

Inventions Patented in England by Americans.

- 604.—MANUFACTURING YARNS AND FABRICS CONTAINING HORSEHAIR.—H. Hayward, Paterson, N. J. March 1, 1870.
409.—SUBMARINE TELEGRAPH CABLES.—James Story, Paris, Ky. February 11, 1870.
424.—GENERATING GAS.—A. I. Ambler, Washington, D. C. February 12, 1870.
510.—MACHINERY FOR SPLITTING ROCKS.—John Robb, New York city. February 24, 1870.
544.—MACHINERY FOR MAKING NAILS.—D. Reed, R. M. Bassett, and T. S. Bassett, Birmingham, Conn. Feb. 24, 1870.
549.—STEAM BOILER AND ENGINES.—F. B. Blanchard, New York city. February 24, 1870.
550.—MANUFACTURE OF NEEDLES.—R. J. Roberts, New York city. Feb. 24, 1870.
551.—WINDMILLS.—Edward Savoral, New York city. February 24, 1870.
563.—MACHINERY FOR MANUFACTURING SCREWS.—J. A. Ayres, Hartford, Conn. February 25, 1870.
564.—MECHANISM FOR ACTUATING MACHINES.—C. H. Wilcox, New York city. February 25, 1870.
568.—MANUFACTURE OF HAIR CLOTH AND LIKE FABRICS AND LOOMS THEREFOR.—I. Lindsay, Pawtucket, R. I. February 25, 1870.
592.—SEWING MACHINES.—Charles Lennig, Philadelphia, Pa. February 28, 1870.
636.—RAILWAY.—D. R. Pratt, Worcester, Mass. March 3, 1870.
976.—CARPET SWEEPER.—A. J. Haggood, New York city. March 7, 1870.
605.—RAILWAY CARRIAGE WHEELS.—H. W. Moore, Jersey City, N. J., and F. Bloodgood, C. B. Wood, and F. Wood, New York city, March 1, 1870.
631.—FLUID METER.—J. F. de Navarro, New York city. March 3, 1870.
635.—JOURNAL LUBRICATOR.—W. A. Wood, Hoosick Falls, N. Y. March 3, 1870.
663.—DEVICE FOR HOLDING LETTERS, ETC.—F. T. Ferguson, Boston, Mass. March 5, 1870.
700.—ETCHING PLATES FOR PRINTING.—J. McLoughlin, Morrisania, N. Y., and E. McLoughlin, New York city. March 9, 1870.
709.—BURNING OIL FROM PETROLEUM.—J. A. Tatrow, Hartford, Conn. March 10, 1870.
725.—TYPE-SETTING MACHINE.—J. T. E. Slingerland, New York city. March 11, 1870.
744.—WATER INDICATOR AND REGULATOR FOR BOILERS.—R. N. Pratt and F. Berryman, Philadelphia, Pa., and F. A. Pratt and S. Colt, Hartford, Conn. March 14, 1870.

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 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 \$1.00 a line, under the head of "Business and Personal."

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

A. G. B., of Pa.—The effective horse power of steam engines is determined by the dynamometer. The absolute horse power, or indicated horse power, by multiplying the mean effective pressure in the cylinder, by the velocity of the piston in feet per minute, and dividing the product by 33,000. The nominal horse power of ordinary condensing engines is found by multiplying the square of the diameter of the cylinder in inches by the velocity of the piston in feet per minute, and dividing the product by 6,000. In the application of this rule, the speed of piston is fixed according to the length of stroke, that is, the speed for a 2 feet stroke is assumed to be 160 per minute, and speeds for other lengths of stroke to be to this speed as the cube roots of their lengths. Nominal horse power is only a conventional expression for the measure of the dimensions of an engine. It does not give any idea of the actual power of which the engine is capable. The Richards Steam Indicator is the best instrument for testing the power of steam engines.

S. H. W., of Conn.—It is evident that your logic is not able to draw any distinction between the statement that matter moves, and your own statement that it moves itself. You will doubtless admit that the earth moves constantly in its orbit. Because you make that admission, we shall not consider it legitimate to charge you with believing that it moves itself. You admit the existence of matter, which admission of course allows the existence of the essential properties of matter. What violence is done to just logical inference by supposing that matter was originally endowed with motion, as it was endowed with impenetrability? Such a supposition does not imply self-creation, or power to endow itself with motion, as you illogically assert.

O. S. M., of Va.—The protection afforded against the injurious effects of white lead in grinding would at best, we think, be so partial as not to render it of great practical value. The injury resulting from this substance has been much reduced by modern modes of manipulation. There is no other harmless white pigment known, that could be generally used as a substitute for lead and zinc white. Oxide of zinc, however, is now largely used as less injurious than white lead, and not turning black by the action of sulphureted hydrogen.

H. W. S., of Ohio.—According to Dalton's investigations, it appears that when different gases are mixed, they only act mechanically to retard each other in their occupation of a given space. Thus, if a gallon of oxygen be placed in a jar, a gallon of any other gas that will not chemically combine with it may be introduced into the same jar, and still a third gallon of some other gas, etc. The experiment could not be performed with air and oxygen, as air contains oxygen.

S. & S., of Ohio.—Much obliged for the club of subscribers you have obtained among the workmen in your establishment. Similar efforts on the part of heads of other establishments, would, without doubt, result in mutual benefit. Your first query is answered at length in an article on "Mean Effective Pressure," which will shortly appear. Friction is a variable quantity even in the best constructed engines. No two will agree in this particular.

M. C., of Mass.—Carbonic oxide gives out but a small proportion of heat in its combustion, compared to that produced by the burning of carbon. We do not think it could be applied to brazing, etc., with advantage, and never heard of its being specially prepared to be used as fuel. In ordinary coal stoves a certain amount is generated, which is consumed in those stoves known as gas-burners.

A. P., of N. Y.—The mixture named would not injure leather in any way. On the contrary, we think it would undoubtedly act to preserve it. The different materials have been used, but we do not think they have all been used in a similar combination. We judge the mixture is patentable. Sugar cannot be made in the way you propose.

E. G. S., of Minn.—Water inevitably hardens in a new cistern lined with water-lime cement. You may soften it by adding a little quick lime in the form of milk of lime, see article on page 217, Vol. XXI., of the SCIENTIFIC AMERICAN.

W. M. L., of Pa., wishes a solution of the following problem.—Given the length of belt, distance between the centers of two cone pulleys, and ratio of their diameters to determine the diameters.

C. B. F., of Brockport, N. Y., will find the information he desires in the Encyclopedia Britannica, Vol. XVI., page 54; also, by a visit to the Morris & Essex canal at Rockaway and other points.

J. M. E., of Pa.—What is generally understood by the term atmospheric engine, is one in which the piston is actuated by steam on one side and air on the other.

B. C., of N. H.—A gas, or mixture of gases, absorbs as much heat in expanding after compression, as it evolves when compressed.
A. F. H., of W. Va.—The metallic appearance of the mineral you send is due to the presence of iron pyrites.

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.

Steel Makers' Materials—Wolfram ore, oxide manganese, Speigel iron, borax, titanium, chrome, lubricating black lead, for sale by L. & J. W. Feuchtwanger, 55 Cedar st., New York.

For the best Alarm Money Drawer, address Robbins, Frouz & Co., Hughesville, Pa. Agents wanted.

Machines for manufacturing Screw Bolts and Nuts of all kinds. Makers will please send price lists and other information to C. G. Berryman, Saint John, N. B.

Superior Lacing made under Page's Pat't. Address J. Sweetman, Utica, N. Y.

Missouri Globe Valve—Best in use. Can be ground tight at any time. Send for circular. J. W. Brown, Manu'r, Baltimore, Md.

Egg Hatching.—Parties having any device, patented or not, for hatching eggs, will address C. C. Runyan, Mansfield, Ohio.

Astronomical Transit, second-hand, and perfect, wanted by T. & E. Dickinson, 254 Main st., Buffalo, N. Y.

For Sale—A Roper Caloric Engine, 1-Horse Power. Nearly new. Address C. F. Werner, Orange, N. J.

Spools of all kinds, and spiral shade tassel molds made by H. H. Frary, Jonesville, Vt.

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

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

Harry Hammond Augusta, Ga., wishes to communicate with parties who furnish devices for sinking wells.

Jno. A. Hafner's (Commerce, Mo.) Pat. Eureka Coil Spring for Horse-powers will save 20 per c. power and 90 per c. breakage, positively.

Wanted to buy—A good 2d-hand Band Sawing Machine, in good order. Address C. W. Hyde, Springfield, Mass.

Kelly's Eclipse Hay Elevator—Best in use. Rights for sale cheap. Apply soon. Address T. C. Kelly, West Liberty, Pa.

Manufacturers of Calf and Lamb Roller Skins, Roller and Clearer Cloths. Please send address to P. O. Box 3,756, Boston.

Belting—See advertisement of Page's Patent Tanned Belting on page 273. Page Brothers, Franklin, N. H.

Wanted—Four good second-hand milling machines. Address Thos. H. White & Co., 28 Canal st., Cleveland, Ohio.

Wanted—A Situation by an electro gold and silver plater. Address Box 178, Waterbury, Conn.

An experienced mechanical and railway engineer wishes a position as Master of Machinery, or Manager. Address "Engineer," Station "G," Philadelphia, Pa., Postoffice.

Bartlett's Street Gas Lighter. Office, 569 Broadway, N. Y.

For description of the best lath and blind slat sawing machine in use, address W. B. Noyes, Gen'l Ag't, P. O. Box 558, Manchester, N. H.

Important advance on the draft and easement of carriage. See Jackson's Patent Oscillating Wagon, with tests of draft, models, etc., No. 149 High st., Newark, Essex Co., N. J. See Scientific American, Sept. 25, 1869.

Kidder's Pastilles.—A sure relief for Asthma. Price 40 cents by mail. Stowell & Co., Charlestown, Mass.

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

Pat. paper for buildings, inside & out, C. J. Jay, Camden, N. J.

For Sale—An old established Malleable and Gray Iron Foundry, doing a large trade in hardware. Cause of selling, failure of health of the proprietor. Address "Malleable Iron," Newark, N. J.

Brick and Tile Drain Machine—First Premium in Ohio, Indiana, and Missouri; also Fair of American Institute, New York. Address Thos. L. Cornell, Derby, Conn.

Asbestos—Wanted by J. N. Clarke, 126 Dearborn st., Chicago, Ill.

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

For first-quality new 14, 17, and 20-in. screw lathes, milling machines, and one-spindle drills, at small advance from cost, apply to Geo. S. Lincoln & Co., Hartford, Conn.

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

Portable Pumping or Hoisting Machinery to Hire for Coffer Dams, Wells, Sewers, etc. Wm. D. Andrews & Bro., 414 Water st., N. Y.

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

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

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. Fredricks, 587 Broadway, New York.

Two 60-Horse Locomotive Boilers, used 5 mos., \$1,300 each. The machinery of two 500-ton iron propellers, in good order, for sale by Wm. D. Andrews & Bro., 414 Water 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.

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

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

Pictures for the Parlor.—Prang's Chromos, sold in all art and bookstores throughout the world.

Caveats are desirable if an inventor is not fully prepared to apply for a 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.

Recent American and Foreign Patents.

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

SCROLL SAWING MACHINE.—Eliphalet A. Tripp, Newark, N. J.—This invention has for its object to furnish an improved scroll-sawing machine simple in construction, easily and conveniently operated, and effective in operation.

WASHING MACHINE.—James D. Royle and John Royle, Cane Valley, Ky.—This invention has for its object to furnish an improved washing machine simple in construction, strong, and durable, which will not rub the clothes and which will, at the same time, wash them quickly and thoroughly.

COTTON SEED AND CORN PLANTER.—Joshua B. Godwin, Williamston, N. C.—This invention has for its object to furnish a simple, convenient, effective, and accurate machine for planting cotton seed and corn, which shall be so constructed and arranged that it may be easily adjusted for work in either capacity.

TIN CAN.—John Joseph Burkert, New York city.—This invention has for its object to construct the covers and fastenings of sheet-metal cans, that such covers, after having been cut open, shall not have become entirely useless.

MONEY SAFE.—Philipp Schreyer, New York city.—This invention relates to a new manner of constructing iron safes, and to a novel method of applying the same to articles of furniture. The invention consists in so constructing a safe of an outer and inner metal case, that the two cases are only connected by a bolt or bolts, passing through their bottoms, no other fastening being required. The invention consists, also, in constructing such safes so that they can be applied as supports or central standards to tables.

PICTURE NAIL.—John H. Squiers and Ezra J. Warner, Newark, N. J.—This invention relates to a new device for fastening the porcelain knobs to the ends of nails or screws, which are used for suspending pictures, and for other purposes. The invention consists in the application of wire-spring fastenings to the porcelain knobs or heads, the springs being so formed as to catch readily over the heads of the nails or screws, to which they are to be secured.

MULTIPLE SPONGE.—Hamilton Erastus Smith, Newark, N. J.—The object of this invention is to make small sponges more useful, and to increase their value. At present, large sponges, such as are used for washing coaches, etc., are very expensive, the value increasing with the size, while small sponges are comparatively useless. This invention consists in uniting a suitable number of small pieces of sponge into one large sponge by means of fastening devices, which are entirely concealed. The entire sponge surface of this multiple sponge is, therefore, applicable to use.

COMBINED COUNTER AND SHOWCASE.—L. F. Vienot, New York city.—The object of this invention is to reduce the cost of counters and show cases by combining them, and thereby saving the expensive counter tops.

PHOTOGRAPHIC PRINTING APPARATUS.—J. H. Hamilton, Sioux City, Iowa.—This invention relates to improvements in apparatus for making mezzotint photographs, and consists in the employment of a large box containing several square tubes, and supported on pivots, in a frame mounted on casters, so that it may be adjusted in vertical and horizontal planes to cause the tubes to receive the rays of light from the sun in the lines of their axis at all times and so as to fall on the negative perpendicular to it, the negative with the printing frame being placed at the bottom of the tubes.

TUG FASTENING FOR WHIFFLETREES.—L. A. Johnson, Candor, N. Y.—This invention relates to improvements in fastenings for connecting the tugs to whiffletrees, and consists in the combination with the tug hooks projecting from the ends of the whiffletree, of slides preferably arranged in grooves in the rear sides of the whiffletrees to slide forward and back, and having bent up ends provided with holes coinciding with the ends of the hooks to receive the said ends when slid inward to prevent the escape of the tug, and strengthen the said hooks. The said slides are provided with spring stops, which hold them in the open position for the reception of the tugs, or in the closed position for retaining them.

SAW PITMAN HEAD.—L. Morrison and A. G. Harms, Allegheny City, Pa.—The object of this invention is to simplify and render more convenient the mechanism connected with a muley saw, having more especial reference to the pitman head, but applying also to the buckle of the saw; and it consists in the method of adjusting the rivet pin of the pitman head, and in the construction of the buckle of the saw.

COVERING FOR STEAM BOILERS, STEAM PIPES, ETC.—James E. Sharp, Eleazer Ainsworth, and F. A. Sabatton, Troy, N. Y.—This invention relates to a new and useful improvement in the mode of protecting steam boilers, steam pipes, or other articles from the effects of cold air, preventing thereby the condensation of steam and loss of heat.

COLUMNAR MATTRESS.—H. E. Smith, New York city.—This invention has for its object to furnish an improved mattress, which shall be so constructed that the air may pass through it freely to keep it pure; and which shall at the same time, be very elastic and comfortable as a bed.

ROCK DRILL.—Samuel Lewis, Williamsburg, N. Y.—This invention has for its object to improve the construction of an improved drill, patented June 15, 1869, and numbered 91,332, so as to make it more convenient in use and more effective in operation, enabling the length of stroke to be regulated at will, and any one of the drills to be raised and detached without disturbing the operation of the other drills.

KNIFE SCOURER.—J. Q. Adams and S. R. Goodall, Brooklyn, N. Y.—This invention relates to a new and convenient improvement for cleaning and scouring the blades of table knives. The invention consists in the use of a cylindrical box, which has a perforated bottom and is combined with an annular cork, secured against the bottom.

WOOD PULP MACHINE.—S. C. Taft, Mendon, Mass.—This invention relates to a new machine for reducing wood to a pulp, to prepare it for the manufacture of paper.

STEAM GENERATOR.—Michael Ritchey, Paterson, N. J.—This invention relates to a new steam generator, which is so constructed that the water, before it enters the steam boiler, will be thoroughly heated, and that, when the pumping ceases, a complete circulation may be kept up in the same.

TONGUEING AND GROOVING MACHINE.—B. J. Barber, Ballston Spa, N. Y.—This invention relates to a new manner of arranging the cutters on the heads of tongueing and grooving machines, with a view to preventing the tearing of the wooden fiber, and the consequent cracking of the wood, which is frequently occasioned on the ordinary machines now in use.

EASY CHAIR.—William Charles Poppendieche, New York city.—This invention relates to a new adjustable easy chair, which can be set and adjusted at its back and foot rest will be more or less inclined, and the arm rests extended, at the will of the person using it.

COMBINATION TOOL.—W. A. Sharp, Tama City, Iowa.—This invention comprises the combination in one tool, of a sliding hook, or gaze, level plumb, compass, callipers, try square, bevel, foot rule, edging plane, rabbet plane, screw driver, tape measure, and marking gage.

COUNTERSINKS.—Aea Wheeler, Brattleboro, Vt.—This invention relates to countersinks, and in the mode of making them. The bit is formed in the shape of a hollow eccentric cone, with an angular slot at the line from the point to the base of the cone, where the sides of the parts with the greater and lesser radii meet. The base of the bit is united to the handle by a section representing about half, or a little more than half a cone, having its base connected to the inverted base of the bit.

MACHINE FOR STAMPING LACE PAPER.—Ambrose Giraudat, New York city.—This invention relates to a new machine for stamping lace paper either in long strips or circular pieces, and has for its object to do away with the ordinary tedious manual process, and to permit the employment upon the same piece of a number of hammers. The process of stamping will be greatly facilitated, and less labor required for the purpose.