

April 10, 1928.

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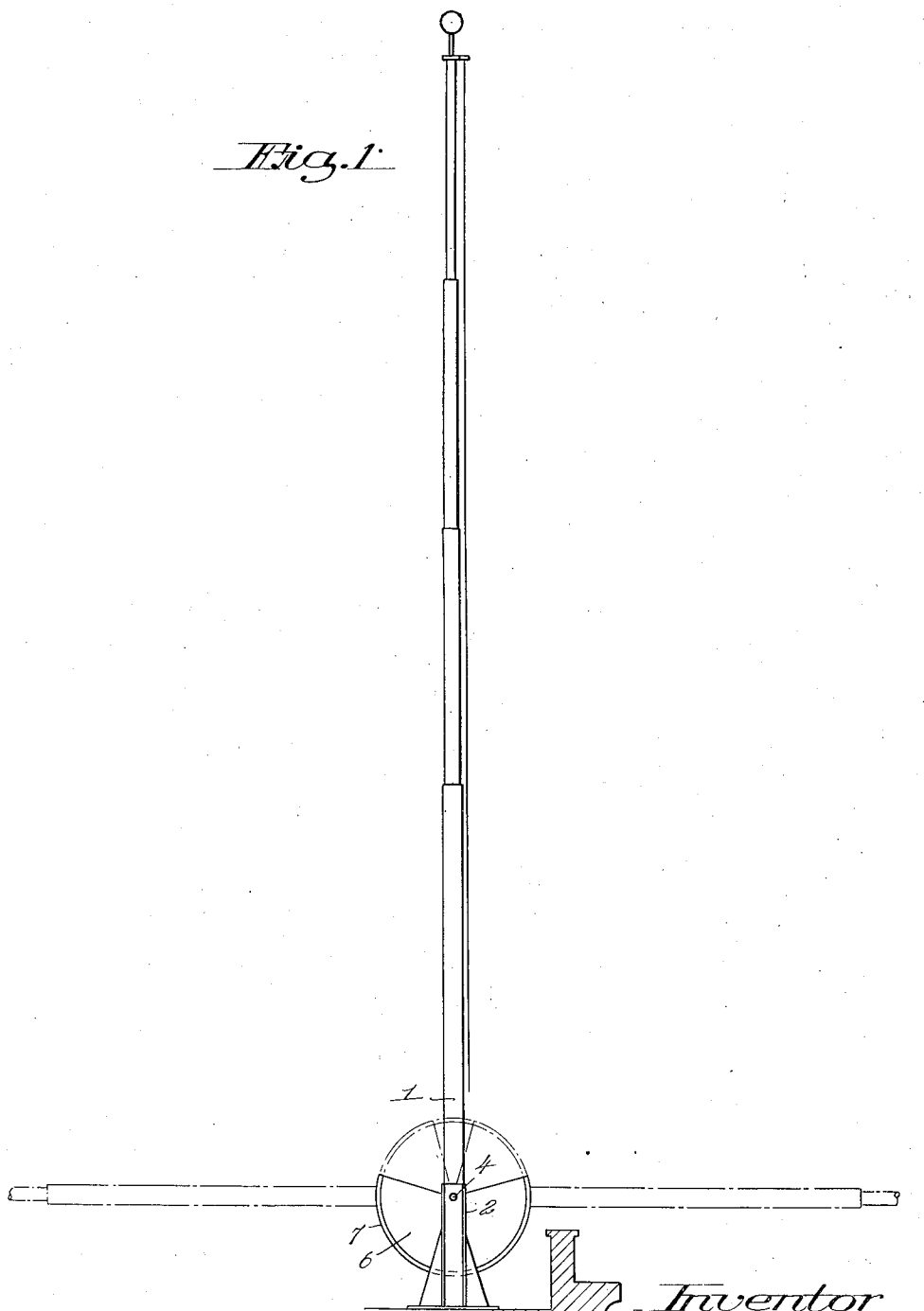
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STAFF AND MOUNTING THEREFOR

Filed Nov. 18, 1927

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Fig. 1.



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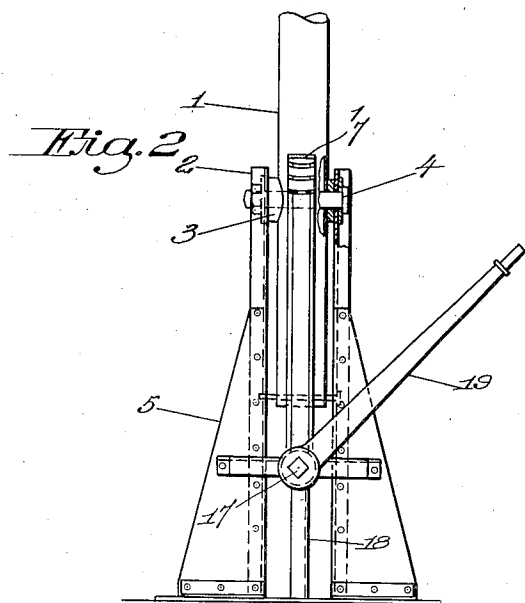
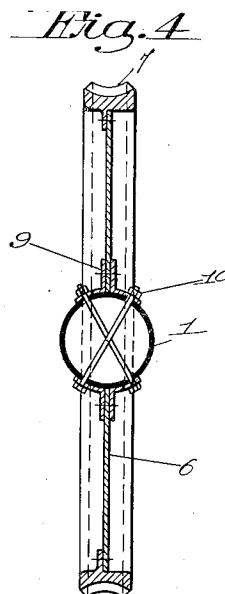
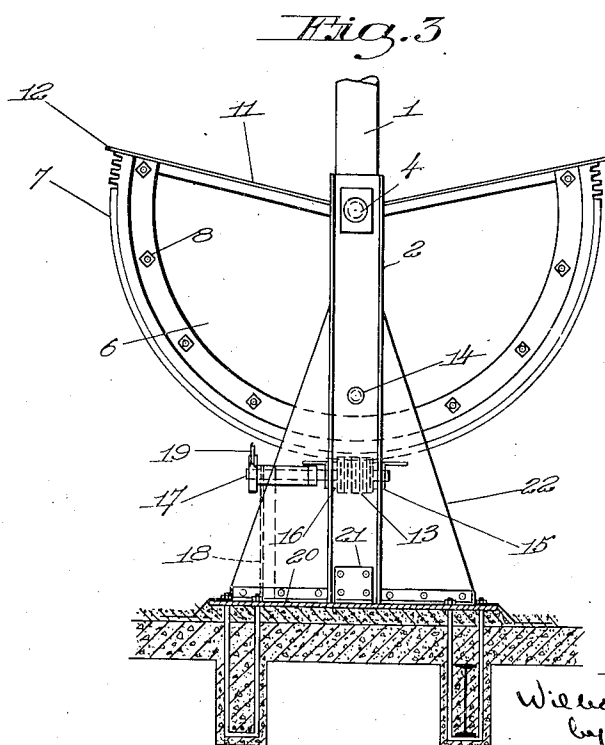
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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STAFF AND MOUNTING THEREFOR.

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The present invention relates to flagstuffs and methods of mounting the same, and is particularly adapted to those requirements wherein a heavy flagstaff is to be mounted on the roof of a building.

It will be apparent to those skilled in the art that the repairing or painting of a long, heavy flagstaff, which is more or less permanently installed in a vertical position, usually involves the employment of special equipment and especially qualified men. With these factors go danger and expense. Particularly is this true when the flagstaff is mounted on the roof of a tall building. Even more of a problem is encountered when a long, heavy pole is mounted at an angle overhanging the cornice of a tall building. Again, higher buildings may be erected on either side of one carrying a vertically mounted pole, rendering it almost impossible to be seen. In this case, in order to rectify the condition by dismounting the pole and reinstalling it overhanging the cornice, it is necessary to go to considerable expense for reconstruction. It is obvious that there are a number of situations involving a permanently vertical pole wherein its very permanency of position becomes a distant disadvantage.

The object of this invention is to provide a flagstaff so mounted that it may readily and easily be lowered, without the use of counterweights, from the vertical to a horizontal or nearly horizontal position, so that repairing, inspection, painting, or the bending of new halyards may be conveniently, cheaply, and safely carried out.

A further object is to provide a flagstaff mounting which is flexibly and continuously adjustable, to the effect that the flagstaff may be used either in a vertical position, brought to the horizontal for repairs and the like, as above stated, or canted to any desired angle for the purpose of flying a flag out over the parapet or cornice of a building.

With these objects in view, the present invention consists of a flagstaff mounting and its accessories as hereinafter described and particularly defined in the claims.

In the accompanying drawings, the preferred embodiment of the invention is shown in perspective in Fig. 1; Fig. 2 is an end elevation, partly in section, on the axis of the supporting trunnions; Fig. 3 is a side elevation, also partly in section, showing de-

tails of the adjusting worm and worm sector; and Fig. 4 is a section through the staff and operating worm.

The flagstaff or pole proper is constructed of steel tubing in graduating sizes, each length being shrunk onto the next smaller size and then welded so as to make an absolutely water-tight joint. The base section of the pole 1, Fig. 2, is fitted at a given distance from the lower extremity with bearing lugs or trunnions 3. These lugs are axially cylindrical and at one end are cylindrically concave to conform with the surface of 1, to which they are welded. At the other end 3 presents a plane surface perpendicular to the plane containing both pole and trunnion axes. These plane surfaces of the lugs 3 present a bearing surface to the inside of the supporting channels 2 in which the pole is trunnioned by means of the bolt 4. Reinforcement of the channel web in which 4 is journaled is secured by means of the plates 5 bolted thereto. The web 6, Fig. 3, carrying the worm sector 7 by means of bolts 8, is secured to the pole base 1 by means of the opposed angles 9 and bolts 10. The position of the worm sector then is such that its radial center coincides with the trunnion axis. Worm sector 6 subtends sufficiently more than 180° to allow room for the worm gear at both ends of 180° travel of the sector. Opposed angle irons are provided at 11 to act as stiffeners for the web 6. Extensions of one of these angles 11 at each extremity 12 act as stops to prevent the worm sector 7 from running off the worm. The worm 13 meshing with 7 at a point vertically below the trunnions is of sufficiently small pitch to insure that the combination is self-locking, i. e., that motion can be transmitted unilaterally only, from worm to worm sector. In this fashion no other locking provision is necessary to secure the pole in any angular adjustment. A lock bolt 14 is, however, provided for the vertical position, its function being principally to insure accurate perpendicularity of adjustment when that position is desired. Worm 13 has its bearings in suitable transverse angle members 15 bolted to the flanges of the supporting channels 2, and is prevented from having appreciable end play by adjacent collars 16 bearing against the inner faces of the members 15. The worm shaft is extended and terminates in a squared

end portion 17, such extension having bearing inside of and adjacent the squared portion 17 in a suitable supporting member 18. A removable ratchet operating wrench 19 is adapted to engage 17 and thereby rotate the worm 13.

The supporting channels 2 are attached to a base plate 20 by means of angle plates 21 and are rigidly secured and maintained in their normal upright position by means of triangular fins 22 bolted to the flanges thereof and secured to the base plate in their several radially extending positions, substantially as shown. The base plate is attached to the roof and firmly anchored thereon by means of U-bolts passing around roof beams and through the roof and base plate. Seepage of water past anchor bolts is prevented by the use of flashing soldered to the base plate, the latter being galvanized to facilitate this operation.

The advantages accruing from the use of the disclosed device are several. The facility with which the flagpole may be brought from a vertical position into a position substantially horizontal makes inspection, painting, and repairing a quicker and far less expensive operation than where a steeplejack has to be employed to ascend the pole. Lost or free halyards may readily be retrieved or new ones installed. Again, by means of this device, the pole may be canted at any desired angle over the cornice of a building, an expedient highly desirable when the building is a high one, shut in by higher structures on either side, or located on a narrow street.

Where it is found desirable to secure the advantages of this mounting for a wooden staff or pole, the construction is identical. The steel base portion 1 is simply terminated at a suitable distance above the trunnions and the wooden pole inserted into the resulting socket.

Although certain devices are in use for the mounting and angular adjustment of staffs and poles, these devices have to do wholly with the support of short light poles and are impractical for adaptation to poles of greater length and weight with which this invention is concerned.

Although the invention has been described in connection with its use as a mounting for a flagstaff, it is readily seen that its application is not limited to such and that it may be employed to mount any pole or staff whose angular position in a vertical plane it is desired to hold readily variable.

Having thus described the invention, what is claimed is:

1. A staff and mounting therefor comprising a base adapted to be rigidly connected to a roof structure, a worm sector supported for oscillating movement in a vertical plane

adapted to be connected to the lower end of the staff, and manually operated means for oscillating the worm sector to move the staff from vertical to horizontal position, or intermediate inclined positions therebetween.

2. A staff and mounting therefor comprising a supporting base adapted to be connected to a roof structure, spaced uprights connected to the base and having reinforcing webs thereon, a pole, means for pivotally supporting the pole between the spaced uprights, a worm sector rigidly connected to the lower end of the pole, describing an arc whose center coincides with the pivotal axis, and a gear meshing with and driving the sector for moving the pole from vertical to horizontal or inclined positions.

3. A staff and mounting therefor comprising a supporting base plate adapted to be secured to a roof structure, spaced uprights mounted centrally on the base, radially extending braces to stiffen and preserve the alignment of the uprights, a pole of graduating sizes of steel tubing each size being shrunk onto the next smaller size, trunnions supporting the pole pivotally between the spaced uprights by means of a trunnion bolt journaled at either end in the uprights, a worm sector secured firmly to the base of the pole below the trunnions by means of a web sector and angle irons and having its radial center coinciding with the trunnion axis, a worm gear of small pitch meshing with the worm sector and providing unilateral transmission of motion from worm to worm sector for the purpose of moving the worm sector and thereby the pole through an oscillatory path, and means whereby the worm may be operated by a removable operating wrench.

4. A staff and mounting therefor comprising a base adapted to be bolted to a roof structure, spaced supporting uprights mounted rigidly thereon, a socket adapted to receive the base end of a staff, means for pivotally supporting the socket between the uprights, a worm sector connected to the socket and adapted to be moved co-axially with the trunnions, and provision for manually rotating the worm sector and socket thereby through an arc extending 90° on either side of the vertical.

5. A staff and mounting therefor comprising a base adapted to be connected to a roof structure, spaced uprights secured rigidly thereon, a staff, a worm sector supported between the uprights and adapted to be secured to the base of the staff, a worm gear adapted to impart oscillatory motion to the worm sector and thereby to the staff, and independent means for locking the worm sector and attached staff in a vertical position.

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