

RECENTLY PATENTED INVENTIONS. Pertaining to Apparel.

FOLDING CLOTHES-RACK.—A. F. PETERS, Cortland, N. Y. The object of the invention is to produce a device which may be folded together, so as to be carried conveniently in a traveling bag or satchel, but readily opened out and set up when desired for use. While it operates in one capacity as a hanger for clothes, it presents a horizontal rest upon which clothes may be placed in a folded position, thereby preventing the formation of wrinkles.

UNDERWAIST.—E. H. HORWOOD, Hoboken, N. J. The invention relates to the manufacture of underwaists for children, youths, and misses of that class wherein the armhole-section is rendered double and likewise that portion immediately beneath the armhole. The purpose is to improve upon the construction of the underwaist for which Letters Patent were formerly granted to Mr. Horwood.

Electrical Devices.

PRONG-INSULATOR.—L. STEINBERGER, New York, N. Y. The invention relates to insulators, Mr. Steinberger's more particular object being to produce a type of so-called "prong-insulator" which may be used upon either the upper side or the lower side of a cross-arm, or mounted horizontally on a support and which offers certain constructional and insulating advantages. He prefers to make the insulating portion out of the substance known as "electrose," the metallic member being made of iron, bronze, or any other metal.

Of Interest to Farmers.

LOADING APPARATUS.—H. T. WASHBURN and S. G. WASHBURN, Goodwin, S. D. The invention relates to loading apparatus, and has reference more especially to apparatus for loading manure and like materials in the field; and one of the principal objects thereof is to provide an apparatus of this kind which is simple and comparatively inexpensive to manufacture, besides being portable or readily removed from one place in the field to another.

FRUIT-RECEPTACLE.—V. E. STINE, Clearfield, Pa. This invention is an improvement in that class of fruit-receptacles adapted to be supported and carried on the person by means of straps or equivalent means. In broad terms the improved receptacle is a flexible bag having a rigid mouth at the upper end and a flexible mouth at the lower end. The bag or receptacle is preferably formed of stout canvas; but any other thin and pliant material of due strength may be substituted.

PLOW-FRAME AND ATTACHMENT.—J. G. EVANS, Calhoun, S. C. The object of this invention is to provide a cheap, but light, strong, and durable, form of plow-frame, the same including the beam and foot or stock proper, the latter having an attachment adapted for securing different forms and sizes of plow or cultivator shares or teeth whereby the latter may be easily changed as occasion requires.

CULTIVATOR ATTACHMENT.—A. M. POTTS, Cedar Point, Kan. The improvement refers to a novel knife and means for attaching it to cultivators, so that as the ground is cultivated the knife or knives precede the cultivating-tools and cut down the weeds growing on the part of the field being acted upon. It provides means for attaching the knives which will permit the easy and universal adjustment of their position whereby to adapt them to various classes of work without injuring the plants under cultivation.

CORN-HARVESTER.—W. E. KOCH, Duvall, Ohio. When a leaning stalk is encountered it is engaged by conveyor-chains which have a tendency to lift it to erect position. When severed by cutters, the butt of the stalk slips back into the check, which retains it until the chains lift the upper end thereof into a position where it may be engaged by upper star-wheels. These wheels engage the stalk at its upper and its lower end, forcing the butt thereof past a stop-plate, the spring of which yields to allow its passage. The present is an improvement on Mr. Koch's prior patent.

COMBINED COTTON SCRAPER, BLOCKER, AND CULTIVATOR.—W. R. COX, Waldron, Ark. There is a combination of three implements in a single unitary machine, in this invention, and the inventor's object is to produce a machine which will scrape both sides of a cotton-row at the same time, thin the cotton by leaving it in blocks, and hill it up at the same time. By means of the device any other crops planted in the drill can be cultivated in the same manner.

Of General Interest.

SHIPPING-CRATE.—F. W. BENDER, Crystal Lake, N. J. The object of this improvement is to provide a crate extremely rigid and strong, and, furthermore, to provide an arrangement which will prevent the contents of the crates from being subjected to pressure when set up in piles as arranged in cars for shipment. The invention relates to crates such as used in handling, storing, or shipping fruits and vegetables.

FOLDING DISPLAY-BOX.—C. E. ISACKE, New York, N. Y. This device relates particularly to a device for advertising cigars, and it comprises a peculiarly-constructed dummy box, which is formed of paper, cardboard, or equivalent material, and arranged so that it can be shipped flat, thus effecting great economy in

space, so that when assembled into proper form and painted or covered with painted or printed sheets it will closely resemble an open box containing cigars.

COPYING DEVICE.—H. H. HARRISON, New York, N. Y. This device is for use in connection with the so-called "hectograph copying composition." Particularly designed as a hand-operated device, still it may be made of a large size and arranged to operate on and having a geared connection with a permanent platen. The invention particularly resides in the manner of applying the hectograph composition to a fabric or other flexible holder and to certain devices for adjustably securing this holder to the body of the copying device.

SURGICAL IMPLEMENT.—A. C. KELLOGG, Portage, Wis. The implement is designed to facilitate the application of a compressive rubber ring to the stump of the funis or umbilical cord of a new-born infant after cutting off the same, so as to prevent hemorrhage, and to which the inventor applies the name of "Funis ring applicator." The implement dilates and applies the ring and at the same time forms a storage-holder for the rings.

PORTABLE BURIAL-VAULT.—W. PARRY, Crown Point, Ind. The design is to secure a thoroughly dry receptacle for a body buried in wet ground or quicksands. The object is to take care of the percolation by providing means whereby any accumulation of water may be allowed to escape by suitable drainage and ingress of such accumulations prevented from rising to the casket by a pneumatic cushion of gas maintained in the vault and around the casket and which serves to resist the entrance of water into the casket in case water should gain access to the interior of the vault.

BOX.—J. SUTHERLAND, Springer, New Mex. This invention pertains particularly to improvements in boxes for holding granulated tobacco, the object being to provide a box approximating the size of the original package or bag, so that the tobacco may be transferred from the bag to the box and maintain practically its original shape without danger of being pulverized as it does when carried in a bag.

PIPE-FLANGE.—E. L. MAXWELL, Mulberry, Fla. One of the purposes of the improvement is to provide a flange constructed in two sections—a male and a female section—and in such manner that they may be expeditiously and conveniently firmly keyed together and wherein the parts will not separate until purposely disconnected, which operation can be as conveniently accomplished as the act of connecting them. It is adapted for connecting the ends of opposing pipes—as, water, steam, or gas pipes—but for use wherever a flange is needed.

BOTTLE-CLOSURE.—L. LAWTON, Carrollton, N. Y. This bottle is provided with means for preventing the refilling after its original contents have been removed, and the inventor's object is to provide details of construction which are simple and adapted for effectively sealing the bottle from receiving liquid, but that permit the free removal of the liquid contents as occasion may require. To prevent the loss of liquid goods and insure the safe transportation of filled bottles having the improved closure, a small cork may be inserted into an upper chamber, thus closing the upper angular passages. A metal-foil cap bearing a label or trade-mark is placed over the top of the bottle-neck to identify a particular brand of liquor or other liquid goods.

BRUSH.—R. E. WILLIAMS, Dallas, Texas. In the present patent the invention has reference particularly to improvements in bath-brushes, the object being the provision of a brush having in its combined construction a plurality of devices for acting variously on a person when the brush is in use.

MEASURING INSTRUMENT.—B. F. SASSAMAN, Gibbstown, N. J. In this instance the improvement relates to measuring instruments, the more particular object of the invention being the production of a square containing movable parts and which may be used for a very great variety of purposes. If desired, the instrument may be employed as a square arranged for general use, as a so-called T-square, or with an ordinary depth-gage, or with an ordinary steel square and used for purposes of a "fence"; in fact, to those skilled in the art the device will be found applicable for many uses and combination of uses.

DISPLAY-FRAME.—G. E. LEIGH and J. A. COLEMAN, Mount Carroll, Ill. The purpose of the inventor is to provide a frame especially adapted to be slipped over the lid or cover of a cigar-box when opened to frame the picture usually displayed upon the inside of the cover and to so construct the frame that when placed in position upon the box cover or lid the cover will be prevented from accidentally closing and whereby also the cover will be held in a position best adapted for display of the frame and picture framed thereby.

BLAST-FURNACE.—W. KEMP, Tucson, Arizona Ter. Especially ores of copper and iron are smelted by this invention. It economizes use of fuel; rids ore of sulfur if any is contained therein; provides an effective fuel-chamber in which the fuel is fed directly to smelting zones of furnace before being heated; provides special air-blasts for preventing coal from being heated while in transit to fuel-chamber; provides furnace with special twyers for burning out sulfurous compounds of ores; distributes fuel uniformly in the fuel-chamber

throughout the entire length of the furnace; and provides certain constructional improvements.

GATE.—G. A. MOCK and J. MENDENHALL, Granada, Col. The improvement is in gates for roadways, lanes, or the like, the object being to provide means for releasing the gate and raising it to swing open or closed, the said means being under control of a person in a vehicle at either side of the gate, the gate swinging to open position in the direction opposite to the side on which the vehicle may be when a person therein manipulates the mechanism.

DIRECTORY DEVICE.—C. A. JOHNSON, Malden, Mass. One purpose of this improvement is to provide a directory particularly adapted for use in elevators and so constructed that the names of tenants are produced upon slats, any one or more of which slats may be turned to present a blank surface or any one or more may be removed and others substituted without removing the adjoining slats from the front of the device or disarranging them.

REGENERATING AND PURIFYING OF AMMONIA.—L. WERLIIN, Elsmere, Del. The invention relates to ice-making and refrigerating machines using liquid anhydrous ammonia. The process can be carried on in an exceedingly small apparatus. The invention consists mainly in a method whereby the warm gases from the high-pressure side of the compression-machine are used for evaporating the liquid anhydrous ammonia and the condensed gases are returned to the receiver or to the expansion-coil.

APPARATUS FOR THE GENERATION OF ACETYLENE GAS.—A. ROSENBERG, 259 High Holborn, London, England. The invention refers to apparatus employed in the production of gases by the reaction occurring progressively between a solid and a liquid reagent which are permitted to gradually come into contact with one another. The object is to provide a tubulure attachment for a vessel (which forms the subject of another application for Letters Patent, formerly filed) which is adapted to serve not only for the transport and storage of the solid reagent, but also in combination with said tubulure attachment as a generator for the gas when the vessel is immersed in the liquid reagent.

WALL CONSTRUCTION.—J. N. SMYTHE and W. S. AYRES, Newark, Ohio. The principal objects of the invention are to provide means for readily securing the blocks to the studding of a building, to provide for the construction of doors, windows, and all other features present in the walls, to break joints in the blocks, as is usually done, and to leave the interior of the veneering in such form that a symmetrical inside surface is provided which is adapted to use of woodwork. The invention relates to a wall construction and veneering-block by means of which walls in or after construction can be covered with a veneering of blocks of artificial stone or other plastic material.

ADVERTISING DEVICE.—A. SUESSKIND, New York, N. Y. The invention pertains to an advertising novelty, which is adapted for application to a napkin, clothes, and the like designed to be used in various places, especially in restaurants, for advertising purposes in general. The principal object is to provide a readily-removable plate upon which advertisements may be placed and to mount it in a removable manner upon a support adapted to be applied and secured to clothing or to be connected with other articles of ordinary use.

Hardware.

CUTTING AND PUNCHING TOOL.—A. J. LEVIS, Houghton, Mich. In this case the object is to provide a cutting and punching tool more especially designed for the use of tinners, plumbers, and other mechanics and arranged to permit of forming tongues and slots in the ends of stovepipe-sections to allow convenient interlocking of adjacent stovepipe-sections.

SHEARS.—W. P. SPRAGG, Moberly, Mo. The shears comprise handles or levers having co-operating movable fulcrum together with connection at such fulcrum for maintaining the relation therebetween. Blades are employed, having the inner ends thereof in movable relation with the corresponding ends of the handles, the opposite edges of the blades being parallel and beveled or sharpened for a suitable proportion of length of the blades from their outer ends, special means being employed for maintaining the cutting portions of the blades in movable relation with each other.

Heating and Lighting.

GAS-BURNER.—H. SUESSMANN, 144 Alte Jacobstrasse, Berlin, Germany. The regulating device which forms the subject of this application differs from nozzles with adjustable outlet-apertures for Bunsen burners consisting of certain parts, owing to the fact that the adjustment of the outlet-slit in the divided cap is produced by its adjustability relatively to a restriction in the nozzle-casing which receives it. This adjustment may be effected by means of a set-screw, for example.

INVERTED INCANDESCENT GAS-BURNER.—H. SUESSMANN, 144 Alte Jacobstrasse, Berlin, Germany. Attempts have been made to obviate defects by preventing the heating of the Bunsen burner as much as possible by the use of insulating substances of various

kinds. Mr. Suessmann's object is different, the effect aimed at being only to prevent the influence prejudicial to the efficiency of the burner attendant upon the heating of the mixing-tube, while at the same time utilizing the heat of the waste gases for effecting a preliminary heating of the mixture of gas and air in the Bunsen burner.

Household Utilities.

APPARATUS FOR DISTILLING WATER.—C. R. DUDLEY, Sykesville, Md. The invention has reference to improvements in apparatus for distilling water, its object being to produce a still designed more particularly for domestic use whereby water may be distilled quickly, efficiently, and economically, and to produce a device which shall be cheap, simple, and adapted for use in connection with an ordinary stove or the like.

GAS-BROILER.—H. GANDAR, New York, N. Y. The object of the inventor is to provide a new and improved broiler adapted for convenient attachment to ordinary gas-stoves and arranged to permit of proper broiling of the meat or other food product and without danger of losing any of the juice or causing undesirable smoke.

FLY-TRAP.—W. E. THOMPSON, Tecumseh, Neb. This trap is adapted for use below or above a window-sash. Mr. Thompson by his invention seeks to provide a novel form of trap adapted to be placed in an opening or openings in the wall of a house or room and having a tapering inlet through which flies may pass to the interior of the trap and from which they cannot escape.

IRONING-BOARD.—G. H. AIGIN, Delaware, Ohio. The invention is an improved attachment applicable to ironing-boards in general, but particularly adapted for shirt-bosom and collar and cuff boards. Mr. Aigin has devised attachments for the board proper, whereby one or more cloths used for covering or dressing the face of the board may be quickly and easily attached and are held securely.

BATH-TUB.—J. A. LEFFERTS, Elizabeth, N. J. The invention relates to a novel construction of bath-tubs, and the principal purpose thereof is to provide means whereby they can be enameled in different colors upon their outside and inside surfaces. In order to provide for giving tubs two colors, both of them being applied by the ordinary process of enameling, the inventor constructs the tub in two parts and enamels them separately by the dry process.

PORTABLE WARDROBE.—ANNA M. SCHERFF, Wells, Nev. In this instance the invention relates to improvements in folding wardrobes particularly adapted for the use of travelers, the object being to provide a device of this character in which clothing will be protected from dust and so constructed that it may be folded for packing in a trunk.

BED-CLAMP.—F. W. MERRIWEATHER, Kansas City, Mo. The object of this invention is to provide a cheap and convenient device by means of which the head and foot members of iron bedsteads may be connected closely together for the purpose of exhibition in sales-rooms, and which device may be readily adjusted to beds of various forms. The clamp may be universally applied to all styles of metal bedsteads.

Machines and Mechanical Devices.

GIN.—M. REYNOLDS, Clarksdale, Miss. Mr. Reynolds's invention refers to cotton-gins and more particularly to that type usually termed "linters." Its principal object is to provide an efficient apparatus of this character by which mixed seeds of different sizes may be satisfactorily operated upon to produce lint of different grades.

EMBROIDERING ATTACHMENT FOR SEWING-MACHINES.—R. L. RODMAN, Lott, Texas. In the present patent the invention has reference to attachments for sewing-machines, and more particularly for those doing embroidery while the machine is operated by hand. The attachment is mounted upon the needle-bar of the machine upon which it is to be used.

MACHINE FOR TURNING PIPES AND OTHER ARTICLES.—C. H. MCCREADY, Neodesha, Kan. The aim of the present invention is to provide a machine for turning pipes, screw-rods, and other articles in a simple and convenient manner and allowing compensation for the longitudinal movement of the article unscrewed or screwed up. The invention relates to a machine, as shown and described in the Letters Patent of the United States, formerly granted to Mr. McCready.

SAW-SHARPENING MACHINE.—J. M. WADDELL, Alexandria, La. This improvement pertains to machines for sharpening saws, and is especially applicable to such gangs of saws as are employed in cotton-gins and the like. The principal objects of the invention are to provide an apparatus by which each tooth will be of proper form and in which after the machine has been set the entire gang may be automatically operated upon.

FRICTION-SET.—M. B. MINER, Sampson, Ore. The object of the invention is to reduce friction incident to operation of "setting" or moving the friction-pin, especially in apparatus for setting the friction-pin of hoisting-engine drums. This is attained by an arrangement of the head and box with certain anti-friction devices and the adaptation of other friction de-

vices to coast between the actuating-screw, head, box, and pin so as to practically absorb friction between the moving parts, rendering the device more durable and easier of operation and increasing the mechanical efficiency of the hoisting-engine.

COIN-CONTROLLED VENDING DEVICE.—G. W. MEREDITH, Wichita, Kan. In the present patent the invention is a division of a prior application for a patent for a cigar-vending machine, which was formerly filed by Mr. Meredith; and it consists in the novel mechanical features whereby a deposited coin is made the intermediary through which one or more cigars held in the cells of a carrier-belt are discharged into range of possession by the purchaser.

CIGAR-VENDING MACHINE.—G. W. MEREDITH, Wichita, Kan. The invention relates to vending-machines, in which individual articles of merchandise are discharged from a stock held for sale by means of a manually-operated handle. Although applicable to sale of other merchandise in packages of nearly uniform size, it is especially intended for the sale of cigars. The machine is constructed in its entirety as a cigar-case in which cigars are arranged in their original boxes, with quality, brand, and price exposed to view for selection. It is for use in hotels, clubrooms, barber shops, and other places. Mr. Meredith has invented another cigar-vending machine in which articles of merchandise are discharged from a stock held for sale by working and manipulating an operating-handle, and although applicable for the sale of any kind of package articles of somewhat uniform size, it is especially intended for the sale of cigars. His machine provides for an extension of the function of the machine for the sale of one for five cents, two for five cents, three for five cents, one for ten cents, three for ten cents, one for a quarter, or any number for a single coin value up to one dollar.

UNIVERSAL EXCAVATING AND GRADING MACHINE.—W. GILMORE, Meridian, Miss. The principal object in this case is to provide for universal adjustment of the parts to permit working under various conditions, and especially to provide for excavating under a railroad-track without removing the track, so as to cut down grades without discontinuing the trains for any length of time and to do the work at greatly-reduced cost on account of the rapidity of the machine in handling large amounts of earth.

SAWING-MACHINE.—S. J. GRAY and J. HORNING, Oakland, Cal. The object of the improvement is to provide a novel machine of the endless-saw type adapted for cutting in any position—either vertically, horizontally, or at any desired angle. A further object is to provide means for cutting at any height desired, whereby trees may be cut near or far from the ground and large or small logs sawed with equal facility.

APPARATUS FOR SORTING CHIPS.—H. POWERS, Lincoln, N. H. The tank or receptacle is filled with water, into which the screened-out knots and large chips are discharged and in which the knots by their greater specific gravity sink, while the lighter chips float, in combination with a series of perforated pipes arranged close to the water-level, the issue-orifices all being faced in one direction, whereby the floating chips are continuously carried away by a surface current produced by a series of impinging jets of water or air and under the influence of which the floating chips are carried over a spillway and delivered to an elevator to be carried up to the rechipper.

ELEVATOR DRIVING MECHANISM.—V. W. MASON, Providence, R. I. The invention is especially applicable in mechanism of the elevator driving class which is driven by an electric motor. It relates especially to reversing mechanism, and concerns itself also with the connection from the motor to the mechanism. The object is to provide a reversing mechanism which will operate to apply a brake automatically immediately upon the arresting of the forward motion and prior to the reversal of the motion.

MEASURING ATTACHMENT FOR PAPER-BOX MACHINES.—A. BELL, New York, N. Y. The invention refers to improvements in attachments for machines employed in placing the paper covering on the sides and ends of pasteboard boxes and covers, the object being to provide a simple means whereby the desired length of material may be accurately measured, thus resulting in a considerable saving of paper at the overlap.

CLOCK.—A. D. GARY, Lavonia, Ga. The invention comprises the combination with the clock-train having an escapement shaft and wheel, of a plate having a laterally-extending arm, a pallet for engaging the escapement-wheel mounted on the arm, a pendulum mounted to swing upon the plate, and a connection between the pallet and pendulum. The plate is provided with a bearing for engaging the escapement-shaft and a slot leading therefrom to permit removal and attachment of the plate, and a rod secured to the plate and extending therebelow to swing the plate.

BEATING-IN DEVICE FOR LOOMS.—J. K. DALKRANIAN, New York, N. Y. The object of this invention is to provide a device arranged to insure a proper beating in of the weft and the pile-warp-threads loops, to hold the beaten-in parts in position during the formation of the following row of pile-warp-threads loops,

and to keep the pairs of ground-warp threads properly separated for the pile warp-threads needles to pass between adjacent pairs of ground-warp threads. This is a division of the application for Letters Patent of the United States for a pile-fabric loom, formerly filed by Mr. Dalkranian.

JIG OR ORE-CONCENTRATOR.—A. C. CAMPBELL, Asheville, N. C. The device comprises an inclined riffle upon which the ore is deposited and along which it is driven by an intermittent air-blast. The dense stuff settles upon the riffles and is blown through them, while the less dense matter is carried to a dam at the lower end of the riffle whence it flows off through a pipe.

MOTOR-TOOL HOLDER.—C. B. HASTINGS, New York, N. Y. The invention pertains to motor-tools such as are adapted to be held in the hand when applied to the work. The object is to produce a holder having means for guiding the tool in a vertical plane and having a construction enabling the tool-holder to be readily adjusted, so as to change the elevation at which the tool operates.

AUTOMATIC STOP FOR HOISTS.—F. H. KOHLBRAKER, Naticoke, Pa. The object here is not only to provide a throttle-valve cut-off mechanism that may be operated by the cage should it rise too high in its shaft by overwinding of the hoisting-engine drum, but to provide means whereby the valve or valves may be closed and the brake set to instantly stop the engine should any of the parts become deranged, such manual operation taking place without disturbing the automatic device, thus saving time and trouble of resetting said device, as is necessary with the construction shown in a former patent granted to Mr. Kohlbraker.

Prime Movers and Their Accessories.

BOILER-FLUE.—A. VAN WALTERS, Galion, Ohio. The invention refers to flues or tubes as constructed in modern tubular boilers, and is especially useful in connection with steam-boilers of the locomotive or marine type. The object is to provide a boiler-tube which effects a lasting and hermetically-tight joint between the tube and the flue-sheets, which can be easily removed and replaced when worn out, and which tends to decrease the troublesome incrustation encountered in steam-boilers.

PYROMOTOR.—W. W. FRENCH, Fort Branch, Ind. In this patent the improvement refers to motors, the more particular object being to produce a motor controlled directly by heat upon the principle of the expansion and contraction of one or more metallic members. It further relates to means whereby the expansion and contraction of the metallic members or member is caused to produce an appreciable degree of motion.

EXPLOSION-ENGINE.—H. D. DIBBLE, Mystic, S. D. The object of the invention is to provide a gas or explosion engine arranged to utilize the motive agent to the fullest advantage and to use a small portion of the hot residue from a previous explosion to compress the same to the igniting-point with a view to ignite the incoming new charge.

Railways and Their Accessories.

AUTOMATIC AIR-BRAKE AND STEAM COUPLING.—O. E. LAIB and E. B. WITTE, Trenton, N. J. The principal objects of the improvement are to provide means for effecting making an air-tight joint between two air-brake-system cars when the latter are coupled together and for automatically allowing an escape of air from each car when the cars are uncoupled or when one is released from the other; furthermore, to prevent the escape of all the air from the air-brake system in an uncoupled car, only allowing enough to escape to set the brakes, and to apply the device to both freight and passenger cars.

GRAIN-DOOR.—W. S. GILLELAND, Newkirk, Oklahoma. The invention comprises the combination with a car having a door-opening provided with a sill, of doors hinged to the sides of the opening, a plurality of catches on one of the doors and a plurality of rock-levers pivoted to the other. The levers have their outer ends provided with flanges for engaging the catches, the inner end of levers being extended to form a handle. A bar connects the inner end of said levers to constrain them to move in unison, one being provided with an integral lug for directly engaging the sill when the flanges are engaged with the catches. This prevents movement of the doors with respect to the sill.

CAR-UNLOADING APPARATUS.—A. BURET and A. CROCHER, Minerva, Ia. The invention relates to apparatus for unloading sugar-cane from cars into the feeder for cane-mills. It is an improvement upon that form of device in which a large rake is attached to and carried by a horizontally-reciprocating frame, which frame is hinged to swing vertically about a horizontal axis at one end, so as to be raised and lowered to permit the rake to operate in any horizontal plane.

CAR-FENDER.—M. WICK, New York, N. Y. The principal objects of the inventor are to provide means for automatically releasing a series of movable elements when a portion of the fender comes in contact with an obstacle so as to lift the obstacle upon a platform and hold it thereon without stopping the car or running any danger of throwing the obstacle under the wheels, provided it is approximately the size of a human body.

CAR-FENDER.—C. HAGER and T. D. FINIZIE, New York, N. Y. In the present patent the invention is an improvement in side fenders for street-railway cars, the same being attached to and pendant from the body of a car and hanging outside of and parallel to the wheels, so as to practically inclose and prevent access to the space between the ends or platforms of the car. Messrs. Hager and Finizie have invented another improvement in the class of car-fenders which are detachably connected with the fronts or platforms of street-cars and adapted to be lowered from normal position in case of emergency.

Pertaining to Recreation.

GAME DEVICE.—R. D. MARTIN, Tampa, Fla. The object of the game is to completely wrap a string around a mast with the intention of making the ball strike the mast at a chosen point. The ball having a flexible connection with the mast, any impulse given to the ball will cause the string constituting such connection to wind around the mast and likewise unwind of its own accord. The purpose is to provide a portable game requiring the exercise of considerable skill.

Pertaining to Vehicles.

COOLER.—D. MC RA LIVINGSTON, New York, N. Y. The invention is more particularly intended for the coolers of motor-vehicles propelled by explosive-engines. It consists in a cooler having lapped joints at the side edges formed by means of return-bent or inwardly projecting portions formed along the opposite edges of one plate or wall and outwardly-projecting plain portions on the two side edges of the companion plate or wall of the conduit through which the fluid to be cooled passes. In order that the hooked edge portions may be formed, slits at the angles are produced. Mr. Livingston has invented another cooler and the improvement is intended principally for embodiment in the coolers of motor-vehicles propelled by explosive-engines, and the present relates especially to that form of cooler in which conduits are so bent as to present a diamond figure, the bends of the conduits being diagonal to the vertical and horizontal.

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Inquiry No. 8214.—Wanted, information as to the manufacture of paper from the pith and other parts of the corn stalk.

WANTED.—Physical Culture Appliances. Because of my great success in the sale of appliances for the improvement of the health and strength, I have found it necessary to open another store at 1 West 42d St., New York City. I would like to hear from owners of special appliances such as vibrators, braces, or anything in that line that would pay to push.

Prof. Anthony Barker, 1164 Broadway, N. Y. City.

Inquiry No. 8215.—Wanted, manufacturers of oil burners.

Inquiry No. 8216.—Wanted, makers of invalid rolling chairs with power attached.

Inquiry No. 8217.—Wanted, the address of the manufacturers of the "Rapid" boiler tube cleaner.

Inquiry No. 8218.—Wanted, flexible cloth, air-tight, capable of holding a pressure of three inches of water; or factory which treats cloth with paraffine or other chemicals.

Inquiry No. 8219.—Wanted, the address of the manufacturer of the machines making flower pots from 5 centimeters and upward, and sewer piping 60 centimeters long and 15 to 25 centimeters in diameter.

Inquiry No. 8220.—For manufacturers of "cotton-flock" for the wall-paper printing trade.

Inquiry No. 8221.—For makers of styptic pencils in quantities.

Inquiry No. 8222.—Wanted, the address of the Crown Cap Co., manufacturers of the metal cap for bottles; also for makers of similar bottle caps.



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or 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.

(10036) H. M. writes: The SCIENTIFIC AMERICAN, of May 19, 1906, contains an answer to some queries from A. X. (9976) that is, to say the least, different from the information that is generally to be found in the Notes and Queries column. Your paper has the reputation of being a conservative scientific journal, reasonably accurate, and one that never stoops to persiflage. But this time the bounds were overstepped, with the usual result—the ridicule of the editor acted as a boomerang. In attempting to make sport of a letter from a schoolboy, he made some mistakes that are more mirth-provoking than the errors of the student. Among other things he says: "This letter claims to come from a high school, from a scholar, we assume." Now in the El Paso high school we are taught that the term scholar is applied only to a learned man, or one having great knowledge of literature or philology. Of course, etymologically considered the word scholar means "one who learns from a teacher," but good usage does not countenance its use with that meaning. Again he says: "A body weighs more on the top of a mountain than it does at sea level, at any time, since it is farther from the center of the earth on the mountain top." Our physics teacher taught us that the maximum weight of a body is at the surface of the earth (at the sea level). Of course, a body weighs more at the poles than it would at the equator, because in the former position it is nearer to the center of the earth. But, "if a body is removed above the sea level, as on the top of a mountain or in a balloon, the distance between it and the center of the earth is increased and by reference to formula

$$F_g = \frac{GMm}{d^2}$$
 we see that its weight is diminished" (Hoadley's "Physics," p. 62). Fair play demands, Mr. Editor, that you publish an answer to your explanation in as prominent a place as was the original article. I am going to watch with interest to see if you dare publish this letter. In conclusion, give the next boy a chance, for he will get over his carelessness, and please do not publish any more erroneous answers to questions dealing with elementary physics. A. Thank you, my lad, we are much under obligation to you for setting us right. Over forty years' experience as a professor has taught us to welcome correction, even from a high school scholar, and even on a point where the error was one of the types simply, or at most one of inadvertence. It was so evident that "more" had been printed, where "less" should have been printed, that we had not supposed even the most captious and hypercritical would waste a postage stamp in telling us the mistake, which we saw as soon as the paper came from the press. It was so plain a slip that any one would be stupid not to see it. Oh, yes, we do dare, we are bold and bad enough to dare to print your letter, impertinence to an older person and all, and to say that we do not believe the teachers of the El Paso high school teach their students and scholars—we hope there are scholars there—any such manners as are found in your letter. As to your limitation of the use of the word "scholar," we doubt if El Paso will be able to make this use of the word universal, especially as both Webster and the Century do not give it first place. The Standard says, "When used without qualification, the word is understood in this latter sense"—that is, "one who is thoroughly schooled, an erudite person." We agree with this usage, and wish it might become general. Our use of the word was in connection with the qualifying phrase, "from a high school," and, as we understand English authorities, was correct. Of course, one is quite at liberty to restrict the sense of a word in his own use of it as he pleases, but one has no right whatever to find fault with another as you do for using that word in any sense authorized by any good authority. In this you overstep the bounds of good taste, as among gentlemen. We note with pleasure that you bear witness to the general and "reasonable" accuracy of the SCIENTIFIC AMERICAN, and that it does not stoop to persiflage. Persiflage is a very fine word for a high-school scholar to use. It means literally to whistle. And most high school boys do considerable of that. We shall be glad to hear from you again at any time, but will not publish another letter from you of the sort you have sent us this time.