

RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

CORSET.—H. H. TREFFER, Davenport, Iowa. The corset has a closed, adjustable, and ventilating back, the lacing being in front, so that the corset may be glove-fitting and drawn tight without a tendency to move upward or downward, remaining while worn at all times and under all conditions where it properly belongs. The corset is cut so that no matter how loose or tight it is drawn over the hips, perfect comfort at such points is obtained, and the abdomen comfortably sustained and kept from protruding, giving the figure perfect pose and natural position.

RETAINING-COMB.—I. O. LOFSTROM, Selby, Cal. In this patent the invention relates to an improved retaining comb, commonly known as side and back combs, for the hair, the object of the inventor being the provision of a device of this character which will hold the hair more firmly than combs heretofore in use.

SLEEVE-HOLDER.—M. KUZE, New York, N. Y. In this instance the improvement has reference to holders for sleeves, hose, and the like, the more particular object being to provide a holder admitting of a considerable variety of uses and possessing certain constructional advantages such for instance as the shortening and holding the sleeve firmly in position.

Electrical Devices.

MAGNETO-ELECTRIC GENERATOR.—L. A. GIANOLI, 26 Boulevard Magenta, Paris, and R. A. PERSIN, Rue d'Aval, Villiers-le-Bel, Seine et Oise, France. The object of the invention is a machine characterized by the combination with the rotating secondary of a vibrator or breaker having a retarded action, the breaker being carried by the secondary, and being intercalated in the primary circuit, and breaking the primary circuit, when the intensity of the magnetism on the core of the secondary attains a suitable value.

Of General Interest.

HUMIDIFIER.—H. C. TOWNSEND, Anderson, S. C. The improvement made is in humidifiers, such as used in cotton factories for moistening the air. The opening between the cover tube and air flue is so large that the air from the flue will blow out all trash or lint, and the lifting of the cover tube is all that is necessary to clean the humidifier, while with the devices in common use it is necessary to pick the lint out with small pins and other means. The construction is simple, easily operated, and cheaply made.

FOUNTAIN-BRUSH.—J. SABOURIN, Globe, Ariz. Ter. In operation, the brush will be sealed so that none of its contents can escape. If, however, the cover be removed the contents of the body or holder may escape to the brush and the latter be utilized for spreading the material after the manner common in brushes of this general class. It may be securely sealed and readily brought into play for use whenever desired.

METHOD OF ORNAMENTS FUR-SKINS.—T. RASMUS, New York, N. Y. The purpose here is to provide means whereby the badger hairs that are inserted as tips in artificial black fox and lynx furs will appear white at their outer ends only, the remaining portions of the inserted hairs being of the same color as that of the fur of the skin, so that while white tips will appear at the surface when the fur is blown aside, the inserted hairs cannot be distinguished from the fur, thus giving a natural appearance to the skin.

SHAVING-MIRROR.—F. E. NEUMANN, New York, N. Y. More particularly the invention refers to means for readily adjusting a mirror to different elevations and simultaneously adjusting the positions of the lights whereby the mirror is illuminated. The mirror and its accompanying parts may be readily folded and packed away.

VENTILATOR.—C. EISENSCHMID, New York, N. Y. This invention relates more particularly to that type of ventilator commonly employed above the roofs of buildings, for permitting the escape of foul air. It relates especially to means for supporting and operating the damper or valves, and involves the use of a longitudinally-movable rod supported in guides at opposite ends thereof and having the damper or valve secured to the rod intermediate the guides.

FABRIC-PRESSING DEVICE.—E. J. DAVIS, Prosser, Wash. The purpose in this instance is to provide details of construction for a press that may be embodied with a trunk or suit case, and afford compact, convenient, and reliable means for pressing the legs of trousers, to remove wrinkles therefrom, and also crease them in conventional style; the device being also available for pressing other garments or fabric if desired.

KILN APPARATUS.—W. T. BLACK, Laquin, Pa. The apparatus is particularly useful in connection with kilns, sheds, and other structures for drying and seasoning wood. One object of the invention is to provide a charging ear having means for firmly and resiliently holding the material to be dried, and guides for assisting in loading the car with the material to be used. The loading device used is covered in a patent application formerly filed by Mr. Black.

BURGLAR-ALARM.—L. B. HANCOCK, Rich-

mond, and W. J. STERLING, Portsmouth, Va. By this invention an alarm is provided having a main frame composed of a plate of metal bent to form a cartridge holder, a flange whereby the frame may be secured to a suitable support and having a guide in which the hammer operates together with a spring for actuating the hammer and a trigger for holding and releasing the hammer.

BURGLAR-ALARM.—J. H. BROWN, New York, N. Y. This device is designed to automatically retract or cock a trigger by the closing of the door and release the trigger when the door is opened and thereby explode the cartridge. Means hold the trigger in retracted position on opening the door, operable with a key from the outside of the door, and means render the alarm altogether inactive when the door is moved to and from a closed position.

RACK.—G. H. SCHUBERT, Reno, Nev. The invention is an improved rack, more especially intended for phonograph records, and has in view such a device that will display the ends of the cartons in which the records are kept, whereby the record wanted may be readily selected; also a construction by which the capacity of the rack may be increased as the selection of records is added to.

APPARATUS FOR OIL-WELLS.—L. W. BROWN, Bakersfield, Cal. The apparatus separates and saves the oil from the dredgings, and saves such oil as leaks around the stuffing-box and the upper portion of the well-casing. A large amount of oil goes to waste by the discarding of the dredgings or sludge, which is principally composed of oil and sand. This may be avoided, the invention embodying a separating tank for the separation of the oil from the sand preparatory to passing the sludge to the dump.

Hardware.

WRENCH.—F. W. NOTT, Bluefield, W. Va. In this invention the improvement is in wrenches. The movable jaw is slidable on the handle and has a limited movement transversely thereof. Since the pawl is rigid with respect to the movable jaw, a movement of the jaw will move the pawl into and out of engagement with the teeth.

BUCKLE.—R. LONDON, New York, N. Y. The object of the inventor is to provide a buckle arranged to allow ready insertion of the strap, to render the retaining teeth for the strap on the buckle invisible, and to allow convenient fastening of the buckle to the garment or article. It relates to buckles for use on knee pants and other garments and articles, as shown and described in the application for Letters Patent formerly filed by Mr. London.

HORSESHOE.—S. GORDON, Washington, D. C. The horseshoe is one of little cost and may be made in varying sizes and so constructed as to prevent slipping on icy or slippery pavements, and is formed of one piece of malleable iron or steel and is provided with three sets of calks of different elevations. Any form of pad may be used in connection with the shoe.

DETACHABLE HORSESHOE.—T. P. SCULLY, Rome, N. Y. This detachable shoe is arranged to preserve the animal's hoof to the fullest extent, and to permit of conveniently placing the wearing member in position on a permanent member or for removing the wearing member of the shoe when the calks are dull or worn out or broken, to permit of removing the calks and replacing the wearing member.

Household Utilities.

COVER-OPENING DEVICE.—T. P. SCULLY, Rome, N. Y. The invention refers to devices for automatically removing and closing the covers or the like from cans, pails, barrels, and kettles and other receptacles. The object is to provide a device arranged to automatically swing the cover into an open position on swinging the bail from a vertical carrying position downward, and to return the cover to a closed position on bringing the bail upward into a carrying position.

FOLDING BED.—A. PIASER, New York, N. Y. The bed can be quickly and easily extended for use, and can be folded into a small and compact form. The parts, when the bed is extended, are securely locked against accidental movement, and the weight of the user acts to hold the parts in position. The folding sections are locked against casual movement when in an operative or extended position, and certain of which are also locked against accidental displacement when in a folded position.

HIGH-PRESSURE STEAM AND WATER COOKER.—W. GRAY, Lincoln, Neb. In carrying out this invention a form of apparatus is provided that will enable the cooking to be done without adding to the amount of water first placed in the vessel with the food and without decreasing the amount of liquid by excessive evaporation, the relative proportion of the liquid to the solid matter remaining approximately the same throughout the operation, and no more being present in the vessel at the end than at the commencement.

COVER.—F. ESMULLER, New York, N. Y. The object of the improvement is to provide a cover for use on bowls, jars, tumblers, and like household and culinary vessels, and arranged to fit the mouth of various vessels of different sizes, and to securely hold the cover in place against accidental displacement.

KITCHEN-CABINET.—H. HARRILD and G.

H. HARRILD, Spokane, Wash. In the operation of the cabinet when the top is lowered the parts are in position where the supporting arms are lowered and the work-board is dropped out of the way of the parts on the under side of the top. If now the top be raised and thrown back the supporting arms will be rocked to a position that gradually lifts the work-board to the desired height, and the supporting board may then be lifted to a position in which it will form a firm support for the front end of the work-board.

Machines and Mechanical Devices.

PHOTOGRAPHIC DEVICE.—G. W. STEPHENSON, Oklahoma, Okla. In operation, the record to be copied is placed upon a support, and the reflecting medium is adjusted to reflect the image on the sensitized paper at the rear of the bellows. After exposure, the shaft is oscillated to bring the fingers of the receiving device into position, after which the roller carrying the feed disks is rotated one turn, thus moving the strip of paper downwardly so that the exposed portion passes between the series of fingers; the knife severs the strip, and the shaft is rotated to lower the strip into the developing solution. Means provide for receiving the strip from the feeding device.

SACK-FILLING APPARATUS.—C. E. KEERAN, Harrington, Wash. The invention relates to filling apparatus, and more especially to such as are used in filling sacks, bags, and the like with granular or loose material. In operation, the clutch is thrown into engagement with the driving pulley and the crank shaft is thereby put in motion. As the shaft rotates it reciprocates the frames by means of the cranks and connecting parts, and thereby agitates the receptacles.

BELT-STRETCHER.—P. E. CHASE, Coeur d'Alene, Idaho. The object of this invention is to provide a belt stretcher for stretching a belt for re-lacing or other purposes, and which stretcher is simple and durable in construction, arranged for convenient attachment to the belt and for drawing the ends up evenly and securely locking the stretcher in the adjusted position, thus holding the belt in the stretched condition for lacing.

DOOR CHECK AND CLOSER.—J. FAIRHALL, JR., Danville, Ill. The invention is particularly useful in connection with sliding doors for electric and other elevators. An object is to provide a check and closer, by means of which a door when opened can be automatically returned to its shut position, positively and substantially silently. The sliding door can be automatically closed firmly and with a minimum of noise and the door opened with expenditure of little effort.

THREADING DEVICE FOR SEWING-MACHINES.—S. B. BATEY, New York, N. Y. The principal object of the invention is to provide a device arranged to draw the needle thread through the eye of the needle at the time the latter is in its uppermost position. A further object is to provide for the operation of the device either automatically or by hand, and to automatically throw it out of operation by the movement of a part of the machine when operated by hand.

MORTISING AND GROOVING MACHINE.—L. LUBIN, 21 Rue Martissant, Clichy, Seine, France. The present invention relates to mortising and grooving machines, and particularly to the arrangement of the tool holder shaft or of work holder carriage, the section of which is constituted by two parallels united by two semi-circumferences. It is applicable to both wood working and to the working of metals or any other materials.

Prime Movers and Their Accessories.

EXPLOSIVE-ENGINE.—C. E. GOODRICH, Daggett, Cal. The object of the invention is the provision of a new and improved explosion engine of the internal combustion type, and arranged to give two impulses to the reciprocating piston for every revolution of the main shaft, and to insure utilizing of the explosive charge to the fullest advantage.

Railways and Their Accessories.

AUXILIARY DOME FOR STEAM-BOILERS.—J. SHELTON, Knoxville, Tenn. In railroad accidents, many are injured by escaping steam or hot water, and the inventor's object is to automatically shut off the steam in accidents from all parts of the train. The improvement will be of great utility in replacing valves or pipes or other parts through which steam passes without killing the engine. It is also applicable to stationary boilers as well as to locomotives.

Pertaining to Vehicles.

POWER TRANSMISSION.—J. L. WILLIAMS, Ellzey, Fla. The object of the invention is to provide a power transmission, arranged to drive the vehicle wheels of automobiles and other power-driven vehicles forward or backward, and to allow the driven wheels of the front or rear axle to turn independently one of the other when steering the machine around corners, thus relieving the driving shaft of all undue strain.

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.



HINTS TO CORRESPONDENTS.

Full hints to correspondents were printed at the head of this column in the issue of August 8th, or will be sent by mail on request.

(10826) G. G. K. asks: Would be pleased to have you answer this question: I wish to protect a house from lightning; house is roofed with shingles. It has a metal ridge board on the peak made from galvanized sheet steel strips 4 feet long and 11 inches wide, each strip extending over the last strip a few inches and all nailed to the roof. By placing points on this metallic ridge board and giving a good ground connection at two places so as to make a complete circuit over the building, would this give good protection from lightning? Please answer in Notes and Queries. A. The sheet metal ridge of your roof will be a very good starting point for a lightning rod. We should advise that you use heavy galvanized telegraph wire for the ground lines and run them down the edges of the roof so as to have all edges provided with a wire. Then make a good earth connection and you will be as well protected as possible. Points may be put on the ridge also.

(10827) A. W. asks: Please give the formula for estimating cost per hour for a 16-candle-power incandescent lamp on a 110-volt, 5-ampere circuit, rate 15 cents per kilowatt per month. A. A 16-candle-power lamp may be taken to use 55 watts per hour. Multiply this number by the number of hours it is in use per month and divide by 1,000, and you will have the kilowatts used in a month.

(10828) F. A. McC. asks: Is there a method by which any angle can be trisected? If not, is there any prize for the person who successfully trisects one by geometrical constructions, and proves the operation to be correct? What is meant by "squaring the circle"? A. There is no method by which every possible angle may be trisected, but there are plenty of methods by which some angles may be trisected. Indeed, the number of angles which may be trisected is quite large. There is no prize to be won for trisecting angles. The matter is well understood by mathematicians, and no longer excites interest even. To "square the circle" one must find the side of a square which has the same area as a given circle. This it is impossible to find. The area of a circle is 3.141592 times the square of the radius. As this number can never be found with exactness, the area of a circle and the side of the equivalent square can never be found with exactness. Any desired degree of approximation can be had by carrying the number given above to a greater or lesser number of decimal places. It has been computed to several hundred figures.

(10829) O. C. S. asks: 1. How nearly can astronomers tell the exact time? A. Time may be determined with ease to the hundredth of a second, and very closely to the thousandth of a second. The position of stars and the bodies of the solar system may be known to the same exactness. 2. How nearly can they tell the time of a coming eclipse? A week ahead? A month ahead? A year ahead? Ten years ahead? A. Eclipses are calculated to any desired time ahead. They occur with regularity in a cycle of 18 years 11 1/3 days. Hence it is a simple matter to determine the return of any particular eclipse. The tables are given in the nautical almanacs for each year. These books appear several years in advance. 3. Why is it that jewelers' clocks vary so much, even when regulated hourly by electricity transmitted over the telegraph wires? Are all the W. U. T. clocks of any given city set from the same source, and if so why do they vary two or three minutes? A. Clocks which are intended to be kept together will keep together if properly cared for. If any clocks which you know do not do so, it is because somebody does not do his work properly.

(10830) G. A. H. asks: Would you kindly inform me through your Notes and Queries the following things with regard to the earth: 1. Assuming that the earth's polar radius is thirteen miles shorter than its equatorial radius, the depression for each mile that you go north is approximately ten feet. Why is it not necessary to make allowance for this in running levels? 2. It is stated that the Mississippi flows up hill on account of the centrifugal force of the earth. There are probably places where it does not descend ten feet a mile, but are there any places where it is below sea-level? 3. Is not sea level at the poles about thirteen miles nearer the center of the earth than it is at the equator? A. Sea level is the level of still water on the earth. It takes into consideration all the conditions of the case as to centrifugal force, and any other disturbing cause whatever. This being the definition of a level, it follows that there are no rivers of the earth which run "up hill," as is so often stated in popular periodicals. In surveying for any extensive work, it is necessary to take account of the departure of the surface of the earth from an optical level or plane surface. It is always done in surveying for water works and the like, else the water

would not follow the ways laid out for it. It is not true that the earth curves from a level ten feet in any one mile, as you calculate it to do. The curvature is 8 inches for one mile and 32 inches for two miles. It is true, however, that the surface of the earth is 13 miles nearer the center of the earth at the poles than it is at the equator.

NEW BOOKS, ETC.

LOYD'S REGISTER OF AMERICAN YACHTS. A List of the Yachts, Yacht Clubs, and Yachtsmen of the United States, and the Dominion of Canada, and the West Indies. New York: Lloyd's Register of Shipping, 17 Battery Place. 1908. 8vo.; pp. 454. Price, \$7.50.

The sixth annual volume of Lloyd's Register of American Yachts for 1908 is now ready for delivery to subscribers. The book, which shows a material increase in size over last year, has been thoroughly revised in all particulars; specially in those relating to the engines of the rapidly-growing fleet of cruising launches. There is listed a total of 3,670 yachts, both sail and power, owned in the United States, Canada, and the West Indies, with a total of some 3,500 yacht owners. The color plates give 2,013 private signals of American yachtsmen and the burgees of 365 yacht clubs. One of the most interesting features of the book, as showing the growth of American yachting, is the list of yacht clubs. The first American Yacht List, published in 1874 by the late Neils Olsen, listed a total of 32 yacht clubs, and the greatest number listed prior to the establishment of Lloyd's Register of American Yachts was about 170. Lloyd's club list has grown steadily since 1903 until it has now reached a total of 386 clubs, distributed in all parts of the United States and British North America. Not a few of these clubs have been established during the past winter. This great increase is made up in three ways: first, of yacht clubs established in new localities; second, of new clubs established to meet the recent growth of the sport in localities where many clubs already exist; and the third class of clubs, a large one distributed in all parts of the country, is made up of the so-called "power boat," "motor boat," and "launch" clubs. As many of these clubs are located on narrow inland waters where sailing is out of the question, they appeal to an entirely new class, from which in the future the ranks of American yachtsmen will be largely recruited.

THE CHILDREN'S BOOK OF STARS. By G. E. Mitton. New York: Macmillan & Co., 1908. Small square demy 8vo.; 16 full-page illustrations and 12 diagrams. Price, \$2.

The book which lies before us is a sincere attempt to place before children in the simplest possible form the elementary facts of astronomy. In the main the author has succeeded admirably, although it must be confessed that technical phraseology has not been so thoroughly eliminated as it might have been, largely because of the very nature of the subject. A good chapter on the use of the spectroscope tells with remarkable simplicity "What Stars Are Made Of," and shows that it is possible to present plainly the main facts of one of the most difficult branches of modern astronomy. On page 169 appears an error in describing the spectra of the sun and Sirius, the star Arcturus being incorrectly given instead of Sirius. The general arrangement of the book is that usually adopted in works on astronomy. It proceeds in the order of the earth, moon, planets, sun, comets, meteors, constellations, stars, and nebulae.

PRACTICAL PERSPECTIVE. By Frank Richards and Fred H. Colvin. Third edition. New York: The Norman W. Henley Publishing Company, 1908. 12mo.; cloth; 56 pages; 62 illustrations. Price, 50 cents.

Mr. Richards explains the principles of isometric perspective and shows several of its applications to machine work. The other treatise is on the use of isometric paper, written by Mr. Colvin. The scheme of this important little book is to show how to make all kinds of mechanical drawings by the isometric method and adding practical examples of various classes of work.

THE REFRIGERATING ENGINEER'S POCKET MANUAL. An Indispensable Companion for Every Engineer and Student Interested in Mechanical Refrigeration. By Oswald Gueth, M.E., Mem. Am. Soc. Refr. Engrs. New York, 1908. 12mo.; cloth; illustrated; 156 pages. Price, \$1.50.

The practical experience of the author as an engineer has enabled him to give a digest of rules and data of every branch of mechanical refrigeration. In this work he has made use of the opinions, held by the leading experts. The field covered comprises Principles and Properties; Refrigerating Machinery; Applications for Mechanical Refrigeration; Operation of Compression Plant; and the Steam Plant. The subdivisions of these parts take the inquirer into a very clear arrangement of subjects which are thoroughly illustrated with diagrams of apparatus, plans, systems, machines, engines, plants, etc., and these are supplied with extensive tables of scales, dimensions, trials, tests, measures, powers, and capacities.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending August 4, 1908.

AND EACH BEARING THAT DATE

[See note at end of list about copies of these patents.]

Table listing inventions with patent numbers, including items like Abrasive finishing machine, Air compressor, Amusement apparatus, Animal trap, Armature bands, Automatic filter press, etc.

Table listing inventions with patent numbers, including items like Copper, electrodeposition of, S. O. Cowper-Coles, Cotton chopper, A. W. Smith, Current generator, induction, M. Fischer, etc.

Table listing inventions with patent numbers, including items like Iron foundry mixing furnace, Kennedy & Nau, Jar cover, fruit, S. J. Vasaly, Journal box, A. H. Lewis, Labeling machine, Knapp & Blackstone, etc.