

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

**REVERSING-SWITCH.**—J. N. ANDERSON, New York, N. Y. This invention relates to reversing-switches and admits of general use, but is of peculiar value in connection with electric elevators and analogous structures in which the general direction of relation is required to be changed at will. Mr. Anderson has produced a switch for the direct control of the operator and capable of running the elevator in two directions, the main circuit being opened and closed very quickly.

**Of Interest to Farmers.**

**PLOW.**—J. Q. A. JOHNSTON, Newburyport, Mass. One purpose of this improvement is to provide a rotary plow adapted to be drawn over instead of through the ground, as customary, in the construction of which a rotary holder is employed carrying a number of independently-operating blades arranged in rows, one blade in a row being staggered in relation to the others, whereby the blades have a spading operation on the soil in the operation of the plow.

**Of General Interest.**

**VULCANIZED MATERIAL AND PROCESS FOR MAKING THE SAME.**—F. EPHRAIM, San Francisco, Cal. The invention relates to the utilization of crushed or pulverized material naturally found in caoutchouc, rubber, or gum containing plants. The inventor has discovered that instead of removing as an impurity fibrous material already found in the crude rubber and adding the material made of the cotton waste it is much better to work up the crude rubber without subjecting it to the special processes employed for removing the fiber.

**METHOD OF EVAPORATING LIQUIDS.**—A. P. GEEB, New London, Conn. The present invention relates to a method of evaporating liquids in general, and especially for evaporating salt water and condensing the vapors for the production of water fit for use in the boilers of marine vessels and other purposes. The principal object is to improve the method so as to secure a proper evaporation of the salt water without danger of clogging the apparatus or of rendering the same ineffective.

**NON-REFILLABLE BOTTLE.**—E. K. WOOD, San Francisco, Cal. The devices for preventing refilling of the bottle are secured in the neck of the bottle by means of a packing-ring, seated in a groove in the neck and securing the devices with a lower cross-plate bearing against an outwardly facing shoulder. Sufficient room is left within the devices to receive an ordinary cork in order to securely close the neck of the bottle.

**RANGE-FINDER.**—H. C. PERCY, Natchitoches, La. In the operation of this range-finder it will be found that the sides of the imaginary triangle will be proportionate to the sides of the triangle of the table and that the base of the table-triangle will be to the measured base-line as the sides of the table-triangle are to the distance of the object from the ends of the measured base-line. By a provision of verniers a much closer reading may be obtained than by use of indicators.

**OIL-PRESS MAT.**—R. F. WERK, New Orleans, La. The aim in the present invention is to produce an animal-hair mat which will operate to secure a large yield of oil by reason of its superior draining qualities and which will develop through use a smooth glossy surface that is very advantageous because the surface facilitates operation of charging the formed cake into the press, and the cake will not adhere to the mat, with the result that the mat can be stripped with ease and facility. Subject-matter of the invention forms a division of a prior application for Letters Patent formerly filed by Mr. Werk.

**SKIRT-SUPPORTER.**—LUCY A. PHILLIPS, Lucca, N. D. In this case the invention refers to improvements in supporters for dress-skirts, the object being to provide a supporter of novel and inexpensive construction that may be permanently attached to a corset or like garment and that will firmly hold the skirt in place or closely against the back of the wearer.

**FORM FOR TROUSERS.**—ALICE JONES, Dehesa, Cal. The invention relates to a device for preserving the shape or form of trousers when pressed. It is also adapted to be used for the purpose of facilitating the pressing of the trousers. The device is easily applied, and can be folded up with the trousers when in position in the same, so as to be placed in a drawer or in a trunk.

**IMPLEMENT FOR CLEANING RECEPTACLES.**—P. H. TALLMAN, Blooming Prairie, Minn. This implement is for use in cleaning interior surfaces of milk-cans and other receptacles formed of tin-plate, glass, or similar materials. The can should receive a supply of detergent liquid that along with the scrubbing movement of the implement will thoroughly cleanse the inside surface of the vessel, the shape of the brushes adapting them to have contact with all parts thereof if handle rods and attached brushes are reciprocated longitudinally in the can and simultaneously rotated therein.

**AWNING.**—C. W. RUSSELL, Louisville, Ky. The object of the inventor is to provide an awning arranged for convenient application

to a window, door, vehicle, or other device and adapted to be closed and folded to take up comparatively little space. It can be readily set up by simply fastening the post in front of the window at or near the middle. By moving the runner up or down the awning can be conveniently extended for shading or folded for spacing.

**EXTENSION AND OTHER TABLE.**—R. L. RICHARDSON, Keota, Iowa. A plurality of side sections is employed for the top-frame of the extension-table or for a non-extension table, said sections being formed of plate metal and each provided with longitudinally-extending tubulation which is open at one side, but exceeds a half-circle in cross-section, whereby said frame-sections are adapted for telescopic connection in sequence and when so engaged are prevented from lateral disengagement.

**INDICATOR FOR BOTTLES.**—F. A. FRKOVIC, Galveston, Texas. The object of this invention is to provide means for plainly indicating when the original contents of a bottle have been removed and also to register the amount of liquid removed and that remaining in the bottle as the contents are from time to time partially decanted therefrom; and a further object is to provide means for displaying within the bottle a trade-mark or label which cannot be tampered with.

**AWNING.**—F. A. LEARNED, Chicago, Ill. This invention is an improvement in awnings. It is simple in construction, efficient in operation, and will not easily get out of order. The action of the ropes in extending the side arms is positive and is not dependent upon springs or weights, thus insuring always a proper extension of the arms.

**IRRIGATION-DAM.**—A. W. APPELEGATE, Brawley, Cal. In this patent the invention has reference to improvements in dams for land irrigation, and it is the object of the inventor to provide a weir board or gate that will open by water-pressure when the water reaches a predetermined level, thus dispensing with an assistant and lessening the danger of washouts.

**CALCULATOR.**—K. H. J. MARCKWORDT, Guatemala, Guatemala. In this instance the invention relates to registers. The object is to provide a calculator more especially designed for conveniently and accurately carrying out arithmetical calculations, such as calculating wages, volumes, multiplication, degrees of alcohol, lumber measures, degrees of sugar polarization and the like.

**CASING-BOWL.**—W. H. KESSELMAN, Parkersburg, West Va. It is the principal object of this inventor to provide a packing so that the water can be shut off from the inside of the casing and boiled out to enable the tools to get the full force of the blow in jarring. In bowls as now constructed there is a conical surface which is subjected to a great deal of wear in use. Another object is to cushion this surface and to provide for its ready removal and renewal.

**NON-REFILLABLE BOTTLE.**—J. DE HAVEN, Roanoke, Va. The device is simple, and little change is required from the ordinary form of bottle. The neck is of sufficient diameter above the shoulders to permit the ready passage of fluid by the valve, the part of the neck above the shoulders being slightly funnel or cone shaped in order that the parts may be readily introduced.

**FIELD OR HUNTING FLASK.**—R. BURGER and A. ASCHENBRENNER, Berlin, Germany. This flask is for use in storing liquids, more particularly beverages. It is provided with a protective jacket. A layer of heat-insulating material is arranged between the two glass walls to prevent breaking of the glass by concussions or the like, at the neck of the bottle. The practical value of the invention consists in the liquid remaining in the bottle at the same temperature for many hours. Hot coffee or milk can be kept hot from morning till evening.

**CULVERT CONSTRUCTION.**—H. BESSER, Alpena, Mich. The principal objects of this inventor are to provide means whereby sewer-pipes and culvert constructions can be laid in place after manufacture elsewhere without necessitating the handling of the heavy sections now usually employed; furthermore, to provide means for strengthening constructions of this character and to provide for forming joints which will be capable of being made tight and of such nature that pressure upon their exterior surfaces will not operate to loosen them.

**Hardware.**

**GRIP.**—J. DUNBAR, Invercargill, New Zealand. The improvement is applicable to such tools as rakes, hoes, spades, and forks, and has for its object a means to connect the handles of rakes and hoes with the heads of such tools, enabling a broken handle to be easily replaced and the heads of same adjusted to different angles, extending their scope of usefulness; and in respect to spades and forks provides a means to connect a hand cross-piece with the shanks of these instruments to form a handle-grip.

**KEY-FASTENER.**—L. A. FOSTER, Lagrange, Ind. This improvement has for its object the provision of a novel construction by which to prevent a key when in a lock from being turned by means of nippers or the like from the opposite side of a door. The construction

renders the cheapest locks as fully burglar-proof as the most expensive one.

**Heating and Lighting.**

**CUPOLA.**—J. H. KOONS, Delphos, Ohio. The invention pertains particularly to heaters for cupolas or furnaces in which hydrocarbon oil is used as the fuel, the object being to provide a device of this character by means of which the oil mixed with air or steam will be caused to enter the cupola under a high degree of heat, resulting in an intense and practically even heat from an economical supply of burning fuel.

**HEATING SYSTEM.**—F. SHURTLEFF, Moline, Ill. The invention relates to steam-heating systems, and particularly to that class known as "vacuum." The object is to provide an apparatus free from former defects and characterized by improved means for venting the air from the radiators by ejecting devices all located at one point and discharging such air outside the building or rooms and for sealing the system against return of the air.

**Household Utilities.**

**IRONING-BOARD SUPPORT.**—C. SCHAFER, Violetville, Md. In this instance the invention is an improvement in supports for ironing-boards adapted for application to an ordinary table or shelf to support any ordinary ironing-board, the construction being designed for sale independent of ironing-boards and to receive an ironing-board ordinarily in the possession of householders.

**WINDOW-SCREEN.**—G. D. MONCRIEF, Memphis, Tenn. The aim of this inventor is to provide a single sash-screen hanger which can be conveniently applied for use, easily opened for any desired purpose, and may be fastened in position for use. The screen may be readily unlatched and thrown out at the lower edge for the purpose of dusting or cleaning and quickly readjusted to position for use.

**Machines and Mechanical Devices.**

**ANIMAL-RELEASING MECHANISM.**—J. A. TAYLOR, Saco, Mont. The invention pertains particularly to improvements in means for releasing horses from their stalls in case of fire or other accident in the barn or stable, the object being to provide a simple means adapted to be operated from the outer side of a barn or stable, whereby the several horses that may be in a row of stalls can be simultaneously released.

**MOLD-RAMMING MACHINE.**—J. POULSON, Phillipsburg, N. J. One of the principal objects of this invention is to provide for reciprocating a series of rammers so that they will be picked up by the reciprocating device and elevated to desired height and that when forced against sand in the mold the rammers will be shortened, or in other words, distance between the lifting means and the bits of the rammers will be decreased, so that as the sand rises in the mold the rammers will be in such condition that they will at all times give a strong blow upon the top of the sand and ram the sand with evenness throughout the length of the mold.

**GAS-WELL APPARATUS.**—F. J. MOSER, Kane, Pa. The invention relates to deep wells, more particularly used for supplying natural gas, the special object being to provide means for removing water from the bottom of the well. The operator removes water at intervals as desired without obstructing the flow of gas from the well or interfering with the perfect working of the well or any part of it. Water is removed utterly independent of normal action of the well for purposes of supplying gas. Water is temporarily cared for that may drift into the well by storing it in a reservoir, so that it produces only a minimum of hardship.

**CALCULATOR.**—F. W. BENNETT, Waterbury, Conn. In this patent the invention relates to an apparatus by means of which mathematical calculations—such as addition, multiplication, subtraction, and division—may be performed mechanically. The underlying object is to simplify the parts of the machine and to enable the calculations to be performed by less movements and in shorter time than heretofore.

**MACHINE FOR DIPPING TOBACCO.**—R. BAILEY, Winston Salem, N. C. A vat or tank is provided, in which is arranged a peculiarly-constructed drum coating with an endless apron, the latter receiving the tobacco from a feed-hopper and running under the drum, so as to carry the tobacco into the liquid contained in the tank, after which the tobacco is carried from the tank by the apron and passed with the apron through squeezing rollers or devices, which eliminate superfluous liquid, the tobacco being discharged from the machine by a scraper or other means coating with the apron.

**Prime Movers and Their Accessories.**

**INTERNAL-COMBUSTION ENGINE.**—D. McR. LIVINGSTON, New York, N. Y. The object of this invention, which relates to a two-cycle internal-combustion engine, is to provide a valveless engine in the cycle of which there will be maintained a stratification of scavenging-air and fuel, so that after each explosion a volume of scavenging-air will be blown through the cylinder, cooling and cleansing

the same, and will be followed by the fuel charge, which will then be compressed and ignited in the usual or any desired manner.

**EXPLOSION-TURBINE.**—A. L. MOSS, Sandusky, Ohio. In this patent the intention of Mr. Moss is to provide a new and improved explosion-turbine in which impact impulses are given in quick succession to the turbine-wheel at different points of its periphery to insure a uniform and powerful running of the turbine.

**Railways and Their Accessories.**

**CAR-FENDER.**—J. A. SAGE, Stryker, Ohio. There is provision in this invention for a device which will effectually prevent the car from running down and injuring persons and one which automatically adjusts itself to all curves in the railway-track. The invention relates to an improvement in fenders for cars, and more particularly for trolley and cable cars.

**CAR-FENDER.**—J. C. JORGENSEN, Washington, D. C. A simple pressure of motor-man's foot throws the brake-shaft into gear with the means for depressing the fender, and a quarter-turn of the shaft will lower the front of the fender into contact with the track, and may be maintained in firm contact with the track so that nothing passes under it until released from the shaft. Lowered with car moving at full speed, it strikes a person standing on the track at the bottom of the feet, forcing them outwardly and causing such person to fall back into the netting.

**TRACK-SANDING DEVICE.**—F. BASON, Chicago, Ill. One purpose here is to provide means for admitting atmospheric air, hot or cold, to the sand at or near the base of the sand receiver for the purpose of relieving from vacuum the compressed air employed, which compressed air forces the sand and atmospheric air to the ejector, said sand and atmospheric air being drawn properly commingled from sources of supply, due to the passage of the compressed air through the device, to its discharge portion.

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