

## RECENTLY PATENTED INVENTIONS.

## Electrical Devices.

**TELEGRAPHONE.**—G. MORIN, Habana, Cuba. This invention relates to telegraphones, and more particularly to apparatus for enabling the so-called "voice-currents" to be generated in a wire or line by means of a magneto member having the form of a disk. The improvement further relates to means for enabling one or both sides of the disk to be used as desired.

## Of Interest to Farmers.

**COMBINED POTATO-DIGGER AND COTTON-CHOPPER.**—R. KRAUSE, Swanquarter, N. C. The digging mechanism comprises a frame having the main bars turned spirally to form approximately a screw, which would if moved in the direction of its axis through a resisting medium, be caused to turn in one direction or the other, according to the spiral twist of the frame-bars. Means provide for turning the frame in a reverse direction. A hoe comprises a shank and a horizontal blade, which when the machine is used as a cotton chopper takes the place of the blades. The hoe passing into the ground cuts out the cotton-plants at predetermined intervals.

**DISK-HARROW SCRAPER.**—A. C. GAYLORD, Galesburg, Ill. The invention relates to certain improvements in disk-harrow scrapers in which the scraper-blades are held in contact with the disk by the pressure of springs, the object of the inventor being to relieve the pressure, and hence lessen the friction or increased draft load at the will of the operator.

**FRUIT-PICKER'S BASKET.**—F. CARTMEL, Jacksonville, Fla. The object of the invention is to provide a basket arranged to permit the picker to conveniently empty the basket of its contents without danger of bruising or otherwise injuring the fruit and without requiring removal of the basket from the picker, the basket being collapsible, and when collapsed is convenient for storing, handling, and shipping of empty baskets.

**CULTIVATOR ATTACHMENT.**—J. J. YOUNG, Denver, Col. The purpose in this invention is to provide an attachment adapted for convenient adjustment of the fenders employed on corn-cultivators and cultivators of like type to protect the young plants during cultivation, and to so construct the attachment that it may be applied to the beam of any cultivator and so that the said fenders can be expeditiously and quickly adjusted up or down on the arc of a circle as may be demanded and be held firmly in adjusted position.

**COLTER-BEARING.**—T. R. WALLIS, Greenville, Miss. The object of the improvement is to provide a bearing which will mount the metal hub of the colter-blade on a steel or other metal bearing and by means of which, however, the bearing is supported firmly and non-rotatively on the frame of the plow or other agricultural implement.

**SHEEP-BRANDING MACHINE.**—J. A. MAGELSEN, Melville, Mont. The object in this improvement is to provide a device in which the printing or painting mechanism will be automatically supplied with liquid coloring material in such manner that a large number of sheep may be easily and quickly marked for identification by simply applying the device to the part for an instant and causing neither pain nor annoyance.

## Of General Interest.

**LOOSE-LEAF BINDER.**—H. G. BUCHAN, Woodbridge, N. J. One purpose of the inventor is to provide a binder with a sectional segmental back of spring material so constructed that it may be employed for binding one or as many sheets as may be desired to the extent of its expansion, which is limited only by the number of sheets it will hold when opened to its fullest extent.

**BOAT.**—U. R. MILLER, Salem, Ohio. In this case, means are adapted to increase speed, decrease draft, and maintain stability. In operation a boat has a tendency to ride out of water when moving at high speed, thereby decreasing the draft and causing the boat to ride on the surface instead of crowding its way through the water. Although the draft is thereby decreased, the keel, together with the flat inclined planes, provide ample stability to the boat even when the planes are riding on the water.

**THAWING-POINT.**—F. LEWIS, Fairbanks, District of Alaska. In using the device in gold-mining operations the point is driven into the frozen earth by means of a sledge or hammer, and steam is allowed to pass into the interior of the point. This steam, which escapes at the point, thaws the frozen ground and enables the device to be driven further in. An advantageous feature is the fact that there is no necessity for welding the parts together.

**PROCESS OF PURIFYING ACETYLENE GAS.**—G. F. JAUBERT, 155 Boulevard Malesherbes, Paris, France. The object in this instance is to provide a process for eliminating from acetylene gas the phosphureted hydrogen, which, as is known, constitutes the impurity which is the most undesirable and at the same time the most difficult to eliminate. The gas as soon as formed is passed into washing-tanks which contain sulfuric acid concentrated at 62 deg. to 64 deg. Baumé, saturated with any appropriate arsenic derivative.

**HORSESHOE.**—H. DAHMS, Berlin, Germany. The object of the invention is to provide a calk form which will be secured in the horseshoe by improved means. The special object is to provide a construction which will insure that the calk will remain tight during its period of usefulness, but which will enable the calk to be readily removed when it is to be replaced by another.

**STRAIN-EQUALIZER.**—J. W. WASH, Lawrenceburg, Ky. The device is characterized by the fact that the pull on various numbers of wires or cables, as in stringing fence, telephone, or telegraph wires may be equalized. This is done by an endless rope bent over a series of pulleys on a draft-bar, forming loops each of which is provided with a block, and when less than the full number of wires are connected the idle blocks will pull up the bar, leaving the other under equal strain.

**BEER-TAPPER.**—R. B. SPIKES, Bisbee, Ariz. Ter. In this instance the invention has reference to devices known as beer-tappers, which are in the nature of appliances for opening and dispensing beer from the keg or barrel. Such devices have hitherto been employed which simultaneously opened an outlet for beer and an inlet for air.

**KILN.**—J. A. SHUMAKER, Hyndman, Pa. The object of the inventor is to provide improvements, specially in connection with the fire-box, whereby one part of the fire only may be maintained, while the other portion of the fire-box may be cleaned. By this construction a great saving in the volume of heat for the kiln is accomplished at all times, as well as the stopping of the volume of cold air entering the kiln which latter is very detrimental to the hot brick.

**TELESCOPE FOR SUBMARINE BOATS.**—F. REHM, Lichtenfels, and K. WINDSTOSSER, Nuremberg, Germany. In this patent the invention has reference to a telescope for submarine boats by means of which the several fields of view representing several parts of the horizon or sea are obtained within one and the same circle, the several fields of view being preferably so arranged that the field of view of the fore part of the horizon or sea is made the chief field and larger than the other fields of view.

**CANT-HOOK OR PEAVEY.**—P. PRICE, Panther, W. Va. This hook or peavey is such as is used in logging camps for moving or guiding logs from place to place. The object of the invention is to produce a hook of a construction which operates to increase the strength of the stock or handle and which will prevent dislocation of the point or socket of the hook.

**METHOD OF RAISING LIQUIDS FROM WELLS.**—F. J. MOSER, Kane, Pa. This invention pertains to a method of raising liquids from wells, and admits of general use, but is of peculiar service in connection with the raising of liquids from oil-wells. The invention may be considered in connection with Patents Nos. 721594 and 751323. The present invention undertakes to improve upon the methods disclosed in the patents above mentioned.

**APPARATUS FOR SHARPENING LAWN-MOWERS.**—E. C. SPRINGER, Mason City, Iowa. The principal purpose of the invention is to improve upon the device designed for the same purpose for which Letters Patent of the United States were formerly granted to Mr. Springer, to the extent that the device is rendered more simple and it is not needful to remove the wheels or change the gearing before placing a mower upon the device, it being necessary only to turn the mower upside down and clamp it in position upon the device, whereupon the wheels may be revolved through the medium of a clamp-handle especially adapted for the purpose.

**CHALK-LINE HOLDER.**—M. A. REARÉ, Los Angeles, Cal. This invention pertains to cord-holders such as used in holding marking-cords, such as chalk-lines. One object is to produce a device of this kind which will operate normally to maintain the cord wound within the device, but which will enable the cord to be drawn out when it is to be used.

## Hardware.

**SOD OR WALK TRIMMER.**—D. L. ROSE, Mankato, Minn. This trimmer is designed especially for trimming sod from along a sidewalk, such as cement sidewalks, but which can also be used to advantage in trimming sod along flower-beds and the like. The tool when moved along the sidewalk will trim the sod and by the inner inclined face of the guide-gage throw all dirt and the like beyond the excavation formed by the cutters.

**HAMMER.**—H. LEWIS, New York, N. Y. This invention has reference to improvements in hammers chiefly applicable to silversmiths' work; and its primary object is to provide a hammer that will to a greater degree be accessible to obstructed parts. In this instance the head of the hammer is pivotally mounted near its rear end to the handle and can be adjusted to any angle with respect to the handle as may be most convenient by turning a thumb-piece located at the free end of the handle.

**DOOR STOP AND LOCK.**—C. J. TATUM, Port Arthur, Texas. A plate on the spindle when released operates as a guide for the upper end of the rod as the latter is raised by the key and also serves to maintain the upper end of the rod in convenient position for the

engagement of its abutment by the key when inserted through the hole. As knobs are usually spring-actuated by means of the ordinary devices connected therewith, it will be understood that such knob-springs will aid the spring in pressing the cushion-block into engagement with the floor-surface.

## Household Utilities.

**CASTER.**—W. IMBT, East Stroudsburg, Pa. The invention is an improvement in casters as used in supporting furniture to enable it to be easily rolled about. The object of the inventor is to provide a form of caster which shall be strong and durable, not likely to get out of order, and one which shall be absolutely noiseless and of free working.

**BROILER.**—J. W. ROSS, Chillicothe, Mo. This broiler is adapted for broiling meat, fish, game, etc. In operation the broiler can be placed on any fire-box or surface and, if desired, can be used under any suitable form of hood and can be used on the top of a range or other heated surface and be made of any size and thickness to suit particular purposes.

## Machines and Mechanical Devices.

**MACHINE FOR CUTTING MEAT.**—I. B. VAN SISE, Oyster Bay, N. Y. One purpose in this improvement is to provide a machine for cutting meat, especially sausage-meat, and to so construct the machine that the feed will be intermittent, supplying the cutter at each movement of the feed with just sufficient material for the knives to properly handle.

**SHOE-SEWING MACHINE.**—J. A. RHOULT, Haverhill, Mass. The present invention simplifies and improves the means for carrying the thread. It improves the stitch-forming devices and provides means for firmly holding the sole during stitching operation and for releasing the sole during feeding movement. It simplifies and renders more certain of operation the devices for threading the thread-carrier and stitch-forming elements; and adapts the machine to sewing felt or other fabric uppers to the soles by providing means for gripping and feeding the felt upper, as well as the sole.

**ATTACHMENT FOR TURNING-LATHES.**—J. MORGAN, Hughesville, Pa. The invention refers to lathes for metal or wood work, and is especially useful in boring and centering or as a center rest. The object is to provide a durable lathe, steady-rest or chuck which is easily operated manually, which may be attached without difficulty to lathes of the usual construction and which will afford means for holding or steadying the material or work.

**DITCHING-PLOW.**—C. T. HOWELL, Kirkman, Iowa. One purpose of the invention is to provide a construction of plow for digging tiling-sewer ditches or draining-ditches and which is light of draft and capable of effective service in any character of soil. Another is to construct a plow with an inclined conductor from the gutter to wings that move over the surface of the ground and remove excavated material from the edges of the ditch. It is adapted to be drawn by a traction-engine.

**STEAM-SAWYER.**—S. V. ABREGO, Lake Charles, La. In this patent the invention pertains to improvements in devices for controlling the valves of a steam-feed for sawmill-carriages, the object being to provide a steam-actuating mechanism for shifting the valves, thus relieving an attendant or sawyer from a greater part of the work now required to shift the valves manually.

**CALCINING-FURNACE.**—T. MCNEAL, Kansas City, Mo. The general construction of this furnace is similar to that shown in the patent formerly granted to Mr. McNeal. The improvement is particularly in scrapers or agitators used in apparatus for calcining plaster and like material, an object being to so construct the scraper that it will engage closely with all parts of the convex bottom of the calcining vessel, thus thoroughly stirring the material.

## Prime Movers and Their Accessories.

**ROTARY ENGINE.**—P. O. POULSON, Brigham, Utah. The invention relates to improvements in rotary engines adapted for use in connection with any suitable motive fluid—as, for instance, steam, compressed air, water, and the like. The object is to provide means for moving the abutments from the chamber as the piston passes and also certain improvements in means for supplying the motive fluid adjacent said abutments for operating the device.

## Railways and Their Accessories.

**SWITCH.**—J. T. SALVO, Charleston, S. C. The object of this invention is the provision of means simple and inexpensive in construction, durable in operation, and effective in use, adapted to be readily operated by a passing car and so constructed as to be operative in any locality with little or no liability to become inoperative from any cause.

**CAR JOURNAL-BOX.**—A. V. PEPPARD, San Luis Potosi, Mexico. An object of this invention is to so construct the keeper-bolts that when the pressure of the car is downward and forward on the box the tendency of the liner and shoe or wedge will be to draw the bolts down and at the same time the liner will lock the bolts in lower position, and also to provide a construction of spring for each of the bolts, which springs act, first, to hold the bolts in lower or positive position, and, second, to sus-

tain the bolts in their upper or inactive position. It is an improvement upon the box for which Letters Patent were formerly granted to Mr. Peppard.

**DUST-GUARD.**—H. BENSCH, Davenport, Iowa. By this invention Mr. Bensch seeks to provide a guard which can be readily inserted in any of the ordinary journal-boxes now in general use and which will comprise a series of radially movable packing-blocks with the spring embracing the series and adapted to exert an inward tension on the several blocks, the blocks being movably held in suitable guides on a carrier-plate.

## Pertaining to Vehicles.

**AXLE.**—G. A. WEAVER, Newport, R. I. While this invention is capable of use with all vehicles, it is especially useful in automobile construction. The object is to provide an arrangement for mounting the wheels upon the frame, which will enable the direction of the wheels to be easily controlled. A further object is to provide a strong axle construction which will dispense with the usual steering-knuckle and its accessories.

## TRANSMISSION MECHANISM.—G. A.

WEAVER, Newport, R. I. This mechanism is especially adapted for application to automobiles. The inventor provides means whereby two engines can be coupled up, so as to simultaneously transmit power at varying rates of speed to a driven shaft; provides for driving a shaft and the other engine or motor by one of the engines or motors in case of breakage, and also provides an efficient means for transmitting the power when the speed is to be varied.

**VEHICLE-FRAME.**—O. STOLP, New York, N. Y. In this patent the invention is an improvement in frames for vehicles, especially of the automobile type, and has among other objects the production of a spring arrangement in the frame whereby little shock or vibration is experienced in passing over rough roads and other uneven surfaces.

**MOTOR-VEHICLE.**—M. H. MAGIE and C. N. WINTERS, Bakersfield, Cal. The underlying purpose here is to provide a vehicle in which the motive power, braking force, and steering action may be applied to all of the four road-wheels of the vehicle. This construction gives greater power of traction, prevents skidding, and enables the vehicle to be completely controlled.

**REIN-GUARD.**—W. P. FELL, Huron, S. D. The design in this case is to prevent the reins from becoming caught or entangled with the wagon-pole. The object of the invention is to provide a device of this character at a very small cost which will be simple and durable and which may be quickly and easily applied to various sizes and types of wagons.

## Designs.

**DESIGN FOR A WALL-COVERING.**—L. PRONBERGER, Berlin, Germany. Mr. Pronberger has secured patents on seven separate designs of wall-covering. They are numbered from 38,517 to 38,523 inclusive. Ornamental value of a wide and varied artistic range marks the designs. Only one of the number departs from the perpendicular band style of running the patterns. All bear the characteristic of ornate invention within lines of refinement and are calculated to attract by their distinct originality.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.



## HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters 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.

(10511) C. C. W. asks how to amalgamate zincs. A. This is accomplished in several ways. 1. By dipping the zinc in dilute sulphuric acid and then dipping the end of it into a small quantity of mercury, after rubbing the surface with a brush. 2. Dissolve 1 pound of mercury in 5 pounds nitro-muriatic acid (nitric acid 1 part, muriatic acid 3 parts), heat the solution gently to hasten the action. When a complete solution of the mercury is effected, add 5 pounds more of nitro-muriatic acid. The solution should be applied with a brush, as immersing the zinc in it is wasteful. 3. To the bichromate solution commonly used