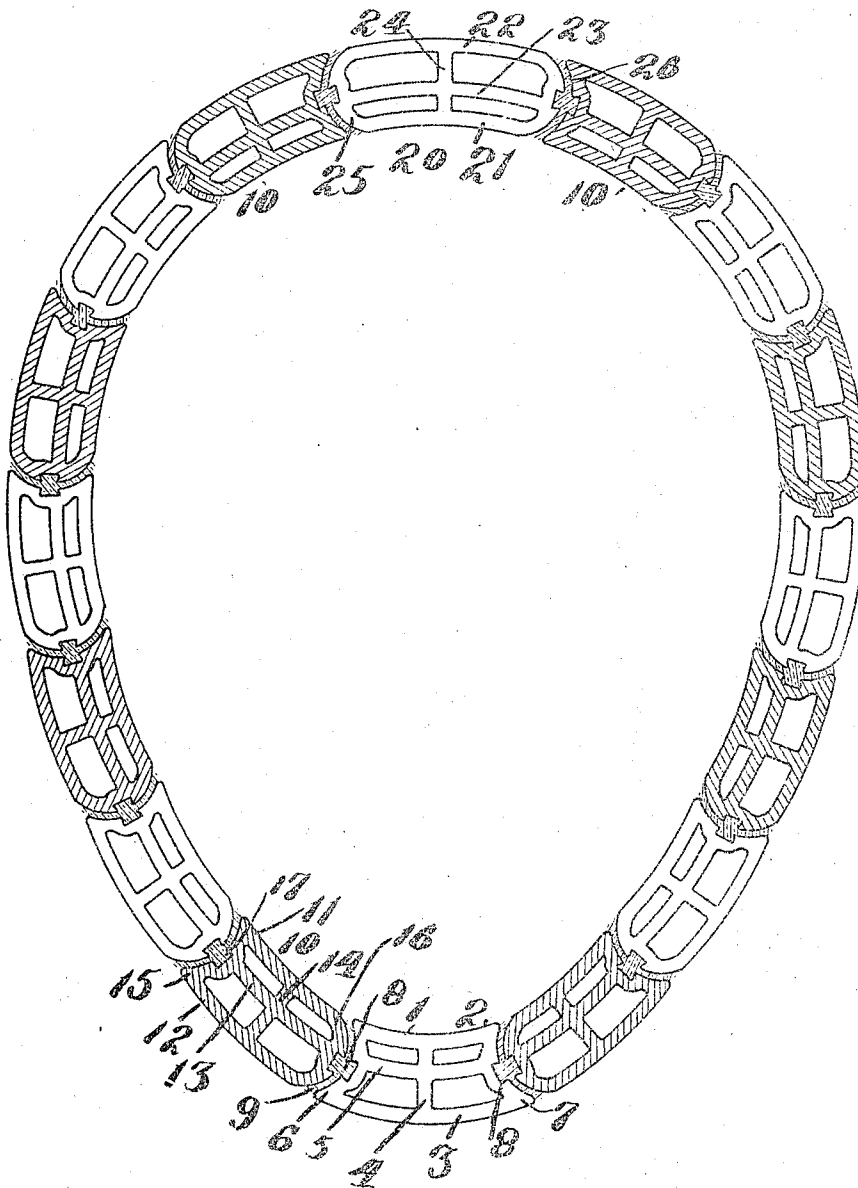


W. H. ROOK, JR.
CONSTRUCTION OF TUBULAR MEMBERS.
APPLICATION FILED DEC. 23, 1913.

1,168,909.

Patented Jan. 18, 1916.



Witnesses.

Austin B. Hanson

A. L. McClintock

INVENTOR-

William H. Rook, Jr.,

By *C. E. Humphrey*
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM H. ROOK, JR., OF AKRON, OHIO, ASSIGNOR TO THE AMERICAN SEWER PIPE COMPANY, OF AKRON, OHIO, A CORPORATION OF NEW JERSEY

CONSTRUCTION OF TUBULAR MEMBERS.

1,168,909.

Specification of Letters Patent.

Patented Jan. 18, 1916.

Application filed December 23, 1913. Serial No. 808,343.

To all whom it may concern:

Be it known that I, WILLIAM H. ROOK, JR., a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Construction of Tubular Members, of which the following is a specification.

This invention relates to improvements in tubular members such for instance as sewers or water conduits, and the invention primarily resides in constructing the same of a plurality of individual units usually laid up in longitudinal alinement and with broken joints or alternately disposed in the form usually employed in constructing brick walls.

More particularly, the invention resides in so fashioning and placing the units from which the tubular member is constructed that during the building thereof the plastic bond or mortar by which the units are secured together will be held in place until the bond is set and will not be lost or displaced by the pressure of the superimposed units or the covering above the joints.

With the foregoing and other objects in view, the invention consists in the novel constructions, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawing which forms a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the matter hereinafter claimed.

The drawing presented is a transverse sectional view of a tubular member embodying this invention.

While the drawing employed to show this invention is a transverse sectional view of an egg-shaped sewer the invention is not necessarily limited to a tubular construction of the particular cross sectional configuration shown.

The invention is made up of a bottom unit 1 consisting usually of an inner wall 2 and an outer wall 3 arranged in parallelism and formed curvilinearly or on other lines suitable for use in the tubular structure. The two walls 2 and 3 are usually connected by a wall or diaphragm 4 and the unit, if necessary, is strengthened by an intermediate wall

5 customarily parallel with the walls 2 and 3. The ends of the unit are formed by the walls 6 and 7 which are integral with and unite the walls 2, 3 and 5, so as to form a unitary and homogeneous structure. The walls 6 and 7 of the unit 1 are concave or extend inwardly in transverse cross-section and are preferably centrally provided with transversely extending recesses 8 at each end constituting pockets for the reception of the bonding element 9 which serves to unite the unit 1 to contiguous units of the device.

The sides of the structure are formed of a plurality of units designated generally by the reference numeral 10, each consisting of an inner wall 11, and outer wall 12, and an intermediate wall 13, which are united centrally by a wall 14 and provided with an end wall 15 concave or inwardly-projecting in cross-section and with an opposite end wall 16 convex or outwardly-projecting in cross section. Each of the walls 15 and 16 are provided with longitudinal recesses 17 adapted to register with the corresponding recesses in coadjacent units. These registering recesses provide, when filled with a bonding element such as mortar or cement, a key for preventing lateral displacement of the units.

The top or key member of the tubular member designated generally by the reference numeral 20 consists of an inner wall 21, an outer wall 22, and an intermediate wall 23 uniting approximately centrally by a wall 24 and provided with end walls each of which is convex or outwardly-projecting in cross section. These walls 25 are provided with notches 26 to receive the key-forming portion of the bonding element to form a mortar clench therewith.

In laying up a wall embodying this invention the base or lower unit 1, which, it will be noted, is provided with concave or inwardly-projecting walls, is first positioned and the sides of the tubular members are then formed by the units 10 placing the convex or projecting sides thereof downwardly so that the projecting sides of the two lower units 10 will be received in the concave or inwardly-projecting sides 6 and 7 of the base unit 1 and as the units 10 are provided on alternate sides with concave and convex portions, so called, each succeeding superimposed unit 10 will be positioned with the convex or projecting side thereof down-

ward and with its concave or inwardly-projecting side upwardly positioned. In doing this, the concave upper sides of each of the side-forming units provides a pocket in which the cementitious bonding material used for uniting the several units together is held from being displaced, and is held securedly until it has set, thereby preventing its escape and destroying the bond sought to be obtained between coadjacent units. When the entire side walls have been completed, the key or top section 20 is positioned, which, it will be noted, is provided with convex ends (so called) of the two coadjacent side members 10.

Experience has demonstrated that where the structure is constructed entirely of units such as are shown in the drawings by the reference numeral 10, and they are continued completely around the tubular member in its construction, one-half of the units will be so positioned that their convex portions (so called) are uppermost, and consequently, the bonding element applied to the convex sides (so called) of these units is forced out of place by the weight of the superimposed units before the bonding element has had time to harden, and its usefulness is lost and a deficient joint is formed; whereas, by constructing the sewer with a base member having two concave side walls and by always positioning the side members of the device with their convex sides down-

ward and with their concave sides upward, receiving pockets for the holding and retention of the bonding material employed are provided and a greater degree of strength is obtained in the resulting product and the liability of crushing and distorting the joints and the formation of approximately weakened joints in the tubular member rarely, if ever, occurs.

I claim:—

A tubular member embodying in its construction a plurality of hollow units having longitudinally-extending ribs running from end to end of said units, the lower unit of said member being provided with concave end walls, the upper unit of said member being provided with convex end walls, the remaining units of said member being each provided at its lower end with a convex end wall and at its upper end with a concaved end wall whereby to form a series of concave receiving pockets, each of said members being provided in its end walls at points substantially opposite to the reinforcing wall with bond-receiving pockets, and bonding material filling said pockets.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. ROOK, JR.

Witnesses:

A. G. McCOMBE,
C. J. OSBORNE.