

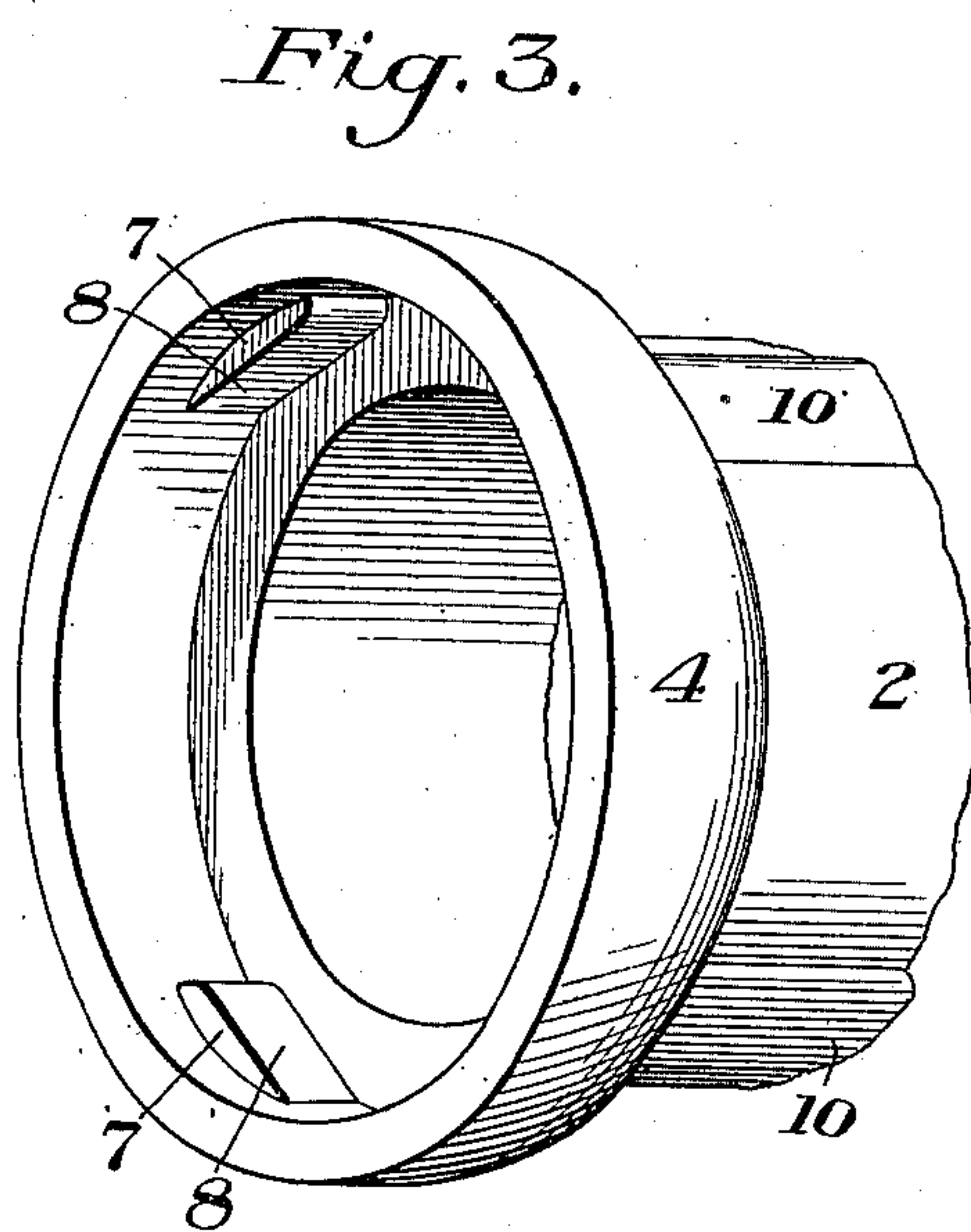
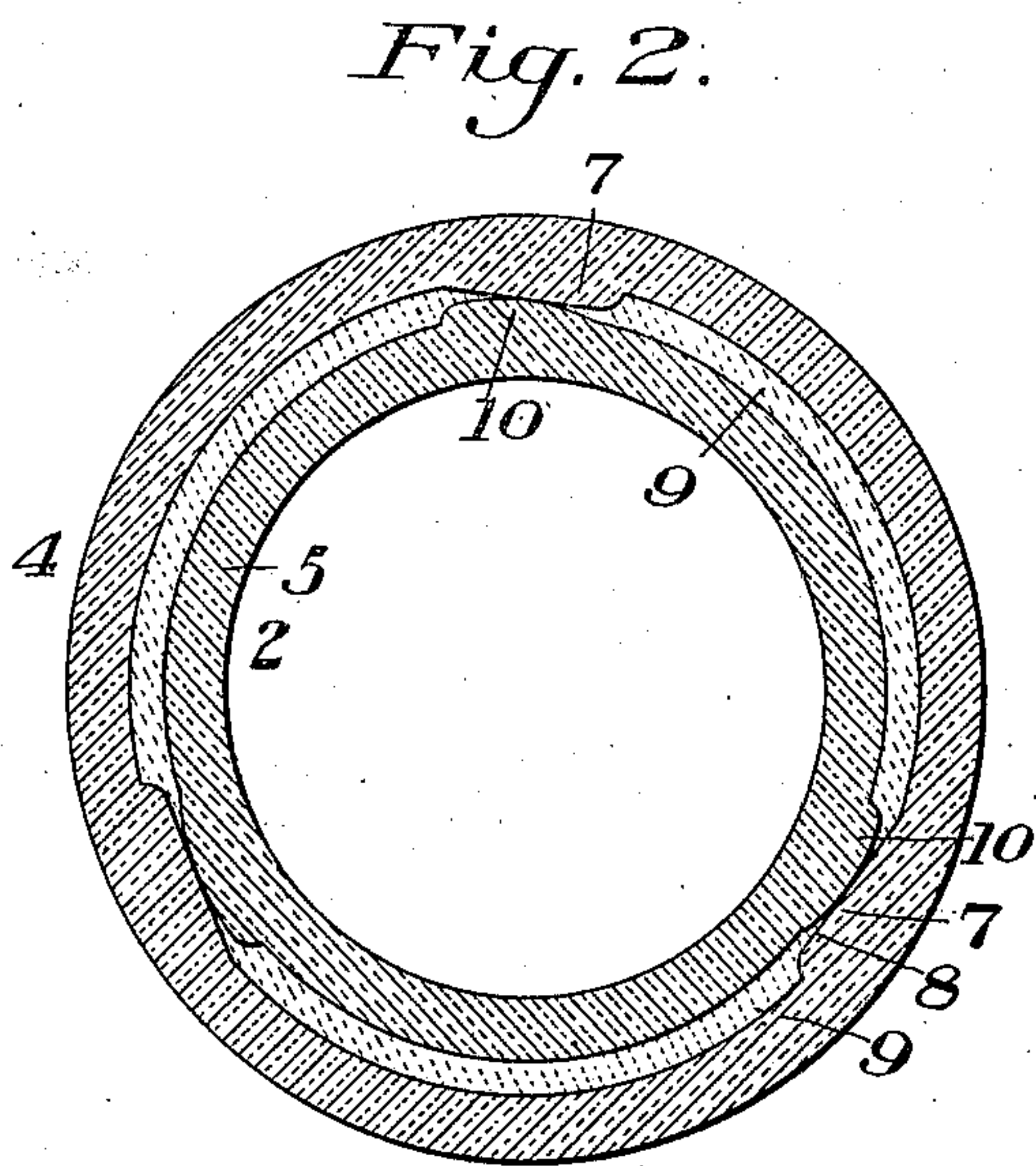
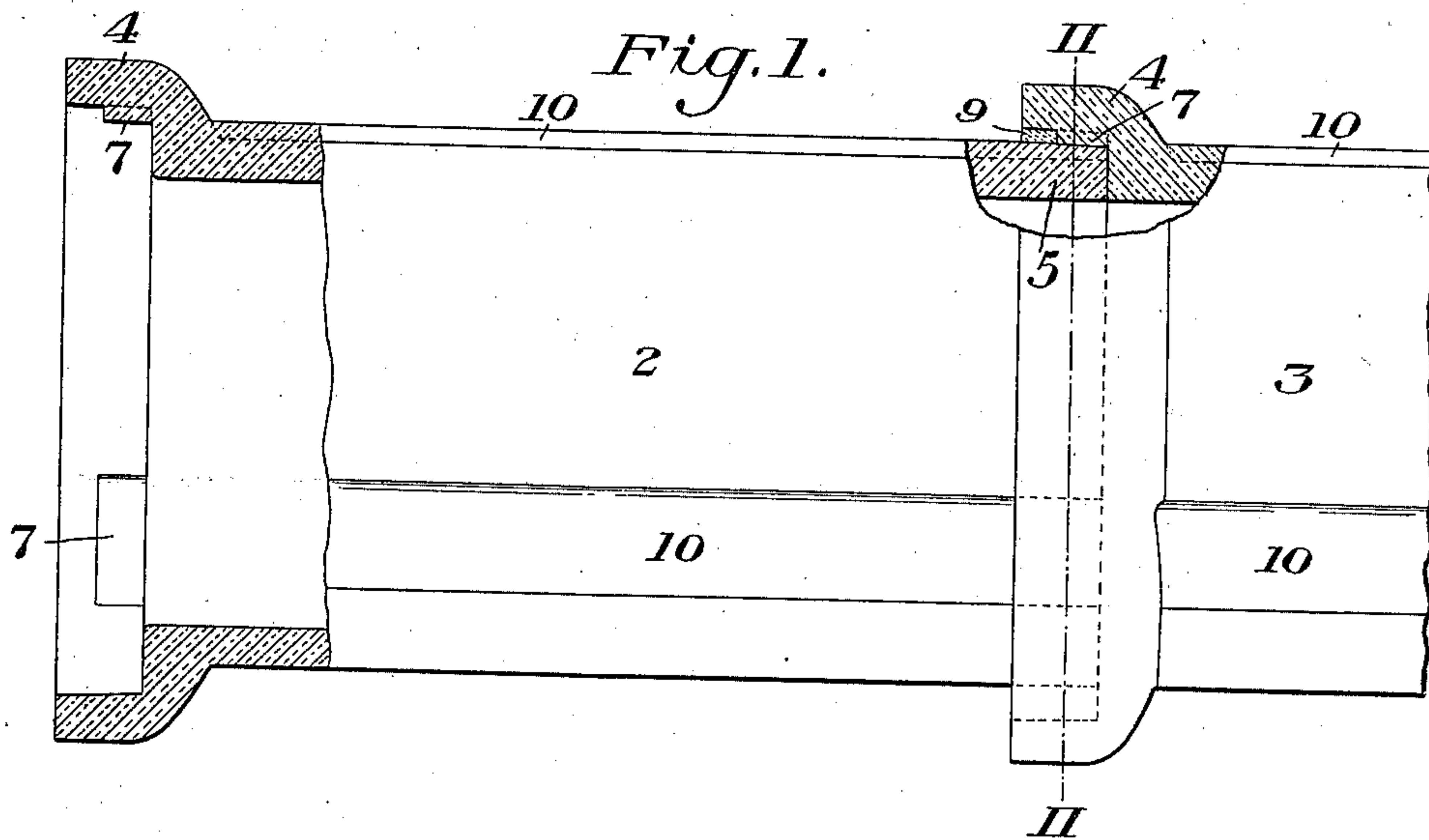
S. McADOO.

SEWER PIPE.

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996,023.

Patented June 20, 1911.



WITNESSES

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UNITED STATES PATENT OFFICE.

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SEWER-PIPE.

996,023.

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To all whom it may concern:

Be it known that I, SAMUEL McADOO, of Toronto, Jefferson county, Ohio, have invented a new and useful Improvement in
5 Sewer-Pipes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view partly broken away
10 showing sewer pipe constructed and united in accordance with my invention; Fig. 2 is a section on the line II—II of Fig. 1; and Fig. 3 is a perspective view showing the bell end of one of the pipe sections.

15 My invention has relation to sectional sewer pipe, composed of clay, cement or the like, and which are united by means of a socket or bell made on one end of each section into which the adjacent end of another
20 section is inserted and secured.

The object of my invention is to provide means for properly centering the sections of a character which can be readily formed or
25 molded on the pipe sections without increasing the difficulties of manufacture; and also to provide centering means of this character which will enable the use of a proper amount of cement or luting at the joints.

The precise nature of my invention will
30 be best understood by reference to the accompanying drawings, in which I have shown the preferred embodiment thereof, and which will now be described.

In these drawings, the numerals 2 and 3
35 designate pipe sections constructed in accordance with my invention, each of said sections having at one end an enlarged bell or socket portion 4 which is designed to receive the cylindrical end portion 5 of the adjacent
40 section. The wall of the socket portion or bowl is of substantially uniform thickness throughout its extent, and is preferably of substantially the same thickness as the wall of the body portion of the section. I provide, however, on the interior of the bell or
45 socket a series of projections 7 having the inclined or wedge surfaces 8. Preferably three of these wedge-shaped projections are provided, equally spaced from each other, as
50 shown in Figs. 2 and 3, although a greater number may be employed if desired. These projections, as will be clearly seen from Fig. 2, but very slightly increase the thickness of the wall of the bell or socket at the places
55 where they occur. The inclined surfaces of

the projections tapering inwardly toward the center of the pipe or concentric with relation thereto, from the surface of the bell and receding from the high point of the projection to the surface of the bell. This is
60 of great importance in the manufacture of the pipe, for the reason that if some portions of the wall are made of substantially greater thickness than others, the thinner portions
65 dry quicker than the thicker portions, which causes cracking and breakage. The projections also are preferably of less length measured in a direction parallel with the axis of the pipe than the depth of the bowl or socket. In practice, I prefer that their length shall
70 be about one-half or less of the depth of the bowl or socket so as to leave a clear surrounding space at the outer portion of the bowl or socket for the reception of cement, as indicated at 9 in Fig. 1. Each pipe section
75 is also provided with a series of longitudinally extending ribs 10 on its outer surface, there being one of these ribs for each of the wedge-shaped projections 7. These
80 ribs preferably extend from the bowl or socket to the opposite end of the pipe section, and are provided with rounded or beveled outer surfaces to coact with the inclined surfaces 8 of the projection 7. When
85 the said pipe sections are brought together, the small end of one section is inserted into the bowl or socket of the other, with the ribs or projections 10 intermediate of the wedge projections 7. The sections are then
90 rotated relatively to each other to a sufficient extent to cause the ribs to ride on the inclined faces 8 of said projections. The ribs and projections are provided with a
95 gradual taper on one side, the other side receding abruptly to the face of the pipe or bell. This arrangement provides means for permitting the sections to be secured to each other by frictional engagement, when turned in one direction only. In this manner the
100 adjacent sections are properly centered with relation to each other. The space within the bowl or socket is then filled with cement or other suitable material, as shown in Fig. 1.

The advantages of my invention will be
105 apparent to those skilled in the art. As above pointed out, the wedge-shaped projections do not materially increase the thickness of the walls of the bells or sockets; they can be readily formed without difficulty in the manufacture of the sections; and their
110

construction and arrangement is such as to provide means for eliminating the danger of loosening the joint between some of the sections while tightening the joint between
5 other sections.

What I claim is:—

1. A pipe section, formed of plastic material, having a bell at one end whose wall is of substantially uniform thickness and is
10 provided on its inner surface with spaced wedge-shaped projections, the inner faces of said projections extending in a circumferential direction from the inner face of the bell toward the center of the bell, and receding abruptly from the high point of said
15 projection to the inner face of the bell, said projections being adapted to be engaged with the peripheral faces of corresponding projections on the end of another pipe section
20 by relative rotary movement in one direction only, the pipe section also having a series of longitudinally extending ribs on the exterior surface; substantially as described.

2. A pipe section formed of plastic material having a bell at one end, whose wall is of substantially uniform thickness and provided on its inner surface with spaced projections having cam surfaces on their inner
25 faces, the cam surfaces being eccentric to the face of the bell and of less depth than

the bell, the pipe section also having at its opposite end corresponding cam projections whose peripheral faces are adapted to be brought into engagement with the inner faces
35 of the projections within the bell of an adjacent section by a relative rotary movement in one direction only; substantially as described.

3. A pipe section formed of plastic material having a bell at one end, whose wall
40 is of substantially uniform thickness and provided on its inner surface with spaced projections having cam surfaces on their inner faces, the cam surfaces being eccentric to the inner face of the bell and of less depth
45 than the bell, the inner faces of the projections being adapted to be engaged with the peripheral faces of corresponding projections on the end of another pipe section by a relative rotary movement in one direction
50 only, and an annular space between the periphery of the second section and the inner face of the bell beyond the projections for cement; substantially as described.

In testimony whereof, I have hereunto set
55 my hand.

SAML. McADOO.

Witnesses:

EDWARD MCKINLEY, Jr.,
SAML. B. GOUCHER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
