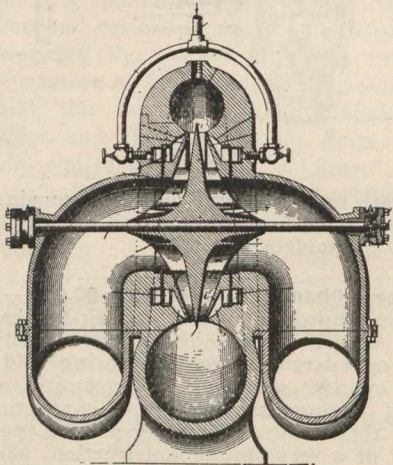


Capitol, Washington, U. S. A.

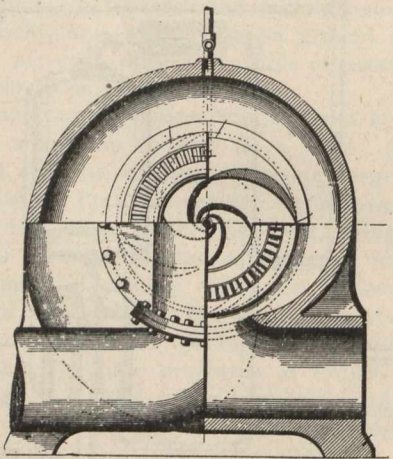
UNITED STATES PATENTS.

Specially selected and abridged by Messrs. Siggers and Siggers, Patent Attorneys, 918 F. Street. N. W., Washington, D.C., U.S.A.

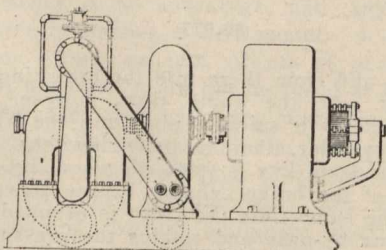
Self-Condensing Turbine.—Roscoe S. Prindle, of New York, N.Y.—833,482; 1906.—This invention relates to improvements in steam-turbines; and the objects of the invention are to produce a device of this character which may be



driven at the very highest possible speeds, dependent only on the tensile strength of the material, to practically do away with friction, to have the running parts accurately and automatically balanced, and to have them so arranged that when



in rotation they will be supported on practically nothing but fluid. A further object is to have the apparatus self-condensing and free from torsional strains. It consists of the

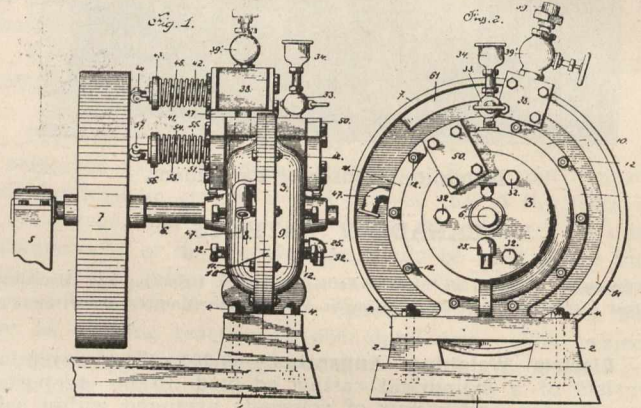


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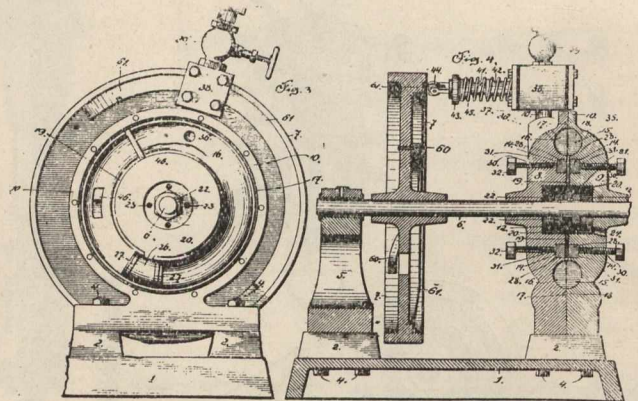
combination of a steam-turbine and a centrifugal pump, the steam-turbine wheel and pump-runner being made in a single unitary structure, and including pump-vanes and tur-

bine-vanes located symmetrically with respect to a central plane, said combined structure being provided with steam-vanes and pump-vanes on each side of said central plane, whereby a perfect balance is maintained.

Rotary Engine.—Stefan Lach, Allegheny, Pa.—834,675; 1906.—This invention relates to certain new and useful improvements in rotary engines; and the invention has for its primary object to provide an engine from which a greater efficiency is obtained than engines of a reciprocating type. Another object of this invention is to provide an equally-balanced engine which will be positive in its action, simple in construction, and free from injury by ordinary use. My invention aims to provide an engine from which a maximum



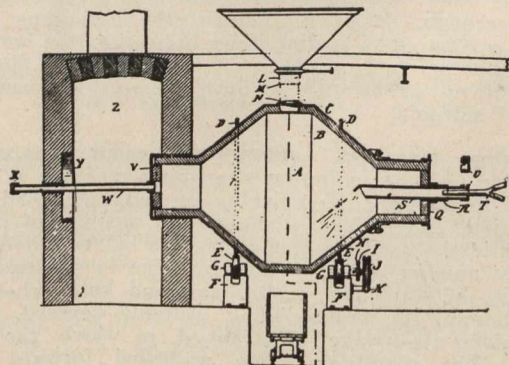
amount of energy can be obtained from a minimum expenditure of fuel, this being accomplished by dispensing with fly or balance wheels and with any friction that may exist between the operating or movable parts of the engine. It comprises a two-part cylinder, the parts of said cylinder having confronting circumferentially-arranged grooves formed therein, inlet and exhaust ports communicating with said grooves, a spring-held slide-valve controlling the inlet-port, a shaft journaled in said cylinder, a piston-disk carried



834,675.

by said shaft, a piston carried by said disk and adapted to travel in said grooves, adjustable packing-rings mounted in said cylinder and engaging said disk, a reciprocating partition mounted in said cylinder between said ports, and having an opening formed therein through which said piston is adapted to pass, and means actuated by said shaft to operate said slide-valve and said partition-valve, and said partition.

Furnace for the Immediate Production of Metal from Ores.—Oliver B. Dawson, Caldwell, N.J.—829,574.—The combination with a rotatable internally heated reduction fur-



829,574.

nace, means adapted to deliver the heating flame to any part of the charge or hearth, a gas-mixing chamber and means for regulating the character of the flame.