

## RECENTLY PATENTED INVENTIONS.

### Engineering.

**QUICK SPEED STEAM ENGINE.**—John P. Devoissaud, Sherman, Texas. This is a high pressure engine in which are two steam cylinders of equal diameter placed one upon the other, having a single head plate, a main steam valve, a throttle valve in a channel between the head plate and the seat of the main valve, and a governor device driven from the engine shaft and directly actuating the throttle valve. The peculiar construction and arrangement of the parts is designed to give a high degree of efficiency with a minimum expenditure of motive force, the travel of the piston heads being short in comparison with their area, and giving a high speed with low frictional resistance.

**STEAM ENGINE GOVERNOR.**—The same inventor has obtained a separate patent for a governor for use in connection with this double cylinder single-acting steam engine, wherein a plate-like governor having suitable steam ports is introduced within a vertical channel in the single head plate, closing one end of the two cylinders. The governor is very sensitive and steady in action and adapted for direct connection to a vertical sliding cut-off valve, and contains reliable means for an exact adjustment of its parts, being also adapted for use in various types of engines.

### Agricultural.

**CORN HUSKER.**—John P. Schurkens, Westphalia, Kansas. This is a machine preferably adapted to be drawn by a single horse, and in which the husking and ear-removing mechanism is made to approach the ground more or less closely by manipulating the rear extension of the shafts. It is adapted, when driven along a corn field, to remove the ears simultaneously from two rows of standing corn, removing the husks therefrom without injury to the ears and leaving the stalks with their roots in the ground. The machine is strong and inexpensive to build.

**CULTIVATOR OR SEED PLANTER.**—Linden Kirlin, Beattie, Kansas. This inventor has devised an improved self-adjusting connection between the main frame of a cultivator or planter and the frames carrying the cultivating and planting devices proper, adapting the latter frames to shift laterally automatically as required to enable the devices to work at different distances apart. The seat-supporting bar which connects the frames may also be shifted forward and back as required to enable the driver's weight to be thrown upon the front or rear portion of the runners. An improved sand and dust guard is likewise provided for the bearings of the rotating cultivating device or revolving disk.

### Miscellaneous.

**ORGAN.**—Jerzy Polukanis, Bloomfield, N. J. This is an improvement upon a formerly patented invention of the same inventor, in which is employed a pneumatic valve having a casing and a sliding leak piston, while, according to the improvement, a self-acting pneumatic valve is provided with a swinging leak piston pivoted in a casing attached to the wind box, containing the pallets connecting the wind box with the wind chest, connected in the usual manner with the pipes to be sounded. The improvement is designed to facilitate the quick sounding of the pipes to permit the performer to execute any desired passage of music in the proper time, the pallets responding instantaneously to the action of the air pressure on the manipulation of the keys.

**WATCH CASE SPRING.**—Edward A. Remick, Newark, N. J., and Peter Fleck, Long Island City, N. Y. This spring is made in two semicircular sections placed end to end to form a complete band or ring, one section having a fly and the other section a lock latch. Screws or other locking devices are not needed to hold the spring in place, and it may be utilized to support a movement, rendering a dust band upon the movement unnecessary and permitting a movement to be placed in a case quickly and conveniently. No fitting is required to place the spring in the watch case center, as it may be simply sprung into position. It is inexpensive to manufacture.

**BICYCLE GEAR.**—Erick J. Swedlund, Atwater, Minn. Journaled in a hollow chainwheel rotating loosely on the pedal shaft is a bevel gear wheel in mesh with a bevel gear wheel on the pedal shaft, while a sliding bevel gear wheel carried by the frame is adapted to be thrown in and out of mesh with the bevel gear wheel in the chain wheel, and a spring-pressed rod mounted to slide transversely in the chain wheel has a projection adapted to engage teeth on the bevel gear wheel on the pedal shaft. The invention is an improvement on a former patented invention of the same inventor, to enable the rider to travel with lessened speed and greater power, as may be desirable in going uphill or over rough roads.

**WIRE FENCE.**—Ephraim L. Schanek, Lewis Center, Ohio. This fence consists of a series of stretchers or woven frames formed of wire strands twisted one about the other and wire stays connecting the adjacent runners of each frame, the stays having at their opposite ends open-ended hooks or pockets adapted to connect with the runners of adjacent frames. The fence may be put up without special tools, a hammer only being necessary to fasten the frames to the posts or uprights.

**MARKING PATTERNS.**—Mrs. Louise Schaefer, Oneida, N. Y. This inventor has devised a method and an apparatus for marking patterns on fabrics, which consists in providing a marking board having a coloring pigment held on its surface, doubling the fabric and spreading it on the board, laying a flexible marker on the top layer of the fabric, the marker being also impregnated with a coloring pigment, placing the pattern on the marker, and then running a spur wheel around the edge of the pattern. A cheap, simple, and very convenient method is thus provided for readily marking patterns on dress goods and other fabrics to be made into garments.

**PEN.**—Addis M. Henry, White Sulphur Springs, Mont. This is a simple and effective ruling pen

for simultaneously producing a series of parallel lines, or for making a single heavy line, the pen to be used for ruling, writing and marking. It is preferably made of non-oxidizable spring material, provided with deep corrugations or folds at the point, the folds being cut through adjoining the point, while it may be shaped like ordinary pens at the heel, so that it will fit a common penholder, or in such other desired forms as will best serve in any special work.

**BRUSH.**—Arthur W. Hahn, New York City. This brush is especially adapted for cleaning nursing bottles and similar receptacles, and the bristle or cleaning section is removably connected with the back section, permitting a brush section to be readily removed when unfit for use, and another section substituted. The bristles are bunched and secured in brush form independent of the back section, and the brush section is so attached to the back section that a cleaning surface is obtained practically on three sides of the back and at one end.

**MATCH SAFE.**—Alfred Hansen, Sidney, Neb. According to this invention a revolvable cylinder is arranged within a casing and supports the matches, while a slide having a pin is adapted to project into the cylinder through slots to engage a match and push it upward through a trap door in the casing, the slide also serving to revolve the cylinder on its downward stroke. The device thus automatically delivers and lights a single match at a time.

**COMBINATION FURNITURE.**—Edward L. Still, New York City. This inventor has devised an article of furniture which may be used as a lounge, right or left as desired, and which may also be employed as a bath tub or a wash tub, while it may likewise be made serviceable as a washstand or as a bed. The construction is exceedingly simple, and it may be easily and conveniently changed into any one of its several forms of use.

**LEAF TURNER.**—Lafayette Swindle, Franklin, Ind. This is an improvement in music leaf turners having pivoted swinging arms to which fingers are so pivoted as to adapt them to project upward and lie between the leaves. It is applied by opening the book at the place to be referred to and raising one of the fingers, opening to another place to be opened to and raising another finger, and so on until as many fingers are inserted as there are leaves to be opened to.

**WINDOW SHADE FIXTURE.**—Francis M. Wilkinson, Birmingham, Ala. According to this invention a permanent roller support is put upon the window frame, adjustable to receive any length of shade roller which may be used. It is a right-angular bracket with a longer shank parallel to the roller and with teeth or notches on one of its edges, and with a shorter section at right angles having a bearing for the roller journals. A single staple roller is driven into the window frame to sustain the device, obviating the necessity of mutilating the frames by nails or screws, as is frequently necessary in putting up the shade rollers of different occupants of a house.

**FRUIT STONER.**—Joseph Boeri, New York City. For conveniently and easily removing the stones from olives, cherries, peaches, etc., this inventor has designed a device comprising a pair of pivoted jaws, one of which has a transverse aperture, while a female die secured to the apertured jaw projects into the opening. There is an annular recess or chamber between the female die and the jaw to which it is secured, and a male die secured to the other jaw is adapted to enter the female die.

**CHIMNEY COWL.**—Joseph A. Hodel, Cumberland, Md. In this improved cowl the vane is so incased that it will not form an unsightly projection beyond the top or to one side, and the draught regulator is so supported that it can turn freely and be readily adjusted when bearings are worn, while a ready outlet is provided for water that may beat into the top, and any accumulation of soot is prevented.

**DESIGN FOR A CARPET.**—William F. Brown, Newark, N. J. In this design the body is decorated with cultivated roses, with festoons of foliage connected by ribbons, the festoons encircling groups of wild roses separated by fanciful figures. The border has a fan figure ornamented with roses, with festoons of cultivated and groups of wild roses, and has an ornamental dado at the outer edge and an ornamental scroll at the inner edge.

**NOTE.**—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

## NEW BOOKS AND PUBLICATIONS.

**THE TANNINS.** A monograph on the history, preparation, properties, methods of estimation, and uses of the vegetable astringent. By Henry Trimble, Ph.M. Vol. II. Philadelphia: J. B. Lippincott & Co. Pp. 172. Price \$2.

This volume treats of the tannins, including nine species of oaks and one species each of mangrove, canaigre, and chestnut. It also has a copious index to the literature of the subject. As was the case with the first volume, it is more especially suited to the study of the chemist and the botanist than adapted to fill any wants of the practical tanner, but in a field where so much is needed as there is in the study of the tannins every contribution is of value.

**THE AMATEUR TELESCOPIST'S HANDBOOK.** By Frank M. Gibson. New York: Longmans, Green & Co. 1894. Pp. xi, 163. Price \$1.25. No index.

This book is designed for the use of students in astronomy whose instrumental equipment does not go beyond a two or three inch altazimuth. It is believed that four or five hundred celestial objects are described as brought within the reach of the amateur astronomer with the instrument described. The book is written in popular style and will be found useful and interesting. The catalogue of celestial objects forming its concluding part is especially to be commended, but the lack of

an index can only be regretted. In the preface the author puts in a plea in favor of the reflecting telescope, but excludes it from the main portion of the work as being an instrument as yet unused to any extent in America.

**RICHEY'S GUIDE AND ASSISTANT FOR CARPENTERS AND MECHANICS.** A work of practical information, giving almost every geometrical and practical problem likely to arise in the work of the carpenter, and quick and easy methods for their solution. The use of the steel square, etc., tables showing strength and weight of materials, methods of framing, useful recipes, etc. By H. G. Richey. Pp. viii, 177. New York: William T. Comstock, Price \$2.

The carpenter as a mechanic has, perhaps, been somewhat neglected by writers of technical works, but here, at least, we have a work of practical value, giving the solutions of problems that may occur during the work of a carpenter, with numerous diagrams and illustrations. As examples of the practical nature of the work, the various illustrations of shingles, of carpenter's knots, of splicing of timbers and of the different types of work may be cited. Tables of weights, measures, etc., and a number of legal forms form part of the book. The work has an excellent index.

**THE MICROSCOPE AND MICROSCOPICAL METHODS.** By Simon Henry Gage. Fifth edition, rewritten, greatly enlarged, and illustrated by 103 figures in the text. Part I. of the Microscope and Histology. Ithaca, N. Y. 1894. Pp. viii, 165. Price \$1.50.

This work is devoted to microscopic manipulation. The day has now come when serious work with the microscope demands the best possible appliances, and the use of such appliances, microscopic mounting, lighting and focusing, care of the microscope and the eyes, micrometry, use of the camera, and other details are here excellently treated, with numerous illustrations and a very adequate index. Throughout the printing is done on only one side of the page as a rule, so that the student can make notes as he desires on the reverse of the pages.

**PRACTICAL METHODS IN MICROSCOPY.** By Charles H. Clark, A. M. Boston: D. C. Heath & Co. 1894. Pp. xiv, 219. Price \$1.60.

What we have said of the preceding book applies, to a certain extent, to this. It is an excellent treatise, well illustrated with numerous familiar and practical details on the subject of microscopic work. It covers all the different fields and treats very fully of different microscopes, and is adequately indexed. It will be found exceedingly useful.

**THE DISEASES OF PERSONALITY.** By Th. Ribot. Chicago: The Open Court Publishing Co. 1894. Pp. v, 157. No index. Price, paper, 25 cents; cloth, 75 cents.

This very attractive little volume treats of psychology, especially in its manifestations of disease. Organic disorders, the personality of attached twins and of monsters, emotional disorders of the intellect, insanity and hysteria are included. The work is well and attractively written and should interest the professional reader. The good arrangement of the contents to some extent compensates for the want of an index.

**ARCHITECTURE NAVALE. THEORIE DU NAVIRE.** Par J. Pollard et A. Dubebout, Ingenieurs de la Marine, Professeurs a l'Ecole d'Application du Genie-Maritime. Tome IV. Dynamique du Navire: Mouvement Rectiligne Horizontal Oblique, Mouvement Curviligne Horizontal; Propulsion; Vibrations des Coques des Navires a Helice. Paris: Gauthier-Villars et Fils, Imprimeurs-libraires du Bureau des Longitudes, de l'Ecole Polytechnique, Quai des Grands-Augustins, 55. 1894. Pp. vi, 440.

This forms the fourth volume of a very exhaustive treatise of naval architecture, which, using the higher mathematics, treats the subject of ship building from the most scientific standpoint. The volume is too long and exhaustive to lend itself to reviewing. It is a very elegant example of its kind, both of printing and illustration.

**A MANUAL OF MICROCHEMICAL ANALYSIS.** By Professor H. Behrens. London and New York: Macmillan & Co. 1894. Pp. xxv, 246. 84 illustrations. Price \$1.50.

This exceedingly attractive book treats of the examination of precipitates and crystals by microchemical analysis. The advantage of the use of the microscope in such work is that it greatly increases the power of distinguishing between individual precipitates, to a certain extent eliminating the necessity of group reactions. Naturally the illustrations, which are characteristic and good, form an important part of the work, and it is they that commend it to the chemist as a most valuable adjunct to his everyday work on a large scale. As it is an English book we find in it the inevitable reference to the Cornhill firm for the microscope, but we find no description of Professor J. Lawrence Smith's microscope, a most curious omission, strongly indicating the insular authorship of the book.

**PROGRESS IN FLYING MACHINES.** By O. Chanute, C.E. New York: The American Engineer and Railroad Journal. Pp. v, 308.

This attractive book consists of a series of articles on flying machines proper, as distinguished from balloons, which articles have from time to time been published in one of the technical journals. Dealing with this subject, a large part of the work is naturally devoted to the useless attempts of inventors, but ending as it does with the most recent and serious experiments in aeroplane

work, it becomes a very valuable resume of the present status of the science. It is profusely illustrated and its index, in its way, is a model.

**MATHEMATICS FOR COMMON SCHOOLS. Part I. An elementary arithmetic.** By John H. Walsh. Boston: D. C. Heath & Co. 1894. Pp. v, 212. Price 40 cents.

**MATHEMATICS FOR COMMON SCHOOLS. Part II. Intermediate arithmetic, including exercises in solving simple algebraic equations containing one unknown quantity.** By John H. Walsh. Boston: D. C. Heath & Co. Pp. vi, 213 to 458. 1894. Price 40 cents.

**MATHEMATICS FOR COMMON SCHOOLS. Part III. Higher arithmetic, including easy algebraic equations and simple geometrical problems.** By John H. Walsh. Boston: D. C. Heath & Co. Pp. viii, 459 to 803. 1894. Price 75 cents.

In every way these are most excellent books. The problems are largely those used in special schools, the entire country having been drawn upon for examination questions. The United States Civil Service, the Postal Service, and States Civil Service, all figure in its pages, so that it is a resume of what may be required of the aspirants for public school and civil service examinations. They form an admirable series to be read by the general reader to coach himself in arithmetic.

## SCIENTIFIC AMERICAN BUILDING EDITION.

### MAY, 1894.—(No. 103.)

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1. Elegant plate in color showing a handsome residence recently erected for William H. Bartlett, Esq., at Evanston, Ill. Two perspective views and floor plans. Mr. J. L. Silsbee, architect, Chicago, Ill. A very picturesque design.
2. Plate in color showing a cottage at Mt. Vernon, N. Y., recently completed for E. J. Walther, Esq. Two perspective views and floor plans. Mr. L. H. Lucas, architect, Mt. Vernon, N. Y. An excellent design.
3. Cottage at Morgan Park, Ill., recently erected for G. F. Patterson, Esq., at a cost of \$3,000 complete. Two perspective views and floor plans. Mr. H. H. Waterman, architect, Chicago, Ill.
4. A summer house at Southampton, Long Island, N. Y., recently completed for H. M. Day, Esq. Two perspective views and floor plans. A model design. Messrs. G. E. Harney & W. S. Purdy, architects, New York.
5. A residence at Portchester, N. Y., recently erected for Walter S. Haviland, Esq. Two perspective views and floor plans. A very pleasing design. Mr. Louis Mertz, architect, Portchester, N. Y.
6. Floor plans, interior view, and two perspectives of a residence recently completed at Hackensack, N. J., for George A. Vroom, Esq. An excellent design and unique plan. Cost complete \$4,950. Mr. Christopher Meyer, architect, New York City.
7. The Barnum Institute of Science and History, of Bridgeport, Conn., donated by the late Phineas T. Barnum. A one-half page perspective view. Cost for building and grounds \$100,000. A fine example of the Romanesque style of architecture.
8. A residence at Stamford, Conn., recently erected for Oliver G. Fessenden, Esq., at a cost of \$5,199. Two perspective views and floor plans. Mr. Wm. H. Day, architect, New York City. A very pleasing design.
9. A cottage of moderate cost recently completed for Hiram R. Smith, Esq., at Randall Park, Freeport, Long Island, N. Y. Cost complete \$3,900. Two perspective views and floor plans. Mr. Wm. Raynor, Freeport, Long Island, N. Y., architect. A very attractive design.
10. "Otter Cottage," recently completed for Henry H. Adams, Esq., at Belle Haven Park, Greenwich, Conn. Mr. H. W. Howard, architect, Greenwich, Conn. An attractive design in the colonial style of architecture. Two perspective views and floor plans.
11. A colonial cottage at "The Bluffs," Mt. Vernon, N. Y., recently completed for E. A. Hunt, Esq. Two perspective views, an interior view and floor plans. Mr. Louis H. Lucas, architect, Mt. Vernon, N. Y.
12. Half-page engraving showing hall and staircase of a London dwelling.
13. Miscellaneous Contents: Clients' right of replicating design.—Shop and mill construction.—Seasoning oak.—Beautiful designs in parquetry work, illustrated.—The effect of fire on concrete.—Water-proof cellars.—Embossing wood.—Steel butt with ball-bearing washers, illustrated.—"The Holland" radiators, illustrated.—Graphite paint.—Sand-papery machines.—The Van Wagoner & Williams Hardware Company.—Window screens and screen doors.—Maple flooring.—The Pullman sash balance, illustrated.—Portland cement walks.—Subterranean London.—An alloy which adheres to glass.—A saw clamp and filing guide, illustrated.

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