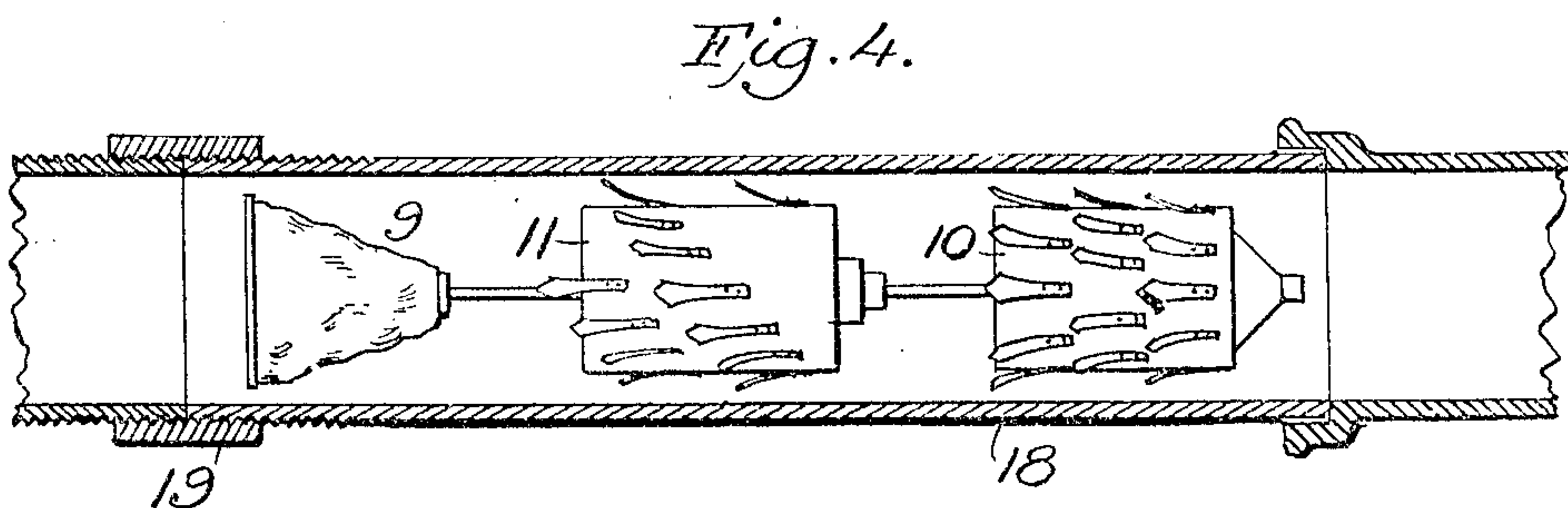
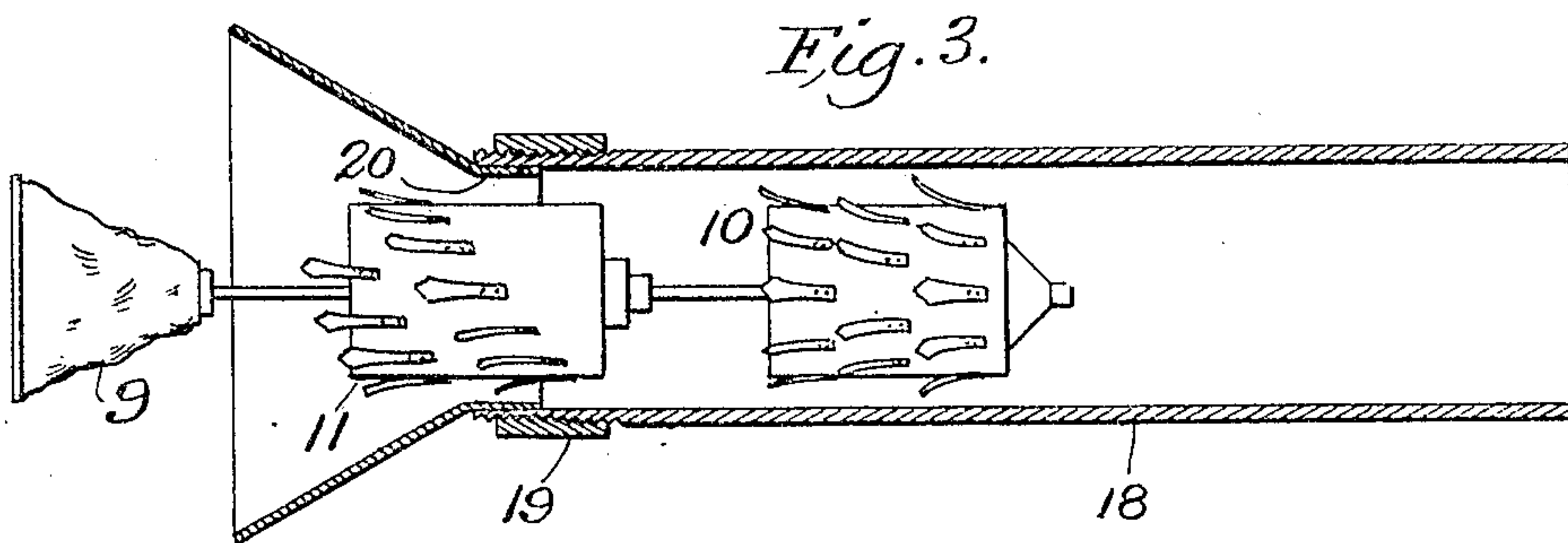
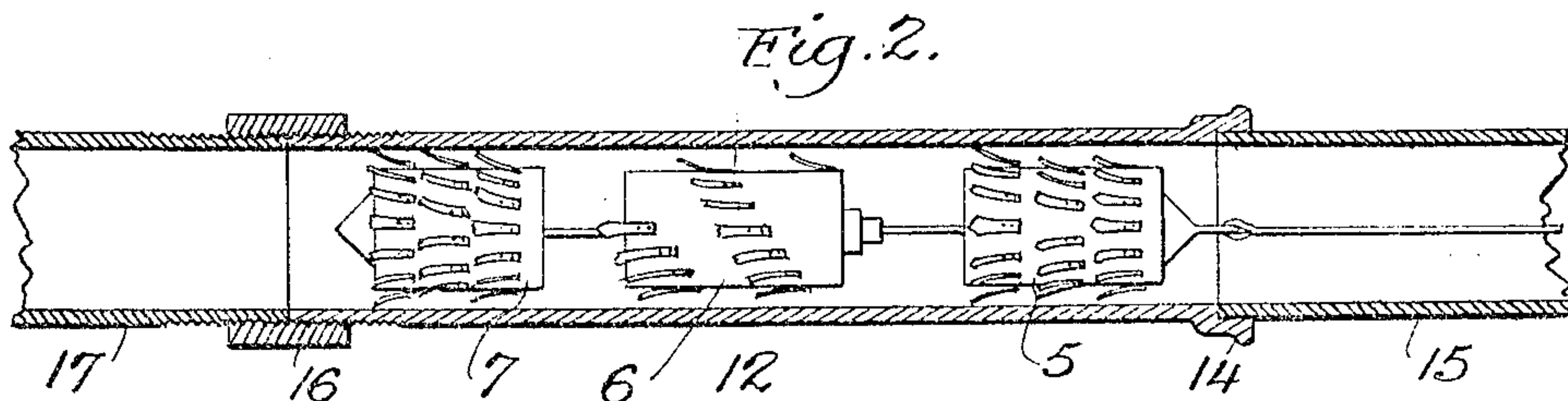
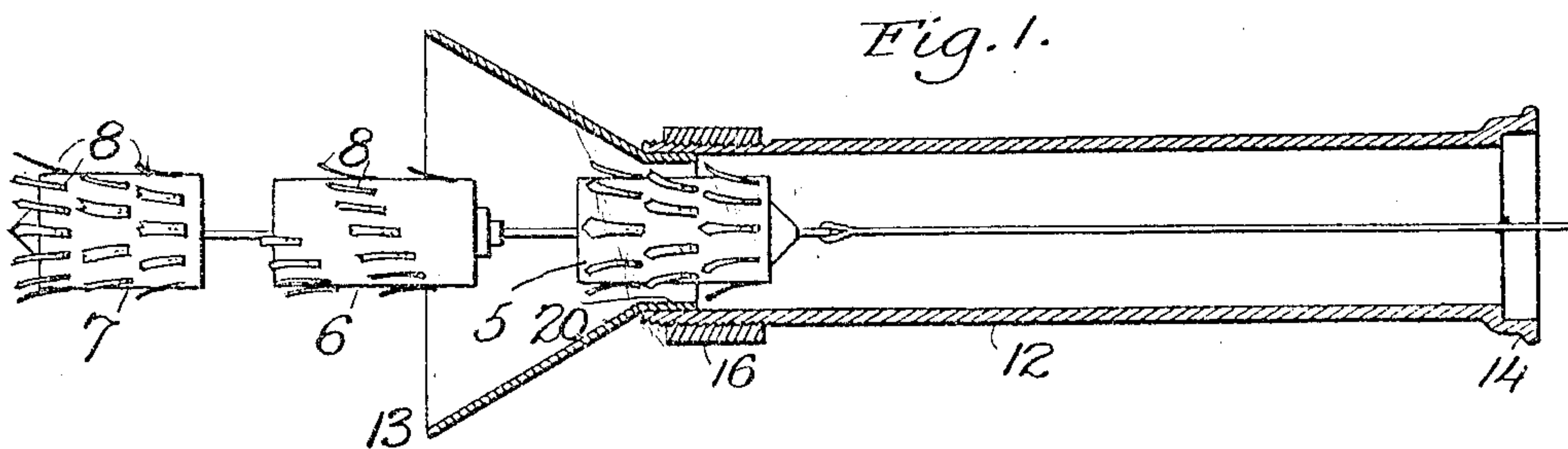


G. F. WHITNEY.
ART OF CLEANING PIPE LINES.
APPLICATION FILED DEC. 14, 1906.

906,595.

Patented Dec. 15, 1908.



WITNESSES
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GEORGE F. WHITNEY, OF SOUTH ORANGE, NEW JERSEY, ASSIGNOR TO NATIONAL WATER MAIN CLEANING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF MAINE.

ART OF CLEANING PIPE-LINES.

No. 906,595.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed December 14, 1906. Serial No. 347,908.

To all whom it may concern:

Be it known that I, GEORGE F. WHITNEY, a citizen of the United States of America, and a resident of South Orange, Essex county, New Jersey, have invented certain new and useful Improvements in the Art of Cleaning Pipe-Lines, of which the following is a specification.

This invention relates to devices for cleaning mains or pipes through which fluids pass, and has for its object the shortening of the time required for cleaning such pipes or mains as will be described in the following specification, and the claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows means by which my process is carried out, the cleaning device used being of the kind that is pulled through a pipe line by means of a cable. Fig. 2 shows a section of pipe in which is inclosed a cleaning device to be pulled through a pipe line by means of a cable, this section being inserted in the pipe line. Fig. 3 illustrates a section of a water pipe into which is being introduced a cleaning device of the kind that is propelled automatically by means of water passed through the pipe. Fig. 4 is a view showing the same section of the pipe inserted in a pipe line and with the automatically propelled cleaning device located entirely within the pipe.

The cleaning device shown in Figs. 1 and 2 is a combination of cylinders 5, 6 and 7 carrying cutters and scrapers 8 arranged around their outer surface to cut and scrape off any sediment or incrustation that may be found in the interior of a main or pipe line.

In Figs. 3 and 4 is shown a cleaning device which is adapted to be moved through the main or pipe line by water pressure, having a bell shaped frame 9 constructed of canvas or similar flexible material and having connected with it at its front end the cutting and scraping cylinders 10 and 11 which precede the vessel 9 and remove any sediment or incrustation, which may exist in the main or pipe line.

In the use of these cleaning devices it has been found difficult to insert the same into a pipe or main on account of the projecting cutters or scrapers being caught by the end of the pipe, requiring great power to intro-

duce the cleaning device, and often causing the latter to become torn. To overcome this objection I insert in the one end of the pipe a short pipe 20, the latter pipe having an expanded or conical portion 13. After this short pipe with its expanded or conical end has been inserted in a pipe, the introduction of a cleaning device is performed quickly and easily without the use of extra power and without damaging the cleaning device.

After the cleaning device has been placed within a pipe 12 it is then put in position in a main replacing a pipe which has been removed therefrom, the bell shaped mouth 14 fitting over the end of the forward section in the main, while the rear end of pipe 12 is threaded externally and provided with a sleeve 16. The forward end of the pipe 17 of the main is also threaded and when the section 12 is placed in position the sleeve 16 is screwed down part of the way from section 12 and on section 17 thus effecting the coupling shown in Fig. 2 when it may be calked or otherwise prepared to make a water-tight joint. The forward end 14 of the section 12 is likewise made water-tight in any usual manner after the pipe has been placed in position in the main.

In the form shown in Figs. 3 and 4 of this device a plain section of pipe 18 is used having the threaded end and a sleeve 19 to fit thereon and after the cleaning device is inserted into the pipe, the latter is likewise put into an open space in the main and the sleeve 19 is screwed upon one of the ends of the main while the other end of the main is provided with a bell-shaped socket to receive the other end of the section 18.

The advantage of my process of inserting the cleaning device into a pipe is that only a minimum of power is required and the life of the device is much prolonged. This is the case whether the insertion of the cleaning device into a pipe is made in a shop or factory or at the place where the cleaning of a pipe line is effected.

The advantage of introducing a cleaning device into a pipe at a shop or factory and afterwards inserting the pipe with its contained cleaning device is that a great saving of time is effected. Further, if a cleaning device drawn by a cable be used no extra power is required to start the operation. Again, if an automatic cleaning device be

first introduced into a pipe and this pipe with its contained cleaning device be inserted in the main to be cleaned, no power whatever is required during the whole course of the operation, except of course the power furnished by the water passing through the main which is always available, being needed for other reasons.

What I claim as new is:

1. A pipe line having inserted therein a removable section provided with a cleaning device located within the same.
2. The combination of a pipe and a cleaning device located within the same, said

pipe being adapted to be inserted into and form a portion of a pipe line or main.

3. The combination of a pipe provided with a sleeve on one end and a cleaning device located within the pipe, said pipe being adapted to be inserted into and form a portion of a pipe line or main.

Signed at New York this 6th day of Dec. 1906.

GEORGE F. WHITNEY.

Witnesses:

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