

title of the Rubber Graphite Paint Company has been formed, and has commenced the manufacture of the article at Harrisburg, Pa.

Facts for the Ladies.—Miss S. A. Davis, Berlin, N. Y., has used Wheeler & Wilson's Lock-Stitch Sewing Machine 17 years in collar making; supported herself and an invalid mother, whom she also tended, and has saved over \$2,000; she has been a constant worker by foot power and not sick a day. See the new improvements and Woods' Lock-Stitch Ripper.

Whitcomb's Remedy for Asthma is one of the best medicines in use.

Facts Worth Knowing.—The New Wilson Under-Feed Shuttle Sewing Machine is to-day the simplest, most perfect, most easy operating, best made, most durable, and, in every way, most valuable Sewing Machine in existence, and it is sold fifteen dollars less than all other first-class machines, on easy terms. Salesroom, 707 Broadway, New York; also for sale in all other cities in the United States.

Notes & Queries.

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

1.—OCEAN CABLES.—I would like to know if the Atlantic cable lays on the bottom of the ocean? Or if it is only part of the way down, what keeps it there?—H. F. H.

2.—LARD IN TIN CANS.—Is lard injured by being stored in bright tin cans? If so, what is the chemical action which causes the injury?—W. H. C.

3.—PLASTER CASTS FROM DEAD BODIES.—I wish to know how to take a plaster of Paris cast of a tumor on a face, so as to represent the face and the tumor? What will give to the plaster a glossy finish? I can take a very good cast, but fail to get as good a finish as I have seen.—J. A. D. Jr.

4.—PAINT FOR IRON.—Can any one inform me if there is any substance that can be applied easily, say with a brush or otherwise, in a thin coat to iron, that will stand heat to redness without melting, peeling off, or cracking?—E. J.

5.—CEMENT FOR LETTERS ON GLASS.—How are the gilt letters put on glass signs, so as to have the polished appearance that all such gilt letters do? The painters here do not know how to do it, although one of them is a subscriber to the SCIENTIFIC AMERICAN.—J. F.

6.—SEPARATION OF OILS.—By mistake one barrel raw linseed oil and one barrel West Virginia lubricating oil got mixed in our oil tank. Is there any means of separating the two oils?—R. K.

7.—DIMENSIONS OF BELT.—Can any one of your readers inform me what width of belt I require to convey one, two, or three horse power?—W. J. S.

8.—WEEVIL.—What will prevent the weevil getting into Indian corn? What will exterminate it from a lot of corn, shelled and in bags? How long will the corn keep safe from getting musty, when stored in open casks or common grain bags in piles, the bags standing on end on floor?—J. E.

9.—GOLD SOLUTION.—Will the gold solution to be applied by brush, mentioned in SCIENTIFIC AMERICAN, Vol. XXVI, page 280, adhere on the plating of buggy dash rims or harness mounting, as on iron or steel not so plated? If so, how long will it retain its brilliancy? Will it not soon come off? How are the mountings of harness plated with gold or silver? Must a battery be necessarily used in such plating, whether white or golden?—J. B.

10.—TEST FOR ZINC.—What is the best test for zinc in wells where galvanized pipes are used? What per cent or how many grains in a gallon of water is sufficient to injure health?—J. E.

11.—SLACK COAL AND SAW DUST.—At our saw mill, coal is used under the boiler; and upon exposure to weather, it slacks and, unavoidably, we have much coal dust, and of course we have much saw dust to spare. Is there any way to utilize them, and so reduce the cost of our fuel? A way that would not be very expensive—all the machinery and parts of the process being of home manufacture—is needed.—J. F. T.

12.—METAL LINING IN CAST IRON VESSELS.—How can I prevent the lining metal in cast iron boxes from becoming loose? After they have run some time, the lining becomes loose, and I have to refill them. Would tinning the boxes prevent the metal from getting loose? If so, what would be the best process to tin boxes that are cast on the frame so that they cannot be removed. The lining metal used is Babbitt's metal, minus the antimony.—W. A.

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.

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Wanted—Descriptive price list and catalogue of new and second hand fire engines, hose carts, and hose. Ad. Trost, Neb. City, Neb. For Machinists' Tools and Supplies of every description, address Kelly, Howell & Ludwig, 917 Market Street, Philadelphia, Pa.

Stencil Tools, full set, \$5. Circulars free. J. T. Lee, Warrenton, Ga.

Safety Boiler—Wanted party with manufacturing facilities to take interest. G. Morgan Eldridge, 703 Walnut St., Philadelphia, Pa.

Wanted—A man who thoroughly understands how to finish Harness and Roller Buckles and to make the Dies which form the Tongues. Good wages and steady employment. For further particulars, address with name and residence to B. K. Murphy, cor. 28th St. & 7th Av., New York.

Three fourths saving of fuel, by the Ellis Vapor Engine (Bisulphide of Carbon) in running the Haskins Machine Co's Works, Fitchburg, Mass. To whom apply.

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Old Furniture Factory for Sale. A. B., care Jones Scale Works, Binghamton, N. Y.

A Great Curiosity. See advertisement on page 421.

The Patent Vertical Portable Engine—Safer than the Safest—Wear and Tear, none. Power Plenty. Light on Fuel. Griffith & Wedge, Zanesville, Ohio.

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Stationary Engines—25 Horse Power—for Saw or Crist Mills, ready to ship. Address Griffith & Wedge, Zanesville, Ohio.

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Write for Chemicals, Crude Materials, and Drugs for Manufacturers' use, to L. & J. W. Feuchtwanger, 55 Cedar Street, New York.

Steel Castings to pattern, strong and tough. Can be forged and tempered. Address Collins & Co., 212 Water Street, New York.

The Waters Perfect Steam Engine Governor is manufactured by the Haskins Machine Co., Fitchburg, Mass.

Wanted—A first class Sewing Machine Repairer. T. Shanks, Baltimore, Md.

Galvanized Slating Nails, Stove Reservoirs, and Hollow Ware. Address Cleveland Galvanizing Works, Cleveland, Ohio.

Second hand Iron Planer, to plane 9 feet long, 33 inches wide—good as new and cheap. Chas. Place & Co., 60 Vesey St., New York.

Wanted—A partner in the Machinist and Foundry business, well established at Minneapolis, Minn. Address Chas. M. Hardenbergh, Portable Baths. Address Portable Bath Co., Sag Harbor, N. Y.

Standard Twist Drills, every size, in lots from one drill to 10,000, at 1/2 manufacturer's price. Sample and circular mailed for 25c. Hamilton E. Towle, 30 Cortlandt St., New York.

The Shive Steam Engine Governor—Guaranteed to be the best in the world. Circulars sent free. Shive Governor Company, 12th and Buttonwood Streets, Philadelphia, Pa.

For the best Foot Power Jig Saw, address Goodnow & Wightman, 23 Cornhill, Boston, Mass.

For hand fire engines, address Rumsey & Co., Seneca Falls, N. Y.

T. Shaw's Steam Gauges, Ridge av. & Wood st., Phila., Pa.

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Brown's Coal Yard Quarry & Contractors' Apparatus for hoisting and conveying material by iron cable. W. D. Andrews & Bro., 413 Water St., N. Y.

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

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

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Kelley's Pat. Petroleum Linseed Oil, 50c. gal., 116 Maiden Lane.

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

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For the best Recording Steam and Indicating Gauges, address The Recording Steam Gauge Co., 91 Liberty Street, New York.

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

Belting as is Belting—Best Philadelphia Oak Tanned. C. W. Army, 301 and 303 Cherry Street, Philadelphia, Pa.

Boynnton's Lightning Saws. The genuine \$500 challenge. Without five times as fast as an ax. A 6 foot cross cut and buck saw, \$6. E. M. Boynnton, 80 Beekman Street, New York, Sole Proprietor.

The Baxter Steam Engine is safe, and pays no extra Insurance.

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Millstone Dressing Diamond Machine—Simple, effective, durable. For description of the above see Scientific American, Nov. 27th 1869. Also, Glazier's Diamonds John Dickinson, 64 Nassau St., N. Y.

T. Shaw's Hydraulic Gauges, Ridge av. & Wood st., Phila., Pa. Better than the Best—Davis' Patent Recording Steam Gauge Simple and Cheap. New York Steam Gauge Co., 46 Cortlandt St., N. Y.

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What I know about Machinery, especially Engines, Pumps, and Machinists' Tools, which I sell at 93 Liberty Street, New York. S. N. Hartwell, late agent for L. W. Pond.

The most economical Engine, from 2 to 10 H. P., is the Baxter Over 900 different style Pumps for Tanners, Paper Makers, Fire Purposes, etc. Send for Catalogue. Rumsey & Co., Seneca Falls, N. Y.

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Recent American and Foreign Patents.

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

MEDICAL COMPOUND.—John Frechette, of Chicago, Ill.—This invention furnishes an improved medical compound or tonic bitters for invigorating the system when reduced or weakened by sickness. In preparing the compound are taken one pound of orange peel, three quarters of a pound of calamus, one quarter of a pound of ginger, one quarter of a pound of bayberry bark, and four lemons. These ingredients are ground and put into two gallons of pure spirits, diluted to not less than seventy-five per cent of spirits. The compound is allowed to stand for thirty-six hours in a warm place, and is then reduced to forty per cent of spirits, sweetened to taste with crushed sugar sirup, and filtered. It is then ready for bottling for use or for market.

VELVET REEL.—Peter Jürgens, of St. Paul, Minn.—This invention consists of a pair of oval or cylindrical blocks of wood and another block, of square or other form, placed between them, with a wide board attached to each end of the blocks so as to form a reel. On this reel, velvet ribbon is wound by fastening one end to a pin in the central block and whirling the reel on a pivot at the lower side which may be placed on the counter. The reel is whirled by a handle or key affixed to the upper side, and the pin is so placed in the central block that it will not penetrate the layers of ribbon as they are wound on.

ROTARY PULLETTING FURNACE.—Joseph Davies, of Knoxville, Tenn.—In this invention the revolving pulleting furnace is mounted on rollers and rotated in the ordinary manner; it has a large central opening at one side to receive the fire from the combustion chamber, to which it is closely fitted, and another opening on the other side discharging into the flue which leads to the chimney. A flat pulleting table is placed upon one part of the interior wall of this pulleting furnace, with a hole through the side of the cylinder, arranged in such relation to the table as to allow of balling the metal out in small balls adapted to be worked into blooms in the squeezer at one operation, the same as it is balled in the stationary furnace. A passage through the flue provides for removing the balls.

DOG FOR SAW MILL.—Denison Chase, of Orange, Mass.—This invention relates to apparatus used in saw mills for holding logs to be sawed. The dog consists of a bed plate fixed to a head block, to which is attached a slotted upright, against which the log rests when partly sawed. In rear of the upright is a stand or round bar which carries the dog proper. This stand is attached rigidly to the bed plate, and the dog is fitted to it so that it will slide up and down on it. In either direction from the central sleeve of the dog are two arms, each furnished with a claw or finger for entering the log. The dogs slide up and down in the slot of the upright, and when not in use is raised above the upright and turned round out of the way.

HYDROSTATIC SAFETY LAMP.—Hampton S. Whitfield, of Tuscaloosa, Ala.—This invention relates to that class of well known lamps where the oil is forced up by another liquid. The body of the lamp consists of an upper reservoir, a lower reservoir, and a connecting neck or partition. The neck has two holes formed through it, one to receive a pipe which extends nearly to the bottom of the lower reservoir, and the other to receive a flattened tube which extends up to the top of the upper reservoir, and which is designed to receive the elongated flattened wick tube attached to an ordinary burner. The lower end of the tube projects a little below the bottom of the neck or partition that separates the upper and lower reservoirs, so that there will always be a stratum of air in the upper part of the lower reservoir which cannot escape, and which keeps the oil from penetrating the partition.

SPRING BED BOTTOM.—Donald McMurchy, of Jeffersonville, Ind.—This invention furnishes an improved spring bed bottom, simple in construction, effective in operation, and durable. The posts, side rails, and end rails of the bedstead are as ordinarily constructed. To the inner sides of the end rails are attached bars in which are formed notches or sockets to receive the ends of spring slats. Each spring slat is placed between and connected with two side slats which should also be elastic. The side slats are made of such a length that when pressed downward their ends come in contact with and rest upon the bars. Various appliances, which cannot be explained in detail, are added to keep the slats in position. With this construction, should the central spring slats become permanently bent or set they may be removed and reversed, making the bed bottom again as good as new; light weights will be supported by the elasticity of the central slats, but heavy weights will bring the ends of the side slats into contact with the bars, so that the weight will be supported by the elasticity of the three slats, the bed bottom being thus equally easy and elastic, whether supporting light or heavy weights.

NEW PATENT LAW IN CANADA.

By the terms of the new patent law of Canada (taking effect September 1st, 1872) patents are to be granted in Canada to American citizens on the most favorable terms.

The patent may be taken out either for five years (government fee \$20), or for ten years (government fee \$40) or for fifteen years (government fee \$60). The five and ten year patents may be extended to the term of fifteen years. The formalities for extension are simple and not expensive.

In order to apply for a patent in Canada the applicant must furnish a model, specification and duplicate drawings, substantially the same as in applying for an American patent.

American inventions, even if already patented in this country, can be patented in Canada provided the American patent is not more than one year old.

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