July 14, 1953 H. E. RUTLEDGE 2,645,511

POLE HINGE

Filed Aug. 30, 1950

Fig. 1.

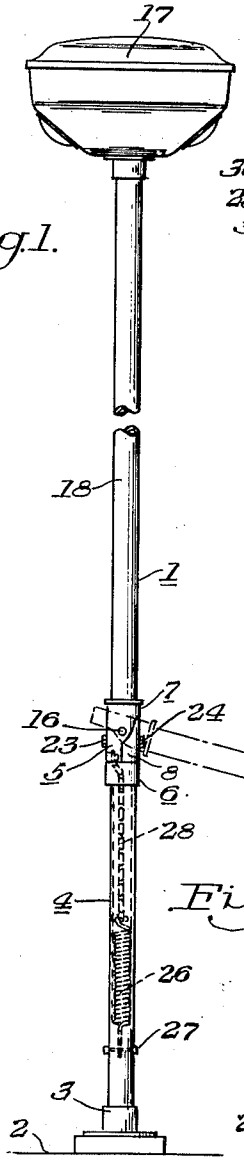


Fig. 2.

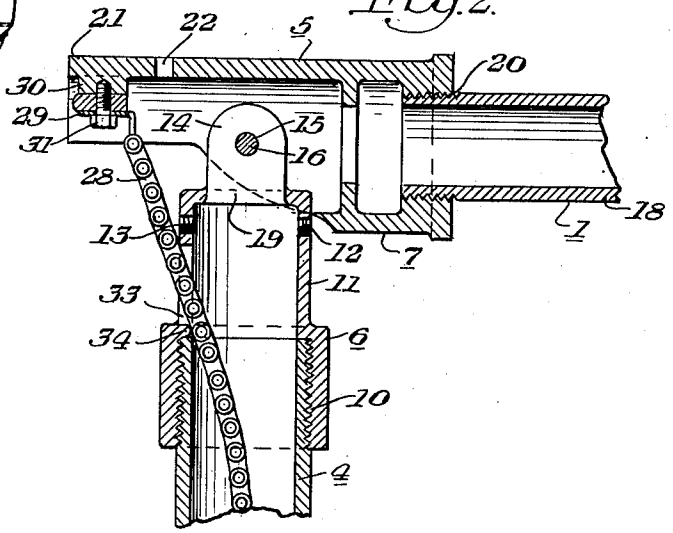
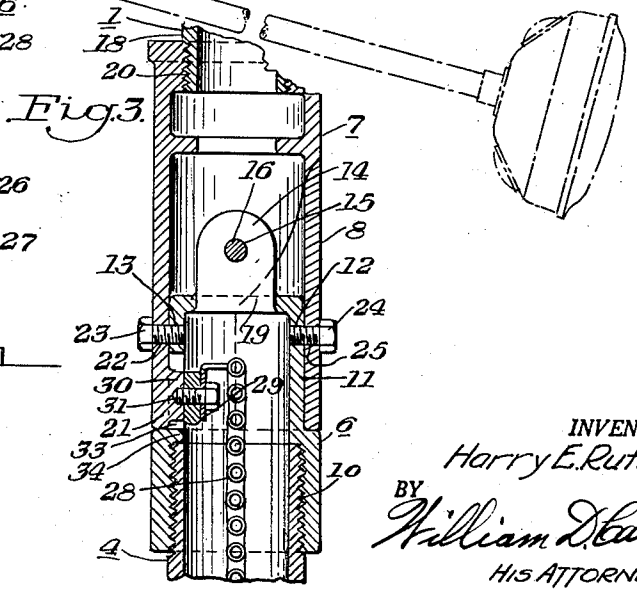


Fig. 3.



INVENTOR.
Harry E. Rutledge
BY
William D. Carothers
HIS ATTORNEY.

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POLE HINGE

Harry E. Rutledge, Pittsburgh, Pa.

Application August 30, 1950, Serial No. 182,215

1 Claim. (Cl. 287—99)

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This invention relates generally to pole hinges and more particularly to counterweighted pole hinges for tubular poles used for supporting lights, such as used to illuminate gasoline filling stations.

This application is an improvement on my application Serial No. 104,635, filed July 14, 1949, now Patent No. 2,577,811, dated December 11, 1951, and is distinguished therefrom by the use of a counterweight, for the pole and light, to aid one in lowering and raising the same. The counterweight in the pole hinge comprising this invention is obtained by a helical spring which is secured at one end to the base of the pole and extends upwardly and is connected to a chain which has its other end secured to the pole hinge member that is on the opposite side of the fulcrum to that of the light. By using a stout spring with the very short leverage between the attachment of the counterweight device to the pole hinge one is enabled to properly counterbalance the light so one individual can lower and raise the same. Without the use of the counterweighting spring it is necessary to have at least two people to hold some of the light fixtures as they become very heavy at the end of the pole.

Another object of this invention is the manner in which the pole hinge members are secured to each other when in their upright position for the purpose of locking the pole when in use. The structure of this invention employs the two bolts, both of which threadably engage the poles in the pole hinge structure for the purpose of maintaining the pole erect and locked and for the purpose of attaching the guard and closure plate which aids in locking the pole hinge in place.

Other objects and advantages appear in the following description and claim.

The accompanying drawings show, for the purpose of exemplification without limiting the invention and claim thereto, certain practical embodiments of the invention, wherein:

Fig. 1 is a view in side elevation of a floodlight and pole, the latter being with the hinge comprising this invention;

Fig. 2 is an enlarged sectional view of the pole hinge when broken with the pole extending downwardly;

Fig. 3 is an enlarged sectional view of the pole hinge locked in its upright position.

Referring to Fig. 1 of the drawing the floodlight pole 1 is mounted on the foundation 2 which consists of a base casting member 3 and is bolted or otherwise cemented or secured to the foundation 2 and has the lower pole section 4 extending

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upwardly therefrom. The lower pole section 4 may extend into the ground or into a concrete sub-base if the pole is to be of considerable height. The lower pole section 4 is relatively low from the ground, being preferably approximately from two and a half to three feet in length. The pole hinge 5 is made up of three parts, the lower hinge member 6 and upper hinge member 7 and the guard plate 8, as shown in Figs. 2 and 3. The lower hinge member 6 is provided with a threaded bore 10 arranged to receive the upper threaded end of the lower pipe section 4. Above the threaded socket of the lower section 6 the lower hinge member is reduced in diameter as indicated at 11 and is provided with oppositely disposed threaded holes 12 and 13. Above the reduced cap section of the lower hinge member 6 projecting upwardly therefrom are a pair of ears 14 having aligned openings 15 for receiving the hinge pin 16. The ears 14 are spaced apart to provide adequate space for the wiring that comes from the light fixture 17 at the top of the pole. The wiring passes downwardly through the upper pipe section 18 and between the ears 14 and through the opening as indicated at 19 downwardly through the lower pipe section 4 on the inside of the counterbalancing spring.

The upper hinge member 7 is provided with an upwardly open socket 20 and a tail member 21. The tail member 21 fits around half of the reduced section 11 of the lower hinge member and is provided with an opening 22 to receive the bolt 23 for the purpose of locking the pole hinge member in its upright position when the bolt passes through the opening 22 and into the threaded opening 13 of the lower hinge section.

The other half of the reduced section 11 of the lower hinge member is covered by the locking shield member 8 which is held in place by the bolt 24 passing through the opening 25 in the shield and into the threaded opening 12 in the lower hinge section 6. Thus the cap or closure member 8 not only functions to close the gap but also prevents the hinge from breaking and also stiffly supports and locks the pole in its upward position when in place as illustrated in Fig. 3.

The counterweight device is obtained by the use of the helical spring 26 which has one end secured to the bolt 27 passing through the lower pipe section 4 and the upper end of the spring is attached to the bicycle type chain 28, the upper end of which is secured by the bracket 29 to the lug 30 by means of the bolt 31, as shown in Fig. 2. The lower section 6 is provided with a window 33 through which the chain 28 is permitted to

pass and ride on the rounded bearing section **34**.

This structure is very readily assembled and easily put together and the short length of the spring, from the lug **30** to the hinge **16**, provides all the counterweight necessary.

I claim:

A hinged and counterbalanced pole consisting of upper and lower pole sections, hinged members secured to said pole sections, aligned bearings in both hinged members, a pivot pin in said bearings to pivot said hinged members together, an enlarged portion on said lower hinged member below said bearings, an arcuate skirt on the upper hinged member fitting over the lower hinged member to form a smooth coupling with said enlarged portion on one side when the pole sections are in alignment, co-operating openings in said skirt and lower hinged member, a bolt in said cooperating openings to secure the skirt to the lower hinged member, and hold the upper and lower pole sections in alignment, an arcuate locking plate detachably secured to the lower hinged member on the opposite side of said skirt to complete the smooth coupling with said enlarged portion, a window in the lower hinged member adjacent to and covered by said skirt, a lug on said skirt projecting into said window and covered by said skirt, a chain attached to said lug and passing through said window when uncovered by said skirt, a spring secured to the end of said chain and suspended in the lower pole section, and means in the lower pole section to which said spring is attached to provide a counterbalancing force for the upper pole section.

HARRY E. RUTLEDGE.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
490,093	Albach	Jan. 17, 1893
1,564,886	O'Neill	Dec. 8, 1925
1,742,481	Miller	Jan. 7, 1930
1,993,183	Shane	Mar. 5, 1935
2,286,655	Supnick	June 16, 1942
2,458,081	Jordan	Jan. 4, 1949
2,577,811	Rutledge	Dec. 11, 1951