Sept. 27, 1932. B. BRIODY 1,880,013

ROADWAY JOINT

Filed Jan. 14, 1930

Fig. 1.

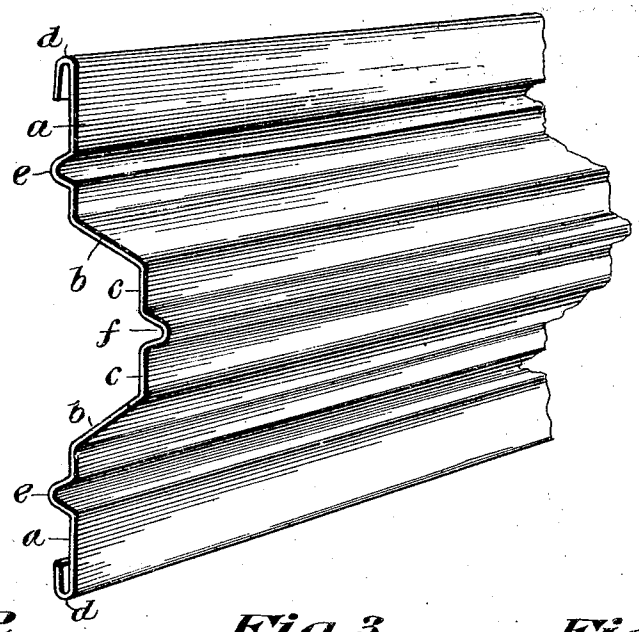


Fig. 2.

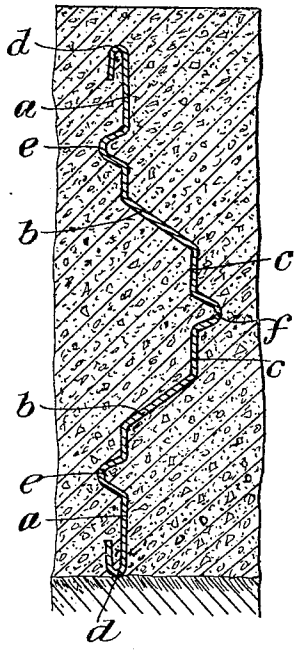


Fig. 3.

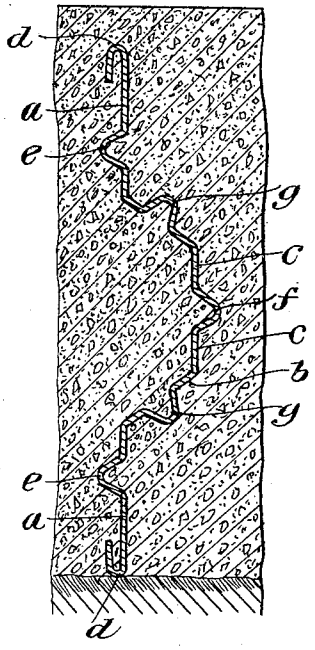
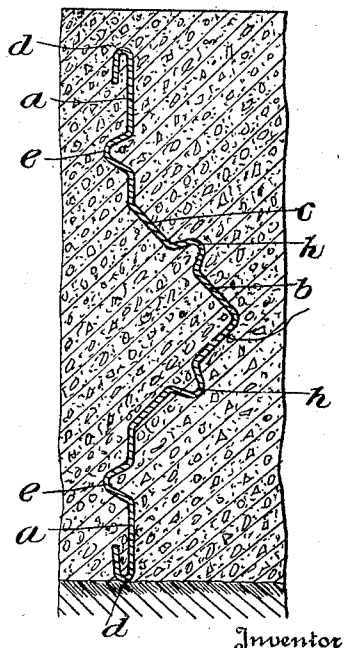


Fig. 4.



Inventor

Bernard Briody,

By

Attorney

Patented Sept. 27, 1932

1,880,013

UNITED STATES PATENT OFFICE

BERNARD BRIODY, OF YOUNGSTOWN, OHIO, ASSIGNOR TO TRUSCON STEEL COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF MICHIGAN

ROADWAY JOINT

Application filed January 14, 1930. Serial No. 420,697.

This invention relates to an improvement of the product patented to me in Reissue Patent No. 16,202.

This product has been in commercial use since about the date of the original application, filed July 21st, 1919, resulting in such reissure patent. Since its original commercial exploitation, it has been used in a major portion of the concrete highways of the United States, state and national, where climatic conditions required consideration of the expansion and contraction of concrete in roads. More than 6,000 miles of it was so used during the year 1928 and more during such of the equivalent period in 1929, as has already passed.

Practically all of the joint commercially used varies in vertical depth from 5½ inches to 6½ inches and in gauges of metal of 14 gauge to 20 gauge, a relatively small amount of 20 gauge being used, and the greater portion being 16 gauge. The lighter gauges, properly installed, serve the main functions as well as the heavier gauges, although somewhat reducing the strength of the roadway at the joint. The principal reason for using the lighter gauge is a saving in the cost of material and transportation. The reason the heavier gauge is preferred in the lengths of commercial practice is that there is, in the lighter gauge, a greater danger of distortion in transportation and placing, and more difficulty and greater labor costs in securing the accurate placement and retention during the pouring of concrete desirable for the best results.

Such costs for the gauges commercially preferable in the forms of joint shown in Figure 3 of my said reissue patent and in the forms of a horizontally protruding V or similar form, instead of the trapezoid of the form of Figure 3, the common forms of commercial use, have resulted in the suggestion and use of other substituted means of producing the joint desired, less effective and desirable but cheaper, some entirely dispensing with the metal, and in the efforts of numerous designers to produce and employ a metal joint of lower cost. All such efforts have however failed to furnish the simple solution of the problem of reducing the cost without reduction of utility which is the purpose of my present invention of an improved joint strip, one embodiment of which is illustrated in the accompanying drawing, wherein:—

Figure 1 is a perspective view of one embodiment of the present invention.

Figure 2 is a vertical section through a portion of a roadway showing the joint strip embedded therein.

Figure 3 is a view similar to Figure 2, but showing additional corrugations.

Figure 4 is a modified form of construction.

In the embodiment disclosed in Figures 1 and 2, I stiffen lighter gauges by reducing the direct otherwise width of longitudinal planes and strengthen such planes at the edges, thereby producing a metal joint strip in lighter gauges of equal width and utility with greater reduction in the amount and cost of the metal, in freight and other transportation costs and in ease of handling. For instance a strip of 6½ inches in vertical depth of either of the forms above mentioned in 16 gauge metal would weigh in steel approximately 1550 pounds per thousand lineal feet, the customary unit of measurement, while I can produce my present improved product of substantially equivalent rigidity in 24 gauge steel with a weight of approximately 750 pounds to the thousand lineal feet, and without substantial difference in the cost of factory fabrication and handling.

The drawing discloses an illustrative embodiment of the product of my improved road strip, using the rhomboid form of provision for a mortise joint in the concrete, in which each side of the center is the same and only one side will be described.

The lower vertical section is as indicated at *a*; the inclined offset section at *b* and the vertical center section at *c*. At *d*, I have shown the longitudinally crimped edge; at *e*, a longitudinal corrugation in the otherwise plane surface of *a*, thereby producing two adjacent narrower plane sections; at *f* I have shown a longitudinal corrugation in *c* with the same result.

As shown in Figure 3, corrugations *g* can be formed in the portions *b*, the other features being the same as those already described.

In case a V-shaped type of central portion is employed, the plane faces may be correspondingly crimped or ribbed as shown at *h*.

I have shown the corrugation *e* closer to the point of change of planes between *a* and *b*, instead of nearer the central portion of *a* on account of the crimping at *d* and to stiffen the product near the point of union of such planes. But it is obvious that the location, form, depth, and number of corrugations may be varied according to the gauge of the material used and the judgment of the designer, and that the edge-stiffening crimp *d* may be of varying length or merely a flange, or an innerly curled portion, all without departing from the purposes of my invention. Other changes may also be employed, the invention not being limited to the forms disclosed.

What I claim, is:

1. A roadway joint forming member comprising an elongated strip of metal of light gauge having a longitudinal intermediate offset portion forming a relatively wide longitudinal rib on one side and a correspondingly deep channel on the other side and providing upper and lower side portions on opposite sides of the same, the outer side margins of the strip being doubled and said strip having longitudinal corrugations of less cross sectional area than the said intermediate offset.

2. A roadway joint forming member comprising an elongated strip of metal of light guage having a longitudinal intermediate offset portion forming a relatively wide longitudinal rib on one side and a correspondingly deep channel on the other side and providing upper and lower side portions on oposite sides of the same, the outer side margins of the strip being doubled and said strip having longitudinal corrugations forming ribs of less cross sectional area than the said intermediate offset, certain of said ribs being in the offset and projecting on one side of the strip, and others being in the side portions and projecting on the other side of the sheet.

In testimony whereof, I affix my signature.

BERNARD BRIODY.