United States Patent

Roach, Jr.

[15] **3,667,405**

[45] **June 6, 1972**

[54] VANDAL RESISTIVE POST

[72] Inventor: **Albert F. Roach, Jr.**, 8325 Ohio River Boulevard, Pittsburgh, Pa. 15202

[22] Filed: **Oct. 29, 1970**

[21] Appl. No.: **85,113**

[52] **U.S. Cl.** **109/51,** 52/40, 52/727, 232/7, 232/39

[51] **Int. Cl.** **E05g 1/04,** E04h 12/18

[58] **Field of Search** ..... 52/296, 106, 727, 65, 29, 31, 52/40; 232/7, 39; 40/145 R; 109/50–52

[56] **References Cited**

UNITED STATES PATENTS

1,696,288	12/1928	Underwood	52/296
90,219	5/1869	Baker	52/727
3,349,531	10/1967	Watson	52/296
2,915,270	12/1959	Gladsden	40/145 R

FOREIGN PATENTS OR APPLICATIONS

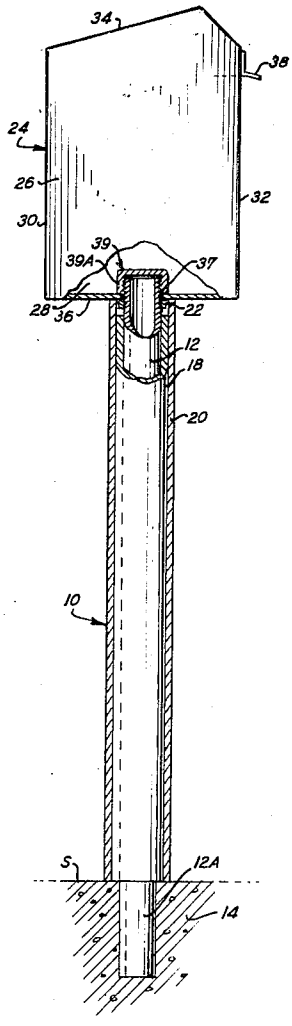
519,144	3/1940	Great Britain	52/743

Primary Examiner—Frank L. Abbott
Assistant Examiner—Henry E. Raduazo
Attorney—Kimmel, Crowell & Weaver

[57] **ABSTRACT**

A compound post for supporting publicly used parking meters, fine boxes, vending machines, money changers, and other related publicly used facilities, the post being so designed as to prevent the vandalism and/or theft of the supported facility, and wherein the compound post includes an upright pipe having its lower end ground secured, the facility mounted for rotation about the axis of the pipe at its upper end, and at least one other pipe telescoped over the upright pipe for free rotation thereon to resist the action of a cutting tool applied thereto, the other pipe extending substantially the entire distance between said facility and the ground.

10 Claims, 4 Drawing Figures



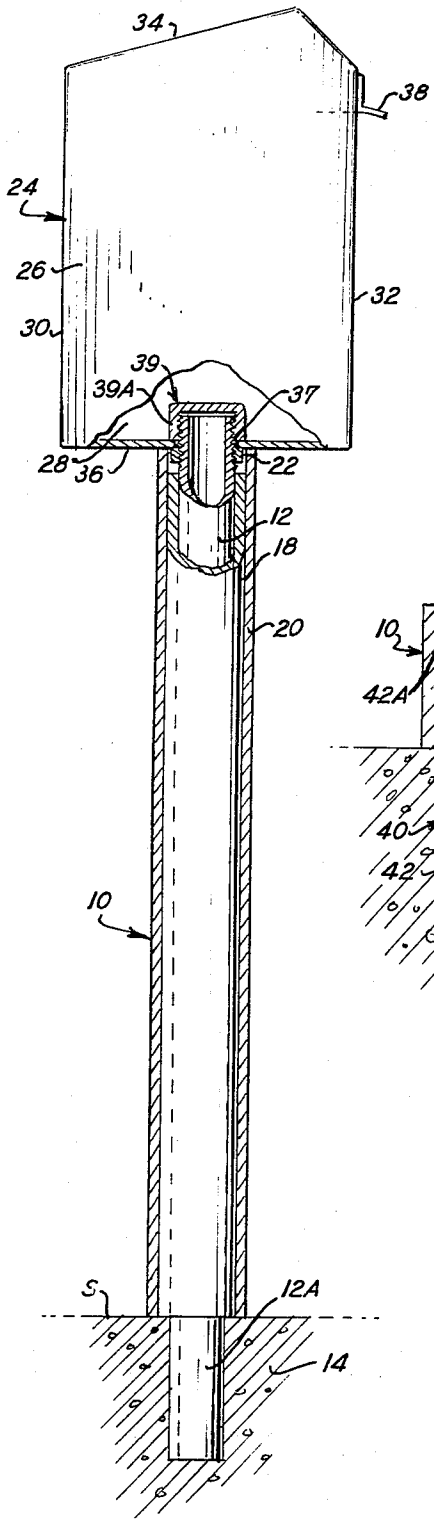


FIG. 1

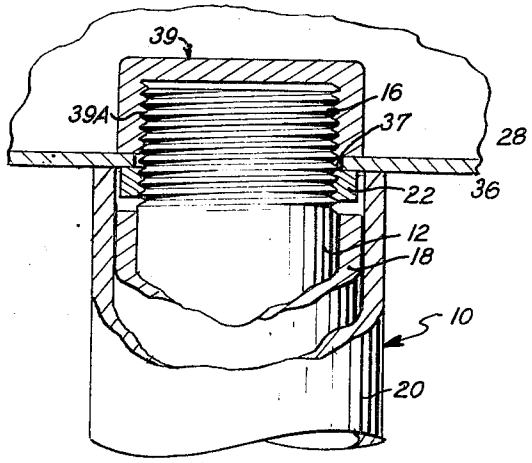


FIG. 2

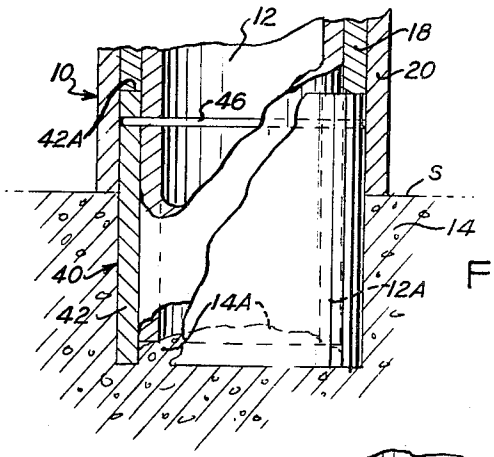


FIG. 3

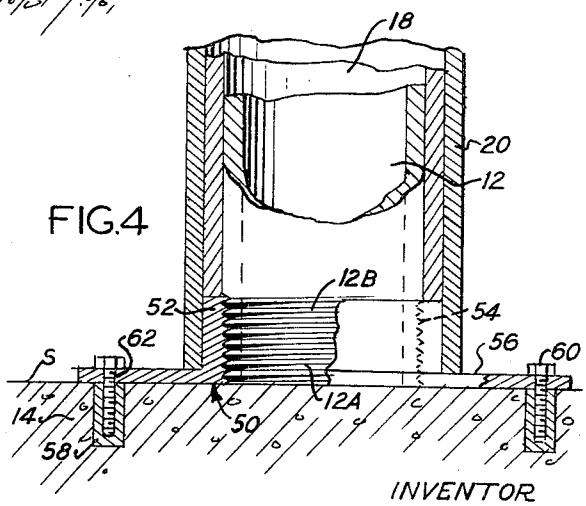


FIG. 4

INVENTOR
ALBERT F. ROACH JR.
BY
Kimmel, Crowell & Weaver
ATTORNEYS

VANDAL RESISTIVE POST

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a static structure, classifiable in Class 52 and, more specifically, this invention is believed to be identifiable with Subclass 720 entitled "SHAFT, i.e., ELONGATED RIGID STRUCTURE" and with the inventions disclosed in Subclasses indented thereunder.

2. Description of the Prior Art

Pertinent but non-analogous and non-anticipatory disclosures may be found, for example, in the U.S. Pat. issued to W. H. Larmore, No. 679,028, and in the U.S. Pat. to F. J. Bayon, No. 2,156,579. The patent to Larmore relates to a compound burglarly-proof bar for installation in window gratings, and the invention of Bayon relates to a construction for a prison cell bar.

SUMMARY OF THE INVENTION

This invention relates to a compound post formed of a plurality of telescoped pipes, the post being designed to ground-support an elevated parking meter, fine box, vending machine, money changer, or other similar public facility, the compound post being especially designed to protect the facility which it supports against vandalism and/or theft. The exterior pipes are free turning over a smaller diameter stationary pipe whereby a pipe cutter, saw or other cutting device cannot be used to remove the parking meter or other facility the post is supporting. The invention contemplates mounting the parking meter or other facility on the post in such a manner that the same will be free to turn about the longitudinal axis of the post and to thereby prevent forceable entry by prying or other unauthorized methods.

A further object of this invention is to provide a post of the type to which reference has been generally made above, the post being non-complex in construction, easy to install, a post which is inexpensive to manufacture and maintain, and which is especially rugged and durable in use. Other and further objects and advantages of the instant invention will become more manifest from a consideration of the following specification when read in light of the annexed drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of a compound post constructed in accordance with this invention for the support of a fine box, parking meter or related facility, FIG. 1 being partly broken away to illustrate its component structure at the upper end of the post;

FIG. 2 is an enlarged showing of the upper post structure of FIG. 1;

FIG. 3 is a fragmentary side elevational view of the lower post structure constructed in accordance with the second embodiment of this invention, FIG. 3 being partially broken away and in cross-section to illustrate the assembly; and

FIG. 4 is a fragmentary detail cross-sectional view illustrating the lower post assembly in accordance with a third embodiment of this invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now more specifically to FIGS. 1 and 2 of the drawing, reference numeral 10 designates, in general, a compound vandal resistive post constructed in accordance with the teachings of this invention. The post 10 is seen to comprise a central normally upright substantially hollow cylindrical pipe 12 having a lower end postion 12A embedded in a concrete foundation 14. The pipe 12 at its upper end is externally threaded as at 16 to serve a function to be described below.

A second pipe 18 is telescoped over the central pipe, the second pipe 18 having a longitudinal axial length less than that of the central pipe 12. The lower end of the second pipe 18 comes to rest and is supported on the upper side or surface S

of the foundation 14, and the upper end of the pipe 18 terminates in inwardly spaced relationship relative to the central pipe 12.

Telescoped over the second pipe 18 is a third pipe 20, the last mentioned pipe having its lower end abutting the surface S and its upper end terminating in a plane spaced below the upper end of the central pipe 12 and above the plane of the upper end of the second pipe 18.

An annular washer 22 is threaded downwardly on the threads 16 until the plane of its upper side is disposed substantially in the plane of the upper end of the third pipe 20.

Reference numeral 24 designates, in general, a conventional fine collecting box which includes a first opposed pair of side walls 26, 28 and a second pair of opposed side walls 30, 32. The fine box includes a top wall 34 and a vertically spaced oppositely disposed bottom wall 36 which is provided with a centrally located opening 37. The fine box includes an elongated slot (not shown) formed to extend transversely through the side wall 32, the slot being normally closed by a substantially L-shaped digitally operated lever 38. Since the details of this construction are not germane to this invention, further details of this construction will be omitted.

The fine box 24 is fitted on the above described pipe assembly with the upper end of the central pipe 12 extending through the opening 37. Thereafter, a pipe cap 39 having an internally threaded collar 39A is threaded downwardly on the threads 16 formed on the upper end of the pipe 12 to engage against the upper side of the bottom wall 36. Contact with the bottom wall 36 is not sufficient so as to clamp it against the washer 22, but it is of such degree as to permit the fine box to freely rotate on the central pipe 12 while at the same time limiting the degree that the bottom wall may be moved vertically relative to the longitudinal axis of the central pipe 12. This movement should be held to a minimum, and it will be observed, of course, that the diameter of the collar 39A is larger than the opening 37 so that the fine box 24 cannot be lifted vertically and removed from the central post 12. The bottom wall 36 extends spacedly over the top of the second pipe 18 and extends over and is in engagement with the top of the third pipe 20.

Access to this cap is gained through an opening (not shown) extending transversely through any selected one of the side walls 26, 28, 30, 32 and provided with a suitable lockable closure member (not shown). Again, since these components of the fine box are not the subject matter of the present invention, detailed description of the same will be omitted for the purpose of brevity.

It is here important to note that while but one means, namely, the washer 22 and cap 39 is illustrated and described herein for connecting the fine box or other facility 24 on the pipe 12, other means may also be provided. As a matter of fact, while the cap 39 and washer 22 here appear as being primarily **support and stop means,** they also serve as **adaptor means** since there is no direct connection between the bottom wall 36 and the upper end of the central pipe 12. It is foreseeable that the bottom wall of the facility to be supported could be too small to accept the diameter of the central pipe 12, and this immediately indicates the use of some conventional adaptor means.

Again, and as an obvious change in construction without going beyond the scope of this invention, the cap 39 need not be closed, as illustrated herein, for just the sleeve 39A would suffice, and even this could be further modified to reduce the axial length thereof to, for example, the axial length of the washer 22 whereby the "support and stop means" would comprise of but a pair of washers. Other obvious connector means will occur to those skilled in this art for effecting the necessary connection between the central pipe 12 and the facility 24. By way of further example, it might be pointed out that the pipe 12 could be internally threaded or reamed to accept complementary connector means.

In FIG. 3 is illustrated a second embodiment of this invention, and this pertains only to a modified means for anchoring

the lower end of the central pipe **12**. In this modification, a substantially hollow sleeve **40** having a cylindrical side wall **42** is telescoped over the lower end portion **12A** of the central pipe **12** with the lower terminal end of the portion **12A** being spaced inwardly from the adjacent lower end of the side wall **42**. A pin **36** extends diametrically across and through the lower end portion **12A** and the side wall **42** to secure the central pipe **12** and the sleeve **40** against relative rotation with respect to one another.

The cylindrical side wall **42** together with the confronting portion of the lower end **12A** of the central pipe **12** are embedded in a concrete foundation **14**, the foundation having an upper surface S, the embedding being made in such a manner as to provide an upper cylindrical side wall portion **42A** which terminates above the surface S. Some concrete, indicated at **14A**, may pass upwardly into the lower ends of the central pipe **12** and sleeve **40**, and this will provide added strength to the construction.

As before, a second pipe **18** is telescoped for rotation on the central pipe **12**, and in this embodiment, the lower end of the pipe **18** abuts, in a coincident substantially horizontal plane, the terminal end of the upper end **42A** of the side wall **42**.

In accordance with the previous teaching, the third pipe **20** is telescoped over the second pipe **18**, the lower end of the pipe **20** abutting the surface S of the foundation **14**.

In the third embodiment illustrated in FIG. **4**, the compound post **10** includes a normally upright collar **50** provided with a cylindrical side wall **52** internally threaded as at **54**. The lower end of the side wall **52** is integrally connected with an outwardly flaring, normally horizontal annular flange **56** for superimposition on the surface S of a foundation **14** in which is embedded a plurality of spaced internally threaded bolt anchor sleeves **58** opening in the plane of the surface S.

The flange **56** is fixedly connected on the surface S as by a plurality of circumferentially spaced anchor bolts **60** which pass through circumferentially spaced openings **62** formed in the flange **56** and which correspond in number and spacing to the number and spacing of said anchor sleeves.

The central pipe **12**, at its lower end **12A**, in this third embodiment, is externally threaded at **12B** to effect threaded engagement with the internal threads **54**.

The second pipe **18** is telescoped over the central pipe **12** with the lower terminal end of the pipe **18** disposed in a plane, to the upper end of the side wall **52**. Thereafter, the third pipe **20** is telescoped over the second pipe **18**, all in the manner described above.

It will be recognized that all three of these embodiments of this invention employ a first common characteristic, namely, the fact that in all embodiments, the central upright pipe **12** is fixedly secured against rotation around its upright longitudinal axis, while the surrounding pipes **18, 20** telescope thereover and over one another and are freely rotatable around the central pipe **12** and freely rotatable relative to one another around their respective common axes. The capability of the outer pipes **18, 20** to rotate about a common axis, which is also the common axis of the central pipe **12**, effectively prevents the use of a pipe cutter, saw or other related tool from being used to sever the telescoped pipes in order to obtain possession of the fine box **24** or other facility mounted on the upper end of the post **10**. Furthermore, with this pipe assembly and the described connection of the facility **24** on the upper end of the post **10** that permits it to turn freely about the longitudinal axis of the post it cannot be lifted vertically to separate therefrom. Forceable entry by prying or any other unauthorized methods is prevented especially in view of the engagement of the bottom wall **36** with the top of the outermost pipe **20**.

While the lengths of the several pipes referred to above may vary depending upon the conditions of use of the post and its facility, practical experience has shown that the pipe **12** should be 2 inch, the pipe **18** 2 and ½ inches, and the pipe **20** 3 inches in diameter. These dimensions are offered only by way of example and are not intended to be construed as limitations relating to this invention.

Having described and illustrated a plurality of embodiments of this invention, it will be understood that the same are offered merely by way of example, and that this invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. A post-facility combination for supporting a facility on a post, said post being adapted to be mounted to foundation means, comprising:

an elongated normally upright central pipe having opposed upper and lower ends;

means enabling said lower end of said central pipe to be connected on said foundation means in such a manner as to prevent its disconnection upwardly from said foundation means in the direction of its longitudinal axis and to prevent its rotation around its longitudinal axis;

a second pipe telescopically mounted over said central pipe and a third pipe telescopically mounted over said second pipe, said central pipe, second and third pipes having, respectively, adjacent upper and lower ends, and said second and third pipes being freely rotatable relative to said central pipe around its said longitudinal axis and being freely rotatable relative to one another around said longitudinal axis;

a wall forming a part of said facility;

means connecting said wall on said central pipe for rotation relative to its said longitudinal axis while preventing its shifting in either direction of said longitudinal axis; and

said wall extending across said upper end of said second pipe and engaging the upper end of said third pipe.

2. The combination as defined in claim **1** further comprising:

concrete foundation means, having a foundation surface, in which the lower end of the central pipe is embedded.

3. The combination as defined in claim **2** wherein:

said third pipe extends between said foundation surface and said wall to completely surround said second pipe.

4. The combination as defined in claim **3** wherein:

said upper end of said second pipe terminates below said upper end of said central pipe, and said upper end of said third pipe terminates intermediate said upper ends of said central and second pipes;

said wall is formed with a transversely extending opening to loosely receive said upper end of said central pipe therethrough; and

said means for connecting said wall on said upper end of said central pipe comprises a first element secured on said upper end of said central pipe and engaging side of said one wall, and a second element mounted on said upper end of said central pipe and engaging the opposed side of said wall.

5. The combination as defined in claim **1** further comprising concrete foundation means having a foundation surface, and wherein said means enabling said lower end of said central pipe to be connected on said foundation means comprises:

a sleeve telescoped over said lower end of said central pipe, said sleeve having upper and lower ends with said lower end of said sleeve being adjacent said lower end of said central pipe;

means fixedly connecting said lower end of said central pipe in inwardly spaced relation relative to said lower end of said sleeve and securing said central pipe and said sleeve against rotation relative to one another and against movement relative to one another in the direction of said longitudinal axis of said central pipe;

said lower end of said sleeve and central pipe being embedded in said concrete foundation means with said upper end of said sleeve projecting above said foundation surface;

said lower end of said second pipe abutting the upper end of said sleeve; and

said third pipe being also telescoped over said upper end of said sleeve to rest on said foundation surface.

6. The combination as defined in claim **5** wherein:

said connecting means between said sleeve and said central pipe comprises a pin.

7. The combination as defined in claim 1 further comprising: foundation means;

means for securing said lower end of said central pipe on said foundation means, said last named securing means comprising an upright collar;

means for connecting said collar on said foundation means;

means on said collar cooperating with means on said lower end of said central pipe to prevent the movement of said central pipe in the direction of its longitudinal axis and the rotation thereof therearound;

said lower end of said second pipe abutting the upper end of said collar; and

said lower end of said third pipe abutting at least a portion of said connecting means.

8. The combination as defined in claim 7 wherein:

said last mentioned cooperating means includes a threaded connection between said lower end of said central pipe and said collar.

9. The combination as defined in claim 7 wherein:

said means connecting said collar on said foundation means includes an annular flange integrally connected with the lower end of said collar; and

means connecting said flange on said foundation means.

10. The combination as defined in claim 9 wherein:

said means connecting said collar on said foundation means further includes a plurality of bolt anchor sleeves embedded in said foundation means; and

a plurality of anchor bolts extending through said flange for threaded connection with said sleeves, respectively.

* * * * *