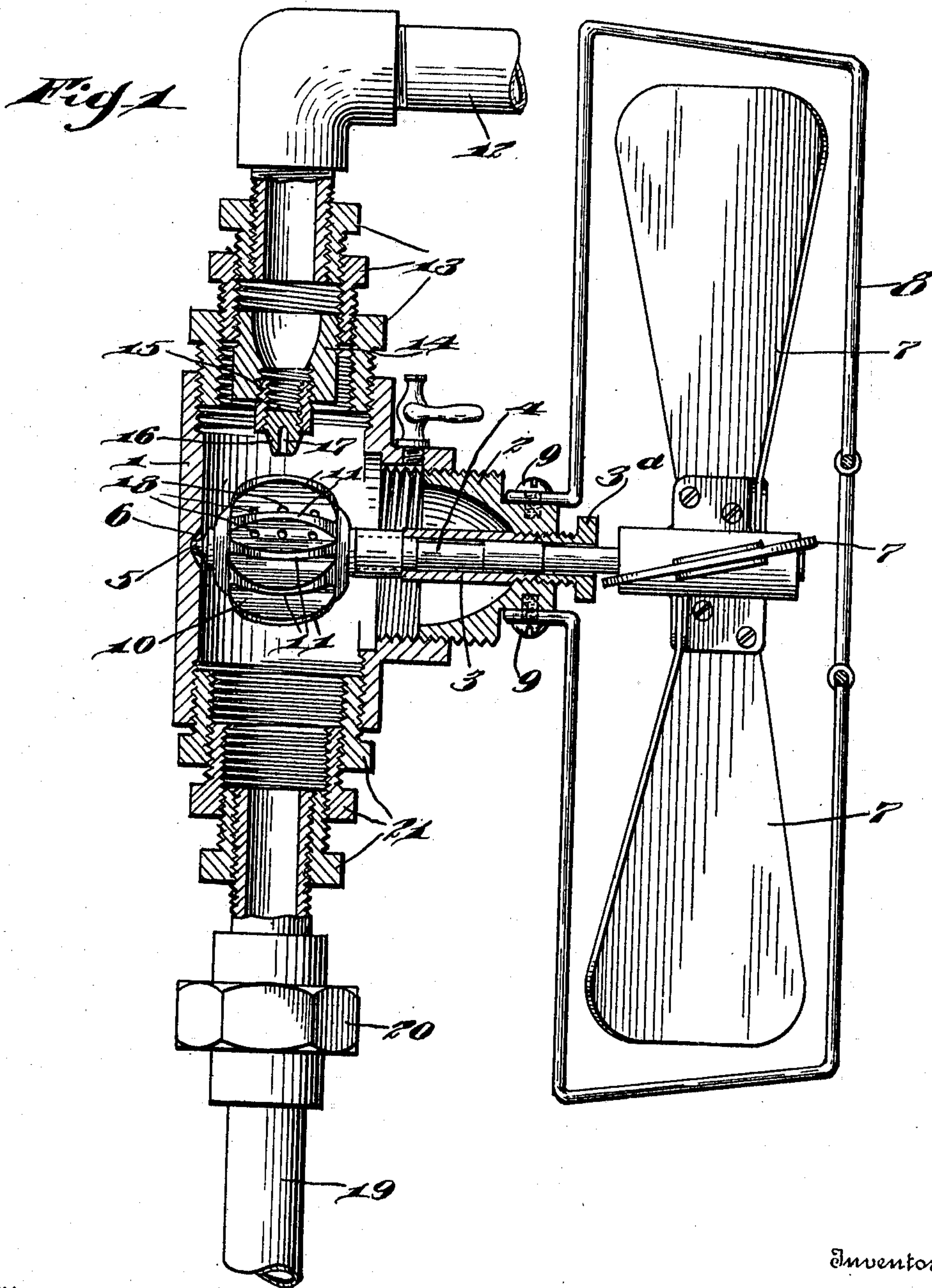


H. L. & J. STAELEN.
HYDRAULIC MOTOR.
APPLICATION FILED AUG. 13, 1910.

993,728.

Patented May 30, 1911.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

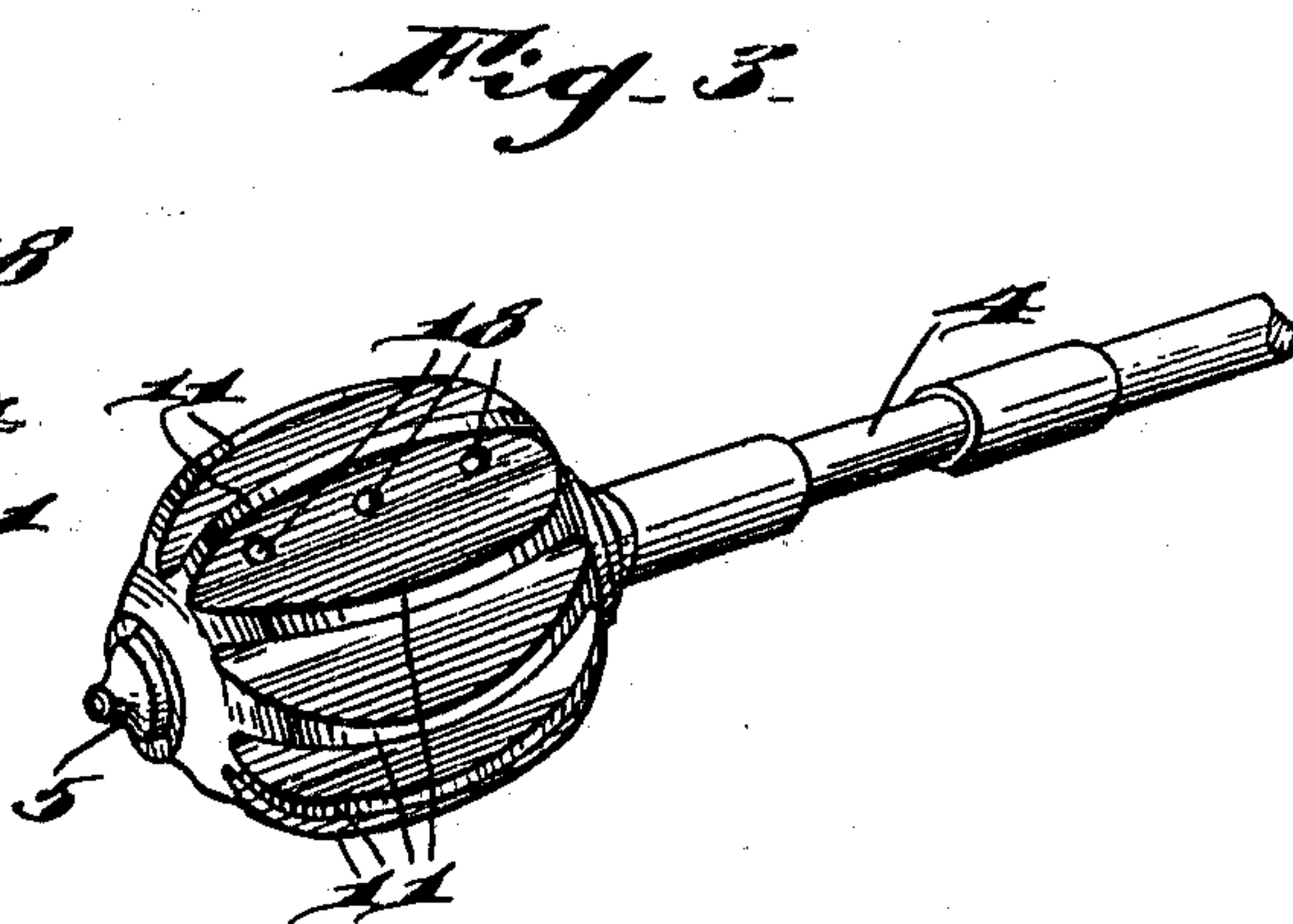
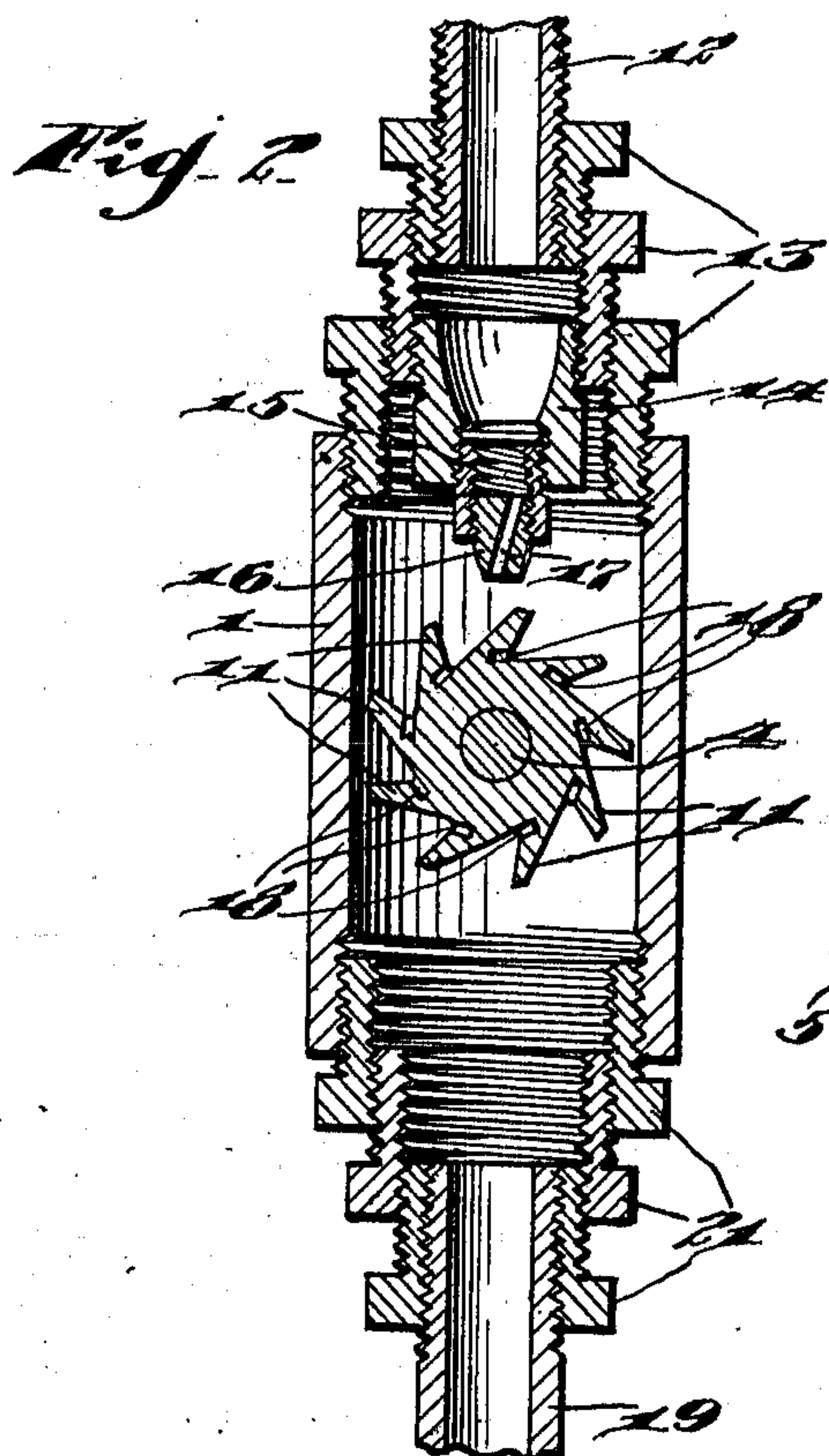
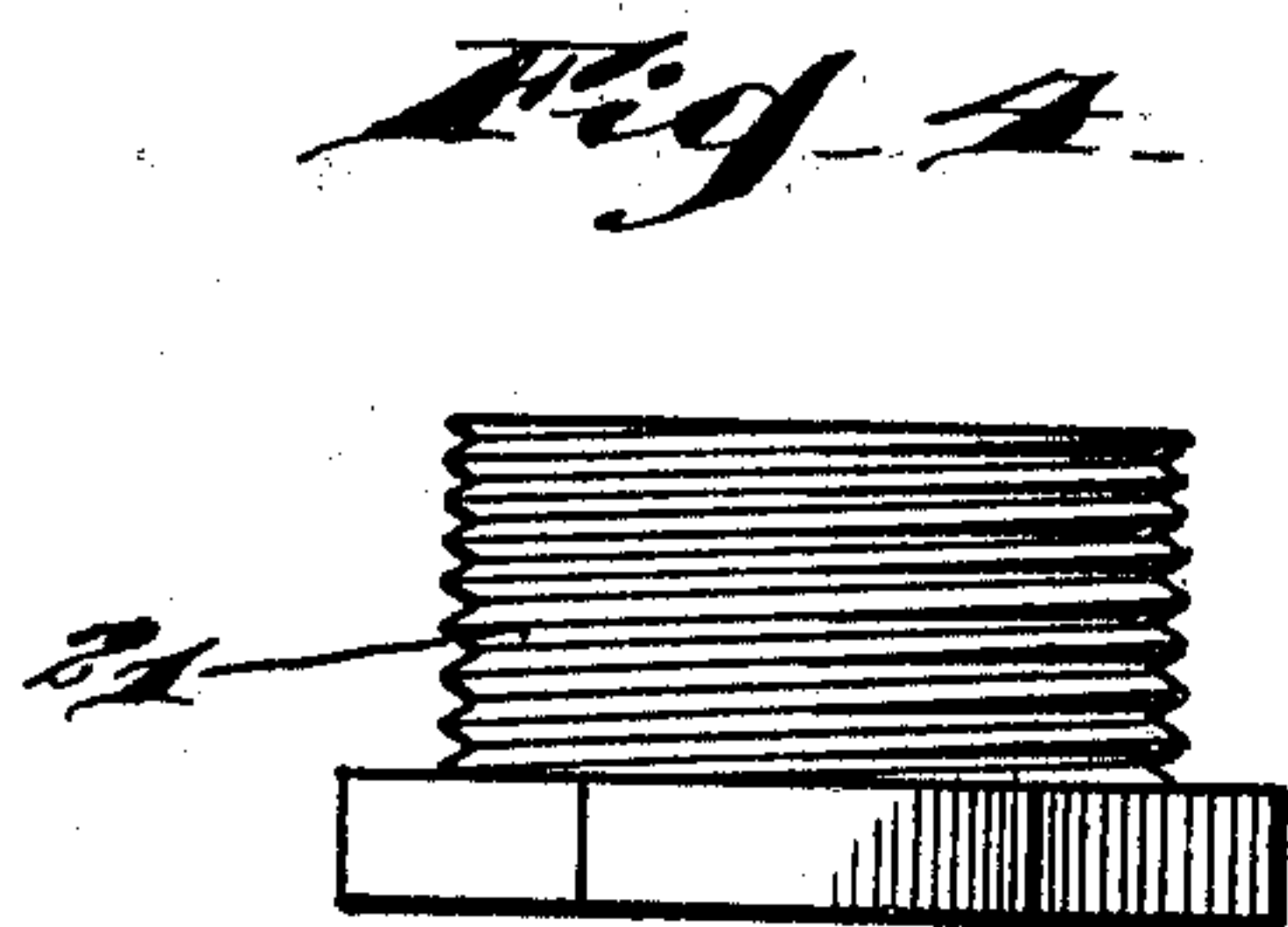
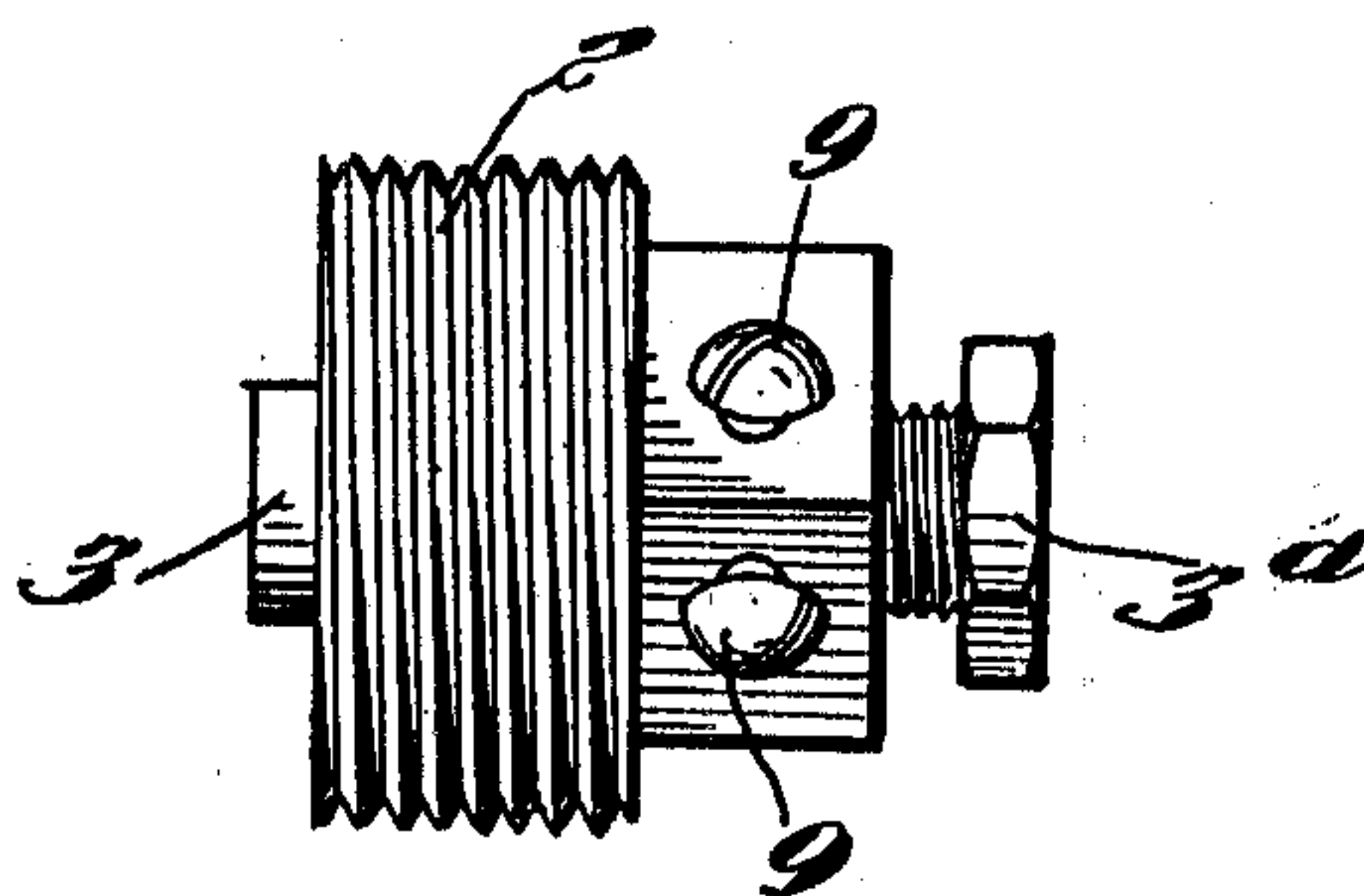


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRI L. STAELEN AND JULIEN STAELEN, OF PHILADELPHIA, PENNSYLVANIA.

HYDRAULIC MOTOR.

993,728.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed August 13, 1910. Serial No. 577,013.

To all whom it may concern:

Be it known that we, HENRI L. STAELEN and JULIEN STAELEN, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hydraulic Motors, of which the following is a specification.

Our invention relates to improvements in hydraulic motors more especially designed for driving rotary fans and the like, but is adapted for various other uses, the primary object of the invention being to provide a rotary element which is so constructed that a maximum of power is obtained from the water directed thereagainst by means of an improved nozzle having a diagonal or inclined duct discharging the water against tangentially disposed blades or vanes.

A further object is to provide improvements of this character of extremely simple inexpensive construction, strong and durable in use.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claim.

In the accompanying drawings: Figure 1, is a view partly in vertical section and partly in elevation illustrating our improvements as applied to a rotary fan. Fig. 2, is a view in section through the motor taken at right angles to Fig. 1. Fig. 3, is a perspective view of the rotary element, and Figs. 4, and 5, are views of details of construction.

1, represents the casing of our improved motor which is preferably in the form of a T-coupling internally screw-threaded at its openings, and in its intermediate opening, a screw-threaded plug 2 is located. This plug is internally screw-threaded to receive an externally screw-threaded bearing sleeve 3 and packing nut 3^a and in the sleeve 3, the motor shaft 4 is mounted, said motor shaft having thrust bearing 5 at its inner end, in a socket 6 in casing 1. In the outer end of this shaft 4, a rotary fan 7 is secured and inclosed in a wire frame 8 secured by screws 9 to the plug 2.

On shaft 4, and preferably integral therewith, and located centrally in the casing 1 is our improved rotary element 10 which comprises preferably a single block or casting cut out or recessed forming a circular series of tangentially disposed blades or vanes 11, and the rotary element in general outline is preferably of bulbous or spherical form as illustrated.

12 represents a water supply pipe which is connected by internally and externally screw-threaded couplings 13 with one end of casing 1. In one of these couplings 13, an internally and externally screw-threaded hollow plug 14 is located, and into which an internally and externally screw-threaded ring 15 is screwed, and into this ring 15 our improved externally screw-threaded nozzle 16 is located, and is provided with a diagonal duct or passage 17, through which the water is discharged against the blades or vanes 11, and the under faces of these blades or vanes 11, at their inner ends, are provided with recesses or pockets 18, which receive the impact of the water, and insure a greater driving power to the water. The water after striking the rotary element, escapes through the outlet pipe 19 which is connected by couplings 20 and 21 with the end of casing 1.

Various slight changes might be made in the general form and arrangement of parts described without departing from our invention, and hence we do not limit ourselves to the precise details set forth, but consider ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claim.

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

In a device of the character described, the combination with a motor casing, of a shaft projecting out of said casing and having a thrust bearing in the casing, a rotary element on said shaft, a circular series of tangentially disposed blades or vanes on said rotary element, said blades or vanes having their adjacent faces converging at the base and each blade being provided with a plurality of recesses or pockets in their under faces at their inner ends only, said recesses

or pockets registering with the outer face of the next succeeding blade or vane, said rotary element of bulbous form, a nozzle in one end of the casing discharging diagonally against the under faces of said blades or vanes, and a fan on the outer end of said shaft, substantially as described.

5

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

HENRI L. STAELEN.
JULIEN STAELEN.

Witnesses:

R. H. KRENKEL,
C. E. POTTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
