RECENTLY PATENTED INVENTIONS.

Agricultural.

POTATO DIGGER. — John W. Cook, Jefferson, Oregon. This is designed to be a simple, easily worked and inexpensive machine, in which the revolving hoe or digger is formed of a series of radial scoops having cutting and lifting blades at their outer ends and screening portions to the rear of the blades. The digger is connected to the main axle to be revolved in a direction opposite to the movement of the machine, to scoop forward and lift the dirt and potatoes up over the digger axle, sifting out the dirt and discharging the potatoes to the rear.

CULTIVATOR ATTACHMENT. — Charles A. Armstrong, Pawnee Rock, Kansas. This is an improvement in removable fenders for the protection of young plants while being cultivated, being designed to prevent dirt from being thrown upon them by the cultivator plows or teeth. The cover device or protector consists of two adjustable sections, arms projected from one end of the device and beams pivoted to the arms, while removable clamps connect the beams with the axle of the cultivator, and there is a connection between the device and the gangs of the cultivator. With this device the plows may be safely set much closer to the rows than heretofore, and the amount of earth delivered by the plows to the plants may be regulated as desired.

CORN PLANTER. — John B. Adams, Jr., Malden, N. Y. Corn may be planted in hills by this device, and fertilizer be also deposited in the hills previous to dropping the corn, the mechanism regulating the supply of fertilizer and seed acting together. Means are also provided whereby the fertilizer will be partially covered before the seed is dropped in the hill, the seed being also covered and the ground pressed down upon it. A simple and effective check attachment is connected with the implement, whereby it may be converted into a check row planter, and it may be used with a single set of boxes and drawn by a single horse, or as a double machine, drawn by a team, and operating on two hills at once.

CORN CUTTING MACHINE. — Harry Willits, New Boston, Ill. This invention relates to a former patented invention of the same inventor for a device for slicing corn ears into pieces, and provides additional features to increase the cutting capacity and general efficiency of the machine. An improved feed throat and cutting device is provided, and a novel gauge to regulate the length of corn ear subdivisions. The cutter shaft of the machine is rotated by working a treadle, the operator using both hands to thrust corn ears, piled on the table, down through the throats, and the pieces sliding through a chute away from the cutter.

Mechanical Appliances.

MINERS' AND BLASTERS' TOOL. — Richard A. McVitty, Snohomish, Washington. This is a combination tool comprising all of the implements necessary for use in the treatment of fuses or for the attachment of caps to fuses, or for inserting the capped fuse in a cartridge. It consists of two pivoted spring actuated members having cutters of different shapes and sizes adjacent to their pivoted points, with recesses in the inner faces of their head sections, one of the recesses being provided with a removable blade, while a link is adapted to close the handle sections of the members and serve as a suspension device. The tool is designed to be very simple and durable, occupying but a small space, and capable of being quickly and easily manipulated.

ROLL FOR CUTTING METAL BLANKS. —Cyrus A. Peterson, Stratton, Neb. This is a shearing roll for cutting blanks for fence posts for wire or board fences, and consists of a pair of metal rolls having indented casts or cuts therein, the pattern for the blanks covering the entire periphery of the rolls, and the patterns on the two rolls forming the cutting or shearing edges, which operate to subdivide the whole of the metal sheet into blanks with as little waste as possible. At the ends of the blank patterns are short cutting edges on the rolls to sever the blank strips into individual blanks. The sheet metal is preferably run through the rollers hot, and in the same heat used in rolling the sheet, to avoid the expense of reheating.

WIRE FEEDING DEVICE. — Joseph S. Blackburn, Salem, Ohio. This is a feed more especially designed for use on nailing machines, and is designed to be simple and durable in construction and very effective in operation. The improvement is mounted on a plate, to which two vertical parallel levers are pivoted at one end, the other ends of the levers being pivoted to two horizontal parallel movable jaws, a spring acting against the levers, while a plate serving to holding the wire in place is pivoted to and connects the jaws.

Miscellaneous.

CLOTHES LINE SUPPORT.—Robert McNab, Paterson, N. J. Combined with a horizontally swinging support secured to the outside of a window frame, is a main arm journaled on the support and having teeth on one side, a pulley head provided with a pawl sliding on the arm. The device is adapted to hold one end of a line when the opposite end is held on suitable outdoor supports, and is designed to be quickly adjusted to a desired position, so that the arm carrying the main line roller may be made to align with any outdoor support, while the device automatically adjusts itself to any decrease in the length of the line.

CLOTHES PIN. — Theodore Garrison, Hazleton, Pa. This device consists of a single piece of wire formed into a nearly rectangular frame having clamping tongues integral with and bearing upon it, and coiled spring suspending eyes, the device being normally attached to the line, and clasping and holding the clothes, which are not clamped directly to the line.

CLOTHES DRIER. — John McKinnon, Moscow, Idaho. A reel is supported upon a post in such manner that a number of lines may be attached to the reel arms, and the lines be readily brought within easy reach to attach the clothes thereto. The drier will carry a large quantity of clothes in proportion to its size, and when the reel is brought to a horizontal position it turns easily, so that the clothes will be freely exposed to the wind and sun to facilitate their drying rapidly.

ADJUSTABLE POLE.—Stephen A. Bartlett, South Amboy, N. J. This invention provides an improved construction of poles for use as measuring rods, clothes poles, etc., a sliding connection being provided for the members whereby the pole may be lengthened or shortened as desired. An anti-friction roller is mounted in one of the guides and a cam lever in the other guide, to clamp the members together, the cam bearing against a movable wear plate, while a rubber block is pivoted to the inner face of one member to contact with the opposite member under the pressure of the cam lever.

COFFIN LID AND HINGE.—William J. Collinson, Hazleton, Pa. This invention provides a lid and hinge enabling the lid to be easily raised or pushed to one side, to lie flatwise on the coffin, the peculiar formation of the hinge serving to hold the lid in place as well as to operate as an ordinary hinge. The improvement is also adapted for use on any kind of a receptacle.

CAR WHEEL CHILL. — Ferdinand E. Canda, New York City. This is an improvement on a former patented invention of the same inventor, by means of which the chill is so constructed that each segment of the chilling face will be supported at two points instead of one, preventing it from warping or twisting out of shape, so that the periphery of a wheel formed on the chill will be truly circular. The chill consists of a support formed of three or more parallel rings, two series of webs projecting inwardly from the rings toward the center of the chill, the webs of one series alternating with those of the other series, one series of webs being supported by one outer ring and an inner ring, and the other series of webs being supported by the other outer ring and an inner ring, while chilling faces are formed on the inner ends of the webs, the chilling faces, the webs, and the rings being formed integrally in a single casting.

TABLE LEAF SUPPORT. — Charles K. Olson, Red Wing, Minn. Combined with a curved and pivoted brace having a transverse recess in its outer end is a bracket having a longitudinal slot to receive the brace, while a bodily movable locking key having headed ends fits loosely in the transverse slot of the bracket above the brace, with other novel features, the improvement being very simple in construction, and forming a support for the drop leaves of tables which is very easy of adjustment and holds the table leaf in such a manner that it cannot possibly become loose by accident, while it may be easily released so that the leaf will drop when necessary.

MUSIC LEAF TURNER. — Evander B. Newcomb, Parsons, Kansas. This is a simple, durable and ornamental device, which may be readily attached to or detached from the music rack of an instrument, to facilitate turning over the leaves of the music. Combined with arms adapted for engagement with the leaves, and capable of lateral movement, is an actuating mechanism having connected finger blocks, the latter being adjustable to and from the mechanism.

SAFETY ENVELOPE. — James Malone, Louisville, Ky. This invention relates to envelopes used for holding money bonds, or other valuables, providing an envelope which, when sealed and folded, cannot be opened by steaming, while the contents cannot be reached by instruments inserted through the joints or seams without obvious mutilation. The blank is of novel form, and is designed to be so folded that all the edges of the envelope are of double thickness and all the corners of quadruple thickness, thereby making a strong and durable as well as a safe envelope.

ARTIFICIAL FRUIT. — Caroline Hyde, Stonington, Conn. The skin portion of the fruit to be made, according to this invention, consists of silk or other suitable fabric, which will admit of being painted to represent the fruit, and a straight piece is puckered or ruffled along two edges, the ruffles on each edge being united by a thread. One of these threads is then drawn to close one ruffled edge, and the ends of the cloth are united to form a bag, into which any suitable absorbent and penetrable, referably flocculent, material, is inserted as a filling, a wire thread or cord being run up through the filling, and virtually forming the stem of the fruit.

INVALID BEDSTEAD.—William Coughlin, New York City. The bottom of this bedstead is made in two sections, of which one is fixed and the other is hinged to the rails of the bedstead, to permit of conveniently placing a patient in an inclined position without touching him. The mattress and other parts of the bed resting on the fixed and movable parts of the bottom are sufficiently flexible to readily adapt themselves to different positions of the movable part.

THERAPEUTIC ELECTRIC BATTERY.—John A. Crisp, Jefferson, Ohio. This is a simple battery which may be readily carried in the pocket or on the body and quickly adjusted to give the desired current. It consists of a series of cells of copper and zinc plates with an interposed absorbent material, the copper plates having projecting ears and the zinc plate of one of the cells a socket, the ears projecting through a waterproof pocket which receives the battery, while conducting wires have fingers which engage the socket and one of the ears.

VAPOR BATH APPLIANCE. — Clark Cady, Waldron, Mich. This is a rapid steam generator adapted for use with an ordinary cooking stove, and connected by tubing with a closed box in which a vapor bath may be taken. The device is under the control of the operator, who can regulate the generating of the steam to suit himself, and provision is made for cooling the steam if desired before passing it to the bathing apparatus.

WASHING MACHINE. — Randison Newell, Kenton, Tenn. This invention relates more particularly to an improved machine which combines features of those classes of machines known as "roller and bed" and "reciprocating rubber" machines. The invention is designed to provide a machine of cheap and simple construction, easy and convenient to operate, and thoroughly efficient in cleansing the clothes rapidly without injuring them. The construction is such that each article is cleansed in a separate water.

MEASURING TANK. — Charles W. Proctor, Lake Forest, Ill. This device consists of a revoluble tank, to an inner wall of which is secured a basin with which is connected a gauge glass, and from which leads an outlet pipe. The tank is especially adapted for holding oil and similar liquids in such a manner that the contents cannot be easily spilled, while the liquid may be quickly and accurately measured, so that any desired quantity may be drawn from the tank.

HORSE CLEANER. — William W. Cole, Eudora, Kansas. This is an implement to be used in place of the usual curry comb. It consists of a frame carrying wires under adjustable tension and provided with a suitable handle by means of which the implement may he applied to a horse. In doing this the handle is grasped by both hands, and the wires rubbed along the skin in one or both directions.

FIGURE TOY. — George Y. S. Wada, San Francisco, Cal. This toy is so constructed that two jointed figures, representing prize fighters, may be caused, by the working of certain levers, to make the movements of actual prize fighters engaged in a contest with one another. Means are also provided whereby one of the men represented as fighting may be forced suddenly downward, as though he had been knocked down by a blow from his opponent.

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Notes & Queries

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(3706) M. S. says: I am running a saw mill and am greatly troubled by my mill roof catching fire from sparks. Can you tell me if there is any paint or composition that will render it fireproof (against sparks), and if so, how to make it, and how to apply it? A. A wash for your roof that is fairly fireproof may be made of Portland cement, borax, and sal ammoniac. In each pail of water dissolve ¼ pound borax and ¾ pound of sal ammoniac. Then add cement enough to make the water creamy, so that it will spread with a whitewash brush. Slush the roof with the wash, so that every crevice where sparks may lodge may have a coating of the cement.

(3707) M. B. asks: What is the difference in the power required to move a load mounted on wheels 4 feet in diameter, and the same load on wheels 2 feet in diameter? Which will move the easier, and why, on iron rails? A. The larger wheels will move slightly the easiest, from the increased leverage between the radius of the wheel and the radius of the axle.

(3708) P. Y. C. asks: Why does the moon appear to be convex, that is, after leaving full appear to have one side cut off, and as the line nears the center it becomes straight, when it again assumes a curved line, this time concave? Why does it not remain convex until new moon again? A. The phases of the moon are the same between the new moon and the full moon as they are between the full moon and new moon, only that they are reversed in position. This you can readily illustrate and prove by holding a white ball at arm's length and watch the phases as you turn round at a short distance from a strong light.

(3709) A. T. C. asks: Will you please give me a composition that will cause small stones, etc., to adhere, for about two months at least, to a wooden surface, and be able to stand some friction? A. There are several cements. Plaster of Paris makes a quick setting cement for stones. Easily applied. Asphalt is much used, but requires to be applied hot. Portland cement is also good, but does not set as quickly as plaster of Paris.

(3710) G. M. G. says: Will you give me a formula of paint for a tank (both wood and metallic) that will be durable and one that will not injure the water for house use? Also does galvanizing iron tank injure water for domestic use? A. Oxide of iron paint mixed with boiled linseed oil is the only suitable paint for water tanks, wood or iron. For iron tanks there should be not less than two coats, the first well dried before the second is put on. Use no turpentine. For wooden tanks a coat of boiled oil should be put on before the paint, and well dried. Water standing in galvanized iron tanks becomes impregnated with and tastes of the zinc. Such tanks should be painted with the oxide of iron paint.