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Katt

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[54] **HIGHWAY POST CONSTRUCTION**

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[52] **U.S. Cl.** **403/2;** 403/11; 403/292

[51] **Int. Cl.²** **F16B 7/00**

[58] **Field of Search** ..... 403/2, 11, 312, 292, 123, 403/286; 285/2, 3, 4; 52/98, 99, 100, 232, 296; 404/10; 248/160; 40/125 N, 145 R, 145 A

[56] **References Cited**

UNITED STATES PATENTS

2,945,659	7/1960	McDonald	52/98 X
3,820,906	6/1974	Katt	403/2
3,846,030	11/1974	Katt	403/2

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[57] **ABSTRACT**

An upper post section is secured to a base post section near the ground by a hollow centrally frangible coupling having an inside tie member with a lost motion connection across the line of breakage to retain at least a portion of the upper post against release upon impact.

6 Claims, 3 Drawing Figures

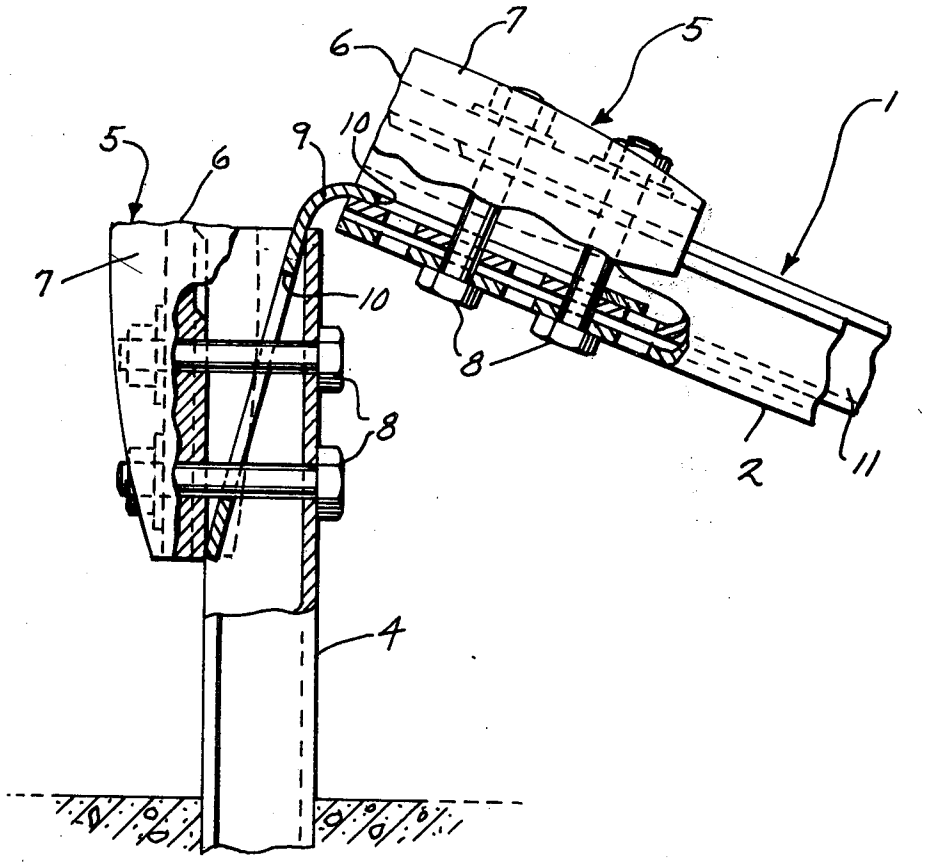
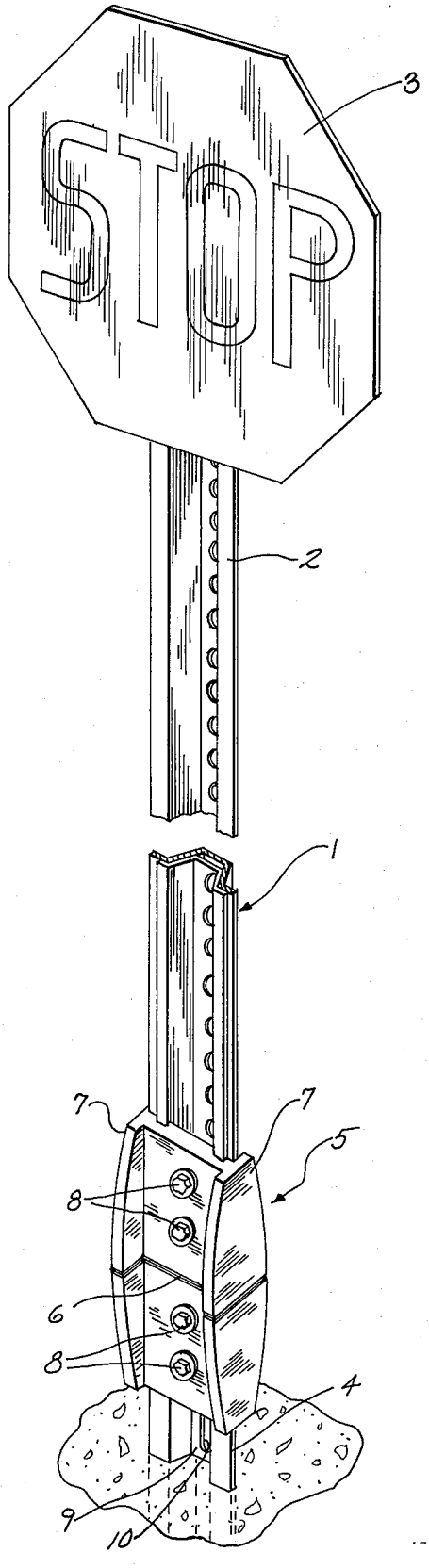


Fig. 1



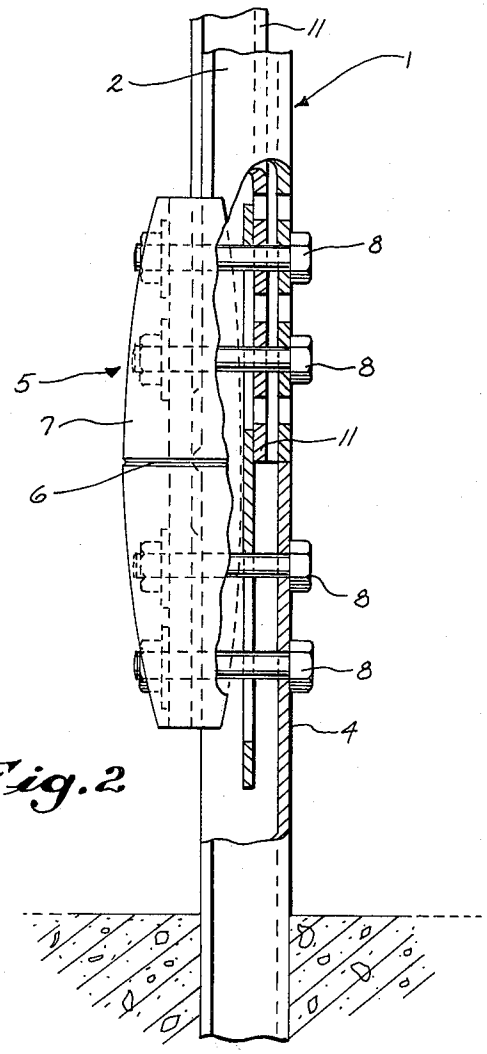


Fig. 2

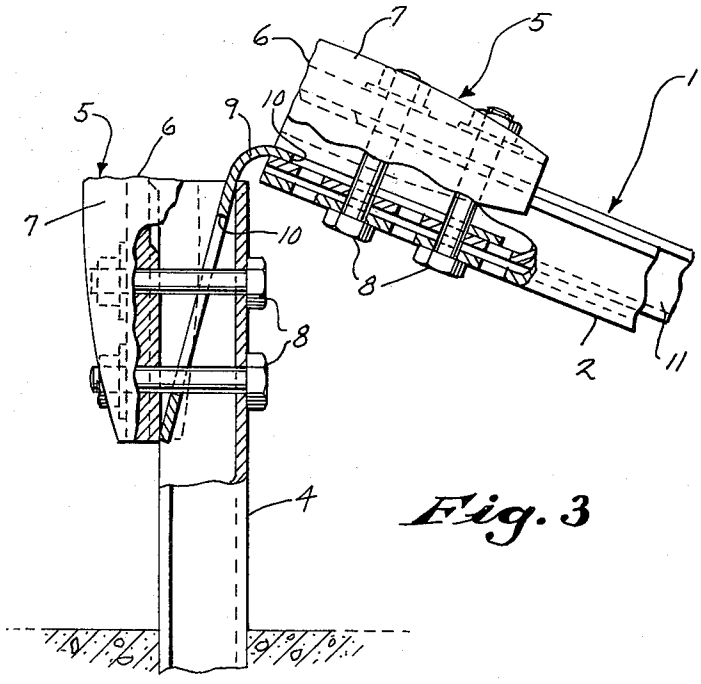


Fig. 3

HIGHWAY POST CONSTRUCTION

BACKGROUND OF THE INVENTION

This invention relates to a highway post construction employing a frangible coupling between an upper post member and a base support.

In the construction of such posts heretofore it has been difficult to prevent flying of the upper post member upon impact by a high speed vehicle, and consequent danger of damage to the vehicle or to other nearby vehicles and persons from the flying post section.

Various such couplings are illustrated in applicant's earlier U.S. Pat. Nos. 3,820,906 and 3,846,030, the former showing a construction in which the upper post section is tied down against flying upon impact.

SUMMARY OF THE INVENTION

In carrying out the present invention bolts passing through the upper and lower sections of the post pass through a tie member disposed inside the post and which has a slot receiving at least one of the bolts to provide a lost motion tie upon separation of the post sections as by an impact.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawing illustrates a preferred embodiment of the invention constituting the best mode presently contemplated for carrying out the invention.

In the drawing:

FIG. 1 is a perspective view of a highway sign post mounted by a frangible coupling having the tie down of the present invention;

FIG. 2 is an enlarged detail view of the coupling as assembled upon the post sections and with parts broken away and sectioned; and

FIG. 3 is a view similar to FIG. 2 showing the position of the parts after an impact.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the embodiment illustrated in the drawing the post 1 is of a hollow open flanged channel construction similar to that employed by many highway construction departments.

The post 1 is constructed of two sections, the upper section 2 which carries a sign 3, and the lower support section 4 which generally extends into the ground or a concrete base.

The two sections 2 and 4 are joined in alignment by a frangible coupling 5 which is secured to the lower end of upper section 2 and to the upper end of lower section 4 and provides a frangible weakened central transverse zone 6 which breaks upon impact against the upper section by a speeding vehicle or the like.

The coupling 5 may take different form for posts of different structure. For the channel post illustrated the coupling 5 may be a cast iron plate fit over the open side of the channel post sections and having side flanges 7 to partially embrace the side edges of the post sections.

The coupling 5 is secured to each post section 2 and 4 as by a pair of bolts 8 which pass through the cover plate body portion of the coupling and through the back of the corresponding post section.

When the upper post section 4 receives an impact, as from a high speed vehicle, the coupling 5 breaks at the transverse zone 6 between the adjacent ends of sections 2 and 4, and thereby releases and frees the upper section to avoid damage to it.

In order to prevent the upper section from flying over or into the vehicle or nearby objects and causing damage to them, a tie strip 9 is disposed generally longitudinally of the hollow post and is carried by one or both of the bolts 8 for each post section.

Tie strip 9 has a slot 10, preferably at each end, for receiving the bolt or bolts of the corresponding post section, to provide a lost motion action whereby the upper section 4 may move freely at the moment of impact and sufficiently to be released from its supporting lower section 2, but thereafter when the bolts 8 reach the limit of slots 10 the section 4 will be tied and quided to drop toward the ground as illustrated in FIG. 3 where it will not be damaged and will not damage the vehicle or other objects.

Any tendency of the upper post section 4 to bend at the point of impact can be prevented by either applying to the outside or nesting in the channel thereof a channel piece or reinforcing section 11 secured in place by the upper bolts 8 and extending upwardly along section 4 to a height generally in excess of the zone of impact from vehicle bumpers and the like.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A post construction of the type having a frangible coupling supporting an upper section of post upon a lower base section of post, and comprising at least one bolt extending through each post section and securing the same to the coupling, and a tie strip carried by said bolts with a lost motion slot at one end thereof for receiving one of the bolts and providing a limited freedom of movement for the upper post section following an impact which breaks the frangible coupling.

2. The construction of claim 1 in which a lost motion slot is provided at each end of said tie strip with the inner ends of said slots spaced generally corresponding to the spacing of the bolts therethrough for the upper and lower post sections.

3. The construction of claim 1 in which said post sections are of the open flanged channel type and said coupling straddling the open side of said channel sections, and said tie strip is disposed in the hollow channel region between the coupling and the back of the channel sections.

4. The construction of claim 2 in which said post sections are of the open flanged channel type and said coupling straddling the open side of said channel sections, and said tie strip is disposed in the hollow channel region between the coupling and the back of the channel sections.

5. The construction of claim 3 and a reinforcing channel member nesting with said upper post section with its lower end secured in place by said coupling and its upper end extending to above the general region of impact on the post.

6. The construction of claim 3 and a reinforcing channel member nesting with said upper post section with its lower end secured in place by said coupling and its upper end extending to above the general region of impact on the post.

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