

Business and Personal.

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Manufs. of Scissors address J. W. D. E., Harmony Grove, Ga.

For Sale—36 in. Lathe, \$4.00; 72 in. Lathe, \$4.50; 10 in. Pratt Whiting Shaper, \$2.75; 35 H. P. Loco. Boiler, \$300; 12 in. Lathe, \$65; at Shearman's, 132 N. 3d St., Phila. Iron Tubing—Wanted, a yearly supply of 1-4 in. light Iron Tubing. Address P. O. box 1250, New York city.

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Will purchase or introduce, on a reasonable royalty, some good, useful article. Address, with description and full particulars, A. E. Lowison, Boston, Mass.

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Hyatt & Co.'s Varnishes and Japans, as to price, color, purity, and durability, are cheap by comparison with any others extant. 246 Grand st., N. Y. Factory, Newark, N. J. Send for circular and descriptive price list.

Lighting Screw Plates. A perfect thread at one cut adjustable for wear. Frasse & Co., 62 Chatham St., N. Y.

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Power & Foot Presses, Ferracute Co., Bridgeton, N. J.

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F. C. Beach & Co., makers of the Tom Thumb Telegraph and other electrical machines, have removed to 530 Water St., N. Y.

For Best Presses, Dies, and Fruit Can Tools, Bliss & Williams, cor. of Plymouth and Jay Sts., Brooklyn, N. Y.

Water, Gas, and Steam Pipe, Wrought Iron. Send for prices. Bailey, Farrell & Co., Pittsburgh, Pa.

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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, New York.

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

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

Articles in Light Metal Work, Fine Castings in Brass, Malleable Iron, &c., Japanning, Tinning, Galvanizing. Welles Specialty Works, Chicago, Ill.

See Boul's Paneling, Moulding, and Dovetailing Machine at Centennial, B. 8-55. Send for pamphlet and sample of work. B. C. Mach'y Co., Battle Creek, Mich.

Wanted—Novel and practical invention, by a reliable horse, for manufacturing. Address Post Office, Box 25, Chillicothe, Ohio.

Chester Steel Castings Co. make castings twice as strong as malleable iron castings, at about the same price. See their advertisement on page 125.

Hand Fire Engines, Lift and Force Pumps for fire and all other purposes. Address Rumsey & Co., Seneca Falls, N. Y., U. S. A.

Notes & Queries

S. J. S. will find good recipes for laundry soaps on pp. 331, 379, vol. 31. For toilet soaps, see p. 289, vol. 28.—B. F. T. will find directions for putting a black finish on brass on p. 362, vol. 25.—J. C. S. will find directions for coloring a meerschaum pipe on p. 90, vol. 36.—A. B. will find a good recipe for Babbitt metal on p. 122, vol. 28.—G. A. D. will find directions for coloring butter with annatto on p. 187, vol. 31.—L. O. J. will find something on iceboats sailing faster than the wind on p. 107, vol. 36.—J. M. L. will find directions for clarifying cotton seed oil on p. 91, vol. 36.—D. V. will find a good recipe for shoe polish on p. 107, vol. 36.—A. B. will find directions for japanning on metal on p. 408, vol. 30.—T. S. D. will find recipes for all kinds of colored fires on p. 203, vol. 34.—G. S. C. can fasten his paper labels to wood with flour paste.—W. R. B. will find directions for dyeing billiard balls on p. 88, vol. 34.—G. W. M. will find directions for making raisins on p. 59, vol. 34.—T. F. T. will find something on burning petroleum in steam boilers on p. 165, vol. 30.—S. B. U. will find some illustrations of lathes for turning spokes, tool handles, etc., on p. 88, vol. 36.—W. E. P. will find a formula for safety valves on p. 330, vol. 32.—A. O. will find directions for removing mildew on p. 138, vol.

27. For mending rubber boots, etc., see p. 203, vol. 30.—W. C. L. will find directions for preserving eggs on p. 306, vol. 34.—R. M. G. will find a recipe for root beer on p. 138, vol. 31.—W. F. H.'s plan for a refrigerator might answer. See p. 251, vol. 31.—J. C. can remove the wool from pelts by steeping the skins in water, and hanging them up till the wool putrifies. Then scrape with a blunt knife. For cleansing wool, see p. 6, vol. 32.—W. H. J. will find a recipe for a cement for marble on p. 344, vol. 32.—T. B. can gild his steel scabbard by following the directions given on p. 106, vol. 34.—A. H. B., J. A. C., W. H. H., J. F. P., D. S., J. N. H., J. P., F. F., M. N., M. C., R. C., K. S. W., T. J., and others, who ask us to recommend books on industrial and scientific subjects, should address the booksellers who advertise in our columns, all of whom are trustworthy firms, for catalogues.

(1) R. H. C. says: We have a slate roof which leaks very much. I have not discovered any defect in the way in which it was put on; it appears to be perfect. The pitch was too low, and the rain may be driven through by the wind on this account. Is there any wash, paint, or cement that might be used for the purpose of remedying this defect? A. There is an india rubber paint which is used to make leaky roofs tight, but we have not learned of its being applied to slate roofs.

(2) C. C. B. says: I am making a small steam engine. The cylinder has, inside diameter, about 1 inch with 2 1/2 inches stroke. What would be the most suitable material and dimensions for the boiler? A. Make one 10 or 12 inches in diameter and 18 inches high, of 1/2 inch iron. You can carry 60 lbs. steam pressure.

(3) M. C. says: I have had charge of some greenhouses that were erected about four years ago; they are thoroughly heated, and all the pipes have a thick coat of black paint. The houses never gave any satisfaction, no matter how healthy the plants were in the fall. Soon after the fires were lighted both leaves and flowers began to drop, and some plants died. My predecessors attributed it to gas getting into the houses. Upon inquiry I found no gas was there except when the pipes were hot, and that the hotter they were the worse it was. In my opinion, the cause of the trouble was a strong smell of paint from the pipes. Since then I only keep heat enough to save the plants from freezing. A. From your statement there is no doubt that the paint used on the pipes was an imperfectly purified coal tar. Such tar contains a great number of hydrocarbons—naphtha, naphthalen, anthracen, phenol, several organic alkaloids, hydrosulphuric and hydrocyanic acids, etc., all of which are more or less volatile at the temperature to which they must have been subjected. These exhalations have proved fatal to plant life when in sufficient quantity. We do not know of a better remedy than that of removing the cause. Painting the pipes with a strong solution of washing soda and lime would, in a measure, prevent the escape of the most objectionable constituents into the air, by forming with them compounds non-volatile at any temperature to which they are likely to be subjected in contact with the pipes; but the former would be the surest plan.

(4) C. D. W. asks: The roof of the new Illinois State House, as well as the stylobate cornices and upper portion of the dome, are covered with zinc. It has been on about three years, and I am told is materially affected by oxidation. The theory is that zinc, though subject to oxidization, has the peculiarity that the oxide does not scale off as from iron, but forms a permanent coating impervious to the action of the atmosphere. Some mechanics, however, assert that neither zinc, copper, nor lead will withstand the action of our atmosphere, as bituminous coal strongly impregnated with sulphur is almost the only fuel used. It is claimed by some that the sulphurous acid in the atmosphere tends to corrode zinc so as to make it worthless for roofs or gutter linings. A. Are you sure that the roof and gutters in question are not of galvanized iron, iron coated with zinc? This is the material most commonly used for that purpose at the present time. Zinc has been found to be too brittle for the strain to which it is subjected, in such cases, by the expansion and contraction induced by changes of temperature. A slight oxidation will adhere to the surface, but an acid deposit from the atmosphere will penetrate the coating in points and deteriorate the metal.

(5) N. J. S. says: I have a floor of ash and black walnut which has been oiled with raw linseed oil once. How can I finish it so as to get a hard, smooth finish that will not be scratched by boot heels nor be sticky or retain the dirt as a waxed floor does? A. Oil raises the fiber of black walnut and gives it a rougher surface than when free from it. To polish any wood, it is only necessary to fill the pores well, and then rub it down to a smooth surface. Thus painters prefer to put on a coat of shellac varnish first, before oiling walnut and other hard woods. For fine floors, a thin coat of liquid wax is applied as a finish.

(6) A. J. S. asks: What is the best plan for putting up a cheap dry house of lumber, for drying (by steam) white oak, hickory, and other lumber used in wagon and buggy making? A. Make as tight a house as possible with tongued and grooved siding-boards, floors, roof, etc., and provide a stack of steam pipe containing 1 foot of heating surface to every 50 cubic feet of air contained in the building. Set the steam pipe in compact shape and enclose it with a casing of galvanized sheet iron open at the top; supply cold air from outside of the building by a boxed conduit to the bottom of this stack. The air when heated will rise and diffuse itself into the room, and as it cools will fall to the floor; provide registers in the floor, through which it may escape into other boxed tubes under the floor leading to an upright chimney discharging above the roof. Let a smoke pipe from the boiler enter the chimney and extend up inside the flue far enough to heat the same. The change of air is necessary to dry the lumber. The size of the house of course will depend upon the quantity of material required to be stacked up into it at any one time.

(7) G. asks: 1. How do you calculate the amount of pipe of a given size to warm a room of a given size? A. One square foot of plate or pipe surface is generally taken as sufficient to heat about 70 cubic feet of air in dwellings. 2. What allowance should be

made for doors and windows? A. The said foot of surface will heat, in accordance with varying conditions, from 40 to 100 cubic feet of air, and allowance should be made for extra exposures, to correspond with that scale. A steam pressure of 5 lbs. is sufficient for heating purposes. 3. What is meant by the terms direct and indirect radiation, in piping capacity of steam generators for heating houses? A. Direct radiation is used when the pipes are located in the room, and indirect when they are located in a chamber in the cellar, to warm air which is conducted to the room by air pipes.

(8) D. M. says: After reading L. S. W.'s reply to J. B. C., p. 75 (6), vol. 36, I think the following demonstration will be more acceptable to J. B. C.: Imagine three spheres of which the given circles are great circles, and a plane tangent to the three spheres. Any two of the spheres may be conceived to have been generated by the revolution of two of the circles about the line joining their centers. During such revolution, the lines tangent to the two circles describe a conical surface. We have, therefore, three spheres and three conical surfaces. Now the plane, which is tangent to the three spheres, is also evidently tangent to the three conical surfaces; and therefore the vertices of those conical surfaces are all in the tangent plane. Now those vertices are the points (1), (2), (3). But the same points are also in the plane passing through the centers of the three spheres, which is the same with the plane of the paper on which the figure is drawn. Those points, being in two planes at the same time, must therefore be in the intersection of those planes, that is to say, in a straight line.

(9) C. W. H. asks: Can dyeing or coloring be done in cold water? A. Many of the coal tar colors may be used in this way: For animal fibers—wool, silk, etc.—the affinity of these colors is so great that, in most instances, no mordants are necessary. The baths are usually made slightly acid. With vegetable fibers, however, a fast dye is not assured without mordanting. Some of the finer goods are prepared by treating with steam coagulated albumen (animalizing), gelatin, various tannates, tin salt, alum, and other metallic salts. The following is the usual method of treatment, except with goods intended for very light shades: Pass the goods through a strong decoction of sumac or other tannin solution for an hour, and afterwards for an hour or two through a weak solution of stannate of soda; wring out, dip into a dilute solution of sulphuric acid, and rinse well in water. The goods are then ready to be passed through the color bath, slightly acidulated. For different tints, these baths are worked at different temperatures.

(10) F. W. says: I wish to lay the face tier of a brick wall in black mortar. How can I make the coloring material and mix it? A. Some prefer to use red mortar and afterwards pencil the joints with black. Color the ordinary white mortar with Spanish brown for red mortar, and with ivory black for black, by mixing in enough of the color in a powdered state to give a good deep tone.

(11) H. A. S. asks: 1. How many prisms are required in a spectroscopie to detect mineral elements in presence of all the ash ingredients of organic bodies? A. If we understand you, one 60° prism will answer. 2. What is the best and cheapest form of apparatus to heat such compounds for examination? A. Mix the substance with a little pure hydrochloric acid and glycerin, and introduce into the flame on a coil of platinum wire.

1. Has soup prepared by dissolving meat bones in a Papin's digester ever been known to produce ossification of any of the soft tissues? A. We have never heard of such a result. 2. Has it ever been known to produce a new crop of teeth in toothless persons? A. We have no data as to such a fact.

I have seen a statement that May 19, 1780, was so dark a day that candles were necessary everywhere; and I have heard that another occurred about the year 1820. Has any scientific explanation ever been given of this phenomenon? A. The darkness on the days you mention were the result of solar eclipses. They occurred on days of unusual cloudiness. Perhaps the darkest day in modern history was that caused by the total solar eclipse in the year 1806.

(12) A. B. says: 1. I have built a boat 15 feet long and 4 feet 6 inches wide. How large a boiler and engine do I require to work her to best advantage? She is 22 inches deep from top of rail to top of keel. A. Cylinder, 2 1/2 x 3 inches; boiler, 20 inches in diameter and 3 feet high. Propeller, 18 to 20 inches in diameter, and of 3 feet pitch. 2. How fast ought she to run? A. Probable speed, 5 miles an hour in smooth water.

(13) L. L. asks: 1. Does it make any difference in what position a watch is in when running? A. For watches adjusted to temperature and position, it does not make much difference. 2. When not being carried, what position should it be left in? A. In the case of ordinary watches, we imagine that the wear will be rather more uniform when they are in a vertical position. 3. If a person sleeps in a cold room, would a watch be better under his pillow than on a table or hung up in the same room? A. It is best not to subject them to great changes of temperature.

(14) W. G. says, in reply to C. W. W., who has an engine, of 2 1/2 inches bore and 4 inches stroke, which runs slower with increase of pressure: Having had much experience with small engines and boilers, I will state that I have had the same difficulty when using an upright tubular boiler, and discovered the following to be the cause: The upper portions of the tube superheat the steam to such a degree as to prevent lubrication on the valve and piston surface by condensation, and thereby reduce the speed of engine. Even with increased pressure, this effect will be more appreciable when the area and travel of slide valve are in excess.

(15) J. M. T. asks: Is there friction between two bodies while at rest, or only when one or both are in motion? A. Both when at rest and in motion. Why does a balloon rise in the air? A. See p. 64, vol. 32.

(16) S. J. S. asks: 1. How are augers twisted? A. By special machinery. 2. How are twist drills made, and are they single or double grooved? A. They are double grooved or double twisted, and are cut out in a milling machine.

Can weights, springs, or water from a tank be used to any advantage to run a lathe? A. No.

How much do iron and brass, in rods or bands, expand in length when heated to red heat? A. Iron about 1/4 inch per foot, brass 1/5 inch.

Is the pressure of the air to be added to the weight of water in the bottom of a vessel in estimating the pressure on the bottom? A. No.

Does a watch or clock run faster when just wound up? A. No.

Is it not moisture in the air that makes it heavier, and so affects the barometer? A. Yes.

Is the pressure in a siphon equal throughout, or is it greater in the upper end? A. Equal throughout.

Will it take more power to run two millstones in opposite directions than it will to run one at the same speed, the other being stationary? A. Yes, it will take double the power.

1. How are common screws made? A. In lathes, with tools and dies. 2. How can I make wooden screws perfectly smooth? A. By using keen tools.

What is the simplest way of cutting a square hole in a bar of iron? A. Drill a round hole and square it out.

(17) G. E. C. asks: Could I have a brick range 2 x 3 feet, built on a platform about 1 foot from floor, with two compartments, to be heated with petroleum, the lower one to be used as an oven, the upper one to have a stove top to set cooking utensils on, and have a ventilating pipe run from each compartment of the oil receptacles into the place in the chimney where the stove pipe usually goes, to carry away any gas or smoke? I want the oil receptacles to be arranged to be drawn out, to be filled and trimmed, and I would like four burners to heat an oven 22 inches square, as hot as the same oven could be heated with wood. A. We doubt the propriety or the economy of substituting oil for wood, but something may be done to make the atmosphere of kitchens more endurable in summer, and permanently so in warm climates. A double faced range could be made and set in the center of the thickness of the chimney, with the space above the top of it open to the exterior of the house; a very slight structure, simply having a good floor and roof and open around the sides, and built against the chimney as an extension to the house, would answer for a summer kitchen, while the ordinary kitchen inside the house could be used in winter. The transposition could be made by a pair of iron sliding doors shutting off the kitchen not in use; and these doors could be transferred from one side of the chimney to the other when the change of season required it.

(18) A. X. A. says: In your issue of December 2 is a recipe in which "insoluble acid chromate of lime," and gelatin are to be used; and in a succeeding number of your paper the modes of preparing the insoluble acid are given. I have made the acid according to your directions, but the result of my manipulation of the recipe is a failure. You say: "Take of insoluble acid chromate of lime one part, and of gelatin five parts; but you do not say what further is to be done. Will the acid dissolve the gelatin, or must warm water be added? In my experiment the acid would not dissolve the gelatin, and I had to add considerable warm water before it would do so. A. Dissolve the bichromate of lime in the smallest possible quantity of warm water, and filter; then add the gelatin, previously softened by immersion in cold water. Heat the mixture over a water bath until the gelatin is completely dissolved, stir well, and use while hot. The recipe should have stated that this cement was best suited for glassware. The bichromate of potash or of ammonia will answer nearly as well as the lime salt.

(19) E. C. N. asks: How must a stove be constructed to burn pea coal, for heating outbuildings? Is there any way of constructing a draught below the grate of any common heating stove, sufficiently strong to do without an extra long chimney? A. Use a broad grate to spread the coal out well, so as to avoid the necessity of heaping it up much; make the opening for the draft some distance below the grate, and regulate by the usual slide dampers in the lower and upper doors.

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

F. R. R. S.—The substance you send is carbonate of iron. It is held in solution in the water by the large excess of carbonic acid which the water contains. On boiling the water the carbonic acid gas is expelled and the iron salt is precipitated from solution. The removal of this and some other objectionable salts which the water very probably contains, may be removed by the addition of the proper quantity of clear lime water to it—the lime in this instance will combine with the excess of carbonic acid and fall to the bottom together with the carbonate of iron. To determine the precise quantity of lime water requisite, add the reagent (saturated solution) to a small portion (of known volume) of the freshly drawn water, in small quantities at a time, and with constant stirring until no further precipitate forms. Then by a simple operation in proportion the quantity of the reagent necessary for the purification of a given quantity of the well water may be easily determined. An excess of the reagent must be avoided. This impurity would probably prevent the successful working of an injector.

W. S. W. asks: How is the best rosin, used on violin bows, prepared?—W. F. asks: What is a simple method for washing clay for brick and tile making?—E. S. D. asks: What is the best kind of wood to construct a guitar?

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Rheumatism. By A. R. E.
 - On Postage Stamps. By E. B.
 - On Boiler Explosions. By G. B. B.
 - On Reaching the North Pole. By J. H. S.
 - On Heating Street Cars. By P. T.
 - On a Hybrid Fruit. By R. S. B.
 - On an Air Vessel. By J. T. R.
- Also inquiries and answers from the following:
E. B. M.—F. F. F.—N. B. H.—B. B.—O. F.—R. V. J.—F. M.—N. B. C.—C. F. E.—W. T.—C. W. C.—T. F.—C. A. S.—S. N. M.—J. R. D.—P. J. D. S.

HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

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 sells a tool for truing up a crosshead wrist? Who sells tools for refitting steam valves without unscrewing them from the pipes? Who sells spoke-turning lathes? Who makes machinery for freeing wool of burrs and dirt? Where can tungsten, or tungsten steel, be procured, and at what price? Who sells silicate of alumina and silicate of potash?" 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 January 16, 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.

Table listing various inventions with their respective patent numbers and dates, including items like 'At-tendant coat, C. Lascell', 'Aerostic telegraph, T. A. Edison', 'Air compressor, J. Clayton', etc.

Table listing various inventions with their respective patent numbers and dates, including items like 'Hay tedder and side rake, Huber & Snell', 'High pressure hot air engine, O. Stenberg', 'Hook for drawers, M. B. Eskine', etc.

DESIGNS PATENTED.

Table listing various designs patented, including '9,700, 9,701.—CHAINS.—D. A. Beam, Newark, N. J.', '9,702.—BRACKETS.—O. F. Fogelstrand, Kensington, Conn.', etc.

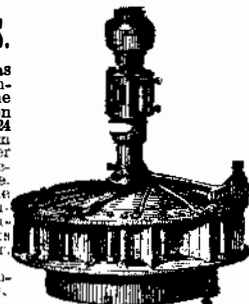
[A copy of any of the above patents may be had by remitting one dollar to MUNN & Co., 37 Park Row, New York city.]

Advertisements.

Inside Page, each insertion --- 75 cents a line. Back Page, each insertion --- \$1.00 a line. Engravings may head advertisements at the same rate per line, by measurement, as the letter press. Advertisements must be received at publication office as early as Friday morning to appear in next issue.

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More than fourtimes as many of Jas. Leffel's improved Double Turbine WaterWheels in operation than any other kind. 24 sizes made, ranging from 5 3/4 to 14 diam. under 14 ft. from 1 to 24 ft. Successful for every purpose. Large new propeller, the most ever published, containing over 300 illustrations, sent free to parties interested in water power.



Steel Castings,

From 1-4 to 10,000 lbs. weight. An invaluable substitute for expensive forgings, or for malleable iron castings requiring great strength. Send for circular and price list to CHESTER STEEL CASTING COMPANY, EVELINA STREET, PHILADELPHIA, PA.

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CLAY REPORTS, TILES, FIRE BRICKS, &c. Terra Cotta Pipes of all sizes.

Cheapest Rotary Hand Cornsheller in the U. S.

Guaranteed to be the simplest, cheapest, most durable, effective and the best. Buy it. Try it and be convinced. Samples \$1.00. Large profits to agents. Address Harrisburgh Pa. Family Cornsheller Co. Lock Box 9.

Advertisement for W. A. Fay & Co. CINCINNATI, OHIO. WOOD WORKING MACHINERY. Woodworth Planers and Matchers, Daniels & Dimension Planers, Universal Wood Workers, Band & Circular Re-Saws, Rippling, Edging & Cross-Cutting Saws, Molding, Mortising and Tenoning Machines, Band & Scroll Saws, Carving, Boring, Shaping, Filing & Sand Papering Machines, Wood Lathes & Machinery for Furniture, Car, Wheel & Agricultural Shops.

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THE ONLY PUMP IN THE MARKET DESIGNED AND CONSTRUCTED ESPECIALLY FOR BOILER FEEDING. Are Pumping water at 250° F. No Dead Centers. The Steam Valve is a plain Slide Valve, identical to the slide valve of a Steam Engine, but derives its motion from a cam. Speed can be regulated to suit evaporation. Pumping Returns from Steam Heating Apparatus a specialty.

Advertisement for Smith, Vaile & Co., DAYTON, OHIO.

WANTED THE SOLE MANUFACTURE, for England, of one or two Patent Articles in demand by steam users. Advertisers have good manufacturing premises, and a first-class connection among steam users in England and the Continent. Apply in first instance by letter to P. S. B., care of Mr. G. STREET, Advertising Offices, 30 Cornhill, London, E. C., England.

Large advertisement for 'CHRIST IN THE TEMPLE!' featuring a \$5 New Year's Gift. Includes text: 'A NEW YEAR'S GIFT', 'A \$5 NEW YEAR'S GIFT GIVEN AWAY!', 'To Every Reader of This Paper!', 'Consisting of the beautiful and valuable Steel Engraving, entitled "CHRIST IN THE TEMPLE!"', 'READER OF THIS PAPER FREE.', 'Cut Out this Readers' Certificate. It is worth \$5.00.', 'CERTIFICATE.', 'W. W. BOSTWICK & CO., PUBLISHERS, 177 and 179 West Fourth Street, CINCINNATI, O.'

A MAN OF A THOUSAND.

Having discovered, in a manner which might be considered almost providential, a positive cure for consumption and all Lung Complaints, I feel it my duty to make it known in a practical manner by furnishing a sample bottle, free of charge, to all sufferers, my only hope of removing the cause of their affliction, and giving them a claim for it. The ingredients are of the choicest herbal products and perfectly safe; will be sent free to all. Address at once, Dr. O. Phelps Brown, 21 Grand St., Jersey City, N. J.

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