

J. DESENBURG.
IMPULSE WHEEL.
APPLICATION FILED MAY 10, 1910.

983,984.

Patented Feb. 14, 1911.

Fig. 1

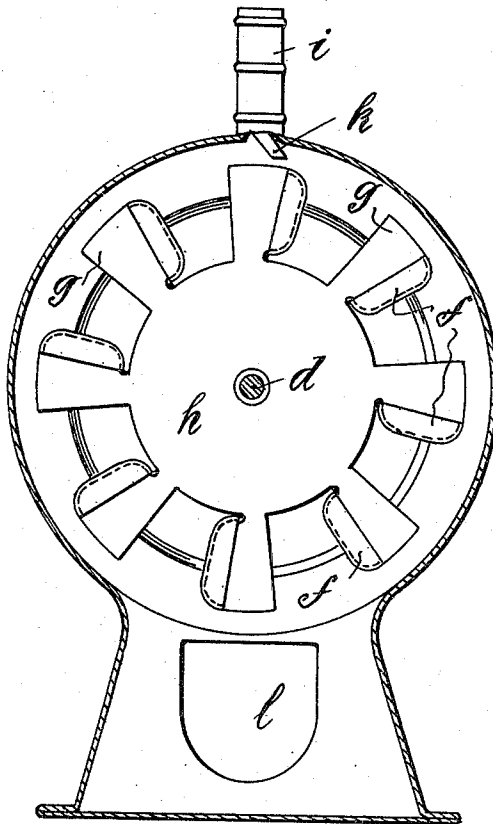
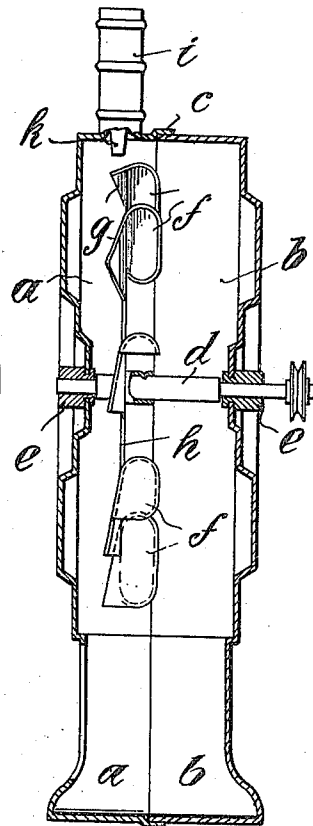


Fig. 2



Witnesses:-
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UNITED STATES PATENT OFFICE.

JOSEF DESENBERG, OF COLOGNE, GERMANY.

IMPULSE-WHEEL.

983,984.

Specification of Letters Patent.

Patented Feb. 14, 1911.

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To all whom it may concern:

Be it known that I, JOSEF DESENBERG, of 18 Melchiorstrasse, Cologne, Germany, engineer, a subject of the Emperor of Germany, residing at Cologne, Germany, have invented new and useful Improvements in Impulse-Wheels, of which the following is a specification.

My invention relates to an impulse turbine for attachment to small water supply pipes and has for its object to simplify the construction. The whole turbine, including the chamber and the turbine wheel, is made from sheet metal by stamping, rolling or similar simple means. The cost of production and the weight of the turbine are consequently decreased, the frictional resistance in turbines made by casting is reduced and the difficulty of regulation arising from a rotating heavy mass is obviated.

On the annexed drawings Figures 1 and 2 show respectively a longitudinal and cross section of the improved turbine.

The chamber of the turbine consists of two stamped or rolled parts *a*, *b*, which are preferably soldered together at the edge *c*. The walls of the chamber are strengthened by ribs or other projecting parts, pressed up from the sheet iron. The chamber is thus made sufficiently strong even if of thin sheet metal, as in impulse turbines there is no excess pressure.

The shaft *d* carrying the turbine wheel is mounted in the tubular bearings *e* fitted on the side walls by means of a flanged end, which grips the material of the wall.

The turbine wheel fitted on the spindle is made from a single piece of sheet iron, by first pressing in the blank the spoon shaped depressions of the blades *f*, then stamping out the material between the separate blades, leaving plates *g* and finally bending the blades at right angles and the plates at an inclination to the body of the wheel *h*. The plates *g* support the blades on the body *h* of the wheel and are so bent that they offer a guiding surface at a favorable angle to the impinging stream. The friction of the water on the smooth blades is of course extremely small.

The water is led from the water supply through a pipe which is clamped on the pipe support *i* soldered on the turbine chamber. In the bottom of the pipe *i* is soldered the directing nozzle *k*. The water after giving up its energy leaves the turbine through the opening *l*.

Having now described the nature of my invention, what I claim is:—

An impulse turbine, in which the turbine wheel is formed from a blank of sheet metal having curved blades pressed and stamped up from the periphery, with sloping guiding plates at the side of each blade, substantially as herein described.

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

JOSEF DESENBERG.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.