

Examples for the Ladies.

Mr. George W. Nelson, (machinist,) Alleghany City, Pa., says the Wheeler & Wilson Machine in his family has been used for thirteen years without repairs; and he will warrant it for ten years more, and that any Wheeler & Wilson Machine will serve a family for a life-time—an important fact, particularly to girls who make their living by the needle.

Ms. D. G. Eagerton, Madison, Ohio, has used her Wheeler & Wilson Machine 5 years; sometimes in competition with all kinds of "woman killing" machines; would not look at \$5000 for it if she could not get another like it.

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.

The most improved machinery for sewing machine needles, made by Hendeley Bros., Wolcottville, Conn.

The best Cement in the world for steam, fire or water joints Address O. Graham, Peru, Ill.

Mechanics, ask for the Patent Star Bevel, and Try Square. The best Tools ever made. All qualities and sizes, and at low prices. Manufactured at the Star Tool Co.'s Works, West Meriden, Conn.

Star Combination, Bevel, Level, Try Square, Mitre Square, and graduated Blade. Each Tool perfect in itself, simple, practical, and economical. G. W. Hallett & Co., West Meriden, Conn.

Business in Boston wanted by an energetic young man with capital and first class references. Address F. Carlton, P. O. Box 1268.

Parties having Iron Water Wheels and Mill Machinery for sale, will send Circulars to Box 191, York, Pa.

Castings—Galvanized and plain. Malleable and Gray Iron Castings. Address Wilcox, Crittenden & Co., Middletown, Conn.

Practical Builders in Concrete and Artificial Stone, Send dress and references to Box 148, Port Chester, N. Y.

Crist Mills, New Patents. Edward Harrison, New Haven, Conn.

"Practical Suggestions on the Sale of Patents." Send for circulars. W. E. Simonds, Hartford, Conn.

Glass Signs—Wanted a Partner with capital to manufacture Glass Signs by machine. At work. Samples shown. Can be patented or not, to suit. Address T. Greenough, 403 Tenth Avenue, New York.

Standard Twist Drills, every size, in lots from one drill to 10,000, at 3/4 manufacturer's price. Sample and circular mailed for 25 cents. H. E. Towle, 176 Broadway, New York.

Five Second Hand Lathes, of various sizes, for sale by Wm. E. Cass, 61 & 63 Hamilton Street, Newark, N. J.

L. & J. W. Feuchtwanger, 55 Cedar St., New York, Manufacturers of Silicates, Soda and Potash, Soluble Glass, Importers of Chemicals and Drugs for Manufacturers' use.

Walrus Leather, for Polishing Steel, Brass, and Plated Ware. Greene, Tweed & Co., 18 Park Place, New York.

A Correspondent wanted, who understands the erection of works for, and the manufacture of, Malleable Gas Fittings, with the view of an engagement. Address, Lock Box 1321, Titusville, Pa.

For 2 & 4 Horse Engines, address Twiss Bros., New Haven, Ct.

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.

Edson's Hygrodeik is the best Hygrometer in use. Send for circular. Geo. Raymond, Fitchburg, Mass., Gen'l Agent for United States.

Presses, Dies & all can tools. Ferracute Iron Wks, Bridgeton, N. J. We will remove and prevent Scale in any Steam Boiler, or make no charge. Geo. W. Lord, 232 Arch street, Philadelphia, Pa.

Rubber Valves—Finest quality, cut at once for delivery; or moulded to order. Address, Gutta Percha & Rubber Mfg Co., 9 & 11 Park Place, New York.

Hydraulic Jacks and Presses, New or Second Hand, Bought and sold, send for circular to E. Lyon, 470 Grand Street, New York.

Williamson's Road Steamer and Steam Plow, with Thomson's Tires. Address D. D. Williamson, 32 Broadway, N. Y., or Box 1809.

Boytton's Lightning Saws. The genuine \$500 challenge. Will cut five times as fast as an ax. A 6 foot cross cut and buck saw, \$6. E. M. Boynton, 80 Beekman Street, New York, Sole Proprietor.

For Hand Fire Engines, address Rumsey & Co., Seneca Falls, N. Y.

Over 800 different style Pumps for Tanners, Paper Makers, Fire Purposes, etc. Send for Catalogue. Rumsey & Co., Seneca, Falls, N. Y.

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

For Steam Fire Engines, address R. J. Gould, Newark, N. J.

All kinds of Presses and Dies. Bliss & Williams, successors to Mays & Bliss, 118 to 122 Plymouth St., Brooklyn. Send for Catalogue.

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

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

Over 1,000 Tanners, Paper-makers, Contractors, &c., use the Pumps of Heald, Sisco & Co. See advertisement.

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

Mining, Wrecking, Pumping, Drainage, or Irrigating Machinery, for sale or rent. See advertisement, Andrew's Patent, inside page.

Diamond Carbon, of all sizes and shapes furnished for drilling rock, sawing and turning stone, conglomerates, or other hard substances also Glazier's Diamonds, by John Dickinson, 64 Nassau st., 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 Greenleaf Grate Bar saves fuel, and lasts much longer than the ordinary bar. Address Greenleaf Machine Works, Indianapolis, Ind.

Peck's Patent Drop Press. Milo Peck & Co., New Haven, Ct.

Best Oak Tanned Leather and Vulcanized Rubber Belting. Greene, Tweed & Co., 18 Park Place, New York.

To Ascertain where there will be a demand for new Machinery, mechanics, or manufacturers' supplies, see Manufacturing News of United States in Boston Commercial Bulletin. Terms \$4.00 a year.

The qualities of Burnett's Cocaine, as preventing the hair from falling, are remarkable.

Notes & 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.—VOLUME OF HYDROGEN.—Will some correspondent inform me how many cubic inches a volume of hydrogen weighing one ounce contains?—W. W.

2.—SCREW CUTTING GEAR.—I wish to fit the slide rest of a small foot lathe for screw cutting. Can the motion be transmitted with sufficient accuracy by means of friction gears?—E. C. J.

3.—GRINDING STEEL TOOLS.—Does grinding edge tools on emery wheels injure the temper?—E. C. J.

4.—BLOW PIPE LAMP.—Can any of your readers tell me how to make a portable blow pipe lamp for use with a Berzelius blowpipe?—E. C. J.

5.—NON-EXPANDING LIQUID.—Is there any liquid that will not expand or contract at ordinary temperatures? What is it? And what liquid expands more than any others?—R. L. H.

6.—PAPER FOR TELEGRAPHY.—How is the coloring band, that is used in House's telegraphic printing apparatus, made? How can paper be prepared, so that a current of electricity in passing through it will leave a black mark or stain?—R. I. H.

7.—CEMENT FOR ALABASTER.—Can any one give me a recipe for mending alabaster? I have a vase that is broken where the cup joins the pedestal; it is not quite an inch across.—B.

8.—SPECIFIC GRAVITY OF LINSEED OIL.—Can any of the readers of the SCIENTIFIC AMERICAN give me the specific gravity of linseed oil made from American seed, and of oil made from East India seed; and also the specific gravity of cotton seed oil?—C. O.

9.—CLEARING DUST FROM MACHINE SHOPS.—I have a room for cleaning castings, eighteen feet square. The dust from the iron tumblers permeates the machine shop adjoining. Is there any method of forcing the dust out of the room into the open air?—L. B.

10.—WILD TEA.—Will Mr. J. B. Williams, who mentions this herb (on page 5, current volume) as a cure for cancer, give such an explanation as will enable me to obtain it, as I cannot find any one who knows of such a plant?—J. W. McA.

11.—SPEED OF CIRCULAR SAW.—I wish to know how many revolutions per minute a 52 inch circular saw should make to cut from 5,000 to 8,000 feet of lumber in ten hours working time; and also how high a speed it would be safe to run such a saw.—D. S. B.

12.—POUNDING OF PISTON.—Can any of your readers tell me what is the trouble with an engine, that thumps or knocks and has done so for some years? By drawing the keys on main rod, I can stop it for a day or so; then it will be as bad as before. There have been some experts looking at it, but they cannot tell how the trouble arises.—W. M. T.

13.—FREEZING WATER IN STEAM ENGINE.—Can water collect and freeze in the cylinder of an engine in cold weather when the engine is still, so to burst the cylinder, when the cylinder cocks are open and the throttle valve leaking slightly? Mine was burst before or at starting on a cold morning, both followers being burst, and the rings broken square across.—A. G. L.

14.—PLATINUM SPONGE LAMPS.—Can any one tell me how to make the platinum sponge more substantial and durable than it is in its present form?—C. C. W.

15.—POLISHING WOOD.—There have lately appeared in your paper some recipes for varnish and polish for work in the lathe, in which an alcoholic solution of sandarac is to be mixed with beeswax and made into a paste with turpentine. I have tried this but have not succeeded in mixing the solution with the paste, even when added in very small quantities at a time. Perhaps the parties who gave the recipes will kindly state how the difficulty is to be got over.—C. M.

16.—QUESTION IN MECHANICS.—If a pair of fluted feed rollers are so arranged as to feed blocks horizontally into a straight box, one directly upon the other, and if the first block be opposed in its progress by a force of say 50 pounds; after that say 100 blocks had passed through the rollers into the box, the opposing force remaining continually on the first block, would the hundredth block bear more strongly upon the ninety-ninth than the second upon the first, leaving out of the question the power required to overcome the friction of the blocks in passing through the box, were the 50 pounds opposing force removed? The principle is in use in several branches of mechanics. Can some one demonstrate it scientifically?—H. W. U., of Wis.

17.—SLIDE VALVE QUESTIONS.—Some weeks ago I was called upon to put in repair a steam engine and some other machinery for a saw, grist, and planing mill. I found the engine (with a ten inch cylinder and two feet stroke) well made but badly run. The cylinder was at least three-sixteenths of an inch out of line with the slides and crank, and the slide valve and the eccentric were set so as to give one sixteenth of an inch lead on that end on the engine that threw the saw sash up, and five sixteenths of an inch lead on the other end, and this was done by a man who had run an engine for twelve years and claimed to know his business to perfection. I set the eccentric so as to give as near three thirty-seconds of an inch lead as I could measure, putting the key in its original seat on the shaft, and making the lead alike at each end of the cylinder. The engineer thought hardly of me for undoing all his work. The slide valve had a great deal of lap over the ports—very nearly one and one quarter inches. It commenced to open the exhaust about one eighth of an inch before it opened the steam port on the opposite end, which I think is wrong. Am I right, or not? The owner of the mill complained of being slaughtered in the most wicked way for six months; is it any wonder? Yet he won't take the SCIENTIFIC AMERICAN.—C. G.

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. H. B., of Ga.—Nelson Goodyear's hard rubber patent will expire May 4th, 1872.

L. D. C., of S. C.—The grooves in rifled guns serve only to direct, not to impel, projectiles. They give no increased initial velocity, but rather decrease it.

L. A. S., of Pa.—We advise setting your engine close to the boiler and transmitting the power through the distance named—300 feet, by a telodynamic cable. However, you may carry the steam the distance named, by fitting the pipe properly, and without very great loss or inconvenience.

W. R. S., of O.—To make a superior red ink for our office we do as follows: Dissolve pure carmine in aqua ammonia, enough to make a thick paste; let stand one day and then add water until the desired shade is produced.

W. A. W., of N. C.—The description of meerscham as a hydrated silicate of magnesia is correct. The name meerscham (sea foam) was given to the material, as a figurative appellation, on account of its white color and lightness.

WATERPROOFING BOOTS.—C. B. should take; India rubber, 2 drams; mineral naphtha, 2 ounces; asphaltum, 1/2 ounce; Ivory or lamp black, 1/2 ounce; spirit of turpentine, 1 ounce; and dissolve the rubber in the naphtha, mix the two solutions, add the black, and mix thoroughly.—G. L., of Mich.

B. F. S., of O.—We think an excellent foundation for an overshot water wheel might be made of concrete, under the circumstances you name.

F. E., of Mass.—If your teeth are so irregular as to be unsightly, a good dentist will be able to remedy, at least in great measure that defect. Seek the advice of such a one and follow it to the letter.

HARDENING SCREWS.—If E. N. C. will fuse together, in an iron vessel or crucible, one part of prussiate of potash and ten parts of common salt, and allow his screws to remain in the liquid thirty minutes, and then put them in cold water, they will be case hardened. Don't put a wet tongue in the liquid.—W. B. C., of Cal.

G. E. G., of N. Y.—Your suggestion for an improvement on Calle's hydro-aero-dynamic wheel is worthless. No power would be gained by the application proposed.

C., of Ont.—The hydrostatic pressure, on the interior of a vessel having a pipe inserted into which water is poured, is as the entire internal surface of the vessel, and not as its cross section.

BRONZE PAINT.—In your query column of January 13, R. S. B. wishes a recipe for bronze paint. I submit one, which, I feel sure, will answer his purpose: Ivory black one ounce; chrome yellow, one ounce; chrome green, two pounds; mix with raw linseed oil and a little Japan varnish to dry the paint.—W. J. D., of N. Y.

TELEGRAPH GROUND WIRE.—No. 4., page 42, current volume. A plate is better than a mass of metal, as it exposes more surface. A piece of old tin roofing answers excellently. It should be buried to a depth sufficient to insure its being always surrounded by damp or wet earth. This depth will vary according to the nature of the soil. A piece of sheet metal four or five feet square is ordinarily large enough. A short telegraph line requires a greater superficial area of ground connection than a long one. A gas or water pipe makes the best ground connection. F. L. P., of N. Y.

INDELIBLE INK.—To C. T. H.: Take nitrate of silver, 11 grains, dissolve in 30 grains aqua ammonia. Dissolve 20 grains of gum arabic in 85 grains (2 1/2 teaspoons) of rain water. When the gum arabic is dissolved, put in the same vial also 22 grains of carbonate of soda; when all are dissolved, mix the contents of both vials together, and place the vial containing the mixture in a basin of water and boil several minutes, or until a black compound is the result. When cold it is ready for use. Have the goods starched and ironed and perfectly dry, then write with a quill pen.—J. H., of Mass.

THISTLES.—To J. H. M., query No. 5, January 6, 1872: All thistles, except the Canada thistle, are biennial; growing from seed one year, and blossoming the next, they mature their seed and die. Remedy: Never let a thistle mature. If all the seed, from your own ground, as well as from your neighbors' and the surrounding country, grows, treat it thus, and you will be rid of thistles, that is, of biennials. If you have Canada thistles, cut them in June and August, at the time the stock is hollow; if it rains and fills the stock, the root will rot.—A. K. J., of O.

INDELIBLE INK.—Let C. T. H. take: Nitrate of silver, three drams, and strong liquid ammonia, two drams; and then make a separate solution of half a dram of metallic copper in a sufficient quantity of nitric acid, and add liquid ammonia to the point of saturation. For a third solution, take three grains of pure iodine and reduce to fine powder in one ounce distilled water; then add six grains pure carbon and one ounce pulverized gum acacia. Mix the whole together, and add a sufficient quantity of ammonia to form a clear mixture. And when a gentle heat has been applied, the fluid will be ready for use.—G. L., of Mich.

UTILIZING HUSKS.—To L. S. P.: The most recent method of utilizing them is by preparing them for use in beds, by a removal of the stems and splitting of the husk. They are being introduced in our large cities as a substitute for straw in the filling of loose beds and the manufacture of mattresses, and are greatly liked on account of their toughness, elasticity, and durability. The time is not far distant when straw will be discarded entirely and husks will take its place. A firm in Chicago is purchasing large quantities of husks in the country, and shipping them to the city, where they prepare them by machinery for sale to wholesale houses and manufacturers of bedding. The business is a growing one, and is remunerative to the farmer and all else concerned.—W. T.

BELTS IN WET WEATHER.—S. S. F., January 1, answers a query in regard to leather belting by saying that they are always tightest in wet weather. I run machinery, in a planing mill, and I find that the belts which will slip in wet weather are tight enough in dry weather.—A. G. L., of O.

INDELIBLE INK.—Let C. T. H., query 9, January 13, take one dram of the fused nitrate of silver and ten grains of sap green, dissolved in one ounce of water, and add to it half a dram of gum arabic. This ink must be kept in a bottle which is covered with black paper to exclude the light, which affects it. (This bottle must be marked No. 2). Then prepare 2 1/2 drams of best powdered soda, and 2 1/2 drams of gum, dissolved in two ounces of distilled water. (This fluid should be marked No. 1). When wanted for marking, take No. 1 fluid and wet a place as large as required for the name and dry with a smooth iron; then write with a quill pen and dry in the sun or with fire. The writing gets darker by time.—P. K., of N. Y.

BRONZE PAINT.—If R. S. B., No. 11, January 13, wants a real bronze color, let him galvanize the iron and brighten it; then prepare, with a proper brush, powder bronze with thin varnish on a glass plate; and rub well into the brush to a medium consistence; then go on and brush it on the iron. When properly coated, take another brush and a piece of chamois leather; rub off some of the elevated places according to taste, then varnish over with bronze varnish. Bronze paint is prepared of powder bronze and varnish, rubbed in a mill. When used, make the iron first black, using lamp black and water with a brush; then warm the iron, and brush the paint on with a camel's hair brush while hot.—P. K., of N. Y.

SUBSTITUTE FOR FRICTION MATCHES.—In your column of queries, I find J. H. T. inquiring if the hydrogen lamp could be made to take the place of friction matches. I use no matches in my house, but take my light from this lamp by the use of tapers made of wood. It costs me twenty-five cents a year for the material to run the lamp; the only fault I find with it is that the sponge is too frail to use in public rooms, like drug or cigar stores, or other places where an instant and cheap light is wanted. If the sponge could be made more solid, so that it would stand a little force, it would be an improvement. Sometimes there are persons who are not satisfied with getting a light, but want to punch the sponge to see what it is; and the consequence is, they break it or jar the wire. If this sponge could be made and hung by a wire in the thimble of the lamp, so that it would have a chance to swing and to keep solid, these lamps could be used in a great many places; for they are cheap in use and a light can be obtained quickly.—C. C. W. of Ill.