W. F. LOOKER.

ROAD CULVERT.

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971,456.

Patented Sept. 27, 1910.

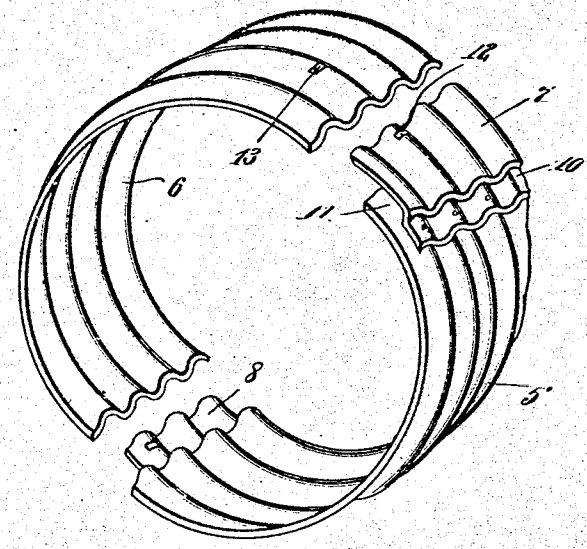

Fig. 1.

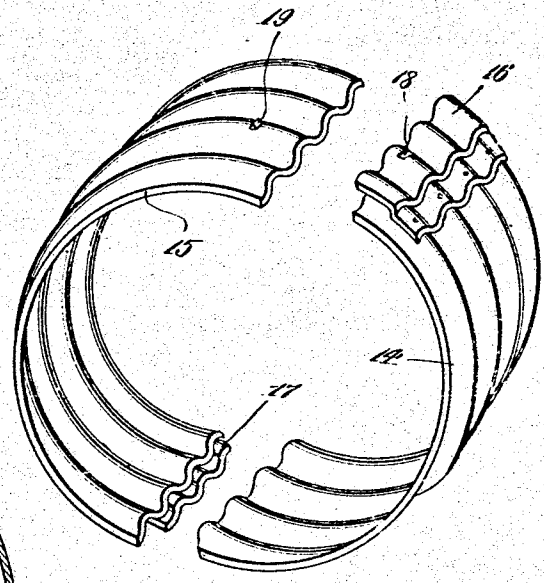

Fig. 3.

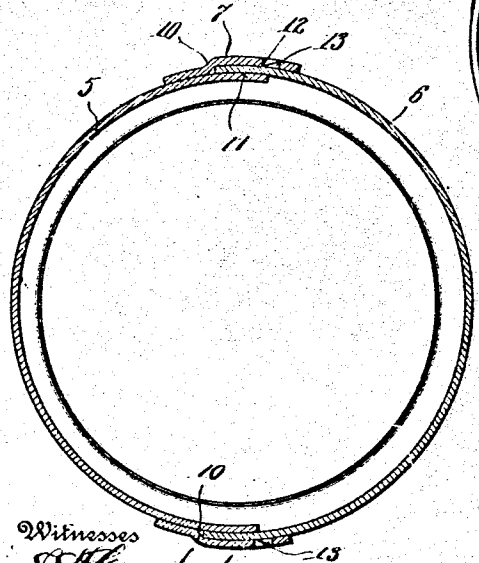

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM F. LOOKER, OF PORTLAND, OREGON.

ROAD-CULVERT.

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To all whom it may concern:

Be it known that I, WILLIAM F. LOOKER, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Road-Culverts, of which the following is a specification.

This invention relates to improvements in road culverts and more particularly to that type of road culverts known as nesting culverts.

It is well-known that the usual road nesting culverts comprise a pair of semi-cylindrical sections the longitudinal sides of which are riveted or otherwise secured before or after the culvert has been placed in position. The method of joining the sides of the culvert sections by rivets is objectionable for the reason that it involves considerable time and is only accomplished at an increased cost.

The present invention therefore aims at the production of a device provided with means for clamping the sides of the sections together and when so clamped to be positively held against accidental disengagement.

A further object is the provision of a construction which will add comparatively nothing to the cost of sectional culverts now in use.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size, and minor details of the device may be made, within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification; Figure 1 is a detail perspective of one end portion of culvert sections before assembling. Fig. 2 is a sectional end view of the same after assembling. Fig. 3 is a detail perspective of a modified form.

Similar numerals of reference are employed to designate corresponding parts throughout.

The culvert sections are designated respectively by the numerals 5 and 6 and are each preferably formed of a single piece of sheet metal and are substantially arcuate or semi-cylindrical in cross section, so that when brought together with their longitudinal sides bearing one upon the other a circular opening will be presented.

As shown in the drawings the sections are formed of corrugated sheet metal. It must be understood however that I am not to be limited to the specific employment of corrugated metal, since it will be understood, from what will appear later, how the device might be equally as well constructed of sections with smooth surfaces.

By reference to the drawings it will be seen that the section 5 is provided for the greater portion of its length with what will subsequently be termed a pair of clamping strips designated by the numerals 7 and 8. These members are preferably formed of sheet metal and may be corrugated or smooth according to the section to which they are to be applied. The clamping strips 7 and 8 are secured to the outer face of the section 5 and adjacent to the longitudinal edges thereof. The strips 7 and 8 correspond approximately in length to the section 5 and are relatively narrow and secured to the section 5 by virtue of rivets or other suitable fastening means. By reference now to the drawings it will be seen that the strips are so positioned that their outer longitudinal sides will extend considerably in advance of the longitudinal sides of the section 5, and at the longitudinal centers, the strips are offset as shown at 10, whereby sockets 11 are formed between the inner faces of the offset portions and outer face of the section which these offset portions overlie. It might here be stated that the longitudinal central line of each strip is positioned a slight distance from the adjacent side edge of the section 5. The sockets 11 are of sufficient width to receive the opposite side portions of the opposite section 6, when the said sides are brought into alinement with the sockets and the sections brought together until the shoulders formed by the offsets 10 abut with the longitudinal edges of the section 6. It will be seen when the parts are so positioned that the sections will be locked together and a circular opening presented.

In order to prevent accidental displacement of the sections after they have been

united in the manner just described the following construction is employed: By reference now to the drawings it will be seen that formed at spaced intervals on the portions of the clamping strips 7 spaced from the section 5 and adjacent to the outer edges of these strips are oblong slots 12 and formed on the outer surface and adjacent to the opposite sides of the section 6 are spurs or teeth 13. The upper sides of the spurs or teeth 13 incline toward the edge of the section 6, so that when the sections are being forced into engagement with each other, by virtue of the inclined sides, no obstructions will be presented to prevent the edges of the sections 6 from entering the sockets 11. The teeth 13 are so positioned with respect to the openings 12 that during the operation of forcing the sections into engagement with each other the slant sides of these teeth will force the clamping strips 7 and 8 outwardly until the edges of the section 6 abut with the shoulders formed by the offsets 10, when the ends of the teeth will be in alinement with the oblong slots 12 whereby the outer sides of these slots will engage with the ends of the teeth and prevent outward movement of the section 6 from the sockets 11.

In the modified form shown in Fig. 3 the sections 14 and 15 are identical to the sections just described. The difference between the structures residing in the disposition of the strips 16 and 17 which instead of being located on one section as shown in Figs. 1 and 2, are located at one side of each section. In some instances this structure may be preferred to that shown in Figs. 1 and 2 and if desired the edges of these strips need not extend beyond a point in alinement with the edges of the sections to which they are secured. The strips 16 and 17 are provided with openings, similar to the openings 12 and one of which is shown in Fig. 3 and designated by the numeral 18, these openings receiving the spurs of teeth 19 in the manner before described.

Thus it will be seen that I have provided a device which is comparatively simple in structure and inexpensive in manufacture and may be readily applied to most forms of sectional culverts or pipe sections now in use.

I claim:—

1. In a nestable culvert, an oblong section, oblong strips arranged longitudinally of the outer surface of the said section and having portions offset and spaced from the section, and further provided with transverse openings, and a second section having its opposite sides insertible into the space between the said strips and first-named section and provided with teeth to enter the openings of the said strips.

2. In a nestable culvert, an oblong semi-cylindrical section, a pair of oblong strips secured adjacent to the opposite sides of said section, and having offset portions spaced from the outer face thereof, and a second-named semi-cylindrical section having its opposite side portion insertible into the space between the offset portions of said strips and first-named section, and means for automatically locking the two sections together.

3. In a nestable culvert, a cylindrical pipe formed of two sections, one of which has a recess along one of the longitudinal edges thereof, and means for automatically locking one of the longitudinal edges of the opposite section thereto.

4. A nestable culvert comprising a pair of sections one of which has a marginal socket to receive an adjacent edge portion of the other section, and coöperating device arranged on both sections serving to automatically lock the sections when the same are brought together.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. LOOKER.

Witnesses:
A. C. CURNOW,
S. A. MCCARTNEY.