J. N. HELTZEL.

CONCRETE FORM.

APPLICATION FILED MAY 17, 1919.

1,329,177. Patented Jan. 27, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

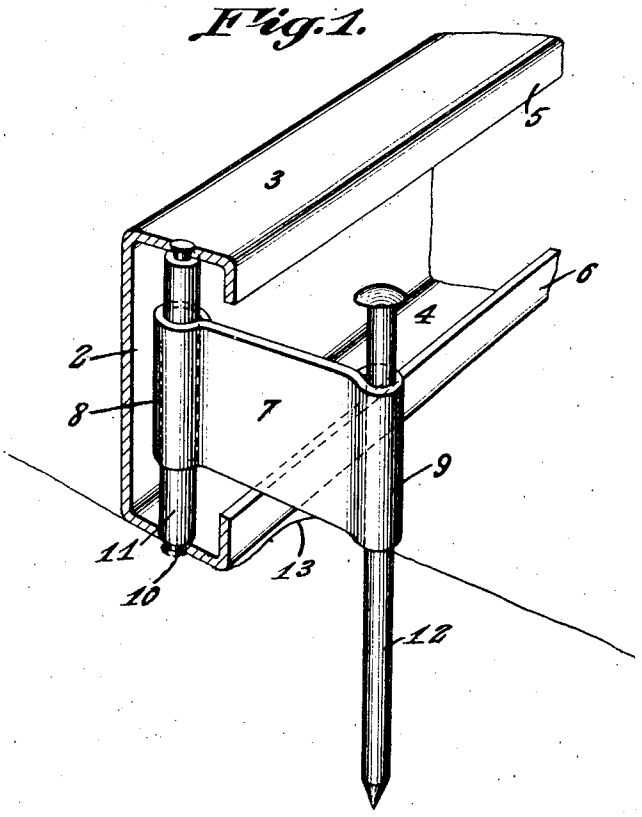
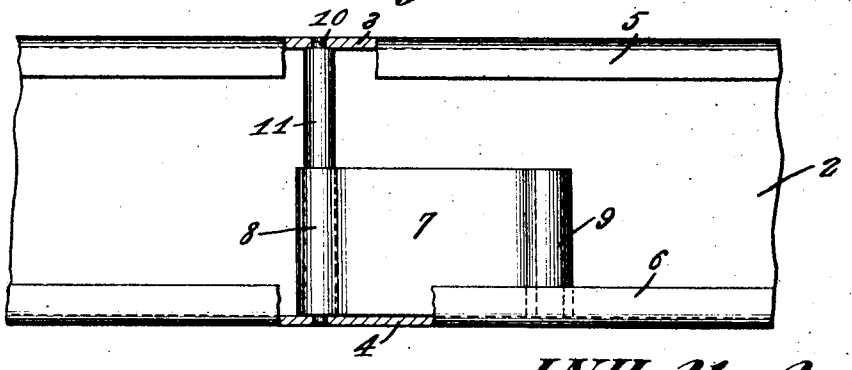


Fig. 2.



J. N. Heltzel, Inventor

Witness

By C. A. Snow & Co.

Attorneys

J. N. HELTZEL.

CONCRETE FORM.

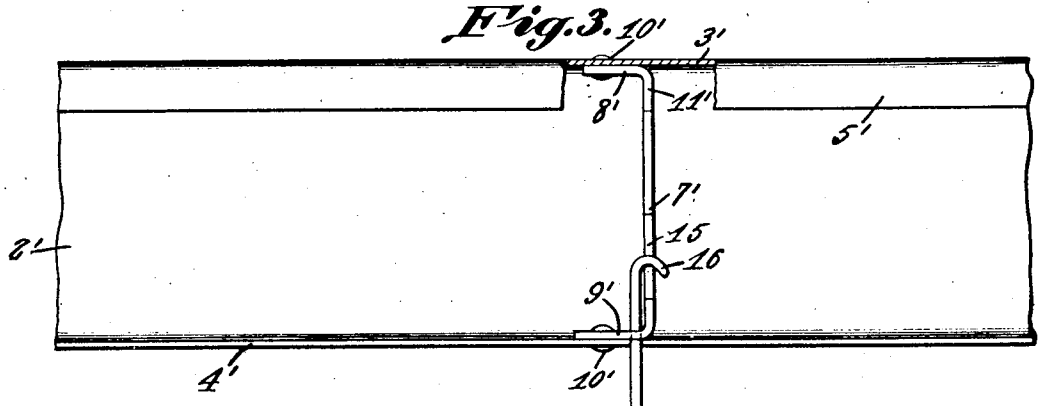
APPLICATION FILED MAY 17, 1919.

1,329,177.

Patented Jan. 27, 1920.

2 SHEETS—SHEET 2.

Fig. 3.



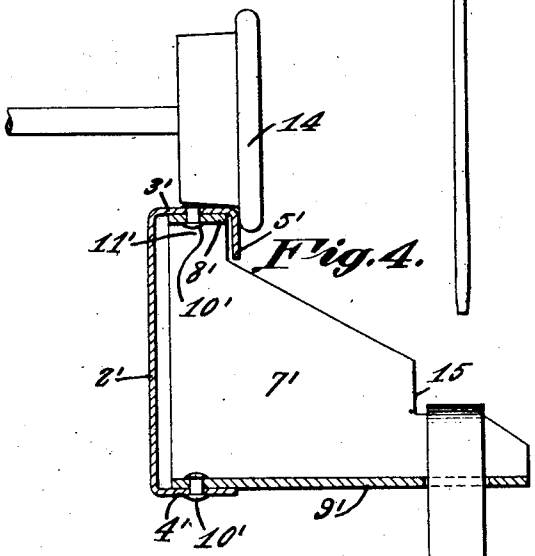
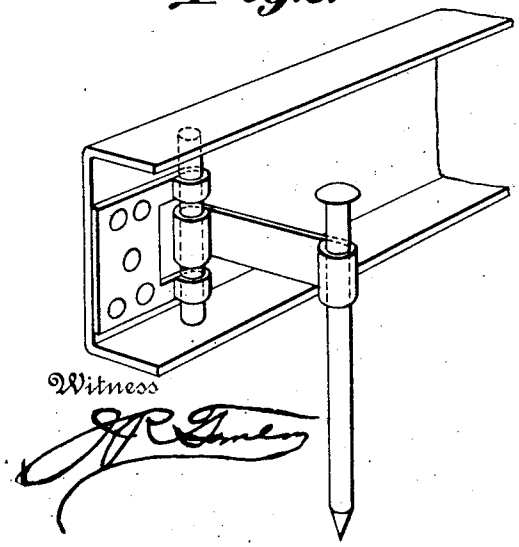


Fig. 4.

Fig. 5.



Witness

J. N. Heltzel, Inventor

By C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN N. HELTZEL, OF WARREN, OHIO.

CONCRETE-FORM.

1,329,177. Specification of Letters Patent. Patented Jan. 27, 1920.

Application filed May 17, 1919. Serial No. 297,729.

To all whom it may concern:

Be it known that I, JOHN N. HELTZEL, a citizen of the United States, residing at Warren, in the county of Trumbull and State of Ohio, have invented a new and useful Concrete-Form, of which the following is a specification.

This invention relates to improvements in concrete form construction, one of the objects of the invention being to provide a side rail and supporting bracket permanently connected together so as to form a unitary structure.

A further object of the invention is to provide a supporting bracket which is pivotally connected to the side rail, whereby the bracket may be swung to any angle with relation to the side rail when in use, and when not in use may be swung out of the way.

A further object of the invention is the provision of a bracket of the character set forth which affords a very substantial support to the side rail against both lateral and vertical thrusts.

A further object of the invention is the provision of a bracket by means of which the side rail may be supported at a different level from that at which the bracket is secured to the ground, thereby eliminating the necessity of leveling the earth to the subgrade.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention consists in the novel features of construction and combination of parts which will be more fully described hereinafter and particularly pointed out in the claims.

In the drawings accompanying and forming part of this specification,

Figure 1 is a perspective, partly sectional view, illustrating one form of my improved side rail and bracket, the side rail being broken away;

Fig. 2 is a side elevation of a portion of a side rail shown broken away and partly in section;

Fig. 3 is a similar view of a modified form of construction and showing the bracket in side rail supporting position;

Fig. 4 is a cross section of the form of the device shown in Fig. 3, illustrating the position of the wheel of a road machine on the side rail; and

Fig. 5 is a view similar to Fig. 1, but showing the pivoted supporting member attached to the web of the side rail instead of to the flanges.

The same characters of reference designate the same parts in the different figures of the drawings.

Referring to Figs. 1 and 2 of the drawings, 2 designates a side rail, which is of approximately C-shape in cross section, having longitudinal flanges 3 and 4, one at each side thereof, at right angles to the vertical portion of the rail, each of said flanges being bent to provide an additional flange, 5 and 6 respectively, at right angles to the first mentioned flanges, whereby the rail is materially stiffened. For supporting the rail in upright position, a laterally extending bracket is provided, and this bracket in this instance comprises a web 7 having at each end thereof a sleeve, 8 and 9 respectively. The bracket is pivotally secured between the flanges 3 and 4 of the rail by means of a pin 10 passing through said flanges and through a tubular member 11, which is placed between the flanges 3 and 4, the sleeve 8 of the bracket fitting around said tubular member and adapted to be rotated thereon. A stake 12 is provided, which is adapted to pass through the sleeve 9 and to be driven into the ground, thereby to retain the bracket at any angle at which it may be set relative to the side rail. It will be observed that the distance between the edges of the flanges 5 and 6 is greater than the width of the web 7 of the bracket. The purpose of this construction is to permit the use of the side rail and bracket on uneven ground, that is to say, where the earth is not leveled to subgrade the rail may be set below the level of the bracket to any depth equal to the amount of adjustment of the bracket on the tubular member 11. In Fig. 1 is shown a line 13 indicating such an uneven condition of the ground. From the construction described it will be seen that when the device is not in use, by merely removing the stake 12 the bracket can be rotated on the tubular member and located entirely within the rail so as to occupy no more space than the rail itself, it being prevented from swinging out of the rail by the lower flange 6. On the other hand, when the structure is in use the bracket may be rotated on its pivot at any angle to the side rail in order to avoid unsuitable ground.

In Figs. 3 and 4 is shown a form of the

device that is well adapted for use on level ground. In this instance the side rail 2′ is provided at each longitudinal edge with a flange, 3′ and 4′ respectively, at right angles to the vertical portion of the rail, the upper flange 3′ being bent to provide an additional flange 5′ at right angles to the flange 3′. The desirability of providing this additional flange is illustrated in Fig. 4, where a wheel 14 of a road machine is shown on the upper flange of the rail, and therefore the provision of the additional flange 5 on the rail shown in Figs. 1 and 2 and the flange 5′ on the rail shown in Figs. 3 and 4 greatly enhances the stability of the rail and enables it to withstand the heavy strain thereon. For supporting the side rail 2′ in upright position, a bracket is provided which is also pivotally secured to the side rail so as to permit it to be swung to any angular position relatively thereto. In this instance the bracket comprises a laterally extending member 7′ tapered at its upper edge from front to rear, and having a base portion 9′ at right angles thereto. At the upper front end the bracket is provided with an upstanding portion 11′ of such height that the front end of the bracket will just fit between the flanges 3′ and 4′ of the side rail and of such width as to loosely fit between the flange 5′ and the side rail proper. For pivoting the bracket to the rail in this case I have shown a perforated lug or ear 8′ bent at right angles to the portion 11′, the base portion 9′ also having a perforation adjacent to its front end, whereby rivets 10′ may be passed through the ear and base portion and through perforations in the flanges 3′ and 4′ of the rail for permitting pivotal movement of the bracket with relation to the rail. Adjacent to its rear end the base portion 9′ is provided with an aperture or slot through which is adapted to pass a stake 12′, which is pointed at its lower end for facilitating its being driven into the ground. The upper edge of the bracket 7′ is cut away, as at 15, and the stake is provided with a turned over head 16 adapted to engage the upper edge of the bracket at such cut away portion, as shown in Fig. 3, whereby when the stake is driven into the ground the bracket will be maintained in proper position to support the side rail. Of course, it will be obvious that, if desired, a cylindrical form of stake similar to that shown in Figs. 1 and 2 may also be used in this form of the device.

It will thus be seen that in both forms of the device I have provided practically an integral structure, comprising the side rail and bracket, since the bracket is permanently connected to the side rail, and in which structure the bracket may be swung at will to any angle relative to the side rail so as to avoid unsuitable ground, such for instance as rocky ground where the stake could not be driven, etc., and when not in use the bracket can be swung or folded back so as to lie completely within the side rail, whereby it will occupy comparatively little space and will be protected against injury in handling. In the operation of the structure of either form illustrated herein, the side rail is supported in such manner that any lateral thrust against the surface of the rail is transmitted by means of the bracket to the stake, and vice versa, any lateral movement of the stake is divided proportionately at the surface of the side rail. In practice each side rail is provided with a plurality of brackets, one adjacent each end thereof and one approximately at the middle of its length being usually sufficient.

While I have described in detail the structures herein illustrated, it is to be understood that I do not thereby limit my invention to the precise features of construction shown, as I am aware that many mechanical changes and modifications may be made therein without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus described my invention, what I claim is:

1. A device of the class described, comprising a side rail, a bracket pivotally secured thereto, and a stake slidable in said bracket.

2. A device of the class described, comprising a flanged side rail, a bracket pivotally secured thereto and having means for supporting the flanges of the rail, and a stake slidable in said bracket.

3. A device of the class described, comprising a side rail provided with an upper and a lower flange, a bracket pivotally secured to said flanges and adapted to be folded therebetween, and a stake slidable in said bracket.

4. A device of the class described, comprising a side rail provided with an upper and a lower flange and a flange at right angles to said upper flange, and a bracket pivotally secured to said side rail.

5. A device of the class described, comprising a side rail provided with an upper and a lower flange and a flange at right angles to said upper flange, a bracket pivotally secured to said upper and lower flanges and of less height than the distance between said flanges, and a stake slidable in said bracket.

6. A device of the class described, comprising a side rail, and a bracket provided with a sleeve for pivotally securing it to the rail and having means for permitting the passage of a stake.

7. A device of the class described, comprising a side rail, a bracket having a sleeve at each end thereof, one of said sleeves being pivotally secured to the side rail, and a

stake adapted to pass through the other sleeve.

8. A device of the class described, comprising a side rail provided with an upper and a lower flange, a tubular member adapted to fit between said flanges, a pivot pin passing through said flanges and tubular member, and a bracket having a sleeve adapted to be pivotally carried by said tubular member.

9. A device of the class described, comprising a side rail provided with an upper and a lower flange, a tubular member adapted to fit between said flanges, a pivot pin passing through said flanges and tubular member, a bracket having a sleeve at each end thereof, one of said sleeves being pivotally carried by said tubular member, and a stake adapted to pass through the other sleeve.

10. A device of the class described comprising a side rail having a bracket pivotally secured thereto.

11. A device of the class described comprising a side rail having a supporting member pivotally secured thereto.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN N. HELTZEL.

Witnesses:
W. B. KILPATRICK,
M. C. BOYD.