

Business and Personal.

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The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$400 a year. Advertisements 17c. a line.

Peck's patent drop press. For circulars, address the sole manufacturers, Milo Peck & Co., New Haven, Ct.

For Sale—Three valuable patents. Ed. Fitzki, 1733 Penn. ave., Washington, D. C.

Wanted—A good patent-right salesman. Address Box 144, Cuba, N. Y.

Notice—For Sale or Rent—Machine shop (established forty years since) together with 40-horse engine and boiler, and shafting. Direct communication with an Iron Foundry. Terms liberal. Address Postoffice Box 385, New Haven, Conn.

Manufacturers of Watchmakers' Tools, or of small cast steel castings, not to weigh over 2 lbs., and tempered, send business card to M. D. Kel y, Cadiz, Ky.

Wanted—A Mechanical Draftsman in machine works. Send working sketch, terms, and reference. G. C. Howard, 17 S. 18th st., Phila.

Manufacturers having a good business, and otherwise responsible, can obtain real estate, with water front, on Norwalk harbor, on easy terms. Apply to Geo. S. Bell, South Norwalk, Conn.

For Hub-mortising Machines, address Exeter Machine Works, Exeter, N. H.

Hackle, Gill Pins, etc., at Bartlett's, 569 Broadway, New York.

Steam Crane Cars, or Derrick Cars, wanted by Baltimore Bridge Co., 49 Lexington st., Baltimore, Md.

Wanted to manufacture on Royalty or Contract—Light but useful articles in cast or sheet metal, or wood. City Novelty Co., 404 Library st., Philadelphia, Pa.

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

Kilns for drying Corn Meal.—Makers will please correspond with A. Moffitt, Ashburn Mills, St. John, N. B., describing the kind, and stating how many bushels of corn they are calculated to dry in twelve hours, price, etc.

Needles for all sewing machines at Bartlett's, 569 Broadway, N. Y.

An Experienced Mechanical Draftsman desires a situation. Address R. F. Thomas, 513 Brown street, Philadelphia, Pa.

Wanted—One Stationary Steam Engine complete, 30 to 60-horse power—a second-hand one, if in perfect order, will answer. Address F. M. Stearns, Grimestone and Scythe Stone Manufacturer, Berea, Ohio.

Round and Square decarbonized bar and sheet steel, in lots to suit, 11c. per pound. Philip S. Justice, 42 Cliff st., N. Y.; 14 N. 5th st., Phila.

G. W. Lord's Boiler Powder, 107 W. Girard ave. Phila, Pa., for the removal of scale in steam boilers is reliable. We sell on condition.

Aneroid Barometers made to order, repaired, rated, for sale and exchange, by C. Grieshaber, 107 Clinton st., New York.

For best quality Gray Iron Small Castings, plain and fancy Apply to the Whitneyville Foundry, near New Haven, Conn.

Keuffel & Esser 71 Nassau st., N. Y., the best place to get 1st-class Drawing Materials, Swiss Instruments, and Rubber Triangles and Curves

Foot Lathes—E. P. Ryder's improved—220 Center st., N. Y. Those wanting latest improved Hub and Spoke Machinery, address Kettenring, Strong & Lanster Defiance Ohio.

For tinners' tools, presses, etc., apply to Mays & Bliss, Brooklyn, N. Y.

Mill-stone dressing diamond machine, simple, effective, durable. Also, Glazier's diamonds. John Dickinson, 64 Nassau st., New York.

Glynn's Anti-Incrustator for Steam Boiler—The only reliable preventative. No foaming, and does not attack metals of boiler. Liberal terms to Agents. C. D. Friedrichs, 587 Broadway, New York.

For solid wrought-iron beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Machinists, boiler makers, tanners, and workers of sheet metals read advertisement of the Parker Power Presses.

Diamond carbon, formed into wedge or other shapes for pointing and edging tools or cutters for drilling and working stone, etc. Send stamp for circular. John Dickinson, 64 Nassau 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.

Winans' boiler powder, 11 Wall st., N. Y., removes Incrustations without injury or foaming; 12 years in use. Beware of Imitations.

Answers to Correspondents.

Correspondents who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information from us; besides, as sometimes happens, we may prefer to address correspondents by mail.

SPECIAL NOTE.—This column is destined 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 \$10 a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

N. P., of Ohio.—It is not necessary to success in an invention of the kind of which you write, that it should be superior in convenience and utility to all similar inventions to insure its success. If equally useful its chance is as good as the others, and if with equal convenience and utility it has superior grace of design, being highly ornamental, it has elements of success, which, coupled with good business management, will make it surely profitable. The same is true of all fancy articles, such as paper holders, paper knives, ornamented inkstands, curtain fixtures, and other things which combine ornament with use.

T. C. K., of Pa., writes us an interesting letter on shooting of fish under water, which we cannot make room for. He recommends the use of round shot, and thinks they are not so liable to diverge from a straight line as long shot. In shooting at fish he maintains it is necessary to make the proper allowance for the refraction of light, but also as much more for divergence. He also recommends the use of balls made of lead with one fifth part zinc to harden them. These balls will, he says, not flatten when shot into water with any strength of charge or at any angle.

S. B., of Pa.—You are right in supposing that the drawings of machinery in our paper are done by the aid of the camera lucida.

Wm. R. B., of Ind.—The white enamel used on the dials of watches, clocks, meters, etc., is a sort of glass rendered milky and opaque by an admixture of the oxide of tin. You will find very copious information on the preparation and application of various colored enamels in Dr. Ure's "Dictionary of Arts, Manufactures, and Mines." The process cannot be adequately described in a brief article. It is one in which many nice points are to be observed and somewhat extensive apparatus employed, and to reach success in which requires much experience and judgment.

L. J. C., of Ky.—You can find out all about rain gages in text books on natural philosophy and meteorology. The depth of water collected in a tub with straight and vertical sides, would be a fair indicator of the amount of rain falling at that point, minus the amount evaporated. Instruments are constructed to prevent evaporation. The mean amount of rain falling over the entire surface of the earth is not known. You will find an article on the subject on page 314 Vol. XIX of the SCIENTIFIC AMERICAN.

J. L., of R. I.—Cast iron is made malleable by annealing in ovens constructed specially for the purpose, with certain decarbonizing materials, hematite being a common material for this purpose. The time required varies greatly, according to the size of the articles, etc. You will find full information on this subject in the "Practical Metal-worker's Assistant." Published by Henry Carey Baird, Philadelphia, Pa.

W. A. C., of N. H.—The appearance of something in motion along heated pipes, etc., is caused by the refraction of light as it passes into and out of the heated column of air surrounding the pipe. The surface of this refracting medium being broken up into waves and ripples, produces the same effect upon the light as would be produced by a running stream of water, only in a less degree. Neither of the explanations you describe is correct.

J. C. L., of Cal.—Copper makes an excellent steam boiler but a very expensive one. It may be used with iron in the same boiler, but it expands more than iron, and allowance must be made for this in construction. The expansion of copper is 1 in 582 in length, and 1 in 194 in bulk. That of iron is 1 in 846 in length and 1 in 282 in bulk.

H. H., of New York.—What is called marine glue will probably answer your purpose. It is quick-drying and water-proof. This is made by dissolving by heat 1 part india-rubber in naphtha, and when it is dissolved, adding two parts of gum shellac. Pour it while hot on metal plates to cool. To use, melt and apply with a brush.

H. B. D., of Miss.—You can obtain a temperature of about ten degrees Fahrenheit without the use of ice and salt, by dissolving in water an admixture of equal parts of niter and sal ammoniac, provided the water is not warmer than fifty degrees and not too much of it is used.

W. W. B., of La.—We know of no better or cheaper plan of cutting out burnt places in boilers than the use of the cold chisel and hammer.

A. C. P., of N. Y.—We copied the article, word for word, from the *Chemical News*, and cannot add anything to the description of the "Leclanche Battery."

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

MODE OF PREPARING SEED FOR PLANTING.—Henry Lassing, New York city.—This invention relates to a new and useful improvement in preparing and protecting seed for planting, whereby the seeds of all kinds of cereals, as well as potatoes and other similar roots and bulbs, are protected from vermin and fertilized after planting.

PROCESS OF RECTIFYING WHISKY DURING DISTILLATION.—Henry Fake, Williamsburgh, N. Y.—This invention relates to a new method of withdrawing the fusel oils from their intimate combination with whisky, while the same is in the process of distillation. The separate process of rectification is thereby avoided, and whisky without any traces of fusel is produced.

VELOCIPED.—Jesse A. Crandall, Brooklyn, N. Y.—This invention relates to certain improvements in the construction of velocipede frames, and also in the arrangement of a convenient steering apparatus.

FOUNTAIN PEN.—G. A. Becker, Seymour, Conn.—This invention relates to improvements in fountain pens, and consists in an arrangement of the piston, whereby the ink is drawn into the barrel, so that a passage may be readily opened after the ink is drawn in, to admit atmospheric pressure from the top to cause the ink to feed. It also consists in an improved arrangement in connection with the delivery passage, of a cut-off plug or valve, for regulating the feed or stopping it entirely when required.

SPINDLE LOCK.—Rudolph S. Foster, Madison, N. J.—This invention relates to improvements in locks, and consists of a new and peculiar construction of locks for application to the shanks or spindles of knob, latch, or other bolts, under an arrangement whereby the knob spindles may be arranged to work the said bolts on the inside, either as common latch bolts, or as locking bolts, working a guard to secure the bolt in the locked position, at the same time maintaining the bolt in a locked condition as to the outside. The invention also comprises an improved mode of securing the knob shanks to the spindles.

DASH-BOARD.—John Bland, Thomaston, Ga.—This invention relates to improvements in dash-boards for buggies and other wagons, and consists in an improved construction of the same in sheet metal, in substitution of the parts commonly made of leather, whereby it is designed to provide much cheaper dash-boards in first cost, and much more durable ones.

CAN OPENER.—H. C. Alexander, New York city.—This invention has for its object to improve the construction of the improved can opener, patented by the same inventor, Nov. 16, 1868, and numbered 96,761, so as to make it simpler in construction, cheaper, and more convenient in manufacture.

SAWING MACHINE.—Charles F. Rice, Brookfield, Mass.—This invention has for its object to furnish an improved machine, designed especially for sawing shingles, but equally applicable to other sawing, which shall be simple in construction and convenient and effective in operation.

PULVERIZING ATTACHMENT FOR PLOWS.—Anthony A. Rhoads and Wiley Tash, Berlin Ill.—This invention has for its object to furnish an improved attachment for ordinary turn plows, by means of which the soil may be pulverized as it is turned by the plow and while it is still moist.

JOURNAL BOXES AND JOURNALS.—Jeremiah McIlvain, Churchville, Md.—This invention relates to new and useful improvements in boxes for shaft journals, and in the journals themselves, whereby the journals are kept cool and properly lubricated.

GRAVEL HEATER.—William A. Gay, Newark, N. J.—This invention relates to a new and useful improvement in apparatus for heating gravel for roofing, concrete pavements, and for all the purposes to which it is adapted.

AUTOMATIC LIGHTING ATTACHMENT FOR LAMP AND TAPER BURNERS.—William H. Weeks, New York city.—This invention has for its object to furnish an improved lighting attachment for taper and lamp burners, by means of which the wick or taper may be instantly and conveniently lighted, and which shall, at the same time, be so constructed as to raise the taper or wick by the same operation.

COMBINED PLOW, PLANTER, AND CULTIVATOR.—Thomas J. Smith, Holly Springs, Mich.—This invention has for its object to furnish a simple and convenient machine for preparing the ground, planting corn, peas, cotton, etc., and cultivating the plants, and which shall be so constructed that it can be readily adjusted for these different purposes.

WAGON BRAKE.—Charles M. Howell, Andover, N. J.—This invention relates to improvements in brakes for wagons and other articles, and consists in the arrangement with a pair of brake shoes suspended on crank shafts from the bottom of the wagon box of a pair of operating levers pivoted on the hind axle and connected by rods to arms on the shafts, also connected by rods to an evener connected to the arm of an oscillating shaft near the front of the box and worked by a hand lever rising up at the side.

LIFTER FOR KITCHEN USE.—T. S. Coffin, Harrington, Me.—This invention relates to improvements in lifters for kitchen use, and consists of a pair of lifting jaws, with handles crossing each other and pivoted together, the said jaws being arranged in a peculiar way for use as a stove cover lifter, a hook for lifting lids taking hold of balls, or for use as clamps for holding rods, pipes, or other articles for filing, and for like operations.

TENSION WHEEL FOR SEWING MACHINES.—J. S. Warner, Ogdensburg N. Y.—This invention relates to improvements in the construction of tension wheels for sewing machines, and consists in making them of two disks of metal having hubs or projections, and small grooves on one side the latter being near the periphery, and another disk of thin metal having radial slits extending from the periphery to a circle of about the same diameter as the hubs of the other disks, and the parts between these slots curved alternately in opposite directions, all clamped together by screws, or otherwise, with the thin slitted disk between the hubs of the other two and the edges of the projecting parts fitting the grooves in the sides of the other disks.

ANIMAL TRAP.—H. Seehausen, Memphis, Tenn.—This invention relates to a new and useful improvement in traps for catching animals, and consists in arranging a drop door in a suitably constructed cage or box, which door is elevated, when the trap is set and held in position by means of a rod attached to an apron, which apron is raised by the animal and the trap sprung.

BALE TIE.—James W. Rogan, Memphis, Tenn.—This invention relates to a new and useful improvement in ties for baling cotton and other articles.

MORTISING MACHINE.—John Cox, Portland, Oregon.—This invention consists of two metallic standards, set each on a pair of curved legs, and at a sufficient distance from each other to admit of placing between them a metallic frame in the form of the arc of a circle, which frame has sockets on its sides large enough to inclose the said standards, and has a longitudinal slot of sufficient width to receive a lever which is provided at the extreme lower end with a set of cog teeth gearing with a toothed comb rising from the upper side of the cutter, so that when the lever is moved to and fro upon its pivot the cutter will receive an oscillating movement sufficient to cause it to enter the wood to be mortised.

AUTOMATIC BARREL FILLER.—S. C. Catlin, Cleveland, Ohio.—This invention relates to a new and improved apparatus for filling barrels and other vessels with oil or other liquids, and consists in providing certain mechanical devices, and arranging them in such a manner that the flow of oil or liquid into the barrel shall be automatically stopped when the barrel is filled or nearly filled.

BURGLAR-PROOF SAFE.—E. M. Hendrickson, Brooklyn, N. Y.—The object of this invention is to prevent safes for banks, insurance companies, and other institutions, as well as for private individuals, and for all purposes for which safes are used, from being blown open by means of powder, nitroglycerin, or other explosive material or compound, and the invention consists in forming perforations or apertures in and through some portions of the safe for the escape of the gas generated by such explosive material without injuring the safe.

PROCESS OF EXTRACTING, MANUFACTURING, AND REFINING SUGAR.—Jules Emile Boivin and D. Loiseau, Paris, France.—This invention relates to the application and preparation of a new compound for extracting or manufacturing sugar from cane juice, beet juice, sirup, molasses, or other saccharine solution, and for refining or purifying raw cane, beet, or other sugar, or substance containing sugar, or of sirup, molasses, or other saccharine solution. The invention consists in the new composition employed and in the novel method of applying the same.

WATER WHEEL.—John Zimmerman, Owatonna, Minn.—This invention relates to improvements in that class of water wheels consisting of spiral vanes attached to a shaft, and working in a hollow cylinder. The invention consists in an improved form of the said spiral vane and mode of attaching it to the shaft.

SLOTTING TOOL.—William Seaton, Putnam, Conn.—This invention consists in the attachment of a tool holder to the ordinary tool-carrying device of a planer, to project therefrom parallel with the planer bed, so as to work through the eye of a wheel standing on its face on the planer bed, and carrying a tool at the projecting end transversely thereto, and so attached to the planer as to be readily adjusted around its axis for cutting at any part of the eye of the wheel.

PRESSES.—I. N. Patten and D. G. Marden, Memphis, Tenn.—This invention relates to new and useful improvements in presses for hay, cotton, and other like substances, and consists of improvements in the means for working and holding the follower. The said means consisting of clamping or holdfast blocks, working on rods standing parallel with the line of movement of the follower, and eccentric rollers, worked by hand levers, so arranged that one set of the clamping or holdfast blocks connected to the follower will engage the rods and hold the follower, while the other set connected to the eccentric rollers are adjusted along the rods for a new hold; the rollers are connected by links to the follower in a way to force it down as the rollers are turned.

Inventions Patented in England by Americans.

[Compiled from the "Journal of the Commissioners of Patents."] PROVISIONAL PROTECTION FOR SIX MONTHS.

- 3,664.—APPARATUS TO PROMOTE CIRCULATION IN STEAM BOILERS.—R. Sinclair and W. B. Mack, Detroit, Mich. Dec. 18, 1869.
- 3,686.—BOXES OR CASES FOR PACKING AND CARRYING EGGS.—J. B. White, Buffalo, N. Y. December 20, 1869.
- 3,687.—FLOW AND CULTIVATOR.—J. S. Godfrey, Leslie, Mich. December 20, 1869.
- 3,697.—MANUFACTURE OF STEEL.—John Absterdam, New York city Dec. 21, 1869.
- 3,719.—PNEUMATIC ENGINE.—R. Spear, New Haven, Conn. December 23, 1869.
- 3,720.—GOVERNOR.—R. Spear, New Haven, Conn. December 23, 1869.
- 3,736.—METAL TUBING.—S. P. M. Tasker, Philadelphia, Pa. December 24, 1869.
- 3,735.—COMBUSTION OF SMOKE AND GASES IN FURNACES.—G. W. Rawson—Mass. December 28, 1869.
- 3,651.—APPARATUS FOR HEATING FEED-WATER HEATERS.—W. B. Mack Detroit, Mich. December 17, 1869.
- 3,672.—COMPOSITE PAVEMENT.—D. W. Bailey, Chelsea, Mass. December 18, 1869.
- 3,711.—APPARATUS FOR SHAPENING THE CUTTERS OF MOWING MACHINES.—Messrs. La Due, Blish & Co., Chicago, Ill. Dec. 22, 1869.
- 3,721.—TRACTION ENGINE.—C. Merriman and Owen Redmond, Rochester N. Y. December 23, 1869.
- 3,737.—APPARATUS FOR, AND METHOD OF HEATING WATER AND PURIFYING THE SAME FOR USE IN STEAM BOILERS, ETC.—E. K. Stillwell, Dayton, Ohio. December 24, 1869.
- 3,756.—SECTIONAL STEAM BOILER.—P. Abendroth, J. Griffith, G. W. Wundram, and T. H. Muller, New York city. Dec. 28, 1869.
- 3,762.—TILTING VESSELS AND STANDS.—J. Gibson, Albany, N. Y. Dec. 29, 1869.
- 3,772.—HARNES-OPERATING MECHANISM FOR POWER LOOMS.—E. B. Bigelow, Boston, Mass. December 30, 1869.

Caveats are desirable if an inventor is not fully prepared to apply for patent. A caveat affords protection for one year against the issue of a patent to another for the same invention. Patent Office fee on filing a caveat, \$10. Agency charge for preparing and filing the documents from \$10 to \$12. Address MUNN & CO., 37 Park Row, New York. Inventions Examined at the Patent Office.—Inventors can have a careful search made at the Patent Office into the novelty of their inventions, and receive a report in writing as to the probable success of an application. Send sketch and description by mail, inclosing fee of \$5 Address MUNN & CO., 37 Park Row, New York.