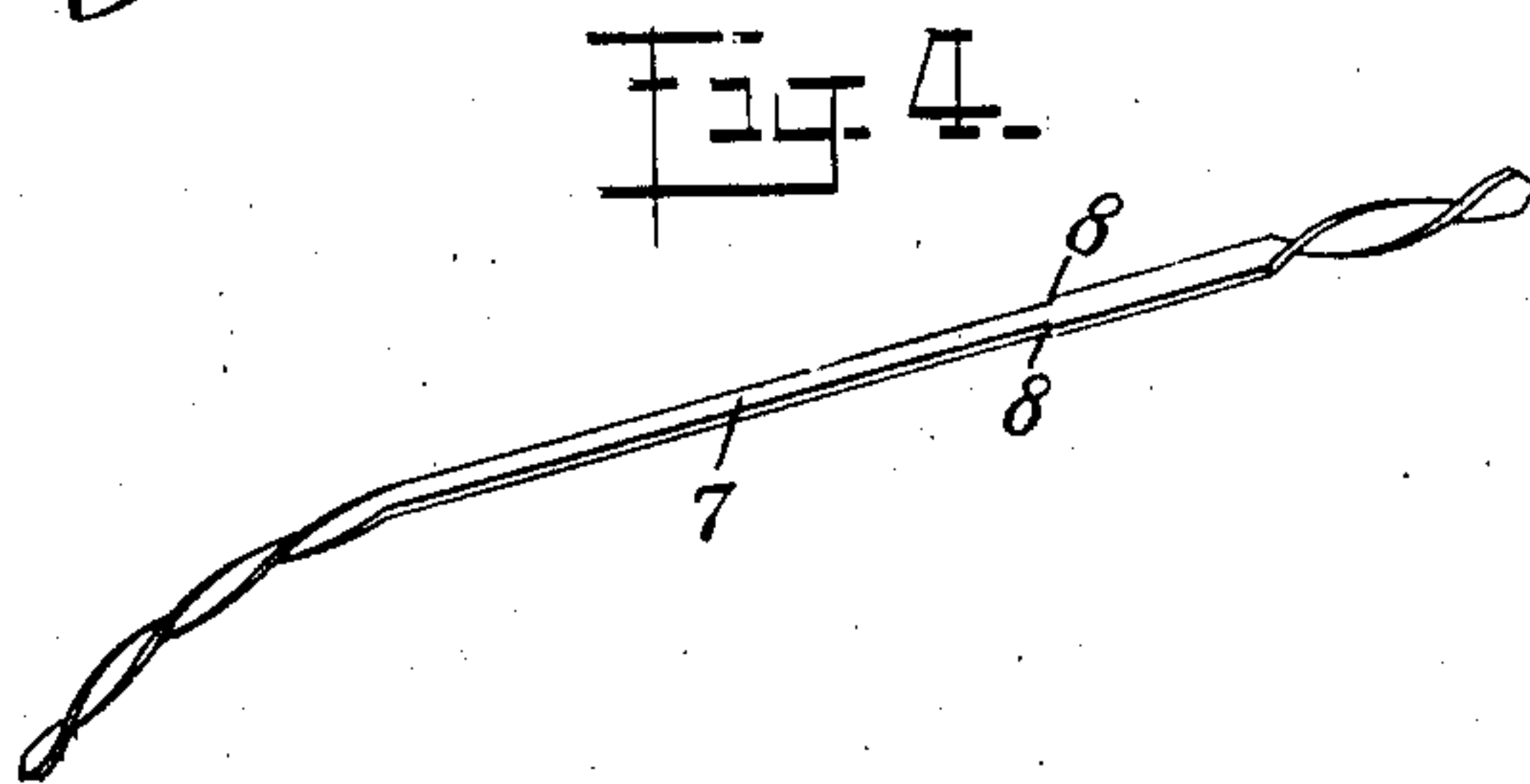
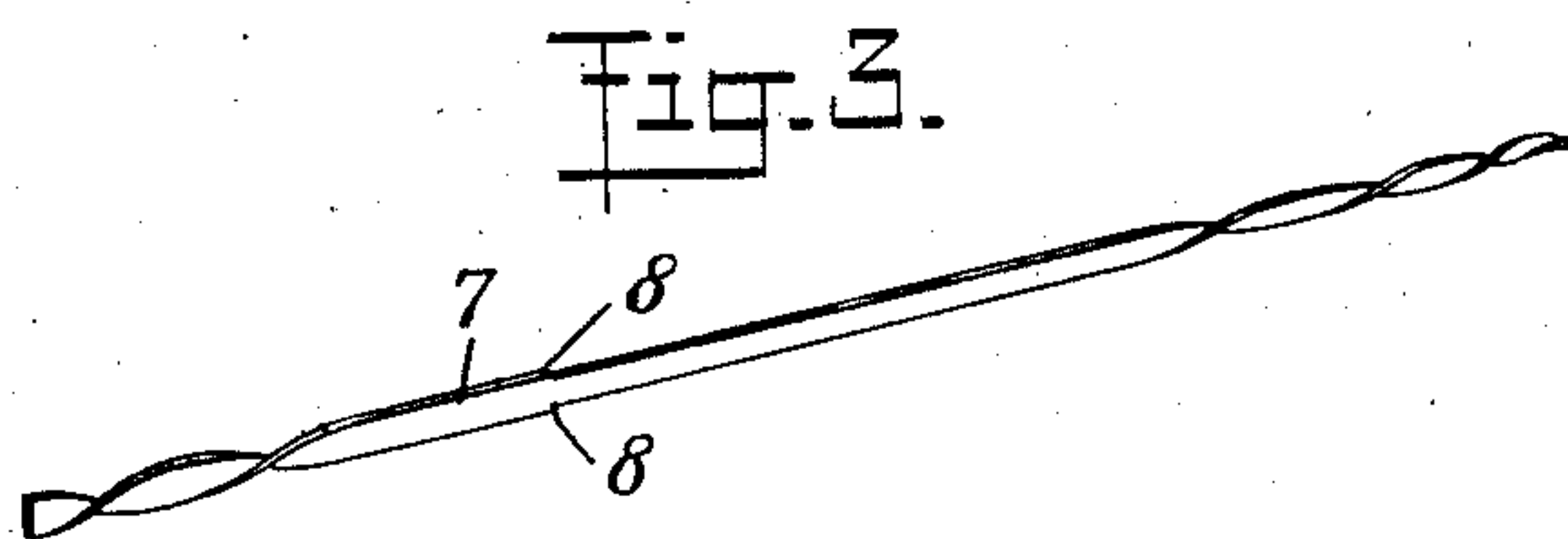
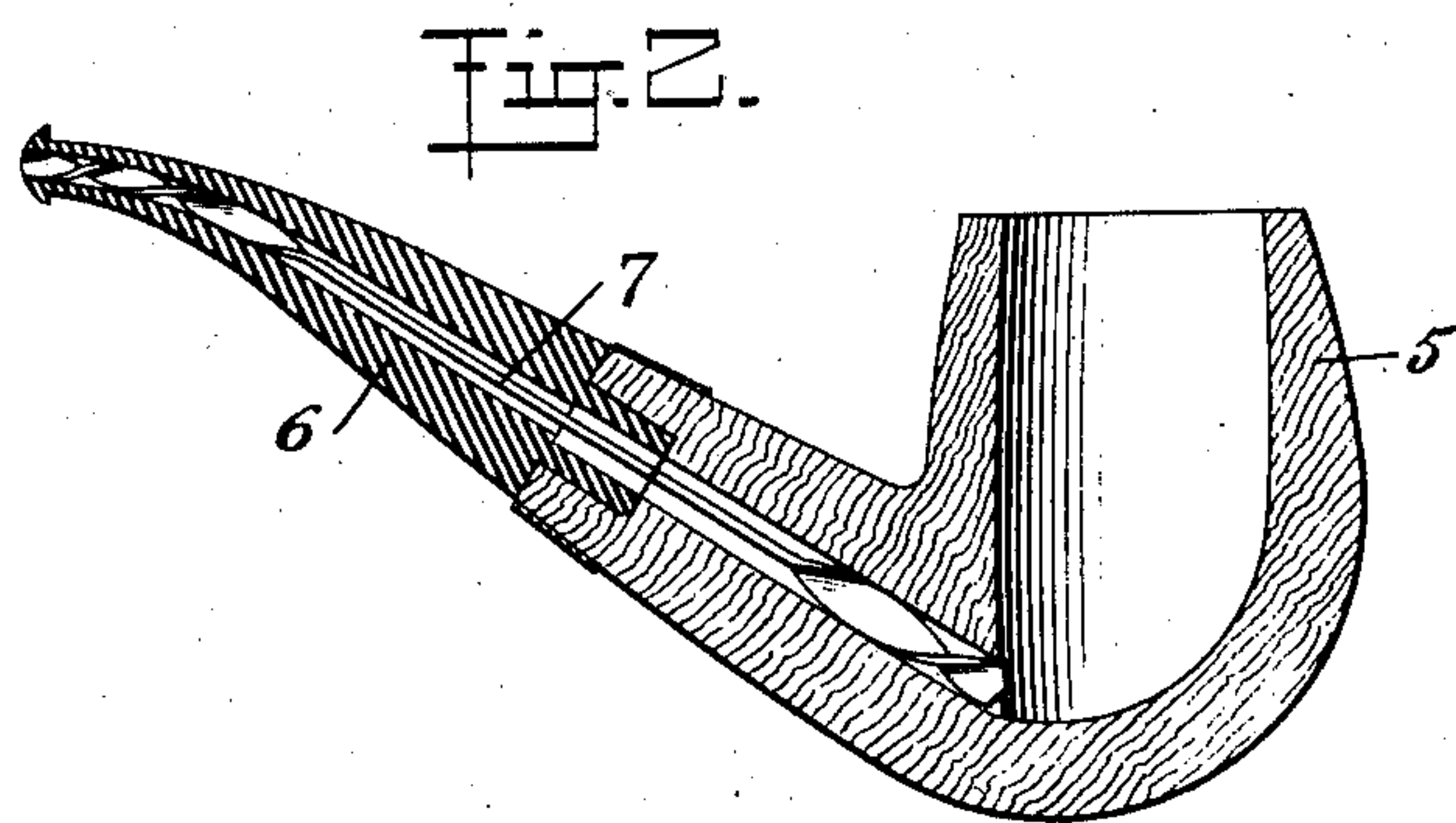
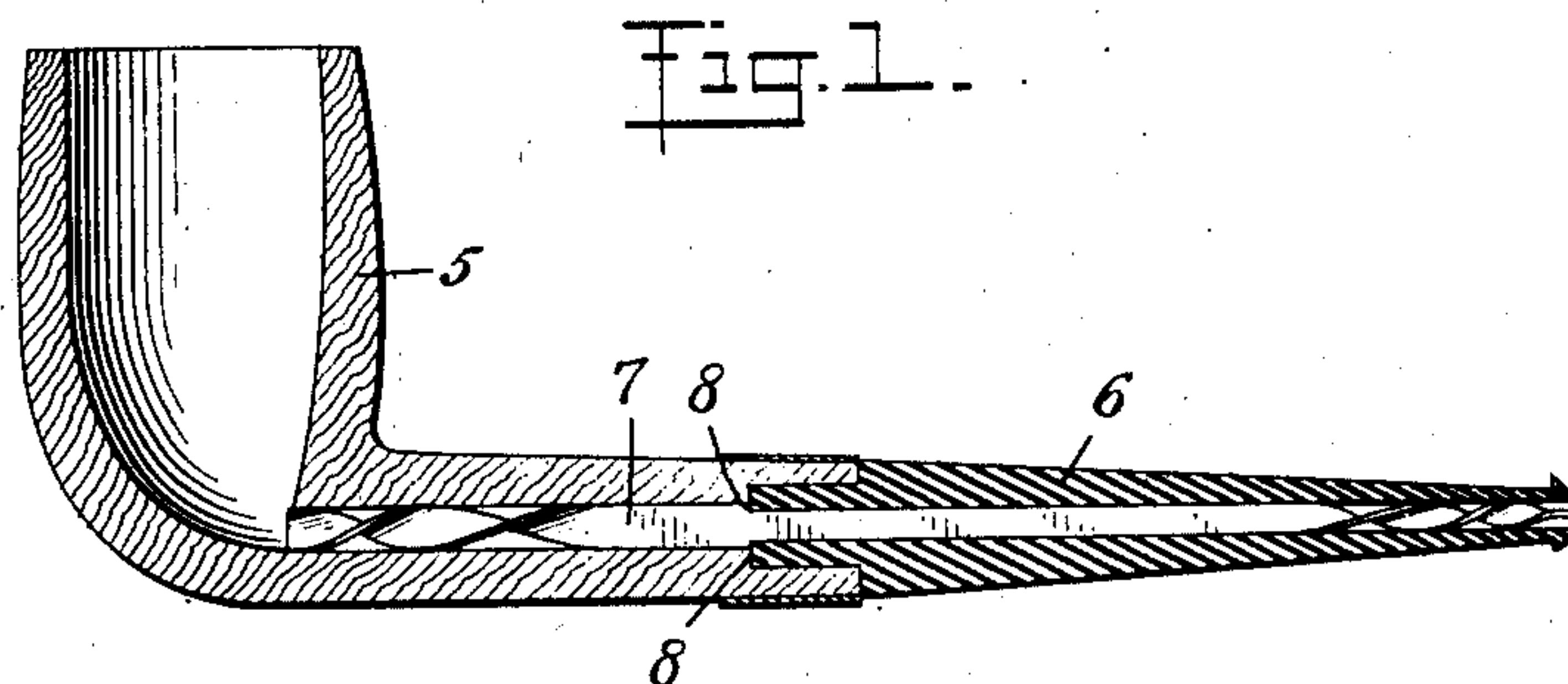


H. LEIDEL.  
PIPE.

APPLICATION FILED JUNE 16, 1908.

908,871.

Patented Jan. 5, 1909.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HENRY LEIDEL, OF NEW YORK, N. Y.

## PIPE.

No. 908,871.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed June 16, 1908. Serial No. 438,748.

*To all whom it may concern:*

Be it known that I, HENRY LEIDEL, a citizen of the United States, and a resident of the city of New York, Richmond Hill, borough of Queens, in the county of Queens and State of New York, have invented a new and Improved Pipe, of which the following is a full, clear, and exact description:

This invention is an improvement in pipes, and belongs to that class of such devices in which a member is designed to remain in the pipe stem during the use of the pipe, and operating when removed to clear the stem of obstruction.

With this in view I provide a cleaner of a strip of metal or other relatively stiff material having its ends helically formed or twisted, with the pitch of the helix decreasing as the ends of the strip are approached, whereby when the strip is withdrawn from the stem the nicotin and other collected matter will not revolve and thus effect its escape, but will pass out with the strip.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a central longitudinal section through a straight stem pipe having my improvement applied thereto; Fig. 2 is a like sectional view through a curved stem pipe, showing my improvement; Fig. 3 is a perspective view of the cleaner as used in the pipe shown in Fig. 1; and Fig. 4 is a perspective view of the cleaner as used in the pipe shown in Fig. 2.

In Figs. 1 and 2 I have shown pipes 5, 5, of conventional form, having stems 6, 6 respectively, the pipe in Fig. 1 being of the straight stem type, and the pipe in Fig. 2 of curved stem construction. In applying my improvements to these pipes I provide a strip 7 of sheet metal or other relatively stiff material of a width suitable to neatly fit within the stem of the pipe, which ordinarily necessitates the decreasing of width of that portion of the strip which is designed to pass into the removable portion of the stem, this reduction in the width of the strip forming shoulders

8, 8, at opposite sides which bear against the inner end of the removable portion of the stem and serve as a stop. The opposite end portions of the strip are helically formed or twisted, with the pitch decreasing as the extremities are approached, which is an important feature of my invention.

By this construction when the cleaner is placed within the stem, upon drawing it out after the pipe has been used, the nicotin and other collected matter will be scraped off and travel lineally outward with the cleaner, whereas if the twisting were uniform, on drawing the cleaner out of the pipe stem a rotary motion would be imparted to the nicotin which would effect its escape.

The cleaner is designed to remain in the pipe stem during the use of the pipe and is preferably of such length as to extend from one end of the stem to the other. In this manner, on cleaning the pipe, it is only necessary to pull off the removable portion of the stem and draw the cleaner from the part of the stem in which it remains, which operation frees the smoke passage throughout its length. After the cleaner is wiped off it is replaced within the stem and the pipe is again ready for use.

The only difference in the construction of the cleaner for the two forms of pipes disclosed, is the curving of the outer end of the cleaner for the curved stem pipe, which does not make its removal and insertion difficult in view of the flexibility of the material of which the cleaner is made.

I am aware that prior to my invention, pipe cleaners of the same general construction with a uniform twist or helix were old and are disclosed in British patent to Barr, No. 5,908, of 1882. I, however, believe that I am the first to make such a cleaner with the pitch of the helix decreasing as the end of the cleaner is approached.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In combination with a pipe, a cleaner arranged in the stem thereof, comprising a relatively stiff member having its end por-



tions twisted, with the pitch decreasing as the extremities of said end portions are approached.

2. A pipe cleaner comprising a relatively  
5 stiff helically formed member adapted to remain in the pipe stem during the use of the pipe, with the pitch of the helix of said member decreasing in passing outwardly.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

HENRY LEIDEL.

Witnesses:

GEORGE J. CLIFFORD,  
H. CLEVELAND LEIDEL.