

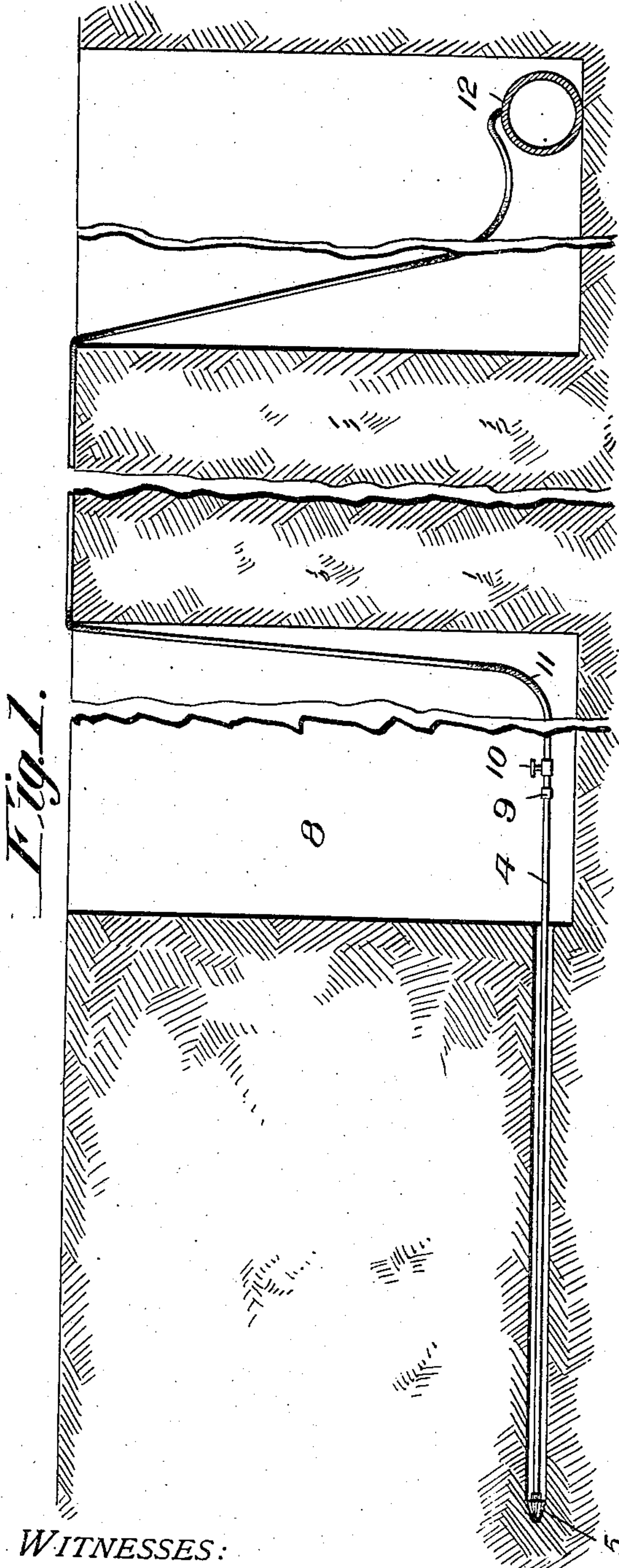
No. 862,972.

PATENTED AUG. 13, 1907.

J. F. JONES.

DEVICE FOR FACILITATING THE LAYING OF PIPES.

APPLICATION FILED JUNE 2, 1905.



WITNESSES:

Thos. W. Riley.
Herbert D. Lawson.

Fig. 4.

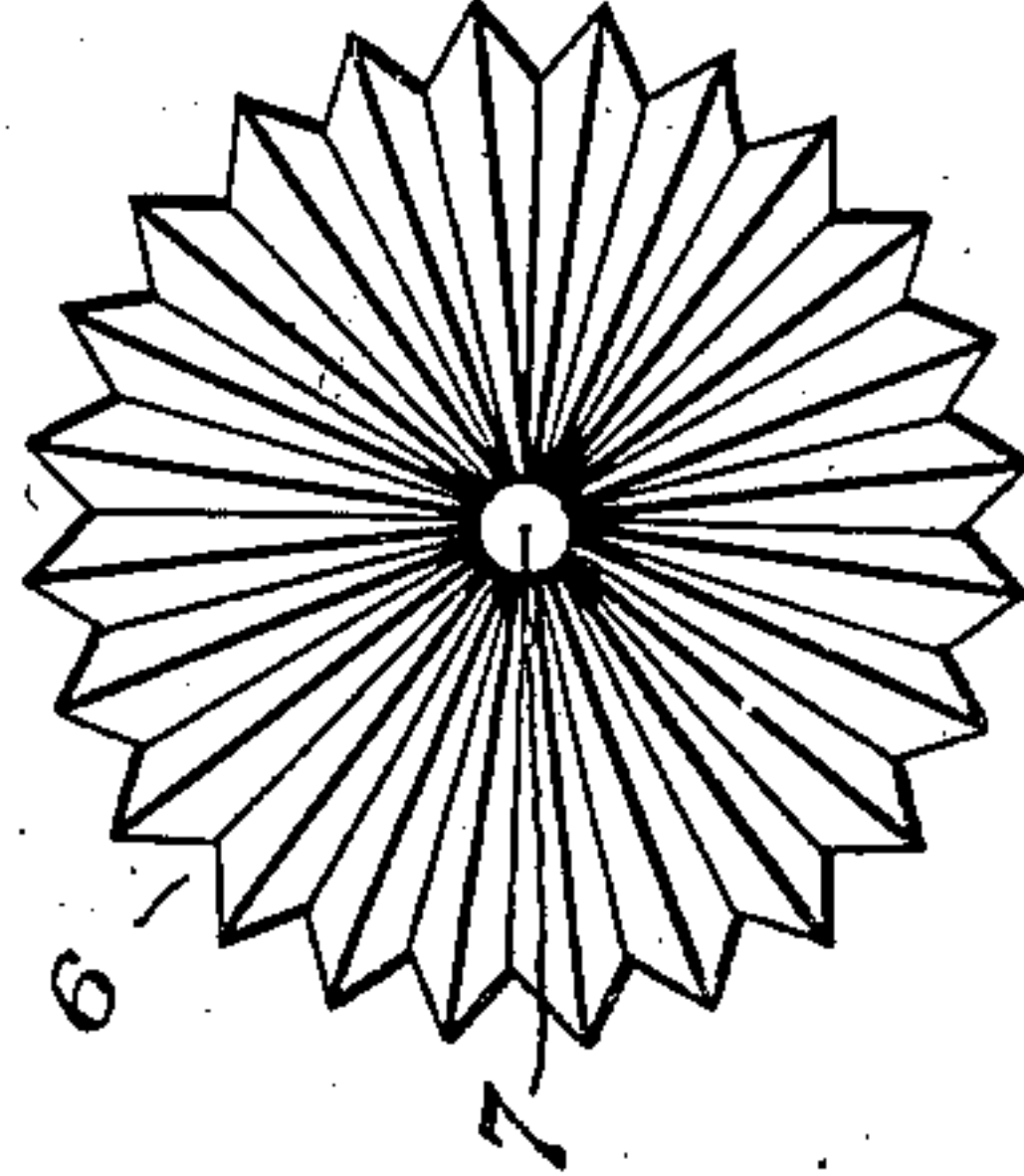


Fig. 3.

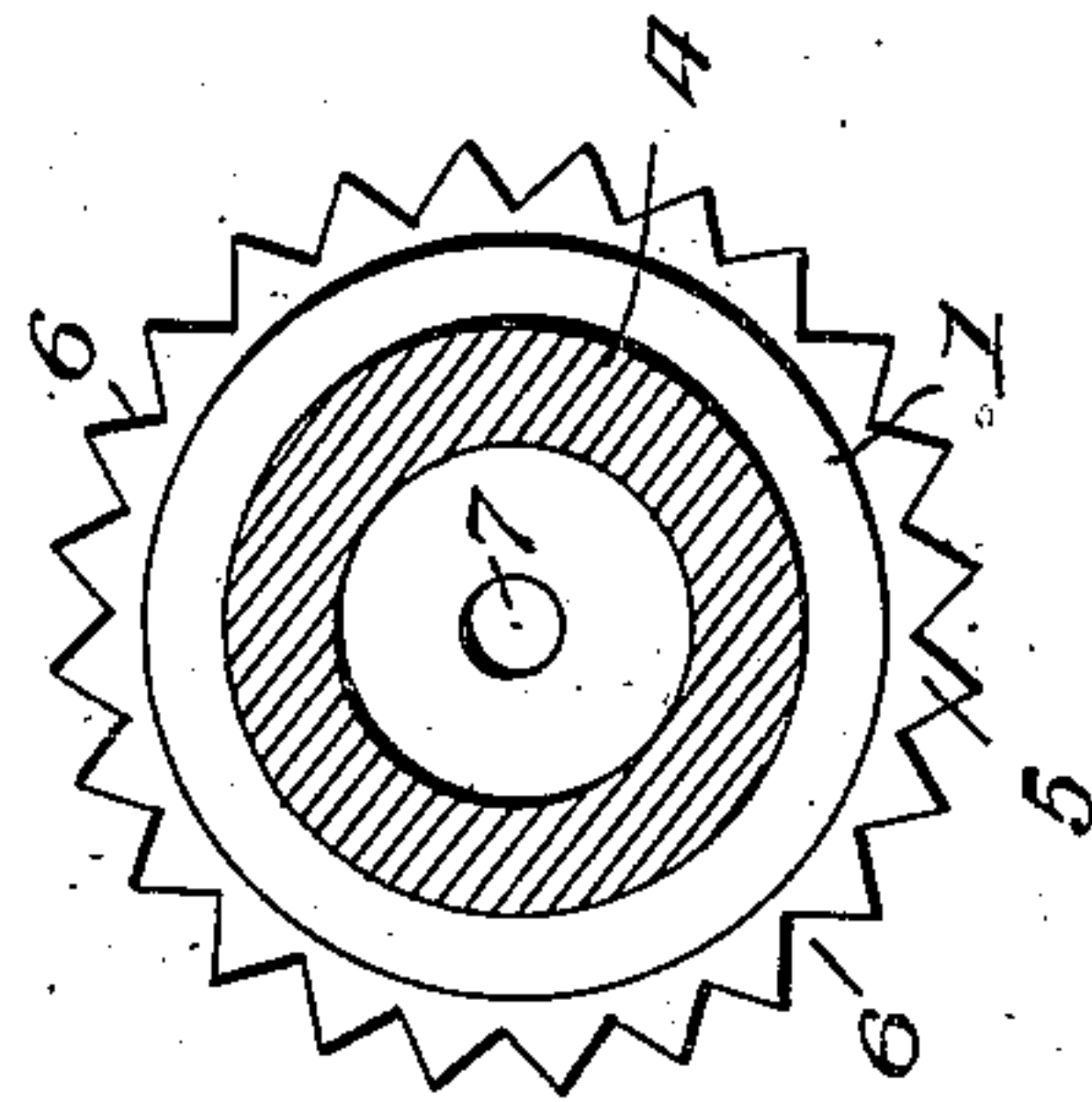
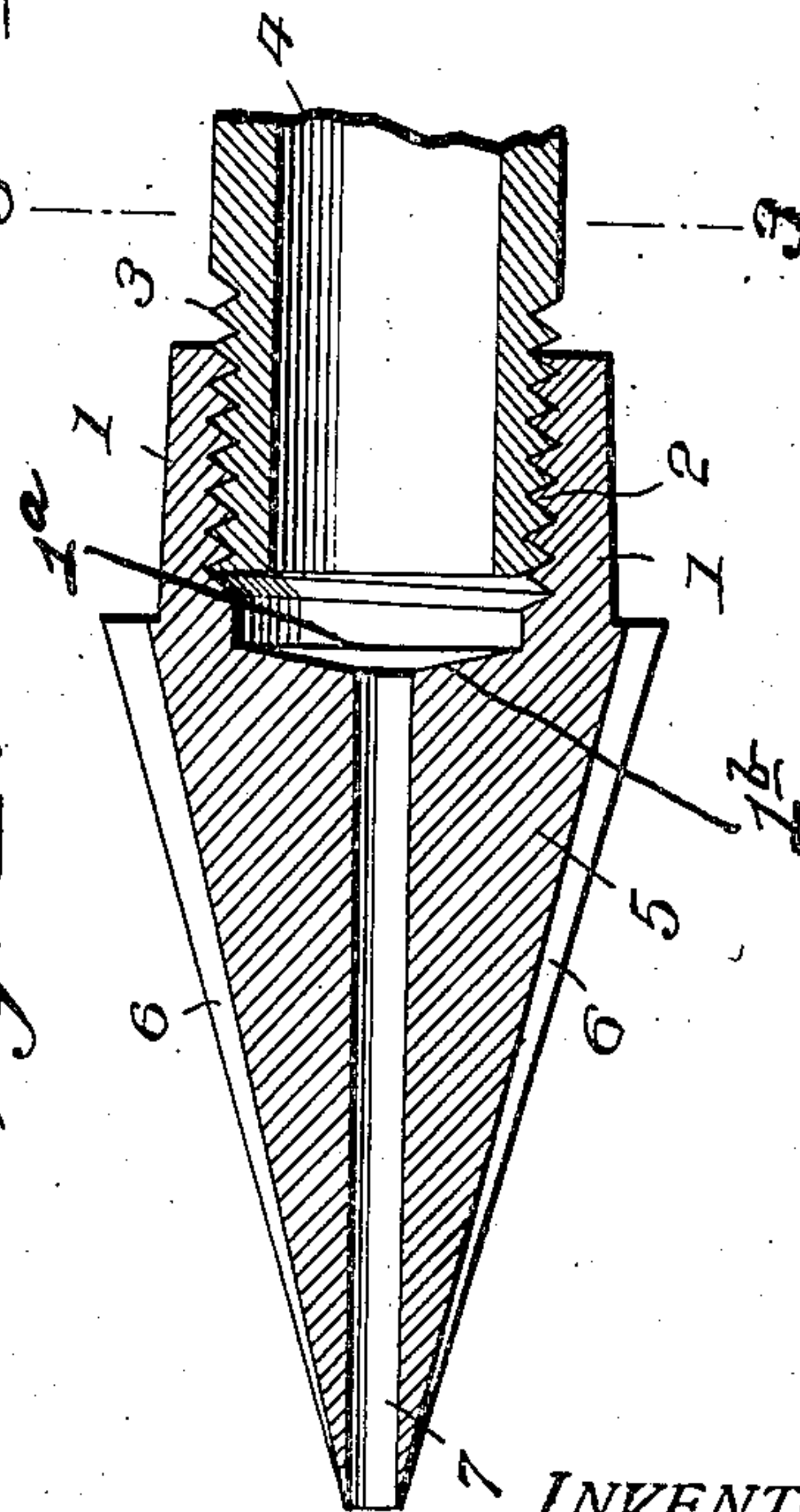


Fig. 2.



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JAMES FRANKLIN JONES, OF MAQUOKETA, IOWA.

DEVICE FOR FACILITATING THE LAYING OF PIPES.

No. 862,972.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed June 2, 1905. Serial No. 263,499.

To all whom it may concern:

Be it known that I, JAMES FRANKLIN JONES, a citizen of the United States, residing at Maquoketa, in the county of Jackson and State of Iowa, have invented certain new and useful Improvements in Devices for Facilitating the Laying of Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to means for laying water pipes below the surface of the ground without the necessity of forming a ditch throughout the length of the pipe, thereby rendering the invention particularly desirable where it is necessary to lay pipes under road-ways, buildings, and at other points where excavations are deemed undesirable.

The invention consists of a point of novel contour adapted to be placed upon the end of a pipe, said point being grooved longitudinally and having a passage opening through the apex thereof. The point is adapted to be placed upon the end of a pipe section and said pipe section is then connected to a water main by means of a hose.

By placing the point against the wall of a ditch of sufficient size to receive a single pipe section and turning on the water, said water will be projected against the wall and by reciprocating the pipe, the same can be gradually forced into the earth. After the full length of pipe has been inserted into the earth in this manner, another section can be connected thereto and the operation of pushing the pipe into the ground can be continued in this manner until the proper amount has been laid.

The invention also consists of the further novel features of construction and combination of parts, the preferred form whereof will be hereinafter made clearly apparent, reference being had to the accompanying drawings which are made a part of this application, and in which—

Figure 1 is an elevation of the complete apparatus employed by me, the same being shown in position within the ground. Fig. 2 is an enlarged section through the point and a portion of the pipe to which it is connected. Fig. 3 is a section on line 3—3 Fig. 2, and, Fig. 4 is an end view of the point.

Referring to the figures by numerals of reference, I is a slightly tapered head which is internally screw threaded, as shown at 2, so as to receive the threaded end 3 of a metallic pipe 4. A tapered extension 5 projects from one end of the head and this tapered portion is provided with V-shaped grooves 6 in its outer face which extend from the apex of the extension to the head, thereby forming angular ribs which taper toward

the point where they terminate around the outlet end of a passage 7 extending longitudinally through the center of the extension 5 and opening into the head 1. The ribs which are formed upon the point extend beyond the head 1 at their rear ends so that any material passing rearwardly between the ribs is free to pass over the surface of the head. It will be noted that the head 1 is tapered away from the ribbed extension 5 so as to facilitate the backward passage of material along the outer surface of said head. The head is provided with a chamber 1^a beyond its screw thread as seen in Fig. 2, which is of less diameter than the threaded passage or bore; this chamber forms a storage for the water and prevents intermittent or pulsating flow of the water through the passage 7, the inclined bottom wall 1^b of this chamber facilitating the passage of water from the chamber into said passage.

In using this device, a ditch 8 is formed within the ground, said ditch being of sufficient length to receive one pipe section 4. The head is then screwed upon one end of the pipe section and said point is placed against one wall of the ditch while to the other end is fastened a coupling 9 having a valve 10 therein. A hose 11 is then connected to this coupling and is attached to a water main 12 so that water may be conducted under pressure from the main to the pipe 4. After the parts have been connected in this manner the valve 10 is turned so that water may be directed into the pipe section 4 and it will be discharged through the passage 7 against the earthen wall of the ditch and soften the earth and by pressing against the pipe section and slowly reciprocating the section 4 the point can be forced into the ground. The water being projected under pressure from the apex of the point will quickly wash a passage for the pipe section and the adjoining earth as well as the discharged water are free to flow rearwardly between the ribs on the point and around the pipe section and into the ditch 8. As soon as the first pipe section has been inserted in this manner, the water is turned off, the coupling 9 removed and another pipe section connected to the one already inserted. The coupling is then replaced, the water turned on, and the above described operation repeated.

By this method of laying pipe, it becomes unnecessary to dig long ditches and the pipe can be easily laid under roadways, buildings, etc. I attach importance to the use of the converging, tapered ribs which serve to facilitate the insertion of the point into the softened earth and which form a free passage for the loosened earth and the discharged water back to the ditch from which the point was inserted. By tapering the head 1 rearwardly, there is no danger of the loosened material clogging after leaving the ribs on the point.

What I claim is—

5 The combination with a pipe section having a valved coupling at one end and a hose extending from the coupling to a source of water supply; of an attachment detachably connected to the other end of the pipe section and comprising a rearwardly tapering hollow head interiorly threaded, a point extending forward from said head and having a centrally disposed passage extending longitudinally from the apex of the point to the interior of the
10 head, said head being formed with a chamber of less diame-

ter than its threaded bore and disposed between the latter and the central passage, said chamber having an inclined bottom and converging tapering ribs radiating from the point and angular in cross section.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 15

JAMES FRANKLIN JONES.

Witnesses:

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