

RECENTLY PATENTED INVENTIONS.

Electrical Apparatus.

ELECTRIC ARC LAMP.—PAUL MERSCH, Paris, France. Solenoid-coils are employed having cores movable therein, with which one carbon-holder is directly connected. The other carbon-holder is so connected with the first holder that it moves in a direction opposite thereto. The solenoid-coils are electrically connected in parallel with each other and with the carbons. As the carbons wear away, a steadily-increasing main current will pass through the solenoids until their magnetic effect becomes sufficiently powerful gradually to attract the cores, which will, accordingly, transmit their motion to the carbon-holders so as to bring them nearer together, this movement of the holders being never more than necessary to take up the wear of the carbons.

TELEPHONE-TRANSMITTER.—JAMES H. SPENCER, Manhattan, New York city. The transmitter comprises a disk which is slightly dished on both faces and which is of considerable thickness, so as to be but slightly flexible. Clamps are provided, which are curved to bear only on two points of the disk. A button is carried by the disk and another by the transmitter-frame. By holding the disk securely and by connecting one of the buttons rigidly with the disk, sufficient vibration is given to the button readily to transmit sounds to the receiver. By forming the transmitter with a heavy disk the instrument is rendered more durable.

Mechanical Devices.

SUGAR-CUTTING MACHINE.—GUSTAV STOFF, Berlin, Germany. This invention provides a machine which automatically cuts rods of candied sugar into pieces of certain lengths, the rods being fed by spring-pressed rollers to a pair of rotating cutters, each having blades arranged tangentially in order to cut the rods into pieces. The inventor has endeavored to provide means for regulating the pressure of the feed-rollers at pleasure by providing universal joints between the top feed-roller and its driving-shaft, and by providing a chute by which the stump, or last piece of sugar rod, may be separated from the cut pieces.

SCREENING-MACHINE.—JOSEPH M. ELDER and OLIVER W. DUNLAP, Bloomington, Ill. The machine devised by these inventors is especially designed for screening the moist and sticky clay used in the manufacture of bricks. In an inclined frame an endless screen is mounted, which is composed of pivoted sections, and which has motion in an upward direction. A discharge-chute is arranged between the runs of the screen and has its lower end terminating adjacent to the lower screen-carrying wheels, whereby the refined material is discharged between the sections of the screen.

MACHINE-DRILL SHARPENER.—JAMES J. BROS-SORT, Butte, Mont. The sharpener comprises an anvil reciprocated by a hammer provided with swages for the flanges of the drill-shank. A cam-arm is adapted to engage the top edge of the hammer to lock the hammer in place so that the flange-swages are caused to clamp the drill. A reciprocating end swage at an angle to the other swages is adapted to operate on the end of the drill. By means of this device one workman can sharpen a large number of drills in a very short time.

Miscellaneous Inventions.

MINING-HAMMER.—FREDERICK R. WATERS, Ouray, Col. To construct the head of a hammer so that it can be used for removing as well as driving a drill is the purpose of the present invention. To this end the hammer-head is provided with a central transverse groove extending across its outer side and adapted to fit upon or receive the body of the drill.

TURBINE WATER-WHEEL.—JOHN SHARPE, Gravenhurst, Ontario, Canada. Leading to a tank are two flumes, each carrying and communicating with a casing. Gates command the flumes, which are respectively movable into the casing to open the flumes. A stem connected with each gate passes through a guide-bar extending between the casings. A lift is used in connection with the stems of the gates, and is raised and lowered by mechanism to operate the gates.

FLOUR-BOLT.—JOHN CHARLES, Charlton, Md. This invention provides improvements whereby the gyratory movements of the superposed sieve-boxes, may be caused to compensate one for the other to avoid the jar which would otherwise result, and also to reduce to a minimum the wear on the eccentrics and shafts and their bearings. The invention, although primarily useful in flour-bolts, is also serviceable in scalpers, graders, separators, and like machines.

HOT BLAST BOX.—SIDNEY E. BRETHERTON, Silver City, New Mexico. By means of this invention the waste heat of slag can be utilized for smelting purposes. The box is horizontally mounted in the upper part of inclosing walls, and has a longitudinal partition, with inlet and outlet openings. A series of vertical tubes extend through the compartments, open through the top and bottom walls of the box, and constitute draft-passages for the hot currents from the subjacent slag. The inventor claims that by means of his device a larger furnace-capacity is obtained, that tuyeres keep open better, and that the slag derived from the matte is exceedingly clean and free from values.

DEVICE FOR FASTENING CURTAINS TO VEHICLE-TOPS.—NELS J. BOTTGER, Clyde, Kan. This device consists essentially of a peculiarly-formed clasp and buckle which, when locked together, cannot accidentally become disconnected, but which however, can be readily locked and unlocked. The latch consists of a skeleton frame formed with spurs, a tongue projecting from the upper central portion, and a lip projecting from its lower portion. An auxiliary tongue is secured to the frame in the rear of the first-named tongue. A back-plate is provided upon which the spurs of the body are bent after having been passed through the curtains. The auxiliary tongue serves the purpose of preventing the curtain from becoming accidentally disconnected from the top of the vehicle.

MOLD FOR PISTON-PACKING.—FREDERICK VAN DEN BOSCH, Parker's Landing, Penn. This inventor has already received letters patent for a piston-cup or packing-ring composed in part of vulcanizable material, the cup or ring being particularly adapted for such pistons as are commonly used in deep wells, and, there-

fore, subjected to great strain or wear. The present invention comprises improvements in the mold and in the means for temporarily clamping its detachable parts together, as required for imparting the desired shape to the cup or ring and holding it duly confined while being vulcanized.

FRUIT OR VEGETABLE PRESS.—JULIA A. WARE, Salida, Col. The object of this invention is to provide a vessel or receptacle in which fruit or vegetables may be cooked, and to provide means whereby the vessel or receptacle may be utilized as a press or a strainer for potatoes or other vegetables, or for making wines or jellies. The device comprises a vessel in which a strainer is supported. In the strainer a hollow plunger moves. From side to side of the plunger a cross-bar extends with which a rod is connected having a lever for operating the plunger.

TOY.—NAPOLEON E. BEAUDOIN, Jersey City, N. J. This toy consists of a pan, in the center of which a post is adjustably mounted, which post is adapted to receive a base block upon which a United States flag is secured. By detouring jolting the pan, the player strives to throw the base-block and attachments thereon upwardly, so as to lodge the base-block on the post—a feat which requires no little adroitness.

LOCK FOR PRINTERS' GALLEYS.—WILLIAM C. BARNES, 1733 Q Street, Washington, D. C. The lock comprises a foot and a side locking stick, or member so constructed and applied to the galley that it may be quickly adjusted to any point between the side surfaces. The foot-member has adjustable and clamping engagement with the side member and is adapted to engage with the foot of the matter set up and with the side of the galley. A clamp is provided for the two members which may be readily tightened up or loosened.

BUTTER SHREDDER.—VALLIE G. TICE, Spring Creek, Penn. To mold butter which has been in cold storage requires an increase in temperature, which often injures the quality and the flavor. The object of the present invention is to provide a device which prepares the butter so that it may be worked into prints without raising the temperature. The mechanism used for this purpose comprises a rotating disk having radial slots and one or more toothed knives upon which the butter is placed and upon which it is shredded by the rotation of the disk.

PERMUTATION-LOCK FOR TOY SAFES.—CHARLES ROSSIGNOL, Paris, France. The lock consists of a bolt supported in the door and lock-casing and carrying screw-threaded knobs, which operate ratchets having screw-threaded shanks and notched bosses. Springs used in connection with tongues are adapted to prevent a retraction of the bolt, unless the notches register with the tongues. Lettered disks are employed to indicate the correct position of each notch.

SURVEYOR'S PLUMB-BOB.—ISAAC A. MARTIN, Ouray, Col. The novel features of this invention are found in the means provided for drawing up the suspending-cord within the bob. The means in question consist of a spring-operated reel controlled by a system of gearing. In using plumb-bobs in surveying, it is often necessary to shorten or lengthen the suspending cord quickly. By means of a device of the character described, this result can be attained.

EXTENSION-TABLE.—JOHN T. LA TURNO, Grand Tower, Ill. The table comprises two separable sections. Arms are pivoted to swing in the arc of a circle at the central portion of the table and carry extension-leaves rigid with the arms so as to be capable of moving from an inclined position to a horizontal position. Inclined projections carried by the table-sections are arranged successively to raise the extension-leaves as the sections are moved apart. Any desired number of auxiliary leaves can thus be automatically and successively placed in position upon drawing the table-sections to the desired length of extension.

LACE-FASTENER.—ANNA HANSON, Jackson, Mich. To provide a fastening device especially adapted for use in connection with shoe-laces, which device will be independent of the lace and the shoe to which it is applied, is the purpose of the present invention. The fastener has two sections hinged together, one of the sections having a cavity and recesses in its opposite sides. Through these recesses the bows of the lace may be passed. The other section has a slot adapted to receive the standing parts of the laces. A catch removably holds the sections engaged with each other.

BEDSTEAD-FASTENING.—FRANK A. HALL, Montclair, N. J., and EDWARD F. TILLEY, Brooklyn, New York city. This invention relates to bedstead-fasteners in which the side rails of the frame are joined to the posts by means of coacting hooks and pins, and in which the fastening is made rigid and unbreakable by constructing the two parts so that there is produced between them a binding action in addition to the connection of the hooks and pins.

LOTION.—CHARLES E. GRAPEWINE, San Diego, Cal. This lotion, for use upon the skin, is of a semifluid or cream-like consistency, and consists of cooked and de-fibrated lemon and salt, the proportions used being one-half pound of salt to one gallon of the lemon ingredient. The lotion is produced from the oil, the starchy substance of the pulp, rind, and seed, and the juice contained in the lemon, these ingredients being thoroughly mixed and cooked with the addition of salt.

Designs.

PLOW-UPRIGHT.—HENRY H. STRAUGHAN, Dillon, S. C. The upright has a base from the rear end of which rises vertically a wing, the upper end of which terminates in a threaded tenon. Another wing rises from the front end of the base-wing and is bent back, then forward, and finally down.

TOOL.—WILLIAM W. BROWNELL, Lake Placid, N. Y. This tool is a hammer having two sets of claws, one in front of the other. The claws are adapted successively to engage the nail to be drawn, thus giving two degrees of leverage.

CLOTHES-FORK.—JOHN A. OLSON, La Grange, Ill. The fork consists of two pieces of spring wood fastened together at one end. The fork prevents the scalding of the hands in removing clothes from wash-boliers.

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.

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.

Order White Metal & Brass Pattern Letters & Figures of H. W. Knight & Son, Seneca Falls, N. Y. Drawer 1115. Marine Iron Works. Chicago. Catalogue free.

"U. S." Metal Polish. Indianapolis. Samples free. Gasoline Brazing Forge, Turner Brass Works, Chicago. Yankee Notions. Waterbury Button Co., Waterbury, Ct. Special and Automatic Machines built to drawings on contract. The Garvin Machine Co., 141 Varick St., N. Y.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

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.

Patent for Sale—Combined Thimble, Thread Cutter, Needle Holder. Hirschfeld, care Occidental Hotel, 148 Bowery, New York.



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.

(7670) H. H. G. writes: I wish to show the number of people in a room. This room is only lit up by gas light. It is not necessary to show the features or other portions of their anatomy. A dark spot on the picture will suffice. Can this be done by photography, and how long an exposure is necessary? Can it be done by gas light? A. Of course a photograph can be taken which will show the number of people in a room unless some are behind others. An exposure of 4 to 10 minutes by gas light will probably be necessary to do this. The time necessary depends on the brightness of the gas. Why not try a flash light?

(7671) H. K. says: Will you kindly give us through your columns the formula of a solution for coloring steel both brown and blue, to give it the same appearance as is given to gun barrels? A. We recommend you to purchase a copy of the SCIENTIFIC AMERICAN SUPPLEMENT, No. 830, which contains an article entitled "Gun Wrinkles," which deals with the blacking, browning and bluing of gun barrels.

(7672) H. S. asks: Will you kindly answer in Notes and Queries the following questions concerning the high frequency coil described in SUPPLEMENT, No. 1087? 1. Approximate amount of No. 31 wire needed. A. About 1 pound of No. 31 wire is required for secondary of high frequency coil. 2. Meaning of the words "Between wires of different polarity" at the top of page 17378. I do not see how two such wires can be close enough to need extra insulation. A. Potential would be better than polarity in this phrase. 3. Number of amperes such a transformer will consume. A. A No. 3 wire will carry 30 to 40 amperes. Hence the primary will stand 100 amperes without overheating.

(7673) P. P. Company ask: Does an electrical meter register a greater number of watts when a motor is pulling a two horse load with 90 volt current than it does when pulling the same load with 110 volts, the motor being wound for 110 volts? A. Yes; the motor works at best efficiency only when fully loaded and fully supplied with current.

NEW BOOKS ETC.

REPORT OF UNITED STATES COMMISSIONERS OF FISH AND FISHERIES. 1898. Washington. 1899. Pp. 350.

This volume contains photographic illustrations of the exhibits at the Tennessee and Omaha Expositions, illustrations of the hatches at various points, a report of mackerel investigations, statistics regarding the yield of the numerous localities, pictures of peculiar fishes on the coast of Southern California, an extensive report on the oyster beds of Louisiana by H. F. Moore, another report on "The Shell Fisheries" of the Atlantic coast of the United States by Charles H. Stevenson, and a report of the investigations in Mississippi, Louisiana, and Texas. There are also numerous engravings of new fishes.

The Photo-Miniature, a magazine of photographic information, has just begun publication in New York city, Messrs. Tennant & Ward, 289 Fourth Avenue, being the publishers and Mr. Tennant the editor. Periodical photographic literature is already so enormous that it is very hard to welcome even the little stranger to which we have referred. While we do not see the need for the publication of another photographic journal in America, we have no hesitation in saying that "Photo-Miniature" is a very handsome publication. The number is given up to an excellent treatise on lenses and is well illustrated, and the idea is, we believe, to devote an entire number to a single subject, as in the present case, where lenses are treated. The subscription price is \$2.50 per annum.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

MAY 30, 1899,

AND EACH BEARING THAT DATE.

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

Table listing various inventions and their patent numbers, including items like Accumulator plate, Advertising or display card, Air conveying conduit, Alkaloid casein compounds, Amalgamator, Article holder, Automatic fender, Axle box, Back pedaling brake, Beer fountain, Barrel stove protector, Battery solution compound, Bearing, Clay & Gibb, Bedstead rail joint, Bell striker, Belt holder, Bicycle, Bicycle cleaning and repairing stand, Bicycle pedal, Bicycle propulsion, Bicycle saddle clip, Billiard cue tip, Blackboard composition, Boiler tube cleaner, Books, machine for making center stitched, Box, Von Auw, Boot or shoe cleaner, Bottle, non-refillable, Bottle steaming cap, Box, F. A. Wilson, Box blank material, Boxes, tubes, etc., fastening device, Bracelet, W. H. Saart, Brazing machine, Brick machine, Brick machine, F. Macarty, Bridge, A. Rieppel, Broom, O. S. Kulman, Brush making machine, Brush, shaving, Buckle shield, Burglar alarm, Burglar locking, Bustle, Butter, case or box for transit, Button, badge, Cable coupling, Cake turner, Calcium carbide cake, Can spout and vent, Canceling machine, Car brake, Car coupling lock, Car door clearer, Car fender, street, Car seat, Car step lifter, Carbonating machine, Carburette, Carburer, Card sample, Cardboard box, Carriage, automotor, Carriages, etc., Carriage, W. Putnam, Cartridge holding clip, Cash carrier apparatus, Caster, ball, Catamenial sack, Ceiling tinting device, Cement conduits or pipes, Cementing apparatus, Chair, W. O. & E. K. Campbell, Check strap or holder, Child's barrier, Chimney, Chopper, Circuit breaker, Clamp, Clip, See Bicycle saddle clip, Cartridge holding clip, Cloth winding bolt frame, Coal drill, Combing machine for textile materials, Compound engine, Compound engine, Compressed air mechanism for railway rolling stock, Compression coupling, Compressor, Condenser, evaporative, Controller, Cooler, Coop, folding, Copying device for documents, Copying press bath apparatus, Cot and canopy, portable, Coupling, See Cable coupling, Compression coupling, Hose coupling, Coupling and draught cushioning device, Coupling for railway wagons, Crepon sharpener, Culvert, Curtain fixture, Dental matrix clamp, Dental spittoon attachment, Detachable handle for frying pans, Die box, reversible, Digger, Disk drill, Docks, device for use in erecting bents of ore, Door check, Door hanger, Dough raser apparatus, Drier, Drill, Drill, See Coal drill, Disk drill, Dust pan, E. E. Rice, Euster holder, Feather, Ear ring, Educational device, Electric lighting device, Electric machines, operating dynamo, Electric motors, mechanism for starting, stopping, reversing direction of motion, and controlling speed of, Electric motors, method of and means for regulating, R. Lundell, Electric signal, selective, Electrical distribution system, Electrical meter, prepayment, Electrolytic apparatus and process of treating impregnators therefor, Electrolytic meter, Electromagnetic mechanism, transmitting movement to a distance by Raverot & Bely, Engine, See Compound engine, Explosive engine, Gas engine, Pumping engine, Rotary engine, Traction engine, Engine, F. J. Fette, Engine, I. B. Hammond, Engine, P. Lair, Engine stop mechanism, Engines, speed regulator for explosive, Engraving plates, composition for coating, Expansion bolt, Explosive and making same, Explosive engine, Explosive engine, Explosive motor, Eyeletting machine, Fan, electric, Fan, electric, means for gaining dry, T. Hayes, Feed mill, Feed mill, W. C. F. Zimmerman

(Continued on page 383)