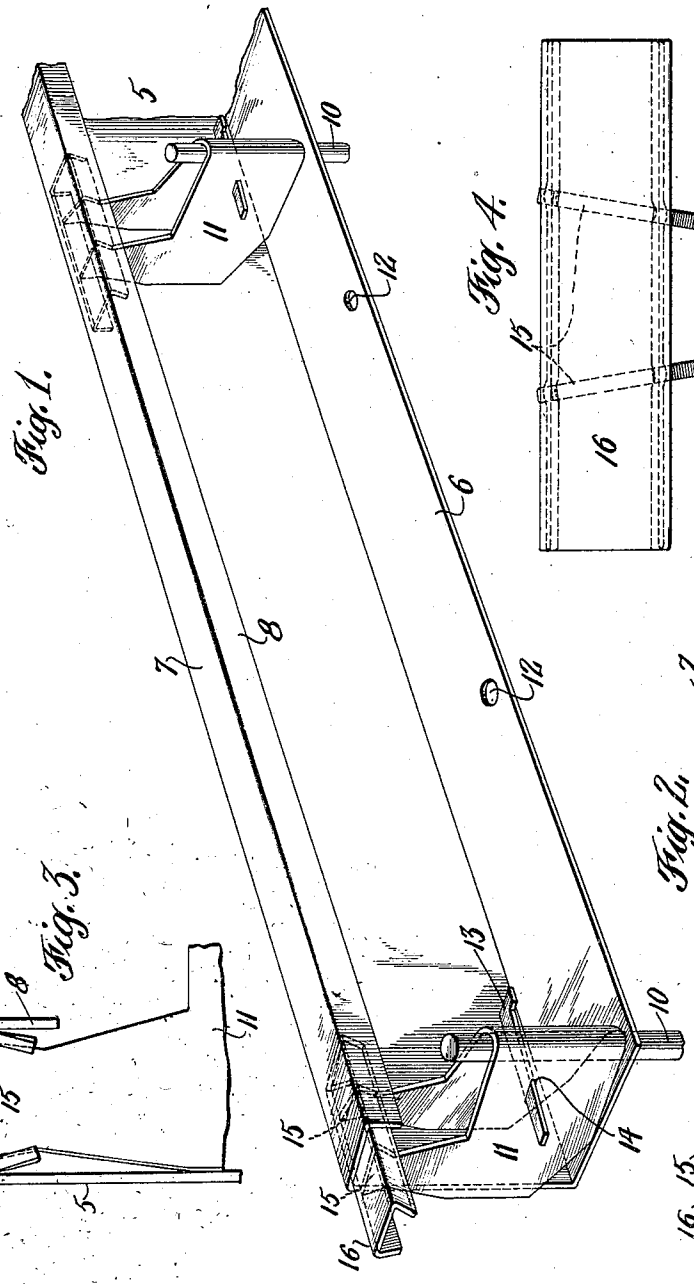
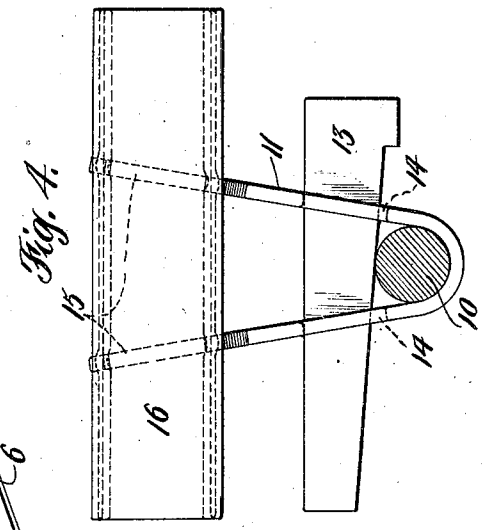
Dec. 6, 1927. 1,651,787

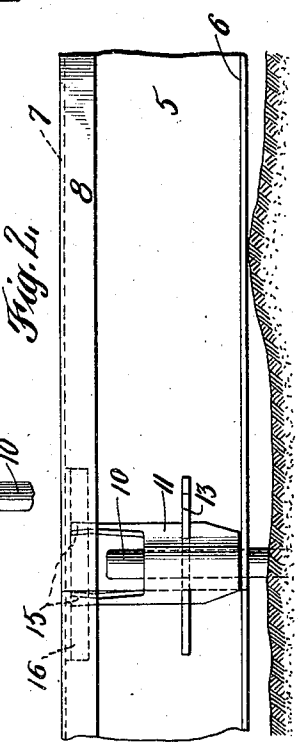
W. M. VENABLE

ROAD RAIL

Filed Sept. 25, 1923







WITNESSES

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Patented Dec. 6, 1927. 1,651,787

UNITED STATES PATENT OFFICE.

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ROAD RAIL.

Application filed September 25, 1923. Serial No. 664,721.

My invention relates to road rails or forms for use in the construction of concrete roads, walks, and the like. My aim is to provide a road rail that shall be easy and convenient to use; strong and rugged in service, and not readily damaged; and very simple and inexpensive to manufacture.

My preferred form of rail here specially illustrated and described resembles somewhat that shown in the Loxterman Patent No. 1,379,457, granted May 24, 1921, and assigned to the assignee of this application. However, the rail here shown is simpler, stronger, and more rugged in construction, and involves fewer parts; it can be more readily and perfectly adjusted to varying conditions of use; it is easier and less expensive to manufacture; and its accessory parts that are liable to damage in service can be more easily removed and replaced.

How these and other advantages can be realized in a novel manner through my invention will appear from my description hereinafter of the best construction embodying it that is known to me.

In the drawings. Fig. 1 is a perspective view of a portion of a road rail conveniently embodying my invention.

Fig. 2 is a fragmentary side view of the rail as installed.

Fig. 3 is a fragmentary end view of the rail and an associated part or device.

Fig. 4 is a plan view of one of the parts shown in Figs. 1–3, separate from the rail.

In the construction of concrete roads and the like, rails or forms of the general type here involved are employed to sustain the concrete at the edges of the roadway while it is being poured or spread and until it hardens. These rails are lined up to a chalk line or cord stretched at line and grade corresponding to the edge or corner of the concrete roadway. They are usually supported either directly on the grade, or on earth or fragments of stone placed or rammed under them at suitable intervals, and are held in place by stakes driven in the ground. It is sometimes advantageous, however, to be able to support the rails at the proper height by means of the stakes themselves, independently of the immediately subadjacent soil,—especially in cases where the soil is soft, or may be softened by water running under the rail during the placing of the concrete. Like the Loxterman rail, mine here shown and described can be supported in this manner very easily and effectively.

The rail 5 here shown has the form of a channel with rather wide lower flange 6, and with upper flange 7 turned down near its edge as indicated at 8 (and as also shown in the Loxterman patent). However, while the channel form of rail has the advantage of simplicity, strength, and of a perfectly plain inner face to take the concrete, other suitable forms may be employed if preferred for any reason. At suitable intervals, the rail length 5 is reinforced and stiffened against deformation from its channel shape, and is secured to stakes 10 driven in the earth; and at its ends, the rail 5 is appropriately aligned with adjacent similar rails by splice or engagement means. In the present instance, a single type of device 11 is provided for all these functions.

The device 11 extends and engages between the channel flanges 6, 7, against the channel web, and behind the downturned portion 8 of the upper flange 7. This device 11 also presents an opening for the stake 10, which when in place extends on down through one of the holes 12 punched or drilled in the lower flange 6 at convenient intervals. The device 11 may be firmly secured to the post 10 in any convenient manner: as here shown, it is held fast on the post by a wedge key 13 driven through keyway apertures 14 in the stake-embracing portion of said device 11. As here shown, the device 11 consists essentially of a piece of sheet metal cut or stamped to proper shape, and bent nearly double on itself, strap fashion, to fit the stakes 10. The sides of this stake strap are extended inward to abut firmly against the channel web when the key 13 is driven tight, and are widened or extended upward at 15 to engage close under the upper flange 7 and behind the downturned portion 8. Preferably, these portions 15 are supplemented and protected with a "bearing shoe" 16, as it may be termed, adapted to afford more extended bearing and distribute the stresses over a wider area in the channeled rail head formed by the downturned upper flange 7. As shown, the strap portions 15 are of dovetailed outline, and the channel-like sheet metal shoe 16 has its sides bent in on these dovetailed portions, and even pressed in so far (see Figs. 3 and 4) as to furrow the

sides about the edges of these portions 15, so as to fasten the shoe 16 securely on them.

In practice, after the chalk line has been stretched at line and grade as mentioned above, a rail 5 is placed with its inner edge (i. e., that facing the concrete) along this line. A stake strap device 11 is inserted and properly placed in this rail 5, 11, and a stake 10 driven to hold the rail to the line. Then a second strap 11 is placed at the end of the rail (as shown in Fig. 1), and its stake 10 driven through the hole 12 at the corresponding corner of the lower flange 6. Being now held definitely in line, the rail 5 is raised on the stakes 10 to exactly the right grade, and secured by driving tight the keys 13. Preferably, a third strap 11 is now placed, staked, and keyed at or near the middle of the rail. The end strap device 11 now projects from the rail end as at the left of Fig. 1, to serve as a splice or "dowel" for aligning the end of the next rail 5: i. e., both the shoe 16 and one side of the strap itself is beyond the rail end, in position to engage the web and the channeled head of the next rail. Thus the rail lengths 5 are, in general, supported with two devices 11 per length, since the abutting ends of adjacent lengths are supported by a single device 11. Preferably, stake holes 12 are provided in the lower flange 6 at rather frequent intervals, to allow additional devices 11 to be used if desired, especially if rocky or very soft ground requires the devices 11 to be placed rather irregularly.

If the grade is low when the rails 5 are thus set, it can be conveniently filled in afterward, with the bottom of the rail as a guide or gage; or the grading can be otherwise finished accurately after the rails are properly set. Since the stakes 10 pass through the lower flange 6, the latter can be made just as wide as desired, to give ample support for the rail when earth is eventually tamped under it all along its length.

It will be observed that the strap device 11 is relatively quite strong, and is so securely fastened that it can hardly be pulled loose, even if the rail 5 itself be used as a lever in pulling out the stakes 10 after the concrete has set hard. If one of the straps 11 be damaged by the heavy mauls used in driving the stakes 10, it can be removed and another can be hooked under the downturned flange 8 in its place without disturbing the rail at all, by mere lateral tilting of the devices 11. Also, since the devices 11 need not be permanently attached to the rail 5 proper (unless desired), there is no necessity for riveting in the manufacture of the rail: the only work required is punching and bending.

I claim:—

1. A road rail comprising a channel having an apertured lower flange, a stake extending through an aperture, a metal member bent around the stake for supporting the rail, and a wedge for locking the bent metal member and stake together.

2. A road rail comprising a channel having an apertured lower flange, a stake extending through an aperture, a sheet metal rail strengthening member bent around the stake in a vertical plane, and means for securing said member to the stake.

3. A road rail comprising a channel, and an aligning stiffener engaged with the upper channel flange at the top and adapted to be secured to the lower flange by the stake.

4. A road rail comprising a channel with apertured lower flange, in combination with a removable stiffening device engaged with the upper flange at the top and having a keyway adjacent its stake receiving portion, and a key for the latter for cooperating with a stake in said strap and in said flange aperture to secure the parts together.

5. A road rail comprising a channel with apertured lower flange, a stake strap engaged between the channel flanges, and a stake in said strap extending through a lower flange aperture and securing the strap in position to project from the rail end and serve as splice for aligning an adjacent rail.

6. A road rail comprising a channel with downturned upper flange and apertured lower flange, a stiffener for the rail engaged behind the downturned portion and having an opening for a stake, and a stake in said opening extending through a lower flange aperture and securing said stiffener in position to project from the rail end and serve as splice for aligning an adjacent rail.

7. A road rail comprising a channel with downturned upper flange, and a stake strap of bent sheet metal with its sides extended as webs to abut against the channel web and take behind the downturned portion.

8. A road rail comprising a channel with downturned upper flange, a stake strap of bent sheet metal with its sides extended to take behind the down turned portion of the channel, and a bearing shoe for engaging the latter secured to its top.

9. A road rail comprising a channel with downturned upper flange, a stake strap of bent sheet metal with its sides extended to take behind the downturned portion of the channel, and dovetailed at the top, and a channeled bearing shoe for engaging the downturned flange having its sides bent in on the dovetailed portions.

10. The combination of a road rail, a stake, a stake engaging member detachably secured to the rail, and a common detachable wedging means for rigidly securing said member to the stake and to the rail.

11. A detachable stake engaging member for a road rail with downturned upper flange, comprising stake embracing webs ex-

tended to abut against the channel and take behind the downturned flange.

12. A detachable stake engaging member for a road rail flanged at top and bottom, comprising stake embracing webs extended to abut against the channel web and both of said flanges.

13. Road rail apparatus comprising a channel with an apertured flange, a stake entering the aperture, and a detachable channel supporting member engaging the stake and abutting against the channel and its flanges.

14. Road rail apparatus comprising a channel with an apertured flange, a stake entering the aperture, and a detachable rigid channel supporting member engaging the stake.

In testimony whereof, I have hereunto signed my name.

WILLIAM M. VENABLE.