F. A. STOCKLEY.

CONCRETE PIPE.

APPLICATION FILED APR. 21, 1909.

958,043.

Patented May 17, 1910.

Fig. 1.

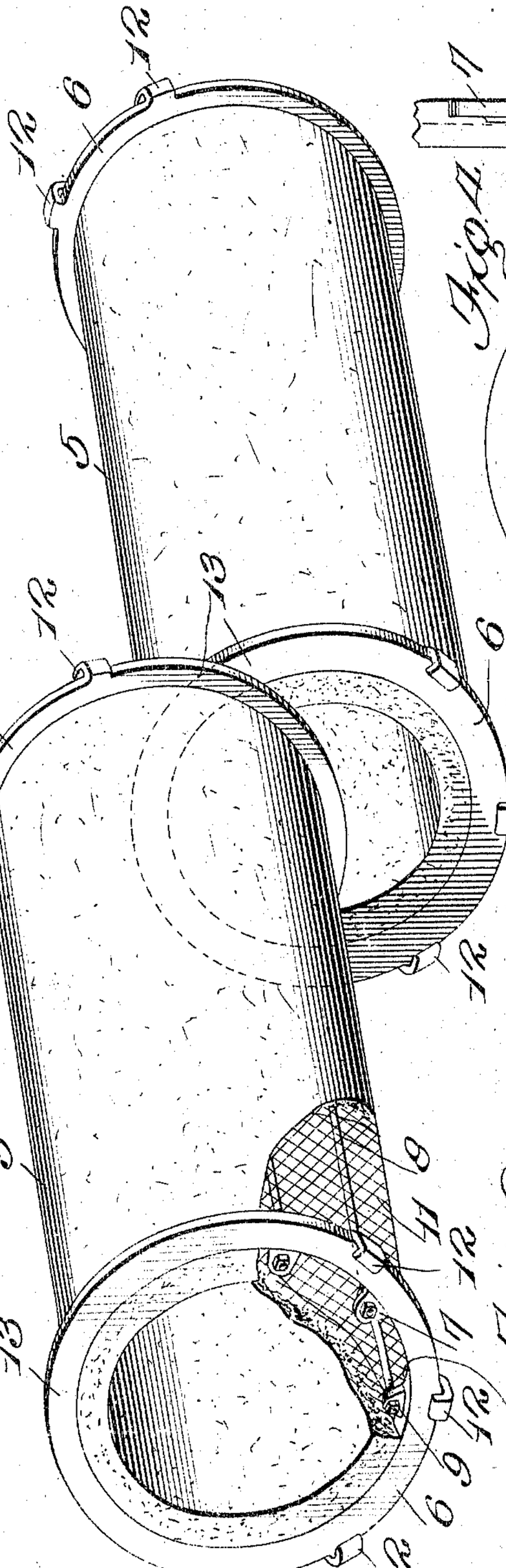

Fig. 2.

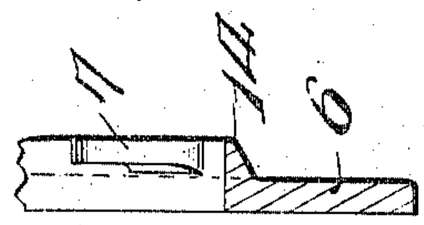

Fig. 3.

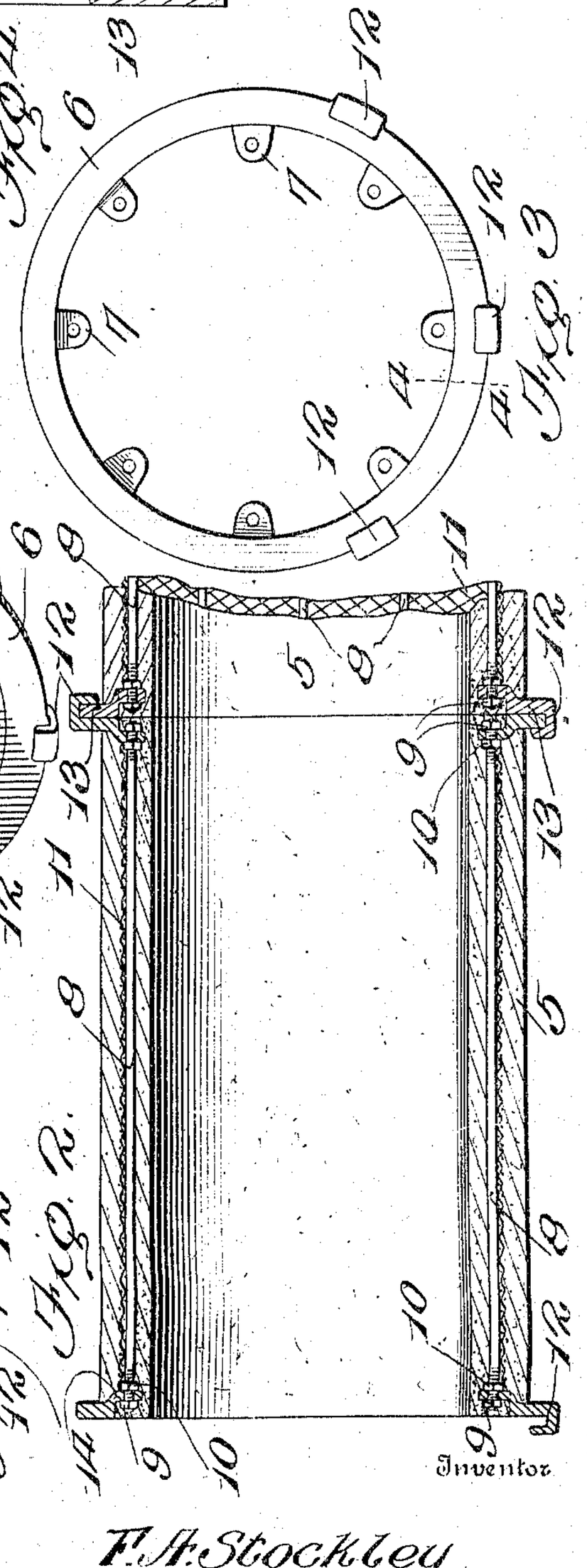

Fig. 4.

Witnesses

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FREDERICK A. STOCKLEY, OF MONTOUR FALLS, NEW YORK.

CONCRETE PIPE.

958,043. Specification of Letters Patent. Patented May 17, 1910.

Application filed April 21, 1909. Serial No. 491,404.

To all whom it may concern:

Be it known that I, FREDERICK A. STOCKLEY, citizen of the United States, residing at Montour Falls, in the county of Schuyler and State of New York, have invented certain new and useful Improvements in Concrete Pipes, of which the following is a specification.

This invention relates to sewer pipes or conduits and has for its object to provide an artificial stone pipe, the several sections of which may be readily assembled in a trench or ditch to form a continuous conduit of any desired length without the employment of clamps, bolts, and similar fastening devices.

The object of the invention is to provide a concrete pipe section including spaced heads connected by longitudinal reinforcing rods and provided with laterally extending lugs for engagement with the head of an adjacent pipe section when several of said sections are assembled to form a conduit, said heads not only serving to reinforce and strengthen the pipe, but also serving to protect the ends thereof and prevent breakage during transportation or shipment.

A further object is to so arrange the anchoring lugs of the reinforcing rods that the concrete or other material comprising the body of the pipe, may be readily tamped during the formation of the pipe.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability, and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claim.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a plurality of concrete pipes constructed in accordance with my invention, showing the same in position to be covered; Fig. 2 is a longitudinal sectional view showing the pipes in operative position; Fig. 3 is a plan view of one of the reinforcing heads of the pipe detached; Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The pipe section forming the subject matter of the present invention comprises a concrete body portion 5 having its opposite ends provided with terminal heads 6, the latter being provided with spaced inwardly extending ears 7 having perforations formed therein for the reception of the adjacent ends of longitudinally disposed reinforcing rods 8. The opposite ends of the rods 8 are provided with threads for engagement with suitable clamping nuts 9 and 10, which latter bear against the upper and lower faces of the ears 7, thereby to lock the heads in position on the rods and maintain said heads in spaced parallel relation to each other.

Embedded in the cement, concrete, or other plastic material 5, during the formation of the pipe, is a strip of woven mesh wire 11, this strip of foraminous material being interposed between the heads 6 and arranged to bear against the exterior of the reinforcing rods 8 in order to assist in reinforcing the body portion and prevent disintegration of the concrete.

The ears 7 are preferably offset so that the upper faces thereof extend in a plane below the plane of the heads 6, this arrangement of the ears permitting the concrete to be leveled off flush with the upper surface of the heads 6 and thus cover the clamping nuts 9.

Extending laterally and inwardly from the peripheral edge of each head 6, are spaced lugs 12, preferably three in number as shown, said lugs being adapted to receive and embrace the smooth unobstructed portion 13 of an adjacent head when several of the pipe sections are assembled to form a continuous length of culvert or conduit. The lugs 12 on one of the heads of each pipe section are arranged opposite to the lugs on the other head of the same pipe section so that after one section is laid in the trench or ditch, another section may be readily connected therewith by merely forcing the smooth unobstructed portion 13 of an adja-

cent section within the lugs 12, and in which position the lugs 12 of said adjacent section will embrace the smooth unobstructed portion of the first mentioned section.

Attention is here called to the fact that the heads 6 not only serve to reinforce and strengthen the pipe section, but also serve to house and protect the outer peripheral edge of the pipe, thereby to prevent breakage during transportation or shipment. It will also be noted that by arranging the ears in spaced relation, the material comprising the body of the pipe may be readily tamped with a suitable tool during the formation of the pipe.

In constructing the pipe section, the heads 6 are first assembled by passing the reinforcing rods 8 through the perforations therein and clamping the latter by adjusting the nuts 9 and 10, after which the wire netting 11 is interposed between the heads 6 and the framework thus formed positioned between the inner and outer shells of a mold of any suitable construction. The cement, concrete, or other plastic material is then shoveled or otherwise introduced into the molding compartment between said shells and thoroughly tamped by introducing a suitable tool between the ears 7 in the manner before stated. After the concrete is sufficiently set the shells are assembled and the pipe sections placed on the drying racks to cure.

It will here be noted that by offsetting the ears 7, the latter act as anchoring members or spurs, while the inner peripheral edges of the heads 6 being deflected downwardly at 14 between the ears 7, serve as an additional means for anchoring the heads and preventing disintegration of the cement or concrete at the opposite ends of the pipe.

Thus it will be seen that there is provided a pipe section capable of being conveniently and expeditiously manufactured, and which may be readily connected with or disconnected from an adjacent section to permit the formation of a conduit or culvert of any desired length.

Having thus described the invention, what is claimed as new is:

A concrete pipe including spaced heads having their inner peripheral edges provided with spaced perforated ears radiating toward the center of the pipe and having their outer faces spaced from the outer faces of the heads, threaded reinforcing rods connecting said ears, a strip of foraminous material embedded in the concrete and bearing against the rods, clamping nuts engaging the threaded portions of the rods and bearing against the inner and outer faces of the ears, and attaching lugs secured to each head for engagement with the head of an adjacent pipe when several of said pipes are assembled, the attaching lugs on the head at one end of each pipe being disposed diametrically opposite to the lugs on the head at the opposite end of said pipe, the concrete forming the body of the pipe being disposed flush with the outer faces of the heads and covering the clamping nuts of the reinforcing rods.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK A. STOCKLEY. [L. S.]

Witnesses:

ANNIE E. STOCKLEY,

LOUISE STOCKLEY LEE.