

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

PLOW.—H. BRYAN, Modesto, Cal. This invention is an improvement in the class of wheeled-plows, more particularly gang plows, whose frame is supported at the rear end by a wheel adapted for vertical adjustment for the purpose of varying the depth of the furrow or for supporting the plows proper above the surface of the ground when the plow is being hauled or shipped.

CORN-SHOCK CARRIER.—N. W. LYON, Brighton, Iowa. The object of this invention is first the provision of a simple and strong construction adapted to be turned up on end for ready loading of an upright shock on the vehicle; secondly, to provide means for binding the shock to the vehicle in an expeditious manner, and thirdly, to provide impaling devices adapted to co-operate with the binding devices and securely hold the shock on the vehicle against any tendency to become displaced.

Electrical Apparatus.

INCANDESCENT ELECTRIC LAMP.—G. C. WEBSTER, Warren, Ohio. The filament of this lamp is so arranged as to produce a maximum and symmetrical distribution of light rays. Filaments have heretofore been so constructed as to produce superior illumination in a vertical plane or downward direction, and others have given superior lateral distribution. In this invention, however, both effects have been attained.

ELECTRIC ACCUMULATOR-PLATE.—A. FISCHER, Berlin, Germany. This accumulator plate consists of sheets of lead folded into serpentine form; the objects attained by this improved form are, first, that the plates are stiffened—that is, prevented from being straightened out in any degree—and, second, that their active surface is increased.

Hardware.

COMBINATION-TOOL.—J. L. WOOD, Fulton, and W. G. LAWRENCE, Cordova, Ill. This tool has the general form of a monkey-wrench in which various other implements are embodied by certain novel features of structure. The tool is particularly useful to bicyclists and automobile drivers, comprising as it does, a hammer, two spoke wrenches and a socket wrench, as well as a monkey-wrench.

SQUARE.—A. L. LUNDGREN, Pullman, Ill. Mr. Lundgren has invented a new drawing and measuring instrument which will be found useful to carpenters and other mechanics. The instrument is arranged for convenient adjustment to give any desired angle and is adapted to be folded into a comparatively small space.

Mechanical Devices.

ROLLER-BEARING.—JOHN D. TWIGGS, JR., Augusta, Ga. The invention relates to axle journals and bearings for rolling stock, and other devices and machines. The bearing is arranged to reduce the friction of the parts to a minimum, to hold the rollers in position when opening the bearing for examination or repairs, to insure a proper lubrication of the parts at all times, and to render the bearing dust-proof.

AUTOMATIC FAN.—J. D. WILLIAMS, Denning, Ark. The invention is an improvement in that class of automatic fans which are designed to be placed upon tables in dining-rooms, sick-rooms and other places, for creating a breeze of air and driving away flies or other troublesome insects. The chief features of novelty are the means for supporting the fan shaft and securing it detachably, and for adjusting the fan blades on the shaft.

CONSECUTIVE-NUMBERING APPARATUS.—O. G. BARTSCH, Brooklyn, N. Y. An improved consecutive-numbering apparatus is provided in this invention, which is arranged to actuate one set or a plurality of sets of numbering wheels simultaneously and to allow of adjusting the sets nearer to or farther from each other, to suit the conditions of the work to be performed without disconnecting the sets from the driving mechanism.

APPARATUS FOR MOUNTING PHOTOGRAPHS.—I. G. GRANT, Bozeman, Mont. Mr. Grant has invented a new machine for mounting photographs upon their cards or mounts. This machine enables the work to be done properly and in less time than is taken by the present hand method.

AUTOMATIC CAR AND ELEVATING TRACK.—W. L. McLAUGHLIN, Clearlake, Iowa, and J. E. SWENSON, Lake Crystal, Minn. An improved automatic car and elevating track is provided by this invention whereby grain, corn, coal, sand and the like may be elevated and dumped. The apparatus is arranged to automatically open the locked car-gate for discharging the cargo into the chute leading to the place of discharge and to automatically close and lock the gate when the car reaches its receiving position.

WINDMILL.—T. W. LOWE, Stockton, Cal. The construction of the windmill is such that the vanes will catch any breeze that may be stirring, thus making the wheel run in very light winds. The effective area of the vanes may be varied either by automatic mechanism or by hand-controlled devices. The vanes are self-adjusting according to winds of the de-

sired strength, thus preventing the wheel from running at excessive speeds in case of high winds, and affording a construction which requires very little lubrication.

Railway Improvements.

RAILROAD-BED.—MARTIN HAAS, Kalamazoo, Mich. A bed of novel construction is hereby afforded, upon which the rails may be directly supported without the use of cross-ties. The invention consists broadly in a cement bed upon which the rails rest, the bed having embedded within it longitudinal and transverse twisted or corrugated wires or strips.

MAIL DELIVERING AND CATCHING DEVICE.—W. J. NOBLE, Philadelphia, Pa. Mr. Noble has invented an improved mail delivering and catching device which is arranged to positively deliver a mail pouch or bag from a passing train to a track station and simultaneously cause an outgoing mail pouch to be picked up by the train from the station.

DUST-GUARD.—J. S. PATTEN, Baltimore, Md. Mr. Patten is the inventor of two forms of dust guards for use in boxes of railway cars. The guards are cheaply and efficiently constructed for application to the ordinary box without necessitating any change of structure therein. In the first construction, the packing strip is in the form of an annular plaited flax strip having a central opening of desired bore and made of general elongated form to hold it from turning with the axle. In the second construction the packing section is in the form of a frame pressed from a sheet of metal forming a face-plate and a center pocket in which the flax packing is held. A cover-piece is provided for securing the packing in place.

Vehicles and Their Accessories.

ARMOR FOR VEHICLE-TIRES.—C. H. PASCHKE, Buffalo, N. Y. The invention provides an inflatable tire for vehicles with a novel protective armor which is light, strong, and durable and which will afford increased bite for frictional contact with the road bed, thus preventing slipping of the wheels. The invention is particularly adapted for use on the wheels of heavy automobiles, road wagons, carriages, and the like.

Miscellaneous Inventions.

PACKING-RING.—H. KIRSCHNING, 133 Ackerstrasse, Berlin, Germany. An improved packing-ring is hereby provided in the manufacture of which one or more sheet metal strips are pressed edge foremost into the ring. By means of the insertion of the metal strip, a reliable packing is obtained, having great strength and increased stiffness, so that the rings may be subjected to severe strains without danger of fracture or bending.

GUN-CLEANER.—G. H. GARRISON, Bucoda, Wash. The invention relates to improvements in devices for cleaning the interior of a gun-barrel, the object being to provide a simple means for expanding the swab while operating in the gun-barrel. A resilient vermicular core extends lengthwise through the swab whereby when the swab is compressed longitudinally it will be circumferentially expanded.

FOOT-WARMER FOR VEHICLES.—G. W. DUNHAM and J. W. FOX, East Cleveland, Ohio. This foot-warmer is adapted to utilize the waste heat resulting from combustion for propulsion of a vehicle, such as an automobile actuated by a motor using gas or steam for its motive agent, or to utilize the water-cooling circulation of automobiles actuated by gasoline.

STOVE OR RANGE.—G. A. TUCKFIELD, Salt Lake City, Utah. Mr. Tuckfield has invented improvements in stoves or ranges which comprise a simple means for increasing or diminishing the fire space and grate area so that more or less fire may be maintained, as the case may require, resulting in an economy of fuel when a small fire is desired.

PROCESS FOR EXTRACTING PRECIOUS METALS.—W. HILT, Coles, Cal., and C. E. LANE, Ashland, Ore. Messrs. Hilt and Lane have invented a new process for precipitating precious metals from their solutions. The process consists in producing zinc vapor and condensing the same beneath the surfaces of said solutions, thereby causing the zinc to replace the precious metals in the solutions.

ARTIFICIAL STONE.—F. BOAS, St. Hyacinthe, Can. The invention has reference to artificial stones which are obtained by the action of high or low pressure steam on a mixture of sand with material containing alkaline earth, and it is distinguished from the processes heretofore in use by employing silicate of magnesia as a chief agent for effecting the solidification of the mixture.

COMBINED UNDERVEST AND CORSET COVER.—C. DUPONT, Savannah, Ga. This improved lady's garment combines an undervest and corset-cover and is arranged to permit the wearer to readily use the garment as an undervest for the protection of the chest, back, and arms when wearing an ordinary dress or to employ the garment as a corset-cover when wearing a low-necked dress.

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.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry. MUNN & CO.

Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 3156.—For manufacturers of axle cutters.

AUTOS.—Duryea Power Co., Reading, Pa.

Inquiry No. 3157.—For manufacturers of glass bottles holding 5 quarts to the gallon, for carbonated spring water.

For mining engines. J. S. Mundy, Newark, N. J.

Inquiry No. 3158.—For dealers in old rubber.

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

Inquiry No. 3159.—For makers of beaters using wood for fuel.

WANTED.—You to read ad. page 195 Metal Working Plant for Sale.

Inquiry No. 3160.—For photographic nickel-in-the-slot machines.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Inquiry No. 3161.—For makers of molds for making soap.

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

Inquiry No. 3162.—For manufacturers of engraving machinery for button making.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Bldg., Rochester, N. Y.

Inquiry No. 3163.—For makers of portable saw mills.

Die work, experimental work and novelties manufactured. American Hardware Mfg. Co., Ottawa, Ill.

Inquiry No. 3164.—For makers of small clamps for paper.

Book "Dies and Die-making," 100 6x9 pages, 21, post-paid. Send for index. J. L. Lucas, Bridgeport, Conn.

Inquiry No. 3165.—For steel framing, girders, etc., for the construction of buildings.

We design and build special and automatic machinery for all purposes. The Amstutz-Osborn Company, Cleveland, Ohio.

Inquiry No. 3166.—For makers of appliances for distributing a dry powder fire extinguisher on fires.

IDEAS DEVELOPED.—Designing, draughting machine work for inventors and others. Charles E. Hadley, 564 Hudson Street, New York.

Inquiry No. 3167.—For a nice machine, capacity 300 pounds per day.

Automobiles built to drawings and special work done promptly. The Garvin Machine Co., 149 Varick, cor. Spring Streets, New York.

Inquiry No. 3168.—For parties to manufacture patent cutlery.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 3169.—For makers of hand and steam laundry machinery.

FOR SALE.—Patent No. 670,482. Hat-fastener. Clasps head as did elastic, but is concealed under hair. Address Dr. Emma T. Willis, Urumia, Persia.

Inquiry No. 3170.—For information relative to the use of compressed air for elevating water from deep wells.

The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

Inquiry No. 3171.—For a machine for breaking eggs and separating the shells.

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

Inquiry No. 3172.—For makers of small electromagnets.

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. 3173.—For makers of automatic magnet winders.

WANTED.—Machines for splitting cane for manufacturing chairs, etc. Send catalogues and best prices. W. E. Richardson, Boustead Institute, Singapore, Straits Settlements.

Inquiry No. 3174.—For manufacturers of novelties and specialties.

One of the handsomest tool catalogues has just been issued by Montgomery & Co., 105 Fulton St., New York. There is hardy a tool manufactured which is not illustrated and described in this useful volume. Every mechanic should have one.

Inquiry No. 3175.—For dealers in diving suits and submarine workers' supplies.

WANTED.—Assistant superintendent in factory employing 400 men. Must be familiar with shop practice and methods, and capable of handling men. State age, experience, reference and salary required. Address the Ohio Brass Company, Mansfield, Ohio.

Inquiry No. 3176.—For makers of aluminum combs.

WANTED.—A capitalist to take half of a valuable lot of patents for the United States in the hands of a company, and would be director in the general branch. This company will eventually outvie the Steel Trust. Must deposit one hundred and fifty thousand dollars. He would receive ten thousand shares in the general branch in addition to half of the patents business of the United States. For information apply to manager of Joyce Manufacturing Company.

Prince Albert Sask. Northwest Territory, Canada.

Inquiry No. 3177.—For makers of sheet steel shovels, forks, picks, etc.

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. 3178.—For dealers in second-hand gasoline engine and launches.

Inquiry No. 3179.—For a hand illuminating gas igniter (not to be attached to burner).

Inquiry No. 3180.—For parties to manufacture hooks and eyes.

Inquiry No. 3181.—For makers of machines for grinding leather.

Inquiry No. 3182.—For parties to do twisted wire work in large quantities.

Inquiry No. 3183.—For power machines for perforating sheet metal.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

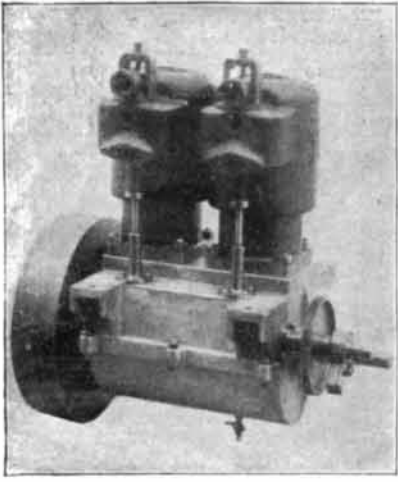
September 9, 1902,

AND EACH BEARING THAT DATE.

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

Table listing various inventions and their corresponding patent numbers, including items like 'Acid and making same, paramethyl-amido-phenylglycolic, F. Ach.', 'Aerated waters on draft, apparatus for serving, J. P. Jackson', 'Air cooling and purifying apparatus, C. W. Vollmann', etc.

(Continued on page 193)



16 H. P. motor, weight 220 lbs. MOHLER & DE GRESS, Long Island City, N. Y.



POTTER'S "SPRING" BRAKE BLOCKS. Adapts the whole length of shoe to wheel under all circumstances.

For Heavy Continuous Work every machine shop will commend our Power Pipe Threading and Cutting Machine.



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The Typewriter Exchange

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DRY BATTERIES.—A PAPER BY L. K. Bohm, treating of open circuit batteries, historical dry batteries, modern dry batteries, Heisen's battery, Bryan's battery, Koller's battery, and the efficiency of dry cells.



even to the uttermost parts of the earth, are followed by the Remington. In every clime and every nation it is the Standard Typewriter

THE LIFE OF MACHINERY depends on the careful treatment of it. Nothing so reduces the wear and tear and aids it in smoothly running as Dixon's Pure-Flake Graphite

Table listing various mechanical items and their prices, including Thioxanthin, Ticket fastener, Tire and manufacturing same, etc.

DESIGNS.

Table listing designs such as Andiron, Badge, Button hooks, etc., with prices.

TRADE MARKS.

Table listing trade marks like Arsenic compounds, Boots and shoes, Cleaning and polishing compounds, etc.

LABELS.

Table listing labels for products like 'Ben King' cigars, 'Empress Imperial Toilet Powder', etc.

PRINTS.

Table listing prints such as 'Men's and Boys' Apparel', 'A printed copy of the specification and drawing of any patent in the foregoing list', etc.

COLD GALVANIZING

Save all the Spelter consumed in galvanizing by the hot process by using our Patent Cold Galvanizing Process...

SECTORLESS WIMSHURST MACHINE.

This article gives directions for making 4 illustrations. SCIENTIFIC AMERICAN SUPPLEMENT 1131.

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The American Pedometer registers every step you take. It is to the pedestrian what the cyclometer is to the bicyclist.

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Engine of Maximum Simplicity and of Highest Thermal Efficiency. By Prof. R. H. Thurston.



YOU ONLY RISK \$1

In order to keep things moving during the hot weather, on receipt of \$1.00, I will ship to any station in the United States a 400-LB. WILLARD STEEL RANGE.

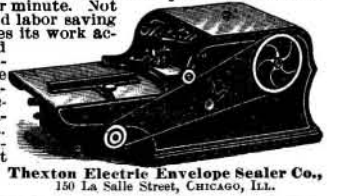
The "Wolverine" Three Cylinder Gasoline Marine Engine.

The only reversing and self-starting gasoline engine on the market. Lightest engine for the power built.



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Capacity, 150 per minute. Not only a time and labor saving device, but does its work accurately and neatly.



ELECTRO MOTOR. SIMPLE, HOW TO

make.—By G. M. Hopkins. Description of a small electric motor devised and constructed with a view to assisting amateurs to make a motor which might be driven with advantage by a current derived from a battery.

UNIVERSAL BENCH LATHES

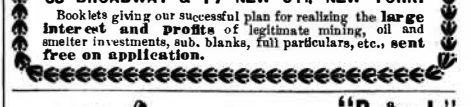
have a full line of the most improved attachments for Screw Cutting, Milling, Grinding, Etc.

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You can't possibly get seeds or foreign particles into the mouth when you use a "Snedeker" adjustable guard and filter on your cup or glass.

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Experimental Science

Experimental Science is so well known to many of our readers that it is hardly necessary now to give a description of this work. Mr. Hopkins decided some months ago that it would be necessary to prepare a new edition of this work in order that the many wonderful discoveries of modern times might be fully described in its pages.