

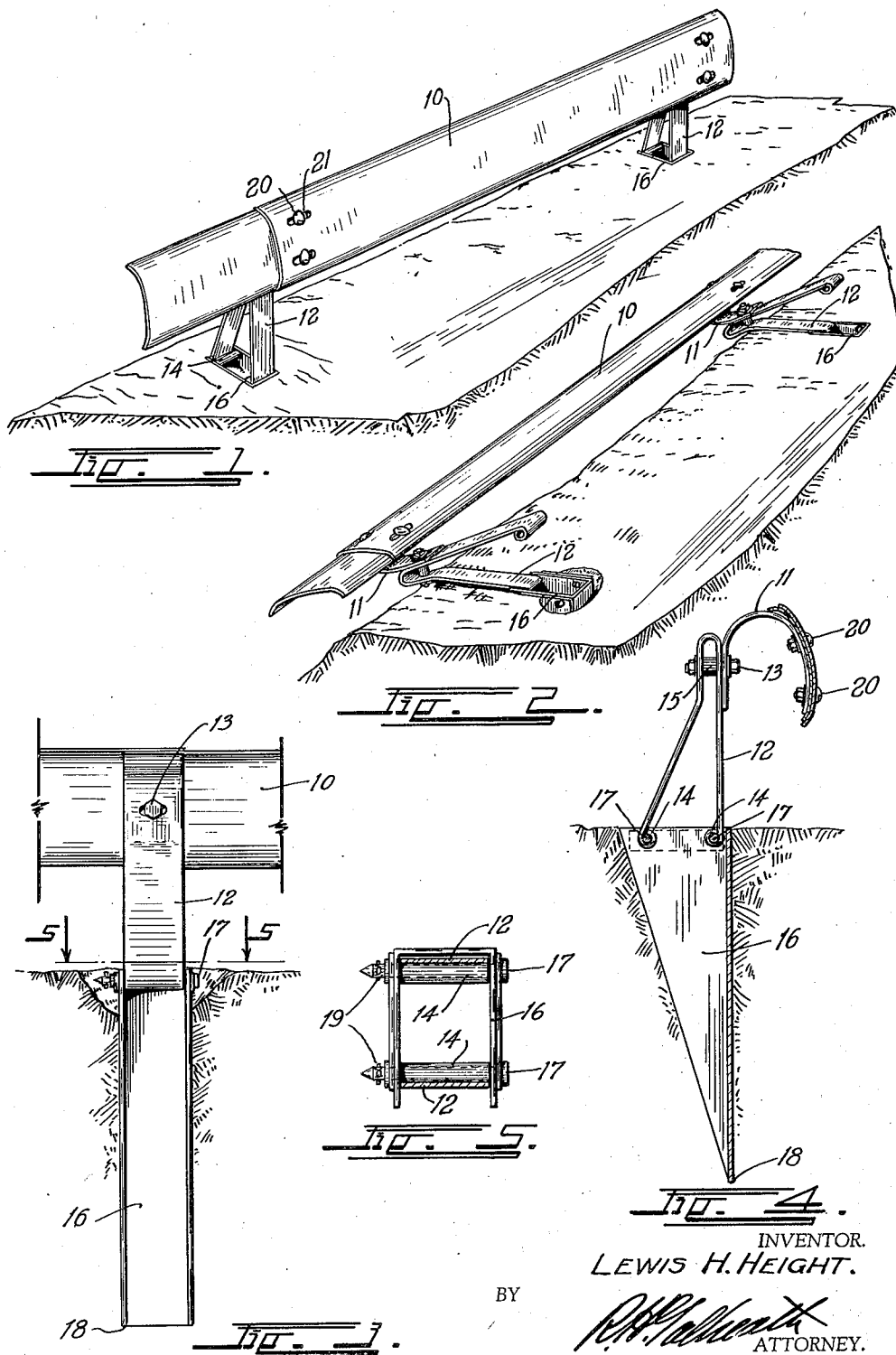
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HIGHWAY GUARDRAIL

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HIGHWAY GUARDRAIL

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This invention relates to a highway guard rail of the hub-height type.

One of the principal objections to a highway guard rail of this type, particularly in the mountain regions of the West, is that they act as snow fences, that is, they tend to interrupt the ground flow of the wind and cause the snow to pile directly in front of them upon the highway. They also form obstructions to the operation of snow plows for removing this snow.

The principal object of the present invention is to provide a guard rail of this type which, in the winter, can be folded down so as not to form a wind break to pile up the snow.

Other objects of the invention are: to provide a resilient, metallic post for a guard rail which will assist in absorbing the shocks to which the rail is subjected; to provide an anchor for the rail which can be driven directly into the earth without the necessity for digging post holes; to provide a rail in which the complete rail, including the supporting posts or brackets, may be quickly and easily removed from the road for grading or snow clearing purposes.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a perspective view illustrating a section of the improved guard rail in the elevated position.

Fig. 2 is a similar view illustrating a section of guard rail in the folded position.

Fig. 3 is a rear face view of the post member and supporting bracket for the rail.

Fig. 4 is a side elevation of the supporting bracket with the post member shown in section.

Fig. 5 is a detail cross section through the supporting bracket, looking downwardly on the line 5—5, Fig. 3.

The improved rail comprises: a series of rail plates 19 formed with a curved or convex section so as to present a convex face toward the highway. The rail plates are supported upon inverted V-shaped, resilient arms 11 supported from inverted, V-shaped bracket members 12.

The arms 11 are formed of a relatively wide plate of spring steel of similar material slotted on

their inner legs so that they may be passed downwardly beneath the heads of attachment bolts 13. The brackets 12 are formed of similar, relatively wide plates of spring steel or other resilient metal shaped so as to have a vertical front leg and an inclined rear leg. Both legs terminate in tubular sleeves 14. At the upper portion of the bracket the two legs extend downwardly parallel to each other and are held in spaced relation by means of a spacing sleeve 15 about the bolt 13.

The brackets 12 are detachably secured to what will be herein designated, post members 16, by means of removable pins 17. The post members 16 are preferably channel-shaped members, the sides of which are cut on an incline to form a sharp entering point 18 or edge on the front face thereof. The pins 17 extend through the two sides of the channel shaped post member and through the sleeves 14 of the brackets 12. They may be held in place therein, in any desired manner such as by means of cotter keys 19. The various sections of rail plate 10 are joined together by means of clamping bolts 20, which also serve to attach the rails to the spring arms 11.

The bolts 20 pass through elongated bolt holes 21 in the plates to allow for longitudinal expansion or contraction of the rail.

The device is installed by driving the post members into the fill at the edge of the road at the proper spaced-apart intervals. The bracket members 12 are then attached to the post members by means of the pins 17 to support the rail as shown in Fig. 1.

During the snow season the front pins 17 of each post can be removed and the rail laid back from the road with the rear pins 17 serving as hinge pins, as shown in Fig. 2. When in the latter position, the rail will not interfere with the wind and cause the snow to pile upon the highway. It also spaces the rail well back from the road so it will not be damaged by snow plows.

In particularly snowy locations, such as on the high mountain passes, etc. both pins 14 may be removed so that the rail may be placed along the road bank so as to be completely out of the way of snow clearing equipment. The post members 16 are preferably driven flush with the top of the highway so that they will not interfere with scraper snow plows and other highway equipment.

While the invention has been illustrated applied to a highway guard rail of the plate type, it is to be understood that the same is not limited to this particular type of rail as it would apply equally well to a wire cable type, tension plate type, or any other form of rail.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:—

10 1. Means for supporting a highway guard rail comprising: a post member extending into the ground and terminating at the surface thereof; a bracket member consisting of an inverted V-shaped resilient member; sleeves formed in the lower extremities of the legs of said bracket member; pins passing through said post member and through said sleeves for securing said bracket member to said post member; and means for securing a highway guard rail to said bracket member.

20 2. Means for supporting a highway guard rail comprising: a post member extending into the ground and terminating at the surface thereof; a bracket member consisting of an inverted V-shaped resilient member, sleeves formed in the lower extremities of the legs of said bracket member; pins passing through said post member and through said sleeves for securing said bracket member to said post member; and means for securing a highway guard rail to said bracket member; the front leg of said bracket member being substantially vertical and the rear leg thereon being inclined to form a brace therefor.

35 3. Means for supporting a highway guard rail comprising: a post member extending into the ground and terminating at the surface thereof; a bracket member consisting of an inverted V-shaped resilient member; sleeves formed in the lower extremities of the legs of said bracket member; pins passing through said post member and through said sleeves for securing said bracket member to said post member; and means for securing a highway guard rail to said bracket member; said post member comprising a channel-shaped, metallic member, said bracket mem-

ber being positioned between the two sides of said channel member, said pins passing through said two sides and said sleeves.

4. A highway guard rail support comprising: a post member, U-shaped in horizontal cross-section to provide two parallel side portions; a pair of shafts extending between said side portions adjacent the upper extremity thereof; a bracket member extending upwardly from said shafts; and a guard rail supported by said bracket member, said shafts being arranged so that if one of them is removed the other will serve as a hinge for said bracket member.

5. A highway guard rail support comprising: a post member, U-shaped in horizontal cross-section to provide two parallel side portions; a pair of shafts extending between said side portions adjacent the upper extremity thereof; a bracket member extending from about one of said shafts upwardly thence returning downwardly and extending about the other of said shafts; and means for supporting a guard rail on said bracket member.

6. Means for supporting a highway guard rail comprising: a post member extending into the ground; a bracket member provided with pin openings at its lower extremity; pins passing through said pin openings and engaging said post member for securing said bracket member to said post member; and means for supporting a highway guard rail on said bracket member.

7. Means for supporting a highway guard rail comprising: an anchoring member for insertion in the ground; a bracket member secured to and extending upwardly from said anchoring member, said bracket member consisting of an inverted U-shaped resilient member; a guard rail support; a bolt securing said guard rail support to said U-shaped member, said bolt passing through both the upwardly and downwardly extending portions of said bracket member; and a spacing member about said bolt between said latter portions.

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