

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.

Process of Locating and Extracting Metals Beneath the Earth's Surface.—Edson R. Wolcott, Golden, Colo.—822,175.— A process of locating metals beneath the surface of the earth



822,175.

consists in placing electrodes having the relation of anode and cathode in the earth, and passing an electric current between them and causing the metals in solution in the vicinity of the electrodes to move through the earth and be deposited upon the cathode.

Steam Turbine.—Johann Stumpf, of Charlottenburg, Germany, Assignor to General Electric Co., A Corporation of New York.—821,599.—This invention relates to improvements in steam or gas turbines, and more especially to such



turbines in which the pressure of the steam or compressed gas is transferred into streaming velocity, which is utilized in one or several bucket-rims. In such turbines the number of revolutions depends upon the number of bucket-rims to which the steam flows. It often occurs that the number of revolutions of a turbine has to be altered or changed, especially in case the turbine is used for driving screw-propellers, pumps, or the like. In the turbines hitherto constructed the consumption of steam was always increased if the number of revolutions had to be reduced. In order to do away with this disadvantage, the new invention consists in a turbine provided with several turbine-wheels or several rows of buckets in one turbine-wheel, means being provided for running the turbine with one or several rows of buckets, in which latter case shovels or buckets, so-called "return" buckets, are provided, which lead the steam leaving the buckets of one turbine-wheel into the buckets of the following one or in the case of using one turbine-wheel with several rows of buckets into the buckets of the following row. For this purpose the turbine is constructed with fractional supply—that is to say, a turbine in which the nozzlerim is divided in several parts, each of which parts can be used for driving the turbine. In the first part of the nozzlerim no return-buckets may be provided at all; in the second part one row of return-buckets may be provided, so that in case this part works two rows of turbine-wheel buckets are at work; in the third part two rows of return-buckets may be provided, so that in this case three rows of turbine-wheel buckets may be at work, and so on.

Process of Molding Concrete Bricks or Blocks.—William Porter, St. Paul, Minn.—818,286.—Claim.—I. A process of molding concrete bricks or blocks which consists in placing a thin layer of cement in a mold having a hard smooth floor



•o form on the block a finished facing impervious to moisture, and then filling up and tamping the mold with a mixture of coarse sand and cement to form a comparatively porous backing, substantially as described.

Gas-Engine.—Frederick H. Hurlburt, of Alameda, and Thomas W. Munroe, of San Francisco, Cal.—820,497.—This invention relates to explosive or internal-combustion motive



engines impelled by gas, or volatilized hydrocarbons, and to certain useful improvements in such engines. The object of this invention is to attain in an economical manner what is called a "two-cycle" action of such engines, to regulate the power of the same, and provide for quickly reversing their rotative motion, as is required in marine propulsion, hoisting, and like purposes. It consists of two single-acting motive cylinders, with pistons connected to oppositelyplaced cranks on a common shaft, a double-acting compressing-cylinder between said motive cylinders, having a displacement volume greater than either of said motive cylinders, a piston in said compressing-cylinder connected to a crank on the common shaft at an angle to the motivepiston cranks, inlet-valves in said compressing-cylinder at both ends, pipes and passages from a fuel-supply to said inlet-valves, a valve at each end of said compressing-cylinder with passages leading to each motive cylinder respectively, a check-valve in each motive cylinder at the terminus of each of said passages, circulatory passages between the compressing-cylinder and the motive cylinders, a regulatingvalve in said circulatory passages, igniting means, and a double-acting regulating-valve operating in connection with said igniting means.