

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

PLANTER AND CULTIVATOR.—J. R. JONES, Jackson, Miss. The frame of the implement is provided with wheels arranged in tandem. The advance wheel is so shaped as to form in the ground a concavity in the center of which is a groove, for the reception of seed, and the rear wheel is so constructed that it will press the earth or fertilizer to and not upon the planted seed. The forward end of the frame is adjustably supported on wheels so shaped as to direct the earth toward the longitudinal center of the implement frame.

CORN-HARVESTER.—J. L. LOCKE, Beatrice, Neb. This corn harvester is of that class which gathers the ears from standing stalks, and it consists of a corn harvesting attachment which may be applied to any farm wagon without interfering with its carrying capacity. It also includes a husking device, a conveyer for husked ears, and means for directing the husks to a receptacle.

BEET-HARVESTER.—M. W. PALMER, Hamlet, Mich. The machine cuts the tops from the beets, clears a path for the cutter in advance of the operation of cutting, raises the beets to the face of the ground in the rear of the topping cutters, clears them of dirt, and deposits them on the ground where they can be readily picked up.

JOINTER FOR PLOWS.—H. TRAEGER, Auburn, Wash. The invention provides a jointer for plows arranged to form a good joint between adjacent layers of the turned over ground to throw the trash and soil the opposite way from which the plow turns it, so that when the jointer is attached to a right-hand plow, for instance, it throws a narrow strip of soil or trash to the left, while the main portion of the ground is turned over to the right.

Apparatus for Special Purposes.

SOLAR HEATING APPARATUS.—M. DE LA GARZA, Chihuahua, Mexico. The apparatus enables the rays of the sun to be utilized for heating purposes, thereby saving the cost of fuel and obtaining a high degree of heat with cleanliness and without injurious action on the articles which are being cooked. It comprises a swinging frame mounted in a main frame. Lenses on the swinging frame concentrate the heat rays on vessels mounted to swing in a frame relatively horizontal to the swinging frame.

APPARATUS FOR MIXING WORT AND YEAST AND AERATING THEM.—M. WALLERSTEIN and H. H. FREUND, New York, N. Y. The invention has for its object to provide a simple, efficient apparatus which will thoroughly mix yeast and wort and at the same time inject pure, filtered air into them. The device comprises a cylindrical containing vessel and a perforated disk free to slide therein. A manually operated tube provided with an air-inlet extends through the disk and is rigidly secured thereto. A pair of agitating screw blades of opposite pitch are mounted on the tube, and are free to move in opposite directions when the tube is operated.

Dies and Tools.

ROLLER-DIE.—H. HERDEN, Wellsboro, Pa. The invention provides a new and improved roller die for shaping metal plates and bars according to a predetermined design without danger of fracturing the metal plate or causing undue abrasion, drawing, or elongation. The roller die is particularly serviceable in forming triangular and other projections on heavy metal plates.

CUTTER-HEAD.—N. BLY, Crownpoint, N. Y. The cutter is adapted for woodworking and is arranged to permit convenient and quick adjustment of the knives for forming tongues and grooves or for dressing the sides of heavy material and to prevent breaking of the edges of the material in front of the knives, thus insuring a clean cut and considerable saving of lumber.

DIE FOR COVERING TUBES.—P. H. FRIEL, Kenosha, Wis. The invention affords means for covering a tube with a metal casing. Three blocks are employed in the die. The first block has a hole through it which is open along the upper surface of the block. Two adjustable folders are situated at this opening, one projecting outwardly, and the other extending into an opening through the second block. The third block has a plain, round hole adapted to flatten down the curled edges of the jacket.

Electrical Apparatus.

ELECTRIC ARC LAMP.—R. FROMENT, Paris, France. The carbons are normally held together by a spring. A solenoid is employed to hold them apart when the current is turned on. The tension of the spring and the attraction of the solenoid are so arranged as to keep the carbons at a constant distance apart, thus insuring an absolutely fixed light.

Engineering Improvements.

ENGINE.—W. D. LINSKOTT, Piedmont, So. Dak. This engine, which is particularly adapted for use in connection with steam, comprises a number of rotary pistons attached to a common shaft and fitted within a cylinder-like casing. The casing and piston are provided with certain peculiarly formed

ribs on which the steam acts, whereby motive force is produced.

TRACTION-ENGINE DRIVING-WHEEL.—K. R. LEEHART, Lucas, Iowa. By an improved construction the calks on the driving-wheel may be instantly projected or withdrawn from the rim, so as to meet the requirements of increased tractive effect on muddy and icy roads, or be as quickly withdrawn before passing over a bridge, so as to do no damage to the flooring, thus saving much time and expense.

BOILER-TUBE CLEANER.—C. T. DEMAREST, Hackensack, N. J. This improved boiler-tube cleaner is adapted to thoroughly cut the soot or scale clean from the interior surface of the flue without much physical exertion on the part of the operator. The flue cleaner comprises a horizontal head provided with a number of spaced cutters projecting from the front and rear ends thereof. These cutters are braced by V-shaped webs connecting them with the main body at the head.

HYDRAULIC MOTOR.—J. G. GELLY, Paris, France. The reciprocating hydraulic motor operates automatically without the intermediary of any distributing mechanism, thus rendering the construction of the apparatus extremely simple. The motor is adapted for erection in either a vertical, horizontal or inclined position.

ROTARY ENGINE.—I. V. KETCHAM, Brooklyn, N. Y. The engine may be driven by a fluid pressure of any sort, but is best adapted for operation with steam. Two cylinders and valve chests are employed. The two circular pistons are fastened to a shaft in common to both. The peripheries of the pistons are formed with steam pockets oppositely disposed in the respective pistons. In operation one piston and its valve stay inactive, while the other piston and valve are in operation, and when the movement of the engine is to be reversed the active piston is arrested and the formerly inactive piston put in operation.

Hardware.

CURTAIN-FIXTURE.—C. E. BAUR, Cripple Creek, Colo. This fixture is adapted to receive vertical and lateral adjustment of its members, so as to compensate for differences in the length of a curtain or of its supporting rod. A slotted bracket plate is employed at each side of the window, the plate having serrations along its front surface at the slot. A washer is seated on the serrations and encircles a headed bolt slidable in the slot. A sleeve on the bolt is seated against the washer, and is held thereto by a nut on the end of the bolt. The sleeve is provided with a laterally extended socket piece which receives the curtain rod. Lateral adjustment is made by a nut which encircles the rod and is screwed to the socket piece.

NUT LOCK.—A. T. WILSON, Chicago, Ill. The nut has a bore near one side intersecting the threaded aperture, which contains a compression spring at the bottom, and a dog bearing thereon. On the side next to the threaded aperture, the dog is provided with teeth which normally engage and lock the thread of the bolt. To unlock the nut the dog is depressed, thus presenting a flattened portion in place of the teeth. A detent shaft holds the dog in an unlocked position.

Machines and Mechanical Devices.

WOOD-TURNING MACHINE.—W. T. JONES, New Westminster, Can. The machine is practically automatic in its operation and is adapted to act upon a plurality of spool-blocks, arranged in axial line, so that they will be simultaneously and finally ejected as finished spools.

DRIVING-GEAR.—J. C. WOODY, Mount Vernon, Ind., W. R. DANLEY, Denver, Colo., W. H. YOUNG, Rockyford, Colo. The invention relates to treadle power for actuating small machines, such as sewing machines, coffee mills, and the like, and provides a new and improved driving gear which is very effective in operation and arranged to directly actuate the machine to be driven and to support the same on the main frame.

DELIVERY TABLE FOR PRINTING-PRESSES.—E. M. HOWELL, Denver, Colo. This delivery table, used in cylinder printing presses, is arranged to permit of conveniently and quickly adjusting the jogger-boards for properly piling the printed sheets of any desired size.

BEATING-ENGINE.—E. A. JONES, Pittsfield, Mass. Certain new and useful improvements are made in the beating-engines of paper-making machinery which insure a proper circulation of the pulp or stock when the vat is being emptied, and assist the pulp or stock to the discharge pipe without the use of manually actuated rakes now generally employed for pushing the stock to the discharge pipe.

TURNING DEVICE.—G. H. HILDBRETH, Seattle, Wash. Mr. Hildbreth has invented a novel device for turning and shouldering masts, spars, posts and analogous articles. The wood is turned in a tank filled with water. The floating of the log upon water renders its weight practically nil and also lubricates the bearings or centering devices at the points where friction is likely to occur.

SHUTTLE-GUARD FOR LOOMS.—J. P. LANGE, Passaic, N. J. The invention provides a new and improved shuttle guard, actuated from the lay to move into an active or inactive

position, and arranged to effectively prevent a shuttle diverted from its straight cross across the ways from flying upward out of the shed. It thereby insures the personal safety of an attendant, the arrangement being such that the weaver at any time can swing the guard out of the way to gain access to the warp threads and the reed.

TYPEWRITER.—W. J. THOMPSON and P. BECKER, New York, N. Y. The typewriter embodies a flexible type form mounted for rotary movement to locate the type for impression and arranged with certain devices for flexing the type to effect impressions, spacing the characters impressed, and effecting other results necessary to and advantageous in the operation of the machine.

Medical Apparatus.

SKIASCOPE.—K. A. MOTT, Avalon, Mo. The instrument is used for examining and testing the visual power of a person and is arranged to permit of quickly bringing a single lens or any desired combination of lenses into proper position for viewing one eye of a patient, at the same time relieving the other of undue strain.

COMBINED FACE-STEAMER AND INHALER.—H. C. KARPENSTEIN, Brooklyn, N. Y. The invention affords an apparatus for providing a spray of heated vapor, and is designed to enable the patient or physician to readily vary the nature of the vapors and to direct them as desired. It comprises a standard which supports a spray at one side and a vaporizer at the other. The spray head is adjustable, being mounted on a tube which telescopes with the vapor supply tube. At the top of the sliding tube a medicating pan or cup may be placed whereby the steam or vapor may be laden with perfume or medicine.

Plumbing Improvements.

PIPE OR MAIN.—W. S. CORBIN, Johnstown, N. Y. The invention is an improvement in pipes and mains having for an object to provide a novel construction whereby to form a cover for the joint between pipe sections to prevent leakage. Each pipe section has a bell at one end fitting over the end of the next section to which is secured a ductile sealing jacket, also bell-shaped, which fits over the bell-shaped mouth-section. Clamping bands secure the parts together.

AIR-CHAMBER FOR PUMPS.—J. E. SPONSELLER and G. FENNO, Hoisington, Kans. This invention provides an improved air-chamber for pumps and pipe-lines, which can be conveniently arranged at any point of the pump-pipe above the cylinder, can be made of any desired length and diameter, will assure an even flow of water, and will obviate the recoil of the water in the pumping-pipe at each stroke. A cylindrical casing is coupled to the pipe line. The upper coupling is threaded to receive the upper pipe line and the upper end of a central pipe section, the tapered lower end of which fits tightly into the lower coupling. The central pipe is perforated near its lower end for the passage of water entering into the casing.

Railway Contrivances.

ANGLE-CKOCK ADJUSTER FOR AIR BRAKES.—W. S. DE CAMP, of Chillicothe, Ohio. In the ordinary brake system a train pipe runs from end to end of the car and terminates at each end in an angle-cock to which a flexible hose, that connects the train pipe between the cars, is secured. The angle-cocks are ordinarily coupled up by hand. Mr. De Camp provides a means whereby the engineer may, from his locomotive, adjust any or all the angle-cocks to the open or cut-in position. The pneumatic angle-cock adjuster is designed to be operated by an increase of air pressure in the train pipe over and above a normal pressure of 65 pounds.

Vehicles and Their Accessories.

BICYCLE.—N. E. BROWN, Aitkin, Minn. The bicycle is arranged to allow of riding the machine in the usual manner and can be quickly changed to give the rider a forward and backward center of the body with an impelling and resisting impulse, producing a very novel and exhilarating motion.

FIFTH-WHEEL.—S. E. BANGS, Booneville, Ark. The object of the invention is to provide a fifth wheel so constructed that the body of the vehicle will maintain a horizontal or level position and prevent jar while the front axle is on an angle caused by one of the wheels passing over a large obstruction. This is accomplished by providing a ball and socket connection between the bolster and the front axle.

CHANGEABLE GEAR FOR BICYCLES.—H. F. MAYNES, Corning, N. Y. The invention aims to provide, in a changeless driving mechanism for bicycles a means for changing the gear and consequently the speed, and further to provide means for bringing the changeable gear into action as a brake. The hub of the rear wheel is provided with independently-acting gears, one gear being for high speed, and the other for low speed. The drive-shaft which is adapted to drive the hub of the rear wheel carries two gears also, one meshing with the high speed gear and the other with the low-speed gear of the hub. Means are provided for bringing either the high-speed

or the low-speed gear in action through back-peddaling. A brake-operating arm is likewise carried by the hub of the rear wheel and is also brought into action by back-peddaling.

DRAFT-EQUALIZER.—H. HENDRICKS, Kinbrae, Minn. The device is adapted to even up the draft exerted by a team of five horses, one of which may walk in the furrow while four horses may walk in the stubble if the equalizer is employed on the plow. Connected to one end of a primary lever is a doubletree and at the other end is fulcrumed a secondary lever to which is secured at its inner end a singletree and at its outer end a doubletree. The levers are so arranged, as to position of fulcrum and length of arms, as to equalize the draft.

END-GATE-ROD FASTENER.—W. A. DAY, Clay Center, Neb. This improved end-gate-rod fastener is simple and durable in construction and arranged to securely hold and lock an end-gate-rod in place, and also permits quick unlocking and removal whenever it is desired.

FOLDING CARRIAGE.—C. E. FANNING, Davenport, Iowa. Mr. Fanning has invented a new and improved folding baby-carriage which can be quickly extended for use or readily folded into a comparatively small space for conveniently carrying it about, especially up and down narrow stairs or in hallways, street cars, etc.

Miscellaneous Inventions.

SHOW-CASE.—A. REINLE, Baltimore, Md. In the construction of all-glass show-cases, it becomes desirable to connect the glass in such a way as to avoid any interference with the neat appearance of the case. Mr. Reinle prefers uniting the plates together with cement. A metallic layer overlies the uniting cement and adheres to the inner surface of the glass, so that the case will present the appearance of having a silver or gilt layer at the point of contact of the glass plates.

MAIL-BAG CRANE.—C. J. NORDVALL, Evanston, Ill. This mail-bag crane is light yet strong and durable, and in its construction old railway rails may be utilized. The bag is held by spring clips between two bars pivoted to the standard. The catcher on the mail car by engaging the mail bag will release it from the supporting bars, permitting the lower bar to fall and strike against a plate, thus moving a tripping device rearward and allowing the upper bar to drop out of the way of other passing trains.

MEANS FOR PRESSING, PERFORATING AND CUTTING GLASS IN SHAPES.—A. J. NASH, New York, N. Y. The invention provides means whereby at one operation a sheet of glass may be pressed and parts cleanly removed, so that various openings of any design may be produced in the sheet and the openings may be filled with material of different character and color, and so also that the particles removed may be utilized for tiling or for analogous purposes.

LAMP-LIGHTER AND MATCH EXTINGUISHER.—W. R. CAIN and OLIVE B. KANE, Port Jervis, N. Y. The match is inserted in a tube in the lamp or lantern, and as its outer end is depressed, the head of the match is brought into contact with a short arm which yields sufficiently to permit the head to travel along its under surface in contact with the serrations thereon, by which friction sufficient to ignite the match is produced.

VAPOR-GENERATOR.—M. CASTELNAU and C. THIALON, Paris, France. Most of the generators of instantaneous vaporization made up to the present time comprise capillary passages, so that they become rapidly obstructed and are very difficult to clean. These inventors have discovered that calefaction and instantaneous vaporization can be produced without the help of capillarity, and they have constructed a vaporizing element having a large inner duct and no capillary passages whatever. By a novel process the requisite element is formed, which consists of a block of hard steel in the interior of which is provided a duct bent back on itself three times over and of which the ends open out on one and the same surfaces.

FIRE-ESCAPE.—W. R. and N. B. CAIN, Port Jervis, N. Y. A chain or rope is employed for lowering persons to the ground and passes through a drum or casing secured to the wall of the building. The rope operates an automatic brake mechanism whereby the descent of the persons is regulated.

CIGAR-MOISTENER AND PRICE AND BRAND TICKET.—S. STRAUSS, New York, N. Y. The moistener is adapted for attachment to cigar boxes, and when in position will be held over the cigars, yet out of contact with them. A clamp-support is provided, upon which the moistener is pivoted, enabling a person to quickly move it out of the way. The upper face of the moistener may be utilized as a label or ticket indicating the name, character, and price of the cigars in the box.

COLLAPSIBLE BOX.—H. H. KINSEY, Shoshone, Idaho. The box comprises a bottom, end pieces having hinged connection therewith, side pieces, a top or cover having loops at the side edges to engage against the outer sides of the side pieces, and fastening devices for engaging the top or cover in place, these fastening devices being below the top plane of the cover.

ASSAYING-FURNACE.—A. C. CALKINS, Los Angeles, Cal. The furnace is adapted for use

with gas or of volatilizable hydrocarbon as a heating medium. It is more particularly a combined muffle and melting furnace, comprising a central combustion chamber having a fire opening, a muffle which traverses the chamber above this opening, crucible chambers located on each side of the main chamber, and lateral passages connecting the three chambers, the latter being provided with removable covers.

STOCKING-GUARD.—H. WEIL, New York, N. Y. The stocking-guard is designed particularly for protecting children's stockings from wear at the knees, and it provides an inexpensive construction that will readily yield to the movement of the child's legs and which also, when not in use, may be folded in compact form.

TOOTHPICK-HOLDER.—C. A. YARRINI, Havana, Cuba. The holder is so constructed that a bundle of picks contained therein may be ejected one at a time as required for use, thus preventing the handling and possible soiling of the toothpicks remaining in the bundle.

NECKTIE-FASTENER.—G. GREITE, Guttenberg, N. J. The necktie-fastener comprises a plate of sheet metal provided with ears and with fasteners secured to a necktie shield. A Y-shaped clasp is pivotally secured to the plate and provided with a rocker-like member terminating in pointed feet. A torsional spring engages the plate and the clasp. The clasp normally holds the Y-shaped member in such a position that the pointed feet engage the plate.

NUT-CRACKER.—W. V. DICKEY, San Antonio, Texas. The device is particularly well adapted for fracturing the shells of pecan nuts, so as to release the meats or kernels therefrom without injuring them. The hammer-blocks are provided with mating cavities in adjacent ends, wherein the nuts are separately placed when operated upon for fracturing their shells.

DRAFTSMAN'S INSTRUMENT.—E. C. LOETSCHER, Pittsburg, Pa. The instrument has for its object to provide a simple and convenient tool for drawing lines at various angles, for dividing lines into various numbers of parts, and for readily solving other problems occurring in the draftsman's practice. It comprises a rectangular celluloid plate upon which various scales and angles are marked.

MILK-MODIFYING GAGE.—J. A. MITCHELL, New York, N. Y. The gage comprises a strip of sheet-material bent twice at right angles, the bent portions being spaced apart a distance commensurate with the size of a milk bottle, for the purpose of embracing the exterior of the bottle. The gage is provided with graduated scales which indicate the quantity of milk, lime-water, and boiled water that are to be mixed together in the food of infants.

COOKING STOVE OR RANGE.—ELEANOR CLARKE, Mariasville, Pa. The stove embodies an extensive capacity for utensils in cooking, a graded radiation of heat throughout the plate surfaces, and a body occupying comparatively small floor space adapted for ventilation and to conduct away resulting steam and gases in cooking.

MINIATURE THEATER.—A. L. MCCORMICK, Port Huron, Mich. The miniature theater provides an automatically operated apparatus in the nature of a model playhouse, having scenery and other accessories by which to represent in succession a number of scenes or acts of a play. The stage is provided with slots through which actors or other figures are caused to pass into or out of view, the figures being supported upon suitable keys or levers operated automatically.

BEDSTEAD.—S. E. CLAUSSEN, Walla Walla, Wash. Mr. Claussen has invented an improvement in bedsteads relating particularly to the connection of the post with the rail of the bed. Means are provided for holding the rail and post together, permitting the regulation of these parts if they are not straight, and serving to brace the bed in that region.

PROCESS OF MAKING REPAIRED FABRICS.—D. MARGOLIUS, Norfolk, Va. This invention seeks to provide a method of effectually repairing mutilated rough bagging which has been used in covering cotton bales, so that it may be resold to the planters in practically as good a condition as when originally used. This is done by continuing the cut in the material along to its edges, thus dividing it into two disconnected parts. These two parts are then joined by knotting together the severed threads.

Designs.

DESIGN FOR PICTURE-FRAME.—E. GOETTE, Newark, N. J. The leading feature of the design consists of a semi-wreath of leaves arranged with scroll effect upon a border, and a ribbon-like appearing to secure the semi-wreath to the border.

DESIGN FOR RING TRAY.—J. L. HERZOG, New York, N. Y. The leading feature of the design consists in the body having a general diamond shape, the opposite sides of which are formed in segmental curves, giving an scalloped effect, while the opposite sides of the end-portions are formed in compound curves. Slots for the rings are arranged in various lines with relation to the center.

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.

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Marine Iron Works, Chicago. Catalogue free.

Inquiry No. 2431.—For makers of bathroom appliances.

Motor Vehicles. Duryea Power Co., Reading, Pa.

Inquiry No. 2432.—For manufacturers of spring motors.

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

Inquiry No. 2433.—For dealers in novelties.

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

Inquiry No. 2434.—For addresses of philatelic papers published in United States, Canada and South America.

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

Inquiry No. 2435.—For makers of solid rubber bicycle tires.

Castings to order for oil, gas and gasoline stoves. Atlantic Foundry, Phillipsburg, N. J.

Inquiry No. 2436.—For manufacturers of invalid chairs, etc.

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

Inquiry No. 2437.—For manufacturers of celluloid and xylonite suitable for knife handles, etc.

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

Inquiry No. 2438.—For dealers in rolled gold wire.

Steel name stamps, stencils, steel letters and figures and brass checks. C. L. Alderson, Cleveland, O.

Inquiry No. 2439.—For manufacturers of steam riding galleries.

Are you looking for anything in bent woodwork? Write Lucker Bicycle Woodwork Co., Urbana, Ohio.

Inquiry No. 2440.—For machinery for making brackets and pins for telephone lines.

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

Inquiry No. 2441.—For the firms who make the felt covering for the United States government caissons.

FOR SALE.—To party direct, for cash, patent 608,325 on folding umbrellas. No selling agencies need answer. M. R. Studams, Bridgeton, N. J.

Inquiry No. 2442.—For manufacturers of plates of aluminum.

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

Inquiry No. 2443.—For machinery for making horn combs.

Factory room to let, with power, steam, elevators, etc. Good light, also storage room. Charles F. Kilburn, 84-86 Mechanic St., Newark, N. J.

Inquiry No. 2444.—For dealers in granulated copper or machinery for making the same.

WANTED.—Motor vehicle for passenger traffic on country roads. Large contract if sample all right. Electric Power barred. Address E. and D., Box 774, N. Y.

Inquiry No. 2445.—For a cheap ice-making machine for household use.

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

Inquiry No. 2446.—For manufacturers of acetylene gas generators.

IDEAS DEVELOPED.—Designing, draughting machine work for inventors and others. Charles E. Hadley, 584 Hudson Street, New York.

Inquiry No. 2447.—For manufacturers of ear tubes, etc.

Inventions developed and perfected. Designing and machine work. Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

Inquiry No. 2448.—For makers of solid, rust-proof harness metals, dashboards, etc.

WANTED.—A thoroughly reliable man to manage Steam Specialties Department in large wholesale house. Must be sober, competent and experienced. Give age, experience, references and salary expected. Address Box 482, New Orleans, La.

Inquiry No. 2449.—For makers of hollow copper or brass wire.

Patents developed and manufactured, dies, special tools, metal stamping and screw machine work. Metal Novelty Works Co., 43-47 S. Canal St., Chicago.

Inquiry No. 2450.—For machinery for copying the flat surface of a clarinet mouthpiece.

Our specialty is cutting and forming metal parts any shape. Metal Stamping Co., Niagara Falls, N. Y.

Inquiry No. 2451.—For makers of paper rims or tires for placing over iron wheels.

FOR SALE.—Castings for 2 x 4 Corliss type engine with blue prints. Send for circular. E. A. Sikes, Lock Box 4, Cherry Valley, Mass.

Inquiry No. 2452.—For makers of electric motors.

INDEX OF INVENTIONS

For which Letters Patent of the United States were issued for the Week Ending April 15, 1902, AND EACH BEARING THAT DATE.

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

Table listing inventions with inventor names and patent numbers. Includes entries such as 'Adjustable table or desk, E. Lindner', 'Air cooling apparatus, A. Siebert', 'Alkali, making caustic, H. A. Frisch', etc.

Continuation of the invention index table, listing items like 'Drilling machine, C. A. Wessman', 'Dye and making same, red cotton, E. Winter', 'Edger guard, gang, E. B. Thomas', etc.

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