Aug. 23, 1966 G. H. ACKERMAN 3,267,805

LIGHT REFLECTORS FOR ELONGATED POST-LIKE MEMBERS

Filed Feb. 21, 1962

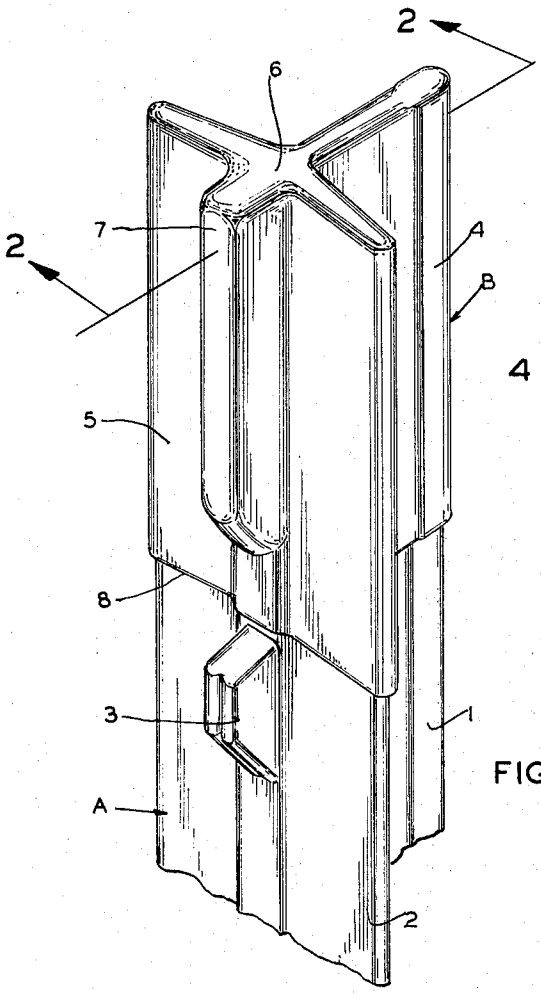


FIG. 1

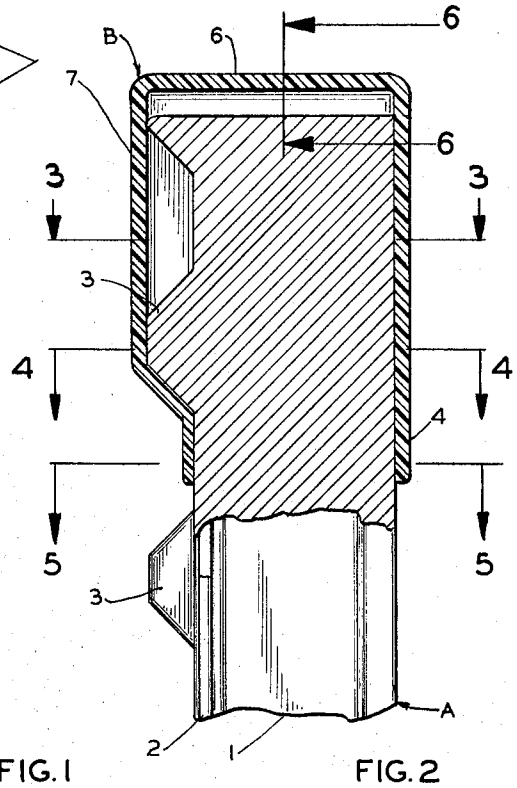


FIG. 2

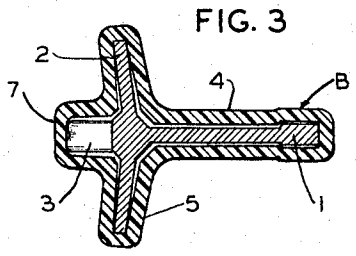


FIG. 3

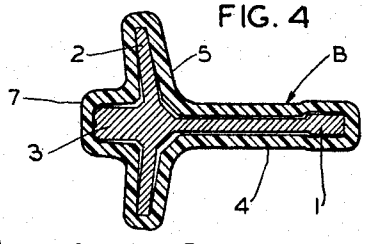


FIG. 4

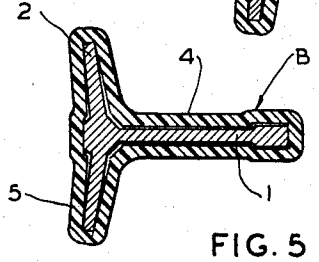


FIG. 5

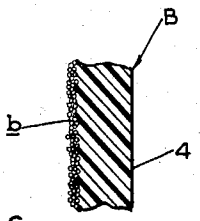


FIG. 6

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LIGHT REFLECTORS FOR ELONGATED POST-LIKE MEMBERS

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This invention relates in general to certain new and useful improvements in light reflectors for elongated post-like members and, more particularly, to a reflective cap adapted for disposition upon steel fence posts or similar elongated post-like members.

Along the less traveled roads in rural areas, many landowners desire to delineate the marginal lines of the roadways for the safety of the traffic using such roads and for the further reason that occasionally a driver will accidentally veer off the road and tear down a section of roadside fencing. Apart from the hazards to the occupants of a vehicle under such circumstances, the replacement of the fence is both costly and time consuming. In addition to this, many farmers and other landowners who erect lines of fencing along a road have a certain sense of pride in the fencing and derive an aesthetic satisfaction from attaching to the fencing some means for reflecting light at night from the headlights of passing vehicles so that the line of fencing will be sharply delineated.

Some efforts have been made to achieve these results by dipping the upper end of a farm fence post to similar device, to a depth of several inches, in phosphorescent or luminescent paint, but the optical results achieved in this manner have not been wholly satisfactory. Such paint materials do not weather particularly well and soon lose light reflective properties. Moreover, most farmers and landowners have no interest in using reflectorized fence posts on the interior boundaries of their land, but rather, merely use such reflectorized fence posts along the portion of their land which borders on a road or highway. Of course, a great many farmers do not wish to use reflectorized posts under any circumstances. Consequently, the farm supply dealers who handle fencing, fence posts, and similar materials are called upon to stock both types of fence posts and this creates an undesirable inventory problem, inasmuch as steel fence ports are relatively low priced and bulky.

The dipping of the top of the fence posts in a light reflective paint material is also unsatisfactory for the reason that steel fence posts must be driven into the ground either with a sledge-hammer or a tool known as a fence-post driver. Both the sledge-hammer and fence-post driver strike forceably against the top of the posts and batter the light reflective paint materials with which the upper end of such fence posts may be coated. This breaks the film and accelerates the damage resulting from weathering.

It is, therefore, the primary object of the present invention to provide a light reflective device which can be applied to farm fence posts and, more particularly, fence posts of the so-called "studded-T" type which device is simple, economical, and optically efficient.

It is another object of the present invention to provide a light reflective device in the nature of a cap which can be slipped over the upper end of a fence post after the fence post is driven and the fence fully installed, thereby making it possible to "reflectorize" existing lines of fencing or newly installed lines of fencing in any desired manner.

It is also an object of the present invention to provide a light reflective device of the type stated which will seat itself firmly and in a substantially weather tight manner upon the upper end of the fence post.

It is an additional object of the present invention to provide a light reflective device of the type stated which will fit snugly upon the upper end of a studded-T fence post regardless of the positions of the studs with respect to the upper end of the post.

It is a further object of the present invention to provide a light reflective device of the type stated which the dealer or supply house can stock readily in any desired quantity, and possibly in any desired range of colors, without having to change or increase the regular inventory of fence posts.

With the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawing—

FIG. 1 is a fragmentary perspective view of the upper end of a studded-T fence post equipped with a light reflective cap constructed in accordance with and embodying the present invention;

FIG. 2 is a fragmentary vertical sectional view taken along line 2—2 of FIG. 1;

FIGS. 3, 4, and 5 are transverse sectional views taken along lines 3—3, 4—4, and 5—5, respectively, of FIG. 2; and

FIG. 6 is a fragmentary sectional view taken along line 6—6 of FIG. 2.

Referring now in more detail and by reference characters to the drawings which illustrate a preferred embodiment of the present invention, A designates a studded-T fence post of the conventional type which integrally includes a web 1 and an outwardly presented flange 2 which extends symmetrically across the web 1 so that the fence post has a cross-sectional shape somewhat resembling a T. Formed integrally along the central portion of the web 1 and projecting outwardly from the forwardly presented face thereof is a uniformly spaced series of studs 3 having somewhat trapezoidal shape. This type of fence post must be rolled with a long continuous section from hot bars of steel and then, while still relatively hot, cut to length in a guillotine shear. Obviously, it is impossible to maintain an extremely high degree of accuracy or tolerance. Indeed, considering the low price at which farm fence posts must be produced and the circumstances of use thereof, it is entirely unnecessary to maintain tolerance more accurate than plus-or-minus one inch. In addition to this, the various lengths in which farm fence posts are customarily sold are not convenient multiples of the standard spacing between the studs. Consequently, in cutting a long rolled section into a series of fence posts of some selected length, the shear can be cut directly through one of the studs or may cut between the studs, depending upon how the length and tolerances happen to be running. This is a common and accepted characteristic of the studded-T fence post and in no way impairs the usefulness or commercial acceptability of the product. However, it is a fact that, in any group of studded-T fence posts of the same length, the distance between the top of the fence post and the first full stud may vary considerably.

Provided for disposition upon the upper end of the fence post A is a cap B which is preferably molded from a polyvinyl plastisol or other similar synthetic resin of somewhat rubbery consistency, having a cross-sectional shape substantially similar to the cross-sectional shape of the fence post A so that it will fit telescopically thereon and snugly envelope the upper end thereof. Thus, the cap B integrally includes a web-encasing portion 4 and a flange encasing portion 5 integrally connected across the top by a top closure-wall 6. Formed in and projecting forwardly from the flange encasing portion 5 is an

elongated channel-like portion 7 which extends from the top closure-wall 6 downwardly and terminates a short distance above the lower transverse margin 8 of the cap B. Internally the channel-like portion 7 is shaped so as to fit snugly around and encase the studs 3, and it is of sufficient length so as to encase at least the first full stud 3 at the upper end of the fence post A, all as best seen in FIG. 2. Below the channel-like portion 7, the cap B is of such shape that it will snugly engage the outwardly presented surfaces of the fence post A around the entire cross-sectional perimeter thereof, substantially as shown in FIG. 5, thereby materially protecting the upper end of the fence post A from the weather.

Embedded in the outer surface of the cap B are tiny light reflective glass beads *b* which preferably are completely contiguous so that a substantial portion or even the entire outer surface of the cap B is preferably studded with them. These beads *b* will protrude slightly above the normal level of the surface of the cap B so as to act as a myriad of tiny light reflectors in such surface. In normal daylight, the basic color of the plastic from which the cap B is fabricated will be visible, but at night, the beads will become highly efficient optical elements when exposed to the incident rays of light emanating from an automobile headlight. Consequently, the rays of light from the headlight will be very efficiently reflected back to the view of the driver over substantially long distances. If desired, the synthetic resin from which the cap B is fabricated can be clear and transparent or it can be pigmented in various colors such as orange, yellow, red, and the like. As long as the surface thereof is studded with tiny glass beads, the cap B will be an efficient light reflector by night. If the cap B is made of clear resin, it will, during the daytime, take on the color with which the fence post is painted, or if made of pigmented resin, will possess its own independent color. Of course, on sunny days, when the sun's rays strike the cap B at the proper angle, it will also reflect light very much in the same manner as it reflects light from automobile headlights at night.

In use, a farmer or landowner can slip a plurality of caps on the upper ends of the fence posts in a line of fencing along a road or highway once the fence has been installed. This can be done very quickly and conveniently, and the caps B will not only protect the upper ends of the fence posts from weathering, but will also retain light reflective properties for many years and, in fact, will outlast the fence post itself. Because the cap B is made of somewhat rubbery consistency, it will hug the upper end of the fence post tightly and securely so that it can not be readily removed either accidentally or by vandals, once it has been firmly pressed down in place. Thereafter, the cap B will expand and contract with the fence post as it is subjected to extremes of heat and cold resulting from changes in the weather, and will not tend to crack, blister, or peel off, as is the case with applied paint materials.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the light reflective device may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. For use with T-shaped fence posts and similar structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts; a flexible resilient hollow cap having a downwardly presented T-shaped bottom-opening and a closed top, said cap also having a plurality of side walls marginally connected to form the T-shaped bottom opening, said side walls being contoured to fit snugly and conformably around said upper end portion, said cap further having an outwardly projecting axially elongated chamber which opens inwardly to the hollow interior of said cap for accommodating the studs and for retentively engaging said upper end portion to prevent unauthorized removal of the cap from the post, said axially elongated chamber having a vertical length sufficient to cover the first full stud irrespective of its distance from the upper surface, and a myriad of minute light reflective elements being embedded in the outwardly presented surface of at least one of the side walls.

2. For use with T-shaped fence posts and similar T-shaped structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts; a flexible resilient hollow cap having a downwardly presented T-shaped bottom-opening and a closed top, said cap also having a plurality of side walls marginally connected to form the T-shaped bottom-opening, said side walls being contoured to fit snugly and conformably around said upper end portion, means formed integrally with the side wall of the cap for retentively engaging said upper end portion to prevent unauthorized removal of the cap from the post, said means having a vertical length sufficient to cover the first full stud irrespective of its distance from the upper surface, and a myriad of minute light reflective elements being embedded in the outwardly presented surface of at least one of the side walls.

3. For use with T-shaped fence posts and similar T-shaped structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts; a flexible resilient hollow cap having a downwardly presented T-shaped bottom-opening and a closed top, said cap also having a plurality of side walls marginally connected to form the T-shaped bottom-opening and an internal T-shaped cross section for fitting snugly and conformably around said upper end portion, said cap further having an outwardly projecting axially elongated chamber which opens inwardly to the hollow interior of said cap for accommodating the studs and for retentively engaging said upper end portion to prevent unauthorized removal of the cap from the post, said axially elongated chamber having a vertical length sufficient to cover the first full stud irrespective of its distance from the upper surface, and a myriad of minute light reflective elements being embedded in the outwardly presented surface of at least one of the side walls.

4. For use with T-shaped fence posts and similar T-shaped structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts; a flexible resilient hollow cap having a downwardly presented T-shaped bottom-opening and a closed top, said cap also having a plurality of side walls marginally connected to form the T-shaped bottom-opening and a reduced bottom portion having a T-shaped cross section, said side walls being contoured to fit snugly and conformably around said upper portion, said cap further having an outwardly projecting axially elongated chamber which opens inwardly to the hollow interior of said cap, for accommodating the studs and for retentively engaging said upper end portion to pre-

vent unauthorized removal of the cap from the post, said axially elongated chamber having a vertical length sufficient to cover the first full stud irrespective of its distance from the upper surface, and a myriad of minute light reflective elements being embedded in the outwardly presented surface of at least one of the side walls.

5. For use with T-shaped fence posts and similar structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion, said T-shaped fence posts having an upper surface and a series of studs spaced downwardly at equal intervals from the upper surface, the distance from the upper surface to the first full stud varying between different T-shaped fence posts, a flexible resilient hollow reflector having an outwardly presented T-shaped opening, said reflector also having a plurality of side walls marginally connected to form said T-shaped opening, said side walls being contoured to fit snugly and conformably around said upper end portions, said walls in the vicinity of said opening being adapted to embrace the post intermediate the studs whereby to prevent unauthorized removal of said reflector from the post, said reflector further having an outwardly projecting axially elongated chamber which opens inwardly to the hollow interior of said reflector for accommodating the studs and a myriad of small catoptric beads partially embedded in the outwardly presented surface of said resilient hollow reflector.

6. For use with fence posts and similar structural members adapted to extend upwardly from the ground and terminate in a substantially free upper end portion having an irregular cross-sectional shape; a hollow cap formed of a resilient rubbery polymerized resin which is a polyvinyl plastisol, said cap having continuous side walls contoured to fit snugly and conformably around said upper end portion, said cap also having a downwardly presented bottom opening and a closed top, means formed integrally with said side walls for retentively engaging said upper end portion to prevent unauthorized removal of said cap from the post, and a myriad of small catoptric beads partially embedded in the outwardly presented surface of said cap.

References Cited by the Examiner

UNITED STATES PATENTS

1,132,077	3/1915	Dillon.	
1,294,957	2/1919	Scott.	
1,655,452	1/1928	Ament	88—97 X
1,846,590	2/1932	Eskilson.	
2,192,817	3/1940	Sanger et al.	
2,216,576	10/1940	Sinsabaugh	88—78
2,372,387	3/1945	Morin et al.	
2,779,240	1/1957	Gaydos	88—79
2,957,444	10/1960	Boettler	88—82 X
3,043,196	7/1962	Palmquist et al.	88—82

FOREIGN PATENTS

501,201	4/1954	Canada.
829,678	4/1938	France.
497,123	12/1938	Great Britain.

OTHER REFERENCES

In re The Pollak Steel Co., October 19, 1961.

JEWELL H. PEDERSEN, *Primary Examiner.*

D. J. HOFFMAN, T. L. HUDSON,
Assistant Examiners.