

Business and Personal.

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Marine Iron Works. Chicago. Catalogue free. For logging engines. J. S. Mundy, Newark, N. J. "U. S." Metal Polish. Indianapolis. Samples free. Yankee Notions. Waterbury Button Co., Waterbury, Ct. Handle & Spoke Mch. Ober Lathe Co., Chagrin Falls, O. Order pattern letters & figures from the largest variety. H. W. Knight & Son, Seneca Falls, N. Y., drawer 1115. Improved Bicycle Machinery of every description. The Garvin Machine Co., Spring and Varick Sts., N. Y. Concrete Houses - cheaper than brick, superior to stone. "Ransome," 757 Monadnock Block, Chicago. The celebrated "Hornsbly-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. Machinery manufacturers, attention! Concrete and mortar mixing mills. Exclusive rights for sale. "Ransome," 757 Monadnock Block, Chicago. Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

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 This is for our information and not for publication.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.

(7168) E. T. asks: Why do you have to put in a magic lantern slide upside down to make it show right on the canvas? A. Because the rays cross in the lantern.

(7169) F. L. C. says: Please give me, through Notes and Queries, a recipe for a hard cement for bicycle tires. A. For bicycle tire cement, mix together two parts pitch and one part of gutta percha. Melt over a water bath and use hot.

(7170) E. Y. M. asks: 1. What is the best way of cutting down a 500 volt current for charging storage batteries where a meter is used? A. The best way of charging cells from a 500 volt circuit is to use the current in a motor dynamo built to give the current required, perhaps 10 amperes at 25 volts per cell. 2. Will a rheostat made of German silver wire consume any of the current? A. The rheostat affects current by its resistance, according to Ohm's law - current = volts divided by ohms. 3. How much and what size German silver wire should be used to reduce current to proper voltage for charging the storage cells? A. It is not economical nor feasible to reduce a 500 volt current for charging cells with a wire resistance of any kind. 4. Would iron wire do as well? A. Iron has about one-half the resistance of German silver, and, therefore, about twice as much, size for size, would be required for any resistance. 5. How many watts will be consumed in charging a 150 ampere hour cell? A. Two and one-half volts are required to charge a storage cell; hence 2.5 x 150 = 375 watt hours. 6. To what voltage should the current be reduced? A. 2.5 x the number of cells in series.

(7171) L. C. T. says: Please send me a recipe for removing freckles from the skin. One that is not injurious, if such a thing is possible. A. Under the empirical title of "Albadermine," a process of removing tan and the milder variety of freckles, a foreign surgeon has devised the following:

Solution A.

- Potass. iodid. dr. ii.
Iodine pur. gr. vi.
Glycerine. dr. iii.
Infus. rose. oz. iv.

Dissolve the iodide of potassium in a small quantity of the infusion and a drachm of the glycerine; with this fluid moisten the iodine in a glass of water and rub it down, gradually adding more liquid until complete solution has been obtained; then stir in the remainder of the ingredients, and bottle the mixture.

Solution B.

- Soda hypsulph. thiosulphate. oz. iss.
Aqua rose. ext. pt. i.
Dissolve and filter.

With a small camel's hair pencil or piece of fine sponge apply a little of "Albadermine A" to the tanned or freckled surface, until a slight but tolerably uniform brownish yellow skin has been produced. At the expiration of fifteen or twenty minutes moisten a piece of cambric, lint or soft rag with "B," and lay it upon the affected part, removing, squeezing away the liquid, soaking it afresh, and again applying until the iodine stain has disappeared. Repeat the entire process thrice daily, but diminish the frequency of the application if tenderness be produced. In the course of three to four days to as many weeks the freckles will either have disappeared entirely or their intensity will be greatly diminished. "Summer freckles" yield very speedily to this treatment.

Advertisements.

ORDINARY RATES.

Inside Page, each insertion - 75 cents a line
Back Page, each insertion - \$1.00 a line
For some classes of Advertisements, Special and Higher rates are required.

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without steam power can save time and money by using our Foot and Hand Power Machinery
SEND FOR CATALOGUES -
A - Wood-working Machinery.
B - Lathes, etc.
SENECA FALLS MFG. COMPANY,
635 Water St., Seneca Falls, N. Y.

DRY BATTERIES. - A PAPER BY L. K. Bohm, treating of open circuit batteries, historical dry batteries, modern dry batteries, Hellesen's battery, Bryan's battery, Koller's battery, and the efficiency of dry cells. With three illustrations. Contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 1001. Price 10 cents. To be had at this office and from all newsdealers.

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SHAPERS, PLANERS, DRILLS
MACHINE SHOP OUTFITS, TOOLS
AND SUPPLIES. CATALOGUE FREE
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BRASS PIPE WRENCH.
A PERFECT TOOL WITH FRICTION GRIP.
Bushings for all sizes and shapes. Highly polished pipes made up without scar or injury.
For Circulars and Prices
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New Friction Disk Drill.
FOR LIGHT WORK.
Has these Great Advantages:
The speed can be instantly changed from 0 to 1600 without stopping or shifting belts. Power applied can be graduated to drive, with equal safety, the smallest or largest drills within its range - a wonderful economy in time and great saving in drill breakage. Send for catalogue.
W. F. & JNO. BARNES CO.,
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Spinning and Twister Ring Blanks
BILLINGS' IMPROVED KEY RING
Patent applied for.
The Billings & Spencer Co., Drawer 3, Hartford, Conn.

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MAKERS AND JOBBERS IN FINE TOOLS,
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NO. 4. HARDWARE AND BRASS GOODS MACHINERY
NO. 5. BICYCLE MACHINERY
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\$100
IMPROVED TRANSITS AND LEVELS
Graduated entirely on our large dividing engines. Special award at World's Fair. All kinds of Engineering, Surveying and Drafting Instruments and Materials. 220 p. Illustrated Catalogue mailed free only if this ad. is mentioned.
QUEEN & CO., Inc.,
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TRANSITS AND LEVELING INSTRUMENTS.
PLUMBERS' IRON LEVEL With Double Plumb.
Special device giving rise and fall of all piping. Price \$2.25. Size 13 inch. For book on the level
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P. O. Box 977, ATHOL, MASS., U. S. A.

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IRON, STEEL, BRASS, TIN, ZINC.
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ANY SHAPE & SIZE OF HOLE.
FANCY DESIGNS PERFORATED.
SEND WORD WHAT YOU WANT.
WE'LL DO THE WORK PROMPTLY.
CHICAGO, ILL. U.S.A.
225 NORTH UNION ST.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

JUNE 22, 1897.

AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Table listing inventions with patent numbers and names of inventors. Includes items like Advertising device, Air compressing apparatus, Alarm, Animal trap, Ashes, Apparatus for elevating or conveying, Astronomical apparatus, Bag, Baggage handler, Baling press, Bank, child's savings, Bath tub attachment, Bearing, roller, Bicycle, Bicycle crank, Bicycle lock, Bicycle luggage carrier, Bicycle saddle, Bicycle spring attachment, Bicycle steering device, Bicycle support, Bicycle support, C. A. Wade, Bicycle trainer, Bicycle tricycle, Bleaching, apparatus, Boiler, Boiler or other furnace, Bolt heading machine, Book, separable, Boots or shoes, self adjusting follower, Bottle, L. C. Adams, Bottle, F. T. Fernandez, Bottle, non-refillable, Bottle stopper, Box, See Folding box, Box, M. Helbach, Box making machine, Box strap, Box strap machine, Bracket, Bracket and insulator, Brake, Bicycle brake, Brake, Wagon, Brake, Wagon, Bridle blind, Buckle, suspender, Bullet lubricating device, Burglar alarm, Burglar alarm, Sutton & Steele, Burglar alarm, apparatus for saving persons, Burner, See Hydrocarbon burner, Bust, adjustable clothes, Bust fastener, Cabinet, blank, Canning machine, Canning machine, mail, Car filling machine, Car construction, railway, Car coupling, Car roof, Car roofing device, Car safety device, street railway, Car seat, Car wheel, Car wheel, J. S. Woodcock, Carbon, arc lamp, Cards, playing, Carriage, spring, Carriage, folding baby, Carriage, spring, A. E. Arnold, Cash pitching apparatus, Casting dovetails, pattern for, Chain riveter, Chain forming and preserving apparatus, Churn, Churn and butter worker, Chuck, nipple, Churn and butter worker, combined, Clock case, Clocks, sweep seconds hand train for, Cook, gage, Cook, gage, Stroyvall, Cook, gage, automatic, Condenser, A. Hoberrecht, Core box sections, machine for making, Cork, dosing, Cork, dosing, Konold & Casper, Corn husker, Corn husking machine, automatic, Corn husking machine, W. H. Van Schaick, Corn sheller cylinder, Corset, Corset, L. E. Dill, Corset, F. A. Hiekel, Coupling, See Car coupling, Crank, variable throw, Crate for shipping wild game birds or poultry, Crate, fruit, Cuff holder, Cup, See Machine cup, Cutoff mechanism for water pipes, automatic, Cycle saddle, Dental flask press, Dental handpiece, Dental handpiece, G. Sibley, Displayer, band, A. J. Tribolet, Door lock alarm, electrical, Door or window fastening device, Drilling attachment, Drilling machine, Dry goods rack, Duplicating or stencil printing machine, Dye, blue, Dye, green triazo, Dynamo brush holder, Ejector condenser exhaustor, Electric circuits, automatic switch for, Electric conductor, Electric current generator, therapeutic, Electric meter, coin freed, Electric motor controller, Electromagnet, Electrotherapeutic apparatus, Elevator controller, Envelope machine, Explosive engine, Eyeglasses, cushion pad for, Fan, automatic, Fan, ventilating, Fastener for gloves, Faucet, Felt guide, Fence, G. S. Clements, Fence post, metallic, Fence stay, wire, Ferric residue and apparatus therefor, Fertilizers, apparatus for making, Fire alarm system, auxiliary, Fire extinguishing systems, automatic sprinkler for, Fire kindler, Fireproof construction, Fireproof floor, Fish trap, Fluid pressure regulator, Fluid pressure regulator, E. O. Thompson, Folder leader, Folding box, Folding machine sheet adjusting device, Fruit drier, Fruit drier, C. Fleckenstein, Funnel, Game apparatus, Game apparatus, E. P. Kennel.

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SOOTHING - HEALING
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Williams' Shaving Soap (Barbers'), 6 Round Cakes, 1 lb., 40 cts. Exquisite also for toilet. Trial cake for 2c. stamp.

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We can furnish the Latest Improved Eyelet Machines for making shoe eyelets and special eyelets of all descriptions. We are also builders and designers of Special Wireworking Machinery.
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GATES ROCK & ORE BREAKER, Steam Ore Stamp, Mining Machinery, 50 years experience as builders. GATES IRON WORKS, Dept. C, 650 Elston Ave., Chicago.
On receipt of ten cents in stamps (practically 25% of retail price) we will send you one of our 1/2-INCH AUGER BITS
A fine cutting tool, perfect clearance, especially good in hard wood and for end boring.
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THE FORD BIT CO., HOLYOKE, MASS.

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