in operative position to paint a conventional flagpole as the device is lowered by gravity and under the control of the flagpole halyard;

FIG. 2 is a top plan view of the painting device as viewed downwardly along the line 2—2, FIG. 1; and,

FIG. 3 is an enlarged fragmentary cross-section view taken substantially along the line 3—3, FIG. 2.

Referring now more particularly to the drawing, the painting device comprises a hollow casing 1 which is of generally triangular form and made up of two sections 2 and 3 hinged together at 4 so that the casing may be opened for positioning around the flagpole or cable to be painted. The section 3 constitutes a door which is held closed by any suitable means such as the hook and eye 5 as shown in FIG. 1.

The frame of door 3 and, likewise, the frame of the two sides of the casing section 2, provide slideways 6 for insertion of air filters 7, it having been found that ordinary filters for domestic heating furnaces serve well the purpose of permitting flow of air while excluding the flow of spray dust from within the casing 1 to the atmosphere.

The portions 8 of the side walls of the casing section 2 between the three filters 7 are each provided with an opening 9 near the top thereof through which the nozzle of a paint spray device 10 extends to direct paint particles inwardly toward the surface of the flagpole P which is to be painted. The side wall portions 8 also carry suitable means for supporting the three spray guns 10 in uniformly spaced relation and by way of example, each is shown as comprising a dish-shaped member 11 which receives the bottom end portion of the respective spray gun or paint container 12 and a split contractible band 14 actuated by a thumb screw or the like to securely hold the spray device 10 in operating position with its nozzle extending into casing 1 through opening 9. Obviously, the spray devices 10 may comprise self-spraying paint cans or conventional pneumatic spray guns instead of the electric vibrator spray guns herein illustrated which have their electric cords 15 plugged into a terminal box 16 from which the main electric cable 17 extends downwardly for plugging into a source of electric power.

Removably mounted at the top and bottom ends of the casing 1 are brush segments 18 and 19 which have bristles radiating inwardly to the centers of the rings defined by the respective pairs of segments 18 and 19. The brush segments 18 and 19 are detachably mounted at the top and bottom of the respective casing sections 2 and 3 as by means of wing nuts 20 so that they may be removed for cleaning and may be removed and replaced with wire brushes (not shown) when it is necessary to remove loose paint, scale, or rust on the flagpole or cable before painting the same.

Extending vertically between the top and bottom walls of the door section 3 and inward of the channel-back of brush segments 19 is a rectangular guide tube 23 which is open at its top and bottom ends and which has several vertically spaced holes 24 drilled through opposite sides in any of which a pin 25 may be selectively inserted.

With reference to the flagpole P, it is conventional

practice to make the same so that it has a progressively smaller diameter (either tapered or stepped) from the base up toward the top and to provide at the tip a ball 26 and a collar or flange 27. Beneath the collar 27 and secured to the pole P is the conventional halyard pulley 28 over which the endless halyard H runs as shown. One of the snap hooks 29 on the halyard H is engaged with the pin 25 as shown in FIG. 3 and the other snap hook 29 is engaged with an eye 30 or the like secured adjacent the lower end of the guide tube 23.

In order to permit hoisting of the casing 1 so as to spray the spherical tip 26 of the flagpole P which is several inches above the pulley 28, the guide tube 23 is slotted as shown at 31. Thus when the left hand portion of the halyard H is pulled down as shown in FIG. 3 the casing 1 may be hoisted until the nozzles of the spray devices 10 are positioned around the spherical tip 26 of the flagpole P.

When the painting device is hoisted to the position shown in FIG. 3, the bristles of the top brush segments 18 and 19 will extend straight in radially and the bristles of the bottom brush segments 18 will be curved downwardly.

Now, when the cable 17 is plugged into a source of electric power the spray devices 10 will be operative to uniformly spray the tip 26 of the flagpole P and as the casing 1 is lowered, the bristles of the bottom brush segments 18 and 19 will turn in the opposite direction as shown in dot-dash lines in FIG. 3, and the bristles of the top brush segments 18 and 19 will smooth the sprayed paint on the ball 26 and on the bell-shaped collar 27 and thence will brush the sprayed paint on the cylindrical or tapered portions of the flagpole P below said collar 27. As the painting device is lowered, the halyard H will be disposed within the tube 23 and will thereby be out of the path of the spray cones issuing from the spray devices 10.

As previously mentioned, the filters 7 permit air to flow therethrough, but retain the spray dust within the casing 1. Similarly, the brushes 18—19 at the top and bottom of the casing serve to retain the spray dust in the casing 1 while the top brush 18—19 performs the operation of smoothing on the sprayed paint on the surface of the flagpole P.

A conventional flagpole P such as used on the roofs of buildings and on the lawns of schools and other public buildings, usually is about sixty feet tall and of about four and one-half to five inches diameter at the base. For such flagpoles the circular brushes 18—19 at the top and bottom may have bristles of about say, four inches in length radiating inwardly and meeting at the center. The spray means 10 will preferably be mounted so that the spray nozzles thereof are about five inches down from the top wall of the casing 1 and the vertical guide tube 23 for accommodating the halyard H may be of cross-section about $2\frac{1}{2} \times 2''$ with holes 24 spaced apart about 2'' down to about 16'' from the top, and the slot 31 may extend down about 15'' from the top. The particular spray devices 10 herein employed have one quart containers 12 and it has been found that all that is required to paint such a flagpole is about one quart of paint. With the present device the painting of a 60' flagpole can be accomplished in a matter of three to four minutes compared with several hours painting and set-up time required by conventional practices.

An important feature of the present invention is that there is mounted in the door section 3 of the casing 1 a counterbalancing weight 33 so that the casing 1 will hang substantially vertically from the pin 25 whereby it is unnecessary to provide guide rolls or guide shoes to center the device around the flagpole or cable. Moreover, the guide rolls or shoes must be spring-loaded or self-adjusting to accommodate the varying diameter portions of the flagpole P engaged thereby. The present invention eliminates the necessity of providing any guide means at all on the casing 1.

In the event that the upper end of the halyard guide

tube 23 displaces the brush bristles between the inner side of the tube 23 and the outer surface of the flagpole P it is proposed to close such space as by opposed brushes (not shown) that either overlies or underlies the brushes 18—19 and thus close such space against leakage of spray dust.

Other modes of applying the principle of the invention may be employed, change being made as regards the details described, provided the features stated in any of the following claims, or the equivalent of such, be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A device for painting flagpoles and the like comprising a hollow casing having a side wall portion adapted to be positioned in radially spaced relation around a flagpole and to be hoisted to the top thereof and thence lowered; spray means carried by said casing and operative to spray paint inwardly against the flagpole as the casing is lowered; and radially extending brush bristle sealing means at the top and bottom ends of said casing effective to retain spray dust within said casing.

2. The device of claim 1 wherein said brush sealing means spans the radial space between said casing and the flagpole and is radially flexible to contact the surface of the flagpole irrespective of its changing diameter.

3. The device of claim 1 wherein a portion of the side wall of said casing is constituted by an air filter.

4. The device of claim 1 wherein said casing is provided with eccentrically disposed suspension means and is counter-balanced so as to hang substantially vertically from said suspension means.

5. A device for painting a flagpole and the like that is equipped with a pulley near the top thereof and with a halyard running over said pulley by which a flag hooked to the halyard may be raised and lowered, said device comprising a hollow casing adapted to be positioned in radially spaced relation around the flagpole and to be hooked to the halyard whereby said casing may be hoisted to the top of the flagpole and thence lowered; spray means carried by said casing and operative to spray paint inwardly against the flagpole as the casing is lowered under the control of the halyard; and an eccentrically disposed guide tube in said casing provided with means for connection of one side of the halyard therewithin and having open top and bottom ends for passage of the other side of the halyard therethrough as said casing is raised and lowered, said guide tube preventing spraying of paint on the halyard.

6. The device of claim 5 wherein the means for connection of the halyard is spaced below said spray means and wherein the inner side of said guide tube is slotted from its top end downwardly for passage of the halyard inwardly to the pulley and thereby to permit hoisting of said casing to a position whereat said spray means is located above the pulley.

7. The device of claim 5 wherein said casing has brush sealing means at its top and bottom ends to retain spray dust therewithin.

8. The device of claim 5 wherein said casing is counter-balanced so as to hang substantially vertically from said means for connection of one side of the halyard.

9. The device of claim 5 wherein said casing has brushes at its top and bottom ends with bristles extending inwardly to contact the surface of the flagpole, said brushes constituting sealing means to retain spray dust within said casing.

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