Jan. 16, 1923.

1,442,160.

M. LACHMAN.

PIPE OR CULVERT.

FILED SEPT. 24, 1920.

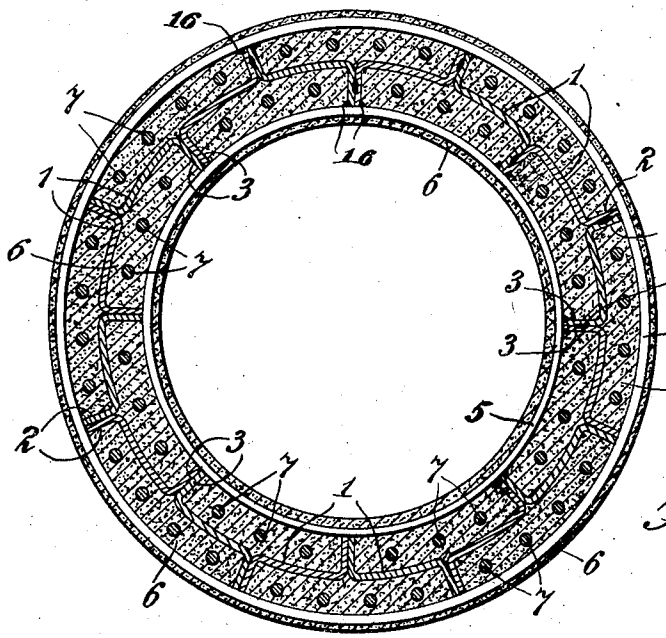


Fig. 1

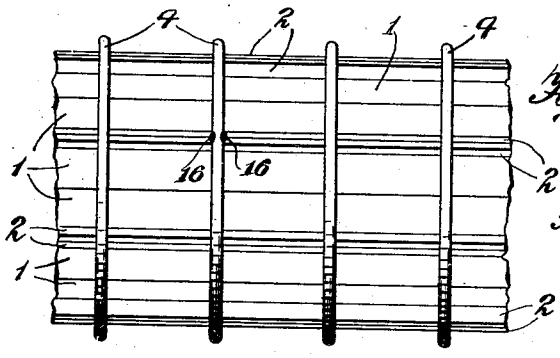


Fig. 2

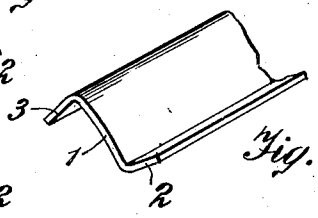


Fig. 3

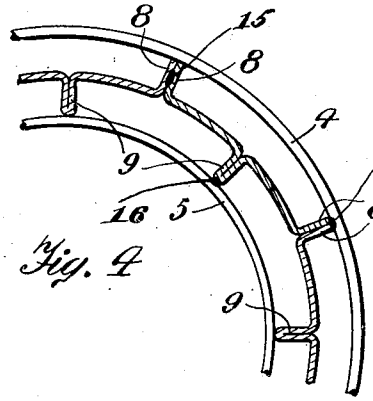


Fig. 4

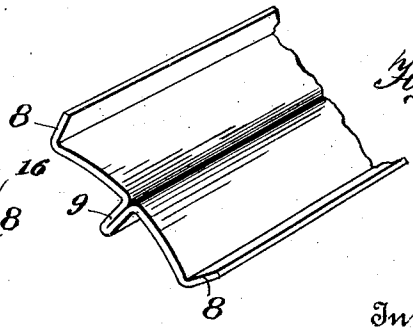


Fig. 5

Inventor

MAURICE LACHMAN

By his Attorneys

Townsend

Patented Jan. 16, 1923. 1,442,160

UNITED STATES PATENT OFFICE.

MAURICE LACHMAN, OF NEW YORK, N. Y.

PIPE OR CULVERT.

Application filed September 24, 1920. Serial No. 412,492.

To all whom it may concern:

Be it known that I, MAURICE LACHMAN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pipes or Culverts, of which the following is a specification.

My present invention relates to pipes for use as culverts or for other purposes and its object is to produce a pipe or culvert in an economical, simple manner.

The invention consists in a pipe or culvert constructed as hereinafter described and then specified in the claims.

In the accompanying drawings, Fig. 1 is a transverse cross-section through a pipe or culvert constructed in accordance with this invention.

Fig. 2 is a reduced side elevation of the same, the concrete casing being removed from the inner and outer walls.

Fig. 3 is an edge view of one of the longitudinal body sections.

Fig. 4 is a transverse cross-section through a pipe or culvert constructed in a slightly modified manner.

Fig. 5 is an edge view of one of the longitudinal body sections employed in the pipe shown in Fig. 4.

The pipe or culvert may be of any suitable cross-sectional shape, cylindrical being here illustrated as an example. The pipe or culvert according to this invention has its body composed of any desired number of longitudinal sections, each section being of curved or plane shape as desired, according to the desired shape of the pipe or culvert whose body or walls they form. The individual sections are all secured together along their longitudinal edges to make a strong, rigid wall as presently described.

Referring to the drawings, 1 indicates metal longitudinal sections forming the walls of the pipe, these sections being sector-shaped in the case illustrated. Each section 1 is provided with longitudinal inwardly and outwardly projecting flanges, the flanges running along each longitudinal edge. In the pipe illustrated in Fig. 1, each section is provided along one longitudinal edge with an outwardly projecting radial flange 2 and along the other longitudinal edge with an inwardly projecting radial flange 3. In assembling the pipe sections 1, the faces of the flanges 3 bear against each other and the faces of the flanges 2 bear against each other. The flanges 2 and 3 of adjoining sections 1 are rigidly secured together in any desired way as by spot welding, riveting or otherwise as indicated, for instance, at 15, Figs. 1 and 4.

The flanges 2 and the flanges 3 are also tied together by transverse members preferably in the form of bands or hoops disposed on both the inside and outside of the shell formed by the sections 1. These bands are preferably in the form of rods 4, 5, and intersect the flanges 2 and 3 respectively at intervals throughout the length of the pipe. At the places where the bands intersect their respective flanges 2, 3, they are preferably electrically welded or otherwise secured thereto as indicated at 16, Figs. 1, 2 and 4.

6 indicates a mass of concrete in which the structure as a whole is preferably embedded, the concrete filling the pockets between the flanges 2 and the flanges 3 on each side of the shell formed by the sections 1. The walls of the concrete may terminate with the bands 4 and 5 or may extend beyond so as to completely embed the bands.

7 indicates longitudinal reinforcing rods embedded in the concrete in the pockets formed between the sets of flanges 2 and 3.

In the form of the invention shown in Figs. 4 and 5 each longitudinal pipe section is formed with an outwardly projecting flange 8 along each longitudinal edge and the section midway between the flanges is doubled back on itself to form an inwardly projecting longitudinal flange 9. The flanges 8 of each section bear against and are secured to the flanges 8 of the adjoining section. The bands 4 intersect and are welded to the flanges 8 and the bands 5 intersect and are welded to the flanges 9, to form a thick walled pipe as in the first case which wall may be filled with concrete.

What I claim as my invention is:

1. A pipe or culvert comprising a plurality of longitudinal sections having their meeting edges parallel to the axis of the pipe and having inwardly and outwardly projecting longitudinal flanges and bands on the inside and outside of the pipe and secured to said flanges.

2. A pipe or culvert comprising a plurality of longitudinal sections having their meeting edges parallel to the axis of the pipe and having inwardly and outwardly projecting longitudinal flanges, bands inter-

secting the outer flanges and secured thereto and bands intersecting the inner flanges and secured thereto.

3. A pipe or culvert comprising a plurality of longitudinal sector-shaped sections meeting on lines parallel to the axis of the pipe and each having inwardly and outwardly projecting longitudinal flanges and transversely disposed members secured to the inside and the outside flanges.

4. A pipe or culvert comprising a plurality of longitudinal sector-shaped sections meeting on lines parallel to the axis of the pipe and each having an outwardly projecting flange along one longitudinal edge and an inwardly projecting flange along the other longitudinal edge, the flanges of adjoining sections being secured to each other and bands intersecting both the inside and outside flanges and secured thereto.

5. A pipe or culvert comprising longitudinally divided body sections divided from one another on lines parallel to the axis of the pipe and each having inwardly and outwardly projecting longitudinal flanges and inner and outer bands tying said flanges together.

6. A pipe or culvert comprising a plurality of longitudinal sector-shaped body sections assembled to meet on lines parallel to the axis of the pipe and each section having a radial outwardly projecting longitudinal flange and a radial inwardly projecting flange, the flanges of adjoining sections being secured to each other and inner and outer bands tying said flanges together.

7. A pipe or culvert comprising longitudinally divided body sections assembled to meet on lines parallel to the axis of the pipe and each having inwardly and outwardly projecting longitudinal flanges and inner and outer bands tying said flanges together, said structure being embedded in a mass of concrete disposed on both sides of the walls of the pipe.

8. A pipe or culvert comprising longitudinally divided body sections adapted to meet on lines parallel to the axis of the pipe and each having inwardly and outwardly projecting longitudinal flanges and inner and outer bands tying said flanges together, said structure being embedded in a mass of concrete disposed on both sides of the walls of the pipe and reinforcing rods in the concrete between the flanges.

9. A pipe or culvert comprising longitudinally divided body sections adapted to meet on lines parallel to the axis of the pipe and each having inwardly and outwardly projecting longitudinal flanges, inner and outer bands tying said flanges together, a mass of concrete filling in the spaces between both the inner and outer flanges and longitudinal reinforcing rods in said concrete.

10. A pipe or culvert comprising a plurality of sections assembled to meet on lines parallel to the axis of the pipe to complete the wall thereof and having radially projecting longitudinal flanges tied together by bands intersecting said flanges and secured thereto.

Signed at New York in the county of New York and State of New York this 23d day of September A. D. 1920.

MAURICE LACHMAN.

Witnesses:
F. B. TOWNSEND,
GEORGE E. BROWN.