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1,505,801

E. L. PETERSON

REINFORCED CONCRETE PIPE

Filed Aug. 13, 1920

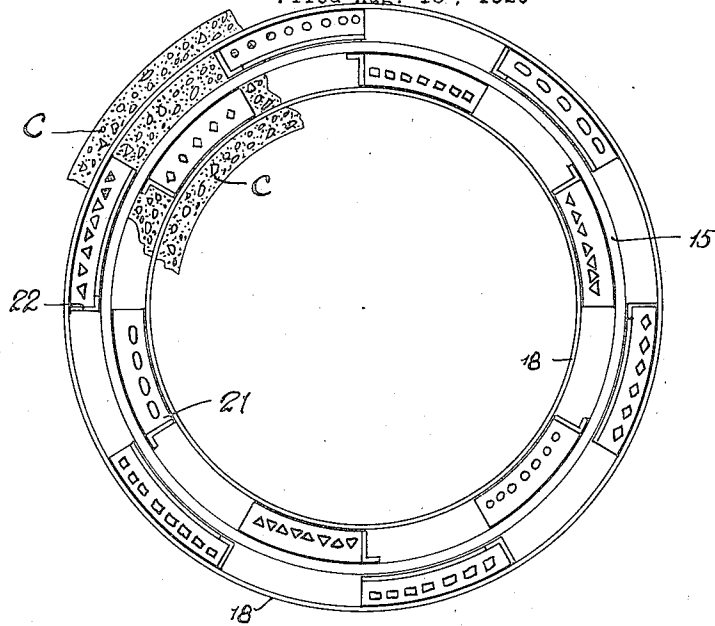


Fig. 1

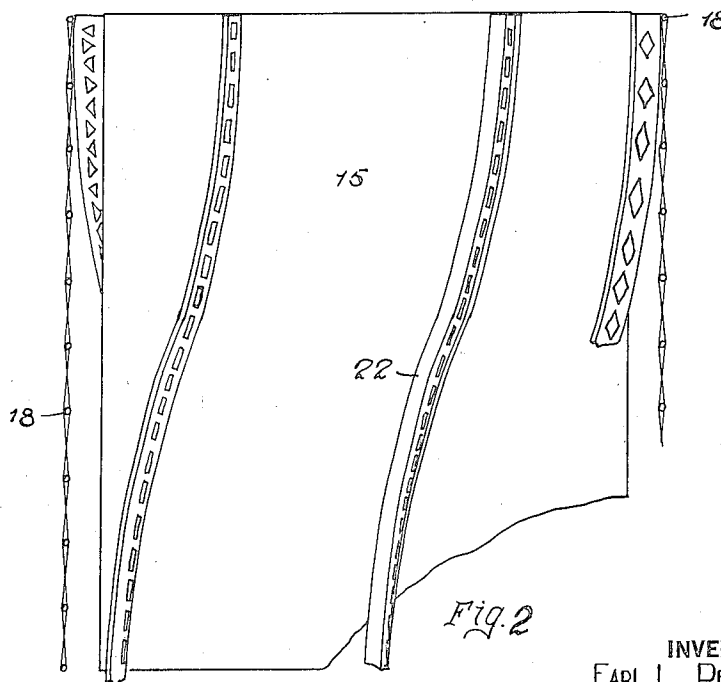


Fig. 2

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UNITED STATES PATENT OFFICE.

EARL L. PETERSON, OF CORONA, NEW YORK, ASSIGNOR TO UNITED CONCRETE PIPE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

REENFORCED-CONCRETE PIPE.

Application filed August 13, 1920. Serial No. 403,205.

To all whom it may concern:

Be it known that I, EARL L. PETERSON, a citizen of the United States of America, residing at Corona, county of Queens, Long Island, and State of New York, have invented certain new and useful Improvements in Reenforced-Concrete Pipe, of which the following is a specification.

My invention relates to reenforced concrete pipe, and particularly to pipe of the type shown in my recent Patent No. 1,346,673, in which a metal shell is embedded in concrete, not only to reenforce the latter, but to prevent leakage of gases or liquid passing through the pipe under pressure. The present invention embodies modifications of the construction shown in that patent, particularly with relation to the anchor and spacing ribs on the shell.

In the accompanying drawings—

Fig. 1 is a broken cross section of a reenforced concrete pipe with embedded shell, and having circumferential spiral ribs secured to both the inner and outer faces thereof; and

Fig. 2 is a broken plan thereof, from which the concrete is omitted.

In my patent above mentioned, the reenforcing ribs on the metal shell embedded in the concrete (indicated by the references 6 and 7 in said patent, and by the reference C on the drawing accompanying the present application), serve not only as tie means for holding the concrete to the shell, but as spacers and anchors for the co-operating mesh reenforce exterior or interior to the shell. The additional function of transverse stiffeners is attained by the present invention if the shell 15 has secured thereto circumferential ribs instead of longitudinal ribs.

As here shown the shell 15 has secured to its inner and outer faces spirally arranged ribs 21 and 22 respectively, which are staggered with relation to each other on opposite faces of the shell. They may be secured to the latter in any suitable way, preferably by spot or torch welding. The rings 18 of the inner and outer mesh reenforce bear against the ribs 21 and 22, and the mesh is centered thereby with respect to the shell 15. The

rings may be welded or otherwise secured to the ribs. The ribs are preferably apertured to receive the concrete, which is thus anchored firmly in position.

Obviously, either the inner ribs or the outer ribs may be omitted where such reenforcement is deemed unnecessary, or they may be used with or without the wire mesh or cage where the latter is not needed. The spiral ribs of the type shown serve not only as transverse stiffeners, but also as longitudinal stiffeners for the shell 15, and for the concrete pipe itself when cast.

It will be understood that the ribs may be of any shape which will have the function of bonding and spacing. Instead of bonding apertures in the ribs as shown, the latter may be shaped irregularly, or they may be formed as angles, channels, flats, I beams, or any irregular shape suitable to afford the bonding and anchoring effect which is desired.

The particular construction of the shell, that is to say, whether seamless, lap-jointed, or otherwise formed, is not material to the present invention.

I claim—

1. In a reenforced concrete conduit, a metal pipe embedded in cement, ribs thereon extending diagonally to the axis of the pipe, and adapted to form an anchor for the concrete, and means for securing said ribs directly to said metal pipe.

2. In reenforced concrete conduit, a metal pipe embedded in cement, ribs thereon extending diagonally to the axis of the pipe, and adapted to form an anchor for the concrete, and means for securing said ribs directly to said metal pipe, in combination with a mesh reenforce spaced by said ribs from the pipe, and means for securing said mesh to the ribs.

3. In a reenforced concrete pipe conduit, an imperforate metal pipe embedded in concrete, ribs thereon extending diagonally to the axis of the pipe and adapted to form an anchor for the concrete, and securing means for attaching said ribs to the pipe while maintaining the latter free from leakage apertures.

4. In a reenforced concrete conduit, an imperforate metal pipe embedded in concrete, rib means attached directly to the face of the pipe, and extending in a direction diagonally to the axis of the pipe, the attaching means being such as to retain the sealing effect of the imperforate pipe, a reenforcing

mesh spaced by said rib means from the face of the pipe, and means for tying said mesh to the ribs.

In testimony whereof I have signed my name to this specification.

EARL L. PETERSON.