

**RECENTLY PATENTED INVENTIONS.**

**Electrical Apparatus.**

**SWITCH FOR ELECTRIC LAMPS.**—CHARLES WAGNER, Manhattan, New York city. The switch is arranged to permit one conveniently to turn the current on or off. The appearance of the lamp is improved, especially when the device is applied to the candle-type of lamp. The unsightly key heretofore used in electrical switches is dispensed with, and a sleeve employed for opening and closing the switch.

**ELECTRIC-CLOCK SIGNAL.**—HARRY B. VAUGHAN, Little Rock, Ark. The signal-clock is of that form in which the clock-hands are made to touch contact-points on the face of the dial, and, by closing an electric circuit at any particular point or hour or number of points, to ring at that hour any particular bell or number of bells. The present invention consists in the peculiar arrangement of such devices whereby any number of guests in a hotel can be automatically called at any particular hour, and whereby all the guests of the hotel are alarmed in case of fire. An alarm-signal can be sounded in any one of the rooms, and an electric lamp lighted by one automatic mechanism.

**Mechanical Devices.**

**PUNCHING-MACHINE.**—GEORGE M. ROGERS, Manhattan, New York city. The machine is designed to indicate upon a dial the force of a blow struck upon a pad. The blow has no direct influence on the indicator-hand, but merely deflects an intermediate lever to a greater or less degree, according to the force of the blow, to which position it is held by a locking device. The lever acts as a stop-device to determine the drop of a rod which operates the indicator-hand.

**SAFETY-CATCH FOR ELEVATORS.**—HENRY JEWELL, Butte Mont. The safety-catch is to be applied to the lower deck of a car and to be operated from the king-bolt to which the hoisting-cable is applied. While the hoisting-cable is in good condition and supports the car, the catches are inactive. But as soon as the cable breaks, the catches are automatically forced beyond opposite sides of the car into engagement with the wall of the shaft, or with racks or their like.

**LOCK.**—IRA W. ABBOTT, Nevada City, Cal. The novel feature of this padlock is a slide unlocked and moved by a key and adapted to engage a spring-pressed knee-joint bolt. This bolt is pivoted and designed to engage with its free end the shackle of the bolt. The lock cannot be picked unless the person has the proper key. The lock is simple and durable and can be cheaply manufactured.

**HYDRAULIC AIR-COMPRESSOR.**—LEE E. MITCHELL, Boston, Mass. Mr. Mitchell has improved the air-compressor which he invented in 1900. In the power-cylinder a piston reciprocates. Valve-chests open into the cylinder at the ends and have waste-outlets. A supply connection is provided between the valve-chests. A reciprocating-valve is arranged alternately to open and close the connection to the valve-chests and alternately to close and open the discharge for the waste-outlets from the valve-chests. The piston-valve is actuated by a shaft mounted to rock and provided with a lug. On the shaft a crank-arm is mounted loosely and connected with the valve-stem of the piston-valve, the crank-arm having spaced shoulders adapted to be engaged alternately by the lug on the shaft. The shaft is rocked from the piston-rod of the power-cylinder.

**Railway Appliances.**

**PNEUMATIC PACKAGE-HANDLER.**—GEORGE H. WALL, Cadillac, Mich. This package-handler consists of an air-cylinder located at each side of the car-doorway, the pistons being attached to a section of the car-floor. The arrangement provides a platform about five feet long and having a width equal to that of the car-door. A governor maintains the level of the platform during operation. Air is drawn from the train-line into a special reservoir for the operation of the device. A forty-day test was given to the first machine to show that air from the train-line could be used for the purpose of loading and unloading baggage. The inventor is an old and experienced railroad man.

**CAR-COUPLER.**—MARK A. BROWN, Douglas, Ga. The coupling belongs to that class in which the drawhead is provided with a pivoted member or knuckle adapted to be locked after engagement with a similar knuckle on another car. In the present invention provision is made to allow a yielding lateral movement of the locking-pin.

**Miscellaneous Inventions.**

**DRAPERY-HANGER.**—JOSEPH LANGLOIS, Leominster, Mass. The invention is a drapery-hanger designed to be erected in houses to form an enclosure for coffins. The essential feature is a brace or truss for the side-bars of the drapery-hanger, the brace having a crotch or fork between its ends and a hook at each end. The crotch engages the side-bar and its ends with the hooks, which are adapted to pass around the bar.

**WICK-TRIMMER.**—ROBERT M. JOHNSON, Lancaster, Penn. This simple device serves to clamp a wick to be trimmed. By its means, the wick is compressed at its exposed or igniting surface; moreover, a straight hori-

zontal line is established at the charred portion and a substantial surface is obtained at each side. Upon these surfaces the shears or scissors may bear, and over the surfaces the wiping material may be drawn.

**RETURN-FLOW SYRINGE.**—DENWOOD N. L. NEWBURY, Manhattan, New York city. The syringe consists of a tube having apertures in its sides, and a shield within which the tube is contained. This shield comprises a body section having a series of curved bars, and a front section in the form of a loop with which the outer ends of the bars are joined. The inner ends of the bars are connected with a perforated cap-plate. The outer end of the tube extends out through the loop-section; and the inner end of the tube screws into a collar connected with the apertured cap-plate. A receptacle is carried by the lower portion of the loop-section.

**HAT-BOX.**—BENJAMIN F. PORTER, Manhattan, New York city. The hat-box is so constructed that the hat can be raised at the bottom of the box, lifted to the top, and held in its raised position without injury. Thus the hat can be brought into position for inspection or for careful removal.

**PIANOFORTE.**—HERBERT S. PERCY A., and OWEN E. READING, 18 Albion Road, Tunbridge Wells, England. The invention relates to improvements in pianofortes in which a sound-board formed of a rolled or cast-plate or sheet of aluminium or aluminium alloy is employed, in order that the instrument may withstand the effects of a hot, damp climate so prejudicial to the ordinary wooden sound-board. Moreover, the resonance is increased; a longer sustaining power is obtained; and the quality of the tone is improved.

**JEWEL-HOLDER AND FASTENING DEVICE FOR CORD COLLARS.**—SHERWOOD B. ROBERTSON, Brooklyn, New York city. The device is intended to be used with cord collars worn by Masonic fraternities. The invention provides a neat and efficient means of holding the ends of a collar, at the same time allowing the ready attachment of ornaments or jewels and presenting an outer surface suitable for the production of emblems or other ornaments.

**SAW-GAGE.**—DANIEL C. STEELE, Village Mills, Texas. Mr. Steele has devised an improved saw-gage more especially designed for use on saws having cleaner-teeth and arranged to permit accurate filing of the cleaner-teeth without leaving an undesirable burr and without danger of filing the teeth too short for proper working in a cut.

**WELL-DRILLING APPARATUS.**—MILTON LATTI, Burwell, Neb. The apparatus is light and readily portable. It can be operated by hand, thus avoiding the necessity of horsepower. The pump-valve is not subjected to the action of the mud, dirt and gravel drawn up through the well-tube. The receiving chamber is closed by a construction which can be readily removed for the purpose of cleaning it out. The current through the drill is fast and strong enough to draw up gravel. All work is performed on the ground surface. The strain or suction is always inward, so that in case of breakage or a leak at any point the mud, water, and the like will not be thrown outward upon the operator.

**NOTE.**—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

**NEW BOOKS, ETC.**

**NEW LANDS. Their Resources and Prospective Advantages.** By Hugh Robert Mill. London: Charles Griffin & Company, Limited. Philadelphia: J. B. Lippincott Company. 1900. With ten maps. Pp. 280.

The present volume deals with a subject which is of great interest, in view of the present tendency for persons to leave the old countries and emigrate to new lands. The book presents, in a simple and practical manner, the conditions of life in those parts of the world where there is still an opening for the energies of the English-speaking people desiring to make their home or invest their capital in a new country. Little more than the countries of the temperate zone are considered. The author has done his work thoroughly, and it is a book which cannot but prove of value to the audience to which it is addressed.

**WATER POWER. An Outline of the Development and Application of the Energy of Flowing Water.** By Joseph P. Frizell. First edition, first thousand. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1901. Pp. 563. Price, \$5.

Water power is becoming more and more prominent every day. Recent remarkable developments in electricity and other modes of transmitting mechanical energy have recalled water power to something like its former position in the industrial economy of the world. The changed conditions have given a new interest to this source of power, and directed the attention of investors to sources which formerly appeared entirely outside the range of practical consideration. They have also led to some noteworthy improvements in the utilization, development and transmission of power. The author has done a real service

to civil and hydraulic engineering by writing an admirable book outlining the latest practice. The book has many illustrations, and is well printed and bound.

**THE PRINCIPLES, CONSTRUCTION, AND APPLICATION OF PUMPING MACHINERY.** By Henry Davey. London: Charles Griffin & Company, Limited. Philadelphia: J. B. Lippincott Company. 1900. With frontispiece, five plates and over 250 illustrations. Pp. 295. Price, \$6.

The purpose of this book is to present the information in such a form as will make it most useful to the practical engineer engaged in the application of pumping machinery in mines or elsewhere, or in circumstances under which large quantities of water have to be dealt with. A large number of illustrations are given, showing the typical installations, and there are several full page and folding plates. The practice appears to be largely English practice, but it is certainly of very late types. It is a book which will be indispensable to the hydraulic engineer.

**SUR LES NERFS CEPHALIQUES, LES CORPORA ALLATA ET LE TENTORIUM DE LA FOURMI.** Par Charles Janet.

**ESSAI SUR LA CONSTITUTION MORPHOLOGIQUE DE LA TETE DE L'INSECTE.** Par Charles Janet. Paris: Georges Carré et G. Naud. 1899. Pp. 74.

**L'ESTHETIQUE DANS LES SCIENCES DE LA NATURE.** Par Charles Janet. Extrait du Bulletin de la Société Zoologique de France Reconnue d'Utilité Publique, Année 1900. Paris: Au Siège de la Société Zoologique de France. 1900. Pp. 8.

**ENGINEERING CHEMISTRY. A Manual of Quantitative Chemical Analysis for the Use of Students, Chemists, and Engineers. Second Edition.** By Thomas B. Stillman, M.Sc., Ph.D. Easton, Pa.: The Chemical Publishing Company. 1900. Pp. 503. With 132 illustrations.

This book was written especially as a manual of quantitative chemical analysis for the use of students, chemists, and engineers. It treats especially of the determination of impurities in the various metals, water for all uses, and various other commercial substances such as paper, lubricating and illuminating oils, paint, cement, and the like. There are also chapters on liquid fuel, petroleum, and asphalt. A classification of the different grades of steel and their uses forms one of the most valuable chapters of the book. There is also an interesting chapter on pyrometry. The book concludes with chapters on the electrical units and energy equivalents, which are especially useful for ready reference. Numerous tables of pressures, temperatures, percentages, etc., are also appended.

**NEW IDEAS. Quarterly Publication of the Romanes Society. Published by Witherby & Company, Office of Knowledge, 326 High Holborn, London.**

We have received the January and March numbers of this pamphlet, which contain Essays Toward a Mechanical Theory of Vital Processes. The Romanes Society was founded at Christchurch, Oxford, in 1897, for the purpose of stimulating and promulgating original thought and research in science; and in New Ideas are printed original articles of merit on scientific subjects.

**THE CHEMICAL ANALYSIS OF IRON.** By Andrew A. Blair. Philadelphia and London: J. B. Lippincott Company. 1901. 320 pp., 105 figures. Price \$4.

This work is intended as a guide for the student of iron chemistry. In it are described many special apparatus for the performance of analytical work which otherwise only the possessor of a complete chemical library would have at his command. The book has just entered its fourth edition, and has been entirely rewritten and brought up to date. Besides apparatus for analyzing iron and steel, the author treats of the analysis of slag, clay, sand, coal, coke, and furnace and producer gases also. The book will be found of great value to chemists engaged in this special line of work.

**WATERWORKS DISTRIBUTION.** By J. A. McPherson, A.M., C.E. New York: The D. Van Nostrand Company. 1901. 154 pp., 19 full-page diagrams and 103 other illustrations. Price \$2.50.

This book is intended as a short, practical guide to the laying out of systems of distributing mains for the supply of water to towns and cities. It is by a practical engineer who has had twenty-four years' experience; and contains much valuable data, together with numerous illustrations of the various valves and other apparatus employed in an up-to-date supply system. A large chart of an example district, showing distribution, is added to the other diagrams.

We acknowledge the receipt from the Director of the Sydney Observatory of New South Wales, Australia, of a report on the Results of Meteorological Operations in New South Wales during 1898, which is used in the Department of Public Instruction on Meteorology of New South Wales. It is very complete in its arrangement of items of special interest.

**Business and Personal Wants.**

**READ THIS COLUMN CAREFULLY.**—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry. MUNN & CO.

Marine Iron Works. Chicago. Catalogue free. **Inquiry No. 904.**—For manufacturers of spring motor fans.

**TURBINES.**—Lefel & Co. Springfield, Ohio, U. S. A. **Inquiry No. 905.**—For parties to manufacture a money bag of canvas and brass.

"U. S." Metal Polish. Indianapolis. Samples free. **Inquiry No. 906.**—For the manufacturers of the James Sash Lock.

**WATER WHEELS.** Alcott & Co., Mt. Holly, N. J. **Inquiry No. 907.**—For manufacturers of water wheels or any form of hydraulic power.

Yankee Notions. Waterbury Burton Co., Waterbury, Ct. **Inquiry No. 908.**—For parties engaged in cutting out sheet metal letters in tin or brass.

For bridge erecting engines. J. S. Mundy, Newark, N. J. **Inquiry No. 909.**—For manufacturers of small spur gear wheels and sprocket wheels.

Machine chain of all kinds. A. H. Bliss & Co. North Attleboro, Mass. **Inquiry No. 910.**—For the address of the toy gas engines "Paradon" and "Weedens."

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

**Inquiry No. 911.**—For parties to manufacture an article composed of small glass tubing and of special dimensions.

Sheet Metal Stamping: difficult forms a specialty. The Crosby Company, Buffalo, N. Y.

**Inquiry No. 912.**—For manufacturers of miner's novelties, also for the address of a newsdealer to supply quantities of newspapers, magazines, etc.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

**Inquiry No. 913.**—For manufacturers of air blowers or injectors, fuel oil injectors, air and oil injectors, operated by steam or compressed air.

For Sheet Brass Stamping and small Castings, write Badger Brass Mfg. Co., Kenosha, Wis.

**Inquiry No. 914.**—For manufacturers of drill presses, electrical tools, boilers, engines, dynamos, motors, laundry machinery, etc.

Rigs that Run. Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.

**Inquiry No. 915.**—For manufacturers of automatic piano-playing devices.

Ten days' trial given on Daus' Tip Top Duplicator. Felix Daus Duplicator Co., 5 Hanover St., N. Y. City.

**Inquiry No. 916.**—For manufacturers of wheels for wheel barrows.

**SAWMILLS.**—With variable friction feed. Send for Catalogue B. Geo. S. Comstock, Mechanicsburg, Pa.

**Inquiry No. 917.**—For parties to furnish oval rosewood handles by the gross, for harness makers' round knives.

Wanted—Punch and Die Work, Press Work and Light Manuf'g. Dougherty Novelty Works, Kittanning, Pa.

**Inquiry No. 918.**—For manufacturers of small gasoline motor castings of 1/4 or 1/2 horse power.

Manufacturers of Valves, Fittings, Brass and Iron Work. Spindler & Deringer, 18-22 Morris St., Jersey City, N. J.

**Inquiry No. 919.**—For manufacturers of castings for small model steam engines, also of supplies for small boilers.

Inventions developed and perfected. Designing and machine work. Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

**Inquiry No. 920.**—For manufacturers of screw wrenches, etc.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 18th Street, New York.

**Inquiry No. 921.**—For manufacturers of pine rails and barrels for salt fish.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

**Inquiry No. 922.**—For manufacturers of automobile (gasoline system) to carry 2 persons up a grade of 15 per cent over country roads. A twin cylinder machine preferred.

Will give a one-half interest in twelve inventions, or any part of number, for money to perfect patent and dispose of same. Address S. O. Stewart, E. Las Vegas, New Mexico.

**Inquiry No. 923.**—For a half mile of second-hand rails to hold cars loaded with five tons of lumber.

**ELECTRICAL ENGINEER (Tramways).**—Wanted immediately by the Council of the City of Wellington, New Zealand, a thoroughly qualified Electrical Engineer, who must have had special experience in carrying out and equipping overhead electrical tramways and power stations. Full particulars and conditions may be obtained on application to Messrs. R. W. Forbes & Son, Produce Exchange, New York, and applications must be delivered at the office of Messrs. John Duthie & Co., Ltd., Lime Street, London, E. C., England, not later than noon on the 20th July.

**Inquiry No. 924.**—For manufacturers of lightning rods.

**IMPRESSED UPON HIS NOTICE.** The various features for which the Lackawanna Railroad has become noted are involuntarily impressed upon the notice of the passengers, who realize the luxury of hotel or club appointment in the electric lights; the smooth-running journals of the wheels; the extraordinary cleanliness made possible by the use of anthracite coal, avoiding all dust and nauseating smoke; the consciousness of being always on time—which comforts force an ease of mind and body most favorable to the enjoyment of the unsurpassed scenery through which its lines pass. It is but the natural sequence that the Lackawanna is prosperous in like degree to its excellence of service and its warm friends are equal in number to its whole list of patrons, for once to test its service means an ardent admirer and friend earned for the road.—Van Etten Breese.

**Inquiry No. 925.**—For parties to manufacture several thousand aluminum medals of a special character.

We do Experimental Special and Automatic Machine, Tool, Die and Model Work, also Metal Stamping. Racine Model Works, Racine, Wis.

**Inquiry No. 926.**—For manufacturers of stereoscopes.