

## The American Newspaper Directory,

Published by Geo. P. Rowell & Co., Advertising Agents, No. 40 Park Row, New York, contains a full and complete statement of all facts about newspapers which an advertiser desires to know. The subscription price is five dollars.

## Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per Line will be charged.

The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$4 00 a year. Advertisements 17c. a line.

Wanted.—Subscribers to the RAILROAD GAZETTE, at every railroad station in America. \$4 a year; 10 copies for \$35; 40 copies for \$120.

For the best India-rubber Weather Strip ever invented, address Martin Croke, 60 Water st., St. Johns, Newfoundland. Patented in U. S.

I wish to open correspondence with manufacturers of Artesian Well Machinery; also, Borers of Artesian Wells. J. W. Dunn, Box No. 3, Corpus Christi, Texas.

Best quality Tempered Comb Plates, Card Cleaners, etc., for Woolen and Cotton Manufacturers. A. & E. H. Sedgwick, Poughkeepsie, N. Y.

Wanted.—The latest improved Machinery for manufacturing Horse Shoes, Horse Nails, Cut Nails, Pressed Spikes. Full particulars as regards capacity, etc., with lowest cash price. Address A. B., Box 88, Perth, Ont.

5 Horse Square Engine; also, one 15 Horse Horizontal Engine and Boiler, with Pump, Heater, and all equipments, nearly new, will be sold very cheap. R. H. Norris, near West St. Bridge, Paterson, N. J.

For the best 15-in. swing Screw Cutting Engine Lathe, for the least money, address Star Tool Company, Providence, R. I.

Baxter's Wrenches fit peculiar corners, where no other wrench will work. Greene, Tweed & Co., 18 Park Place.

Cutlers' Grindstones. Mitchell, Philadelphia.

New Castle Grindstones. Mitchell, Philadelphia.

Saw Makers' Grindstones. Mitchell, Philadelphia.

For Sale.—A Patent on Steam Mangle. Address P. Rundquist, 254 Sixth avenue, New York city.

Metallurgy.—A man with some knowledge of Chemistry, and the reduction of gold and silver, offers his services to any in charge of such works. He will be found useful. Address John Tunbridge, 37 Pacific st., Newark, N. J.

Agency wanted in Boston, by a responsible gentleman, who can furnish first class Boston and New York references. Address Geo. Winslow, Box 1368, Boston P. O.

I have a new Machine for Drawing Symmetrical Figures, and want a partner with money to help in introducing it. Address Van Lennep, No. 76 East Ninth st., New York.

Diamonds and Carbon turned and shaped for Philosophical and Mechanical purposes, also Glazier's Diamonds, manufactured and reset by J. Dickinson, 64 Nassau st., New York.

Blake's Patent Belt Studs, the best and cheapest fastening for Leather or Rubber Belts. 40,000 manufacturers use them. Greene, Tweed & Co., 18 Park Place.

Peck's Patent Drop Press. For circulars address the sole manufacturers, Milo, Peck & Co., New Haven, Ct.

We will pay more money for Brass Turnings, old Brass, Copper, Lead, and Zinc than any other establishment. Consignments, large or small, solicited from all parts of the United States. Du Plaine & Reeves, 760 S. Broad st., Philadelphia, Pa.

The best Anti-Friction Metal is made by the Tubal Smelting Works, Philadelphia, Pa. Buy it and prove it.

Railroad Bonds.—Whether you wish to buy or sell, write to Charles W. Hassler, 7 Wall street, New York.

The Philadelphia Scientific Mechanics' Circle will answer any mechanical question for 25 cts. Address as above, 125 N. 7th st., Philadelphia.

Experimental Machinery and Models, all sizes of Turned Shafting, Paper Box, Paper Collar, and Bosom Plaiting Machines, Self-operating Spinning Jack Attachments. W. H. Tolhurst, Machine Shop, Troy, N. Y.

Best Scales.—Fair Prices. Jones, Binghamton, N. Y.

Steam Watch Case Manufactory, J. C. Dueber, Cincinnati, Ohio. Every style of case on hand, and made to special order.

L. & J. W. Feuchtwaenger, Chemists, 55 Cedar st., New York, manufacturers of Silicates of Soda and Potash, and Soluble Glass.

For Hydraulic Jacks, Punches, or Presses, write for circular to E. Lyon, 470 Grand st., New York.

A. G. Bissell & Co. manufacture packing boxes in shoos at East Saginaw, Mich.

For mining, wrecking, pumping, drainage, and irrigating machinery, see advertisement of Andrews' Patents in another column.

The new Stem Winding (and Stem Setting) Movements of E. Howard & Co., Boston, are acknowledged to be, in all respects, the most desirable Stem Winding Watch yet offered, either of European or American manufacture. Office, 15 Maiden Lane, New York.

Belting that is Belting.—Always send for the Best Philadelphia Oak-Tanned, to C. W. Army, Manufacturer, 301 Cherry st., Phil'a.

Send your address to Howard & Co., No. 865 Broadway, New York, and by return mail you will receive their Descriptive Price List of Waltham Watches. All prices reduced since February 1st.

Ashcroft's Low Water Detector, \$15; thousands in use; can be applied for less than \$1. Names of corporations having thirty in use can be given. Send or circular. E. H. Ashcroft, Boston, Mass.

To Cotton Pressers, Storage Men, and Freighters.—35-horse Engine and Boiler, with two Hydraulic Cotton Presses, capable of pressing 35 bales an hour. Machinery first class. Price extremely low. Wm. D. Andrews & Bro., 414 Water st. New York.

Tin Presses & Hardware Drills. Ferracute Works, Bridgton, N. J.

Brown's Coal-yard Quarry & Contractors' Apparatus for hoisting and conveying material by iron cable. W. D. Andrews & Bro., 414 Water st., N. Y.

American Boiler Powder Co., P. O. Box 315, Pittsburgh, Pa.

Twelve-horse Engine and Boiler, Paint Grinding Machinery Feed Pumps, two Martin Boiler, suitable for Fish Factory. Wm. D. Andrews & Bro., 414 Water st., New York.

Improved Foot Lathes, Hand Planers, etc. Many a reader of this paper has one of them. Selling in all parts of the country, Canada, Europe, etc. Catalogue free. N. H. Baldwin, Laconia, N. H.

For Fruit-Can Tools, Presses, Dies for all Metals, apply to Bliss & Williams, successor to May & Bliss, 118, 120, and 122 Plymouth st., Brooklyn, N. Y. Send for catalogue.

Cold Rolled-Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

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

Carpenters wanted—\$10 per day—to sell the Burglar Proof Sash Lock. Address G. S. Lacey, 27 Park Row, New York.

Glynn's Anti-Incrustator for Steam Boilers—The only reliable preventive. No foaming, and does not attack metals of boilers. Price 25 cents per lb. C. D. Fredricks, 587 Broadway, New York.

The Merriman Bolt Cutter—the best made. Send for circulars. H. B. Brown & Co., 25 Whitney ave., New Haven, Conn.

Presses, Dies, and Tanners' Tools. Conor & Mays, late Mays & Bliss, 4 to 8 Water st., opposite Fulton Ferry, Brooklyn, N. Y.

Taft's Portable Hot Air, Vapor and Shower Bathing Apparatus. Address Portable Bath Co., Sag Harbor, N. Y. (Send for Circular.)

Winans' Boiler Powder.—15 years' practical use proves this a cheap, efficient, safe prevention of Incrustations. 11 Wall st., New York.

To Ascertain where there will be a demand for new machinery or manufacturers' supplies read Boston Commercial Bulletin's Manufacturing News of the United States. Terms \$4 00 a year.

## Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers.]

1.—MOUNTING CHROMOS.—I wish to mount some chromos and engravings on canvas for framing. Should the canvas be dampened before being tacked on to the frame? If it should, then must the picture be dampened also, and applied to the canvas before the latter is dry? Or must the canvas be perfectly smooth before the picture is pasted on to it? Does the canvas require to be sized with anything? What kind of paste is best? and should it be spread upon the canvas or the picture? I would like full instructions for doing the work.—T. E. C.

2.—TURNING METALS.—Will some one give, from practical experiments, the proper speed for the surface in turning brass, copper, annealed cast iron, cast iron unannealed, wrought iron, malleable cast iron, annealed cast steel, cast steel unannealed, cast steel tempered to a blue, and chilled cast iron rolls? A. H. G.

3.—ROACHES.—Is there any sure poison for roaches, that may be used without danger to children or domestic animals?

4.—PIGMENT FOR GLASS.—I wish a pigment for glass, something similar to collodion used by photographers, that will dry quick and hard, and that will not peel off in water. If possible, something that can be put on with a brush and stencil plate.

5.—CISTERNS AND CHIMNEYS.—What should be put into a cistern of rain water to keep it pure and fit to drink when necessary? What will prevent chimneys emitting a sooty odor? Will sweeping obviate it?—E. E. H.

6.—GRADING DITCH.—I intend making a fish pond, and for the purpose have to tap the river several hundred yards above. Will some one advise me how to grade the ditch?—O. C. H.

7.—GUN BARREL.—Will any one tell me how to prove a gun barrel to be London fine twist?—H. B.

8.—SOUR WELL WATER.—Can any of your readers tell me the cause of sourness in well water? The well is removed from drains and impurities, but in the spring it has an acid taste resembling tartaric acid. At all times it is very hard, and will turn tea very black, more like black dye than tea; it will make white cloth turn yellow, if left in a few hours. The upper soil is sand, and the bottom of the well is quicksand. Is the acid harmful, and what will correct it?—H. B.

9.—CIRCULAR SAW.—Which will run the easiest (i.e., with the least power), an eight inch circular saw one eighth of an inch thick, and sixty teeth, or one, one sixteenth of an inch thick, and thirty teeth?—E. A. M.

10.—DISSOLVING RUBBER.—I should be glad to find out, through your columns, how I can dissolve india rubber, so as to make it form a component part of a printer's roller composition, and what is the best kind of rubber to use. I have tried rubber in wood naphtha, and failed.—P. E. M.

11.—STAINED CLOTHING.—How can I remove the stain of tincture of iron and quinine from clothing?—J. J. W.

12.—FIREPROOF WHITEWASH.—Wanted—a whitewash for inside of covered railroad bridge, to render timbers spark proof?—A.

13.—CHEAP BATTERY.—I tried A. G.'s directions to make a cheap battery. I first procured a gallon stone jar, and placed a cylinder of sheet zinc in it. I then took a flower pot, and placed a cylinder of sheet lead in it, and filled it with a solution of sulphate of copper, and the outside with a solution of common salt. I then put brass wires through holes in the lead and zinc; at first it did not work, so I cleaned my zinc with sulphuric acid, and tried again. It worked at first, so that it made an electro-magnet slightly magnetic, but the next day it would not do that. I finally concluded to take it to pieces. I evaporated the solution of blue vitriol, and expected it to crystallize, but it did not. On straightening the lead, I found it covered with copper about one thirty-second of an inch in thickness, which was so brittle that it broke very easily, and would not soften when I heated it, and put it in water. Will A. G. explain?—G. M. A.

14.—RESTORING STEEL.—Will some of your correspondents give me the recipe for renewing steel, after it has been burned or heated too hot in working?—A. T. L.

15.—SOLDERING OLD WARE.—Can some one of your correspondents tell me how to make an acid to solder old tin ware, copper, etc.? Being a tinner, I find out that something that will not eat the tinning of the iron is more desirable than the old style of zinc and muriatic acid, as every time there is any old greasy thing brought to the shop, acid must be used; and just as sure as it is, you must tin the iron as soon as it is done. Something that won't have any effect on the iron would be better to use.—L. E. A.

## NEW BOOKS AND PUBLICATIONS.

HIT. By Mary E. Walker, M.D. New York: American News Company.

This book is a remarkable proof of the dispersive power of the writer's mind. Probably never before was so little matter dilated into an average sized book. While containing nothing that is calculated to disturb our habits of thought, and little that will induce us to exercise the powers of memory, which are, like other mental faculties, much overtaxed in these days, there is a simplicity in the manner in which the trite sentences are repeated, which is innocence itself; and the utter absence of any pedantic elaboration or references to recondite authors, either for facts or illustrations, heightens our idea of the writer's naivete. The only remarkably original thing in the book is a statement that the Orleans dynasty was expelled from France in consequence of the death of the Duke of Orleans. It is generally believed that the revolution of 1848 was created by the obstinacy of Louis Philippe, which was so great that the popularity of his wife, sons, and daughters could not save him from public indignation; but we do not desire to lay ourselves open to a charge of ungallantry, and so will not insist upon accuracy.

## Answers to Correspondents.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at 100 a line, under the head of "Business and Personal."

ALL reference to back numbers must be by volume and page.

H. F., of Md.—The following, relative to the invention of the link motion, from Auchincloss' work on "Link and Valve Motion," answers your queries: "The first form was invented by Mr. Howe, in 1843, and applied to the locomotives of Messrs. Robert Stephenson & Co. It is, in fact, the representative link motion, which, excepting slight modifications in the mode of suspension, remains unchanged by the accumulated experience of a quarter of a century. Simultaneous with the appearance of this motion was that of the second, the discovery of Mr. Daniel Gooch. It accomplishes perfectly analogous results, and has met with much favor throughout Great Britain and the Continent. The 'Allan' combines the characteristic features of the Howe and Gooch link motions in such a manner that the parts are more perfectly balanced, consequently it dispenses with the counter weight or spring peculiar to the former of these motions. The Walschaert motion is extensively applied in Belgium, but probably will not receive much attention from locomotive engineers, beyond the limits of that kingdom, unless future designers succeed in reducing the number of its connections."

LIQUID GLUE.—Fill a vessel (I use a glass jar) with broken-up glue of best quality, then fill it with acetic acid. Keep it in hot water for a few hours, until the glue is all melted, and you will have an excellent glue always ready.—F. W. S.

MILLSTONE DRESS.—If J. A. P. will put fourteen quarter dress, four inches draft, with three short furrows intersecting the leading ones in his buhrs (supposing them to be of medium porosity), and crack the face parallel with the furrow, say after every five or six hundred bushels are ground, keeping the furrows deep at the eye, with same width of furrow (not allowing the stones to run empty), running the stone from one hundred and sixty to one hundred and eighty revolutions per minute, he will find his mill will grind faster, cooler, and make better flour. The trouble is, he has not leading furrows enough in his nine quarter dress, and the short furrows cross each other at too great an angle. J. A. Mc., of Ind.

POUNDING OF PISTON.—Steam is elastic, and consequently an excellent spring or cushion for a steam cylinder, between the piston and cylinder head. Adjust your eccentric so that enough steam will enter the cylinder to cause a gentle pressure to reach the wrist pin as the latter arrives at the center or dead point. Thus the steam begins to impart its power at the first opportunity, without any concussion or pounding in any of the connecting joints. Although some of the connecting joints may be a little loose, yet the lead may be so nicely adjusted that the wrist pin will pass the centers without any concussion, pounding or jarring, provided the governor works right, and the steam is dry.—W. W. C.

HOROSCOPE.—E. T., in query No. 13, June 10, asks the meaning of tracing the horoscope. The horoscope of the astrologers was the aspect of the heavens at any particular time, and was consulted by those wise men to obtain knowledge of the future weal or woe of the person or undertaking then under consideration. Thus, the position of the stars at the time of the birth of a child was its horoscope, and believers in the obscure science discovered all sorts of destinies for the infant, by inspecting the firmament. The science (?) of astrology is very ancient, and its existence can be traced in the writings of the Chaldeans. It is perhaps the only quackery, ancient or modern, that has had a systematic and consistent plan. I trust that no readers of the SCIENTIFIC AMERICAN are believers in such an imposture.—D. B., of N. Y.

FIXING LEAD PENCIL MARKS ON PAPER.—Let J. H. R. stretch his drawing tightly on a board, with drawing pins, and pour a little pure milk (if he can get it) on the paper, turning the board about till the milk has flowed all over the drawing. The turning must be done at once as the milk must not be allowed to rest on the paper. When the whole surface is wetted, let the milk drain off, and leave the board with the drawing in the air to dry.—D. B., of N. Y.

COPYING INK.—A. S. can make copying ink by dissolving powdered refined sugar in ordinary ink. He should use just enough sugar to make the writing look slightly glossy when dry.—D. B., of N. Y.

CLOTH ROLLERS.—R. A. D. will find that rollers covered with coarse emery will answer his purpose. Put a thick coat of glue on the roller, while it revolves slowly; then sift on the emery, let it dry, and then put on more glue; keep it revolving until dry, and then put it in the loom. O. K., of Miss.

NOISY GEARS.—I would advise S. R. to grease his noisy cogs with tallow every morning, and, if they are properly geared, it will prevent the noise.—S. N., of Ohio.

BOILS.—I advise W. E. to drink tea made from the root or leaves of the burdock, a pint or so a day for several weeks, which will cleanse and purify his blood, and prevent boils.—S. N., of Ohio.

J. C. F., of Pa.—Your plan of propelling wheels by tidal flow into and out of rivers, estuaries, etc., has been employed in all its essential particulars, with success, in Europe and India. We think it has also been used to some extent in this country.

J. H. P., of N. Y.—It is not unusual for concentrated maple syrup to deposit crystals like the specimen sent. There is no difficulty in making a perfectly white loaf sugar from maple sap by proper purification and draining. For purification, the process employed for refining the ordinary cane sugar would be appropriate.

J. H. S., of Pa.—All else being equal, it will take more power to drive a large shaft than a small one, principally on account of increased friction.

C. H. R., of N. Y.—You will find answers to your queries, if you follow with care what we have published and are now publishing on the subject of Canal Boat Propulsion.

T. D. L.—Your proposition for the propulsion of boats by forcing water through a longitudinal channel, with a pump or screw, is an old device.

W. B. W., of N. Y.—Your query is answered on page 209, current volume.

R. M. S., of Ill.—We know of no book specially devoted to the manufacture of grape sugar from starch. You will find the necessary information in various works on chemistry and chemical manufactures under the subject of sugars.

W. G. R., of Mass.—The term "hydraulic lime" means the same thing as "meager lime," "water lime," "water cement," etc., comprising the cements sold in market for hydraulic purposes. These cements are made from limestones, containing in various proportions, alumina silicate of alumina, carbonate of magnesia, or oxide of iron.

G. S. C., of Texas.—The mineral you send is lignite of the tertiary age, but the specimens show an inferior quality. Still it may be of value in your section, if the bed be extensive, easily accessible, and near to market. But it would never compete with bituminous coal.

J. P. G., of Me.—The minerals you send are not apatite (phosphate of lime) but appear to be silicate of alumina.

J. W. M., of West Va.—The substance is comminuted quartz. And, no doubt, if it can be obtained of uniform quality, may be useful as a polish for certain purposes.