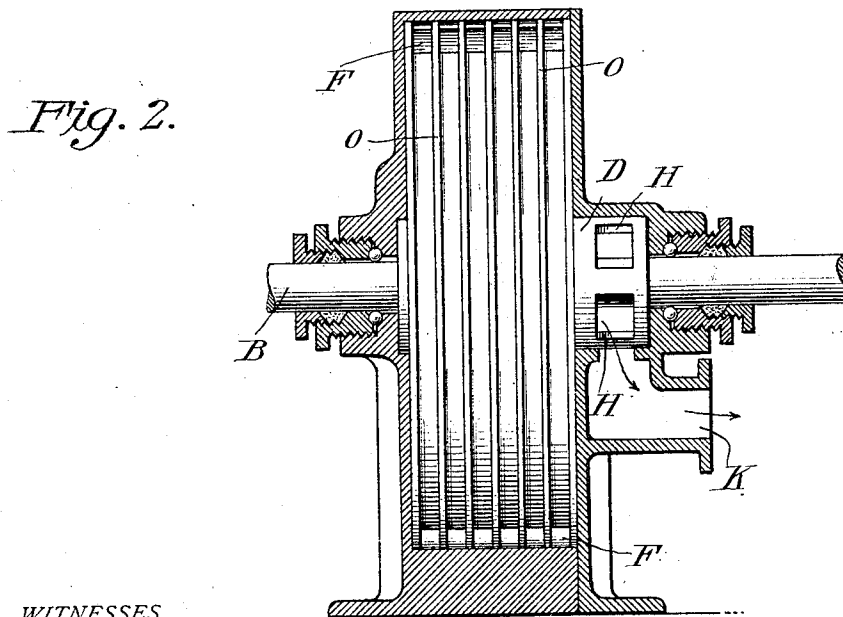
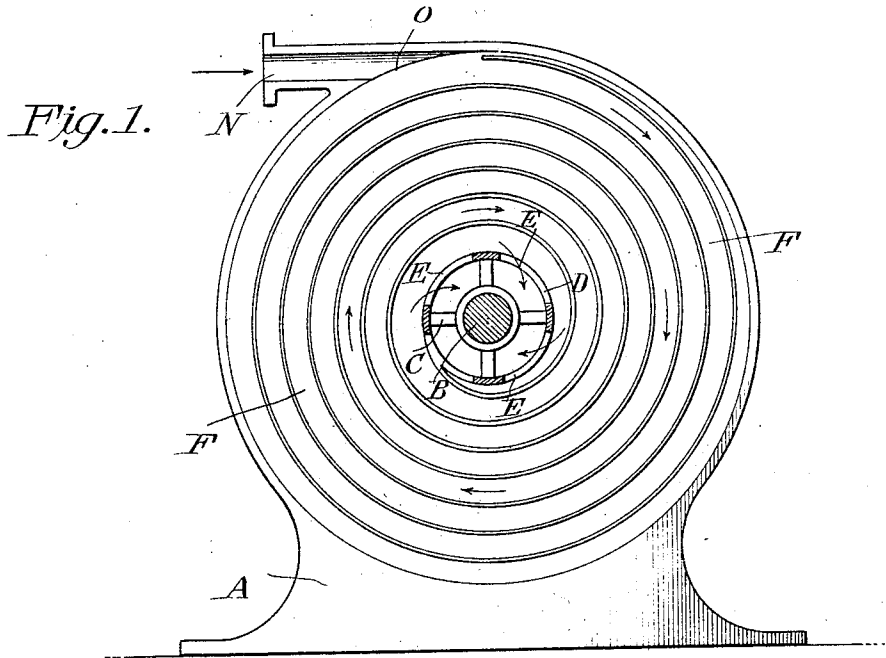


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 TURBINE.
 APPLICATION FILED NOV. 28, 1911.

1,033,738.

Patented July 23, 1912.



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UNITED STATES PATENT OFFICE.

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TURBINE.

1,033,738.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed November 28, 1911. Serial No. 662,888.

To all whom it may concern.

Be it known that we, WILLIAM A. SCOTT and HENRY P. GRANT, citizens of the United States, residing at Tacoma and Seattle, respectively, in the counties of Pierce and King, respectively, State of Washington, have invented certain new and useful Improvements in Turbine-Engines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in turbine engines adapted for use with a fluid, either gas, steam or water, and affords means whereby the highest possible economy may be obtained and affords means whereby a maximum power may be obtained by a minimum of energy.

Our invention comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claim.

We illustrate our invention in the accompanying drawings, in which:—Figure 1 is a vertical central sectional view through our improved rotor and transversely through the shaft, and Fig. 2 is a vertical sectional view taken in a plane at right angles to the section in Fig. 1.

Reference now being had to the details of the drawings by letter, A designates a casing in which a shaft B is mounted in suitable bearings and fixed to said shaft, by means of the spider arms C, is a tubular shell D having circumferential ports E formed therein through which the fluid passes from a series of spiral ducts or passageways F. The interior of said shell is provided with exhaust ports H leading to the exhaust passageway K. Said spiral ducts or passageways are separated from one another by means of the thin partitions O, the circumferences of which partitions

form a series of separate compartments 50 through which the fluid is directed from the inlet N.

In operation, in our improved turbine the shell with the series of spiral passageways forming a rotor affords means whereby the fluid, as it enters the duct N, will be forced to take a uniform spiral course of a length corresponding to the length of the spiral turns of the rotor. By this means an exceedingly heavy torque will be produced from the moment that the fluid enters the spiral passageways. In the action of the fluid, either steam, gas or water which may be utilized for carrying the energy, the properties of adhesion and velocity are depended upon, the attraction of the fluid to the rotor surfaces and the resistance of these particles to the molecular separation combine in transmitting the velocity of the motive fluid to the available working surfaces of the rotors.

In our turbine, we present, by the sides of the partitions and the surface of the spiral ways, a maximum surface for the fluid to act upon, thereby materially increasing the power obtained.

What we claim to be new is:—

A turbine comprising a casing, a shaft journaled therein, a shell fastened to said shaft, a series of spiral passageways, the inner ends of which communicate through circumferential openings in said shell, said passageways separated from one another by partitions, a portion of said shell extending laterally of the passageways within said shell and having openings communicating with an exhaust port, as set forth.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

WILLIAM A. SCOTT.
HENRY P. GRANT

Witnesses as to Wm. A. Scott:

HERBERT COCHRAN,
HERBERT WEST.

Witnesses as to Henry P. Grant:

BURTON E. BENNETT,
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