

## RECENTLY PATENTED INVENTIONS.

### Agricultural Implements.

**RATCHET PLOW-STOCK.**—THOMAS M. WALLACE, Marion, Ala. The invention is an improvement in shovel-plows having a foot pivoted and adapted for adjustment to vary the depth of the furrow made by the shovel. In the present invention the ratchet on the beam is curved concentrically with the pivot of the foot, and a pawl is pivoted to the top of the foot and is provided with a prong which engages the ratchet. A second prong projects forward over the first. The pawl can be secured and clamped whenever it may be desired to effect a forward adjustment of the foot, and can be used with either prong down.

### Apparatus for Special Purposes.

**APPARATUS FOR RENDERING WATER PURE AND PALATABLE.**—JOHN S. WRIGHT-NOUR, Oil City, Pa. The inventor employs a boiler, the vapors from which are led through a filter of highly-absorbent charcoal or similar deodorizing material and thence to a peculiarly-arranged condenser, in connection with which pure, cold air, rich in oxygen, is employed. The water of condensation is introduced into a chamber in which such air is contained for the double purpose of cooling the water and thoroughly aerating it with the oxygenated air.

**SCREEN-CLEANER AND STUFF-REGULATOR.**—ROBERT M. HAWK, Warren Paper-mills, N. J. In papermaking the pulp is first run through a screen to free it from dirt. The pulp settles on the screen-plates and becomes irregular, thereby causing the finished sheet of paper to be uneven and not of uniform thickness. This difficulty is obviated by Mr. Hawk by providing in the screen-box a device with means to move it back and forth on the screen-plates so as to clean the screen and cause the water and pulp to feed through the screen uniformly.

**GAME APPARATUS.**—DUNCAN MCRUER, Pauls Valley, Indian Territory. The game apparatus is of that type in which marbles or other rolling objects are propelled by players with the object of hitting targets. In this instance the targets represent nations or countries. The game apparatus which is described in this patent is so constructed that besides affording amusement it will require considerable skill.

**DEVICE FOR CLEANING SHIPS' BOTTOMS.**—JAMES C. MIDDLETON, East Palatka, Fla. This device comprises a tube of flexible material closed at the lower end, glass being inserted in one wall of the tube at the lower portion. Supporting frames are connected with the tube, each consisting of pivotally-connected sections. The workman lowers himself into the tube, and is free to remove barnacles and other foreign matter. The device can be moved along the hull of the vessel to meet the requirements of the workman.

**APPARATUS FOR PRODUCING BISULFITE LIQUOR.**—GEORGE A. STEBBINS, Watertown, N. Y. The purpose of this invention is to provide means for producing the bisulfite liquor used in paper manufacture, by which the product will be obtained more economically and effectively than heretofore. This end is attained by insuring the intimate contact of the sulfurous gases with a basic solution and also gradually cooling the sulfurous gases.

### Vehicles, Stable Appliances, Etc.

**MOTOR-CARRIAGE.**—ALBERT S. PARSONS, Sierraville, Cal. The inventor has been concerned with providing improvements whereby the turning of one truck will properly operate the other. He has perfected a means for transmitting the driving power from one truck to another, and likewise the construction of the truck itself. The invention provides means for driving the axles of both trucks and furnishes means for guiding one truck by the other.

**HORSESHOE.**—MICHAEL HALLANAN, Manhattan, New York city. Mr. Hallanan, who is the inventor of the well-known Hallanan rubber pads for horses, has in this invention embodied a novel manner of constructing the shoe at the quarters and also a novel front section. The tread of the shoe at the quarters is formed of rubber or the like, on a leather base or backing in a manner to permit variation of the lines of the shoe. It has always been a matter of some difficulty to fit the quarters to the hoof. Horseshoers impoverish the hoof at the quarters by attempting to pare the hoof to fit the shoe. Mr. Hallanan has provided in his invention a means for the adjustment of the shoe to the particular lines of the hoof.

**HORSESHOE-SHAPING DEVICE.**—MICHAEL HALLANAN, Manhattan, New York city. The invention provides a tool wherewith horseshoers may expand or contract a horse-shoe at the quarters to fit the peculiarities of the hoof. As we have remarked in the foregoing notice the greatest difficulty is experienced in fitting a horseshoe at the quarters. Although the invention is useful with horseshoes in general, it has special advantages in connection with the improved shoe described in the foregoing notice.

**QUICK-TURNING VEHICLE GEAR.**—BUCK MASON, Trenton, Mo. The front and rear axles are rigidly connected by a reach-bar. Stub-axles are provided with spindles, arms being arranged at an angle to the spindles. Bolts are passed loosely through the

ends of the front axle and engage the arms, thereby rigidly connecting these arms with the stub-axles and also pivoting the stub-axles to the ends of the front axle. A laterally-rockable lever is pivoted upon the reach-bar, and rods connect the lever with the arms on the stub-axles. This running gear permits the turning of the gear and vehicle in a small circle or arc.

**WHIFFLETREE.**—ABRAHAM C. SCARR, Hariston, Ont., Can. This improved whiffletree is mainly constructed of metal bars so combined and arranged as to afford a very light, strong and durable pull-bar for a vehicle. The construction is inexpensive and can be varied in dimensions to suit the service it is to perform.

**HORSE-DETACHER.**—LEON DE W. HOWARD, Blunt, S. Dak. The invention relates to improvements in devices for detaching runaway horses from a vehicle. The device comprises a latch mounted to swing on a pole. A lever pivoted to the vehicle is arranged to engage with the free ends of the latch to hold it in closed position around the eveners. A spring extends from the lever to a fixed portion of the vehicle. By moving the lever out of engagement with the latch, the latch will fall downward and release the eveners.

### Railway Contrivances.

**RAILROAD TRACK.**—CHARLES H. MCDEMOTT, 104 So. 15th Ave., E. Duluth, Minn. Broad flat sleeper-plates are provided at their opposite edges with rows of depending teeth. Rail-holding plates and rail-joint plates are bolted at one edge to the sleeper-plates and lapped at the other edge upon the bases of the rails. The tie connections are composed of cross-bars extending beneath the opposite sleeper-plates. End brackets are socketed to receive and are bolted to the cross-bars, flattened portions being provided which lap upon the sleeper and rail holding plates. By this invention the tie-bars operate to hold the opposite sleeper-plates in position and prevent any spreading of the rails. The necessity of using spikes is avoided; for all the parts are bolted together.

**FUSE-HOLDER.**—WARREN R. COOK, Pittsburgh, Pa. The invention relates to improvements in fuse-wire holders, for electric street-cars. The object is to provide a holder of simple construction having a number of fuse-wires, so that should one be burned out a new one can be quickly turned into place to complete the circuit.

**STATION-INDICATOR.**—PAUL P. I. FYFE, Concord, N. C. The inventor has devised a station-indicating device for steam, trolley, and cable cars, which device is so constructed that in conjunction with trips or stops located upon a track, cards bearing the names of streets, crossings, avenues, or stations will be automatically displayed within the car when such streets or stations are reached. The mechanism by which these results are obtained can be attached to any car, and is durable and economic in its construction.

**STATION-INDICATOR.**—PAUL P. I. FYFE, Concord, N. C. The present invention is an improvement upon the device described in the foregoing notice, the construction being so modified that instead of the designs or display cards being shifted vertically to bring them to a display position, the cards or signs will be moved or slid laterally from a storage position to the display position and return. The mechanism is operated by a trip-shoe which is to be brought in contact with pins or other projections adjacent to the rail of the track.

**NUT-LOCK.**—WILLIAM H. TIPPIT, Bluffs, Ill. The nut-lock comprises a peculiarly-formed disk arranged to connect with a bolt so that the disk cannot turn on the bolt, and also arranged to be engaged by the nut in such a manner as to hold the nut securely on the bolt. The disk acts effectively on the nut owing to its form and the manner in which it is mounted on the bolt.

### Miscellaneous Inventions.

**SUSPENDER-END.**—LEWIS E. PEASE, Bronx, New York city. The suspender-end is arranged to receive and conceal a button of the trousers. The suspender-end consists essentially of a pocket which receives the button.

**GARMENT.**—JEREMIAH C. LAUTENBACHER, of Schuylkill Haven, Pa. The garment is a union suit of improved construction. The object of the invention is to enable the front and back portions of the lower half to be readily opened and closed.

**DRILL.**—THEDE P. BLAKE, of Lamar, Neb. The invention is a drill or auger for earth and rock, and comprises a body, bearing bits set at an inclination and arranged to cut the earth or rock. A plunger works with the body portion and is given a rotary movement by an arrangement of threads on the two parts, so that when the plunger reaches the end of its movement and engages the body of the drill its momentum will partly turn the drill and cause the bits or tools to work.

**METHOD OF PRESERVING WOOD.**—ANDRIES BEVIER, Manhattan, New York city. The wood is first subjected to a heat of 212 deg. F. and upward without pressure, thereby evaporating moisture and drying the wood. The temperature is then raised from 250 to 500 deg. F. and an air pressure from 100 to 200

pounds is applied sufficient to prevent the loss of volatile material from the wood by further evaporation, thereby retaining in the wood such antiseptic materials as may be formed by the action of heat upon the fluids of the wood and diffusion of resinous matter, which upon cooling solidifies and hermetically seals the pores. The result of this treatment is to sterilize the wood thoroughly, coagulate the albuminous material of the sap, diffuse the resin, and harden the timber. Antiseptic liquid is subsequently introduced, which on account of its great viscosity (since it contains creosote oil) is very refractory to ordinary impregnation treatment.

**ACETYLENE-GAS LAMP.**—WILLIAM F. COOPER, Meriden, Conn. In this lamp the variation in volume of the gas-chamber is provided for by having a portion of the wall constructed of a flexible material compressed by means of a spring. The use of the flexible connection between the carbide-holder and the base thus forms a bellows and provides for the expansion and contraction of the gas-containing chambers without necessitating a liquid seal. This is a matter of considerable importance in bicycle lanterns.

**LAMP-WICK.**—HENTIER SARAFIAN, Manhattan, New York city. The invention belongs to that class of wicks in which a wick proper of the usual material is combined with an incombustible tip held in place and firmly connected with the wick proper by a stiff cap embracing the tip and the top of the wick. The object of the present invention is to provide an improved connection of the cap with the wick without the use of any additional parts.

**CLOSET-BOWL.**—FRANCIS X. L. GOSIENIECKI, Manhattan, New York city. A cuspidor is attached to the bowl, water being admitted to the cuspidor when the bowl is flushed.

**DENTAL IMPRESSION-CUP.**—JOHN W. FOWLING, Albion, Iowa. The invention is a dental cup for taking impressions of the lower jaw. The device is characterized by a movable wall or walls, specifically the inner walls, by which a better impression of the gums can be obtained than was heretofore possible.

### Designs.

**BROOCH.**—ALBERT WITTMAYER, Manhattan, New York city. The main feature is an ornamental body having depending spaced side arms and an apertured bearing between the arms.

**HAIRPIN.**—WALTHALL R. SMITH, Napa, Cal. The hairpin is so constructed that the lower ends of its two members will interlock so that the hairpin cannot fall from the head.

**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.

**BY LAND AND SKY.** By the Rev. John M. Bacon, M.A., F.R.A.S. Philadelphia: J. B. Lippincott Co. 1901. Pp. 275. 4 illustrations.

This volume is full of fascinating accounts of the author's ballooning experiences. The history of ballooning and the men who have made it are graphically portrayed, and many of the narrow escapes of the author and others recounted most interestingly.

**THEORETICAL ELEMENTS OF ELECTRICAL ENGINEERING.** By Charles Proteus Steinmetz. New York: Electrical World and Engineer, publishers. 1901. 8vo. Pp. 327. Price \$2.50.

The author has restricted the work to the forms of apparatus which have shown themselves to be of practical importance, and gives only those methods and theories which an extended experience in the design and operation has shown as of practical utility. The author has illustrated his volume freely with diagrams and curves. The book is an important one for those who are interested in the theory as well as the practice of electrical engineering.

**GASOLINE MOTOR VEHICLE.** C. C. Bramwell. New York: Emil Grossman & Co. 1901. 8vo. Pp. 149.

There is a great demand for a work of this kind at the present day, when the motor carriage is becoming so popular. The motor and its appendages seem to be of excellent design. The working drawings are numerous and are lettered with dimensions. With the aid of this book any good mechanic ought to be able to construct a gasoline motor carriage.

**PRACTICAL POINTERS FOR PATENTEES CONTAINING VALUABLE INFORMATION ON THE SALE OF PATENTS.** By F. A. Cresee, M.E. Cumberland, Md.: Potomac Publishing Company. 1901. 16mo. Pp. 152. Price \$1.50.

When a patent is allowed or issued, the patentee's real work begins, and here the work of the reputable patent attorney should end. The business end of the inventor's work should be undertaken by himself or under his immediate supervision. The object of this little work, based upon the experience and observation of the author and other successful inventors, is to give the patentee such information and advice as will enable him to proceed more intelligently on the most successful and economical basis to realize from his invention.

## Business and Personal Wants.

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MUNN & CO.

Marine Iron Works. Chicago. Catalogue free.

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**TURBINES.**—Lefell & Co. Springfield, Ohio, U. S. A.

**Inquiry No. 1320.**—For the name of the manufacturer of the telephonic diaphragm measuring apparatus.

"U. S." Metal Polish. Indianapolis. Samples free.

**Inquiry No. 1321.**—For manufacturers of salt cellars and other dredging utensils.

**WATER WHEELS.** Alcott & Co., Mt. Holly, N. J.

**Inquiry No. 1322.**—For the latest patent barrel bung machine.

Gasoline Lamps and System, Turner Brass, Chicago.

**Inquiry No. 1323.**—For manufacturers or dealers in broom winders.

Yankee Notions. Waterbury Button Co., Waterbury, Ct.

**Inquiry No. 1324.**—For manufacturers or dealers in packing for cold water pipes.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

**Inquiry No. 1325.**—For manufacturers of small ice machines of two or three hundred pounds capacity.

For Sheet Brass Stamping and small Castings, write Badger Brass Mfg. Co., Kenosha, Wis.

**Inquiry No. 1326.**—For manufacturers of flat coil spring motors.

Rigs that Run. Hydrocarbon system. Write St. Louis Motor Carriage Co., St. Louis, Mo.

**Inquiry No. 1327.**—For parties to make castings in black glass.

If making metal goods and needing special parts, write us. Metal Stamping Co., Niagara Falls, N. Y.

**Inquiry No. 1328.**—For a small electric light machine run by a gas engine with sufficient power to light a large theater.

Ten days' trial given on Daus' Tip Top Duplicator. Felix Daus Duplicator Co., 5 Hanover St., N. Y. city.

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SAWMILLS.—With variable friction feed. Send for Catalogue B. Geo. S. Comstock, Mechanicsburg, Pa.

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**Inquiry No. 1331.**—For a machine to roast or calcine oxide of iron.

Kester Electric Mfg Co's, Self-fluxing solder saves labor, strong non-corrosive joints, without acid, Chicago, Ill.

**Inquiry No. 1332.**—For telephones for private use.

Designers and builders of automatic and special machines of all kinds. Inventions perfected. The W. A. Wilson Machine Company, Rochester, N. Y.

**Inquiry No. 1333.**—For electric storage batteries for power and light.

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**Inquiry No. 1334.**—For dealers in "Wimshurst Static Electrical Machines."

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

**Inquiry No. 1335.**—For manufacturers of "jockey hold-back" work harness, also jockey neck yokes.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

**Inquiry No. 1336.**—For the address of the toy gas engines "Paragon" and "Weedens."

SUPERINTENDENT WANTED.—Manufacturer of electric and steam railway novelties wants an experienced superintendent, capable of running works employing about two hundred men, principally iron workers. Must have knowledge of mechanical engineering. State salary, experience and age. Correspondence confidential. Address A. B. care SCIENTIFIC AMERICAN, 443 The Rookery, Chicago.

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A NATURAL BIOGRAPH.—The trip from New York to Buffalo gives one a magnificent panorama of scenery unsurpassed by any railroad line in America, especially because the locomotives on the Lackawanna Railroad burn hard coal, emitting no smoke, and the roadbed is stone ballasted, producing no dust. Meals are served during the entire day on the à la carte plan, so you pay only for what you eat. A good road to remember for the Pan-American Exposition.—American Journal of Education.

**Inquiry No. 1338.**—For manufacturers of castings for small model steam engines, also of supplies for small boilers.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

**Inquiry No. 1339.**—For parties dealing in small engine castings and blue prints from which to build engines.

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**Inquiry No. 1341.**—For Brooklyn, Philadelphia and French sand used by brass moulders.

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**Inquiry No. 1343.**—For machines and apparatus for burning crude oil for domestic purposes.

**Inquiry No. 1344.**—For manufacturers of paper board letter stencils for sign makers; different sizes of alphabet and designs preferred.

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**Inquiry No. 1347.**—For dealers in second-hand gasoline engines.

**Inquiry No. 1348.**—For the manufacturers of "Kitchen Ice Machine."

**Inquiry No. 1349.**—For dealers in copper and aluminium wire.

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**Inquiry No. 1351.**—For a tree-stump pulling machine.

**Inquiry No. 1352.**—For manufacturers of cork machinery.