

RECENTLY PATENTED INVENTIONS.

Bicycle Appliances.

BRAKE.—Frank H. Mayer, Denver, Col. The object of this inventor is to provide a brake which may be quickly applied by the rider by tilting the seat or saddle...

CHAIN-ADJUSTING DEVICE.—Alexander Pinover, New York city. In this invention the connection between the rear fork member and the lower brace is provided with a circular opening into which disks are designed to engage...

COIN-OPERATED LOCK FOR WHEELS.—Erich Schmidt and Adolf F. Schneider, New York city. The object of this device is to provide means whereby a bicycle rider may securely lock his wheel by dropping a coin into a proper receptacle...

Railway Improvements.

RAIL-JOINT AND NUT-LOCK.—Michael Mullins and Cephas Fleming, of the United States Army. This rail-joint fastening and nut-lock has angle-iron fish-plates with a foot extending beyond the rail-base down toward the tie and with spike-receiving notches in the outer edge...

FOG SIGNALING APPARATUS FOR RAILWAYS.—Herbert Tomlins, London, England. The improvements in this apparatus have for their objects to render the operation and firing of the fog-signaling apparatus automatically dependent on the position of the semaphore signal...

PNEUMATIC SWITCH-THROWING MECHANISM.—George R. Bartholomew, Ridge, Pa. This switch-throwing mechanism is operated by compressed air, and is controlled by the engineer from a moving locomotive...

Engineering.

ROTARY ENGINE.—Alejandro Stephens, Guadalajara, Mexico. The engine of this inventor consists of a cylinder in which a segmental abutment is loosely mounted and formed with sections at its steam-pressure end...

Electrical Improvements.

SIGNALING DEVICE.—Frank B. Taylor, Edgar E. Salisbury and Albert E. Dean, Tacoma, Wash. The purpose of this invention is enable a central operator to turn in automatically any one of a number of call-boxes desired on a single circuit...

having a series of holes near its circumference, and a series of pins extending radially from the circumference, the number of pins being equal to that of the number of holes. A plug is inserted into any one of the holes and a spring-contact plate in the main circuit is adapted to be moved by the plug to break the circuit...

INCANDESCENT LAMP.—Otto H. Michaelson, Charleston, W. Va. The object of this inventor is to provide a lamp in which the globe and its base may be separated for the purpose of cleaning or replacing a broken filament with a new one...

Miscellaneous Contrivances.

FLUSHING APPARATUS.—Henry Haynes, Philadelphia, Pa. In this apparatus a water-supply pipe leads into a tank provided with an opening at the bottom. A plate having a valve-seat is supported within the tank above the opening, forming a cap for the outlet end of the supply pipe...

FILE AND BINDER.—Adolph A. Hunziker, St. Louis, Mo. This invention is adapted for use in account books employing a series of separate leaves. The object of the invention is to improve the construction of the fasteners for the leaves...

SUSPENDER CLASP.—John V. Janin, Goldbasin, Wash. This suspender clasp comprises two clamping members slotted at like ends and hinged together near their opposite ends. A coiled spring engages with its limbs the members near their hinge to spread them normally apart...

HANDLE.—Frederic Read, Brooklyn, N. Y. According to this invention, a handle is pivoted eccentrically on a ball and has a preponderance of material on the same side of the pivot as the center. The material is so disposed that the diameter through the pivot shall be longer than a line drawn through the handle at the pivot perpendicular to the diameter...

OIL-WELL TUBING ATTACHMENT.—Andy C. Smith, Sigel, Pa. This invention is an improvement in oil-well apparatus and in connection with the ordinary packer usually employed in gas-producing wells, provides means by which a discharge of the sediment is secured from above the packer before removing the latter...

VIOLIN OR MANDOLIN CITHERN.—Alexander Wacinski, Jersey City, N. J. This instrument is similar to a violin in that it is played with a bow and to a mandolin in that the strings are picked and sounded in quick succession. The instrument is provided with a bow guide extending transversely of the strings on one side...

TRIANGLE.—Benjamin W. Trunk, St. Joseph, Mo. In this drawing-triangle an opening extends through the hypotenuse from the outer to the inner edge thereof and into an adjacent side. An edge or section is hinged to the triangle at one of the acute angles. A pin is located in the opening of the hypotenuse...

an edge of the protractor and a thumb-screw in the latter side may be made to cause the spring to press upon the protractor to hold it in adjusted position.

DUMPING SCOW.—Natt Stickney, Bradford, Mass. This dumping scow is provided with a well open at the bottom. A receptacle is pivoted at its ends in the hold and has its discharge side arranged to overbalance the opposite side, so that upon releasing the receptacle from a normal position it will automatically turn on its pivots into a dumping position...

HOSE-SUPPORTER.—Dora Harrison, Lansing, Mich. The purpose of this invention is to provide a hose supporter which can be quickly and easily adjusted to attach or release the hose. The invention consists essentially of an attaching device provided with an eye, a loop hung in the eye, a pneumatic ball and a link connecting the ball with the eye...

APPLICATOR.—Cyril P. Brown, Spring Lake, Mich. This instrument comprises a cylinder, a spindle held against end movement in the cylinder, a plunger mounted to travel on the spindle and a tube secured at the outlet of the cylinder having ports in its sides near its outer end. A cap is mounted on the tube, has a closed outer end and is provided with similar ports in its sides capable of being brought into register with the ports in the sides of the tube...

CLOSURE FOR COUPLINGS.—Joseph Muhr, Dunkirk, N. Y. The object of this invention is to provide a closure for uncoupled couplings to prevent the passing of dust, cinders, etc., into the train pipe, triple valves and other parts, and to prevent twisting of the coupling-hose. The closure comprises an arm mounted to swing, and formed with a spring-pressed cap having an upwardly turned flange...

Designs.

ANTI-RATTLER.—Frank P. Johnson, Danville, Pa. This patent relates to the shape of the wire body of the well known Johnson Anti-Rattler. The design provides for a curved loop that bears on the thill-iron, hooks or eyes at the opposite ends for carrying a yoke that engages the axle-clip and intermediate spring-coils...

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for 10 cents each. Please send the name of the patentee, title of the invention, and date of this paper.

NEW BOOKS, ETC.

DIGEST OF DECISIONS OF LAW AND PRACTICE IN THE PATENT OFFICE OF THE UNITED STATES AND STATE COURTS, IN PATENTS, TRADEMARKS, COPYRIGHTS AND LABELS, 1886 to 1898. By Amos W. Hart, of the Bar of the District of Columbia. Chicago: Callaghan & Company. 1898. Sheep. Pp. 385. 8vo. Price \$8.50 net.

Mr. Hart's digest combines under one cover the decisions of the Federal Courts, the Commissioners of Patents and of the State Courts, and in this respect is an improvement over prior works and will be of great assistance to the profession, as well as to inventors and the owners of patents and trademarks. The sources chiefly drawn upon by Mr. Hart are the Official Patent Office Gazette, unpublished decisions of the Commissioner of Patents and the Federal Reporter. The work includes critical and historical notes which in many cases serve to link the present with the former practice...

TWENTY-NINTH ANNUAL REPORT OF THE AMERICAN MUSEUM OF NATURAL HISTORY, CENTRAL PARK, N. Y. New York: Published by the trustees. 1898. Pp. 127. Paper, 8vo.

Besides the reports that inevitably find place in publications of this character, there appear a series of valuable notes regarding the scientific explorations now in the field as the result of the enterprise of this institution, and also of explorations that are expected to be undertaken in the near future. There are the usual lists of exchanges, donations, purchases, etc., and a number of interesting illustrations of objects (fossil) now in the museum.

ANGEWANDTE ELEKTROCHEMIE. Dritter Band. Organische Elektrochemie. Von Dr. Franz Peters. 13 Bogen Octav. Mit 5 Abbildungen. Verlag von A. Hartleben, Wien. Paper, \$1.

The third volume of Dr. Peters' "Applied Electro-Chemistry," now lying before us, shows the same general excellence of treatment and the scholarly qualities so characteristic of the first two volumes. Steadily the author has kept in view the plan he adopted in the previous portions of his work. Nothing has been omitted which bears even remotely on the electro-chemist's art. Innumerable authorities are constantly referred to and cited in the many foot notes. The chemistry of carbon, which essentially constitutes organic chemistry, by reason of its extremely involved reactions, presents difficulties to the electro-chemist far greater than those of inorganic chemistry. It is the purpose of this volume to remove whatever doubts may exist in the chemist's mind on various phases of the subject and in clear, terse language to explain the chemical changes which accompany many of the reactions...

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

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Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(7457) J. D. asks: Would it increase or diminish the power of a double engine 8 inches by 10 inches, with driving band wheel 54 inches in diameter, 12-inch face, driving a 24-inch pulley, by using a smaller diameter band wheel? If so, in what proportion? A. At the same engine speed, you will diminish the power delivered by making the band wheel smaller. If you run the engine faster, to give the same speed to the second shaft, the power will be the same; all in consideration of the same quantity of steam used in both cases. A larger amount of steam used by using the same cut-off and full throttle will give more power under the higher speed.

(7458) W. C. L. asks: If the measured resistance of a line is 130 ohms, how many cells of battery giving an output of 1 1/2 volt 1/2 ampere will it take to work four 150 ohms relays? Making the total resistance 730 ohms. What is the base of calculation? Should the internal resistance be greater than the external, and why? A. The number of cells required to work your line depends, not so much on the resistance of the instruments as on the number of turns of wire in the relay magnets. As relays are usually wound, you will probably require 6 to 8 cells. The external resistance of a circuit should be much greater than the internal resistance of the battery, if you would have your battery last any time. When these two resistances are equal, the battery gives its largest current, but runs down very fast.

(7459) E. M. asks: How can I produce a plane, polished surface on mineral specimens, to show the color and texture of the mineral? A. If the mineral is hard, it may be reduced to a plane surface by means of a carborundum wheel, kept wet with water, or by rubbing it on an iron plate supplied with carborundum in the form of a coarse powder, kept wet. It may be smoothed with a finer carborundum wheel or with finer powder and finally polished with rouge or putty powder and water applied with a pitch lap.

(7460) A. P. Y. says: Some years ago I saw an answer to one of your correspondents how to detect sewer gas. As I remember it, some chemical was exposed in a vessel, and, if sewer gas existed, it became discolored. Can you give directions for making the test? A. 1. A suspected joint in a sewer or drain pipe may be tested by wrapping it with a single layer of white muslin, moistened with a solution of acetate of lead. As the gas escapes through the meshes of the cloth it will be blackened by the sulphur compounds. 2. It is usual to detect gas escapes by applying a lighted taper or candle to the suspected place of leakage. This is dangerous, and many explosions have thus been occasioned. A safer mode is as follows: Mix dark soap and water in the proportion of 2 pounds of the former to 5 or 7 pints of the latter. The sticky paste or liquid so obtained is ready to be applied by the brush to the gas pipe, when, if an escape is taking place, bubbles will readily be seen on the liquid; thus the positions of the gas escapes are indicated without any danger.

TO INVENTORS.

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