

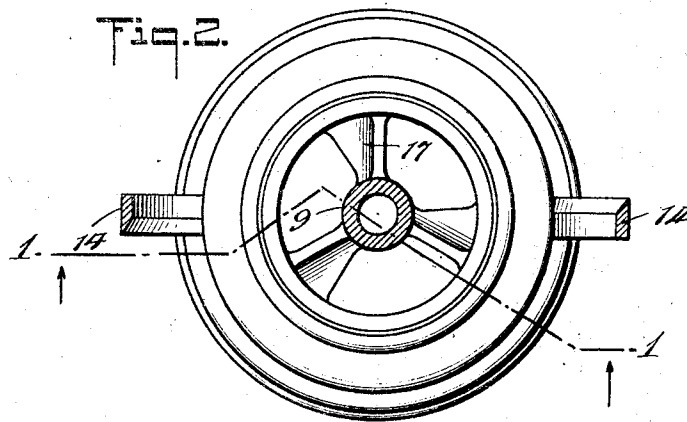
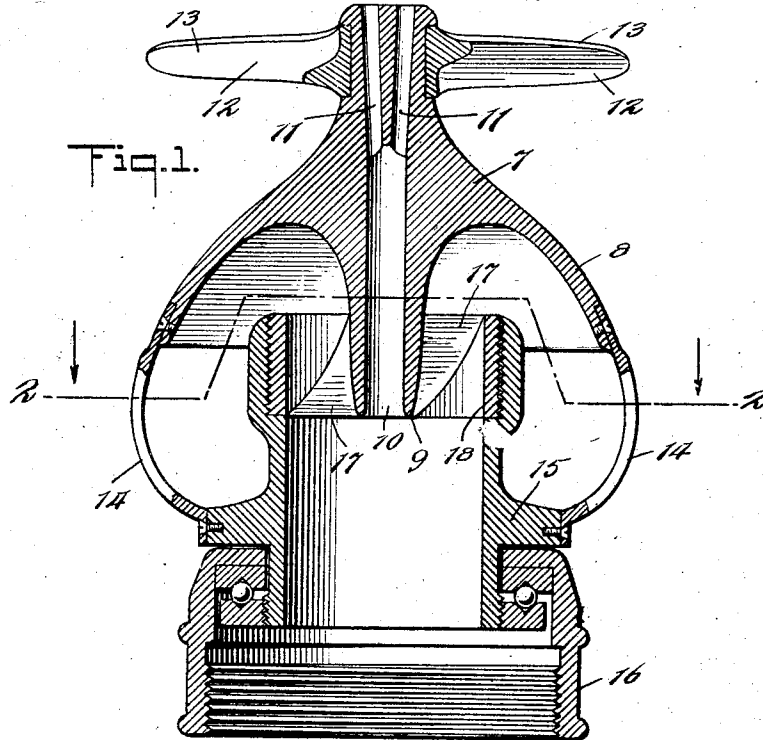
May 10, 1927.

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1,628,070

SELF PROPELLED HOSE NOZZLE

Filed May 12, 1926



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SELF-PROPELLED HOSE NOZZLE.

Application filed May 12, 1926. Serial No. 108,480.

Among the principal objects which the present invention has in view are: to provide cutting devices for a self-propelled hose nozzle for removing obstacles to the passage of said nozzle; to provide a cutting instrument of the character indicated adapted to function as a propelling device; and to simplify and cheapen the construction.

Drawings.

Figure 1 is a longitudinal section of a nozzle of the character mentioned, the section being taken as on the line 1—1 in Figure 2.

Figure 2 is a cross section of the nozzle the section being taken on the line 2—2 in Figure 1.

Description.

The present invention may be considered as an improvement on the construction disclosed in Patent No. 1,587,194 of June 1, 1926. The construction therein shown embodies a body such as the body 7 of the present construction. The body 7 has an apron portion, the inner surface of which is curved from a central spindle 9. The spindle 9 has a central bore 10 for conveying a stream of the water handled by the nozzle to outlet passages 11. The passages 11 are slightly diverged as shown best in Figure 1 of the drawings to constitute members for directing boring streams of water upon obstacles in advance of the nozzle.

The purpose of the curved inner surface of the apron 8 is to invert the flow of water so that it leaves the apron 8 in a relatively rearward direction. The stream thus leaving the apron presses upon the medium in which the nozzle is placed with the result that a forward pressure is exerted on the said nozzle.

Mounted on the forward extremity of the body 7 are propeller blades 12. The blades 12 are provided with cutting edges 13 which operate to cut into any obstacle in the path of the said blades when and as the same are rotated by the nozzle.

A pair of supplementary cutting blades are indicated by the numeral 14. These blades are bow-shaped and extended outward from the perimeter of the apron 8 and is

secured rigidly thereto and to the neck 15 of the nozzle. The blades 14 are radially extended slightly more than the extremities of the blades 12, the purpose being to assist in clearing a passage for the body of the nozzle 15 and the hose pipe which is attached thereto by means of a coupling neck 16.

A rotary impulse is given to the body 7 and neck 15 by the inclined vanes 17 which are integrally secured to the spindle 9 and to a screw collar 18 employed to secure the body 7 and parts connected therewith to the neck 15.

It will be understood that as the water flowing from the hose pipe to which the nozzle is connected, passes through the neck 15, it operates to deflect the inclined vanes 17 so that a rapid rotation is imparted to the said body and cutting blades attached thereto. The rotation thus imparted operates to drive the blades 12 and 14 against any obstacle in the path of the nozzle and hose pipe attached thereto with the result that if the said blades can cut the obstacle, it is severed and removed from the path of the nozzle, thereby clearing the way for the further progress of the apparatus.

The value and efficiency of the cutting effect will be better appreciated when it is understood that the nozzle is used for removing obstacles from and clearing sewer pipes. It will be understood that the blades 12 cooperate with the vanes 17 to augment or supplement the same to draw the nozzle and hose connected therewith through the medium in which the said nozzle and hose is operating.

Claim.

A nozzle as characterized embodying a power driven rotary member, and a plurality of spirally twisted propeller blades, the forward and upper edges thereof being sharpened to form cutting members, said blades being disposed in spaced relation to the power driven member; and a plurality of bowed blades radially extended from said rotary member beyond the perimeter thereof for completing the removal inaugurated by said cutting blades.

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