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M. H. HOPSON ETAL
FOLDING AND RETRACTABLE SIGN

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2 Sheets-Sheet 1

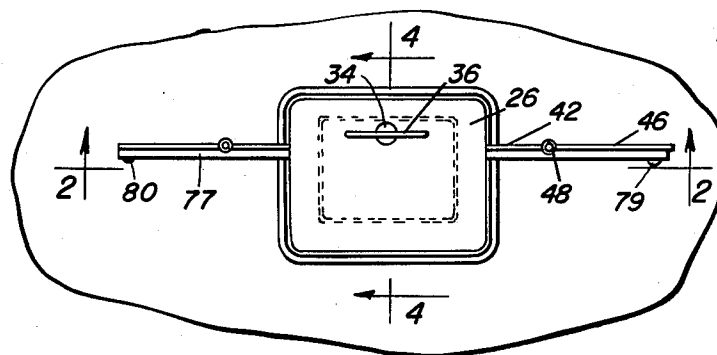


Fig. 1

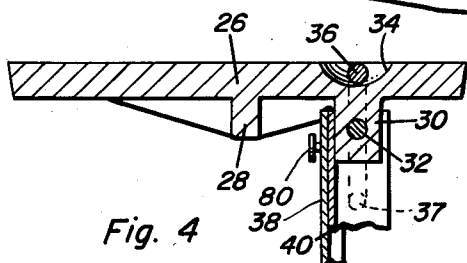


Fig. 4

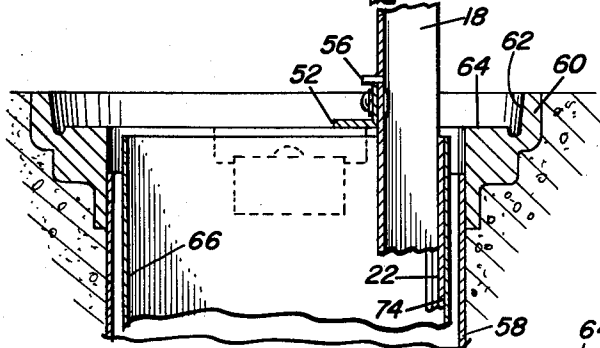


Fig. 6

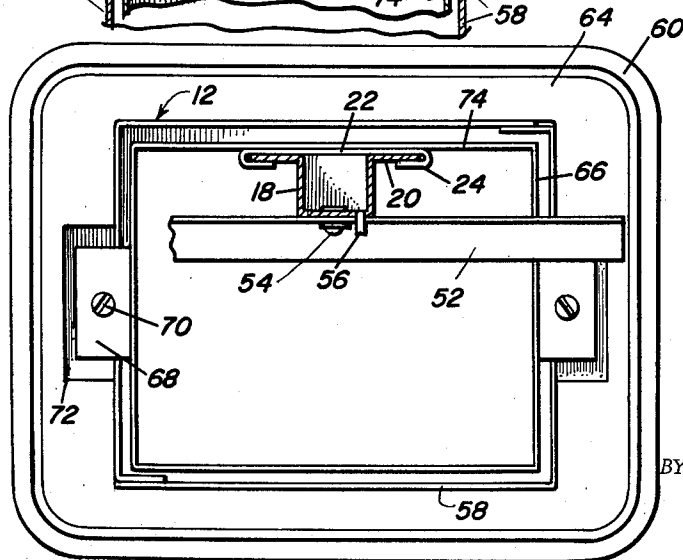
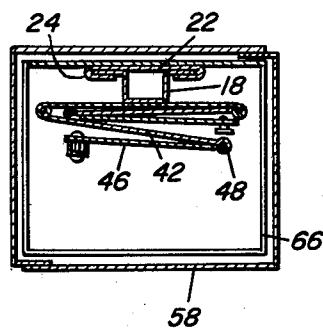


Fig. 5

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2 Sheets-Sheet 2

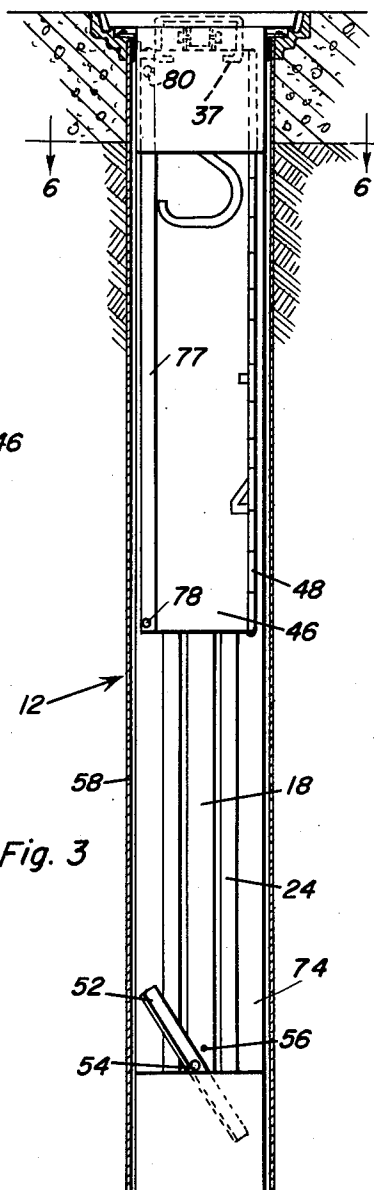


Fig. 2

Fig. 3

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1

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FOLDING AND RETRACTABLE SIGN

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4 Claims. (Cl. 94-1.5)

The present invention generally relates to a sign construction and more particularly to a retractable and folding sign such as the type used as warning signs on the side of a highway, in the middle of the street or intersection or the like in which the sign may be folded and then retracted completely within the ground surface so as to be completely concealed or moved to an extended position for use as an effective sign.

In present day practice, movable signs are usually placed in the center of a street to warn approaching drivers of a school zone or of other conditions or possible dangers. Such signs are of a portable nature in that they are placed in the street for only a certain period of time or periods of time each day such as when school is beginning in the morning, during recess time and after adjournment of classes. It is usually necessary for a person or persons who place the signs in position and then remove the signs after the time of use thereof has passed. Therefore, it is the primary object of the present invention to provide a retractable sign which will be normally disposed in a concealed relation completely retracted within the ground or street surface with the device being capable of movement to an extended position in which the sign is extended vertically above the ground or street surface and then unfolded and anchored in the upwardly extended position thereby forming an effective sign having the desired qualities of signifying to approaching drivers of the conditions existing.

Another object of the present invention is to provide a sign which is foldable and retractable having novel structural arrangements for maintaining the sign in extended position in a positive manner but yet permitting easy retraction thereof.

Yet another object of the present invention is to provide a sign construction in which the upper end of the vertically movable post is provided with a closure member for the upper end of the casing slidably receiving the sign.

A further important object of the present invention is to provide a sign construction which is simple, easy to use, foldable, retractable, safe in operation, long lasting and generally inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a plan view of the sign construction of the present invention;

FIGURE 2 is a side elevation of the sign construction taken substantially upon a plane passing along reference line 2-2 of FIGURE 1;

FIGURE 3 is a vertical sectional view similar to FIGURE 2 but showing the sign in retracted condition;

FIGURE 4 is a transverse vertical sectional view taken substantially upon a plane passing along section line 4-4 of FIGURE 1;

FIGURE 5 is a transverse, plan sectional view taken substantially upon a plane passing along section line 5-5 of FIGURE 2 illustrating the manner of supporting the vertically movable post in extended position; and

FIGURE 6 is a transverse, plan sectional view taken

2

substantially upon a plane passing along section line 6-6 of FIGURE 3 illustrating the construction of the folding sign when in folded condition.

Referring now specifically to the drawings, the numeral 10 generally designates the sign construction of the present invention which is mounted within a casing generally designated by the numeral 12 disposed vertically in the street surface 14 and the underlying ground area 16 in which the sign construction 10 is completely received within the casing or housing 12 so that the upper surface of the street 14 will be smooth enabling traffic to move over the street surface without any adverse effect upon the traffic or without any adverse effect upon the sign.

The sign construction 10 includes a vertically elongated post 18 of generally channel shaped configuration and provided with outwardly extending flanges 20 which are slidably received within a channel shaped guide 22 having inturned flanges 24 slidably receiving the out-turned flanges 20 of the channel shaped post 18 thereby vertically slidably mounting the channel shaped post 18.

The upper end of the channel shaped post 18 is provided with an enlarged closure plate 26 of relatively thick construction which has reinforcing ribs 28 thereon. The plate 26 is provided with a depending projection 30 slidably received within the upper end of the post 18 and anchored thereto by a pin 32 which extends through the post 18 and the depending projection 30 on the closure plate 36. The upper surface of the closure plate 26 is provided with a suitable depression having a niche 34 which receives the bight portion 36 of a U-shaped handle which has the terminal ends thereof turned inwardly as indicated by the numeral 37. Thus, the inturned end portions 37 limit upward movement of the U-shaped handle 36 so that when the handle is elevated, the closure plate 26 and the post 18 will be elevated but when no force is exerted on the handle 36, it will be normally recessed so that it will be flush or slightly below the upper surface of the closure plate 26.

Fixed to the front surface or bight portion of the post 18 is an elongated central panel 38 which may be secured thereto in any suitable manner such as by welding or the like as indicated by the numeral 40.

Intermediate side or inner panels 42 are attached to each side of the central panel 38 by vertical hinge means such as a piano hinge 44. Outer or outermost side panels 46 are hingedly attached to the intermediate side panels 42 by a piano type hinge 48. The surface of the panels 38, 42 and 46 is colored a distinctive color and is provided with indicia 50 indicating the conditions existing and in this instance, the indicia spells "School Zone" requiring that the drivers use due caution while proceeding through the school zone.

The lower end of the post 18 is provided with an elongated support bar 52 pivotally attached midway between its ends to the post 18 by a hinge pin 54, a stop pin 56 being provided for limiting the pivotal movement of the support bar 52 in one direction. The support bar 52 is longer than the transverse distance across the post 18 and when the sign construction 10 is elevated above the upper end of the casing 12, the support bar 52 may be pivoted to a horizontal or substantially horizontal position thereby providing adequate support for the sign construction when it is in extended position.

The casing or housing 12 includes an elongated hollow member 58 having an annular casting or adapter 60 at the upper end thereof which is a recess 62 for receiving the closure plate 26 with the recess 62 having an annular upstanding projection 64 upon which the pivotal transverse support bar 52 rests when extending transversely and supporting the sign construction 10 as shown in FIGURE 2. When the sign is retracted, the closure plate 26

is received within the recess 62 and rests on the projections 64 as illustrated in FIGURE 3.

Disposed within the tubular housing or hollow member 58 is a guide supporting member 66 which is anchored by laterally extending flanges 68 secured by fastener members 70 with the flanges 68 being received in recesses 72 with the member 66 having a continuous rear plate 74 on which the channel shaped guide 22 is mounted throughout its length. Otherwise, the sides of the member 66 are interrupted by an elongated open area 76 which forms a guide and housing for the sign panels when folded and retracted and also guides the movement of the post 18 in relation to the tubular member 58.

In operation, the present invention will normally be retracted with the sign construction 10 disposed completely within the tubular housing 58 with the upper end of the plate 26 forming a closure for the annular ring member 60 and the entire casing or housing 12. When it is desired to lift and extend the sign, it is only necessary to grasp the handle 36 and raise upwardly thus raising the closure plate 26 as well as the sign construction 10 which is rigidly attached to the closure plate 26. When the closure plate 26 has been elevated to substantially its maximum position, the bar 52 will be above the upper end of the casing thus enabling the bar to be pivoted to a transverse position in relation to the casing thereby permitting the bar 52 to be rested against the aforementioned surface 64 (FIG. 2) thus retaining the sign in extended position. The panels 38, 42 and 46 are then unfolded into a condition in coplanar relation to each other thereby providing the warning indicia on substantially a smooth and uninterrupted surface.

The indicia appearing on the sign may vary and the shape of the sign may vary to be in accordance with various standards set up by the regulatory agencies setting up standards for signs.

In actual practice it may be desirable, though optional, to stabilize or otherwise stiffen the component parts of the sign when it is in the up position illustrated in FIG. 2. To this end a stabilizing bar or brace 77 of suitable elongated form and construction will be provided, the same when the horizontal position being suitably fastened at its opposite ends as at 78 and 79 to the sign panels. When not in use the bar may be swung up to an out-of-the-way position as shown in the collapsed arrangement in FIG. 3 wherein it may be held in this position by another suitably constructed and arranged fastener 8.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A projectible and retractible sign construction comprising a vertically elongated hollow casing adapted to be embedded in the ground, said casing provided at an upper end with an endless recessed integral outstanding adapter, said adapter also designed and adapted to be embedded in the ground with its uppermost portions substantially flush with the surface of the ground, a vertically elongated post-mounting guide fixedly supported within the confines of said casing and depending into the casing, channel-shaped in cross-section and having inturned guides and assembling flanges, a sign post channel-shaped in cross-section and having inturned guide and assembling flanges, a sign post channel-shaped in cross-section and having outwardly extending flanges slidably

received within the trackways provided by the inturned flanges, a collapsible sign embodying hingedly connected horizontally swingable panels, all of said panels being narrower than the cross-section of the casing so that the sign may be collapsed and confined when not in use in said casing, manually applicable and releasable means carried by the post and assuming a released out-of-the-way position within the confines of the casing when not in use and assuming a supporting position when in use and being cooperable with the adapter, and a closure plate fixed on the upper end of the post above the uppermost portion of the sign serving to close the upper end of the casing when seated in the recess of said adapter, said closure plate being provided with a lifting and lowering handle.

2. The structure according to claim 1 and wherein the means for retaining the post in elevated position comprises a supporting bar pivotally mounted intermediate its ends on a lower end portion of said post, said bar assuming a non-functioning out-of-the-way position within the confines of the casing when the post and sign are in the aforementioned lowermost position, and adapted to assume a substantially horizontal post and sign supporting position and spanning the upper end of the casing with its ends resting atop diametrically opposite portions of the adapter when the sign is elevated.

3. A sign construction comprising a vertically elongated hollow casing disposed in the ground with an upper end thereof approximately flush with the surface of said ground, an elongated sign post, means slidably mounting the post within said vertically elongated casing, a folding sign mounted on the upper end of said post for unfolding into planar condition when the post is readied for use in an elevated position, means interconnecting said post and casing for releasably retaining the post in said elevated position, and a closure plate mounted on the upper end of the post for closing the upper end of the casing when the sign is folded and the post moved to a lowermost position, said sign including a plurality of panels with a central panel fixed rigidly to the post, inner panels pivotally attached to vertical edge portions of the fixed central panel, and outer panels hingedly connected to vertical edges of the inner panels, the panels being foldable into compact relationship when not being used, said panels being horizontally swingable and each panel being narrower in width than the cross-section of said casing allowing the folded sign to be stored in the casing when the sign is not in use.

4. The structure as defined in claim 3 wherein retaining means for positioning and retaining the post in elevated position comprises a bar pivotally mounted adjacent the lower end of the post, said bar being supported above the upper end portion of the casing when the post is elevated and the bar disposed across the casing, said means mounting the post in the casing including a vertically elongated channel-shaped trackway in the casing, said post including a channel-shaped member having out-turned flanges slidably received within the trackway for guiding movement of the post in relation to the casing.

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