RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

REMOVABLE RUBBER HEEL.—J. H. DEMPSEY, Cleveland, Ohio. The purpose of the inventor is to provide a construction for a rubber heel, which permits the easy attachment thereof to the heel of a shoe, and a removal of the rubber heel where desired, the improved features adapting the heel when mounted for service, to resist strain and prevent its accidental removal if struck against an obstacle.

Of Interest to Farmers.

PLANTER.—E. ST. AUBIN, Ganeer Township, Ill. The object of this invention is to provide a device for use in simultaneously planting three rows of corn, and arranged so that each of the planting devices will be at all times in engagement with the ground regardless of the inequalities in the surface thereof.

ADJUSTING DEVICE FOR GRAIN-DRILLS.—W. F. JACOBS, Okawville, Ill. The inventor's more particular object is to enable the operator to adjust the depth of the drill teeth, and consequently regulate the depth within the soil to which the seeds are carried. The invention relates to means whereby a number of related parts upon the same machine may all be moved in unison for purpose above indicated, thus saving a multiplicity of separate movements of various parts.

HARVESTER DEVICE.—W. L. GRIFFIN, Scottville, Mich. The invention relates more particularly to apparatus used in the harvesting of potatoes and other similar produce. It provides a device by means of which potatoes can be freed from the earth adhering to them, and by means of which the cleaned tubers can be easily and rapidly filled into receptacles therefor.

COTTON-SEED SEPARATOR.—J. T. COX, Monticello, Ga. This separator will effectively separate the large and select cotton seed from the small, faulty and undeveloped seed which should not be planted, as healthy plants cannot be grown from such poor seed and when it is intermingled with good seed, the good seed usually germinates first and impairs the development of the good plants.

CULTIVATOR.—A. BRIGDEN, Albertville, Ala. The cultivator comprises a plurality of cultivator hoes having points adapted to till the ground, the forward parts of the hoes being attached to two cross bars arranged substantially parallel and transversely of the implement. With one of this general construction there is a tendency of the teeth of the hoes to become broken at their point of attachment to the rear cross bar, which this invention prevents.

Of General Interest.

SYRINGE.—H. F. ONG, Portland, Ore. One purpose of this invention is to provide a compact syringe, one that can be conveniently carried upon the person and one in which the piston is provided with a chamber adapted to contain medical ingedients to be dissolved in the liquid to be injected.

COLUMN, GIRDER, AND THE LIKE.—J. W. MULDOON, New York, N. Y. The invention relates to improvements in reinforced concrete construction particularly adapted to the formation of columns, girders, walls, etc., and more particularly to that type described and claimed in Mr. Muldoon's previous patent. In this type he utilizes a metallic reinforcement of such a character that it serves the double purpose of holding the concrete in position while it is hardening, and serves as a reinforcement for the concrete after it has hardened.

SAFETY WINDOW CHAIR OR PLATFORM.—J. P. LUNDQUIST, Portland, Ore. The purpose of this invention is to provide a construction that will perfectly guard a person who occupies the same after sitting or standing, from falling off while at work outside of a window that is at an elevation from the ground, even if such person is faint or giddy.

HOISTING ATTACHMENT AND CORNICE-PROTECTOR.—J. H. MARVIN, Mount Vernon, N. Y. The invention relates more particularly to a device by means of which a fall and tackle can be suspended from a cornice of a building or the like, for hoisting heavy objects, the attachment being securely in position at the roof of the building, and being so formed that no injury results to the cornice in its use.

ANIMAL-TRAP.—W. M. KAISER, Berkeley, Cal. In this rat trap there is a receptacle around which are disposed run-ways serving as steps leading to a bait room, in which are pivoted trap doors held yieldingly substantially in horizontal position, there being an opening between the doors, and near the opening, and secured to the under side of one of the doors is a bait receptacle, holding water or acid. The trap is hooded which darkens the bait room and run-ways. At the bottom of the receptable there is a slide by which dead rats are removed.

SYRINGE.—J. R. HARRIS, Raton, New Mex. The syringe is for use in irrigating and cleansing the internal cavities of the body, and it consists in the construction and arrangement of a two-part syringe, with provision for separating the two members and means for introducing a double current of water and draining away the discharges.

Hardware.

DOOR-CATCH.—H. P. CONNOR, Englewood, N. J. In the present patent the invention relates to door catches, the inventor's more particular purpose being to produce a device of this character in which the locking of the latch has a positive relation to the pressure exerted by the door or other swinging member in opening.

SAFETY-RAZOR.—B. KIAM, New Orleans, La. One purpose of the invention is to provide a razor having a curved, flexible, detached blade and a guard to co-act with the blade and arranged to be clamped against the latter to straighten the same and thereby provide it with sufficient rigidity, and to permit its adjustment with respect to the guard.

ADJUSTABLE NUT-LOCK.—F. YOUNG, Denver, Colo. The object here is to provide a device which can be easily arranged on a bolt to hold a nut in place, and which is so constructed that, should it be necessary, it can be constantly adjusted as the objects that are held in place by the nut become loose through wear.

MERCHANDISE-HANGER.—S. S. WEAVER, Shelby, Ohio. The invention is adapted especially for displaying carpets, floor rugs, and such like articles, and is provided with nine arms, each arm supporting two floor rugs, or twenty-four samples of carpets. By tightening or loosening the nut the outer edges of the supports may be raised or lowered for use in adjusting them with respect to the bracket and to each other.

Heating and Lighting.

COMBINED LIQUID SEPARATOR AND INDICATOR FOR GAS-CONDUITS.—R. L. DEZENDORF, New York, N. Y. The improvements are in means for use in separating liquids from gases and indicating when the liquid has collected to such an extent as to prevent the free passage of the gas. The invention is particularly applicable for use in the delivery conduits for illuminating gas and may be utilized at any desired point along the delivery conduit.

COKE-OVEN.—J. F. DONAGHY, Charleroi, Pa. The invention is an improvement in coke ovens and particularly in the means for closing the ends of the oven. After the oven is charged and the doors closed, the opening between the upper edges of the top doors and the crown of the oven arch may be filled in as usual, the doors supporting such filling when the latter is applied.

Household Utilities.

CURTAIN-POLE.—J. B. PHINNEY, Tampa, Fla. In this case the invention is an improved curtain pole which is made telescopic and provided with a screw clamp whereby it is adapted to be secured to window frames of different widths, without the aid of screws, nails, or brackets, which are usually employed for the purpose.

CURTAIN-SUPPORTER.—L. NACHMANN, New York, N. Y. The invention refers to curtain supporters, the more particular purpose being to provide means for readily securing the curtain upon rings which may permanently encircle the curtain pole; the invention also making provision for stiffening the upper surface of the curtain so as to prevent the exposure of the pole and rings.

AIR-MOISTENER.—C. G. MCKENDRICK, Monroe, N. Y. The object of this invention is to provide a moistener for use in moistening the air in the room in which the steam radiator is located, the moistener being connected with the steam chamber of the radiator and arranged to allow steam to pass into the moistener and to be diffused by the same into the surrounding air, to moisten the same.

WATER-CLOSET-SEAT PROTECTOR.—G. F. THOMPSON, East Orange, N. J. The invention refers to means for protecting a closet seat from soiling or other contamination, and has for its object to provide an appliance for a seat, which affords convenient means for placing and holding taut a paper covering upon the seat, and also facilitates the substitution of a clean paper sheet for the one that has been used.

Machines and Mechanical Devices.

BUNDLE WIRING MACHINE.—J. PFEFFER, Spokane, Wash. This machine is to be used in fastening together by wire, bundles of small boards, such as are used in making boxes, and for fastening together shingles into bundles, and other similar uses. It may be used in subjecting a bundle of materials to pressure in order to get the same into compact condition and to hold it while the binding wire is being applied.

CABINET.—J. W. SCHAUER, Kalispell, Mont. The object of this invention is to provide a device which is provided with movable shelving for retaining articles, and which has means for rotating the shelving so that the articles can be successfully brought to register with an opening through which they can be removed, whereby a small opening only is necessary.

TRANSMISSION MECHANISM.—M. BOUCHET, 22 Rue Alphonse de Neuville, Paris, France. The object of the invention is a transmission movement, automatically modifying the speed of the driven member according to the force to be overcome, and serving at the same time to limit the transmitting force. The device is applicable to automobiles, and in an automobile provided with the device, the speed of the vehicle will be inversely proportioned to the resistance to be overcome.

BALING-PRESS.—J. C. DAMRON, Roanoke, Va. The present invention provides a machine adapted to be operated by power, such as horse-power or the like and to furnish tripping devices for automatically releasing the shifting and locking devices for the gear mechanism when the plunger reaches the end of its pressing stroke. It is an improvement on a former patent granted to Mr. Damron.

BALING-MACHINE.—C. E. MCLIN and J. S. BACHMAN, Rome, Ga. Guides are disposed on a table, some being connected through the table top by operating mechanism, a core being disposed in the ties, which are then doubled on themselves, transverse pins being secured to the upper terminals of some of the guides, between which the ties are disposed and by means of levers and links the guides disposed through the table top, are forced downwardly, pressing the ties between the pins and the table. The guides are held yieldingly upward, and held down independently of the levers and links.

Prime Movers and Their Accessories.

STEERING DEVICE FOR TRACTION-ENGINES.—A. HARROLD, Lima, Ohio. Mr. Harrold's invention is an improvement in steering devices for use on traction engines. When the plate is swung in one direction, the friction wheel on one side will engage the rim, thus rotating the drum in one direction, while a reverse movement of the plate will rotate the drum in the other direction. The shaft on which the wheels are mounted is provided with a cranked portion to which are attached the piston rods of the engine in the usual manner.

Railways and Their Accessories.

TIE-BAR FOR RAILWAY-RAILS.—J. H. CROWLEY, Duluth, Minn. This bar is preferably in the nature of a T-iron extending crosswise of the track with its face turned upwardly and abutting underneath the base flanges of the rails, and at each side of each rail it is provided with one or more fingers engaging over the rail flanges. These fingers on the inside of the rails prevent the rails from turning outwardly and the other pins insure that no spreading of the rails will take place.

DROP-DOOR STRUCTURE FOR CARS.—F. W. BRADLEY, McKees Rocks, Pa. The more particular object here is to provide a car body with swinging doors, that under certain conditions, when closed, the doors are by their own weight and by the weight of materials resting upon them, forced toward each other and thus prevented from opening, said doors being locked in this position to prevent their receding from each other in order to open, and also being locked independently of their pressure against each other.

Pertaining to Recreation.

AMUSEMENT-STEPS.—J. H. CROSS, Philadelphia, Pa. The apparatus is in the nature of steps, certain of which are adapted to sustain the weight of a person, and others designed to sink under slight pressure. These two types of steps, which are termed firm steps and yielding steps, are arranged in sections, and so distributed in a stairway that the same cannot be traversed or climbed over without taking a circuitous route, which route is adapted to be changed by the unlocking or locking of certain of the yielding steps.

FISH-HOOK.—C. M. WILLIS, Austin, Texas. The invention refers to a hook wherein duplicate hooks are provided that are spaced apart by the pull of a fish on the line. The improvement adapts the hook for reliable service, and positively insures the divergence of the hook members upon the application of draft strain.

AMUSEMENT APPARATUS.—B. J. SAGEHOMME, New York, N. Y. The invention may be defined as consisting of tracks, each track composed of a series of reverse curves regularly arranged about a common central axis, with the tracks intersecting at the points of change of curvature, and the sets of cars simultaneously movable over the tracks in opposite directions.

Pertaining to Vehicles.

SLEIGH-RUNNER.—W. E. TURNER, Escanaba, Mich. The runners are in the nature of I-beams, each having a knee applied thereto provided with opposed jaws, with the beam of the sleigh provided with approximately semi-circular grooves near each end and at both sides, receiving the jaws of the respective knees, which admit of a slight relative endwise movement of the runners and thus relieve the connections of the bench of undue shock.

Designs.

DESIGN FOR A PLATE OR PLATTER.—L. ROUQUART, New York, N. Y. This ornamental design shows a circular form of plate. The rim rises from the bottom of the plate slightly fluted up to near the edge which latter is embellished with a scroll border of beautiful design.

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.

Notes and Queries.

Full hints to correspondents were printed at the head of this column in the issue of March 13th or will be sent by mail on request.

(12025) J. L. asks: Kindly state in your paper what meerschaum is, and if it was ever sea foam in any form? A. Meerschaum is a hydrated silicate of magnesia which occurs in veins and nodules, principally in Asia Minor. It has nothing whatever to do with the sea as regards its formation, and owes its name to an imaginary resemblance of some of the nodules in which it occurs to sea foam. It is occasionally found floating in the Black Sea, freed from its matrix, being lighter than water, which may be a further derivation of its name.

(12026) J. H. asks: What is the consensus of authority and scientific opinion on the true value and usefulness of lightning rods as a means of protecting buildings from strokes of lightning? Do they afford real protection? Are they worth what they cost, in preventing fire? Doubtless you know how opinions differ on this subject. Many people declare that lightning rods are worse than useless; they actually invite danger. Others contend that they are as necessary as fire insurance in every well-regulated establishment. A. We are of the opinion that lightning rods are a distinct advantage to a building in the open country and in thinly built portions of a city; also upon tall spires and chimneys in any part of a city. The method of protection to be employed has been many times discussed in our paper. You will find a note in the Queries column of our issue, Vol. 99, No. 16, October 17th, 1908, which you must have on file. The Weather Bureau publications named therein will be a sufficient guide to you. Lightning rods not only greatly reduce the damage to the building upon which they are used when struck by lightning, but actually decrease the liability of disruptive discharges of atmospheric electricity occurring at all when they are present in quantity. The town of Johannesburg is a notable example: electric storms were so frequent there and the resulting damage so great that nearly every building in the town was protected by lightning rods. Now lightning in the common sense of the term is most rare there, the formerly common electric storms being dissipated by brush discharges on the forest of lightning conductors.

(12027) A. K. S. asks: Take (for illustration) one cubic foot, v, of hydrogen gas at 32 deg. F., t, under a pressure, p, of one atmosphere. It will weigh, w, approximately 0.0056 of a pound. Let P remain constant and t —273 deg. C. or absolute zero. Then $V = 0$, by contraction, for nothing has been taken away excepting heat. Heat has no weight, therefore w remains 0.0056 pound, but $V = 0$, accordingly $W = 0$. What is wrong, the assumption that $V = 0$ at —273 deg. C., or that when $V = 0$, $W = 0$, or do the conditions existing in the theoretical state of absolute zero counteract one another? A. Your difficulty with absolute zero is simply a logical one. What you require is to state the conditions more clearly. The law of contraction of a gas upon which the absolute zero depends is true of gases; it is not true of liquids or of solids. So long as hydrogen is a gas it will contract in the ratio of 1/273 of its volume for a loss of 1 deg. C., but when it approaches its temperature of liquefaction it is no longer a gas but a vapor and no longer obeys Boyle's law nor the law of contraction. Neither will it do so after it liquefies. The proper statement with which to start the discussion is, if conditions remained the same, at —273 deg. C. the volume would be zero, and all heat would be gone. We do not see any contradiction in the matter excepting the pressing of the logic too far. What is true of a gas is not necessarily true of a liquid or a solid.

(12028) H. W. A. asks: 1. How many volts and amperes should a continuous current dynamo give to ignite a three-horse-power stationary gasoline engine? A. The current for electrical ignition of gas engines varies from 6 to 14 volts, and from 4 to 2 amperes. Perhaps one may go beyond these limits. You can get a good ignition dynamo from the Holzer-Cabot Company, Boston, Mass., or from the Dayton Electrical Company, Dayton, Ohio. 2. What difference, if any, is there between the construction of a continuous-current motor and dynamo, volts and amperes the same in each machine? A. There is no electrical difference between a dynamo and a motor. Such differences as are to be seen are due to the nature of the service to be performed by each. 3. How is the gage of sheet iron arrived at? Has it any reference to the B. & S. wire gage? A. There is much confusion in the gaging of sheet metal. It may be specified in thousandths of an inch, and this is at present the best way. The American or Brown & Sharpe gage is the same for wire or for sheet metal and is sometimes used, but it differs from the U. S. standard gage which has been the legal standard for sheet metal since 1893.