

## RECENTLY PATENTED INVENTIONS.

## Agricultural Implements.

**COTTON-SEED PLANTER.**—JAMES F. CALDWELL, Winstonsborough, S. C. The machine is of that class employed for planting cotton-seed at regular distances apart and in uniform quantities, so as to avoid the necessity of chopping out the rows of cotton-plants after the plant has grown. The invention is an improvement upon a similar apparatus devised by the inventor and is so constructed that the seed will be better agitated in the hopper and more positively fed to the seed-drop wheel. The seed-drop wheel is provided with integral pockets and with an improved means for locking pistons in the pockets, so that any number of pockets may be closed for any length of time. A single drive-belt actuates the stirrers and the seed-drop wheel.

## Bicycle-Appliances.

**SUPPORT AND LOCKING-DEVICE FOR BICYCLES.**—SHANKER ABOJI BHISE, Bombay, India. This invention provides a very ingenious means for supporting a bicycle when not in use and for locking it when thus supported. The invention furthermore provides a means for operating the supporting and locking mechanism automatically. It is claimed that the support can be applied to any bicycle without injuring the frame. The improvements can be profitably used as a support for a bicycle indoors, as well as on the road, and thus dispense with a special stand for the bicycle. The device can be easily removed and taken to pieces for necessary repairs.

## Engineering-Improvements.

**STEAM-BOILER.**—MAURICE A. COOKE, Nashville, Tenn. The boiler is of the porcupine type, and is composed of an outer and inner shell joined at their lower ends to form an annular water-space. A central tube closed at its lower end depends from the top of the inner shell, the tube being provided with radial tubes having horizontal partitions causing a more efficient circulation of the water. A return pipe leads from the bottom of the tube and extends outside of the shell; and an outgoing pipe leads from the annular space between the shells. The boiler is cheap and is not liable to leakage due to expansion and contraction of its parts. The porcupine tubes catch all the soot; and the flames in passing among the tubes burn the soot, so that tubes need not be scraped.

## Mechanical Devices.

**DOOR-CLOSER.**—JAMES E. McFEELY, Pueblo, Colo. The object of the invention is to provide a simple and inexpensive device which can be attached to any swing-door and which during the opening of the door, stores up sufficient power to close the door automatically. The device consists essentially of an incased wheel which is attached to the door and which winds up a spring as the door is opened. As the door is released, the relaxation of the spring will close the door.

**AUTOMATIC STOP FOR MILLS.**—ALEXANDER S. MARTIN, Willard, Ga. The invention provides a device for stopping water mills when the supply of material to be ground runs out. A tripping-shaft has one end movable transversely of the shaft's axis. A crank-arm is mounted on the movable end. The power-shaft has an arm adapted to engage the crank-arm, when the tripping-shaft is at one end of its transverse movement. The tripping-shaft and catch are connected; and a band or cord holds the tripping-shaft away from the power-shaft. In the feed-hopper a band lies as a loop and is engaged by the grain flowing therethrough to hold the tripping-shaft disengaged. When the grain ceases to flow, the grinding-mechanism is automatically stopped by the release of the tripping-shaft and the closing of the gate.

**MANIFOLDING-MACHINE.**—CHARLES LOHRMAN, Brooklyn, New York city. The inventor has devised a simple and compact machine upon which bills, invoices, and other memoranda can be simultaneously produced in triplicate upon a single sheet. The machine is so constructed that the folded machine to be written upon can be quickly placed in position and removed without injury, and that the ribbon-carrying spools are readily accessible and adjustable from the exterior.

**BOBBIN-MAKING MACHINE.**—ALEXANDER M. GRIMOND and JAMES CRIGHTON, 29 Rose Street, Dundee, Scotland. This invention is a machine for making or forming bobbins from blanks or comparatively rough pieces of wood in a more simple and expeditious manner than has hitherto been possible. The gist of the invention is found in suitably assembling and arranging in one machine the necessary parts for boring and turning or similarly forming the bobbins at one operation or handling.

**WIRE-FENCE MACHINE.**—JAMES K. THOMA, Winfield, Kans. The machine is provided with means for the independent manipulation of any one of the wires required in the construction of a fence and for the bearing engagement of the machine with a convenient fence-post. On the frame of the machine a winding apparatus is mounted, connected with a clamp serving to engage and haul the wire. The wire-reel is carried on the frame, permitting the wire to be paid out as the machine advances along the fence-line. The clamp and winding devices serve to haul and stretch the wire.

## Railway-Appliances.

**BRAKE.**—WILLIAM F. TREXLER, Allentown, Penn. The brake is designed for use upon ordinary vehicles as well as upon railway and tramway cars, and is arranged to brake the rotating part without much exertion on the part of the operator. A cable is wound several times about the shaft; and on the shaft a brake shoe, constructed of independent sections, is loosely mounted. The sections have spiral grooves on their peripheries, in which grooves the cable is secured. The sections are of such number that some of them will lie alongside of others when the cable is wound on the shaft, whereby tension on the cable will bind the sections and force them laterally against each other.

**CAR-BRAKE.**—FRANK S. SNYDER, Newburg, N. Y. The car-brake is provided with a wheel-shoe having a limited movement in a casing. A rail-shoe moves the

wheel-shoe into frictional contact with the car-wheel. The rail-shoe is actuated to apply the wheel-shoe and is itself subsequently applied to the rail. A valved sanding-device is carried by the rail-shoe and is adapted to open when the rail-shoe moves toward the rail.

**FLAGSTAFF.**—GEORGE R. CLIFFORD, Vancouver, Canada. Fault has been found with the ordinary form of railway flag which is planted by workmen along the track, because the flag hangs in folds around the staff and does not lie out in position to be clearly observed. To overcome this disadvantage, the inventor suspends the flag, being suspended, from an arm projecting laterally from the staff. When the flag is not in use the arm is permitted to fall down beside the staff.

## Miscellaneous Inventions.

**GARMENT-FORM.**—ELLA M. SCHRADER, Seattle, Wash. The dress-former is made of a rubber cover which, when filled with air, conforms with the shape of the garment to be made. Upon the cover a restrainer or lining, made according to measurements, is fitted. When fully expanded, the cover causes the restrainer to assume the form desired, hence rendering it unnecessary to fit the garments upon the person. The former is collapsible and takes up but little room when not in use.

**FRAMING-JOINT.**—EDWARD E. SQUIRES, Seattle, Wash. The framing-joint, for use in the making of doors and the like, has one member formed with a tenon and with copings. The tenon is reduced at the base; and the other member is formed with a longitudinal groove shaped to correspond with the tenon and provided with clamping-jaws at the outer sides of the groove. The jaws are adapted to lock over the tenon; and the copings are arranged to engage the clamping-jaws.

**ACETYLENE-GAS GENERATOR.**—CHARLES C. STEWART and GEORGE C. UPDEGRAFF, Hutchinson, Kans. This invention is an improved generator of that class in which the carbide is discharged in small quantities into an excess of water. The apparatus comprises a water-sealed gasometer-bell and generator-tank into which the carbide is automatically discharged by mechanism operated by the rising and falling of the gasometer. The carbide-feeding device is provided with a feed-operating lever actuated as the gasometer falls by an arm pivoted to the gasometer-bell. Stops limit the drop of the arm relatively to the bell; and a fixed stop engages the arm to check its fall and free it, as it is moved by the continued fall of the bell.

**ACETYLENE-GAS MACHINE.**—JAMES WALTON, Phenicia, N. Y. The gas-machine has a water-tank in which a generator-cylinder is vertically movable. A jacket is carried by and surrounds the cylinder. A discharge-pipe leads from the upper portion of the cylinder to a point near the lower end of the cylinder. Another discharge-pipe receives the gas from the first-named pipe; and a water-chamber in the lower portion of the water-tank receives the discharge of the last-named pipe. There are no pressure-actuated valves. An excess of gas-pressure is automatically relieved and discharged into the outer atmosphere.

**GASOMETER.**—JAMES WALTON, Phenicia, N. Y. This gasometer is provided with ingenious means for preventing an explosion when the pressure is excessive. A stationary pipe extends upwardly from the top of the bell and has a port below its closed end. When the bell rises above a predetermined height, the port is uncovered and the excess gas allowed to escape. When the pressure is relieved, the bell falls, and the port is covered. The gasometer is particularly serviceable in acetylene-machines and is applicable to the generator described in the foregoing notice, patented by the same inventor.

**AUTOMATIC CUT-OFF AND FILTER.**—MARCELUS M. HITT, Luray, Va. The rain which first falls from a roof carries along with it much dirt, whereby it is rendered unfit for drinking. On a water-tank or receptacle a pivoted cut-off is mounted and a filter is arranged comprising inclined conductors. The intermediate filter-section has a discharge-slot in its bottom. The filter-section is counterbalanced by a water-receptacle also having a discharge-slot in its bottom. The apparatus constitutes an efficient automatic cut-off for the first dirty-water and an equally efficient filter for the clean water following the first wash. The device readjusts itself automatically after every operation.

**GRATE FOR ZINC-FURNACES.**—JOHN D. JAMES, Pulaski, Va. The inventor has provided a new form of grate-bar and devised a method of operation, which not only relieves the workmen from the influence of the heat, but also so changes the nature of the clinkers that they are no longer hard and vitreous, but are maintained in the spongy, frangible nature in which they are formed. They are hence easily disintegrated and removed. The grate is constantly suffused on its upper surface with a rapidly-evaporating film or spray of water, the influence of which extends in the form of a spray to a lower stratum of coke and the clinkers. A great reduction of temperature is obtained; and the clinkers are changed as described.

**WAGON-BRAKE.**—SEPTIMUS T. WILLIAMS, Beaver Dam, Ky. A brake-bar is arranged to rotate upon its axis and is connected with a fixed part of the wagon-frame by a rope or chain in such a manner that upon rotating the bar, the chain is wound up and the bar thereby brought into contact with the wheel. The particular form of brake devised by the inventor relieves the hounds and coupling-pole of all strain, in which important respect the invention differs from others of like nature.

**CARTRIDGE-BELT.**—DR. EDWARD T. GIBSON, U. S. A., Fort Meade, S. D. In the cartridge-belts, of the kind now in use in our army, the web tubes when new retain the cartridges fairly well; but soon they expand, and the cartridges are no longer securely held. The new style of cartridge, by constant removal and replacement, hastens this expansion more than the old style. To avoid the necessity of modifying all the belts now in use, Dr. Gibson has devised a simple wire frame which can be attached to the belt and which holds the cartridge in place. No special instruments are required; any soldier can apply the holder to his belt.

**TUBE OR FLUE-CUTTER.**—ISIDOR J. B. HANTEN and JOHN J. KRANZ, Watertown, S. D. This invention

is an improvement in tube-cutters for cutting off boiler-tubes. A hollow stock has near its outer end a threaded bearing. Tong-like arms are pivoted within the stock at a point between their ends and have their outer ends provided with cutters arranged to operate when their inner ends are spread apart. A spreading-wedge operates between the inner ends of the arms; and a shaft is threaded in the bearing of the stock and arranged to spread the arms.

**MACHINE FOR SORTING STEEL BALLS.**—FRIEDRICH SCHUNK, Schweinfurt, Bavaria, Germany. Cracked and defective steel balls have hitherto been separated from the good by means of a magnifying glass—a process most laborious and tedious. Sometimes the cracks are so fine that they cannot be detected even by the aid of the glass, so that often defective balls have been inadvertently used in bicycle bearings. To obviate this difficulty, the inventor causes the balls to fall upon a steel ring surrounded by an adjustable barrier. The good balls will bound over the barrier, the bad balls will fall back.

**PAPER-HOLDER.**—HENRY TENDICK, Manitowoc, Wis. This device holds paper of various sizes, particularly paper used for wrapping packages in stores. The device can be slid in and out relatively to the counter to which it is attached, thus not only making it convenient for a salesman quickly and readily to secure any desired sheet of paper, but keeping the paper clean and in good condition and preventing the waste which occurs when the paper is left loose or in piles on a counter. A cord-holder is used in connection with the device and also a sponge-holder, so that the fingers can be moistened in order more firmly to grasp the paper.

**COPYING-PRESS.**—ALBERTO POBLETE Y GARIN, Salamanca, Chile. This invention provides a contrivance which will enable the operator to exert a uniform pressure, so as to secure a perfect copy. The inventor inserts a wedge-shaped, pneumatic cushion between the leaves of a book, which cushion receives and transmits the applied pressure. An increase in the size of the surface to which the pressure is to be applied will necessitate only an increase in the dimensions of the cushion, but will not necessitate an increase in the pressure to be applied, since the pressure is transmitted undiminished to all parts of the cushion, whatever its size.

**GAME-APPARATUS.**—JOSEPH H. ELLER, Lexington, Ohio. The apparatus is an attachment for pool-tables, and the game to be played is in the nature of bagatelle. In playing the game a cue is used. A large measure of skill is involved, since cushion-shots must be made.

**BASKET FOR PACKING FRUIT.**—AUSTIN B. CULVER, Westfield, N. Y. In this basket the usual cover hooks or wires are dispensed with; and the handle is so placed with relation to the body and the cover, and the cover is so related to the handle, that one will serve as a lock to the other. The handle can be sprung without a tendency to loosen its fastenings and without detriment to the body of the basket. When the handle is depressed or sprung, the cover will be released so that it can be partially or wholly removed, enabling the fruit to be conveniently inspected.

**TRACE-HOLDER FOR SINGLETREES.**—LAWRENCE M. CAMPAU, 123 E. Congress Street, Detroit, Mich. The singletree is provided with a recess designed to receive the trace, which recess, when the singletree is passed through the eye of the trace, is covered by the holder. When the holder is carried to retaining position, the recess is exposed and automatically receives the trace. By this means a double hold is provided for the trace, the recess and the holding device coacting to retain the trace in position.

**SNAP-HOOK.**—JACOB E. VANNOTE, Lakota, N. D. The invention provides a simple form of snap-hook, which can be used in connection with harness to attach the driving-reins or a hitching-strap to the rings of a bridle-bit. The snap-hook is constructed so that no springs are necessary and so that the snap automatically locks and does not accidentally unlock while in use.

**SCAFFOLD OR PORTABLE TRESTLE.**—THOMAS MILNE, Sandon, British Columbia, Canada. This extension or adjustable scaffold is designed for the use of carpenters, plasterers, bricklayers, and other house mechanics. The scaffold is adapted for adjustment, and hence for extension or contraction vertically and horizontally. A special feature of the invention is the adaptation of the parts of the trestle for detachment; another is the provision and peculiar construction of metal castings for holding and connecting the various wooden portions or bars composing the frame proper of the scaffold or trestle. Special castings hold the planks laid on the scaffold or trestle.

**CLOAK OR SKIRT RACK.**—ADOLPH GREENSPAN, Bowling Green, Ky. The display rack is designed to display coats, cloaks or skirts, and is extensible, laterally so as to accommodate garments of all ordinary sizes. The cloaks and skirts are hung on a rotary frame secured to opposing stub-spindles, with which disks turn. The disks are spring-pressed into engagement with the standard, so as to lock the frame.

**APPARATUS FOR USE IN WRITING.**—BENJAMIN F. ROBINSON, Margaret, W. Va. This invention provides means by which motions of large scope can be reduced so that the muscles can have a large movement or sweep in forming the letters or characters, the letters or characters being inscribed on a reduced scale. The inventor believes that motions of large scope are more conducive to muscular development and general health than more delicate motions.

**ACETYLENE-GAS MACHINE.**—CHARLES E. ROSS, Lincoln, Neb. The machine can be used for both portable and stationary lighting, in which the weight of the water is used to keep a sufficient pressure on the gas and automatically moisten the carbide to maintain a proper volume of gas. The machine is very simple and is not provided with any derangeable automatic valves or levers.

**CHOKE-BORE FORMING DEVICE.**—ALFRED G. ADELMAN, Boise, Idaho. The device is intended to be used by gunsmiths for all gauges of breech-loading guns in which the "choke" has been shot out or become what is termed "scatter-gun." No metal is removed from the barrel, as with inside boring tools. The device is especially applicable to guns chemically-treated to

prevent rusting. The device is portable, and is adjustable to all gauges and lengths of breech-loading barrels.

## Designs.

**HOOK.**—JAMES B. CAROLIN, Newark, N. J. The hook is designed to be used in connection with hosiery supporters, and is characterized by the cheapness and simplicity of its construction.

**PAPER-BOX BLANK.**—GEORGE A. COLGAN, Brooklyn, New York city. When folded this blank forms a box which is exceptionally strong and durable.

**NETTING.**—SOLOMON M. BLOCH, Manhattan, New York city. The netting is a veil for ladies, embellished by cob-web ornaments.

**GAME-BOARD.**—JAMES A. VARNUM, Boston, Mass., and ALBERT C. WARREN, New London, Conn. Within the octagon board is arranged a border forming a cross; and in the cross are a number of squares alternating in color; while perforations are located at the corners of the squares.

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

## NEW BOOKS ETC.

**ESTIMATING FRAME AND BRICK HOUSES.** By F. T. Hodgson. New York: David Williams Company. 1899. 16mo. Pp. 147. Price \$1.

An eminently practical book for the builder. The author writes with authority and he shows an appreciation of precisely the information desired by builders and young architects.

**CONSUMPTION AND CHRONIC DISEASES.** By Emmet Densmore, M.D. Brooklyn: The Stillman Publishing Company. 1899. 16mo. Pp. 198. Price \$1.25.

The present volume deals with a hygienic cure at patient's home of incipient and advanced cases. It is a popular exposition of the "open-air treatment" with latest developments and improvements. The method seems to be a common sense one although we cannot pronounce upon the merits of medical treatments.

**THE PRACTICAL ENGINEER POCKET BOOK FOR 1900.** Manchester, England. 1900. 24mo. Pp. 438. Full leather, gilt. Price 60 cents.

We have already commented upon the cheapness of English pocket books for engineers. The one before us is an admirable book and will be useful in any office or drawing-room where calculations are being carried on. The tables are of special value to mechanical engineers and their selection is admirable.

**MULHALL-HARPER COMPARATIVE STATISTICAL TABLES AND CHARTS OF THE COMMERCE OF THE WORLD.** Compiled by William Harper. Philadelphia: Commercial Museum. 1899. Tables and colored plates.

The Chief of the Bureau of Information of the Philadelphia Commercial Museum has compiled a very significant series of tables accompanied by graphic representations which show in an adequate and easily understood manner the wonderful growth of the commerce of the world for the last seventy years. The commerce of the United States naturally receives full attention.

**THE GENESIS OF PETROLEUM AND ASPHALTUM IN CALIFORNIA.** By A. S. Cooper, State Geologist. Sacramento. 1899. Pp. 89.

An excellent discussion of this subject by a competent authority.

**POPULAR STAIRBUILDER AND CARPENTER'S HAND BOOK.** By William Peoples. New York: David Williams Company. 16mo. Pp. 260, 52 plates, full leather. Price \$2.50.

It embraces carpenter's and stairbuilder's geometry, problems, conic sections, cylindrical sections as applied in the construction of the wreath-post of hand-rail, rules for the measurements of surfaces, the construction of ladders, box stairs, roofing, etc. It is a useful book and the form is compact.

**THE CORNICER WORKERS' MANUAL.** By Sidney P. Johnston. Chicago: The American Artisan. 1900. 12mo. Pp. 234. Price \$3.50.

Any volume on metal plate work which will tend to economize the labor of the worker in sheet metal will, we are sure, be appreciated by all practical men. The work before us is thoroughly adapted for its purpose. Some of the illustrations might have been on a larger scale as at present the figures are very trying to the eyes.

**WILLIAMS' PORTFOLIO OF PLANS.** Designed and published by Charles H. Williams, Architect, Pardeville, Wis.

**CORN TRADE AND OPTIONS MARKET CONSIDERED IN RELATION TO SOCIAL ECONOMIC PROBLEMS.** By F. Hammesfahr. New York: G. E. Stechert. 1899. Pp. 106. Price 50 cents.

**HOUSES FOR THE COUNTRY AND SUBURB.** By William Dewsnap, 150 Nassau Street, New York. Quarto. Pp. 36. Price \$1.

**COMPOUND ENGINES.** By James Tribe. Racine, Wis. 1899. 18mo. Pp. 137. Full leather, flexible. Price \$1.50.

The principal portion of this treatise first appeared at various times in a technical paper and the articles were received with so much favor that the author has collected them and has added to and revised the matter so as to make a valuable little book dealing in an eminently practical way with a rather difficult subject. The explanations are very practical and the higher mathematics are eschewed.