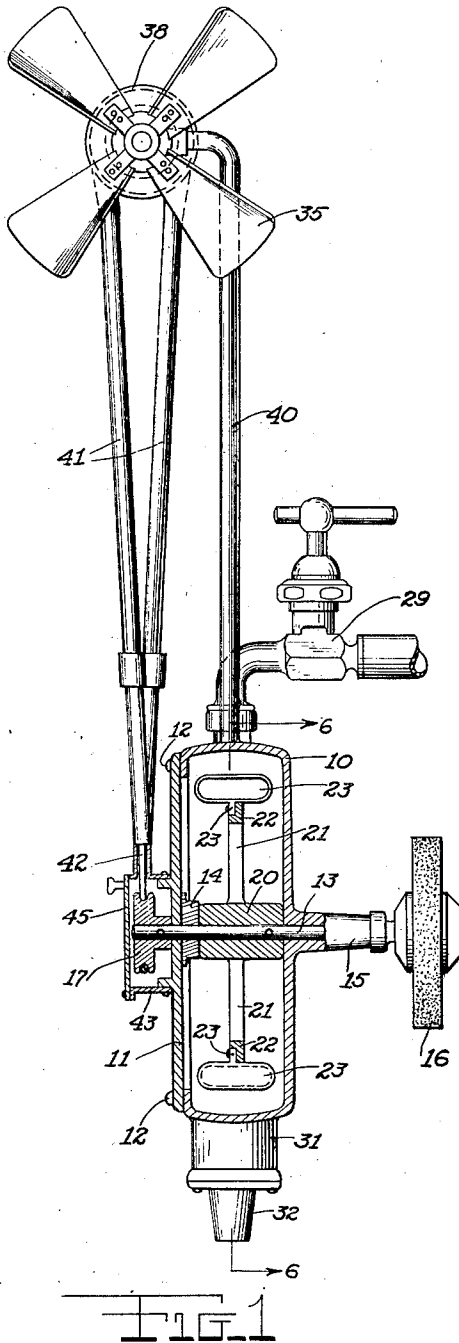
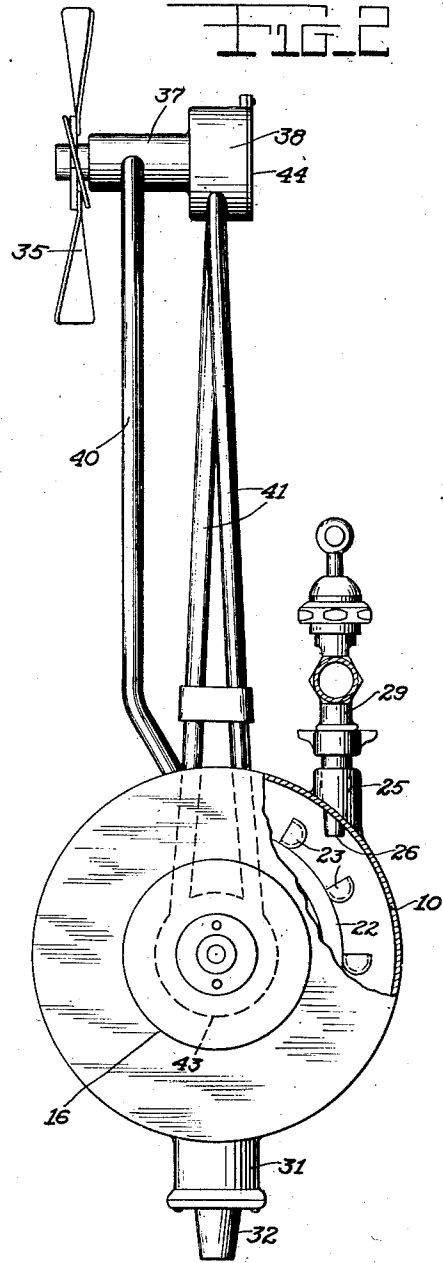


1,357,609.

Patented Nov. 2, 1920.
2 SHEETS—SHEET 1.



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WATER MOTOR.

APPLICATION FILED FEB. 4, 1920.

1,357,609.

Patented Nov. 2, 1920.

2 SHEETS—SHEET 2.

FIG. 3

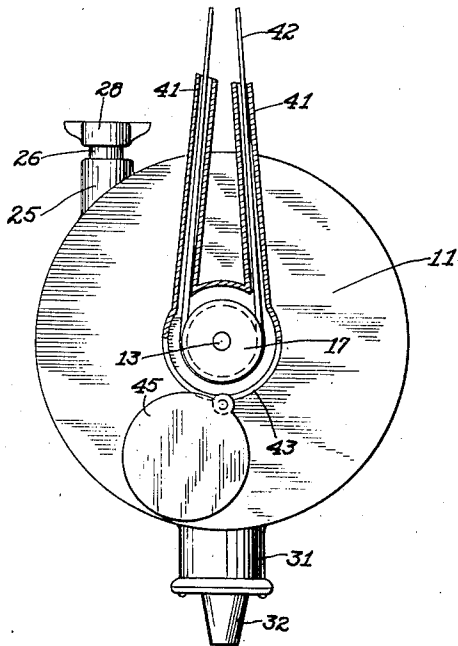


FIG. 4

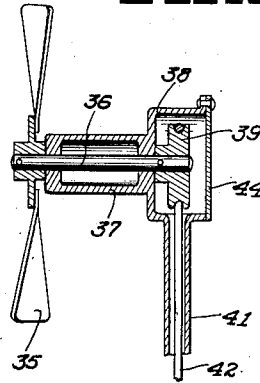
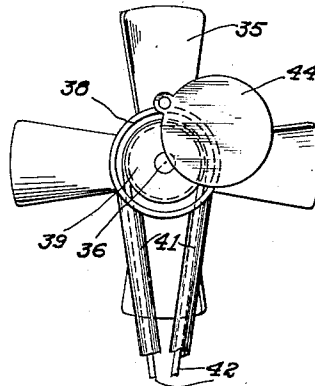


FIG. 5

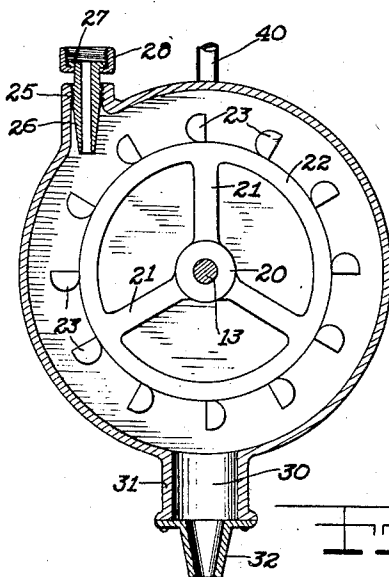


FIG. 6

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WATER-MOTOR.

1,357,609.

Specification of Letters Patent.

Patented Nov. 2, 1920.

Application filed February 4, 1920. Serial No. 356,176.

To all whom it may concern:

Be it known that I, ALEX BOBROVSKY, a citizen of Russia, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Water-Motors, of which the following is a specification.

This invention relates to improvements in water motors especially adapted to be driven by water from the city mains or other source supplying water under pressure.

It is the principal object of this invention to provide a water motor of this class which is simple in construction and which can be readily attached to a faucet and which is adapted to drive light machinery as for instance grinding wheels, fans or the like.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Figure 1 of the drawings is a side view, partly in axial section of a device embodying the invention.

Fig. 2 is a face view thereof, partly broken away.

Fig. 3 is a partial rear view with the cap of the fan pulley chamber swung back and the belt inclosing pipes in section.

Fig. 4 is a detail vertical axial sectional view of the fan and its support.

Fig. 5 is a rear view of the parts shown in Fig. 4.

Fig. 6 is a vertical sectional view on the line 6—6 of Fig. 1.

My improved device comprises a water motor having a short cylindrical casing 10 one end or radial wall of which is formed by a disk 11 secured to the main body of the casing by screws 12. This casing contains a water wheel which is fixed on a shaft 13 extending axially through the casing and journaled in bearings 14 and 15 which are formed respectively by a collar secured on the inside of the disk 11 and an axial hub on the outside of the opposite end wall of the casing. Upon the end of shaft 13 which projects through the bearing 15 is fixed a grinding wheel 16 of suitable material such as emery, and upon the opposite end of the shaft is fixed a pulley 17 for driving the fan as will be presently pointed out.

The water wheel comprises a hub 20 fixed upon the shaft 13 and provided with radiating spokes 21 carrying a rim 22. Upon this rim are fixed a number of bucket vanes 23 which are spaced evenly around the rim, these buckets having their bottoms rounded to semi-circular form, considered radially of the wheel, as clearly shown in Fig. 2, and being elongated to trough-like form in a direction parallel to the axis of the wheel as clearly shown in Fig. 1, and may be secured to the rim 22 by ribs 23 formed on the inwardly facing sides thereof and secured by rivets or otherwise to the rim, the latter being here shown as recessed to receive the ribs.

For attachment to the faucet and to direct the water onto the vanes the casing has formed on the upper portion of its cylindrical wall an upwardly projecting hollow boss 25 which is interiorly screw-threaded to receive a nozzle 26 having a flanged upper end 27 engaged by a coupling cap 28 of well known design whereby the device is connected to the faucet, the latter being indicated at 29 in the Figs. 1 and 2, it being apparent that when the cap is screwed on the end of the faucet the whole device is supported therefrom. The nozzle 26 is located sufficiently to one side of the vertical axis of the casing to cause the stream of water to be directed substantially tangentially upon the buckets 23. To discharge the water from the casing the latter is provided on its lower side with a discharge opening 30 surrounded by a neck 31 to the lower end of which may be fixed the hollow tapering member 32.

Operatively connected to the pulley 17 is a fan 35 which may be of ordinary construction and which is fixed on one end of a shaft 36 journaled in a bearing head 37 supported at a distance above the casing 10, this head having an enlargement 38 which incloses a second pulley 39 fixed to the other end of shaft 36. The head 37 is supported by a rod 40 extending rigidly upward from the top of the casing 10, and also by a pair of tubes 41 through which the opposite reaches of the belt 42 which connects the two pulleys 17 and 39 leads. These tubes connect at their upper ends to the enlargement 38 of the head 37 and at their lower ends to a ring 43 which is rigidly secured to the disk 11 and surrounds the pulley 17. To enable access to be had to the pulleys 17 and

39 the open ends of the head member 38 and the ring 43 are closed by the pivoted shutters 44 and 45 which may readily be swung to one side, as shown in Figs. 3 and 5 to expose the pulleys.

It will be obvious that if the grinding wheel alone is to be used the bolt 42 may be slipped off the pulleys 17 and 39 thus disconnecting the fan, while if the fan is to be used the grinding wheel acts simply as a flywheel.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, of the United States, is—

- 15 1. A device of the class described comprising a circular casing, a water wheel in said casing, said water wheel including a series of trough-like buckets, a nozzle entering said casing tangentially to the said wheel, 20 said nozzle being adapted for connection to a faucet to support the casing, said casing having an outlet opening in the bottom thereof, a shaft on which said water wheel is fixed, a pulley on said shaft, a bearing 25 head located above the casing, a shaft journaled in said head adapted to carry a pulley, means for supporting said head above said casing and means passing through said supporting means for connecting both pulleys.
- 30 2. In combination, a casing adapted to be attached to and supported from a faucet, a water wheel in said casing, a shaft on which said water wheel is fixed, a pulley fixed to the end of said shaft, a ring fixed to the

casing inclosing said pulley, a bearing head 35 located above the casing, said head having an enlargement at one end, a rod leading upward from said casing to said head, a shaft journaled in said head, a pulley on said shaft within the said enlargement, a 40 pair of tubes leading upward from the said ring, and acting in conjunction, with said rod to support the said head, and a belt looped over the said pulleys and passing through the said tubes. 45

3. In combination, a casing adapted to be attached to and supported from a faucet, a water wheel in said casing, a shaft on which said water wheel is fixed, a pulley fixed to the end of said shaft, a ring fixed to the 50 casing inclosing said pulley, a bearing head located above the casing, said head having an enlargement at one end, a rod leading upward from said casing to said head, a shaft journaled in said head, a pulley on 55 said shaft within the said enlargement, a pair of tubes leading upward from the said ring, and acting in conjunction, with said rod to support the said head, and a belt looped over the said pulleys and passing 60 through the said tubes, and hinged shutters closing the outer end of said ring and said enlargement and adapted to be swung to one side to permit of access to said pulleys to disengage the said belt therefrom. 65

In testimony whereof I have affixed my signature.

ALEX BOBROVSKY.