

ENGINEERING INVENTIONS.

A steam governor has been patented by Mr. John Gerhardt, of Montreal, Quebec, Canada. The governor valve is operated by pivoted vanes arranged to be acted upon by centrifugal force and the resistance of the air for opening the vanes against the tension of a main spring arranged to normally hold the vanes closed or drawn inward toward the axis of the governor.

A check valve has been patented by Mr. Adam D. Glace, of Rocklin, Cal. This invention covers certain novel features in the making of a simple and inexpensive valve, intended to close positively to cut off a back pressure, thereby promoting durability and avoiding an overheating of an injector or inspirator, and preventing waste of any fluid passed through the valve.

A method of and apparatus for cooling furnace bosh jackets has been patented by Mr. James L. McMichael, of Glen Wilton, Va. This invention covers new means of applying and controlling the water, the construction being such that the water sprayed against the bosh from perforated tubes flows rapidly down to several troughs so arranged as to allow currents of air to act on the water and keep it cool.

A gas engine has been patented by Mr. Johannes Spiel, of Berlin, Germany. It has novel devices, whereby, with the first stroke of the piston, an explosive mixture of air and benzine, or naphtha, etc., is sucked up, while with the second stroke the mixture is compressed, and during the third stroke ignition at the dead point takes place, with explosion and expansion, the ignited gases being expelled with the fourth stroke.

A jointed link for engines has been patented by Mr. Edson Doe, of South Newbury, Vt. Combined with the crank shaft of an engine, the eccentric attached thereto, and the eccentric rods, and the crank shaft connected with the valve stem, is a jointed link and its holding bar, intended to give a perfect lead and cut off on both forward and back motion, each eccentric working independently, and one part of the link not affecting the movement of the other part.

MECHANICAL INVENTION.

A pivot cutting implement has been patented by Mr. Amos A. Wolcott, of Tom's River, N. J. It has a slotted spindle and slotted collar, with adjustable and removable cutters, springs, and adjusting rod, making a device for cutting pivots or bearings adapted to be used in ordinary lathes or by hand.

AGRICULTURAL INVENTIONS.

A corn planter has been patented by Mr. Frank H. Ryback, of Riverside, Iowa. It has seed droppers operated by sliding clips, which are actuated by levers carrying daggers, the invention being an improvement on a former patented invention of the same inventor, relating to improved device for operating the daggers.

A check row corn planter has been patented by Mr. Silvanus F. Enos, of Etna, Ill. It is so made that the seed will be dropped at uniform distances apart, the lines of the cross rows be marked, and that it can be readily operated to retard or hasten the dropping of the seed, while the dropping mechanism can be thrown out of gear by raising the forward part of the machine from the ground.

MISCELLANEOUS INVENTIONS.

A brush has been patented by Mr. William F. Howard, of Claremont, N. H. It has a U-shaped core, with tongues bent back as a fastening piece for bristles or other brush material, with other novel features, whereby a substantial article is produced in a simple and cheap way.

A steam clothes washer has been patented by Mr. Charles Boaz, of Utica, Ill. It consists of a clothes box made to be inserted in a boiler in such way as to leave a steam space under it, a vacant space at the sides, and a condensing chamber at the top, whereby the clothes will be washed exclusively by steam, and do not come directly in contact with the water.

A station indicator has been patented by Mr. Charles E. A. Brandes, of Brooklyn, N. Y. The invention consists of signs attached to bent rods hung on a cylinder having a transverse slot, a box being secured to the car and forming a bearing for the cylinder, making a simple and easily operated device for indicating any desired station at any desired time.

A flying target has been patented by Mr. Joseph H. Jacobs, of Atchison, Kan. It is made with sheet metal body, and has at its center an opening fitted to contain an image, instead of which a live bird may be used, making the target also a trap, the bird or image being released when the target is struck, and the target being one which can be repeatedly used.

A buggy iron has been patented by Mr. D'Alton Toppliff, of Franklin, Ill. It is an angled iron, to be attached to the sills near their ends, and extended under the edges of the panels of the body to sustain the ends of the panels, the buggy body being of the usual description, with side panels and end boards, and having sills extending along the inner side of the panels at the bottom of the body.

A photographic camera has been patented by Messrs. Richard A. Anthony and William H. Lewis, of New York city. It is in the form of a hand bag or satchel, containing and concealing the camera, with apertures for the finder and camera tube, having doors which form, when closed, parts of the walls of the case, so that the user may carry and use the camera without being noticed.

A fence post has been patented by Messrs. William H. H. and Solomon Yount, of Troy, O. The post is preferably made of angle iron, with its lower end shaped to have attached thereto a base or point to go beneath the ground, and provided with flanges of sheet metal, the forward face of the post being perforated to receive staples by which fence wires are fastened in place.

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.

For Sale.

The powerful hydraulic dredge boat G. W. R. Bayley, now lying at Port Eads, La. Capacity, 2,000 cubic yards of sand or 4,000 of mud in 10 hours. Also two powerful tug boats. All in perfect order. Inquire at Room 703 Mutual Life Building, No. 34 Nassau St., New York.

Woodworking Machinery of all kinds. The Bentel & Mergedant Co., 116 Fourth St., Hamilton, O.

Belting, Hose, and Packing of all kinds. Manufacturers' supplies generally. Greene, Tweed & Co., 83 Chambers St., N. Y.

Foreman for machine tool department of a large stationary and portable engine works. Must be a draughtsman and familiar with valve movements and high speed automatic engine work; must understand handling men. To the right person there is an opportunity to secure the position of superintendent of the establishment. Address, stating age, T. E. J., P. O. box 773, New York

Builders of tools or interchangeable articles, or those who otherwise have use for a mech. engineer of unquestionable reputation. Address B. F. B., 115 B'way, room 111, N. Y.

To Stove Manufacturers—Two valuable patents covering tailors' stoves, fully tested (will take place of all others), can be purchased on favorable terms; or patentee would make arrangements for their manufacture with a practical stove man. Address Patentee, 830 Broadway, N. Y.

Second-hand Tools For Sale by Poole & Hunt, Baltimore, Md.—One planing machine, will plane 35" wide, 27" high, and 16' 6" long; one planing machine, will plane 30" wide, 26" high, and 5' 6" long; one planing machine, will plane 24" wide, 22" high, and 5 long; one double geared chasing lathe, will swing 24" dia., 8' 6" long; one drill grinding machine; one small punching and shearing machine, with flywheel and clutch starting arrangement.

If anything clogs the waste pipes in the house, we become alarmed, for sewer gas is apt to generate disease. The children, then, are removed to their grandparents', or kept out of doors as much as possible, until the defect is remedied. But the waste pipes of the human system are often allowed to clog, and the sufferer, who cannot get away from the poison, becomes unfit for work or pleasure. In such cases, Dr. Pierce's "Pleasant Purgative Pellets" will gently remove the cause, and the effect will vanish of itself. By druggists.

Eureka scroll sawing machine for sale; been run for 15 days; taken for debt; good as new. Price, \$62. spot cash. Address "Eureka," Worcester, Mass.

Blake's Improved Belt Studs are the strongest and best fastening for Leather and Rubber Belts. Greene, Tweed & Co., 83 Chambers St., New York.

Engines and boilers, 1/2 to 4 H. P. Washburn Engine Co., Medina, O.

For Sale—The machinery, tools, plating apparatus, and raw material of a manufacturing establishment, now working on orders in brass and other metals. Very low rent, including steam power. Address Manufacturer, P. O. box 285, New Brunswick, N. J.

A Catechism on the Locomotive. By M. N. Forney. With 19 plates, 227 engravings, and 600 pages. \$2.50. Sent on receipt of the price by Munn & Co., 361 Broadway, New York.

Concrete Apparatus, etc. Ernest Ransome, S. F., Cal. The Knowles Steam Pump Works, 44 Washington St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 139 Center St., N. Y.

Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Pumps for liquids, air, and gases. New catalogue now ready.

All books cheap. School of Electricity, N. Y.

Nickel Plating.—Sole manufacturers cast nickel anodes, pure nickelsalts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Sole manufacturers of the new Dip Lacquer Kristaline. Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 92 and 94 Liberty St., New York.

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn.

Best Automatic Planer Knife Grinders. Pat. Face Plate Chuck Jaws. Am. Twist Drill Co., Meredith, N. H.

See Burnham's turbine ad. to mill owners next week.

Chucks—over 100 different kinds and sizes in stock. Specials made to order. Cushman Chuck Co., Hartford, Ct.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Hoisting Engines, Friction Clutch Pulleys, Cut-off Couplings. D. Frisbie & Co., 112 Liberty St., New York.

Curtis Pressure Regulator and Steam Trap. See p. 142.

Tight and Slack Barrel Machinery a specialty. John Greenwood & Co., Rochester, N.Y. See illus. adv., p. 28.

Catarrh Cured.

A clergyman, after years of suffering from throatloathsome disease, catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and saved him from death. Any sufferer from this dreadful disease sending a self-addressed stamped envelope to Dr. Lawrence, 212 East 9th St., New York, will receive the recipe free of charge.

Send for catalogue of Scientific Books for sale by Munn & Co., 361 Broadway, N. Y. Free on application.

Timber Gaining Machine. All kinds Wood Working Machinery. C. B. Rogers & Co., Norwich, Conn.

Iron and Steel Wire, Wire Rope, Wire Rope Tramways. Trenton Iron Company, Trenton, N. J.

Lick Telescope and all smaller sizes built by Warner & Swasey, Cleveland, Ohio.

Supplement Catalogue.—Persons in pursuit of information of 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.

NEW BOOKS AND PUBLICATIONS.

THE MANUFACTURE OF PAPER. By Charles Thomas Davis. Philadelphia: Henry Carey Baird & Co.

This book fills a place, hitherto vacant, in the very considerable library of industrial publications issued by Messrs. Baird & Co. It is a comprehensive treatise on the fabrication, coloring, and finishing of every kind of paper, explaining the differences in the wide variety of raw materials used, and describing the tools, machines, and practical details of the business. As in former books of which Mr. Davis is the author, the reader is referred to long lists of patents taken out on machines and processes employed in the industry treated of.

THE LIFE OF ROBERT FULTON. By Thomas W. Knox. New York: G. P. Putnam's Sons.

A popular newspaper correspondent, and the writer of numerous entertaining books for young people, has here thrown together a sketchy account of the early American promoter of steamboat navigation and what he did, embracing many particulars germane to the matter which would be likely to interest a youthful reader.

THE BATTLE OF GETTYSBURG. By the Comte de Paris. Philadelphia: Porter & Coates.

This is a detached portion of the author's history of the Civil War in America, the importance of the battle of Gettysburg a decisive turning point in the four years' conflict rendering its full treatment in a special volume a work of independent value. It is evident that great pains have been taken to render the account as accurate as thorough subsequent investigation could make it, and that the opinions expressed are entirely without partisan bias. The author's distinguished position, the facilities for observation afforded him as a staff officer, and the care which has been taken in collating information from the official records of both armies, all tend to make this one of the most generally satisfactory accounts of the battle that has yet appeared.

REPORT OF THE NEW YORK FOREST COMMISSION, 1885. Albany: The "Argus" Company, State Printers.

This volume is a most welcome indication that something substantial is at last being done toward the preservation of a portion of the virgin forests of the State, particularly in the Adirondack region, of which a most excellent map is given, showing the woods that are left. The dissemination of such information cannot but have a useful effect in securing the proper legislation for the preservation of the woods of these northern regions.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(1) A. E. M. asks for any practical and simple way of keeping furniture free from wood borers, in a house infested with them, and if anything besides arsenic will kill these—for example, carbolic acid. A. You might try painting the wood with a solution of corrosive sublimate in alcohol. Carbolic acid in sufficient quantity would dispose of them. Both these are violent poisons.

(2) E. B. asks: 1. At what temperature does oxygen unite with carbon, that is, how high does the temperature of a mass of coal have to be before combustion takes place? A. At a low red heat; about 1,000° F. 2. Will oxygen unite with zinc or any other substance as readily when combined with hydrogen, and being in the form of water, as it will when uncombined, or as common air? A. It will not. 3. Is a loud sound heard any further than a light sound in an acoustic telephone? A. It is.

(3) B. F. W. writes: Have plate and other glass splashed with lime by plasterer. How can it be removed without injuring glass? A. Dilute muriatic acid will remove the stain, after you have scraped off the bulk of the lime. You will not injure the glass, but the acid will spoil the frame if allowed to act upon it. Apply with a sponge.

(4) C. G. B. writes: 1. I have a cane that I prize highly, with a tortoise shell handle, which I wish to bend to an opposite shape. Can it be softened without injury, and so bent? A. We should not advise you to attempt it yourself. It can be done by softening in steam, bending, and polishing. 2. At certain seasons, lemons are scarce and dear. Can the juice be preserved by bottling or canning for future use, and how? A. a. Keep the filtered juice, before it has passed into fermentation, without adding alcohol, in a bottle hermetically sealed. b. Heat the fresh juice not compounded with alcohol in a vessel to the boiling point, and close while boiling. c. Compound the unfermented juice with 10 per cent of alcohol and heat as in b. d. Fill the fermented juice in bottles without an addition of alcohol and without heating. e. Heat the fermented juice without an addition of alcohol in a closed vessel to the boiling point, and close while boiling. f. Compound the fermented juice with 10 per cent of alcohol, and heat as in e.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted September 21, 1886,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing various inventions and their patent numbers, including items like 'Acid, pan for concentrating sulphuric', 'Alarm for poison receptacles', 'Amalgamator and separator', etc.