

RECENTLY PATENTED INVENTIONS. Of General Interest.

DISPLAY APPARATUS.—E. F. CANNON, Portland, Ore. The object of the invention is to provide a simple and inexpensive apparatus which has shelves for carrying and exhibiting wares and merchandise, which are movable in different directions and in different ways, to display the exhibited articles in a plurality of fashions.

BARREL-SHELF.—A. HUGHES, Houston, Texas. The purpose here is to provide a portable barrel shelf which can be conveniently applied on a barrel to bear the weight of a sack and its contents in filling the sack, and which can be conveniently folded into compact form and stored in a small space when not in use.

ENLARGING ATTACHMENT FOR CAMERAS.—C. F. ADLON, Las Vegas, New Mexico. One purpose of the invention is to provide an attachment whereby large prints may be made upon sensitized paper from small negatives, and to so construct the attachment for the enlarging camera that it can be expeditiously and conveniently set up and applied to an ordinary camera, and as readily and quickly removed therefrom.

Hardware.

CONVERTIBLE LADDER.—S. S. GROVES, Loraine, Ill. This invention is an improvement in ladders and especially in ladders which may be extended or may be converted into step ladders as desired. A hinge joint is movable to a point below the guides on the main section when the parts are adjusted, so that when the ladder is extended the extension is firmly secured and braced by the guides on the main section.

ADJUSTABLE CASTER.—J. SHARON, Canaseraga, N. Y. The invention has for its object to provide a stove leg to which is pivoted an arm having a wedge-shaped flange which is adapted for engaging snugly converging sides of the stove leg, there being a caster pivoted to the flange and means being provided for holding the arm off the floor.

ADJUSTABLE WRENCH.—O. C. CALDWELL, Klamath Falls, Ore. The wrench is of the sliding jaw type, and consists of but two sections, each cut from plate metal as flat blanks into proper form and completed by lapfolding members of each section upon other portions thereof, the two sections when completed being adapted for slidable engagement and locking adjustment at desired points of separation of the jaws.

NUT-LOCK.—H. W. WORTHINGTON, Richfield, Kan. The nut lock devices forming the subject of this patent include a washer of a special form. The washer is provided with a tooth which is bent out of the plane of the washer and is adapted to engage a ratchet piece in the nut to be locked. The washer is distinguished by an elliptical opening which permits the washer to be driven in the direction of the major axis of the opening and out of engagement with the nut.

MITER-BOX.—J. F. WINKLER, Marquette, Mich. This box comprises a rocking trough for securing the work, means for indicating the angle of its inclination, a saw guide arranged transversely of the trough, and mounted for swinging movement in a horizontal plane, and means for indicating the angle of inclination of the guide with respect to the trough.

Household Utilities.

FLAT-IRON STOVE.—E. L. HEGARTY and H. L. MOODY, Waterville, Maine. The invention belongs to that class of stoves or heaters in which an inverted flat-iron, generally electrically heated, constitutes the heating element, and has for its purpose a holder which will firmly support any ordinary shaped iron in an inverted position, and a member for protecting the pressing face of the iron, extending beyond the edges thereof.

AWNING.—W. SULLIVAN, New York, N. Y. The more particular purpose of this improvement is the production of a type of awning suitable for stores, dwellings, and the like, such awning being provided with means whereby it may be connected at one of its ends with one of the sashes, and at its other end with a frame pivotally supported upon the window jamb.

Machines and Mechanical Devices.

HAMMER.—H. J. AUGUSTINE, Mooreland, Okla. The construction accomplishes an increase in the mobility of the hammer so that it may be shifted in a number of independent directions for the purpose of applying it to different portions of work, or readily placing it out of the way a moment after it has been used; and to more evenly distribute the weight of the hammer and mechanism immediately connected therewith relatively to its support.

METALLIC BELT.—H. L. CANNE, Dingman Township, Pa. The object of the present invention is to provide a belt for use in power transmission or for use as an over-shoe for vehicle wheels and for other purposes, the belt

being strong, durable and exceedingly flexible in every direction. It relates to metallic belts such as shown and described in the application for Letters Patent of the U. S., formerly filed by Mr. Canne.

BUNDLE-FORMING MACHINE.—A. J. CHESSON, Suffolk, Va. The machine facilitates the forming of bundles or packages of boards of short lengths, or similar articles. It facilitates the forming by providing a bed upon which the articles are laid, and the device includes means for bringing the different articles or members which form the bundle into alignment longitudinally and transversely.

CHAIR.—A. H. CLARK, Denver, Col. The invention relates more particularly to chairs or seats for theaters and the like. An object is to have a movable seat held by resilient controlling mechanism in an elevated position and which can be depressed, locked in a partially depressed position and released from this by a further movement of the seat.

BURGLAR-ALARM.—H. SPENCER, Ridgefield Park, N. J. More specifically the invention pertains to that type of alarm which employs a bell which rings automatically when its plunger is pressed, and the improvement concerns itself especially with the construction of means for pressing the plunger of the bell and for disengaging the operating mechanism when desired.

AUTOMATIC REGULATING-VALVE.—J. C. SMITH, Louisville Ky. The subject of the invention is intended for controlling the flow of weak liquor to an absorber. This liquor leaves the generator under a pressure of approximately 150 pounds, while the gas admitted to the absorber is under a pressure of from 5 to 15 pounds. The returning fluid absorbs 27 to 29 per cent of its weight of ammonia gas, and for this absorption to take place it is necessary that the pressure of the incoming fluid be equal to that of the incoming gas.

PHOTOGRAPHIC-PAPER-PRINTING MACHINE.—E. N. KERR, Rock Island, Ill. One purpose here is to provide a construction of machine for printing photographic paper, especially designed for use in connection with the so-called gas-light paper, wherein the time of exposure is under the complete control of the operator and may be made to vary as desired from a second or seconds to a minute or many minutes.

Prime Movers and Their Accessories.

ROTARY EXPLOSION-ENGINE.—W. A. SMITH, Los Angeles, Cal. There is provision in this invention of an improved rotary explosion or gas engine, arranged to utilize the force of the explosive mixture to the fullest advantage by giving a plurality of impulses to the rotor at each revolution thereof, thus insuring an easy and steady running of the engine.

REVERSING-VALVE.—J. W. BELL, Shenandoah, Pa. When this valve is closed it completely shuts off all communication between the pressure chamber, back of the valve and the cylinder, with the exhaust ports leading from the chambers at the ends of the side valve, thus preventing a loss of power from the cylinder through a reverse valve chamber, which stops all interference with the operation of the slide valve and auxiliary plunger therefor when used by reason of counter pressure leaking from the back of the reverse valve.

Railways and Their Accessories.

RAILROAD CASH-FARE RECEIPT.—G. MCN. ROSE, JR., Nashville, Tenn. The invention comprises more particularly an arrangement of lines inclined relatively to each other and to the sides of the ticket or receipt, and bearing numerals and other indications of different amounts in dollars, dimes, and cents. When the receipt is used, a portion is torn off corresponding to the amount paid by the passenger for fare, and the inclined lines indicate the steps of division between the stub and the portion given to the passenger.

RAIL-BASE AND METAL CROSS-TIE FOR RAILWAY TRACKS.—M. A. TEMPLE, Berlin Heights, and H. C. TEMPLE, Cleveland, Ohio. The invention provides a resilient, continuous rail base for the rails of a railroad track and angle iron tee bars therefor, dispensing with wooden cross ties and affording longitudinal and transverse supports beneath the rails that are very durable, adapted to hold the rails from spreading or creeping, and prevent a derailed car from leaving the road bed, thus obviating accidents.

Pertaining to Recreation.

TOY-PISTOL.—M. D. GREENWOOD, Hoosick Falls, N. Y. More particularly the invention relates to that type of pistol in which a resilient band is so arranged that when released a projectile, such as a marble, stone, or bean, may be thrown. It holds the projectile in the barrel and adjacent the plunger while the pistol is being aimed and to release the projectile simultaneously with the release of the plunger.

AMUSEMENT DEVICE.—W. P. HAYES, New Haven, Conn. In a bowl-shaped body the inventor provides a central circular seat at the bottom, and a circumferential seat at the side, arranged at or near the top at approximately right angles to the bottom seat. Passengers enter the bowl through an opening, and when this is closed the bowl is revolved

on its vertical axis, and by centrifugal action moves the passengers from the bottom seat to the side seat, where they remain suspended at right angles to the natural seating posture.

SNELLED-HOOK BOX.—M. M. SCHANEY, Dubois, Pa. In order to carry out the invention a cylindrical box is provided, having therein a spring-actuated reel, on the periphery of which is arranged a moistening pad. The reel is provided with grooves whereby the hooks may be protected, together with devices for keeping the snells taut and always accessible and in a condition to be used immediately.

Pertaining to Vehicles.

DUMPING-WAGON.—T. WRIGHT, Jersey City, N. J. The object of the invention is to produce a construction in which the body of the wagon or cart may be raised and inclined, but in which the center of gravity of the body and its load will remain in substantially the same plane as when the body is in its normal position on the track.

ROTARY WHEEL-GUARD.—F. E. HUTCHINGS, New York, N. Y. The special object of the invention is to so construct and mount the guard that it will be at the minimum distance from the wheel, and the possibility of any person or object falling behind the guard and in front of the wheel will be eliminated. It relates to improvements shown in a prior application filed by Mr. Hutchings.

VEHICLE-WHEEL.—G. R. WILLIAMS, Little Rock, Ark. One purpose of the invention is to provide a wheel for carriages, automobiles, and like vehicles, that will possess efficient resilience without detracting from its supporting qualities, and to provide a construction wherein a resilient tire is combined with compensating spokes.

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.

Legal Notices

60 YEARS' EXPERIENCE PATENTS TRADE MARKS DESIGNS COPYRIGHTS & C. Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Terms, \$3 a year, four months, \$1. Sold by all newsdealers. MUNN & Co. 361 Broadway, New York Branch Office, 625 F St., Washington, D. C.

INDEX OF INVENTIONS For which Letters Patent of the United States were Issued for the Week Ending May 18, 1909, AND EACH BEARING THAT DATE

(See note at end of list about copies of these patents.)

Table listing inventions and their patent numbers, including items like Abrading machine, Acid, alkyl esters of methylene citric, R. Berendes, 922,382; Acid from gas mixtures containing oxides of nitrogen, obtaining nitric, L. Glaser, 921,975; Acid, recovering hydrocyanic, W. Feld, 922,409; Addressing or mailing machine, C. Owens, 922,324; Adjustable bracket, T. Smith, 922,204; Aerating machine, H. Pearce, 922,183; Air brake system, E. J. Newton, 922,318; Air for purposes of ventilation, apparatus for distributing compressed, Arndt & Nurnberg, 922,236; Airstrip, E. H. Whaley, 921,915; Airstrip, M. H. Whalen, 922,223; Ammonia, making, C. Krauss, 922,003; Amusement device, C. F. Peck, 922,184; Anchor, M. W. Hall, 922,137; Animal exterminator, electric, B. S. Ames, 922,377; Anvil, W. E. Andrews, 921,787; Aralkyl para aminophenol, P. Reblander, 922,040; Armor or deck plates, treating, S. S. Wales, 921,925; Assembling apparatus, N. Marshall, 922,437; Atomizer, C. H. Michael, 922,307; Automatic switch, C. H. Eisman, 921,852; Automatic switch, W. E. Dewey, 921,810; Automobile headlight adjuster, L. M. Leach, 922,299; Automobile vehicle, L. H. Dyer, 921,963; Automobile wheel, O. A. Hauere, 922,278; Automobiles, auxiliary starting device for, J. W. & F. Jackson, 921,995; Automobiles, rear axle for, F. C. Miller, 922,308; Automobiles, etc., spring for, C. A. Lieb, 922,169; Babbitting device, J. M. Maynard, 922,012; Bag, See Tent bag, 922,050; Baking form, E. Schmidt, 922,050; Balance wheels, apparatus for adjusting, F. R. Cunningham, 922,095; Ball plays, device for, B. Jirotko, 922,432; Ballistic plate, S. S. Wales, 921,924; Banding or winding machine, C. Boderck, 921,668; Barrel fastener, G. R. King, 922,292; Barrel support, H. K. Loskamp, 921,855; Barrette, C. H. Howe, 921,702; Barretter, C. U. Hall, 921,694; Bath tub footboard, J. H. Pugh, 921,734; Bath tub rims, handhold for, J. H. Pugh, 921,733; Battery box or tray and handle therefor, J. N. Davis, 921,808; Bearing, roller, H. W. Alden, 921,656; Bearing, roller, F. M. Freeburg, 922,124; Bearing, roller, S. Kaye, 922,288; Bearings, lathe attachment for turning, C. Phillip, 922,327; Bed side rail, W. B. Munn, 921,869; Blanks, making ornamental, G. U. Meyer, 921,722; Bleaching apparatus, W. B. Lewis, 921,853; Blower for peas or the like, A. H. Wheeler, 921,764; Boat for shallow waters, A. C. Larr, 921,849; Boat rowing machine, C. H. Clifton, 921,951; Boat, submarine, L. Y. Spear, 922,056; Boat, submarine or submersible, C. Laurenti, 922,298; Boilers of the locomotive type, superheater for, W. Schmidt, 922,200; Book covers, making flexible, J. McKibbin, 921,873; Book mark, A. Eberle, 922,110; Boring bar, D. H. Shattuck, 922,346; Boring bars, expansion cutter head for, C. M. Bucher, 922,252; Boring machine, E. Winkler, 922,371; Bottle and jar closure, O. Becher, 922,244; Bottle, antirefrillable, J. Riviere, 922,335; Bottle casing, vacuum, P. O. E. Friedrich, 922,125; Bottle closure, F. C. Stockel, 921,908; Bottle, non-refillable, J. C. Davis, 921,809; Bottle sealing cap, L. Kalling, 922,286; Bottle, vacuum, J. G. Lyman, 922,174; Bottle, vacuum insulated, G. P. Van Wye, 922,364; Bottle, vacuum nursing, P. O. E. Friedrich, 922,413; Bottles and like vessels, closure for, P. Leinbrock, 922,167; Bottles containing aerated liquids, stopper for, D. Landau, 922,158; Bowl, sugar, J. T. McLellan, 922,315; Box corner stay and reinforce, H. C. Tufts, 922,066; Box lid fastener, G. C. Frazier, 922,122; Bracket, R. W. Hubbard, 921,704; Brick and the like and producing the same, composition of matter for use in fire, L. H. House, 922,363; Brick glazing compound, H. & J. Ohlson, 921,879; Broom holder, A. Marko, 922,008; Brush, rotary, W. F. Wegner, 922,225; Bucket, clam shell, Frazier & Fox, 921,821; Buggy curtain, G. W. Atkins, 922,073; Buildings and apparatus therefor, constructing, A. & E. W. Foster, 921,820; Burner, J. N. Leach, 921,850; Cabinet, dispensing grocery, R. F. Ballard, 921,941; Cabinet, filing, A. Gaul, J. C. Heckman, 921,822; Calculation, process of, C. Heckman, 922,425; Calendar, perpetual, Stroock & Hirsch, 922,063; Camera focusing attachment, W. F. Folmer, 922,411; Can feeding apparatus, E. M. Burr, 921,672; Can filler, E. E. Seibultz, 921,898; Can heads or other sheet-metal blanks, cutting, F. Rudolph, 922,194; Can opener, W. T. Favorite, 922,117; Car attachment, street, J. N. Nixon, 921,877; Car coupling, M. C. Ironside, 921,707; Car door, grain, N. Hoople, 921,701; Car door lock, C. H. Lewis, 922,168; Car fender, H. M. Lambert, 921,716; Car fender, I. B. Crane, 922,092; Car fender or guard, T. F. Hayes, 921,831; Car fender or guard, railway, G. A. Parmenter, 921,882; Car, freight, H. W. Kirebner, 922,293; Car, mine, J. M. Hansen, 921,829; Car, passenger, F. Koch, 921,848; Car, passenger, M. Carwen, 921,895; Car, passenger, H. Howson, 922,430; Car platform arrangement, street, P. N. Jones, 922,285; Car, revolving matte, J. C. Kilker, 921,999; Car seat backs, adjustable seat back support for reversible, R. L. Mangan, 922,303; Car, transfer, C. E. Dinkey, 922,103; Car wheel, S. H. Lanyon, 922,161; Car window cinder guard, railway, C. W. Kenon, 922,290; Carburizer, A. Howarth, 922,145; Cards, playing, F. D. Windell, 922,370; Carrier. See Trace carrier, 922,370; Casks and other vessels, means for venting, L. E. Saunders, 922,198; Caster, adjustable, C. Bopp, 922,381; Cattle guard, J. A. Lee, 922,165; Cell for electrolytic or other purposes, H. S. Blackman, 922,079; Cellulose acetates, manufacture of objects from, A. Schloss, 922,340; Centrifugal drier, O. Keefer, 922,149; Centrifugal separator, B. A. O. Prollius, 922,037; Centrifugal separators, liner for, B. A. O. Prollius, 922,038; Chain, cutter, R. E. Noble, 921,728; Chain clasp, H. E. Kerley, 921,846; Chair, J. Smith, 921,905; Cheese cutter, J. Purcell, 922,033; Cheese cutter, L. J. Kunkel, 922,158; Chimney cleaner, G. S. Stuart, 922,353; Churn, L. C. Lewis, 921,851; Churn, M. W. Beemer, 922,076; Cigar retainer and inner seal, A. H. Andrews, 921,938; Clamp, J. Rivers, 922,330; Cleaning apparatus, pneumatic, Boegel & Lewis, 921,669; Clock gong, W. C. Morgan, 922,021; Closet fitting, W. M. Weatherly, 922,222; Clothes line, J. M. Peterman, 922,032; Coal and the like, apparatus for trimming and elevating, R. Brown, 922,387; Coal from vehicles, device for unloading and delivering, G. E. Chalfant, 922,390; Coal-gasifying furnace, H. Ries, 922,042; Coat and hat book, R. W. Hubbard, 921,703; Coating with tin or allied metals, electrically, J. C. Beneker, 921,943; Coke oven, C. Schroeter, 922,201; Collar, coat, M. Koppelman, 922,011; Combination bench, H. S. Maynard, 922,011; Compressor, F. A. Rider, 921,890; Compressors, controlling device for two-stage, R. Conrader, 921,803; Concrete blocks for buildings, machine for making, W. G. Bailey, 921,659; Concrete reinforcing means, E. G. du Mazuel, 922,305; Continuous press, S. J. Versten, 921,921; Controller resistor, C. E. Lord, 922,172; Convertible table and settee, B. Katzenberg, 922,237; Cord holder, V. H. Hooks, 922,337; Corn drying rack, W. Wenzelmann, 921,932; Corner shield, J. H. Jennison, 922,146; Cotton chopper and row cleaner, combined, W. E. Pruitt, 921,886; Coupling, E. H. Gold, 922,132; Coupling head, J. S. Sheafe, 922,347; Couplings, safety check for automatic, S. T. Shroyer, 922,270; Cover, metallic, G. R. Fowler, 922,348; Covers to vessels, means for securing, A. T. Leib, 922,168; Crane, J. A. Suss, 922,204; Crate, G. J. Mulzer, 922,020; Crate, folding, P. J. Baker, 921,789; Culinary vessel, J. H. Ressler, 921,888; Cultivator, J. A. King, 922,000; Cultivator, E. M. Heyman, 922,427; Current motor, alternating, W. E. Goldsborough, 921,826; Current variations, producing amplified, Weintraub & Latour, 921,930; Currycomb attachment, R. W. Hamler, 921,695; Curtain pole, R. Deucher, 922,100; Curtain pole, J. M. Wiedeman, 922,229; Curtain pole ring, F. Bartholomae, 922,241; Cut-off, automatic, V. A. Croslier, 921,953; Dams, dikes, etc., and in simultaneously compressing portions of ground adjacent thereto, providing water-tight vertical layers in, A. Strauss, 922,207; Dispensing can, non-refillable, S. Strauss, 922,062; Display apparatus, sample, H. O. Johnson, 921,713; Display rack, J. Danziger, 921,956; Display receptacle, E. W. Carnes, 921,673; Distilling gases and vapors, retort for, P. A. Emanuel, 922,407; Distribution system, Hall & Knight, 921,693; Domestic boiler, J. Woods, 921,776; Door attachment, E. J. Avard, 922,378; Door bolt, multiple, W. J. Parle, 922,325; Door bumper and holder, J. A. Poche, 922,328; Door check and buffer, J. C. Peterman, 922,185; Door fastener, Smith & Davis, 922,352; Door retaining device, J. Whitaker, 921,768; Door, sliding, E. R. Jackson, 921,705; Dough mixing machine, C. Chambers, Jr., 921,796; Drier, Wallace & Meyer, 922,700; Drilling machine, R. M. Downie, 921,680; Drop lights, adjustable support for, P. Franz, 921,700; Dye and making same, antiraceme, M. Isler, 922,282; Ecrasseur or castrating instrument, J. Sklar, 922,350; Electric connector, separable, F. C. De Reamer, 921,678; Electric current regulator, T. Spencer, 922,057; Electric cut-out, W. B. Potter, 921,732; Electric devices, multiple operation of vapor, R. E. Russell, 921,893; Electric distribution system, E. F. W. Anderson, 921,786; Electric light key socket, W. C. Clark, 921,800; Electric lighting system, C. Feldmann, 922,410

Classified Advertisements

Advertising in this column is 75 cents a line. No less than four nor more than ten lines accepted. Count seven words to the line. All orders must be accompanied by a remittance. Further information sent on request.

MUNN & CO.

BUSINESS OPPORTUNITIES.

WANTED.—Address of makers of first class tire levers. Hoopes, Bro. & Darlington, Inc., West Chester, Pa.

PATENTS FOR SALE.

FOR SALE.—Patent No. 787,988.—Typebar for first-class visible typewriter that is cheap to manufacture. Carries its own guide, furnishing perfect and permanent alignment under heavy manifolding.

HELP WANTED.

MECHANICAL ENGINEER wanted to take charge of outside construction. Give experience. Address Construction, Box 773, New York.

MISCELLANEOUS.

WANTED NAME OF FIRM that manufacture patent pour out for ink bottle caps, screw or otherwise. For full list particulars address Reliance, Box 773, N. Y.

LISTS OF MANUFACTURERS.

COMPLETE LISTS of manufacturers in all lines supplied at short notice at moderate rates. Small and special lists compiled to order at various prices.

A LIST OF 1,500 mining and consulting engineers on cards. A very valuable list for circulating, etc. Price \$15.00. Address Munn & Co., List Department, Box 773, New York.

Inquiry No. 8918.—For manufacturers of "Wydt's Electro-Catalytic Sparking Plug."

Inquiry No. 8921.—For the manufacturers of gilt paper.

Inquiry No. 8922.—Wanted the address of Worthington Boiler Co.

Inquiry No. 8928.—For the manufacturers of a steam rotary excavator as described in the Scientific American of December 2, 1908, page 347.

Inquiry No. 8931.—For parties who manufacture the Western Stamp Borer for boring stumps.

Inquiry No. 8936.—Wanted machinery used to spin or wrap paper pencils in the manner that paper pencils are made.

Inquiry No. 8941.—For manufacturers of machinery for making fly screens.

Inquiry No. 8955.—For a machine to extract the small kernel from the pea-nut.

Inquiry No. 8957.—Wanted manufacturers of angle bars either malleable steel or sheared.

Inquiry No. 8960.—For the address of the Wind-Proof Mfg. Co., manufacturers of waterproof collars and cuffs.

Inquiry No. 8961.—For the manufacturers of imitation pearls.

Inquiry No. 8966.—Wanted the address of the Cohendet Motor Co.

Inquiry No. 8969.—Wanted machines that make accordion dress plaiting (steam).

Inquiry No. 8972.—Wanted to buy complete outfit for making meat books.

Inquiry No. 8974.—For address of firms interested in fishing reels.

Inquiry No. 8975.—Wanted the address of the builders of moving stair cases.

Inquiry No. 8977.—For manufacturers of machinery for manufacturing denatured alcohol.

Inquiry No. 8978.—Wanted the address of manufacturers of dry pans or crushers to grind sand for plastering and cement works.

Inquiry No. 8979.—For parties who can make an article of moderately complex form of molded or stamped paper mache or other plastic material.

Inquiry No. 8980.—For the address of manufacturers of mortars and pestles that are used by druggists.

Inquiry No. 8982.—Wanted a machine or process for slitting or laminating the edges of heavy cardboard, impregnating the slit or laminated edge with a waterproof material and compressing the edge after treatment. The object of the process is to produce an edge that shall be waterproof and which shall not fray or split when in use.

Inquiry No. 8984.—Wanted the address of the manufacturers of Cypress wash tubs.

Inquiry No. 8986.—Wanted to buy crown and flint glasses for telescope objectives.

Inquiry No. 8987.—Wanted, the manufacturers of the Van Winkle, Woods & Sons, and the Weber power meters.

Table listing various mechanical and scientific items with their corresponding page numbers, such as Plumbing trap, P. F. Murphy (922,312), Pocketbook safety attachment, S. W. Wilson (921,775), and many others.

International Auto Buggy advertisement featuring an illustration of the vehicle and text describing it as 'The Most Advanced Example of Dependable Motor Buggy Design and Construction'.

Ever-Ready Safety Razor advertisement featuring an illustration of a man's face and the text '12 BLADES With Every Set'.

KREMENTZ advertisement featuring an illustration of a pyramid and text describing 'Rolled Plate Collar Buttons'.

BE TIME-WISE advertisement featuring an illustration of a time stamp machine and text 'AUTOMATIC TIME STAMP CO.'.

ALEXANDER DODDS advertisement featuring an illustration of a dovetailing machine and text '20 Years a Favorite!'.

The Scientific American Cyclopedia of Receipts, Notes and Queries advertisement, including a large illustration of the book and text describing its contents and availability.

STYLE NEATNESS COMFORT THE IMPROVED BOSTON GARTER



The Name is stamped on every loop—Be sure it's there

THE Velvet Grip CLASP

LIES FLAT TO THE LEG—NEVER SLIPS, TEARS, NOR UNFASTENS

Worn All Over The World

Sample pair, Silk 50c., Cotton 25c. Mailed on receipt of price.

GEORGE FROST CO.
Boston, Mass.

INSIST ON HAVING THE GENUINE REFUSE ALL SUBSTITUTES

THE MOTORCYCLE has "arrived." It is perfectly practicable for any man capable of riding a bicycle and will carry a single passenger as fast and as far as an automobile.

The Greyhound is as good as the best in material, workmanship and reliability, and is absolutely the simplest and most comfortable motorcycle in the world. Correspond with us about any motorcycle matter that interests you, either as rider or dealer. Catalogue free.

THE AUTO-BI CO., 1450 Niagara St., Buffalo, N. Y.
Oldest American Motorcycle Makers

Rider Agents Wanted

in each town to ride and exhibit sample 1909 model. Write for Special Offer.

1909 Models **\$10 to \$27** with Coaster-Brakes and Puncture-Proof tires.

1907 & 1908 Models **\$7 to \$12** all of best makes.

500 Second-Hand Wheels and all makes. **\$3 to \$8** good as new.

Great Factory Clearing Sale. We Ship On Approval without a cent deposit, pay the freight and allow **TEN DAYS' FREE TRIAL.** Tires, coaster-brakes, parts, repairs and sundries, half-price. Do not buy till you get our catalog and offer. Write now.

MEAD CYCLE CO., Dept. 1, 175 Chicago

"Get There" at a price to suit you direct for a



BLACK MOTOR BUGGY

Built for country roads, hills and mud. Engine—10 H. P., 2 cylinders, air cooled, chain drive rear wheels, double brake. Speed 24 to 25 m. per hr.—30 miles on 1 gal. of gasoline. Highest quality finish, workmanship and materials. Absolutely safe and reliable. Write for Book No. A. 227.

BLACK MFG. CO., 124 E. Ohio St., Chicago, Ill.

"POROX" Storage Batteries

The best for ignition and light. No loss of current. Absolutely reliable. Transparent jars are used for all batteries. 6 volt, 10 ampere hour battery. Price **\$27.00.**

Send for catalogue

ALBERT MÜLLER
145 West 49th Street, New York

GRAY MOTORS

6 HORSE POWER COMPLETE 89.50 IMMEDIATE DELIVERY.

1.2 & 3 Cylinders. 3 to 30 Horse Power

Price—\$50 and upwards. Write for color catalog today—with beautiful color print of yacht Grayling—fastest cruising motor boat of its length and beam in the world—most complete marine catalog ever published.

GRAY MOTOR CO., 11 Leab St., Detroit, Mich.

For Everybody

wishing to bore a hole in steel, iron or wood. We make drills in 9 sizes. Our large size will drill a 2 1/2 inch hole in steel. Our Electric Midsize will bore 1 1/2 inch hole in steel and in steel up to 3.16 inch. Great for manual training schools. We also make electric driven grinders. Let us send one on 10 days' trial. Send for catalogue.

THE CINCINNATI ELECTRIC TOOL CO.
650 and 652 Evans Street, Cincinnati, Ohio, U. S. A.

WELLCOME'S PHOTOGRAPHIC EXPOSURE RECORD AND DIARY, 1909

MAKES EVERY AMATEUR EXPERT IN EXPOSURE, DEVELOPMENT, ETC.

50 c. from Your Dealer, or mailed free, on receipt of coin, by publishers

BURROUGHS WELLCOME & CO.
45, LAFAYETTE STREET, NEW YORK CITY


Syringe, hypodermic, T. M. Quarles.....	922.371
Talking machine, H. Hinks-Martin, et al.....	921.835
Talking machine, J. M. Loudon.....	922.297
Tanning machine, automatic hide, C. J. Glasel.....	922.415
Tapping machine, H. Bilgram.....	922.248
Teeth upon bridge-work, attachment for artificial, W. M. Jackson.....	921.709
Telegraphy, I. Kitsee.....	921.715
Telephone, E. Koebler.....	921.001
Telephone, J. H. Roland.....	922.045
Telescope level, H. Wild.....	921.773
Tellurian, G. T. Huff.....	921.706
Tennis court marker, Bangert & Oakley.....	922.074
Tenoning and boring machine, combination, A. E. Root.....	922.338
Tent bag, combination, Strawn & Spencer.....	921.751
Tent window, W. E. Walsh.....	922.067
Tent window, W. E. Walsh.....	922.068
Textile fabrics, Schreiner finish of, P. M. Kraus.....	922.295
Ticket holder, F. J. Garrud.....	922.272
Tie and rail fastening, W. N. Haring.....	922.421
Tie holder, J. E. Thomson.....	922.150
Tile, molding, W. T. Nicholls.....	921.727
Time controlled apparatus, J. T. Callaway.....	922.256
Tin plate, etc., holder for shipment of, J. G. Hodgson.....	921.699
Tin plate, holder for shipment of, Rudolph & Carnes.....	921.743
Tin plate or other thin metal sheets, package or holder for shipment of, Rudolph & Carnes.....	921.742
Tire, pneumatic, G. Jacobs.....	921.710
Tire rim, demountable, A. Dow.....	922.404
Tire rims, locking device for demountable, A. Dow.....	922.403
Titanium oxides, production of, Fitz Gerald & Bennie.....	921.686
Tongue depressor, C. B. Benson.....	922.078
Tool, combination, J. F. O'Malley.....	922.322
Tool handle, detachable extension, F. M. Jacobs.....	921.840
Tool holder, C. L. Goodrich.....	921.977
Tool holder, J. D. Thompson.....	922.210
Tool holder securing device, G. H. Hollin.....	922.429
Tool, valveless pneumatic, F. S. Graham.....	922.135
Tooth crown, J. L. Benson.....	921.791
Torch, C. W. Akers.....	922.232
Tow-hoat and system of towing, Lane & Mathews.....	922.160
Toy, G. W. King.....	921.847
Toy, Glaser & Myers.....	922.416
Trace attachment, J. Wittner.....	922.373
Trace carrier, R. S. Brooks.....	922.358
Train order signal, W. P. Gates.....	922.273
Trains and signaling the engineer in charge, apparatus for automatically stopping steam and electric, G. P. Burke.....	921.793
Training machine, mechanical, T. Volk.....	921.755
Tramway, elevated, W. C. Lawson.....	921.718
Tramways, construction of electric, S. G. Bennett.....	921.665
Transfer table, J. M. Elder.....	922.114
Transplanter, E. E. Husted.....	921.993
Trap, See Plumbing trap.....	
Trap, N. Frost.....	922.126
Trawl setter, A. M. Smith.....	921.902
Trolley, C. Baker.....	921.661
Trolley switch, C. P. Nachod.....	922.024
Trough, F. O. Nelson.....	922.317
Truck, A. L. Clark.....	921.798
Truck, Lewis & Mansfield.....	922.005
Truck, tongue, W. R. Exline.....	921.817
Tube holder, R. S. Dement.....	921.677
Tubes, apparatus for making spirally wound, C. F. Jenkins.....	921.842
Tunneling apparatus, H. Japps.....	922.431
Turbine, W. F. Uhl.....	922.210
Turbine, hydraulic, E. F. Cassel.....	921.950
Type mold, S. C. Gaunt.....	922.129
Type setting and printing machine, F. H. Brown, et al.....	921.946
Typewriting machine, E. E. Barney.....	921.662
Typewriting machine, G. A. Selb.....	921.745
Typewriting machine, E. A. Young.....	921.779
Typewriting machine, A. W. Hewitt.....	921.834
Typewriting machine, C. F. Lundberg.....	921.857
Typewriting machine, L. Ney.....	921.876
Typewriting machine, T. Oliver.....	922.027
Typewriting machine, A. T. Brown.....	922.385
Typewriting machine margin indicating device, C. E. McNameara.....	921.726
Umbrella supporting device, A. E. Shuster.....	921.900
Valve, E. J. Haller.....	921.981
Valve, L. J. Milke.....	922.017
Valve, J. J. Stockdon.....	922.060
Valve, W. B. Culver.....	922.205
Valve, automatic pipe line section, H. B. Hogg.....	922.142
Valve bag, A. M. Bates.....	921.664
Valve, combined emergency and throttle, W. Johnson.....	921.997
Valve, combined stop and emergency, W. Kleser.....	922.433
Valve, electrically operated, I. G. Waterman.....	921.760
Valve for pulp digesters, escape, G. F. Rowe.....	921.741
Valve for sewers, check, F. Clemens, Jr.....	922.262
Valve gear, E. L. Bowen.....	922.250
Valve gear, engine, C. F. Prescott.....	922.036
Valve mechanism, relief, J. L. Moyer.....	921.867
Valve motion for gas motors, G. Mees.....	921.864
Valve, non-leaking, J. Kobus.....	922.294
Valve, ring, F. W. Rogler.....	921.892
Valves, device for indicating the condition of, J. A. Cole.....	921.675
Vehicle brake, R. P. Baird.....	921.788
Vehicle charging, wall socket and plug, electric, J. N. Davis.....	921.959
Vehicle driving mechanism, motor driven, S. M. Vauclain.....	922.367
Vehicle frame, C. J. Slater.....	922.251
Vehicle propelling mechanism, motor driven, Winton & Anderson.....	922.372
Vehicle seat, Lumont & McCombs.....	922.157
Vehicle spring, E. M. Mayhew.....	922.862
Vehicle spring, L. C. Barney.....	921.947
Vehicle steering mechanism, A. F. Rockwell.....	922.044
Vending machine, F. Jendrzewski.....	921.841
Vending machine, coin controlled, J. L. Weed.....	921.763
Ventilating apparatus, J. H. Elward.....	921.966
Voltage regulator, automatic, H. L. Van Valkenburg.....	922.218
Wagon brake, automatic, A. C. Harryman.....	922.423
Warning and beaming machine, N. A. Hoover.....	922.144
Washing machine, R. J. Pollard.....	921.855
Watch, W. B. Mehl.....	922.013
Watch band remover, F. R. Cunningham.....	922.096
Watch mechanism, R. L. Marsball.....	921.859
Watch movement, H. Sandoz.....	922.197
Water closet busins, removable bidet for, D. M. Don Jan.....	921.962
Water closet valve for cars, C. W. Pearsall.....	922.441
Water heater, electrical, D. B. Rawson.....	922.333
Water heater, solar, P. T. Glass.....	921.976
Water power wheel, J. W. Atkinson.....	921.940
Water purifying apparatus, M. P. Newman.....	922.025
Water through a water system, means for preventing the flow of, R. G. Lindenberg.....	922.300
Water trap, R. Fook.....	921.688
Wheel, Jenkins & Broman.....	921.996
Wheel, B. C. Seaton.....	922.344
Wheel antiskidding device, R. M. Winsch.....	921.936
Wind motor, F. W. Draper.....	921.681
Window fastener, C. H. Gedel.....	922.414
Window ventilator, W. Lindemann.....	921.854
Wire bending device, P. Farmer.....	922.309
Wire connector, electric, F. More.....	922.309
Wire fabrics, apparatus for weaving tubular, P. J. Martin.....	922.438
Wire rope, T. Gore.....	922.417
Wire rope, fiber clad, T. Gore.....	922.418
Wire stretcher, W. McGowan.....	921.872
Wood, treating, F. Y. Nishimura.....	922.026
Wrench, T. A. Powell.....	922.330

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., 361 Broadway, New York.

Canadian Patents may now be obtained by the inventors for any of the inventions named in the foregoing list. For terms and further particulars address Munn & Co., 361 Broadway, New York.

It Both Writes and Adds at One Operation

It Either Writes or Adds as the Operator Wills



The New **Model 11** of the **Remington Typewriter**

With Wahl Adding and Subtracting Attachment

presents a new and matchless combination—the latest model of the greatest writing machine with the only adding and subtracting attachment ever placed on a typewriter.

This combination means the doubling of the field both of the writing machine and the adding machine. It opens new opportunities for time and labor saving in every kind of billing and general accounting work. Illustrated descriptive booklet sent on request.

Remington Typewriter Company
(Incorporated)
New York and Everywhere

No Boats Like Mullins Boats *They Multiply Vacation Pleasures*

They are Lighter, Stronger and Easier to Row



Built of steel, and fitted with air chambers like life boats. Absolutely safe—never leak—crack—dry out—warp—sink—last a lifetime. The ideal boat for families hunting—fishing—summer resorts—boat livery, etc. Our catalog of row boats, hunting boats, fishing boats, launches, motor boats and marine engines tells you all about our 1909 Models and their low cost. Better write for a copy today.

W. H. Mullins Co., 118 Franklin St. Salem, O.

DON'T LET YOUR PATENT LIE IDLE. We'll make dies and tools and manufacture your article ready for market. Write now—don't delay. Southern Stamping & Mfg. Co., R. S., Nashville, Tenn.

ICE MACHINES Corliss Engines, Brewers' and Bottlers' Machinery, THE VILTER MFG. CO., 899 Clinton St., Milwaukee, Wis.

MODELS & EXPERIMENTAL WORK. Inventions developed. Special Machinery. **E. V. BAILLARD CO., 24 Frankfort Street, New York.**

RUBBER Expert Manufacturers Fine Jobbing Work **PARKER, STEARNS & CO., 288-290 Sheffield Av., B'klyn, N. Y.**

MOEFT & COMPANY Die Makers, Model Makers, Machinery Builders, Punch Presses, Light and Heavy Stampings. 120 Michigan St., Chicago, Ill., U.S.A.

THE BEST EQUIPPED SHOP For Mechanical and Electrical Manufacturing **Special Machinery, Jigs, Tools, Repairs, Experimental Devices** Designing and Commercializing a Specialty **THE ROWLAND TELEGRAPHIC COMPANY, Baltimore, Md.**

DIE MODELS SPECIAL WORK TOOLS MACHINERY NATIONAL STAMPING AND ELECTRIC WORKS 153-159 S. Jefferson Street, Chicago, Ill.

Experimental & Model Work Cir. & advice free. Wm. Gardam & Son, 221 Fulton St., N.Y.

MODELS CHICAGO MODEL WORKS ESTABLISHED 1867 179 E. MADISON ST. CHICAGO, ILL. WRITE FOR CATALOGUE OF MODEL SUPPLIES

DRYING MACHINES For Granular Materials S. E. WORRELL Hannibal, Mo., U. S. A.

Magical Apparatus. Grand Book Catalogue. Over 700 engravings 25c. Parlor Tricks Catalogue, free. **MARTINKA & CO., Mfrs., 483 Sixth Ave., New York**

THE SCHWERTLE STAMP CO. STEEL STAMPS, LETTERS & FIGURES, BRIDGEPORT CONN.

A SUMMER VACATION IN Delaware and Hudson Territory

is a joy. The large number of renowned summer resorts superb hotels, and unrivalled beauty of the diversified panorama of lake, forest and mountain a test the appropriateness of its sub-title "A Summer Paradise." In through Pullman or on lake steamers you may travel in comfort to Saratoga Springs, Lake George, Lake Champlain, Au Sable Chasm, Lake Placid and other Adirondack resorts—highest standard of train service; meals on train or on steamer; luxurious and moderate-priced houses throughout the region. Fishermen can fill their baskets with trout from Lake George, with bass or pickerel from Lake Champlain, and the Adirondack streams are full of brook trout. The Centenary of the discovery of Lake Champlain will be elaborately celebrated in July. 300-page illustrated guide with full information sent free on receipt of 6 cents postage. New folder with historical maps on request. Summer schedules effective June 27. N. Y. City Information Office 1354 Broadway. A. A. Heard, Gen'l Passenger Agent, Albany, N. Y.

Mr. R. B. SMITH, Inventor Maker of the Australian Model of the famous Strasburg clock, which was illustrated in the Scientific American of May 22nd, 1909, is desirous of meeting several influential gentlemen with the object of forming a company to exploit a number of his patents and inventions pertaining to the phonograph. Address all communications to S, Box 773, N. Y.

WOULD YOU INVEST ONE DOLLAR TO MAKE SIX DOLLARS? We furnish all equipment to start you in the Big Money Making Concrete Business. Sand, water and Portland Cement only materials required. Write us! **The Pettyjohn Co., 615 N. 6th St., Terre Haute, Ind.**

MOORE & CO. Special Machinery, Dies, Tools, Models, Metal Specialties, Inventions perfected. Indiana and Franklin Streets, Chicago, U. S. A.

MODELS & EXPERIMENTAL WORK Anything from a Watch to an Automobile **CHAS. E. DRESSLER & CO., 141-143 East 23rd Street, New York City**

MASON'S NEW PAT. WHIP HOIST for Outrigger hoists. Faster than Elevators, and hoist direct from teams. Saves handling at less expense. **Manfd. by VOLNEY W. MASON & CO., Inc. Providence, R. I., U. S. A.**