Nov. 11, 1958 K. S. FANTLE 2,859,840

POST AND SUPPORT

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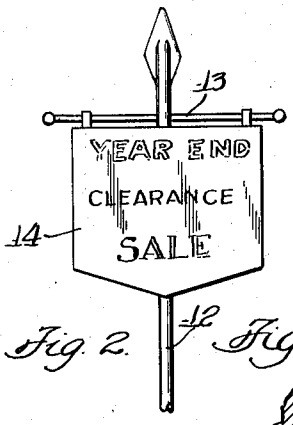


Fig. 2.

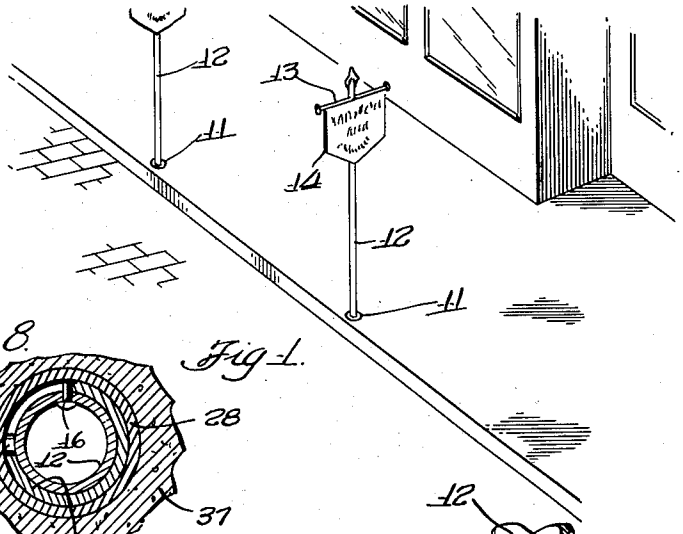
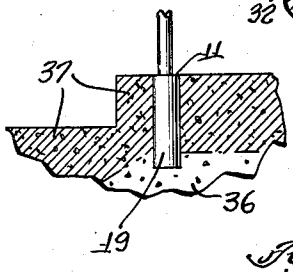


Fig. 1.

Fig. 8.



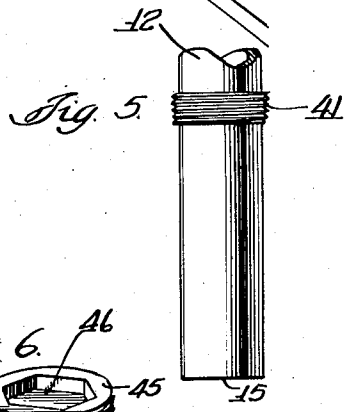


Fig. 5.

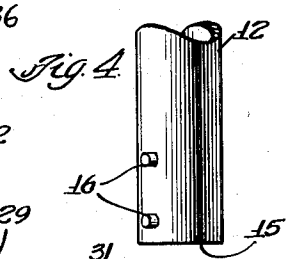


Fig. 4.

Fig. 6.

Fig. 3.

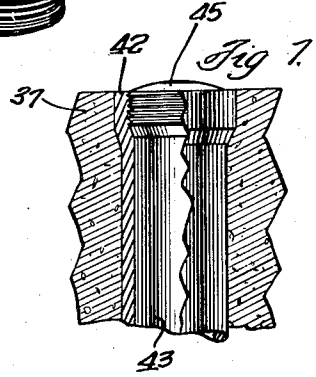


Fig 7.

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POST AND SUPPORT

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3 Claims. (Cl. 189—28)

The present invention relates to sub-surface pavement imbedded post supporting fixtures for supporting perpendicular shafts, rods, posts or other uprights.

A principal object of the present invention is to provide a permanent fixture socket and related supporting post which is adaptable for use in conjunction with erectable street or sidewalk displays and which possesses those characteristics and features which insure utilization under practically safe conditions even as against hazards and contingencies, including natural causes as well as human carelessness, abuse and mischief.

Another object of the present invention is to provide an economic and efficient post supporting socket structure which may be permanently imbedded beneath a street or sidewalk surface so as to be instantly available for use and so that during periods of non-use it is abundantly safeguarded against deterioration, damage or disablement on account of natural or human influences.

Further and additional objects are such as will become apparent during the course of the following detailed description, having particular reference to the illustrations in the accompanying drawings in both of which similar reference numerals designate corresponding parts throughout, and in which:

Fig. 1 is a perspective, detailed view of a fragment of sidewalk curb illustrating display supporting fixtures constructed in accordance with the present invention.

Fig. 2 is an enlarged side elevational view with intermediate portions broken away of an advertising display standard constructed in accordance with various features of the present invention;

Fig. 3 is a fragmentary detail sectional view on an enlarged scale showing various features of a socket and display staff in utility condition;

Fig. 4 is an enlarged sectional view similar to Fig. 3 showing the component elements separated;

Fig. 5 is an enlarged, fragmentary elevational view of a modified form of structure embodying various features of the invention;

Fig. 6 is a detail perspective view of a modified apparatus aperture plug;

Fig. 7 is an enlarged, sectional view of a modified form of socket structure having applied thereto the aperture plug of Fig. 6; and

Fig. 8 is a transverse sectional detail view taken approximately on line 8—8 of Fig. 3.

For purposes of civic, community or commercial display, it is frequently desirable to erect at street curbs, intersections or in other places, display staffs or markers which are removable, interchangeable and nevertheless sturdy. One such example is illustrated in Fig. 1. In the sidewalk curb there is imbedded as at 11, receptacle sockets having aperture accommodations for receiving staff or post elements 12, which in the featured illustration are equipped with transverse support trappings as at 13, from which there may be suspended advertising display placards, signs or banners such as 14.

Because the use of such devices frequently occurs at relatively heavy traffic environment, it is desirable that they be durably supported in their installed positions, and that they be capable of facile and convenient authorized removal and interchange without requiring craft, skill or appreciable time in so doing.

Accordingly, the upright or staff element 12 is constructed of cylindrical tubing stock cut off squarely as at 15 and in the preferred embodiment, Figs. 2–4, provided with one or more sidewardly jutting pins 16. These serve various purposes including the assurance of proper alignment during insertion, stability during use, as well as selectivity under those conditions where exclusion is sought. The pins 16 may be riveted or welded in place with a significant spacing and relative placement in respect to the end of the shaft 12 prearranged to coincide with a similar spacing in respect to a corresponding number of circumferential and internal grooves 17 formed in an interior lining tube 18 of the socket fixture 19.

Admission into the socket fixture through its only access is normally barred by a resiliently yieldable follower plug 21 which is maintained in its uppermost position, as indicated in Fig. 4, by a coil compression spring 22. This yieldable barrier prevents entry of moisture precipitation or solids into the interior of the fixture during such times that the socket is not occupied. Follower plug 21 may be recessed as at 23 in order to more securely nest the upper extremity of coil spring 22, and a corresponding seat is provided in a lowermost plug collar element 25 placed into the bottom of the socket during final assembly, and thereat secured by a transverse pin 26.

In order to accommodate the sidewardly jutting locating pins 16 of staff 12, the interior tube lining 18 is advantageously grooved as at 27, and the outer tubular casing element 28, which has an inward flange at 29, is similarly slotted, as at 31. Slot 31 is preferably narrower to admit the passage of the pins 16 during the insertion of the staff 12, while the groove 27 is somewhat wider than slot 31 so as to accommodate the sidewardly jutting projection 32 of follower plug 21, being thereby restrained at its upper limit, as shown in Fig. 4.

When the staff 21 is inserted, as illustrated in Fig. 3, it first depresses the plug 21 and spring 22 until they reach a condition after the manner illustrated, at which time the two pins 16 come into alignment with the circumferential grooves 17, permitting the shaft 12 to be rotated until the pins are received in registry with detent depressions 34 which restrain the shaft 12 from being inadvertently rotated back to its extraction alignment.

The lowermost receptacle collar 25 is apertured, as at 35, in order that any seepage or condensation may be permitted to drain out into the absorptive gravel undersoil 36, which is usually present or provided as a bedding for street and sidewalk pavement 37. By constructing the socket elements 19 of two tubular sections 18 and 28 as designated, the longitudinal, as well as the arcuate transverse notches 27 and 17, may be machined by external milling or cutting operations.

In connection with the preferred embodiment just described, it will be observed that socket member 19 is of simple, rugged construction, that the external tubular element 28 is one which may be formed of standard pipe tubing, and that the internal liner 18 is one which may be of aluminum or other low-cost non-ferrous material, in this way affording an enduring, rust-impervious arrangement capable of withstanding the rigors of long usage under various weather conditions.

During manufacturing assembly, the follower cap 21 may be inserted from the bottom before the internal tube 18 is placed into the external one 28, or, where the inter-

nal flange lip **31** is rolled over by a forming operation, the follower button **21** may be inserted just prior to such operations. It is also to be observed that by providing a significantly spaced plurality of grooves **17**, the use of the socket may be restricted selectively to display posts **12** in which are provided the sidewardly projecting pins **16** coded in precisely the same spacing arrangement.

It is contemplated that the socket assemblies **19** may during use by subjected to a variety of weather conditions including dust and moisture infiltration, freezing, etc. For this reason, the internal spacing accommodation is made generous, and the lowermost collar **21** is apertured, as has already been noted. In addition, the spring-loaded plug cap **21** is designed to fill out the internal circumferential spacing throughout its entire length of travel. Even the slotted portion at **31**, in which but slight quantities of foreign material may gather, a barrier and sealing effect is had by reason of the projection **32** underlying it and spanning to a greater width the aforedescribed aperture area.

In the modified embodiment illustrated in Figs. 5–7 the post member **12** is provided with a larger diameter flange section threaded as at **41** so as to have screw engagement with a wide-mouth entry flange portion **42** of the tubular socket member **43**. While this form has been illustrated in contemplation of a single-tube structure, it will be understood that the two diameters of tube section of member **43** may also be attained by the use of several slidably interfitting tube components welded or otherwise secured together. Manifestly, this type of construction in either unitary or compounded fabrication will result in a considerably cheaper product to produce respecting labor and material.

For purposes of achieving a dirt barrier the threaded flange portion **42** is occupied by a disc plug **45** (Fig. 6), the head portion of which is recessed in a significant manner for the reception of a suitable wrench or screw driver. In the illustrated example, the recess **46** is hexagonal. To prevent rusting, this member is advantageously constructed of non-ferrous material, particularly when the tube **43** or its flange section **42** is of steel.

It will be understood that the upright or staff component **12** may be provided with a variety of display supporting apparatus, and that the banner or placard portion may have removable or interchangeable insignia, lettering, or decorative portions without in any way interfering with the facility of the standard or its fixture socket.

While the present invention has been explained and described with reference to specific embodiments of structure, it will be understood, nevertheless, that numerous modifications and variations are susceptible of being incorporated without departure from the essential spirit or scope thereof. Accordingly, it is not intended for an understanding of this invention to be limited by the foregoing description nor by the illustrations in the annexed drawing, except as indicated in the hereinafter appended claims.

What is claimed as new and desired to be secured by Letters Patent of the United States is as follows:

1. A display apparatus comprising a socket having an upper end opening, said socket being adapted to be carried in a fixed support; a detachably securable post in said opening in positive interengagement therein, said socket having a closure moveable in said socket to close said opening when said post is detached; bias means for moving said closure to a closing position; stop means for limiting movement of said closure, said post and socket having mutually engageable pin and slot means which interengage and positively lock said post in a longitudinal position relative to said socket when said post is inserted in said socket and rotated therein, said closure being operable from closing position to idle position when said post is inserted in said socket and means common to said socket and closure for limiting movement of said closure to idle position whereby to locate said pin and slot means in position for engagement.

2. Apparatus in accordance with claim 1 in which the said socket comprises an outer sleeve portion and an inner sleeve portion, said inner sleeve portion having a longitudinal internal groove and at least one transverse internal channel intersecting said groove.

3. A post and socket fixture apparatus comprising a post member having at its upper end interchangeable display indicia and at its lower portion a cylindrical male end having at least one longitudinally spaced radial projection; a socket member for subsurface imbedment, said socket member having an upper end for receiving said post, said post and socket being relatively rotatable, said socket comprising an outer sleeve portion and an inner sleeve portion, said inner sleeve portion having a longitudinal groove and at least one transverse channel intersecting said groove, said projection being guided by said groove upon assembly of said post with said socket, said projection engaging said channel upon relative rotation of said post in said socket for positive interlocking engagement thereof, a sealing plug in said socket member for closing said socket opening when said post is withdrawn therefrom, said plug being vertically slidable in said socket, a spring secured to and abutting said plug to urge the same toward closing position and an abutment fixed at the lower end of the socket against which said spring rests, said post member and said socket member cooperating to admit and rigidly retain in interlocking engagement said post member in said socket.

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