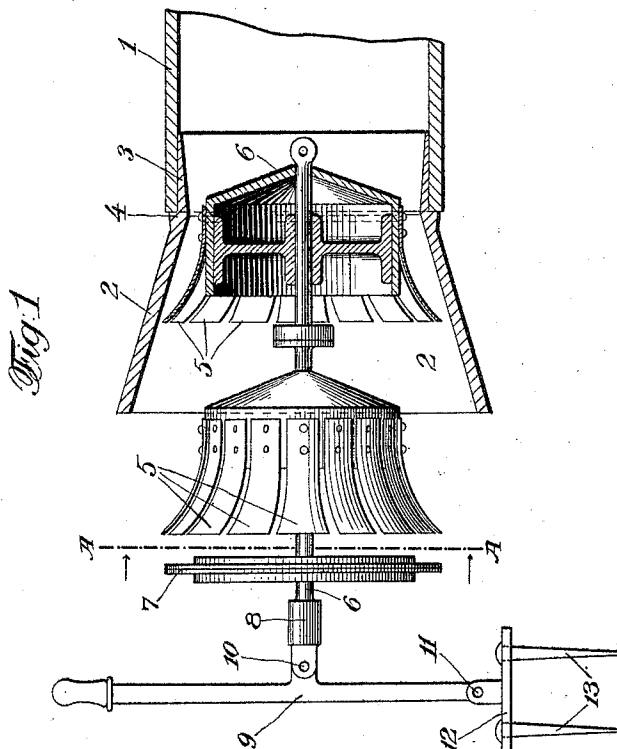
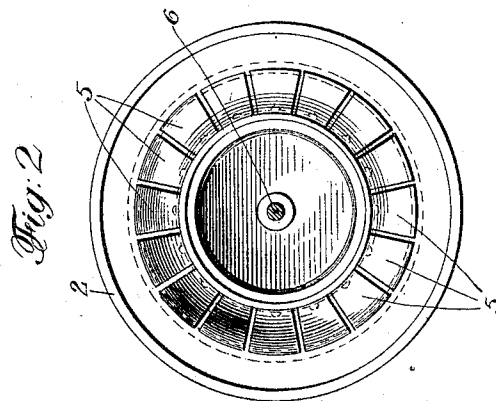
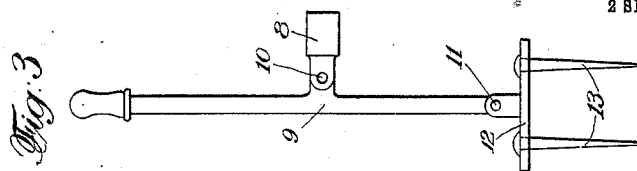


O. B. MUELLER.
 DEVICE FOR INSERTING PIPE CLEANING MACHINES INTO PIPE LINES.
 APPLICATION FILED APR. 13, 1910.

1,006,261.

Patented Oct. 17, 1911.

2 SHEETS—SHEET 1.



Witnesses:
John O. Sengler
Edward F. Rooney

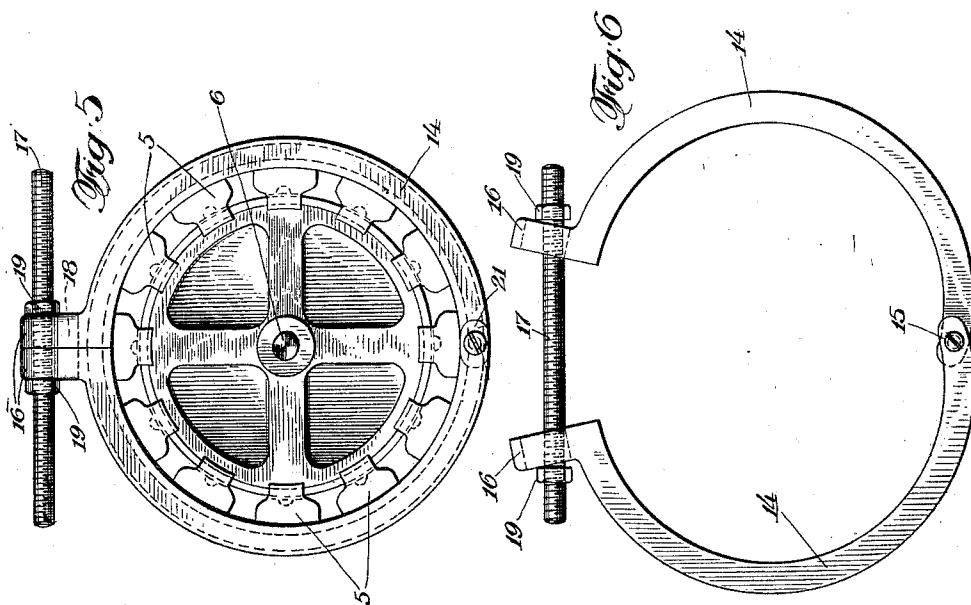
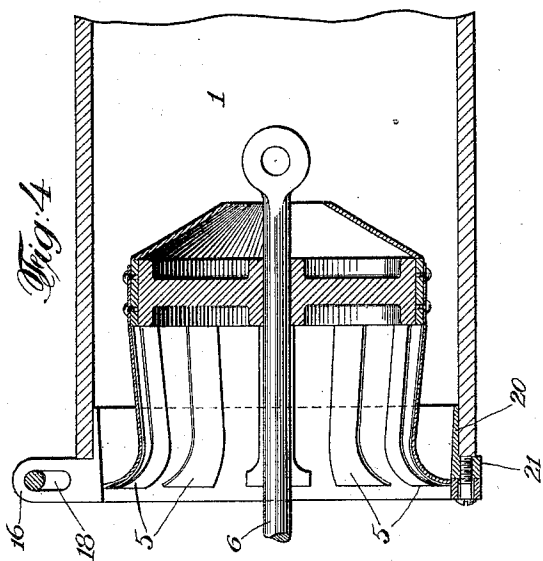
Oscar B. Mueller
 Inventor,

By his Attorneys,
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UNITED STATES PATENT OFFICE.

OSCAR B. MUELLER, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO THE NATIONAL WATER MAIN CLEANING COMPANY, A CORPORATION OF MAINE.

DEVICE FOR INSERTING PIPE-CLEANING MACHINES INTO PIPE-LINES.

1,006,261.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed April 13, 1910. Serial No. 555,183.

To all whom it may concern:

Be it known that I, OSCAR B. MUELLER, a citizen of the United States, and a resident of New Rochelle, county of Westchester, and State of New York, have invented certain new and useful Improvements in Devices for Inserting Pipe-Cleaning Machines into Pipe-Lines, of which the following is a specification.

My invention relates to devices for inserting into pipe lines pipe-cleaning machines having cleaning members the free ends of which form a circle greater in circumference than the inside of the pipe to be cleaned. It is particularly adapted for use with water mains.

In the drawings, Figure 1 shows the preferred form of my invention; Fig. 2 shows a cross section taken through the line *a-a* of Fig. 1, in the direction of the arrow; Fig. 3 shows my improved form of lever for forcing the cleaning machine into the pipe; Figs. 4, 5 and 6 show a modification of the means used for compressing the cleaning members of the cleaning machine so as to reduce the circumference described by the free ends of said cleaning members.

In the drawings, 1 represents the end of the pipe into which it is desired to place the cleaning machine.

2 is a funnel-shaped fitting the inner surface of which converges to a diameter less than the inner diameter of the pipe to be cleaned, and then diverging as shown at 3, until its diameter is a trifle less than the inner diameter of the pipe to be cleaned.

On the outer face of the funnel-shaped fitting 2 I provide a shoulder 4 for supporting the fitting in place against the end of the pipe. I also provide a tongue or lip 3 the outer surface of which is of a diameter of such size as will fit within the pipe 1.

In the drawings, I have shown a simple form of cleaning device mounted on the shaft 6, the cleaning device having cleaning members 5 the free ends of which are adapted to engage with the incrustations on the inner surface of the pipe and remove same.

It will be noted in Fig. 2 that the circle normally described by the cleaning members, is of a diameter greater than the inner diameter of the pipe, which is shown by the inner circle of dotted lines.

7 is a propelling device attached to the

end of the cleaning machine for propelling the same through the pipe line. After the cleaning machine has been inserted in the end of the funnel-shaped fitting 2, as shown in Fig. 1, I place the lever 9, fulcrumed at 11 on the plate 12 having pins 13 adapted to be driven into the ground for holding the same in position, in its proper position relative to the machine, so that the movable member 8 fulcrumed at 10 on the lever 9 will engage with the end of the shaft 6, and by pushing the lever 9 in the direction of the pipe, force the cleaning machine into the pipe line. In so doing, the cleaning members 5 will be caused to converge as they pass into the funnel-shaped fitting 2 until they get to a point opposite the shoulder 4, when they will be permitted to gradually expand until they pass by the tongue 3, when they may expand so as to describe a circle equal to the circle described by the inner surface of the pipe to be cleaned.

In Figs. 4, 5 and 6, I have shown a modification of the means for inserting the cleaner into the pipe, in which I provide a circular clamp for placing around the cleaning members. In this modification, 14-14 form a circular clamp loosely connected together by a bolt 15. The free ends of the members 14-14 are provided with L's 16-16, having elongated slots 18 through which a bolt 17 is placed.

In practice, I place the cleaning device within the clamp so that the free ends of the cleaning members, as shown in Figs. 4 and 5, will be compressed by closing the clamps and holding them closed by means of the nuts 19-19 placed on the screw bolt 17. I also provide the clamp members 14-14 with a tongue 20 adapted to fit within the pipe to be cleaned, for the purpose of holding the clamp in position within the pipe, in conjunction with the shoulder 21 which abuts against the end of the pipe.

In using the modification shown in Figs. 4, 5 and 6, after the clamp has been closed, as shown in Fig. 5, I place it within the pipe line, as shown in Fig. 4, and then by the use of the lever shown in Fig. 3, I force the cleaning device out of the circular clamp into the end of the pipe line to be cleaned.

My invention is adapted for use either with self-propelled cleaning devices, or with cable-drawn cleaning devices, or with any

devices having flexible members which describe a circle greater in diameter than the inner diameter of the pipe to be cleaned.

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

1. In a device for inserting pipe-cleaning machines into a pipe, the combination of a fitting for contracting the diameter of the cleaning members of the cleaning machine gradually permitting the diameter of said cleaning members to enlarge, and means for forcing said machine into the pipe.

2. In a device for inserting pipe-cleaning machines into a pipe, the combination of a fitting inserted within the end of the pipe for contracting the diameter of the cleaning members of the cleaning machine gradually permitting the diameter of said cleaning members to enlarge, and means for forcing said machine into the pipe.

3. In a device for inserting pipe-cleaning machines into a pipe, a fitting contracting the diameter of the cleaning machine as it passes through said fitting, said fitting having a tongue adapted to be inserted within the pipe to be cleaned said tongue being so constructed as to permit the diameter of the cleaning device to gradually expand.

4. In a device for placing pipe-cleaning

machines into a pipe, the combination of a fitting having a tongue adapted to be placed within the end of the pipe to be cleaned, a shoulder adapted to abut against the end of the pipe to be cleaned, the inner diameter of said fitting gradually converging until it is of a diameter less than the inner diameter of the pipe, then gradually diverging until it is practically of the same diameter as the inner diameter of the pipe to be cleaned, a lever, a bed plate, an arm fulcrumed to said bed plate, and a member loosely mounted on said arm, said member adapted to engage with the object which it is desired to move by the lever.

5. In a device for inserting pipe-cleaning machines into a pipe, the combination of a pipe line, a pipe-cleaning machine, a fitting adapted to contract the diameter of the cleaning machine said fitting so constructed as to permit gradual expansion of the diameter of the cleaning machine after it has passed to a point within the pipe line.

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

OSCAR B. MUELLER.

Witnesses:

EDWIN SEGER,
GEO. W. MILLS, Jr.