

ENGINEERING INVENTIONS.

Improvements in air compressing engines form the subject of a patent issued to Mr. Friedrich Honigmann, of Aachen, Germany. The invention contemplates compressing air to ten or more atmospheres, and so that, by specially devised means, the air will also be highly heated.

An elevated endless single track railway has been patented by Messrs. William R. Bishop and Ryland W. Eames, of Columbus, Col. It cheapens construction by using a single rail, the cable is relieved of unnecessary weight by suspending the load from a car upon the track, and a rotary tramway is made, so increasing the capacity of performance.

An improved switch operator has been patented by Messrs. James H. Kennedy, of Iowa Station, and Thomas P. Hall, of Toronto, Canada. It provides for a simple attachment to the locomotive, whereby the engineer can move the switch to turn the train on to a siding, and also for a similar attachment to be let down from the hind truck, whereby the switch can be shifted back after the train has passed on to the siding.

A grading machine has been patented by Mr. Lewis C. Gandy, of Humboldt, Neb. It is of simple and substantial construction, for grading and leveling earth in making the road bed of railways, having a cutter mounted on a frame by which it is drawn, said cutter being susceptible of easy adjustment for depth of cutting, and also a mould board for conducting earth to one side of the grade as may be desired.

MECHANICAL INVENTIONS.

An improved log roller or carrier has been patented by Messrs. Freeman S. Farr, and Joshua Evered, of Muskegon, Mich. By a movable stop combined with a canting arm, both fitted for operation by a steam cylinder, logs are more conveniently moved and held than heretofore, and are not liable to be thrown against the carriage blocks to break them, as now frequently happens.

A centrifugal pump has been patented by Mr. Christoffer A. Christensen, of Willamena, Oregon. It is of simple construction and easily variable capacity to lift sand, gravel, and other solid or pulpy substances without obstruction, and designed to be so worked as to utilize the applied power directly and to the best advantage.

AGRICULTURAL INVENTIONS.

A check row attachment for corn planters has been patented by Mr. Valentin Weber, of Princeville, Ill., intended to facilitate the planting of corn in accurate check row. By this invention a seed dropping slide is made to be operated by the passage of a check wire through a specially devised and arranged attachment.

MISCELLANEOUS INVENTIONS.

An improved riding saddle composed mostly of springs, which renders great relief to the horse and ease to the rider. Mr. Merlin Comstock, of Los Angeles, Cal., is the patentee.

An improvement in drawers has been patented by Mr. Charles Z. Celler, of New York city. Its object is to avoid heavy seams in the crotch and fly, and to strengthen these parts against ripping.

A paper bag and twine holder has been patented by Mr. Abbott M. Reeves, of Mansfield, Ill. It is an improved device for holding a ball of twine, and also to suspend convenient for use different sizes of paper bags or wrappers.

A powder flask has been patented by Mr. Paul Otto Kessler, of Darien, Ga., so constructed as to form a charger, by which the proper charge of powder can be automatically measured for any amount desired in filling cartridges or loading guns.

Mr. Emmet N. Barber, of Kent, Ohio, has patented a lumber measure that will accurately register the aggregate number of feet, board measure, of boards of any width and length, the length being known to the operator.

Mr. Henry Smith, of Newark, N. J., has patented an improvement in pearl buttons, with the design of providing a simple, convenient, neat, and effective means for connecting the pearl front of a button to its back.

Mr. J. R. King, of St. Paul, Minn., is the patentee of a combined paper weight, pin cushion, calendar, and pen rack, all of which are so adjusted one to another as to make a very convenient and ornamental article for the counting room desk.

An improved cartridge pouch has been patented by Mr. Oliver D. Collins, of Snow Hill, Md. To carry a large number of cartridges conveniently it provides a series of tubes united side by side, open at the upper ends, and provided at the lower ends with latches for holding or permitting the withdrawal of cartridges.

An improvement in fruit gatherers has been patented by Messrs. Jesse L. Talbot and Mr. Chesterfield J. Hiter, of Elizabethtown, Ky. Its object is to facilitate the gathering of such fruit as may be beyond reach from ordinary ladders, and prevent the fruit from being bruised while being gathered.

An improvement in picture mounts is the subject of a patent which has been issued to Mr. Stella A. Jackson, of New York city. The object of the invention is to secure a picture against a waxed back plate, so that dust will be effectually excluded, and the tints of the picture be preserved.

A fruit jar has been patented by Mr. Robert Malcom, of Cornwall, N. Y. It has a thickened neck, screw threaded internally, and with a groove on its upper surface; the cover is externally screw threaded, and presses a packing ring firmly into the groove in the top surface of the neck.

Mr. Hiram P. Pruim, of Grand Haven, Mich., has patented a new and improved breastpin, whereby the pin is made much stronger than one hinged in the usual manner, does not wear out so rapidly,

and it is less apt to become disengaged than are pins of the usual construction.

A fruit drier has been patented by Elizabeth Shuts, of Casstown, O. The object of the invention is to provide an apparatus for drying all kinds of fruits and vegetables, and it is so constructed that it can be conveniently operated without danger of burning them.

An improved school desk and seat has been patented by Mr. William J. Jackson, of McComb, Miss. The desk can be adjusted vertically according to the size of the children to occupy it, can be swung upward to facilitate the sweeping of the room, or folded so as to occupy but little space.

An improved warp linking machine has been patented by Mr. Clayton Denn, of Philadelphia, Pa. In linking warps as delivered from warping machines the peculiar construction here patented provides for more rapid and efficient work than has heretofore been possible.

A blasting needle consisting of a needle made with a copper point to prevent striking fire, and with one or more holes through the opposite end for cutting off the end of the "squib," or straws used in priming the charge, is the subject of a patent granted to Mr. Ralph B. Platt, of St. Nicholas, Pa.

An improved door holder, or check, has been patented by Mr. Joseph A. Coultas, of Brooklyn, N. Y. The device is secured to the inside of the door, so as to hold it open at any desired position, against draughts of air, but when it is desired to close the door it works automatically and requires no attention.

A pearl button, with a perforated pearl front, the back having a countersunk perforation with an eyelet provided with a crossbar, so that the pearl front will not be disfigured by rivets or other means by securing it to the button back, is the subject of a patent granted to Mr. Henry Smith, of Newark, N. J.

An electric voting machine for legislative bodies has been patented by Mr. John A. Enos, of Peabody, Mass. It provides for an electrical apparatus by which each voter may cause his vote to be indicated on a dial, and his name displayed to view, by one and the same current of electricity.

An improvement in ore concentrators has been patented by Mr. Hincle P. Mabry, of Fort Worth, Tex. The object of the invention is to facilitate the removal of the lighter and worthless parts of the ore from the heavier and valuable parts by means of a peculiar arrangement giving a rotary shaft a longitudinal reciprocating or a rising and falling movement.

A fruit picker, more particularly designed for picking or clipping oranges, has been patented by Mr. Richard J. Morgan, of Orlando, Fla. Its construction is such that it is held and operated by certain fingers of one hand, while the remaining fingers are at liberty to grasp the fruit, leaving the other hand entirely free.

An improved stove jointer has been patented by Messrs. Julius F. Vogt and William C. Vogt, of St. Louis, Mo. According to this invention an improved arrangement of the cutters is provided for, so that a gauge may be used, and the staves will be kept pressed against it, whereby they may be made uniform as to the width of the ends.

A horse checking and unchecking device has been patented by Mr. Daniel O. Cox, of Mansville, N. Y. This is an improved arrangement whereby, from a peculiar construction and arrangement of parts connected with the harness, the driver can check or uncheck a horse harnessed to a vehicle without leaving his seat.

An elevator attachment to ship's gang platforms has been patented by Mr. Henry N. Pharr, of La Grange, Ark. It is intended to facilitate the delivery of goods by the use of steam power applied directly or through intermediate gearing, and is also designed for use in grading railroads, canals, and lawns, and in the construction of large buildings.

Mr. Francis Wayland Brown, of Rochester, N. Y., has patented a means for insulating, carrying, and laying electric wires under the ground. The pipe or trough in which the wires are laid is filled with coal dust, sand, resin, or other non-conducting substance closely packed, so that the wires are held in place firmly and surrounded with a substance which will not conduct the electric current from the wires.

An electric time lock has been patented by Mr. William Edgar Peirce, of Newark, N. J. It has a battery, the circuit wires with two breaks, one closed automatically by time mechanism and the other by hand, and both wires connected with an electromagnet having its armature connected with a catch lever engaging with the locking bolt, so that the latter will be released when both breaks in the circuit are closed.

A gas and coke kiln, principally as an improvement in making coal gas, has been patented by Mr. Hayden H. Hall, of New Hamburg, N. Y. The kiln has a removable cover at the top, a blast and exhaust pipe on the line of grate of charge receiving chamber, and another chamber below to receive the coke of each charge by the fall of the sectional floor or grate at the sides of the blast pipe.

Mr. Rudolph C. Koerber, of Austin, Tex., has patented a process for cleaning, tinting, and polishing pecan and other nuts. The nuts as brought in from the woods are carried up by an elevator, rapidly revolved in a cylinder, in which is common lye, sand or gravel, and water, then screened automatically, after which they are revolved in a second cylinder with suitable tinting material to restore the abraded nuts to their original color or an improved hue.

An excavator, for use in digging ditches, building roads, etc., to be used with either horse or steam power, has been patented by Mr. David Harper, of Jonesborough, Ark. Properly mounted on a suitably devised and firmly made truck, a wheel is made to revolve horizontally, with chains carrying buckets or scrapers attached to its outer rim, these being guided by one or two men in the scraping or digging, while a boy can attend to the dumping of the buckets as far off as the chains will reach.

Insurance.

The Aetna Life Insurance Company, of Hartford, Conn., have assets exceeding \$28,000,000.

The Connecticut Fire Insurance Company, of Hartford, Conn., have surplus of \$1,292,000.

The Phoenix Insurance Company, of Hartford, have paid over \$16,400,000 in losses, and have nearly \$4,500,000 of assets.

The Travelers' Insurance Company has written 903,000 general accident policies and has paid 93,000 claims for fatal or disabling injuries.

Dr. Talmage once remarked that "if a man can pay the premium on a policy of life insurance, it is a mean thing for him to go to heaven while his family goes into the poorhouse."

A company has been organized in Berlin, Germany, to restore lost articles to their owners or make good their value. How they propose to check bogus claims is not stated.

Financial.

Post, Wales & Co., 72 Broadway, New York, make a specialty of investment securities.

The Treasurer of the United States reports that the one and two dollar United States notes have increased during the last year \$3,000,000, and that of the 28,000,000 silver dollars coined during the last year he has been able to pay out but \$400,000.

Mammoth vaults are being constructed at the Washington Treasury capable of holding \$45,000,000 in silver coin. If the coinage continues at the present rate, it will not take long to fill it, as it has been found necessary to order a large amount taken away from the Boston Sub-Treasury to prevent the bursting of the vault.

The Secretary of the Treasury will recommend to Congress to retire the three-cent nickel piece. As this coin is about the size of a ten-cent piece, and as it was coined when we had a three-cent postage stamp, its days of usefulness are over.

Forster & Co., 6 Wall Street, New York, offer at par a limited amount of Texas *Sittings* Publishing Company's stock. See their advertisement in financial column.

Manufacturing Notes.

The Nicholson File Company, of Providence, R. I., are building an addition, 80 x 40 feet, two stories, for the manufacture of the finest grades of files for jewelers' use.

The Magee Furnace Company, Chelsea, Mass., are constructing a six story building, 66 x 100 feet, to be used as a stove mounting shop and for storage.

Business and Personal.

The Charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue.

Auction Sale of Machinery.—In order to reduce our stock we will sell at auction at 10 o'clock A.M., Dec. 12, 1883, our stock of new and second-hand machinery at our branch warehouses, 207 and 209 Centre St., New York city. Tools consist of a first-class assortment, nearly every item new, and sale positive. We give below a partial list, viz.: Engine Lathes as follows, back-gear, screw cutting, power cross-feed, hollow spindle and compound rest: One 8' x 22", one 10' x 20", two 8' x 20", one 7' x 20", one 10' x 18", one 9' x 18", one 7' x 18", two 6' x 18", one 8' x 17", two 6' x 16", one 4 1/2' x 14", one 4' x 13". Drill Presses, back-gear, quick return, power feed: One 32", one 30", one 28", one 24", one 20", one 3-spindle drill, one 4-spindle drill, one No. 7 drill. Nut Tappers: Two 7-spindle and one 2-spindle machines. Speed Lathes: One 9' x 15", one 6' x 16", one 6' x 15", two 5' x 14". Iron Planers: One 7' x 32" x 25", two 6' x 24" x 24", two shaping machines, one 48" radial drill, Betts Machine Co. make; No. 3, 60 lb. "Palmer" power hammer; one spinning lathe, three watchmakers' lathes, four milling machines, one 40 H. P. vertical engine, five small engines, four hydraulic jacks, twenty-four vices, ten lathe chucks, four bench lathes, five steam pumps, and many other items. Machinery can be examined at any time prior to sale. Send for catalogues. S. C. Forsyth & Co., Machinists and General Machine Dealers, Manchester, N. H.

Useful information and tables on Steam and Water for Engineers and others contained in Blake's new illustrated catalogue of steam pumps and pumping engines, just published. Copies sent free. Address Geo. F. Blake Mfg. Co., 95 and 97 Liberty St., New York.

The wrapper for Blackwell's Durham Long Cut is unique. The foil, which effectively preserves the freshness and aroma of the tobacco, is stamped into a silken surface. At the top is the triumphant Durham Bull, symmetrical in figure and lordly in proportion. Beneath are the Pyramids, on whose top an ambitious sculptor is carving—not Exceisor, but which is the same thing—Durham. Enjoy the artistic design before passing it over to the children.

See adv. of Folding Basket, page 348.

To parties desiring to invest in a profitable manufacturing business (protected by letters patent and in successful operation), we would sell or exchange exclusive rights in territory too remote for us to handle to advantage. Address Arnd Mfg. Co., St. Louis, Mo.

For Sale.—Engine lathe, 15 1/2 ft. bed, 28 in. swing; with locks to swing 43 in.; back-gear, screw cutting; with usual fittings. Price, F. O. B. St. Louis, Mo., \$500. S. C. Forsyth & Co., Manchester, N. H.

Pumps—Hand & Power, Boiler Pumps. The Goulds Mfg. Co., Seneca Falls, N. Y., and 15 Park Place, N. Y.

Microscopes, Microscopic Mounting Instruments, and Materials. Send for catalogue. Queen & Co., Phila.

Dies, Patterns, etc., Chas. A. Bailey, Middletown, Ct.

Steam Pipe and Boiler Covering, Roofing Paints, Prepared Roofing, and general line of Asbestos materials. Phil Carey & Co., 127 Central Avenue, Cincinnati, O.

For Sale.—Five patents entire. Nos. 235,844, 244,414, 254,251, 247,296, 238,545. Paper Pulp Engine. Pay as specialty. J. R. Abbe, Manchester, N. H.

* Best Popular Science Works, 15 cents each. Catalogue free. J. Fitzgerald, 20 Lafayette Place, New York. For Freight and Passenger Elevators send to L. S. Graves & Son, Rochester, N. Y.

Brush Electric Arc Lights and Storage Batteries. Twenty thousand Arc Lights already sold. Our largest machine gives 80 Arc Lights with 45 horse power. Our Storage Battery is the only practical one in the market. Brush Electric Co., Cleveland, O.

Cotton, Rubber, and Leather Belting; Rubber, Linen, and Cotton Hose; all sizes. Greene, Tweed & Co., N. Y. Best Squaring Shears, Tinnars', and Cainers' Tools at Niagara Stamping and Tool Company, Buffalo, N. Y.

Lathes 14 in. swing, with and without back gears and screw. J. Birkenhead, Mansfield, Mass.

The Best.—The Dueber Watch Case.

If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., SCIENTIFIC AMERICAN Patent Agency, 261 Broadway, New York.

Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Steam Pumping Machinery of every description. Send for catalogue.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. Complete outfit for plating, etc. Hanson & Van Winkle, Newark, N. J., and 92 and 94 Liberty St., New York.

Lists 29, 30 & 31, describing 4,000 new and 2d-hand Machines, ready for distribution. State just what machines wanted. Forsyth & Co., Manchester, N. H., & N. Y. city.

For Power & Economy, Alcott's Turbine, Mt. Holly, N. J.

"Abbe" Bolt Forging Machines and "Palmer" Power Hammers a specialty. Forsyth & Co., Manchester, N. H.

Railway and Machine Shop Equipment. Send for Monthly Machinery List to the George Place Machinery Company, 121 Chambers and 103 Reade Streets, New York.

"How to Keep Boilers Clean." Book sent free by James F. Hotchkiss, 84 John St., New York.

Wanted.—Patented articles or machinery to make and introduce. Gaynor & Fitzgerald, New Haven, Conn.

Water purified for all purposes, from household supplies to those of largest cities, by the improved filters manufactured by the Newark Filtering Co., 177 Commerce St., Newark, N. J.

Improved Skinner Portable Engines. Erie, Pa.

Latest Improved Diamond Drills. Send for circular to M. C. Bullock Mfg. Co., 30 to 38 Market St., Chicago, Ill. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 393 Center St., N. Y.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Supplement Catalogue.—Persons in pursuit of information on any special engineering, mechanical, or scientific subject, can have catalogue of contents of the SCIENTIFIC AMERICAN SUPPLEMENT sent to them free. The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

Spy Glasses, Telescopes, Opera Glasses, Field Glasses. Send for catalogue. Queen & Co., Philadelphia.

Fossil Meal Composition, the leading non-conducting covering for boilers, pipes, etc. See adv., p. 350.

Woodwork'g Mach'y. Rollstone Mach. Co. Adv., p. 302.

Steam Pumps. See adv. Smith, Vaile & Co., p. 301.

Catalogues free.—Scientific Books, 100 pages; Electrical Books, 14 pages. E. & F. N. Spoon, 35 Murray St., N. Y.

Straight Line Engine Co., Syracuse, N. Y. Best in design, materials, workmanship, governing; no packing.

Ajax Metal Company, Phila. Clamer's Ajax Metals for railroad, rolling mill, engine bearings, cocks, and valves.

Fire Brick, Tile, and Clay Retorts, all shapes. Borgner & O'Brien, M'Frs, 23d St., above Race, Phila., Pa.

Peck's Patent Drop Press. See adv. page 333.

Drop Forgings. Billings & Spencer Co. See adv., p. 333.

Bradley's Road Cart, Syracuse, N. Y. See p. 334.

Diamond Engineer, J. Dickinson, 64 Nassau St., N. Y.

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Emerson's 1884 Book of Saws. New matter. 75,000. Free. Address Emerson, Smith & Co., Beaver Falls, Pa.

Hoisting Engines. Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., Philadelphia, Pa.

Gould & Eberhard's Machinists' Tools. See adv., p. 333.

Soapstone Packing, Empire Gum Core, and all Engine Packing. Greene, Tweed & Co., 118 Chambers St., N. Y.

Barrel, Keg, Hogshead, Stave Mach'y. See ad, p. 333.

Use King's Office Pen, patented July 31, 1883. Superior to all others. Price, \$1 per gross, mailed free of postage. One dozen pens sent as samples on receipt of 10 cents. Geo. F. King & Merrill, 29 Hawley Street, Boston, Mass.

Magic Lanterns and Stereopticons of all kinds and prices. Views illustrating every subject for public exhibitions, Sunday schools, colleges, and home entertainment. 116 page illustrated catalogue free. McAllister, Manufacturing Optician, 49 Nassau St., New York.

For Mill Mach'y & Mill Furnishing, see illus. adv. p. 332.

Drop Hammers, Power Shears, Punching Presses, Die Sinks. The Pratt & Whitney Co., Hartford, Conn.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 334.

Catechism of the Locomotive. 625 pages, 250 engravings. Most accurate, complete, and easily understood book on the Locomotive. Price \$2.50. Send for catalogue of railroad books. The Railroad Gazette, 73 B'way, N. Y.

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Amateur Photographers can have their negatives printed or enlarged by Rookwood, No. 17 Union Square.

The Porter-Allen High Speed Steam Engine. Southwork Foundry & Mach. Co., 450 Washington Ave., Phil. Pa.

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