

No. 764,641.

PATENTED JULY 12, 1904.

H. R. SINCLAIR.
PIPE WRENCH.

APPLICATION FILED APR. 18, 1903.

NO MODEL.

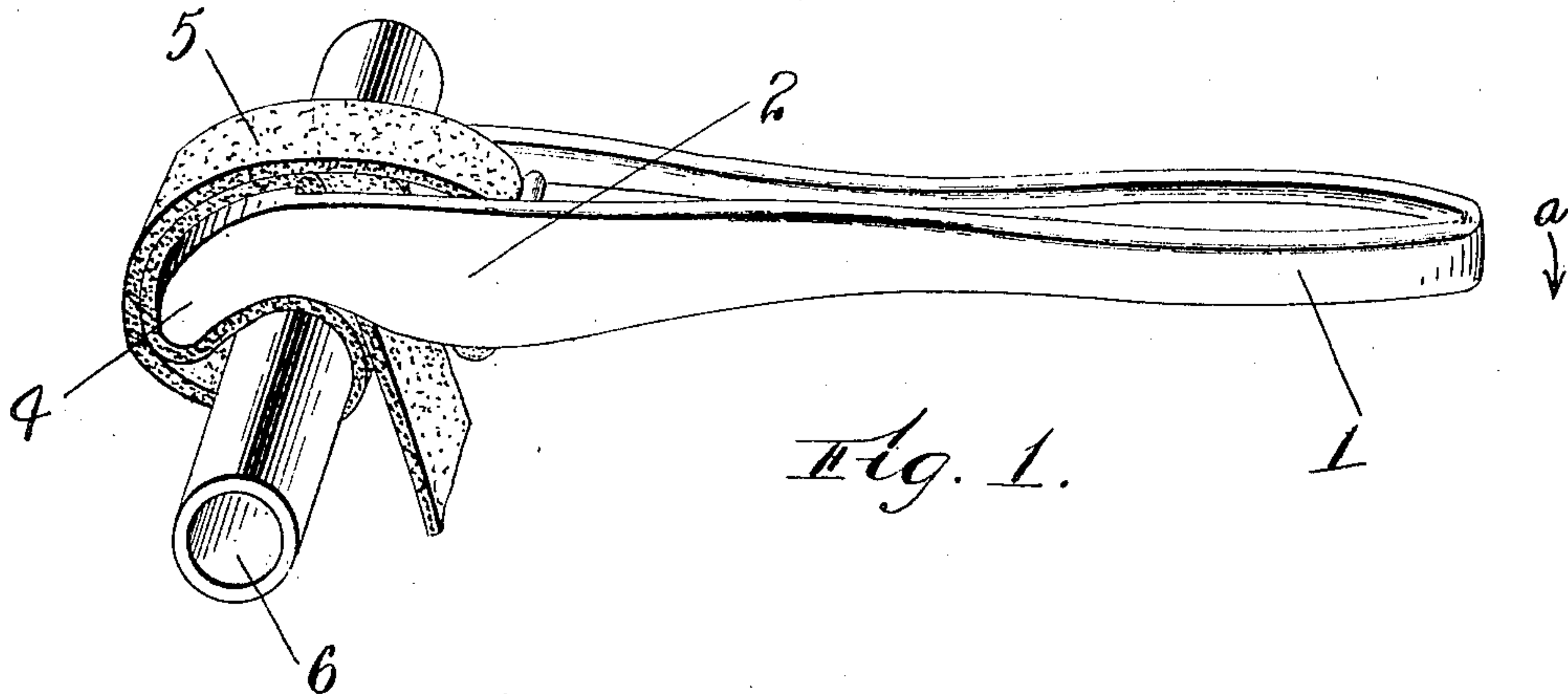


Fig. 1.

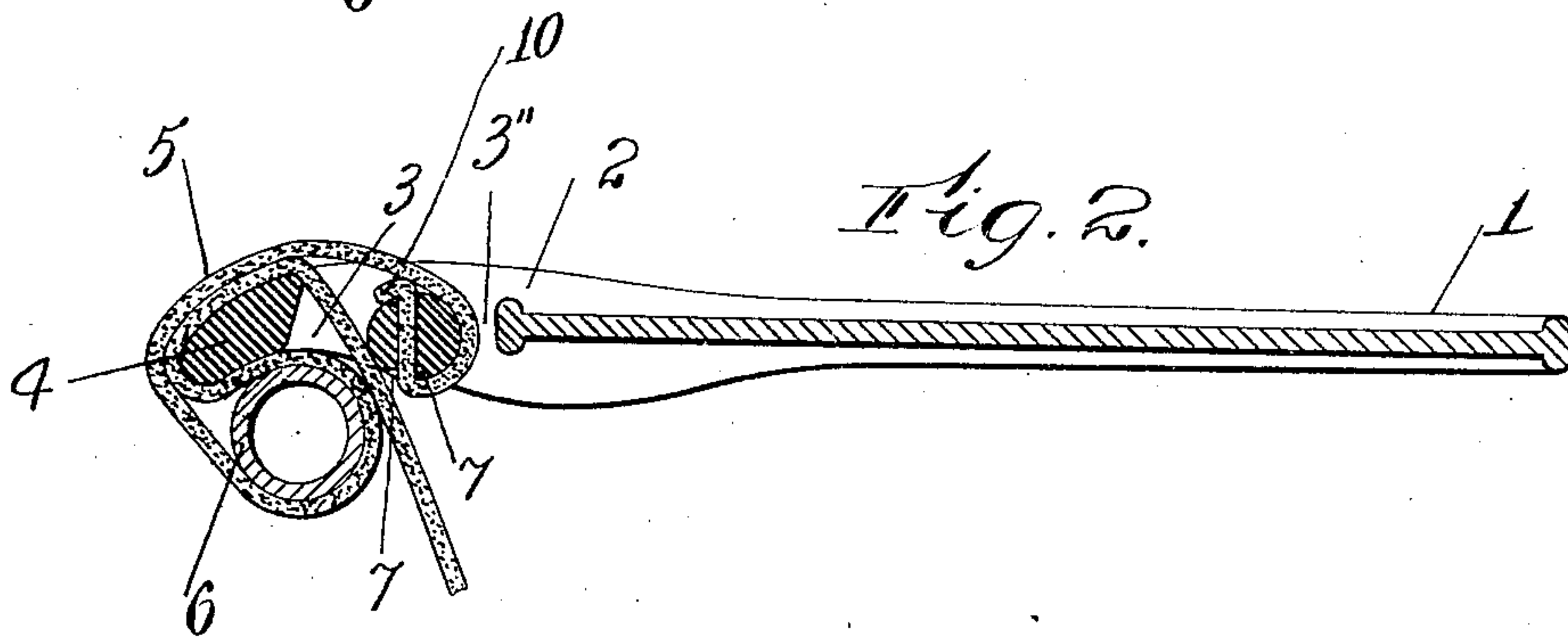


Fig. 2.

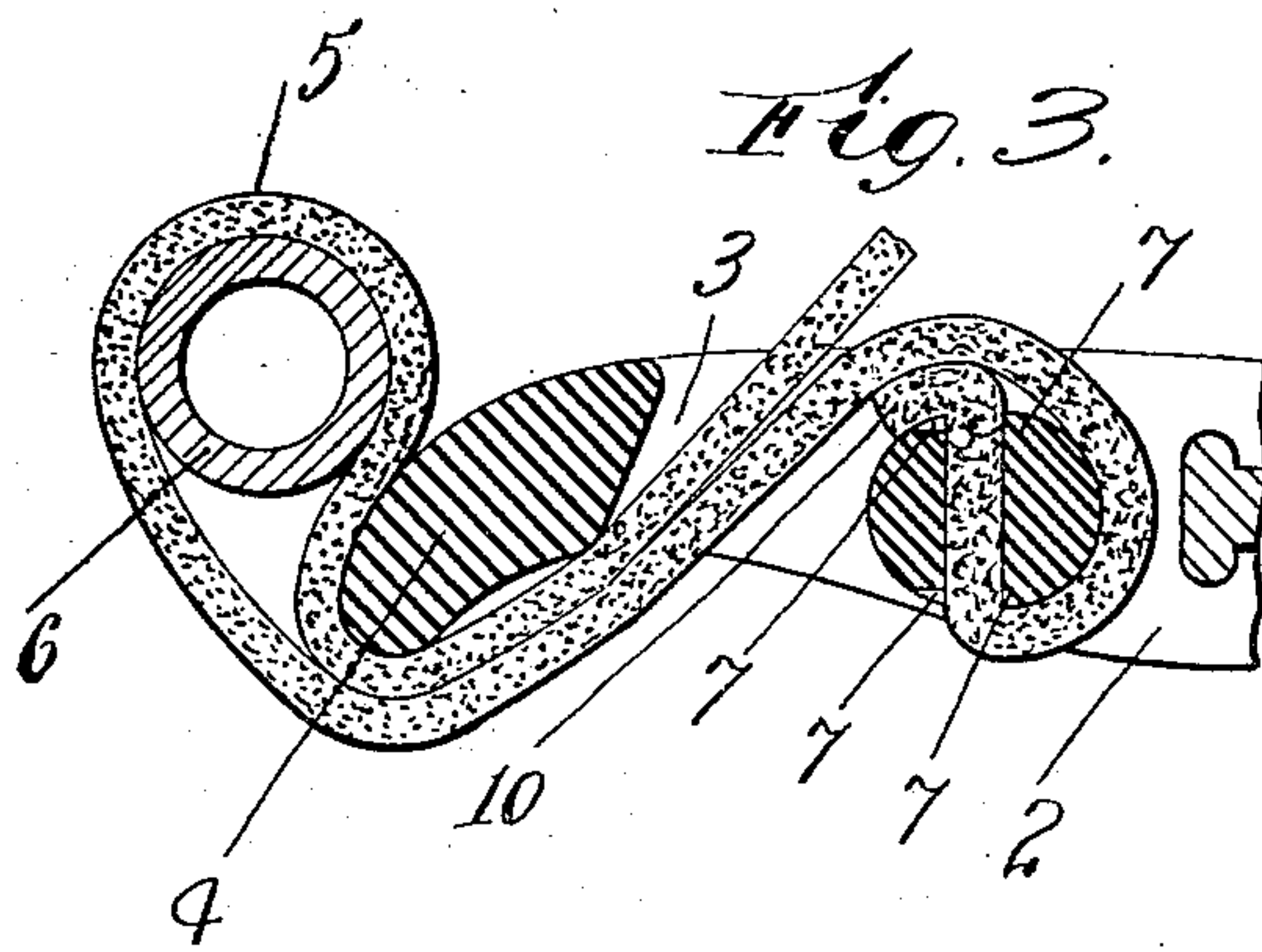


Fig. 3.

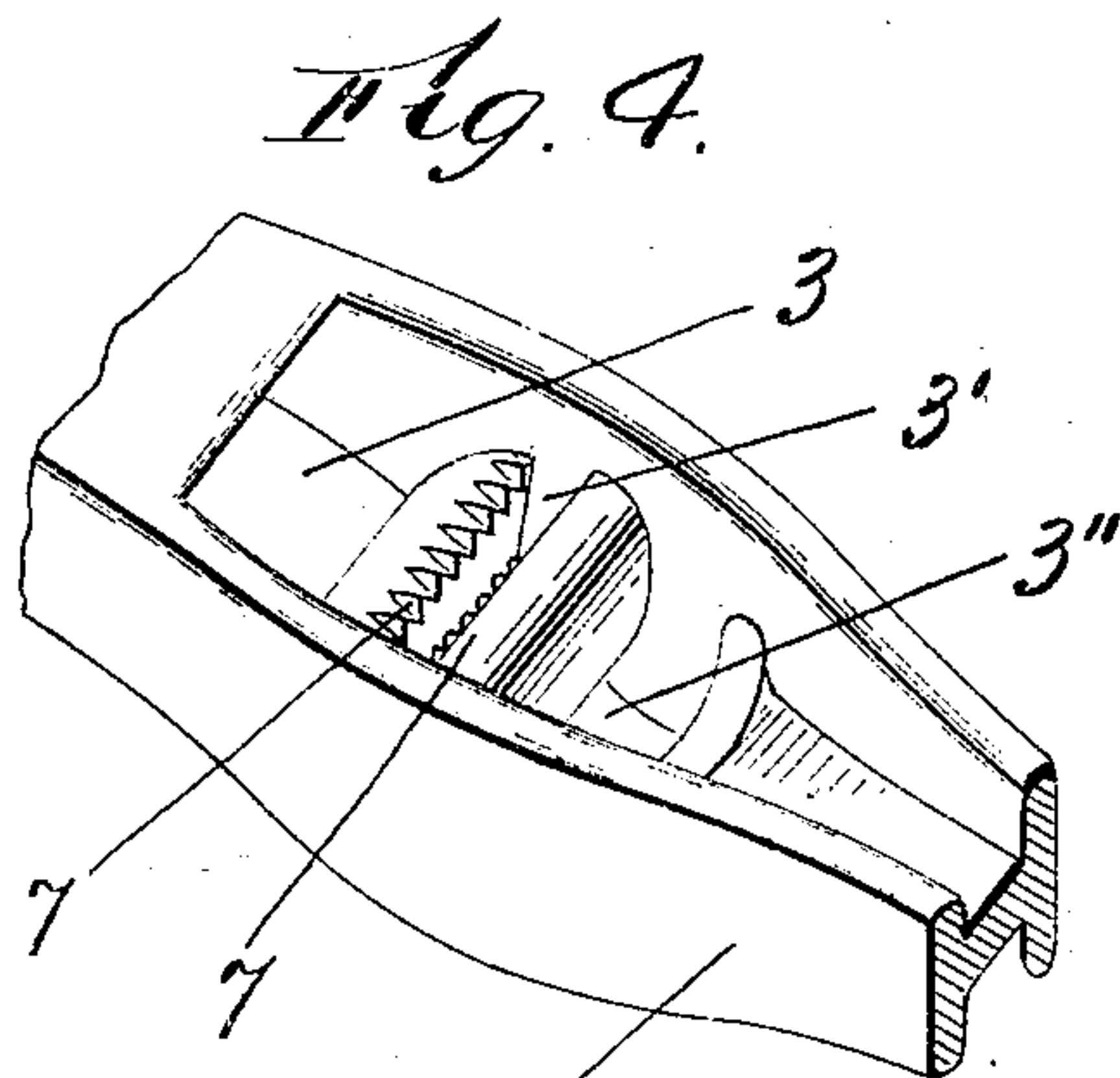


Fig. 4.

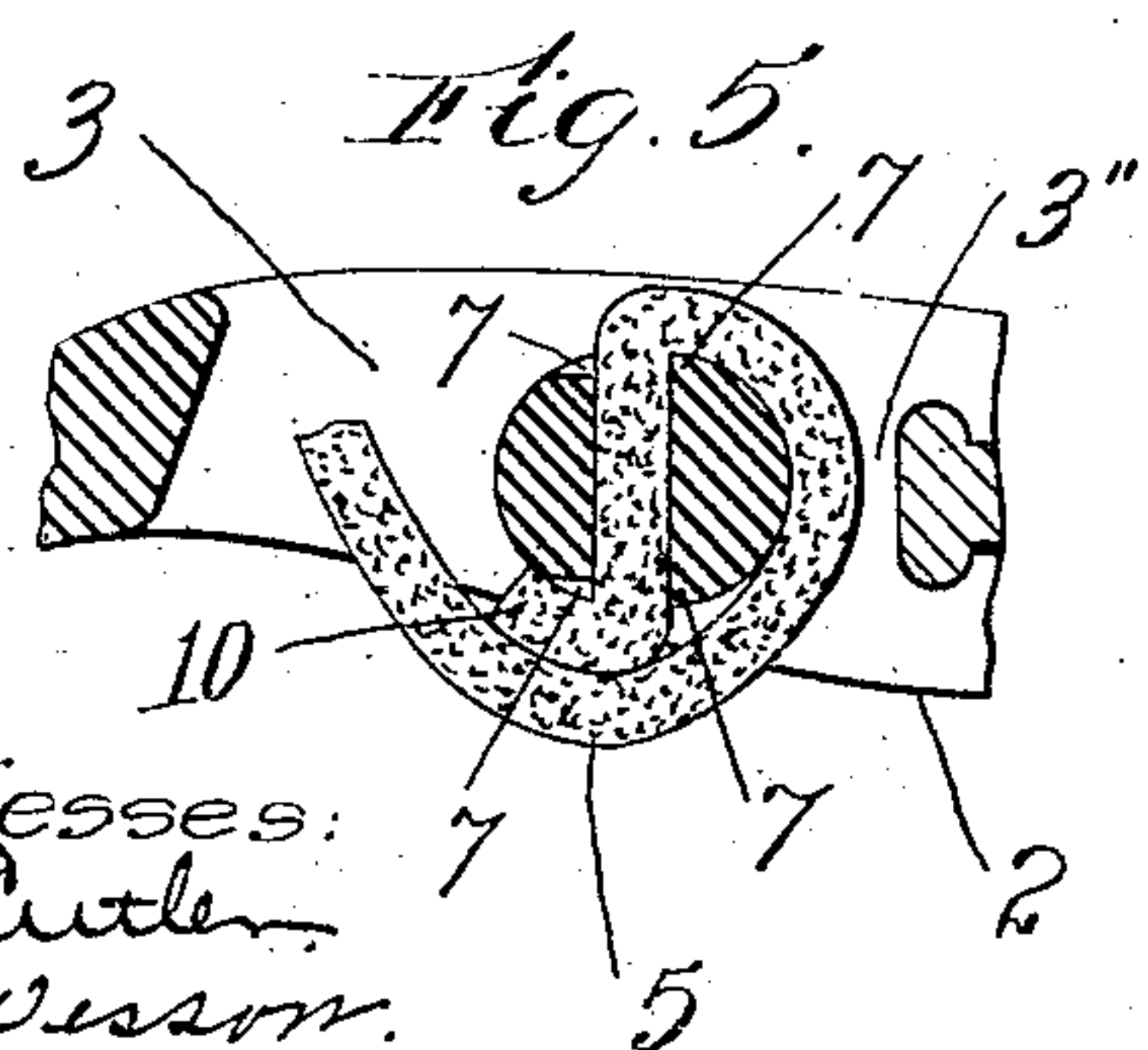


Fig. 5.

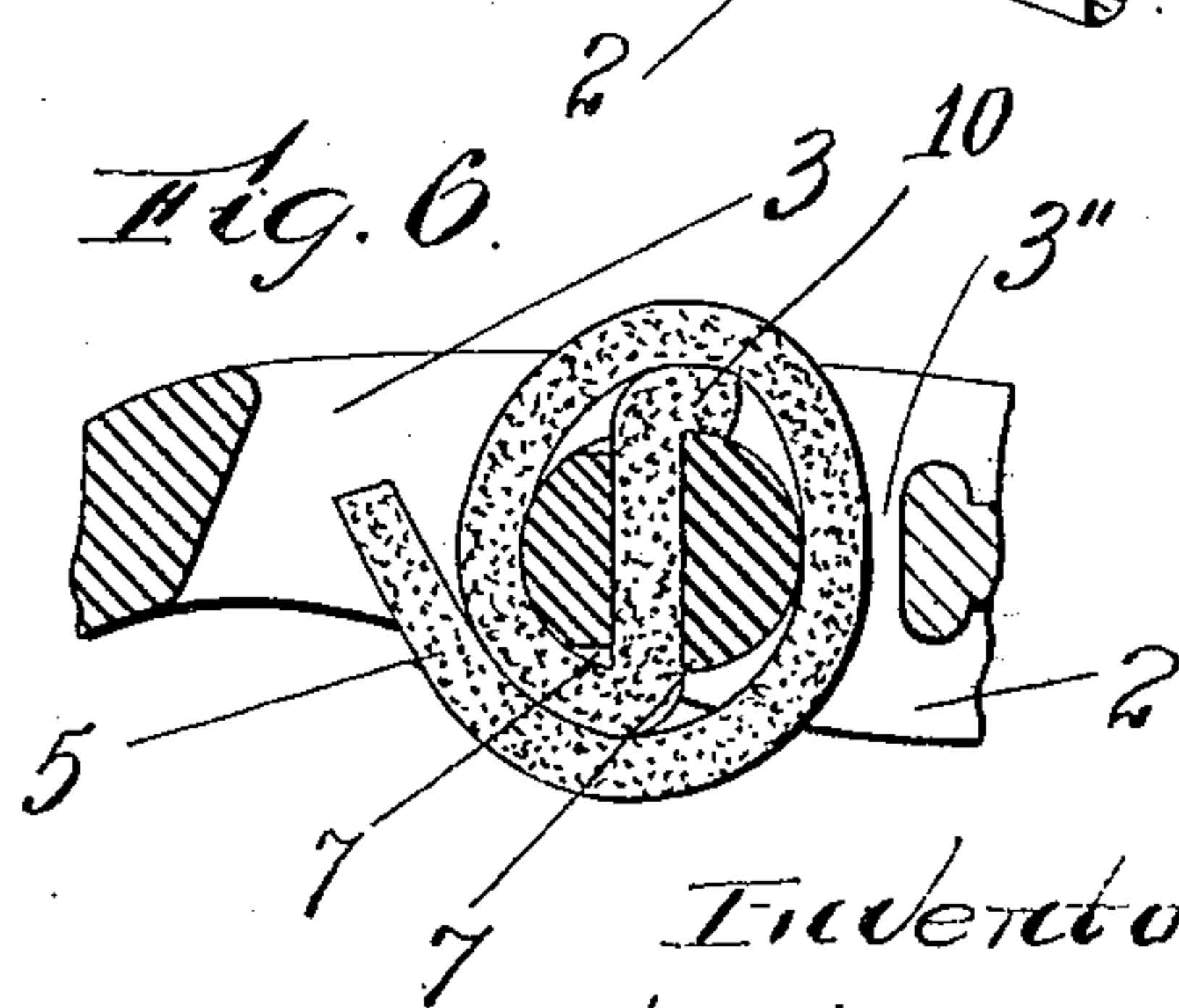


Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

HARRY R. SINCLAIR, OF WORCESTER, MASSACHUSETTS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 764,641, dated July 12, 1904.

Application filed April 18, 1903. Serial No. 153,249. (No model.)

To all whom it may concern:

Be it known that I, HARRY R. SINCLAIR, a citizen of the United States, residing at Worcester, county of Worcester, State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to pipe-wrenches; and it consists in an improvement in the means for attaching the flexible pipe-encircling member to the head of the wrench.

Of the accompanying drawings, Figure 1 represents a perspective view of a pipe-wrench embodying my improvement. Fig. 2 represents a section of the wrench entire with encircling member, showing the handle and the head integral therewith. Fig. 3 represents the slotted head with encircling member attached. Fig. 4 represents that part of the head containing the slots and showing the biting edge of the slot. Fig. 5 and Fig. 6 show still different ways by which the pipe-encircling member may be attached to the slotted head.

The same reference characters indicate similar parts or features in all the drawings.

Referring to the drawings, 1 is the handle of the wrench. 2 is the head, which is provided with the three transverse slots 3, 3', and 3''. The end of the head has the nose 4, which gives the pressure to tighten the encircling member about the pipe 6 when the handle is turned in the direction of the arrow *a* in Fig. 1. The wall of the central slot 3' terminates in a biting edge 7, which may be serrated or roughened to give a better grip. In order to make the wrench completely reversible, I prefer to form a biting edge 7 at each end of said slot 3', though my invention would not be departed from if only one such biting edge 7 were employed.

In arranging the wrench for use the end of the flexible member is pushed into the central slot 3' in Fig. 4 far enough to fold over on any one of the biting edges 7, as shown at 10. Then by passing the free end of the flexible member back through either 3 or 3'' and adjusting it about the pipe, as shown either in Figs. 2 or 3, the strain on said member

causes that portion of it which overlies the folded end 10 to force said end 10 hard against the biting edge 7 over which it is folded, and the construction is such that the greater the strain on the strap or flexible member the harder the end 10 is pressed against the biting edge 7 and the more securely the member is attached to the handle.

The wrench is complete in a handle with slotted head integral therewith and a pipe-encircling member attached thereto by frictional contact with the biting edges, and therefore in the construction of the wrench extreme simplicity has been reached.

While the arrangement of slots and biting edges herein illustrated is what I deem most practical, yet I wish it understood that my invention is not limited to the precise construction shown, as other arrangements of slots and biting edges may be employed which will come within my invention.

The important feature of the invention consists in a strap-wrench which has only two elements—namely, a handle and a pipe-encircling member—and in which the pipe-encircling member is secured to the handle solely by the frictional engagement between said member and the head and without the use of sewing, pins, wedges, or any other securing means. Other constructions use a pin, wedge, shackle, or other device in addition to the handle and flexible member.

Having described my invention, though without attempting to set forth in detail all the forms in which it may be embodied, what I claim, and desire to secure by Letters Patent, is—

1. In a pipe-wrench a head presenting a nose, and having three transverse slots, the walls of one of which terminate in a biting edge, and a flexible member adapted to encircle the pipe, said member having its end passed through the central slot, and back through either of the other slots, in such a way as to confine the short end between the biting edge and the body of the strap.

2. A pipe-wrench having a head provided with a plurality of transverse slots of different widths, in combination with a flexible pipe-encircling member of a thickness sub-

stantially equal to the width of the narrowest
of said slots, said member being threaded
through said slots with one end projecting
slightly from said narrowest slot and clamped
5 against the edge thereof by the body of said
member.

In witness whereof I have signed my name

to this specification in the presence of two wit-
nesses.

HARRY R. SINCLAIR.

Witnesses:

F. C. CUTLER,
C. F. WESSON.