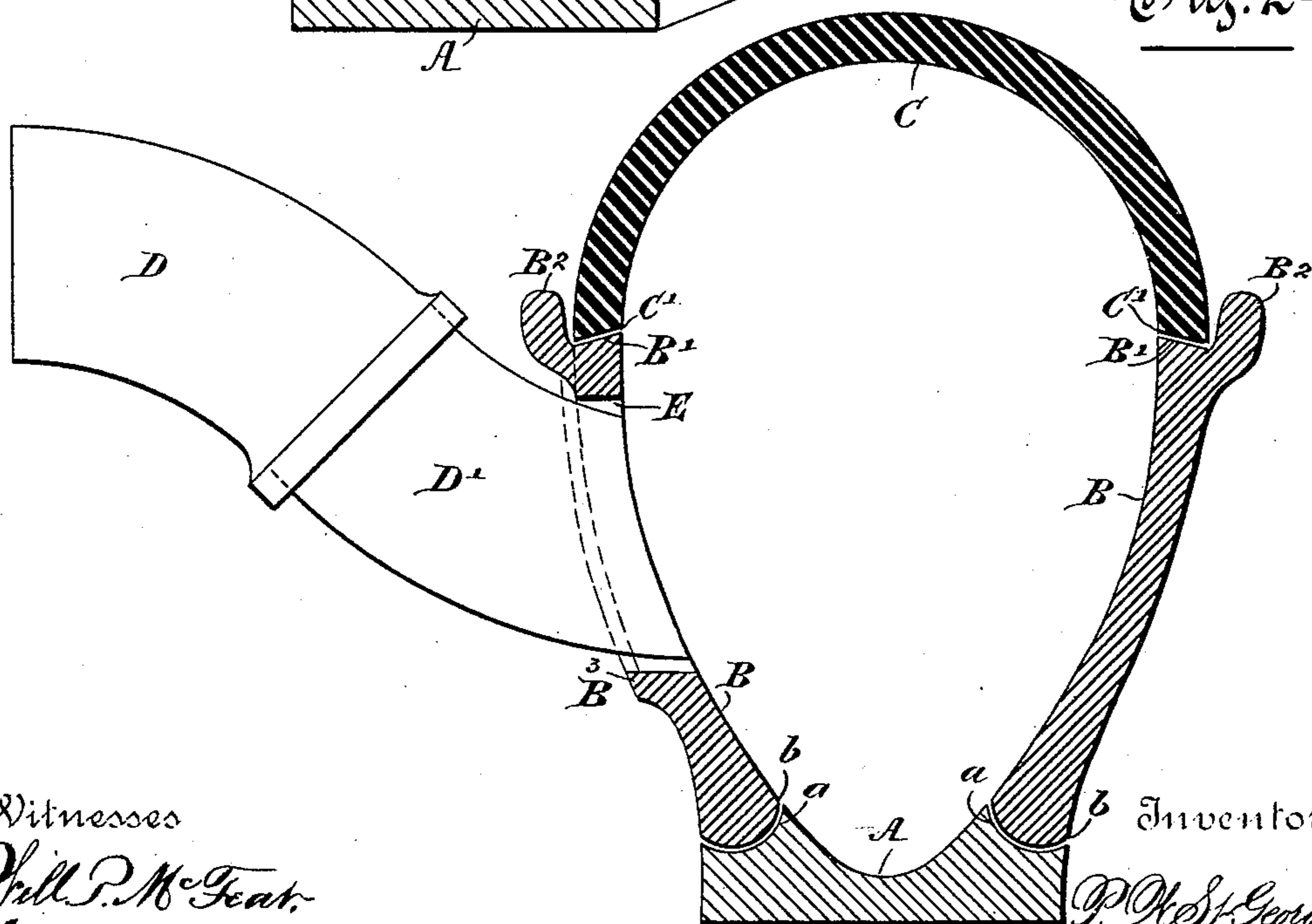
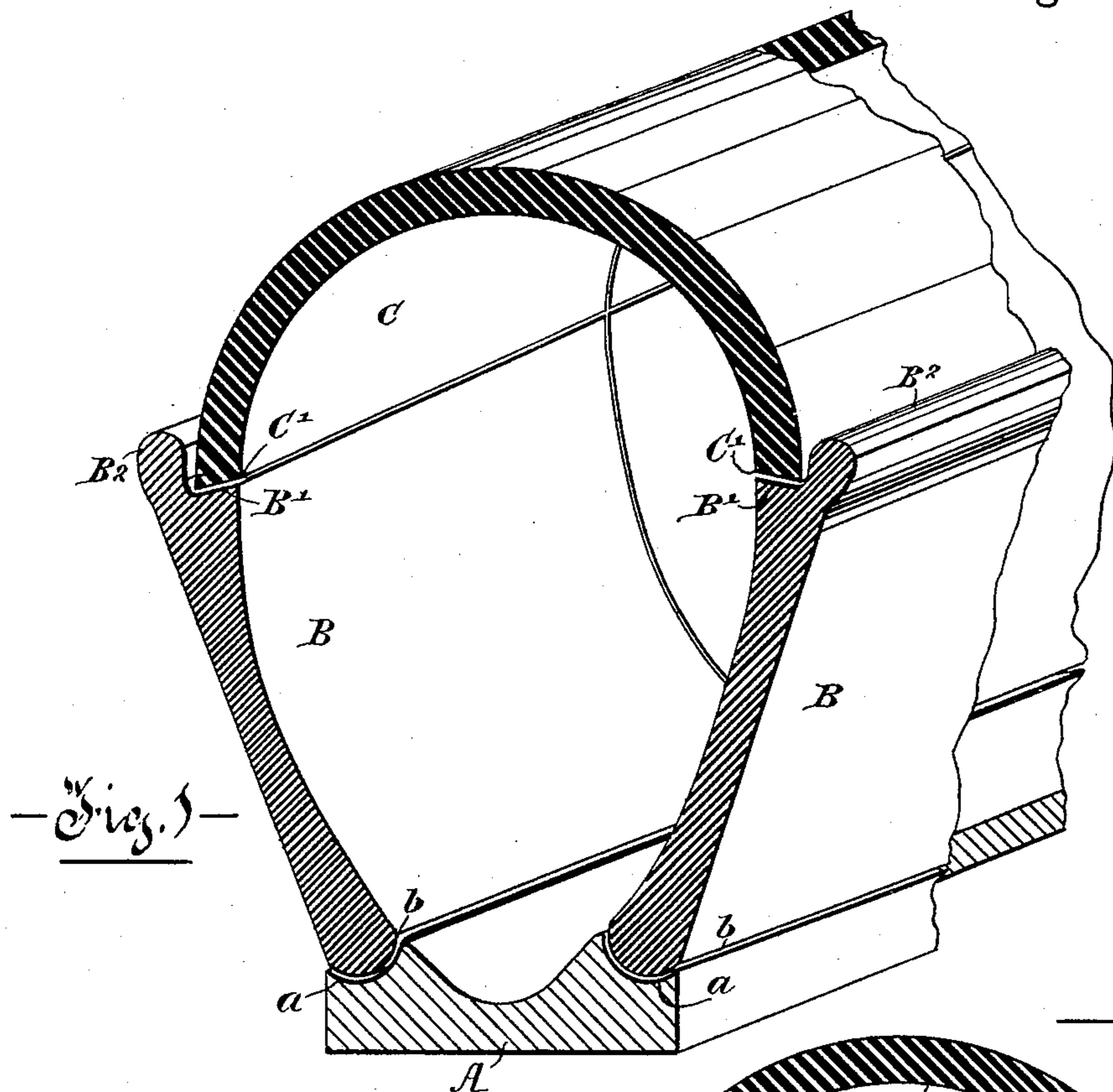


(No Model.)

P. W. ST. GEORGE.
CONSTRUCTION OF SEWERS OR CONDUITS.

No. 434,845.

Patented Aug. 19, 1890.



Witnesses
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By his Attorney

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UNITED STATES PATENT OFFICE.

PERCIVAL W. ST. GEORGE, OF MONTREAL, CANADA.

CONSTRUCTION OF SEWERS OR CONDUITS.

SPECIFICATION forming part of Letters Patent No. 434,845, dated August 19, 1890.

Application filed May 29, 1890. Serial No. 353,612. (No model.)

To all whom it may concern:

Be it known that I, PERCIVAL WALTER ST. GEORGE, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in the Construction of Sewers or Conduits; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has for its object to produce a sewer which shall be more easily constructed and more durable than those now built up in brick-work, and have its constituent parts more easily handled and set in place than lengths of complete cross-sections of such conduits, and be strongest at the points at which most resistance must be offered to the pressure of the earth.

It may be thus briefly described: The sewer is composed in oval cross-section of four pieces—viz., the invert, the two curved sides, and the top arch—all these breaking joint at their longitudinal junctions. The invert is flat on the bottom and has the skewbacks formed by its upper edges hollowed for the reception of the curved edges of the sections forming the sides, which, at their junction with the invert, are given such increased strength and thickness as will prevent the pressure of the earth from breaking them in. These sides have their top edges slightly sloping outward, and affording, with a flange formed on each side section and projecting outward and above them a continuous socket-joint to receive the top arch, the edges of which correspond to the tops of the side sections, thereby protecting the haunch or springing of the arch—i. e., the point at which it is weakest—and especially so against external pressure. When any connection is to be made—such as a house-drain with the sewer—one of the side sections (having formed in it an opening which will serve either for a right or left junction, and a rim formed round it by the thickening of the substance of which the sewer is composed) may be substituted for a side piece of the ordinary type.

For full comprehension of the invention, reference must be had to the annexed drawings, in which—

Figure 1 is a section in perspective of the sewer, and Fig. 2 a sectional view showing connection of house-drain.

Like symbols indicate corresponding parts.

A is the invert, preferably flat on the bottom, for the convenience of setting, *a a* being the skewbacks hollowed, as shown. B B are side pieces of the curve and varying thickness shown, *b b* being the curved bottom edges fitting into the sockets *a a*. B' B' are the outwardly-sloping top edges of these side sections, and B² B² flanges, formed where shown, to prevent any lateral movement of the arched top C, the lower edges C' C' of which correspond to and rest on the edges B', thus forming a strengthening continuous socket-joint or flange. These several sections A, B B, and C are made of any desired length, with butt-joints, and laid breaking joint.

In Fig. 2, D D' show lengths of a house drain-pipe connected with the sewer, E being an opening formed in one of the side sections B, and B³ being an extra thickness making a rim round it.

What I claim is as follows:

1. In a sewer, the combination of the following elements forming an oval in cross-section: the invert A, with hollowed skewbacks, side sections with curved lower edges fitting into skewbacks and strengthening socket-joints formed by flanges B² on top, and top arch C, resting in such socket-joints, all as herein set forth.

2. The combination, with the invert A and arched top C, of curved sides B B, having flanges B², and curved lower edges fitting into skewbacks, one or more lengths of such sides formed with openings E and rim B³, in combination with a drain-pipe, all as and for the purposes set forth.

PERCIVAL W. ST. GEORGE.

Witnesses:

WILL. P. McFEAT,
FRED. S. SEARS.