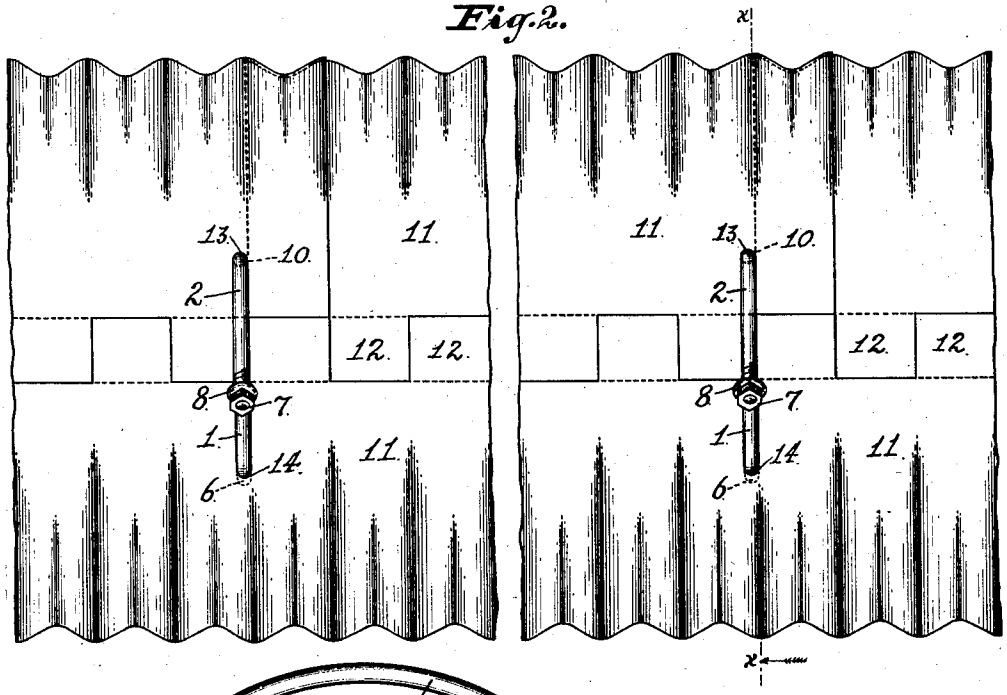
K. J. THORSBY.

SEPARABLE FASTENING FOR SECTIONAL PIPES.

APPLICATION FILED AUG. 31, 1912.

1,050,871. Patented Jan. 21, 1913.

Fig. 2.



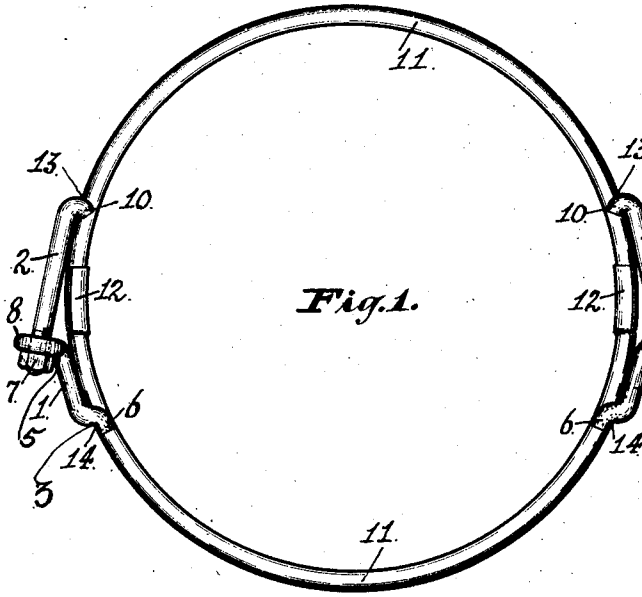


Fig. 1.

Fig. 4.

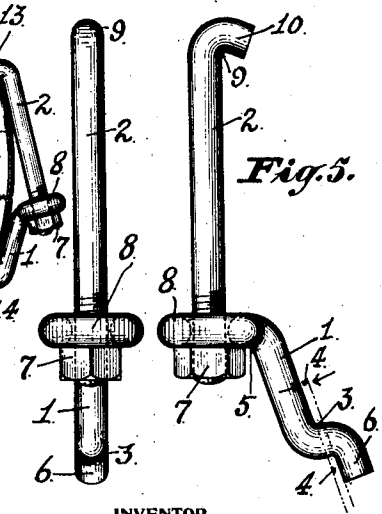
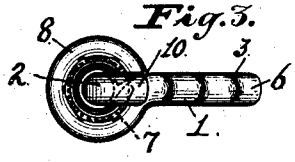


Fig. 5.

Fig. 3.



WITNESSES

H. C. Riedner

S. Constune.

INVENTOR

Karl Johan Thorsby

BY Wm. F. Booth

his ATTORNEY

UNITED STATES PATENT OFFICE.

KARL JOHAN THORSBY, OF OAKLAND, CALIFORNIA, ASSIGNOR TO CALIFORNIA CORRUGATED CULVERT COMPANY, OF OAKLAND, CALIFORNIA, A CORPORATION OF CALIFORNIA.

SEPARABLE FASTENING FOR SECTIONAL PIPES.

1,050,871. Specification of Letters Patent. Patented Jan. 21, 1913.

Application filed August 31, 1912. Serial No. 718,136.

To all whom it may concern:

Be it known that I, KARL JOHAN THORSBY, a subject of the King of Norway, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Separable Fastenings for Sectional Pipes, of which the following is a specification.

My invention relates to sectional pipes the sections of which are adapted for nesting for transportation.

It is particularly applicable to knock-down sheet metal pipes for conduits, culverts, etc., such as are generally used for drainage and irrigation purposes, and which are usually composed of two semi-circular sections provided with interengaging edges and with fastenings for holding the sections together when assembled in the completed pipe.

In nesting and shipping knock-down pipe sections with fastening lugs initially inseparably secured to them, as is usually done, said lugs are subject to injury and destruction from various causes, which are difficult to prevent, especially on large size pipe sections. Furthermore, by reason of the inseparability of such fastenings there is loss of space in transportation, which is especially disadvantageous in steamer shipments.

My invention is intended to overcome both these difficulties, and to this end my said invention consists essentially in a separable fastening for the pipe-sections, adapted to be packed and to be shipped separately and to be readily applied to the sections in assembling them at the work or place of installation, and it consists particularly in the novel fastening which I shall now fully describe by reference to the accompanying drawings, in which—

Figure 1 is a cross sectional view of a pipe on the line *x*—*x* of Fig. 2 showing my fastening applied to the assembled sections of the pipe. Fig. 2 is a side view of the same. Fig. 3 is a plan view, enlarged, of the fastening alone, the members of which are shown assembled. Fig. 4 is a front elevation of the same. Fig. 5 is a side elevation of the same.

Referring first to Figs. 3, 4 and 5, 1 is the lug-member, which in this case is made from a rod of circular section. This lug-member at one end is formed with an eye 8 bent at an angle 5 to its body portion which angle is determined, as will be fully appreciated when the complete fastening is disclosed, by the diameter of the pipe with which it is to be used. The body of the lug which to avoid confusion has the numeral 1 applied to it, is carried straight from the angle bend 5 of the eye 8 to the point indicated by 3, where it is again bent or offset to form the engaging end 6. The amount of the offset or bend at 3, as indicated at 4, in Fig. 5 is determined by the thickness of the metal from which the pipe to which the lug-member 1 is to be applied is formed, and is approximately equal to said thickness, so that the engaging end 6 will lie snugly inside the pipe and the body 1 will lie outside the pipe with a snug fit, as is shown in Fig. 1.

2 is a bolt member of the fastening. One end of this member is threaded to receive a nut 7, while the other extremity is bent at an angle 9 (which, in practice, should be less than a right angle) to form engaging end 10.

In Figs. 1 and 2 I show a pipe 11 which is here illustrated as a corrugated metal pipe, though it is to be understood that I do not confine myself to this type or form of pipe, as my fastening is as readily applicable to other types or forms as to this. The pipe 11 is made in semi-circular sections, an upper and a lower section, adapted for nesting in transportation; and I have indicated at 12 certain interengaging tongues by which the edges of the two sections fit together.

In the upper section on each side above its edges are made holes 13, and in the lower section on each side below its edges are made holes 14.

In shipping the pipe the sections are nested without their fastenings, the latter being packed separately. At the work, when the sections are assembled, the lug-member 1 has its engaging end 6 inserted in the hole 14 of the lower pipe section. The bolt member 2 is passed down through the eye 8 of the lug-member 1, and its engaging end 10 is fitted in the hole 13 of the upper pipe section. Then upon tightening up the nut 7 on the threaded end of the bolt member 2, the engaging ends 6 and 10 of the fastening members, cramping in their respective holes in the line of strain, will result in drawing

together and securely holding the pipe sections.

I claim:—

1. A separable fastening instrumentality for sectional pipes, comprising two members having their farther ends bent to enter a hole in their respective pipe-sections and to cramp therein in the line of the fastening strain, and means for securing together the nearer ends of the two members.

2. A separable fastening instrumentality for sectional pipes, comprising two members having their farther ends bent to enter a hole in their respective pipe-sections and to cramp therein in the line of the fastening strain, and means for adjustably securing together the nearer ends of the two members.

3. A separable fastening instrumentality for sectional pipes, comprising a lug-member and a bolt member each having its farther end bent to enter a hole in its corresponding pipe-section and to cramp therein in the line of the fastening strain, said lug-member having an eye on its other end and said bolt member having its other end threaded and passing through the eye of the lug-member, and a nut on the threaded end of the bolt-member bearing upon the eye to secure and tighten the two members together.

4. A separable fastening instrumentality for sectional pipes, comprising a lug-member having one end adapted to enter a hole in one of the pipe sections, said end being offset from the body of the lug-member by a distance equal to the thickness of the material of which the pipe section is composed whereby said offset end may lie against the inner surface of the pipe section and cramp in the hole thereof; a second member having one end bent to enter and to cramp within a hole in the other pipe section; and means for securing and tightening together the adjacent ends of the two members.

5. A separable fastening instrumentality for sectional pipes, comprising a lug-member having one end formed with an eye, and its other end adapted to enter a hole in one of the pipe sections, said end being offset from its body by a distance equal to the thickness of the material of which the pipe section is composed, whereby said offset end may lie against the inner surface of the pipe section and cramp in the hole thereof in the line of the fastening strain; a bolt member having one end threaded and passing through the eye of the lug-member, and having its other end bent to enter and to cramp within a hole in the other pipe-section; and a nut on the threaded end of the bolt member bearing upon the eye of the lug-member to secure and tighten the two members together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KARL JOHAN THORSBY.

Witnesses:
FRANS. S. GAINES,
S. A. FORD.