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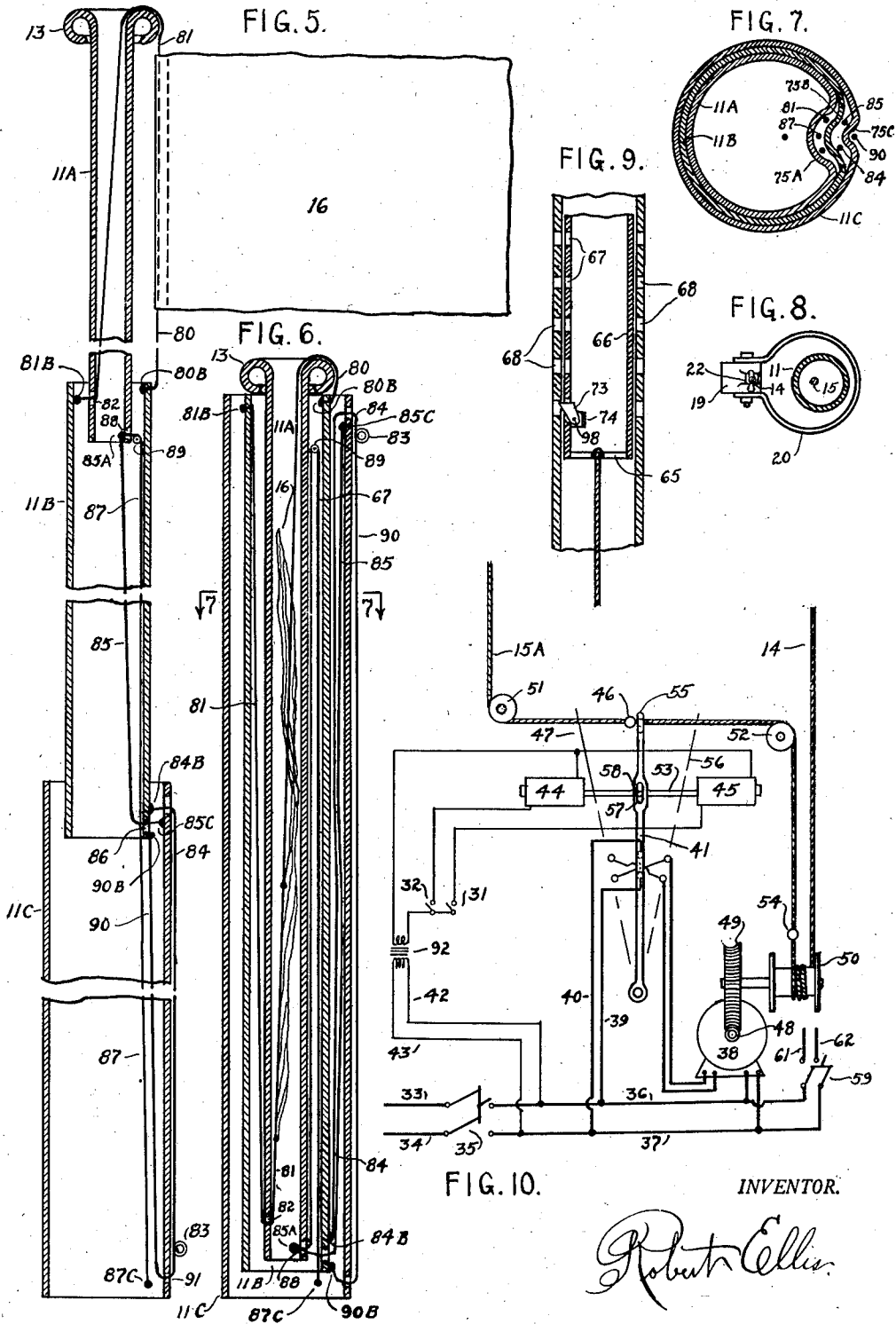
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FLAGPOLE AND FLAG MANIPULATING MEANS

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UNITED STATES PATENT OFFICE

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FLAGPOLE AND FLAG MANIPULATING
MEANS

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8 Claims. (Cl. 116—173)

This invention relates to flag poles and flag manipulating means and one of the principal objects of the invention is to provide means for storing the flag conveniently within a hollow flag-pole when the flag is not in use.

Another object of the invention is the provision of means for permitting the raising and lowering of the flag, from the hollow interior of the flag-pole, from a distance and without even watching the flag and without personal manipulation or touching of the flag.

A further object of the invention is to provide a design of flag-pole in which the rope and flag cannot become tangled or wound around the pole regardless of the vagaries of the direction of the wind.

A still further object of the invention is the unique construction which permits the rope or ropes used to manipulate the flag to be practically invisible.

A still further object of my invention is the provision of means whereby it is not necessary to remove and attach the flag from and to the rope each time the flag is to be lowered and raised respectively as is now customary.

A still further object of the invention is the unique arrangement whereby only one rope need be used for either raising or lowering the flag.

A still further object of the invention is the provision of means whereby it is impossible for unauthorized persons to manipulate the flag or for vandals to be able to have access to the rope or flag.

A still further object of the invention is the provision of means for raising or lowering the flag by electrical means, that is by the mere closing or opening of a switch, and automatic means for regulating the extent of such raising or lowering.

A still further object of the invention is the provision of means for causing the flag to flutter, as if the wind is blowing, even though there be no wind, and should there be only a light wind, to provide additional air flow which will automatically be applied toward the flag in the same direction as the wind.

A still further object of my invention is the provision of deflectors attached to the flag in such a manner that the flag will fly horizontally even in a light wind, instead of drooping and listlessly flapping.

A still further object of the invention is the provision of a telescopic flag-pole in which the flag is automatically inserted into the hollow interior of the flag-pole as the telescoping parts of

the pole are closed and again automatically expelled from the interior of the hollow pole as the parts of the pole are extended.

Other and further objects will appear in the specification and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention and in which:

Figs. 1, 2, 3 and 4 are longitudinal sectional views of various designs all relating to the same specific improvement.

Figs. 5 and 6 are longitudinal sectional views illustrating a telescoping flag-pole.

Fig. 7 is a cross-sectional view on the line 7—7 of Fig. 6.

Fig. 8 is a cross-sectional view on the line 8—8 of Fig. 1.

Fig. 9 is a longitudinal sectional view of a part of Fig. 4 illustrating a detail.

Fig. 10 is a diagrammatic scheme showing the operation of my flag-pole apparatus by means of electric push button control.

Referring to the drawings in which similar characters and numerals of reference refer to similar parts throughout the several views, the numeral 11 denotes the usual flag-pole, at least the upper part of which is made hollow, such as when constructed from a length of metal pipe. To the upper end of this pipe 11 is secured, as by means of the coupling 12, the flange 13. This flange 13 may be formed integral with the upper end of the pipe 11 if preferred. This flange 13 is of circular cross section on its outer circumference as illustrated so as to offer very little frictional resistance to the pulling of the ropes 14 and 15 and the flag 16 thereover. The rope 14 is attached in any approved manner to the bottom end of the flag 16 while the rope 15 is attached to the upper end of the flag as shown, the main part of the rope 15 being located on the inside of the hollow flag-pole 11 and being capable of manipulation from a distance from the flag-pole through conduit 95 as from the room 17, see Fig. 1, the position of the knob 18 attached to rope 15 denoting to the operator the relative elevation of the flag 16 on the pole 11. The rope 14, see Figs. 1, 2 and 4, has a weight 19 attached to its lower end and a sufficient distance from the flag so as not to permit the lower free end of the flag to touch same, this weight 19 being provided with a band 20 bolted thereto, see Fig. 8, which encircles the flag-pole 11 and thus not only holds the edge of the flag taut and close to the pole but incidentally follows the flag around the pole circumferentially according to the varying

direction of the wind and thereby prevents tangling and wrapping of the rope around the pole, it being also noticed that, as a varying directional wind may blow the flag, that part of the rope 15 which hangs over the top of flange 13, will follow in the same direction as the flag. The lower end of rope 14 is attached to the circumferential weight 19 at the hook 22, this hook being located at the center of gravity of the weight, including strap 20, so that the weight will always remain horizontal and not bind against the pole when the flag is manipulated.

In all the views Figs. 1 to 4 inclusive, the flag 16 is shown in the up or flying position. All that is necessary in order to take in the flag is to pull on rope 15 a short distance, a trifle more than the diagonal of the flag, and the flag will be easily drawn over the flange 13 and into the hollow interior of the flag-pole 11 as indicated by the dotted lines in Fig. 1. To fly or unfurl the flag again, the rope 15 is released from its binding post 23 and the weight 19 will then cause sufficient gravitational pull to draw out the flag as illustrated. A soft rubber "push-out" 24 may be attached to rope 15 as illustrated in Fig. 1 so as to more effectively push out the flag 16 from the interior of the flag-pole. As an additional variation to which my invention is susceptible, the weight 19 may be supplanted by a weight 25 located in the interior of hollow pole 11 and attached intermediate rope 15 and 15A as illustrated in Fig. 3. With this arrangement the rope 14 must be pulled instead of rope 15 in order to manipulate the flag, the rope 14, being also drawn through the hollow pole 11 and attaching it to cleat 23 at the lower end of the flag-pole for convenient manipulation. It will also be apparent that in case the rope 15A is used, the weight 25 will be unnecessary and in case the weight 25 is used, the rope 15A becomes unnecessary for the manipulation of the flag although both rope 15A and weight 25 may be used together as illustrated. The dotted lines show weight 25 in the position it would occupy when the flag 16 is furled within the upper part of the hollow flag pole 11. A locked door 29 at the bottom of the flag-pole secures the ropes against vandals. The upper length 11' of the flag-pole shown in this view, Fig. 3, rests on ball bearings 96 which in turn are supported by the inwardly projecting annular shoulder 97 of the lower length 11D of the flag-pole, thus permitting the upper length of the flag-pole to revolve and the flag 16 and rope 14 to follow the wind and prevent wrapping around the pole 11 in case the direction of the wind changes.

In Fig. 4 is illustrated means for electrical manipulation of the flag, it being merely necessary to press push buttons 31 to raise the flag and 32 to lower the flag, see Fig. 10, the operation being as follows; electric service being had by wires 33 and 34, through switch 35, wires 36 and 37 to electric motor 38 and wires 39 and 40 to reversing switch 41 which is self explanatory. Wires 42 and 43 lead to a small transformer 92 which furnishes energy for operation of solenoids 44 and 45 as will be readily understood from the diagram. The flag is now represented as being in down or retracted position within the flag-pole, the knob 46 which is attached to rope 15A, having pushed switch lever 41 from position represented by dotted line 47 into illustrated neutral position, after hauling flag 16 into hollow flag-pole 11 a sufficient distance. This action necessarily stopped motor 38 to the shaft of which is

attached worm 48 driving worm gear 49 which turns reel 50. The rope is here shown traveling over pulleys 51 and 52. In order to again raise the flag, that is, to drag it out of its resting place within hollow flag-pole 11, push button 31 is pressed which energizes solenoid 45 and pulls plunger 53 within it so that switch lever 41 assumes position of dotted line 56 thus closing the necessary electrical contacts for turning motor 38 in the opposite direction as previously so as to unwind rope 15A from reel 50 and permit weight 19 to pull flag out in same manner as previously mentioned. As soon as knob 54, which is also attached to rope 15A, strikes loop 55 of the switch arm 41, only the rope being able to pass through the loop, the switch arm 41 is again pushed to neutral position and motor 38 stops, while the flag 16 has assumed its correct position flying outside the flag-pole. The rope 14 may or may not be used as desired, in which latter case the end of rope 15A is attached to the reel. Pressing button 32 will lower the flag into the hollow interior of the flag-pole as will now be readily understood. Switch-arm 41 is provided with an elongated hole 57 into which pin 58, which is attached to center of plunger 53, fits and causes switch-arm to swing in either direction from neutral position according to which particular solenoid, 44 or 45, is energized by the push buttons 32 or 31 respectively.

Switch 59 causes the fan-blower 60 to operate through wires 61 and 62 which lead to the electric motor (not shown), attached to shaft 63 of the fan-blower, the air flow therefrom passing through holes 64 into the hollow interior of the flag-pole 11 and up and through the holes 65 in the bottom of the hollow plunger 66 to the bottom of which rope 15A is attached while rope 15 is attached to the top of plunger 66 near that edge thereof where the vertical row of holes 67 exist (see Figs. 4 and 9), it being evident that the air flow from the fan-blower 60 cannot escape from the interior of the flag-pole except through the holes 65 and then 67 owing to the snug sliding fit between plunger 66 and interior of flag-pole 11. However, coinciding with the holes 67 in the plunger are also holes 68 in the upper circumference of the flag-pole 11 so that no matter in which direction the wind blows, the flag will turn that side of the plunger having the row of holes 67 away from the wind so that, even though the wind be light, the eccentric attachment of the rope 15 to the upper end of the plunger 66 will accomplish the above result. The extra pressure from the fan-blower will cause the flag to fly straight outwards horizontally and have a much better appearance. The arrows 69 indicate the course of the air flow and the additional quarter-sector cloth deflectors 70, preferably sewed to each side of the flag at the point 71 and also at the quarter circular edge by the stitches 72, will deflect a sufficient portion of the air stream or natural wind downward so that the re-action will keep the flag 16 fluttering in a rectangular form. A rain stop 73 may be attached to rope 14 if desired, this rain stop fitting over the opening in flange 13 as shown by the dotted lines in Fig. 4 when the flag is hauled into the interior of pole 11. The lug 74 is attached to interior of plunger 66 and limits the movement inwardly of pawl 73 which is swingable on the pin 98 and gravitationally unbalanced outwardly so that it will catch the lowermost hole 68 in the flag-pole on the upward pull of the movement thereof, this maximum upward posi-

tion being the correct one for the flag to fly properly and the holes in the plunger and flag-pole to register. When the plunger 66 is lowered, the pawl 73 will simply be forced inwardly against lug 74, thus permitting the free descent of the plunger and the flag to be hauled into the hollow interior of flag-pole 11.

The foregoing description referred generally to the larger type of stationary flag-poles but my invention is also susceptible of use to the smaller type such as carried by hand in parades, temporary locations, etc., so the following will describe such type and particularly the telescoping kind as illustrated in Figs. 5, 6 and 7. I here show a flag-pole in three sections capable of telescoping but it will be understood that any practical number of sections may be used in a similar manner. These telescoping sections have close sliding fits as shown in Fig. 7 but for purposes of better illustration, I show them sufficiently separated in Figs. 5 and 6 to more clearly show the operating ropes. These sections are 11A, 11B and 11C respectively and each section is provided with a longitudinal groove 75A, 75B and 75C so as to prevent relative rotatable movement and incidentally provide space for the operating ropes (see Fig. 7). In Fig. 5 the pole is extended and the flag is automatically expelled from the interior of the inner pole 11A and unfurled while in Fig. 6 the poles are telescoped and the flag has been automatically drawn into the interior of the pole 11A by this action.

To the lower end of flag 16 is attached rope 80, the other end of this rope being attached to the upper end of pole 11B as shown at 80B. To the upper end of flag 16 is attached rope 81 which passes over rounded edge of flange 13 to the interior of pole 11A, through hole 82 at the lower end of pole 11A and then attached to the upper end of pole 11B at 81B. Therefore, it will be seen that when pole 11A is telescoped into pole 11B, the hole 82 will assume a position near the lower end of pole 11B, causing rope 81 and most of rope 80 to occupy their full length within pole 11A and the space between pole 11A and pole 11B as shown in Fig. 6, the flag 16 being thereby automatically hauled into the interior of pole 11A.

In fact, all three poles, 11A, 11B and 11C are caused to operate simultaneously, the mere act of pulling upwardly on the ring 83 in Fig. 5 causing all the poles to telescope and the flag to be simultaneously hauled in as in Fig. 6, while pulling down on ring 83 as shown in Fig. 6, will cause the poles to extend and the flag to be expelled and unfurl as illustrated in Fig. 5. To accomplish this unique result, ring 83 is attached to one end of rope 84 while the other end of this rope is attached to lower end of pole 11B at 84B. Rope 85 has one end attached to the upper end of pole 11C at 85C while the other end of rope 85 passes through hole 86 at the lower end of pole 11B and is attached to the lower end of pole 11A at 85A. One end of rope 87 is attached to the lower end of pole 11A at 87A, then passes through hole 88 in the lower end of pole 11A, over pulley 89 attached to the upper end of pole 11B and the other end being secured at the lower end of pole 11C at 87C. Rope 90 has one end attached to the lower end of pole 11B at 90B while the other end is fastened to ring 83 after passing through hole 91 in the lower end of pole 11C. As the ring 83 is pulled either upwards or downward, the interconnected ropes and poles, together with the flag, will simultaneously adjust

themselves as previously described as will be apparent to experienced persons and it is thought that further description is unnecessary.

From the foregoing description it will be evident that I have evolved a flag-pole and associated flag which will eliminate considerable time not only in periodically tying and untying the flag from the ropes but also the labor involved in raising and lowering the flag, will provide a safe housing for the flag and the ropes from the weather and from vandals, will prevent unauthorized persons from having access to the flag or ropes, may conveniently be operated from a distance, will cause the flag to fly in rectangular position in a light or no wind, will prevent wrapping of the flag and ropes around the flag-pole and will generally provide improved operating conditions that will induce the more frequent exhibiting of flags than heretofore.

Various changes may be made in the embodiment of the invention hereinabove specifically described without departing from or sacrificing the advantages of the invention as defined in the appended claims.

I claim:

1. A flag pole and flag manipulating means comprising a hollow flag pole capable of containing a flag when said flag is in furled condition, a manipulating rope passing through said hollow flag pole from its attachment to the upper inner corner of the flag when in unfurled position to a manipulating station near the lower end of the flag pole, a weight encircling the flag pole and capable of vertical travel thereover, a short rope attaching the said weight to the lower inner corner of said flag, and a circular flange, rounded on its upper surface, on the upper end of the flag pole over which the said ropes and flag are designed to be pulled from the inside of the said flag pole to the outside thereof and vice versa without appreciable friction or resistance to such movement.

2. A flag pole and flag manipulating means comprising a hollow flag pole capable of containing a flag when said flag is in furled condition, a manipulating rope passing through said hollow flag pole from its attachment to the upper inner corner of the flag, when said flag is in unfurled position, to a manipulating station near the lower end of the flag pole, said manipulating rope passing over and through a rounded circular flange at the upper end of said hollow flag pole, and a weight attached to the lower inner corner of the flag and tending to pull the flag out of the hollow flag pole through and over the said flange to an unfurled position outside of the flag pole.

3. A flag pole and flag manipulating means comprising a hollow flag pole capable of containing a flag when said flag is in furled condition, a manipulating rope passing through said hollow flag pole from its attachment to the upper inner corner of the flag to a manipulating station near the lower end of said flag pole, said manipulating rope passing over a rounded flange at the upper end of the said hollow flag pole, and a weight attached to the lower inner corner of the said flag and tending to pull said flag downward, said weight being capable of vertical travel and having means for retaining it in close relational alinement with the said flag pole during such vertical travel.

4. A flag pole and flag manipulating means comprising a hollow flag pole capable of containing a flag when said flag is in furled condition, a manipulating rope within said hollow flag

pole, one end of said manipulating rope being attached to the upper inner corner of said flag while the other end of said rope emerges from said hollow flag pole at a manipulating station near the lower end of said flag pole, a weight attached to the lower inner corner of said flag, a rounded flange at the top of said flag pole, and means for hauling the said flag into the said hollow flag pole over and through the said rounded flange by pulling on the said manipulating rope, and means for unfurling the said flag by loosening the said manipulating rope at the said manipulating station and permitting the said weight to pull the said flag from within the said hollow flag pole through and over the said rounded flange to flying position.

5. A flag pole and flag manipulating means comprising a hollow flag pole capable of containing a flag when in furled condition, a manipulating rope having one end attached to the upper inner corner of said flag while the other end of said manipulating rope passes over and through a rounded flange on the top of said flag pole and through the said hollow flag pole to a manipulating station near the bottom of said pole, a weight attached to the lower inner corner of the said flag by means of a short rope, means for causing the flag to be hauled into and out of the said hollow flag pole over and through the said rounded flange, and a "push out" disc of semi-resilient material attached to the manipulating rope near the attachment thereof with the said flag.

6. A flag pole and flag manipulating means comprising a hollow flag pole, a rounded flange on the upper end of the hollow flag pole, a manipulating rope passing through the hollow interior of said flag pole and over and through the said rounded flange to an attachment with a flag at the upper inner corner thereof, a

weight encircling the said flag pole and attached to the lower inner corner of the said flag, the other end of said manipulating rope passing through the bottom of said flag pole to a distant operating station.

7. A flag pole and flag manipulating means comprising a hollow flag pole, a rounded flange on the top of said flag pole, a flag, a weight attached to the lower inner corner of said flag, a manipulating rope attached to the upper inner corner of the flag, said manipulating rope passing over and through the said rounded flange and through the hollow interior of said flag pole to a manipulating station, and means for preventing any part of said manipulating rope being visible or accessible to an unauthorized person.

8. A flag pole and flag manipulating means comprising a hollow flag pole, a rounded circular flange on top of the flag pole, a flag, a flag manipulating rope having one end thereof attached to the upper inner corner of said flag and the other end of said rope passing over and through said flange and hollow flag pole to an operating station at the lower end of said flag pole, a short rope attached by one end to the lower inner corner of said flag while the other end of said rope is attached to a weight held in vertical alinement with the said flag pole, means for manipulating the said flag into and out of the interior of the said hollow flag pole over the rounded circular flange, and a "rain stop" in the shape of a circular disc attached to the aforementioned short rope above the said weight and so formed and proportioned as to cover the hole in the rounded circular flange on top of the said flag pole when the said flag is hauled into the hollow flag pole.

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