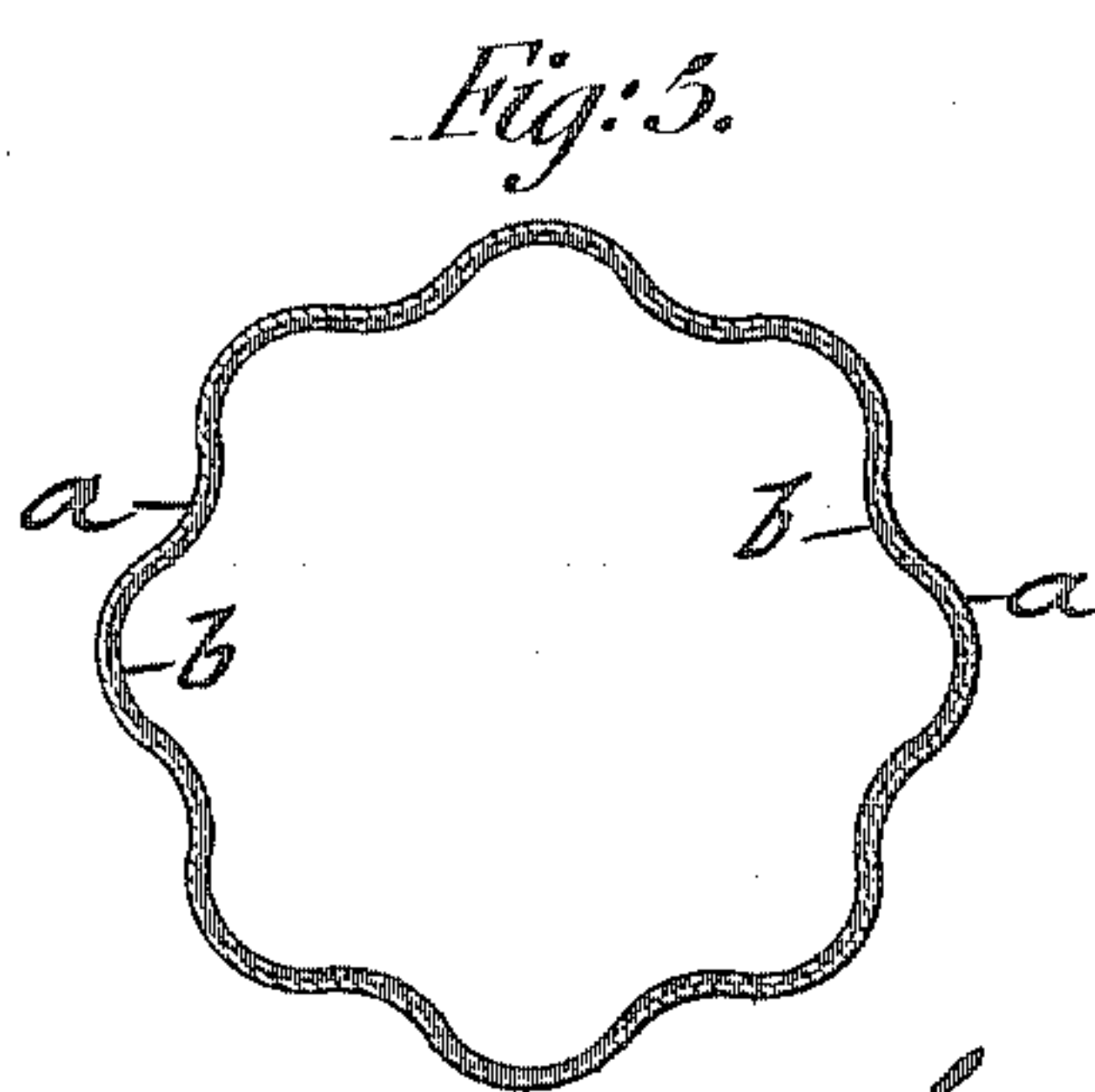
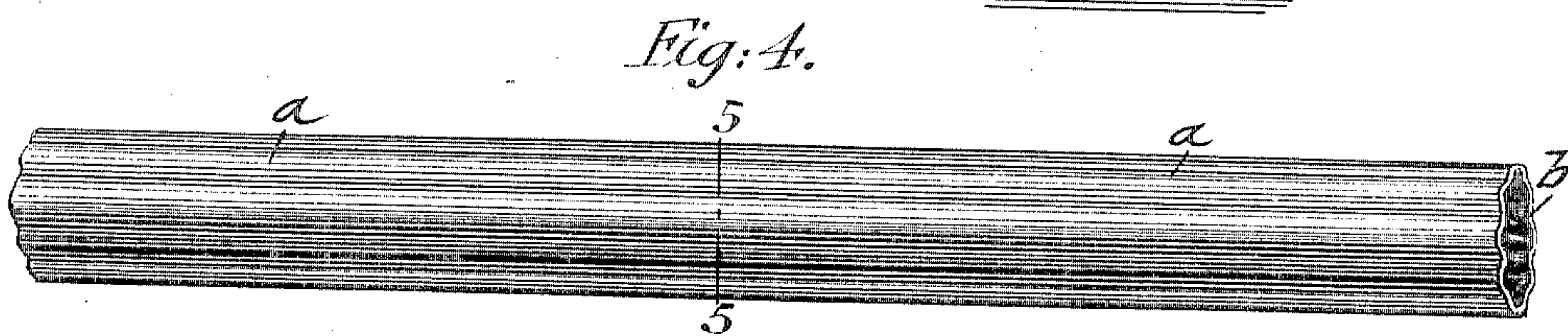
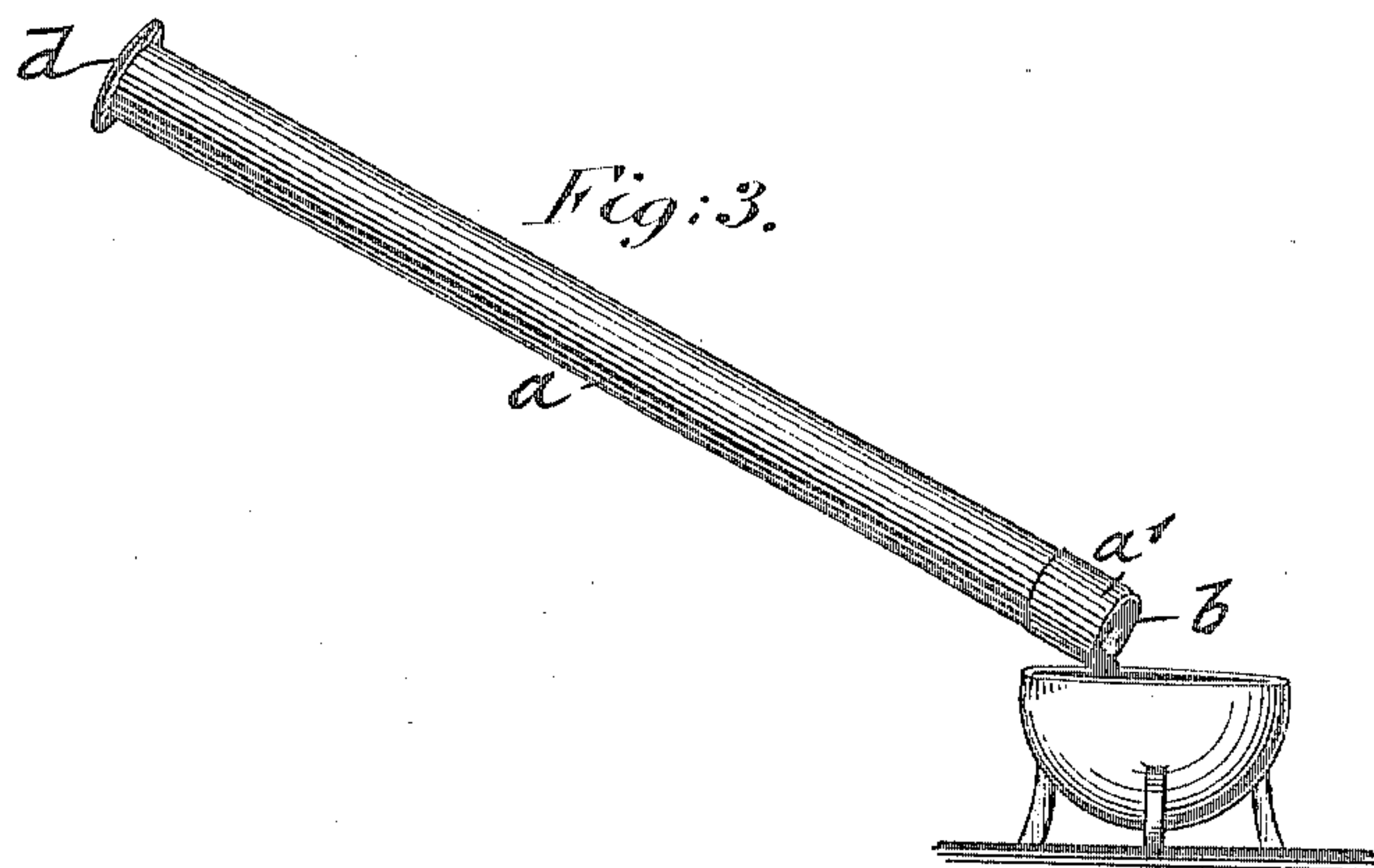
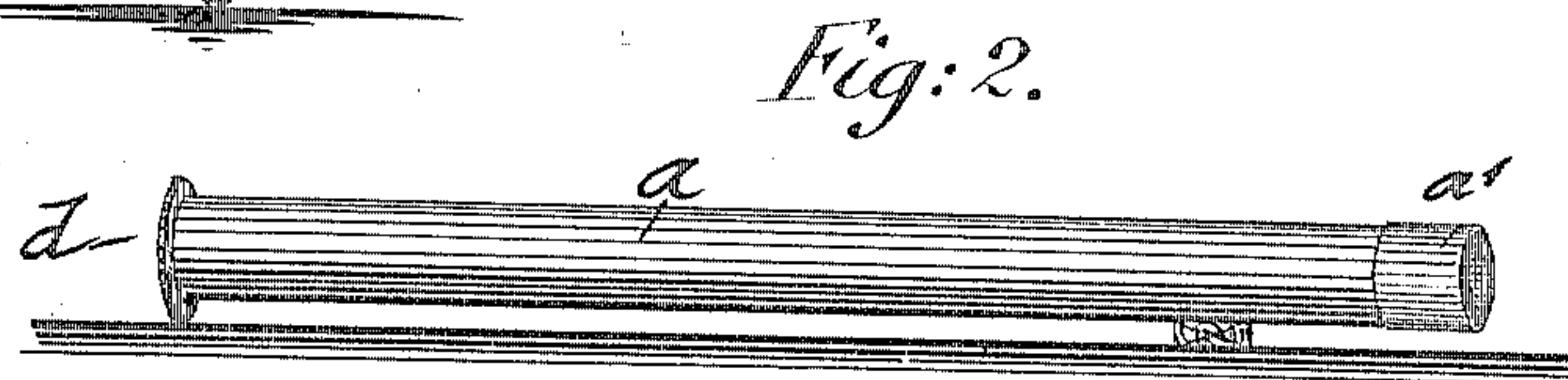
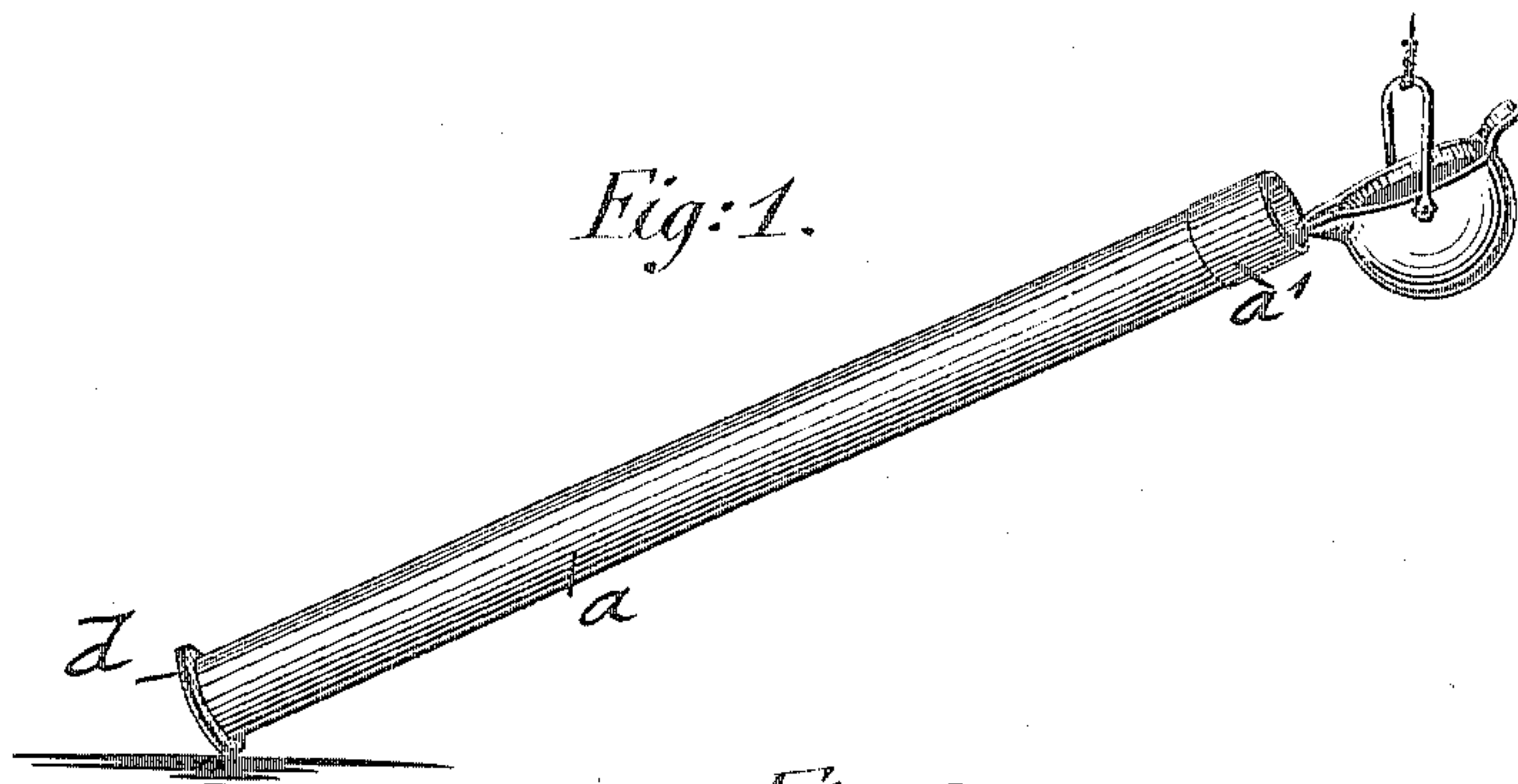


No. 811,288.

PATENTED JAN. 30, 1906.

F. GREENTHALER.
TAR LINED LEADER AND PIPE.
APPLICATION FILED MAR. 29, 1905.



Witnesses
Henry J. Duhrbier.
Eloa Werhburg

Inventor
Frank Greenthaler
By his Attorney *Frederick Looper*

UNITED STATES PATENT OFFICE.

FRANK GREENTHALER, OF GUTTENBERG, NEW JERSEY.

TAR-LINED LEADER AND PIPE.

No. 811,288.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed March 29, 1905. Serial No. 252,645.

To all whom it may concern:

Be it known that I, FRANK GREENTHALER, a citizen of the United States, residing in Guttenberg, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in the Manufacture of Tar-Lined Leaders and Pipes, of which the following is a specification.

This invention relates to certain improvements in the manufacture of tar-lined leaders—that is to say, sheet-metal leaders—by which the rain-water is conducted from the roof and ventilation-pipes for conducting off sewer-gases, &c., whereby the life of said leaders and pipes is greatly increased and a greater resistance imparted to the same against corrosion and destruction, and for this purpose the invention consists, first, of an improved process of making tar-lined leaders and pipes, which will be fully described hereinafter and finally set forth in the claim.

In the accompanying drawings, Figures 1, 2, and 3 represent side views of my improved leader shown in the act of being coated with a lining of tar. Fig. 4 is a side view of a leader, and Fig. 5 is a vertical transverse section on lines 5 5, Fig. 4.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, *a* represents a leader of the usual size and length, which is made of round, square, or corrugated galvanized sheet-iron or sheet-copper *a* and which is coated at its inner surface with a layer of tar *b*. For the purpose of coating the interior surface of the leader or other pipe *a* with tar one end of the sheet-metal pipe is covered with a layer of paper *a'* or other material, so as to protect this end of the pipe against being smudged at the outside by the tar. The leader or pipe is then closed at the opposite end by soldering a disk or plate *d* to the end of the pipe upon which a quantity of hot tar is poured into the open end of the pipe while it is held in a slightly-inclined position, so that the tar can run to the lower closed end of the pipe, as shown in Fig. 1. The leader-pipe is then slowly rotated on its axis, so as to spread the tar uniformly over the interior surface, the surplus tar being then poured out at the open end of the pipe by holding the

same at an inclination opposite to its former inclination, the surplus tar being run into a suitable trough and then returned to the tar-kettle, as shown in Fig. 3. The pipe is then permitted to dry either at ordinary temperature or in a heated room when a quicker drying is desired. The exterior protecting layer *a'*, of paper or other material, is then removed by soaking it in hot water, together with the tar adhering thereto, and the disk or plate at the closed end of the pipe removed by a blow of a mallet on the same, so that the exterior surface of the leader or pipe at the open end is perfectly clean after removing the covering-paper and has no exterior tar-spots.

The advantages of my improved tar-lined leader or ventilation-pipe are that by the interior lining of tar the metal is protected against corrosion, so as to last for almost twice the length of time of an ordinary leader or pipe. Secondly, that the joints between the pipe-sections are tighter than heretofore, as the tar-lining acts in the nature of a packing for the same, and, thirdly, that the lining of the interior surface of the leader or ventilation-pipe increases the cost but slightly over the ordinary galvanized sheet-metal leaders or pipes, owing to the facility by which the pipe is coated at its interior surface in the manner described.

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

The process herein described of making tar-lined leaders and pipes, which consists in closing the pipe at one end, applying a layer of paper around the outer surface of the open end, charging a quantity of hot liquid tar into the interior of the pipe, at the covered end, rotating the pipe on its axis so as to distribute the tar uniformly over its inner surface, pouring out the excess of tar at the open end, and then permitting the leader or pipe to dry.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANK GREENTHALER.

Witnesses:

PAUL GOEPEL,
HENRY J. SUHRBIER.