Nov. 10, 1925. 1,561,120

L. SMITH

CROSSING GRATE FOR GUTTERS

Filed June 26, 1925

Fig. 1.

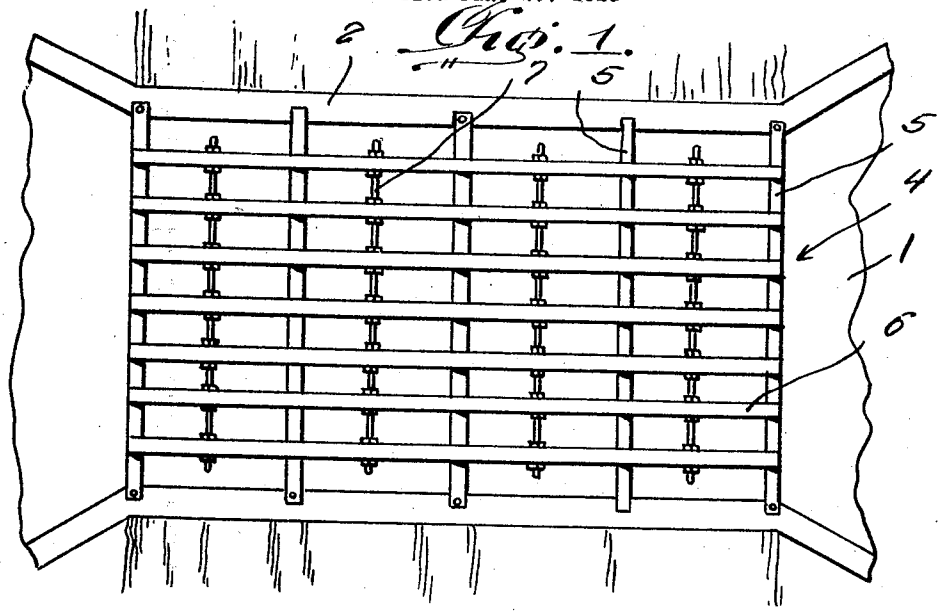


Fig. 2.

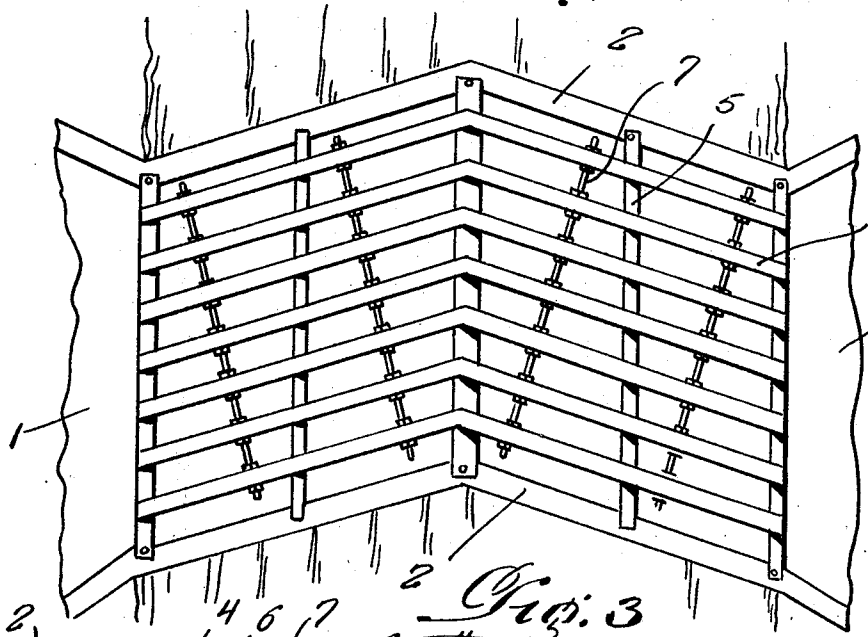
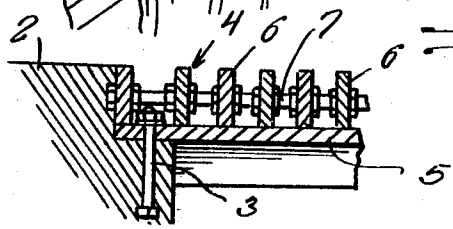


Fig. 3



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UNITED STATES PATENT OFFICE.

LEON SMITH, OF HAMMONDSPORT, NEW YORK.

CROSSING GRATE FOR GUTTERS.

Application filed June 26, 1925. Serial No. 39,783.

To all whom it may concern:

Be it known that I, LEON SMITH, a citizen of the United States, residing at Hammondsport, in the county of Steuben and State of New York, have invented certain new and useful Improvements in a Crossing Grate for Gutters, of which the following is a specification.

This invention relates to an improved grate or open-work metal structure, adapted for disposition over a gutter extending crosswise of a highway, the object being to provide a means for draining surface water into the gutter and to permit convenient passage of vehicles thereover.

Briefly, the invention consists in the digging of a gutter transversely of a road bed, placing a concrete trough in this gutter, and fashioning the trough to receive a removable grate or grid disposed flush with the surface of the road.

The features and advantages derived from the particular construction and arrangement of parts serving to produce the novelty alleged in the appended claim, will become apparent from the following detailed description.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a top plan view of a portion of a road-bed showing the improved device in place thereon.

Figure 2 is a view like Figure 1 showing a slightly different embodiment of the invention.

Figure 3 is a detail sectional view showing the manner of supporting and anchoring the grate.

As before intimated, in carrying out the invention, I dig a gutter crosswise of the road, this gutter being of any appropriate depth to carry off storm water with considerable rapidity. A suitable form is placed in the gutter and liquid concrete is poured into this form and allowed to set to form what may be referred to as a concrete trough, the bottom of which is represented by the reference character 1, and the side walls by the reference characters 2. If desired, the ends of the side walls may flare outwardly to effectively conduct the flowing water into the usual longitudinal gutter alongside of the road. From Figure 3 it will be seen that in making the concrete trough, a ledge is provided at the upper portions of the side walls to serve as a rest for the improved grate. Moreover, a plurality of bolts 3 are embedded in the concrete, the threaded ends extending above the surface of the ledge as shown. The grate is represented generally by the reference character 4. The grid comprises longitudinally extending transversely spaced stringers 5 having holes at their opposite ends fitted over and connected with the threaded upper ends of the aforesaid bolts 3. Retaining nuts are provided for this purpose as shown in Figure 3. Riveted or otherwise securely fastened to these stringers are bars 6 arranged at rather closely spaced intervals. To secure rigidity of construction, tie rods 7 are passed through these bars, as shown. Retaining nuts are placed on the opposite sides of each bar as plainly indicated in Figure 1. Thus, a readily removable grate is provided wherein the upper surfaces of the bars are disposed substantially flush with the surface of the road, whereby to provide a smooth bridge for the gutter, and an efficient means for carrying off the water by draining it into the gutter beneath the grate. The only distinction between the showing of the invention in Figures 1 and 2, is that the gutter and grate are of straight design, whereas in Figure 2 the bars of the grate are constructed to dispose them substantially diagonal to the path of travel. This facilitates movement of the vehicles over the bars to some extent.

A careful consideration of the description in connection with the drawings will enable persons skilled in the art to which the invention relates to obtain a clear understanding of the same. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:—

In a structure of the class described, a

concrete trough, the side walls of which are provided at their upper ends with ledges, an open work grate resting upon said ledges, said grate comprising longitudinal transversely spaced stringers having bolt holes at their opposite ends, there being bolts embedded in said trough walls, and said bolts extending through said holes to anchor said stringers in place, and a plurality of longitudinally spaced cross bars fastened to said stringers, together with tie rods connecting said bars together.

In testimony whereof I affix my signature.

LEON SMITH.