

Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion.

A Book worth having; price only \$2.—The "Artificer's Assistant" is having a very large sale.

To Manufacturers of and Dealers in Toys—Royalties to be had for new and pleasing toys.

For Sale.—1 H. P. Engine. Box 492, Owego, N. Y.

Parties engaged in the Manufacture of Iron Bedsteads, will please send circulars to P. O. Box 533, Baltimore, Md.

Teed's Centennial Waterwheel.—The best and cheapest wheel in the market.

Baldwin the Clothier is a patented trade mark, and it is the property of O. S. Baldwin, whose residence is in Brooklyn, N. Y.

For Sale.—42 in. x 8 ft. Pond Planer, \$425; combined Punch and Slear for 1/2 in. iron, \$600; 40 in. x 12 ft. Screw Cutting Lathe, \$225; at Shearman's, 132 N. 3d St., Philadelphia, Pa.

Wanted.—A 15 Horse Power Engine and Boiler (stationary), either new or second-hand. State lowest cash price. Address Toale Manuf. Co., Charleston, S. C.

Saws are filed with great ease by everybody. New machine; \$2.50. Send for illustrated circulars, etc., to E. Roth & Bro., New Oxford, Pa. We want agents.

Steam Launches for sale, 32 x 8 and 40 x 9. Address R. A. Morgan, Steam Yacht and Launch Builder, Noank, Conn.

Fine Taps and Dies for Jeweler's, Dentist's, and Machinist's use, in cases. Pratt & Whitney, Hartford, Ct.

For Amateur Photographic Apparatus. Outfits with complete instructions. Price, from \$5 to \$30. Send stamp for information to E. Sackmann, 278 Pearl St., N. Y.

For the best Gate Valves of all kinds, apply to D. Kennedy & Co., 88 John St., N. Y.

Carpenters and Mechanics expert with tools, can make from \$5 to \$10 per day in their own neighborhood. No humbug. Thompson & Co., 84 Wood street, Pittsburgh, Pa.

Plumbers.—Address Bailey, Farrell & Co., Pittsburgh, Pa., for the best and cheapest iron case street hydrants.

Magic Lanterns and Stereopticons of all prices. Views illustrating every subject for public exhibitions. Profitable business for a man with a small capital.

"Little All Right," the smallest and most perfect Revolver in the world. Radically new both in principle and operation. Send for circular. All Right Firearm's Co., Lawrence, Mass., U. S. A.

For Solid Wrought Iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Shaw's Noise-Quitting Nozzles for Escape Pipes of Locomotives, Steamboats, etc. Quiets all the noise of high pressure escaping steam without any detriment whatever. T. Shaw, 915 Ridge Ave., Philadelphia, Pa.

John T. Noye & Son, Buffalo, N. Y., are Manufacturers of Burr Mill Stones and Flour Mill Machinery of all kinds, and dealers in Dufour & Co.'s Bolting Cloth. Send for large illustrated catalogue.

Power & Foot Presses, Ferracute Co., Bridgeton, N. J. For Best Presses, Dies, and Fruit Can Tools, Bliss & Williams, cor. of Plymouth and Jay Sts., Brooklyn, N. Y.

Hydraulic Presses and Jacks, new and second hand. Lathes and Machinery for Polishing and Buffing metals. E. Lyon & Co., 470 Grand St., N. Y.

Solid Emery Vulcanite Wheels.—The Solid Original Emery Wheel—other kinds imitations and inferior. Caution.—Our name is stamped in full on all our best Standard Belting, Packing, and Hose. Buy that only. The best is the cheapest. New York Belting and Packing Company, 37 and 38 Park Row, N. Y.

Steel Castings from one lb. to five thousand lbs. Invaluable for strength and durability. Circulars free. Pittsburgh Steel Casting Co., Pittsburgh, Pa.

Skinner Portable Engine Improved, 2 1/2 to 10 H. P. Skinner & Wood, Erie, Pa.

Improved Wood-working Machinery made by Walker Bros., 73 and 75 Laurel St., Philadelphia, Pa.

Split-Pulleys and Split-Collars of same price, strength and appearance as Whole-Pulleys and Whole-Collars. Yocum & Son, Drinker st., below 147 North Second st. Philadelphia, Pa.

Baxter's Adjustable Wrenches fit peculiar corners. Manuf. by Greene, Tweed & Co., 18 Park Place, N. Y.

Have you seen the Briggs Lathe? Mounted on iron stand with walnut top and 21 inch driving wheel, with 3 speeds. Price \$25 complete, or \$13 without stand. Frasse & Co., 62 Chatham St., N. Y.

Polishing Supplies for all kinds of Metals. Greene, Tweed & Co., 18 Park Place, N. Y.

More than twelve thousand crank shafts made by Chester Steel Castings Co. now running; 8 years constant use prove them stronger and more durable than wrought iron. See advertisement, page 238.

Emery Grinders, Emery Wheels, Best and Cheapest, Hardened surfaces planed or turned to order. Awarded Medal and Diploma by Centennial Commission. Address American Twist Drill Co., Woonsocket, R. I.

Machine Diamonds, J. Dickinson, 64 Nassau St., N. Y.

Notes & Queries

- (1) A. L. B. asks if there is any way of making paper soluble in water? A. No.
(2) A. H. asks how to neutralize the bad effect of gas in a room where plants are kept? A. The only way will be to stop the leakage of gas, if there be any, and provide better ventilation.
(3) R. P. T. asks for a flavoring for cigars? A. Cinnamon and tonka beans may be bruised and macerated in rum and the tobacco sprinkled with the spirit. Cigars may be moistened externally with a tincture of cascarrilla or of gum benzoin.

(4) W. P. P. says he is using an aniline ink with rubber stamps, but it fades, and asks if there is a remedy? A. The fading cannot be avoided where exposed to light.

(5) S. A. H. asks how to make a Leyden jar? A. An ordinary candy jar, free from cracks and flaws, will answer; line inside and out to within 4 inches of the top with tinfoil, heat so as to drive off all moisture; give the glass above the foil, inside and out, several coats of shellac varnish, and use a cork carefully fitted, dried and baked in an oven, and varnished. The chain from the brass rod and ball should be sufficiently long, and fair earth connection must be provided when charging.

(6) G. R. asks: 1. What size of wire should be used in winding the cores of an electro-magnet, and with how many layers should each core be wound, each core being 36 inches long by 3 1/4 inches diameter? A. You may use 9 spools on each core, each spool having about 16 layers of No. 12 covered copper wire. 2. Of how many pairs, and what size, of Grove or other cells, should the battery consist? A. Use three 1 gallon jars, exposing to the liquid in each about 300 square inches of surface of zinc (six plates) opposed to an equal surface of carbon. Use for the liquid acidified solution of potassium dichromate.

(7) O. H. W. asks: 1. Will a frosted window give more or a better distributed light than a plain one of the same size? A. It aids the diffusion of light but decreases the intensity. 2. What are the best and cheapest methods of frosting windows? A. By emery grinding or by the sand blast.

(8) C. A. K. asks: 1. What effect has Paris green on the system? A. It is an irritant poison, its action on the system being very nearly that of arsenic alone. It inordinately increases the secretions and diminishes the contractility of the voluntary muscles. 2. What is the best antidote for Paris green? A. Hydrated magnesia and fresh hydrated sesquioxide of iron are well recommended, but no specific antidote is yet known. The poison is but slightly soluble, therefore no chemical antidotes should ever supersede active evacuation treatment.

(9) E. C. H. asks for a simple rule how to place the weight from the fulcrum or pin of a safety valve, to produce 50 lbs. pressure. Weight of valve being 1/4 lb., area of valve .78. Weight of beam 3/4 lb.; center of gravity of beam 6 inches from pin or fulcrum. Distance from fulcrum to valve 1 1/2, weight 8 3/4 lbs. A. Multiply weight of valve by 1 1/2. Multiply weight of beam by 6. Subtract the sum of these products from pressure of steam multiplied 0.78 times 1 1/2. Divide the remainder by the weight of the ball.

(10) A. M. R. asks: 1. For a recipe for making ink suitable for use in post offices for cancelling with hand stamp? A. A fine grade of printing ink is ordinarily employed. A good ink may be made as follows: Balsam of copaiba (pure), 9 ozs.; lampblack, 3 ozs.; indigo and Prussian blue, of each, 5 drachms; Indian red, 3/4 oz.; dried yellow soap, 3 ozs.; grind to a uniform smoothness. 2. How can I make a suitable pad for inking stamp? A. Cover the metal base with a smooth piece of wood and build on this the cushion—a piece of thick, dressed leather covered with several thicknesses of silk. 3. How can I purify water in a new hemlock cistern which emits a stench? A. A few bushels of recently prepared, well burnt charcoal free from dust, thrown into the water, will often suffice. If the smell is due to the resinous constituents of the wood, it may be requisite to discharge the contents several times after replacing with fresh water, until no further contamination occurs.

(11) L. B. B. asks: 1. How does a night glass differ from a common glass? A. The instrument sometimes called by seamen a night glass is composed of a convex object glass, and a concave eye lens placed at a distance equal to the difference of their focal lengths, the magnifying power being as the focal length of the object glass is to that of the eye lens. Thus, if the focal length of the object glass is 36 inches, and that of the eye lens 1 inch, they should be 35 inches apart, and the magnifying power would be 36 times. 2. Is it possible to make a binocular glass with a power of 40 diameters? A. Yes; make the focal length of the eye piece one fortieth that of the object glasses. See P. 11, SCIENTIFIC AMERICAN SUPPLEMENT, No. 1.

(12) H. F. S. asks how Japanese lacquer is made? A. Melt 50 lbs. of Naples asphaltum and 8 lbs. dark gum anime, boil for about two hours in 12 gallons linseed oil; then melt 10 lbs. of dark gum amber and boil it with two gallons linseed oil; add this to the other and add dryers. Boil for about two hours, or until the mass when cooled may be rolled into little pellets. Withdraw the heat and thin down with thirty gallons turpentine. During the boiling the mass must be constantly stirred to prevent boiling over.

(13) D. J. T. asks for a cement for an aquarium that will not crack or peel from glass or galvanized iron? A. Take, by measure, 10 parts of litharge, 10 parts of plaster of Paris, 10 parts of fine dry white sand, and 1 part finely powdered resin. When wanted for use, mix into a stiff putty with boiled linseed oil. Do not use the tank for three or four days after cemented.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

E. P. C.—It is hornblende rock containing sulphides of iron and a little copper sulphide. The crystals are garnets.—E. T.—It is quartzite—composed of minute crystals of quartz.—G. M. L.—It is iron pyrites.—H. B. L.—The sand contains quartz, porphyry, felspar, fluor-spar, lime carbonate, pyrites, and possibly a little gold.—W. R. P.—It is a piece of agate.—O. B.—It is axinite, composed of silicates of lime, alumina, iron, manganese and boron.

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects: On What is Electricity. By J. H. R. On Science against Homeopathy. By J. W. C.

On the Liverpool Engineering Society. By W. W. On Aerial Navigation. By W. J. L. Also inquiries and answers from the following: I. B.—C. F. P.—P. McN.—J. F. & S.—H. B. L.—D. D. B.—J. R. E.—J. W. D.—J. E. M.

HINTS TO CORRESPONDENTS.

Renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

Inquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address is given.

Hundreds of inquiries analogous to the following are sent: "Who publishes photographic periodicals? Who publishes books on brass founding? Who makes vulcanizing apparatus for vulcanizing india rubber?" All such personal inquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

OFFICIAL.

INDEX OF INVENTIONS

FOR WHICH Letters Patent of the United States were Granted in the Week Ending

September 4, 1877,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

- Aerial currents, apparatus for, P. Mihan 194,782
Alarm register, Moffett & Dean 194,951
Atmospheric exhauster, A. B. Brown 194,764
Axes, machine for making, C. W. Cardot 194,892
Baker, altar bread or wafer, R. B. Daley 194,894
Baker, L. Drew (r) 7,869
Bale tie, J. P. Verree 194,937
Baling press, Brooks & Jordan 194,888
Ballot box, L. Van Alstyne 194,882
Bath structure, Despoix & Reboul 194,806
Bed bottom, B. Essig 194,811
Bed bottom, G. Luciani 194,832
Bed bottom, H. Winger 194,795
Bed mat, child's, O. A. Lirette 194,831
Beeswax, bleaching, H. T. Yaryan 194,799
Belting, H. Royer 194,846
Bevel, carpenters', J. A. Traut 194,851
Boot sole pressing machine, J. T. & T. M. Gifford 194,866
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Bottle stopper, D. H. Murphy 194,924
Brake lever, W. F. Osborn 194,926
Brick machine, Selden & McLean 194,787
Brick machine, H. L. Oliver 194,888
Building frame, Morris & Slanser 194,836
Burglar alarm, W. H. Reiff 194,880
Button, J. John 194,872
Can oil, W. Y. Horne 194,821
Can lock, W. L. Marshall 194,922
Candle holder, V. Walker 194,940
Car awning, street, F. P. McIntyre 194,923
Car axle box, S. A. Bemis 194,801
Car coupling, J. W. Eckman 194,900
Car coupling, T. C. Lord 194,779
Car coupling, D. V. B. Smart 194,792
Car coupling, D. Ziegler 194,946
Car mover, G. W. Leek 194,828
Car wheel and axle, I. H. Randall 194,950
Car window, I. H. Randall 194,930
Cars, unloading coal, W. D. Beebe 194,780
Carpenter's scribing tool, C. E. Billings 194,761
Carpet lining, etc., D. G. Rollin 194,845
Carriage, W. H. Hancock 194,870
Carriage pole tip, G. W. Hobbs 194,918
Chalk holder, tailors', E. S. Bartram 194,886
Chimney cap, ventilator, P. Mihan 194,781
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Churn, E. Rhoades 194,785
Churn, W. H. Stearns 194,936
Churn, Goff & Hardick 194,868
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Cigarette machine, J. Pollak 194,928
Cigars, manufacture, G. W. Writner 194,944
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Cold drawing rods, etc., G. H. Billings (r) 7,868
Condenser for distillation, F. M. Young 194,856
Corn fodder machine, D. F. Hull 194,776
Corset, T. S. Gilbert 194,867
Cotton gin attachment, M. M. Massey 194,833
Cuff fastener, J. H. Myers 194,837
Curry comb, C. E. L. Holmes 194,820
Curtain fixture, D. S. Van Etten 194,793
Dental engine, E. T. Starr 194,850
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Egg carrier, M. A. Howell, Jr. 194,914
Electro-magnetic alarm bell, P. Seiler 194,933
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Flying machine, J. J. Pennington 194,841
Fog signal, G. Sweanor 194,937
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- Gate, A. Hyre 194,823
Gate, L. T. Mason 194,876
Gate, K. E. Rudd 194,786
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Graining wood, W. A. Wiles 194,943
Handcuff, O. C. Phelps (r) 7,873
Harrow, G. D. Miles 194,834
Harvester, J. S. Marsh (r) 7,870
Harvester, cotton, F. Van Dorn 194,854
Harvester cotton, Watkins & Sale 194,855
Harvester reel, C. Denton 194,898
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Hoop machine, J. A. Peoples 194,842
Hoop skirt former, C. A. Sprague 194,935
Horseshoe, C. H. Perkins 194,783
Horseshoe blanks, machine for, J. H. Snyder 194,934
Horseshoe nail blanks, machine for, J. Ferguson 194,767
Horseshoe nail plate, J. Ferguson 194,768
Horseshoe nail machine, J. Ferguson 194,769
Hydrant, H. Flint 194,814
Hydrant testing machine, W. C. Allison 194,857
Knee protector, M. C. Hiester 194,871
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Lamps, heating attachment for, C. I. Payne 194,840
Last block fastener, W. Miller 194,878
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Latch for doors, etc., C. H. Smith 194,789
Leather rolling machine, A. Hawver 194,906
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Lifting jack, J. S. Kirkwood 194,827
Liquid measures, C. C. Redmond 194,783
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Molding plastic material, D. C. Lockwood 194,920
Mortising machine, W. W. Green, Jr 194,869
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Nursing bottle, I. Bullard 194,859
Nutmeg grater, J. H. H. Wilson 194,942
Oil tank, T. Shaw 194,847
Ore separator, A. Work 194,797
Ore washer, J. S. Duncan 194,810
Packing box, G. Robinson, Jr. 194,844
Padlock, Smith & Egge 194,848
Padlock case, Smith & Egge 194,849
Paints, stripping tool for, L. Homann 194,912
Pendulum balls, regulating, H. C. Jacot 194,915
Pipe elbow machine, C. H. Amann (r) 7,874
Pitcher, S. W. Babbitt 194,858
Planter, corn, G. E. Baites 194,885
Planter, corn, Gillett & Poole 194,901
Plow, Caldwell & Herren 194,891
Plow, ditching, S. Furnas 194,865
Plow, wheel, L. Chapman 194,803
Post office box, B. H. & W. H. Camp 194,890
Potato bug catcher, Corbin & Moseley 194,862
Printing press, M. Hainque 194,902
Propelling vessels, W. F. Morrison 194,835
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Railroad switch, J. W. Harding 194,818
Railway gate, W. I. French 194,864
Railway truck and track, J. W. Eckman 194,899
Refrigerator E. Zahring 194,945
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Sand pump, W. Forker 194,948
Sash fastener, Clark & Smith 194,804
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Sash holder, A. W. Judd 194,881
Sawing machine, A. T. Nichols (r) 7,871
Scaffolding, H. J. Caswell 194,802
Screw-swaging machine, M. D. Leuhrs 194,875
Seeding machine, C. E. Patric (r) 7,875
Semaphore, electrical, U. Juston 194,777
Sewing machine, J. Tripp 194,852
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Sheep shears, J. C. Wightman 194,794
Sheet metal elbows, F. Hoeltge 194,911
Shingle, metallic roofing, C. Comstock 194,766
Shingle sawing machine, M. Prillaman 194,929
Shoemaker's pounding iron, F. Damos 194,895
Shutter fastener, R. Hayden 194,774
Slate frame attachment, F. S. Allen 194,888
Spinning frames, L. Coburn 194,765
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Steam boiler furnaces, R. K. McMurray 194,780
Stock feeder, Hayden & Knowles 194,819
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Stove, lamp, B. G. Lofstedt 194,921
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Ventilator, C. L. Garfield 194,770
Vermin, process for destroying, T. S. Church 194,861
Wagon axle box, C. J. Valentine 194,938
Wash bench, G. W. Lengfield 194,829
Washing machine, Fager & Godwin 194,812
Watch key, G. Havell 194,904
Water elevator, W. Doty 194,809
Water gage for steam boilers, D. A. Woodbury 194,796
Water power, M. L. King 194,826
Water wheel, J. W. DeHaven 194,897
Windmill, M. L. Howard 194,822
Windmill, I. H. Palmer 194,839
Wood, preserv'g, I. Hayford 194,773
Wool polisher, G. Zimmer 194,947
Work stand, E. G. Gollner 194,816

DESIGNS PATENTED.

- 10,173 to 10,194.—CARPETS.—J. L. Folsom, Brooklyn, N. Y.
10,195 to 10,203.—CARPETS.—O. Heingke, New Utrecht, N. Y.
10,204 to 10,217.—CARPETS.—H. Horan, East Orange, N. J.
10,218.—CARPETS.—H. Nordman, New York city.
10,219 and 10,220.—CARPETS.—G. W. Piggott, New York city.
10,221 to 10,223.—CARPETS.—J. E. Rollings, New York city.
10,224.—CARPETS.—J. H. Smith, Enfield, Conn.
10,225 to 10,228.—CARPETS.—W. H. Smith, Enfield, Conn.
10,229.—CIGAR BOX.—J. Stratton & G. Storm, Bay Side, N. Y.
10,230.—EASY CHAIR.—F. Krayl, Chicago, Ill.
10,231.—PRINTED AND WOVEN FABRIC.—W. Morris, London, England.
10,232.—HANDLES FOR TABLE WARE.—J. A. Whalen, New York city.

[A copy of any one of the above patents may be had by remitting one dollar to MUNN & Co., 37 Park Row, New York city.]