

No. 813,016.

PATENTED FEB. 20, 1906.

W. J. McHUGH.  
DRAIN TILE PROTECTOR.  
APPLICATION FILED AUG. 12, 1905.

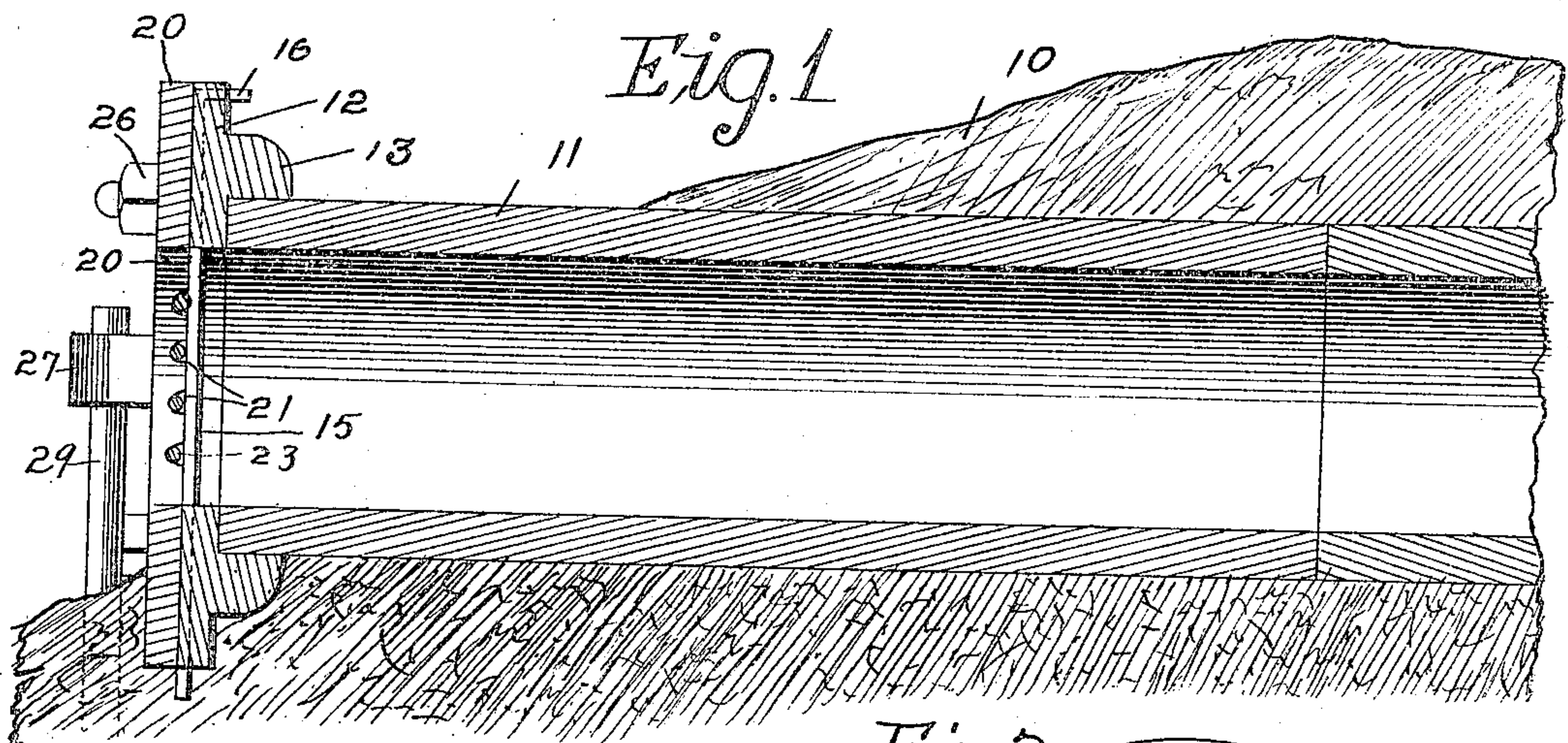


Fig. 2.

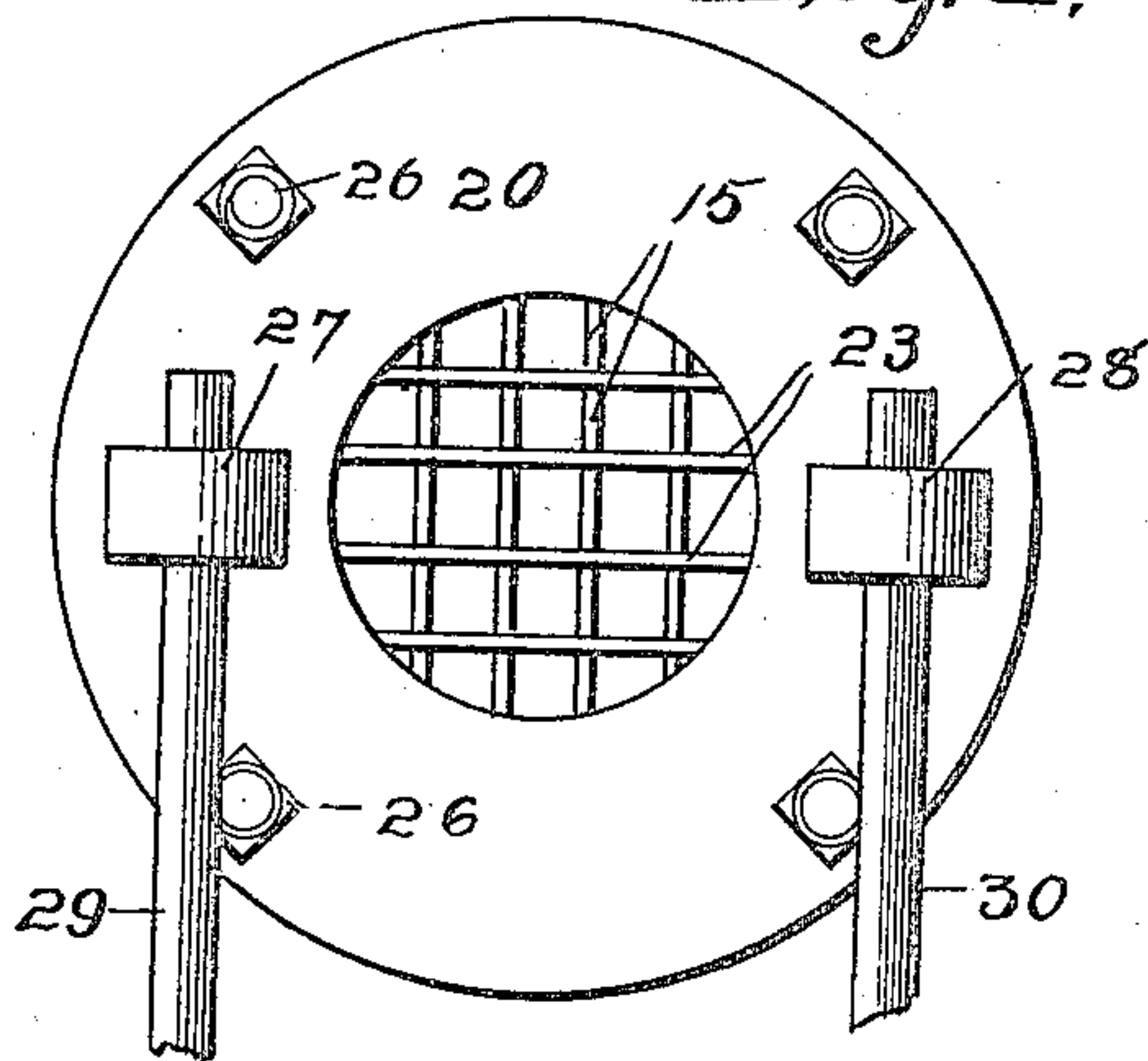


Fig. 3.

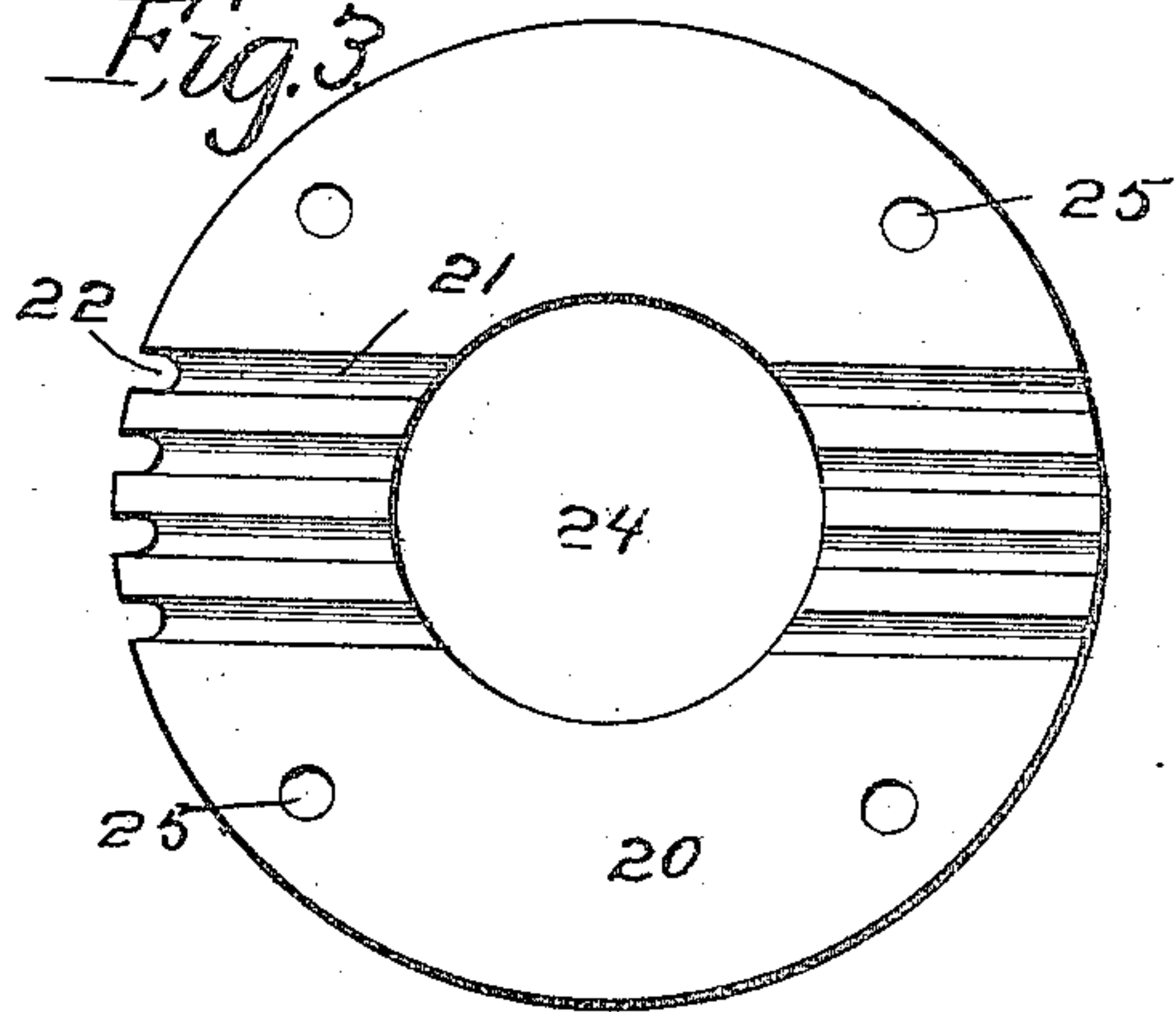


Fig. 4.

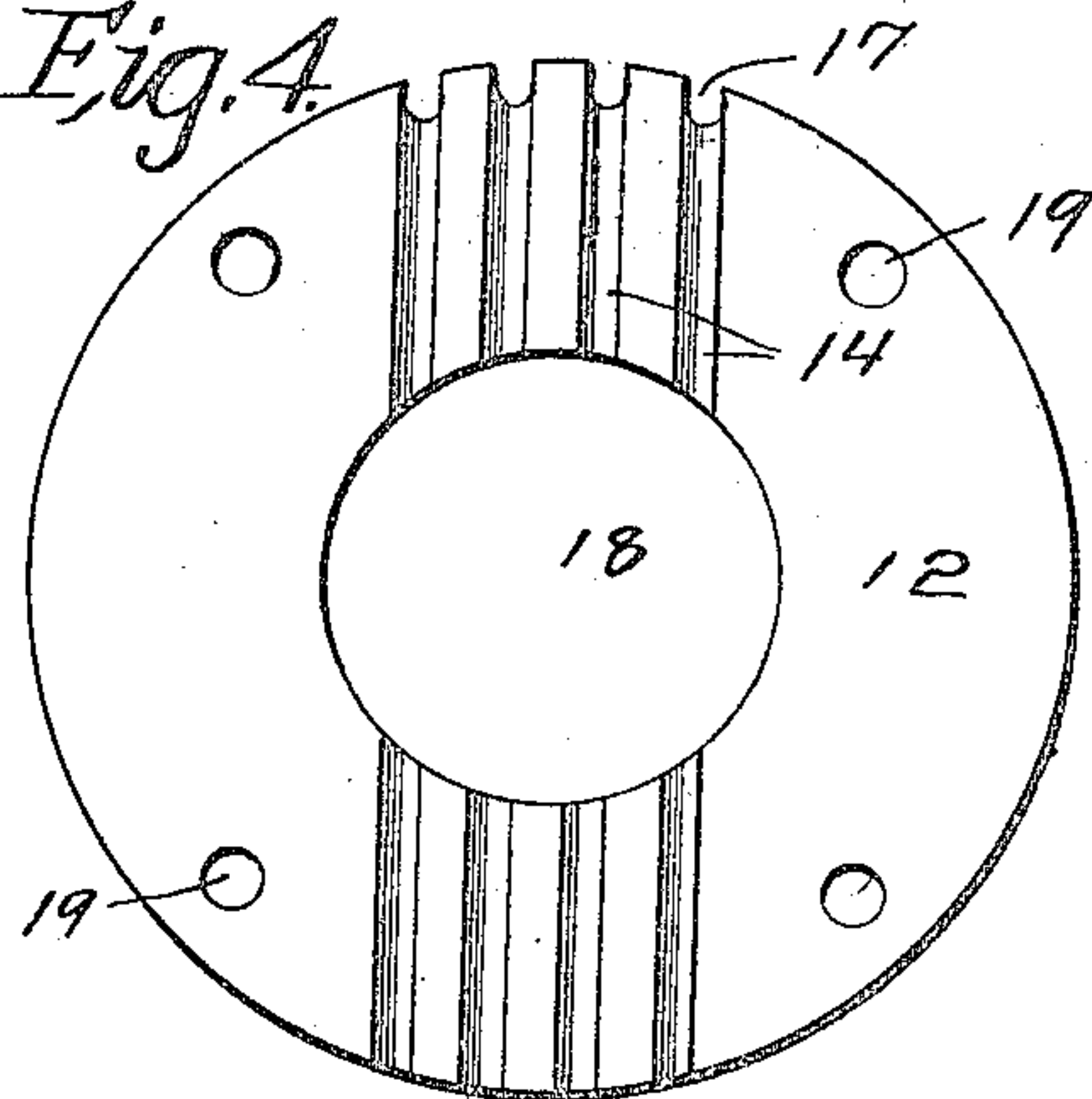
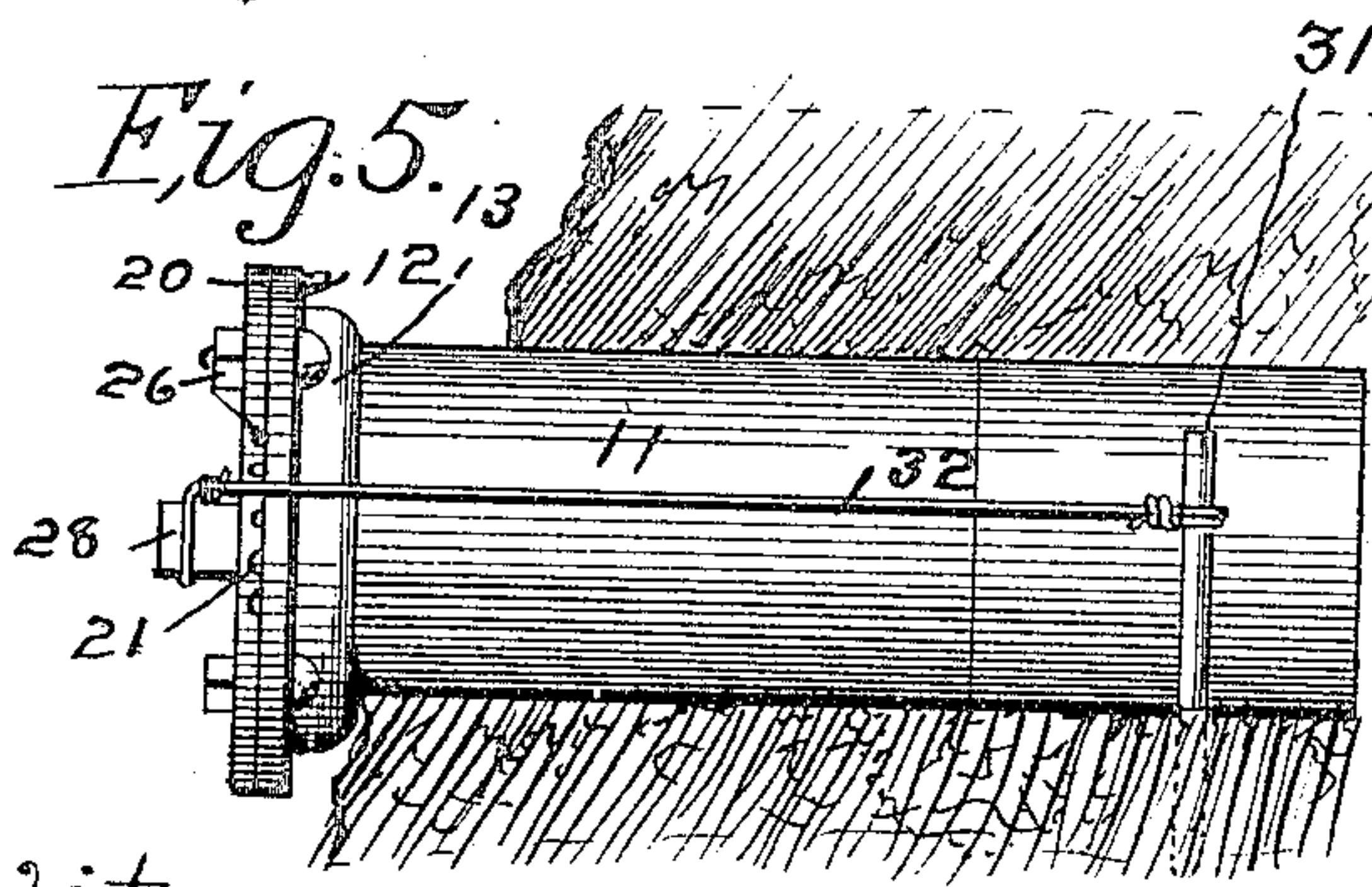


Fig. 5.



Witnesses:

A. G. Hague,  
S. F. Christy.

Inventor W. J. McHugh.

By Oving Lane attys



# UNITED STATES PATENT OFFICE.

WILLIAM J. McHUGH, OF DANA, IOWA.

## DRAIN-TILE PROTECTOR.

No. 813,016.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed August 12, 1905. Serial No. 273,985.

*To all whom it may concern:*

Be it known that I, WILLIAM J. McHUGH, a citizen of the United States, residing at Dana, in the county of Greene and State of Iowa, have invented a certain new and useful Drain-Tile Protector, of which the following is a specification.

The objects of my invention are to provide a protector for the end of drain-tiles designed to prevent vermin of various kinds from crawling into the tile to which the protector is attached, and, further, to prevent foreign substances, such as leaves, from being blown or forced into it, and, further, to provide a mechanism for rigidly securing the protector in position relative to the end of the tile.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of the tile, showing its position in the bank with my tile-protector secured to the end of it. Fig. 2 is a front elevation of the tile-protector removed from the tile. Fig. 3 is a detail rear elevation of the front portion of the tile-protector removed. Fig. 4 is a front elevation of the rear portion of the tile-protector with the front portion of it removed; and Fig. 5 is a side elevation of the tile, showing the modified form of the mechanism for holding my protector in position relative to either of the

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the ground in which the tile 11 is laid. At the outlet of the tile 11 I have placed a protector having the inner plate 12 therein, said plate having an annular collar 13, made integral with it, which encircles the outer end of the tile. In the outer surface and running vertically in it is a series of grooves 14, in which a series of rods 15 are placed, said rods having a hooked portion 16, which rests in channels 17, which are continuations of the grooves 14 and extend across the upper portion of the inner plate 12 for maintaining the rods in position relative to the inner portion. Extending through the central portion of the plate 12 is a circular opening 18 of the same diameter as the diameter of the tile 11, to which it is secured.

Extending through the plate 12 and adja-

cent to its outer edge is a series of bolt-openings 19. Mounted outside of the inner plate 12 is an outer plate 20, having a series of horizontal grooves 21, with the channels 22 at one end of each of them, as shown clearly in Fig. 3 of the drawings. In these grooves 21 the rods 23 are placed, which rods are similar in construction to the rods 15 and have their hooked portion resting in the channels 22. In the central portion of the plate 20 I have provided an opening 24 of the same size as the opening 18 in the inner plate 12 and in line with it. Extending through this outer plate 12 is a series of bolt-openings 25 in line with bolt-openings 19 in the inner plate, and bolts 26 are passed through each of these openings 19 and 25 for securing the outer plates together. For the sake of convenience I have termed the outer and inner portions of the protector the "body" portion. The rods 15 and 23 form a network which prevents vermin or foreign substances from getting into the tile.

Extending outwardly from the outer plate 20 are the lugs 27 and 28 and on diametrically opposite sides of it, as shown in Fig. 2. Each of these lugs has an opening extending vertically of it, into which the rods 29 and 30 are inserted. These rods 29 and 30 are also driven into the ground immediately outside of the protector for maintaining it in position relative to the tile.

In the modified form of the device two rods 31 are driven into the earth some distance inside of the outlet-opening of the tile and on opposite sides of it, and ropes 32 connect the rods 31 with the lugs 27 and 28 for securing the protector in position relative to the end of the tile. This form is designed to be used when the earth at the end of the tile is not adapted to receive the rods at that point.

In the practical use of this protector it will be seen that it can be easily attached to the end of the tile and secured in this position, and at the same time it can be easily and readily detached and removed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. A protector for tile comprising a body portion having an opening through it, a network in the opening, means for securing the protector in position relative to the end of the tile.

2. In a protector for tile, a body portion



having an opening extending through it, a network in the opening, lugs extending outwardly from the body portion, and means connected with the lugs for maintaining the protector in position relative to the end of a tile.

3. In a protector for tile, an inner portion, a collar secured to the inner portion, designed to encircle the end of a tile, an outer portion, means for securing the outer portion to the inner portion, a series of rods forming a network secured between the inner and outer portions and in an opening which extends through the inner and outer portions.

4. In a protector for tile, an inner portion, a collar secured to the inner portion, designed to encircle the end of a tile, an outer portion, means for securing the outer portion to the inner portion, a series of rods forming a network secured between the inner and outer portions and in an opening which extends through the inner and outer portions, and means for securing the protector in position relative to the end of a tile.

5. In a protector for tile, an inner portion having an opening extended through it, a collar integral with the inner portion, designed to encircle the end of the tile, said inner portion having a series of grooves extending vertically of it, a rod in each of said grooves, a hooked portion in the rod designed to maintain the rod against downward movement, an outer portion having an opening extending through it in line with the opening in the inner portion and having a series of horizontal channels extending across its inner surface, a series of rods in said channels designed to engage the rods in the inner portion, and means for securing the inner and outer portions together.

6. In a protector for tile, an inner portion having an opening extending through it, a

collar integral with the inner portion, designed to encircle the end of the tile, said inner portion having a series of grooves extending vertically of it, a rod in each of said grooves, a hooked portion in the rod designed to maintain the rod against downward movement, an outer portion having an opening extending through it in line with the opening in the inner portion and having a series of horizontal channels extending across its inner surface, a series of rods in said channels designed to engage the rods in the inner portion, means for securing the inner and outer portions together, and means for securing the protector in position relative to the end of the tile.

7. In a protector for tile, an inner portion having an opening extended through it, a collar integral with the inner portion, designed to encircle the end of the tile, said inner portion having a series of grooves extending vertically of it, a rod in each of said grooves, a hooked portion in the rod designed to maintain the rod against downward movement, an outer portion having an opening extending through it in line with the opening in the inner portion and having a series of horizontal channels extending across its inner surface, a series of rods in said channels designed to engage the rods in the inner portion, means for securing the inner and outer portions together, lugs having openings in them secured to the outer surface of the outer portion, and rods entering the openings in the lugs and designed to be driven into the ground for securing the protector in position relative to the end of the tile.

WILLIAM J. McHUGH.

Witnesses:

W. O. GRIFFIN,  
H. W. BEAN.