

**RECENTLY PATENTED INVENTIONS.**  
**Electrical Devices.**

**TROLLEY.**—N. J. GREENISON, New York, N. Y. The purpose of the inventor is to provide a construction that will be automatic in its action relatively to the line wire, and to provide a pivotal support for the trolley wheel and adjustable means for regulating the rotary movement of the wheel support, whereby the wheel will automatically accommodate itself to any curve or obstruction, and will maintain constant contact with a line wire, while the car carrying the trolley remains on the track.

**TIMER.**—H. A. BUTLER and F. C. PETERSON, Haverford, Pa. The invention refers to improvements in timers or distributors intended especially for passing the electric spark in gas or oil engine ignition. The device does not require adjustment after once being set, since the manner in which the parts are arranged allows the elements to take up wear automatically. Wear is evenly distributed and there is no lost motion, as is commonly the case in timers or commutators.

**Of Interest to Farmers.**

**EGG-CASE.**—H. S. WOOD, Mount Pleasant, Iowa. The invention is an improvement in egg cases, and particularly in folding the cases, and has for an object to provide a novel construction of crate for holding eggs which may be knocked down or folded into compact form for shipping when empty, and can be readily erected and secured in position for use.

**CANE-CUTTER.**—E. M. HIBBLER, Clarksdale, Miss. The blade will cut any way moved, facilitating its use and rendering handling of the cutter easier because the operator can vary cuts in such manner as to relieve muscles which would be tired quickly if the operation were limited to one movement. The blade may be adjusted to any angle with respect to handle and secured rigidly in such adjustment to place the blade in the handle to project from one side or the other or straight out in alignment with the handle and with either the hooked edge or opposite edge nearest the operator.

**FRUIT-PICKER.**—E. GIER, Rhineland, Texas. In this case the invention relates to means for detaching fruit from a tree, and has for its object to provide means adapted to conveniently detach the fruit without injury thereto and also to enable the picker to be used with fruit of various sizes.

**COTTON-CULTIVATOR.**—J. E. DEER, Fairfax, S. C. This implement is particularly adapted for listing or bedding cotton plants, but which may be used with equal advantage for cultivating other plants, such as beets, and also corn in its first stages of growth. The cultivator may be drawn by two draft animals, but it is practicable, owing to lightness of draft of the cultivator, to employ but one, a side attachment of the beam being in such case provided.

**THERMOMETER ATTACHMENT FOR INCUBATORS.**—T. W. BICKEL, Alva, Oklahoma Ter. Practically an even temperature must be maintained during incubation, and for this purpose Mr. Bickel has found that the thermometer should be kept in close proximity to, and, in fact, for best results, in actual contact with the eggs. He has devised and constructed a tray or holder for the eggs, and a support for the thermometer whereby the bulb of the latter may be held in contact with certain of the eggs.

**GREEN-CORN HUSKER.**—C. H. BENNETT, Mount Morris, N. Y. The object of this improvement is to provide means simple in construction, effective in operation, and durable in use, adapted to husk green corn without injury to the ear. After the husk has been stripped from the ear means provide for bringing the husking fingers into the bearings of the inner ends of a shaft the edges of which bearings serve as cleaners to remove silk and husk from the husking fingers, leaving shanks and fingers in position to receive another ear.

**COTTON PICKING OR HARVESTING MACHINE.**—A. B. AMES and H. SCHWENDENER, Watonga, Oklahoma Ter. The general plan of the machine is that of a straddle row harvester, in which the animals of the draft team go on opposite sides of the row and plants pass through the machine and between a pair of cylinders provided with picking devices which gather the mature cotton, which, in turn, is doffed by brushes from the picking spindles and delivered to elevators which convey it to bags carried on the machine, which bags can be unloaded or removed at the ends of the row or otherwise. One man, only, riding on the machine, can drive and govern the operation.

**Of General Interest.**

**BUILDING-BLOCK.**—H. L. PEGRAM, Mulvane, Kan. The improvement refers to building blocks adapted to be formed of cement or other material when in a plastic condition, and has for its object to produce a block adapted to be laid in courses or tiers to form a wall, and so constructed as to provide air chambers in the blocks themselves, and continuous air chambers between the blocks when they are arranged in series to form one of the courses of the wall.

**ADJUSTABLE PACKING-BIN FOR FRUIT, ETC.**—C. F. MATHERS and A. R. STEVENS, Riverside, Cal. This bin is for use in facili-

tating the gathering and packing of fruit, and similar products; said bin to be used in an intermediate relation between the gatherer and packer and being especially constructed to avoid bruising the fruit and to adjust itself automatically to its load of fruit and also to feed the fruit to one end within easy reach of the packer so as to expedite the packing with the minimum amount of handling.

**MALLET.**—C. KNOPF, New York, N. Y. This mallet is adapted for use of workers in soft metal, as, for instance, tinsmiths, copper-smiths, and the like. The inventor's object is to provide a double faced mallet having the head formed of two separate pieces of non-metallic material, such as wood, so constructed that they are rigidly held in place by insertion of the handle, and so formed that the metallic inclosing sheath or casing cannot come in contact with the article being pounded into shape by the mallet.

**SPEED-INDICATOR.**—C. KNOPF, New York, N. Y. The device is for use in indicating the speed of rotating parts, and more particularly to a device adapted to be attached to vehicles to indicate the speed of travel. The object of the invention is to provide a device provided with a minimum number of parts, and capable of indicating the speed.

**HAIR-COMB.**—H. COOLEY, Victoria, British Columbia, Canada. The improvement is for use in drying the hair. The heater may be an ordinary electrical resistance coil, or any other form of heater. A coil employed, wires may lead therefrom through a handle. The handles extend from opposite ends of a casing, and are of any material, but preferably of material of low conductivity of heat or non-conductors so as to insulate the user's hands. While handles are at both ends of the casing, one might be omitted, or the double-handled comb may be manipulated from one or the other as desired.

**ROLLING-STICK FOR OIL-CLOTH.**—M. F. ANDERSON, New York, N. Y. The stick is such as used for forming rolls of oilcloth, matting, and similar material. When materials of this kind are rolled upon the stick, the coils or layers of the rolled material tend to slide longitudinally upon the roll so as to throw their edges at the end of the roll out of alignment. This tends to injure the quality of the goods and causes waste of time in attempting to keep the edges in line.

**FAUCET.**—G. W. TRIBBEY, Marshfield, Ore. This invention relates to turning-plug faucets. The is adapted for general use, but more particularly for drawing beer or other liquids from barrels, kegs, etc. The faucet is of inexpensive manufacture and may be furnished with each barrel or keg of liquid sold without necessity of charge therefor to the customer.

**LADDER.**—H. H. THOMSON, Lawrence, Kan. The invention has reference to certain improvements in ladders, whereby the same may be supported in an upright position, irrespective of the inclination or unevenness of the ground upon which the ladder stands or the nature of the body against which the upper end of the ladder rests.

**RAZOR-STROP PROTECTOR.**—S. D. PHELAN, Okemah, Indian Ter. One purpose of the invention is to provide a protector device for razor strops, which will effectually guard the strop from grit and dust and from which the strop may be speedily and readily withdrawn for use from either side of the barber's chair with equal facility by a right or left-hand operator, which strop when released will be automatically returned within the protector.

**FACING FOR EMBANKMENTS, DAMS, AND THE LIKE.**—R. R. L. DE MURALT, Zierikzee, Netherlands. The invention relates to a facing of ferro-concrete for the protection of the slopes of dams, banks, walls of canals, and other trenches or cuttings. Hitherto in such works armored concrete has been used in monolithic form or in the form of somewhat large slabs simply joined together and separated by artificial joints of different kinds. Through certain causes fissures are created and water secretly undermines the slopes in such a way that the real is always greater than the apparent injury. Mr. De Mural's invention completely obviates these objections.

**TOBACCO-PIPE.**—O. A. BUSE, Lima, Peru. The invention pertains to improvements in tobacco pipes, an object being to provide a pipe made of separate sections so that it may be readily taken apart for cleaning. Another is to so construct the stem of the pipe that saliva will not enter and mingle with the smoke and tobacco. Another is to provide means for cleaning the smoke of nicotine or the like before it enters the smoker's mouth.

**Hardware.**

**ICE-CRACKER.**—P. M. THORN, Westchester, New York. The device splits or sub-divides blocks of ice or other crystalline substances, easily separated along lines of cleavage, and the inventor's object is to provide a tool which after being inserted a short distance in the ice, may be rotated to exert lateral pressure and cause the ice or other substance to readily split much more evenly than by the use of an ordinary pick or other ice sub-dividing means.

**HAND-BRACE.**—O. GRANUM, Amery, Wis. The invention pertains to boring and drilling and more particularly to drill braces, such as shown and described in the Letters Patent of the U. S., formerly granted to Mr. Granum. The object of the present improvement is to provide a brace having a setting device to

permit quick and convenient converting of the brace into an ordinary crank-brace or a ratchet-brace.

**Heating and Lighting.**

**GAS-GENERATOR.**—V. SEPULCHRE, Paris, France. In this patent the invention has for its object a blast gas generator for the production, in a closed receptacle, with combustibles of all kinds, coal, coke, lignite, peat and in particular with the waste of these combustibles which are but little utilizable, or utilizable with difficulty of gases adapted for all purposes.

**WATER-HEATER.**—E. E. KEHNERT, Lorain, Ohio. The heater is adapted for domestic and shop use. The water is heated by gas, and the volume of the latter admitted to the burner is automatically regulated by the quantity of hot water drawn off. Springs, stuffing-boxes and some of the other usual adjuncts of heaters of this class are dispensed with, and the inventor arranges the gas and water controlling valves, and means for operatively connecting them in one and the same casing, whereby he attains a maximum of simplicity, and efficiency in operation.

**COKE-PULLER.**—J. W. HURD, Dona, Va. The puller combines a car on which is pivotally mounted a carriage carrying a chain or conveyer, and a rake, the latter being novelly driven to draw the coke from the oven upon the conveyer, which by its movement in one direction only, discharges on the yard or in convenient means for receiving it. Power for driving the conveyer and rake is also utilized for moving the car from one oven to the other, means being provided for reversing movement of rake or car and bringing them to a stop without interfering with motor or other power means.

**LAMP-BURNER.**—G. W. GIBBS, Ronceverte, W. Va. The lamp burner is of that type which are provided with extinguishing attachments. The inventor obviates the difficulty of preventing the destruction of balance of flame, by forming a closed pocket for the extinguisher, which pocket opens upwardly through the foraminated base plate to house and contain the extinguisher and give room for its play, without any passage for the uprising current of air.

**HOT-WATER HEATING APPARATUS.**—H. V. JORGENSEN, Aarhus, Lille Torv Nr. 2, Denmark. In this invention the increased circulation is obtained by producing a local development of steam within the rising tube, the tube being connected at its top with an expansive chamber, the return water from the radiators being employed to slightly reduce the temperature of the water in the expansion chamber before passing to the boiler.

**APPARATUS FOR THE PRODUCTION OF MIXTURES OF GAS AND AIR.**—H. L. KARGER, 26 Frankfurter allee, Berlin, Germany. This apparatus is designed for use in producing mixtures of gas and air in connection with illuminating burners. The more particular objects of the invention are to secure uniformity in the admixture as the same is employed under varying degrees of pressure, and also to produce a comparatively simple and efficient form of apparatus. The construction attains great sensitiveness in the obturating valve.

**FURNACE-GRATE.**—J. C. BOWRING, Sydney, New South Wales, Australia. The object of the invention is to provide a furnace for the production of steam, or for any other purpose where intense heat, economically produced, is required, and further, to provide a furnace which shall enable the fireman to gain the highest furnace efficiency with the least possible trouble.

**Household Utilities.**

**HOIST.**—R. H. BEEBE and J. TRIMBLE, St. Johns, Ore. In this instance the object of the invention is to provide a powerful hoist which may be easily operated and conveniently controlled, and to this end a drum is provided with peculiar driving mechanism and with a brake device coacting with the mechanism, by means of which brake the rotation of the drum may be retarded to any desired degree.

**ADJUSTABLE CLOTHES-LINE SUPPORT.**—A. Z. BOUDREAU, Berwick, La. In this case the invention refers to means for raising and lowering clothes lines, and has for its object to provide a device to enable the lines to be brought within convenient reach of a person standing on the ground and to be raised at will out of reach to the desired height.

**FOLDING SCREEN-DOOR.**—B. F. PATSCHKE, SARAH A. PATSCHKE and H. BOYER, Lebanon, Pa. In the present patent the invention has reference to doors for buildings, and the object is to provide a new and improved folding screen door, made in sections capable of folding to permit convenient handling and storing of the door during the winter months.

**EXTENSION-TABLE.**—C. INZIRILLI, New York, N. Y. In this case the invention has reference to improvements in extension tables, and has for its primary object the provision of means for raising the extension leaves into position or lowering the same, the several leaves being at all times in connection with the table.

**WATER-CLOSET.**—N. FROST, Bloomington, Ill. One purpose of the inventor is to pro-

vide an automatic double-acting valve adapted to be used preferably in connection with an air-tight tank, the valve being so arranged that the seating or unseating thereof is not dependent upon springs as is usually the case, the only spring used being an auxiliary medium for normally holding the seat elevated for ventilating purposes, and when water pressure is insufficient, the principal medium to such end, being the water pressure in the valve.

**Machines and Mechanical Devices.**

**DITCH-DIGGING MACHINE.**—G. M. SCHNELL and C. N. SCHNELL, Kellogg, Iowa. The invention has reference to certain improvements in machines for digging ditches or trenches, and more particularly to that type which is provided with an endless chain supporting buckets, which as the machine is moved along are operated to remove soil to any required depth, thus forming a continuous trench adapted for use as a drain or any similar purpose.

**TYPE-WRITER ATTACHMENT.**—G. W. CAMPBELL, New York, N. Y. The improvement is in attachments for typewriters, the object of the invention being to provide a simple means for holding the paper in engagement with the platen roller upon reaching practically the extreme end of the paper, on shifting from the lower to the upper case type, thus permitting a line to be printed close to the end of the paper, as sometimes desired.

**CORKING-MACHINE ATTACHMENT.**—A. F. BIEHLER, Hoboken, N. J. The object of this invention is to provide means adapted to enable corks of various sizes to be moved into position under a plunger without danger of injuring the plunger, as sometimes happens when corks are placed by hand beneath the plunger, as is common practice.

**SHEARING-MACHINE.**—J. J. VALLIERE, Fair Oaks, Cal. The aim sought in the present instance is to provide means whereby one of the cutting members is moved in a curve to a position substantially parallel to the other cutting member before the two are brought together. Thus the curved cutting member serves not only to sever the material being cut, but also serves to draw the same into the comb.

**BLOCKING-MACHINE.**—F. L. ATHERTON, Paterson, N. J. The invention pertains to machines for winding ribbons onto spools or blocks, and its object is to provide a blocking machine arranged to permit the convenient insertion of a spool or block, to securely hold the latter in place during the winding operation and to allow the quick removal of the block and the ribbon wound thereon.

**LOOM FOR WEAVING PILE FABRICS.**—F. C. PFEIFFER, Philadelphia, Pa. The object of the inventor is to provide improvements in looms employed for weaving a plush fabric in which the ground warp threads pass over, cover and bind in place the backs of the pile loops, to prevent the piles from being pushed out at the under side of the fabric when the latter is used and brushed. It can be used for weaving fabrics other than pile fabrics, and in this case the pile thread becomes a binding warp.

**COIN-CONTROLLED APPARATUS.**—M. F. PRICE, Iowa City, Iowa. The present invention relates to an apparatus intended particularly for use in connection with collar button vending machines, but useful with various others. It is an improvement on mechanism forming the subject-matter of a prior patent and a co-pending application of Mr. Price. The present relates to the peculiar arrangement and inter-connection of stops, and to the peculiar connection between the same and the coin chute, whereby coin on insertion serves automatically to bring about the said alternate operation of stops and individually the articles.

**TUNNELING-MACHINE.**—R. B. SIGAFOOS, Helena, Mont. This machine is for use in driving tunnels, sinking shafts and the like, the invention having among other objects the provision of a machine which will make a uniform clean bore through rock and other materials with comparative ease and facility, and accomplish this without undue strain on the machine frame even although the material at one side of the bore is harder than that at the other.

**MULTIPLE PUNCH.**—F. C. M. SILVERS and E. F. SILVERS, New York, N. Y. The invention has reference to certain improvements in the punch selecting mechanism of multiple punches used especially for punching beams, girders, and the like in architectural and other engineering work. Primarily the object is to dispense with the employment of skilled labor in the operation of the machine and construction of the patterns, and to insure accurate and speedy work.

**CHARGING DEVICE.**—T. F. WITHERBEE, and J. G. WITHERBEE, Durango, Mexico. The principal objects of the invention are to enable the distribution of the charge to be under more perfect control than has hitherto been the case; also to provide for a more efficient mixing of the elements of the charge, and to provide a gas seal; the apparatus being adapted to the use of the modern skit-hoist. It overcomes the defects of the single bells and all apparatus with fixed and unvarying method of distribution; and locates the charge in places at the stock line.

**WEIGH-CRANE.**—E. SCHENCK, Darmstadt, Germany. The invention adapts the jib of the crane to act as the weigh-beam and arranges the chain, cable, or the like to pass through the rotary point or fulcrum of the jib before reaching the drum. This avoids the accuracy of the machine being affected by the chain, cable or the like, running to the drum. By the swinging of this lever no movement of chain or cable is occasioned in the pulling direction, and no disturbing frictional resistances are set up.

**BELL-RINGING MOTOR.**—C. SIMON, Avilla, Ind. This device automatically rings a bell. The invention is expected to be useful in many connections, but has its greatest utility when used as an attachment for ringing a locomotive bell. The object is to produce a device which is simple in construction and which will be operated from a moving part of the machinery of a locomotive.

**SELF-ACTING SPINNING-MULE.**—J. H. RYALLS, Charlottesville, Va. Mr. Ryalls' invention is embodied in improved means for locking pawls when released from a ratchet wheel, leaving the gearing free. The sole purpose is to lock the weighted and counterbalanced lever when required. When the lever is forced down and locked the pawls are out of engagement with the ratchet wheel, and when the locking device is tripped, the cone releases the pawls and thus leaves the connected gear free to rotate.

**WASHING-MACHINE.**—C. E. MITCHELL, Fort Payne, Ala. The object of the invention is to provide means by which clothes may be quickly and thoroughly washed and without danger of tearing or damaging the finest fabrics. Clothing first passes from the water to disks, so that the water is partly pressed out between the disks and drum and returns to the tub, and then as the clothing passes between the drum and roller the dirt is scrubbed out.

**FAN ATTACHMENT FOR SEWING-MACHINES.**—S. E. HARTMANN, New York, N. Y. The invention pertains to improvements in sewing-machines, and more particularly to an improved fan attachment for use in connection with power-operated machines, whereby the fan may be continuously operated directly from the power shaft independent of the machine proper.

**COMPRESSED-AIR WATER ELEVATOR.**—F. ALLISON, Chattanooga, Tenn. In this invention twin chambers, or cylinders, are submerged in water, or otherwise adapted to be filled automatically with water under greater or less pressure, and air under pressure is admitted alternately to the chambers or cylinders so as to expel the contents of one chamber as the other fills. The novelty is embodied in the construction and arrangement of automatic valve mechanism, air cylinders and pistons slidable therein; also air pipes connecting chambers and their passages, and an automatic device for holding one of the valves temporarily in the position into which it is thrown.

#### Musical Devices.

**MUSIC-TUNER.**—J. F. YOUNG and E. L. BRENNAN, Morristown, N. J. The object of the improvement is to produce a device simple in construction, and which will operate substantially automatically to turn the leaves of the music, and further to provide such an arrangement as will enable the leaves to be returned to their normal condition when the piece is to be played a second time.

**HARMONICA.**—W. B. YATES, Alviso, Cal. The improvement is in harmonicas or mouth organs. The object is to arrange the harmonica music scale into separate distinct octaves. The instrument provides a perfected mouth harmonica, perfect in octave, harmonic, diatonic, and numeral progression, and capable of producing a greater variety of music than those instruments now in use.

#### Prime Movers and Their Accessories.

**MEANS FOR PACKING VALVE-RODS OR SHAFTS UNDER PRESSURE.**—O. E. LEIN and E. B. WITTE, Trenton, N. J. The invention refers to new means whereby a fluid may be prevented from escaping by a valve rod, a shaft, or other rotating or reciprocating member while the ordinary packing is being replaced or other parts being repaired. The object is to so construct the rod and the bushing within which the packing is seated that by a longitudinal movement of the rod a tight joint may be effected entirely independent of ordinary packing, and this joint firmly held until the original packing is readjusted or replaced.

**VALVE.**—B. V. CONSTANTINOV, New York, N. Y. In this patent the invention relates to improvements in valves for water, steam, or like pipes, and the object is to so arrange a pressure-actuated valve that it will open uniformly throughout the circumference, thus permitting of an even and uninterrupted flow of liquid around the valve.

**GAS-ENGINE SYSTEM.**—J. L. TATE, Jersey City, N. J. The object in this case is to provide means for cooling the cylinder of the engine by the circulation of cold air through the jacket, thus eliminating the water jacket commonly used and avoiding the necessity of maintaining a constant supply of cooling water. Further, to provide means for utilizing the heat of exhaust gases from the en-

gine and converting this waste heat into mechanical energy.

**REVERSING-VALVE FOR STEAM-ENGINES.**—W. A. FLOWERS, Aberdeen, Wash. In the present patent the invention is an improvement in reversing valves and particularly for steam-engines of that class in which a steam-chest is dispensed with, the cylinder being provided with small longitudinal bores to receive rocking valves that control admission and exhaust of steam.

**ROTARY VALVE FOR STEAM-ENGINES.**—W. A. FLOWERS, Aberdeen, Wash. This invention has reference to steam engines, and more particularly to the means employed for controlling the admission and exhaust of steam from the piston cylinder. It provides a single rotary valve operated from the crankshaft adapted to be oscillated by a cam or eccentric located thereon. Also improved means whereby the engine may be more easily reversed and controlled.

**PRODUCTION OF FLUID FOR POWER.**—F. MILLER, Turin, Via S. Anselmo 1, Italy. According to the present invention liquid fuel, such as for instance benzine, is mixed with and led to burn into a receptacle wherein water comes in close contact with the burning mixture whereby it is vaporized, so that the fluid under pressure, composed of vaporized water, and the gases generated by the combustion of the fuel with air, is produced which can be utilized for working power machines.

**INTERNAL-COMBUSTION ENGINE.**—H. A. W. DRECHSLER, Männedorf, Switzerland. This invention relates to engines of the two-cycle type and is intended to provide certain improvements in the means of compressing the explosive charge, and delivering it to the cylinder. Means are also provided whereby the time of admission of the gas to the cylinder may be controlled, rather than the time of ignition, thus permitting of the use of platinum or the like as the igniter. Provision is made for the escape of exhaust gas through the piston rod after the main exhaust port has been closed.

#### Railways and Their Accessories.

**CAR-FENDER.**—S. ISHII, New York, N. Y. This patent discloses a fender in which canvas is stretched over a frame of special construction and portions of the canvas being preferably folded back and forth on itself, a multifold giving the desired strength. At the front of the fender rollers are mounted to rotate in approximately horizontal planes and around these a leather strap or belt extends to increase the protective means afforded by the fender.

**BRAKE.**—N. J. CLUTE, Schenectady, N. Y. This invention relates to brakes, and it is particularly useful in connection with devices of this class used upon railway or other cars. The object is to provide a brake which can be manually controlled and which utilizes the movements of the wheels to set the brakes. Means provide for setting the brake instantly, or gradually and smoothly.

**MAIL-BAG CATCHER.**—T. E. SHEFFEY, Decatur, Ala. The invention pertains more particularly to that class of devices adapted to be secured at the door of mail cars to engage a bag located adjacent to the track and to hold it when a train is moving, whereby the mail can be taken aboard the mail car without stopping the train. An object is to provide a catcher having a movable laterally extended fork rod for engaging the bag, and means for securing the fork rod in different positions.

**MINE-CAR AXLE.**—C. A. KELLER, Rosedale, Ind. One purpose of the invention is to provide a form of axle especially adapted for application to mine and similar cars, the construction of the axle being such that the wheels may freely revolve without rubbing against the sides of the body of the car even under the roughest conditions of use, and so that the body will be prevented from shifting on the axle.

**RAILWAY-SWITCH.**—T. J. BURKE, New Orleans, La. By raising a hand lever the horizontal plate may be placed at any height to enable it to pass over obstructions in the path of the car and when the lever is set vertically a shaft and the above mentioned plate will be held locked in raised position, the lever being engaged by a spring catch secured in the platform guard. This is the normal position of the lever when the switch-operating mechanism is out of use; and the lever may be instantly lowered and shifted laterally so as to lower and rotate the shaft as required to operate the switch in one operation.

#### Pertaining to Recreation.

**POLYCYCLE.**—J. MÜLLER, New York, N. Y. The invention relates to polycycles, and the object is to produce a skate which is adapted to be operated by a movement of one's foot. A further object is to provide a construction which is simple, not likely to get out of order, and which will enable the polycycle to be steered.

**FISHING-FLOAT.**—W. N. SIMMONS, Pass Christian, Miss. The invention has reference to an improved float or barb for use on fishing lines, and the object thereof is to provide means by which the same may be securely held to the line at any desired point and

whereby it may be easily and quickly adjusted thereon.

#### Pertaining to Vehicles.

**AXLE.**—G. G. SMITH, Binghamton, N. Y. In this invention the improvement is designed to overcome the disadvantages in the common form of axle now in use. It overcomes some present objectionable features by forming the spindle of the axle angular in cross section, preferably tapering, and covering it with a removable, cylindrical thimble which may be replaced when it becomes loose from wear.

**WHEEL.**—H. F. BROADHURST, 7 Barnstap Mansions, Rosebery avenue, London, E. C., England. The object here is to provide a spring road-wheel for vehicles, the invention being specially (although not exclusively) designed to provide a construction whereby a wheel having a broad tread may be capable of always maintaining contact with the roadway across virtually the entire width of the tread of the wheel, notwithstanding that the plane of the wheel-rim may not be perpendicular to the surface of the roadway.

**FOLDING VEHICLE.**—R. J. EHLERS, New York, N. Y. The invention pertains to baby carriages, go-carts and similar vehicles, and the object is to provide a vehicle, arranged to securely hold the parts in position when extended, and to allow quick changing of the vehicle from an extended to a folding position and vice versa, the vehicle when folded forming an exceedingly compact flat parcel, which can be conveniently carried about or stored in a small space, or packed into a suitcase, trunk, or the like.

**HANDLE-BAR.**—C. ALTENBURGER, Chicago, Ill. The invention relates to improvements in handle bars for bicycles or the like, the object being to provide a bar so constructed as to have the required rigidity for steering purposes, but to yield vertically under pressure, thus relieving the rider's arms from the strain or jar incident to a rigid bar.

**WHIFFLETREE.**—P. L. VINSON, Newbern, N. C. The invention pertains to spring whiffletrees, the object being to cause the moving strain to be transmitted to the body of the vehicle and sudden strains on the shoulders of the horses and on the vehicle prevented. In use with a double team where a pair of whiffletrees are used attached to a doubletree, the latter may also be made as an elliptic spring and the spring whiffletrees hung to each end thereof.

**MOTOR-VEHICLE.**—C. MESSICK, JR., Hackensack, N. J. The invention relates to devices for operating a motor bicycle through the pedal mechanism. One purpose is to provide a spark-control for the motor, operated by back-pedaling, or by hand, which will reduce the speed more or less, or permit it to travel at full speed, which control when placed in position to drive the motor at low speed will yet permit it to continue running while the brake section is in intermediate or coasting position, or in actual braking position. Releasable means are provided by pedaling for maintaining the coasting or other positions of the device against the main spring.

**END-GATE.**—A. ROBERTS, Damar, Kan. The invention relates to an improvement in end gates of vehicles and particularly to means for securing the same in working position. The gate may be placed in vertical position, when it performs the function of an end-gate, or it may be supported in an inclined position, when it is adapted for use as a shovel-board in loading a wagon.

#### Designs.

**DESIGN FOR A BARBER'S SIGN.**—J. C. SMITH, Marion, Ind. In this design, a triangular upright sheet metal casting has alternating bands of red, white, and blue painted transversely across the sides, with rows of lenses seated in the bands and of the same color as the bands, which lenses are to be illuminated from a lamp or other source of light within the casing.

**DESIGN FOR A CLOCK-STAND OR SIMILAR ARTICLE.**—C. G. CANIVET, JR., New York, N. Y. In this stand design the center is a circle for the reception of the clock or other article. From this circle there is a slope to the base of stand, the slope being ornamented with sitting and reclining figures of nude children amidst fruit, leaves, and draperies.

**DESIGN FOR AN ADVERTISING DEVICE.**—H. F. C. SOELLNER, New York, N. Y. The ornamental design in this instance consists of a light skeleton open-work frame representing the form of a very plain but graceful bottle. A shield occupies the usual place for a label on a bottle.

**DESIGN FOR A PORTABLE STANDARD FOR LIGHTING-FIXTURES.**—H. T. HOWELL, Woodside, N. Y. In this portable standard for lighting fixtures the top of the column has a fluted edge. Under this the standard takes a bulb form and then is straight half way down, when it gradually broadens. The flanged base is very broad, making the design very graceful and substantial. Leaves reach up the standard about two-thirds the length.

**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.



#### HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters of no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(10609) C. L. T. asks how to exterminate mites. A. Mix together 10 parts of naphthalene, 10 parts of phenic acid, 5 of camphor, 5 of lemon oil, 2 of thyme oil, 2 of oil of lavender, and 2 of the oil of juniper, in 500 parts of pure alcohol.

(10610) M. T. F. asks for a paste for cleaning gloves. A. Take 4 parts of water and dissolve in it 3 parts of soft soap to which add 1-16 of a part of oil of lemon, and make a paste of desired consistency by adding a sufficient quantity of prepared chalk. This paste is particularly suitable to kid gloves.

(10611) J. N. T. asks for a blue ink for writing upon glass. A. In 150 parts of alcohol dissolve 20 parts of rosin, and add to this drop by drop, stirring continuously, a solution of 35 parts of borax in 250 parts of water. This being accomplished, dissolve in the solution sufficient methylene blue to give it the desired tint.

(10612) J. B. W. asks for ironing preparations. A. Ironing wax: Melt carefully together Japan wax 200, paraffine 200, stearic acid 100, and pour into mold, pass the hot flat iron over this mass, which causes the iron to slide better and the laundered work to become glossy. Laundry gloss: Heat potassium carbonate 15, spirit 100, stearic acid 15, and water 200, until the mass is uniform, thin with hot water 650, and stir until cool. Scent with oil of lavender as desired.

(10613) C. L. asks how to remove oil spots from leather. A. To remove oil stains from leather, dab the spot carefully with spirits of sal-ammoniac, and after allowing it to act for awhile, wash with clean water. This treatment may have to be repeated a few times, taking care, however, not to injure the color of the leather. Sometimes the spot may be removed very simply by spreading the place rather thickly with butter, letting this act for a few hours. Next scrape off the butter with the point of a knife, and rinse the stain with soap and lukewarm water.

(10614) M. E. E. asks for a formula for waterproof glue for cardboard. A. Melt together equal parts of good pitch and gutta-percha; of this take 9 parts, and add to it 3 parts of boiled linseed oil and 1½ parts of litharge. Place this over the fire and stir it till all the ingredients are intimately mixed. It may be diluted with a little benzine or oil of turpentine, and must be warm when used.

(10615) J. G. B. asks for a formula for Japan bronze. A. The formula that we give below contain a large percentage of lead, which greatly improves the patina. The ingredients and the ratio of their parts for three sorts of modern Japanese bronze follow: 1. Copper 81.62 per cent, tin 4.61 per cent, lead 10.21 per cent. 2. Copper 76.60 per cent, tin 4.38 per cent, lead 11.88 per cent, zinc 6.53 per cent. 3. Copper 88.55 per cent, tin 2.42 per cent, lead 4.72 per cent, zinc 3.20 per cent. Sometimes a little antimony is added just before casting, and such a composition would be represented more nearly by this formula: 4. Copper 68.25 per cent, tin 5.47 per cent, zinc 8.88 per cent, lead 17.06 per cent, antimony 0.34 per cent.

(10616) J. G. B. asks how to cement celluloid. A. If celluloid is to be warmed only sufficiently to be able to bend it, then a bath in boiling water will do. In steam at 120 deg. C., however, it becomes so soft that it may be easily kneaded like dough, so that one may even imbed in it metal, wood, or any similar material. If it be intended to soften it to solubility, the celluloid must then be scraped fine and macerated in 90 per cent alcohol, whereupon it takes on the character of cement and may be used to join broken pieces of celluloid together. Solutions of celluloid may be prepared: 1. With 5 grammes of celluloid in 16 grammes each of amyl acetate, acetone, and sulphuric ether. 2. With 10 grammes of celluloid in 30 grammes each of sulphuric ether, acetone, amyl acetate, and 4 grammes camphor. 3. With 5 grammes celluloid in 50 grammes alcohol and 5 grammes camphor. 4. With 5 grammes celluloid in 50 grammes amyl acetate. 5. With 5 grammes celluloid in 25 grammes amyl acetate and 25 grammes acetone. It is often desirable to