Gate, A. Hyre.....

Business and Versonal.

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. (A condensed table of contents was published in this paper September 22d, page 190. It's worth referring to).

To Manufacturers of and Dealers in Toys-Royalties to be had for new and pleasing toys. Partners wanted. Address S. E. B., 801 Asylum Ave , Hartford, Conn.

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. Address J. Mayne, Gilberts-▼ille, Otsego county, N. Y.

Baldwin the Clothier is a patented trade mark, and it 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 Shear for % 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, 32×8 and 40×9 . Address R. A. Morgan, Steam Yacht and Launch Builder, No-

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, Pitts-

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

Magic Lanterns and Stereopticons of all prices. Views logue free. McAllister, Mf. Optician, 49 Nassau St., N. Y

"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 advertise-Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Shaw's Noise-Quieting 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 Youum & Son, Drinker st., below 147 North Second st

Baxter's Adjustable Wrenches fit peculiar corners.

Philadelphia, Pa.

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 peeds. 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? A. Take, by measure, 10 parts of litharge, 10 iron. See advertisement, page 238.

Emery Grinders, Emery Wheels, Best and Cheapest, Hardened surfaces planed or turned to order. Awarded for uso, mix into a stiff putty with boiled linseed oil. Do Medal and Diploma by Centennial Commission. Address American Twist Drill Co., Woonsocket, R. 1.

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



- (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 cascarilla 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 of 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 here. All such questions, when initials only are given, core being 36 inches long by 31/2 inches diameter? A, are thrown into the waste basket, as it would fill half of You may use 9 spools on each core, each spool having our paper to print them all; but we generally take pleas about 16 layers of No. 12 covered copper wire. 2. Of ure in answering briefly by mail, if the writer's address how many pairs, and what size, of Grove or other cells, is given. should the battery consist? A. Use three 1 gallon jars, exposing to the liquid in each about 300 square inches of are sent: "Who publishes photographic periodicals? surface of zinc (six plates) opposed to an equal surface, Who publishes books on brass founding? Who makes 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 dim inishes 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 evacuent treatment.
- (9) E. C. H. asks for a simple rule how to placethe weight from the fulcrum or pin of a safety valve, to produce 50 lbs. pressure. Weight of valve being ¼ lb., area of valve '78. Weight of beam ¾ lb.; center of gravity of beam 6 inches from pin or fulcrum. Magic Lanterns and Secreptions of an prices. Years center of gravity of seam of the prices prices and should be subject for public exhibitions. Profibitance from fulcrum to valve 1.4, weight 834 lbs. A. | Distance from fulcrum to valve 1.4, weight 834 lbs. A. | Multiply weight of valve by 1.4. Multiply weight of valve by 1.4. Multiply weight of beam by 6. Subtract the sum of these products from logical from the product of pressure of steam multiplied 0.78 times 1_{16}^{5} . Divide the remainder by the weight of the ball.
 - (10) A. M. R. asks: 1. For a recipe for naking 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, 34 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 aquaparts of plaster of Paris, 10 parts of fine dry white sand, and 1 part finely powdered resin. When wanted 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 hornblendic 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, fluorspar, 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.

We 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

Hundreds of inquiries analogous to the following 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 ocmplete 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

	Aerial currents, apparatus for, P. Mihan	
	Alarm register, Moffett & Dean	
•	Atmospheric exhauster, A. B. Brown	194,764
	Axes, machine for making, C. W. Cardot	194.892
5	Baker, altar bread or wafer, R. B. Daley	194 894
3		
	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
ι	Bath structure, Despoix & Reboul	194.808
ı	Bed botton, B. Essig.	
•		
L	Bed bottom, G. Luciani	
ŀ	Bed bottom, H. Winger	
ı	Bed mat, child's, O. A. Lirette,	194,831
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	Brick machine, H. L. Oliver	
	Building frame, Morris & Slanser	194,836
; ;	Burglar alarm, W. H. Reiff	
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•	Can oil, W. Y. Horne	
	Can lock, W. L. Marshall	
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	Car coupling, D. Zeigler	194,946
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١	Cars, unloading coal, W. D. Beebe	194,700
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٠	Chimney cap, ventilator, P. Mihan	
	Churn, N. W. Cone	194,805
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ı	Cigarette machine, W. Davies	194 807
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i	Cigarette machine, J. Pollak	
•	Cigars, manufacture, G. W. Writner	
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	Corset, T. S. Gilbert	104,000
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	Cuff fastener, J. H. Myers	
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ļ	Curtain fixture, D. S. Van Etten	
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1	Furniture, device for securing legs to, C. Hass	
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Pump, G. W. Robaugh	194,843
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Seeding machine, C. E. Patric (r)	
Sewing machine, J. Tripp	
Sewing machine for bags, etc., K. C. Atwood Shackle and step, R. Doty	
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10,195 to 10,203.—CARPETS.—O. Heinigke, New Utrecht,

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. Straiton & G. Storm, Bay Side,

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.

I A copy of anyone of the above patents may be had by remitting one dollar to MUNN & Co., 37 Park Row, New