### RECENTLY PATENTED INVENTIONS. Agricultural Implements.

HAY-PRESS HORSE-POWER. - CHRISTIAN F. Kohlruss, Augusta, Ga. The invention is an improvement in horizontal, rotary horse-powers in which a horizontally-moving pitman is operated by a horizontal rotary horse-power, giving two full actions to the pitman at every revolution. The objects of the improvement are to provide a continuous circle move for the horse, to increase and compound the power as the resistance against the pitman increases, and to move the pitman in a horizontal and entire straight line.

LAND-WHEEL ATTACHMENT FOR SULKY PLOWS. GEORGE A. LITZENBERGER, Sunbeam, Ill. The inventor has devised means for connecting two landwheels with a mounted or sulky plow, so effecting the attachment that the position of the plowshares is not changed relatively to the ground when the land-wheels ment to work perfectly either crosswise or lengthwise with the ridges and hollows of corn rows.

### Electrical Apparatus.

CONTINUOUS-CURRENT TRANSFORMER.-AL-FRED WYDTS and GUSTAV WEISSMAN, Rue Chaptal 3, Paris, France. The principle of the invention consists in rendering a continuous current alternating in order to enable it to be readily transformed by means of electromagneticinduction, the secondary alternating current of this transformer being then rectified by means of a commutator operated by the same mechanical device as that employed for rendering the original continuous current alternating, in such a manner that the secondary alternating current is rectified isochronously, because the phases of the secondary current, although lagging behind or displaced relatively to those of the primary current, are isochronous with them-that is, the intervals separating the phases of the secondary current are equal to those separating the phases of the primary current.

ARC-LAMP .- EDWARD L. BROWN, McComb City, Miss. The inventor has provided a simple, ingenious device for automatically regulating and controlling the carbons to produce a constant light. The device is particularly adapted for search-lights, magic lanterns, and the like. The mechanism consists of spring-actuated gearing which is operated antomatically as the current is cut out by the burning away of the carbons.

#### Engineering Improvements.

PACKING.-John J. Moss, 640 South Fairfield Avenue. Chicago, Ill. The nacking is useful both for nacking rods and joints and for various forms of machinery. The packing removes a certain amount of friction on the rod, and works automatically to the slightest friction. It can be placed in any position and oiled like a brass bushing. A packing-sleeve, comprising a spiral, is connected at one end with the stuffing-box. The other end of the sleeve bears between a spanner and the stuffing-box and serves continually to maintain the spiral under pressure.

## Mechanical Devices.

FIRE-ESCAPE.-CHARLES H. SHIELDS and ALVIN SHAW, Spokane, Wash. The invention comprises a tubular ladder at each end of which a carrying-wheel is mounted. The wheels run on tracks secured to the building. A platform is attached to the lower end of the ladder and projects outwardly transversely. An extension-ladder is hingedly mounted on an outward extremity of the platform and is capable of swinging up and down thereon. The carrying wheels are driven by a chain-

DUMB-WAITER.-CHARLES W. HOFFMAN, Manhattan, New York city. By means of the improvements devised by the inventor, the manufacturer is enabled change the cage-supporting rope-pulley to suit the width of the well or shaft and to bring the runs of the rope in proper alinement with the cage and the WATER. - CHARLES F. CONOVER, Manhattan, New counterbalancing-weight, without the use of extra guidepulleys. The arrangement also affords a convenient and simple support for the brake mechanism of the

ELEVATOR CONTROLLING APPARATUS .-John J. Cook, Butte, Mont. The apparatus is particua sure and effective means is provided for holding the elevator, these means being continually under the control of the operator. The car moves past a guide rail. and causes it to boil at a much lower temperature than Shafts are mounted on the car, and a dog is attached to when subjected to atmospheric pressure. each shaft and works with the guide-rail. Gears are attached to the shafts and mesh with rigidly connected racks fastened to a link. A lever, mounted on the car, is pivoted to the link. A hand-latch is mounted on the lever, and a quadrant on the rack, coacts with the hand-latch to hold the lever in the desired position.

WASHING-MACHINE. - CHARLES W. THOMSON. Ontario, Cal. The object of the invention is to provide an improved washing-machine, simple in construction and improved washing-machine, simple in construction and arranged to enable the operator to pick up and thorough.

In this many case give the correct area of a circle. ly wash any part of the clothes without the least danger of injuring the clothes. The machine has beaters and in large cities. handled arms carrying the heaters. The folcrum portions of the arms are reinforced; and bushings screw into the reinforced arms.

# Railway-Contrivances.

DUMPING-CAR.-George H. LAWRENCE, Middletown, N. Y. The car is a coal-car of the hopper-bottom type, and is provided with a winding-shaft located on the under side of the car and at one side of the dumpingits ends on the shaft, the chain extending transversely inventor has produced a stretcher-plate of novel form across the dumping-door and having a traveling connection with the car to allow the chain to equalize. Un- device. The plate is of triangular form and has a series are thus prevented.

DUMPING CAR.-WILLIAM H. ONION, New Orleans, La. The dumping-car does not require extra track-sectious or alterations in the bridge or track upon which it is to be used. A stop or bumper is provided. that upon striking the stop, it will be automatically of this paper.

dropped to dumping position and a section of the body operated to discharge the load. Means are provided for varying the inclination of the car-body when the load is to be dumped and supporting a car at its discharge end while dumping. The movements of the car are con-trolled by a cable which is directly utilized for raising a section of the car-body and caused, in connection with the stop, to incline the car-body suitably for dumping.

### Miscellaneous Inventions.

WELL-PULLEY .- JAMES FOSTER, Gober, Tex. Conected with a winding drum and its frame is a guide device for a rope, adapted to guide the rope as it is wound upon and unwound from the drum. The guide-device is mounted to travel upon a feed screw carrying a driving-wheel. The winding-drum has vertical movement in its frame to gravitate into driving engagement with the driving-wheel. The rope carrying the bucket can be travel over an undulating surface, enabling the imple- automatically controlled in a manner to insure the rope's being guided to and upon the pulley in raising and low ering the bucket, thus preventing the hoisting-rope's coming in contact with the mud and water that usually accumulate around a well-curb.

> PILING - WILLIAM B. BONNELL and ROBERT F. SMITH, Macon, Ga. The object of the invention is to provide an improved tubular, metallic piling, designed to take the place of the wood piling now generally used in the construction of breakwaters, levees, and the like. The piling consists of a number of metal tubes arranged side by side. Over the upper edges of the tubes a cap is fitted. Through the lower edges of the cap, bolts extend transversely, which engage sundry tubes so as to hold the cap in place and stiffen the positions of the piles. Metal piles are more durable than wooden piles, are stronger, and are not liable to the attacks of insects.

> GATE .- JOSHUA TENNANT, Carson City, Mich. The gate is capable of being swung from its swing-post to or from a team or person and of being slid past the swingpost and opened as far as desired. The gate can be raised or lowered while in either its normal position or when slid past the swing-post and held in the position to which it can be vertically adjusted in order to clear any obstructions, or can be held sufficiently from the ground to prevent snow-drifts from rendering the gate inoperative. The gate, in addition to its pivotalsupport, has a crane-support, so that it will not be affected by lateral or vertical strain.

LEVELING ATTACHMENT FOR VEHICLES. JOHN NASH, Dayton, Wash. The object of the invention is to provide a means for adjusting the body of a vehicle (especially a threshing-machine) to a level position, thus preventing the vehicle from capsizing and avoiding the labor of digging pits for the wheels, to level the body. A hinge-section is pivoted at one end to the running-gear and at the other end to a portion of the body. By means of adjusting devices at each side of the end of the line without danger of breaking through the body, the hinge-section can be swung to level the the insulations and forming a short circuit with the re-

GATE, JAMES M. ADAMS, Deckertown, N. J. The gate is of the sliding and swinging class and is provided with a simple means whereby it can be adjusted vertically to clear it of snow or to permit small animals to pass underneath and to form a barrier for large animals. Connected with the gate and its foot-post is a guide-rail secured to the foot-post. A head or block is vertically adjustable on the rail and is provided with a perforated lug engaged by a pintle extended from a gatesupporting roller.

FIFTH-WHEEL.-AMBROSE E. ABBOTT, American plate to which springs are attached. Segmental plates Rollers are mounted in depressions formed in opposite of grease or other inbricant is unnecessary, thus preventing the accumulation of dust and dirt.

APPARATUS FOR PRODUCING DISTILLED York city. The invention consists of a system of treating water by which it is evaporated and then condensed so as to produce pure water. One object sought to be accomplished is the utilization of waste sources of heat for the evaporation of water and the subsequent condensation of the water so as to form chemically pure or larly adapted to mine-elevators and is so constructed that distilled water. The evaporation of the water heated by waste-heat is rendered possible by the employment of a

## Designs.

CANE OR UMBRELLA-HANDLE. - WILLIAM H. SPEARS, Queens, New York city. The design consists in alternate plain and fluted panels, the plain panels being circumferentially continuous and arranged in the same general plane.

CHIMNEY.CAP MEMBER.-JOHN COOPER, Brookmember for chimney-caps, such as are used on all houses

HOLDER. - FRANK A. SMITH, Chicago, Ill. The device is designed to hold hats, coats, umbrellas, and cards. The holder can be nailed to the wall in any desired

BOX-BLANK, EDWARD E. PINKERTON, SIOUX City I Iowa. The blank is reinforced at certain portions so as to form a box stronger than that ordinarily produced from a one piece blank.

STRETCHER-PLATE FOR CARPET-TACKING adapted to be used in connection with a carpet-tacking carpet and stretch the same. The plate is also intended to be reversed when necessary, and by its peculiar form is very useful in stretching carpet in the corners and along the sides of rooms.

## Business and Personal.

Marine Iron Works. Chicago. Catalogue free

For bridge erecting engines. J. S. Mundy, Newark, N.J.

"U. S." Metal Polish. Indianapolis. Samples free. Yankee Notions. Waterbury Button Co., Waterb'y, Ct.

Handle & Spoke Mchy. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Book "Dies and Diemaking," \$1, post paid. J. L. Lucas, Bridgeport, Ct. Send for index sheet.

Ferracute Machine Co., Bridgeton, N. J., U. S. A. Full line of Presses, Dies, and other Sheet Metal Machinery Special and Automatic Machines built to drawings or contract. The Garvin Machine Co., 141 Varick St., N. Y.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Ma chine Company. Fort of East 138th Street, New York.

The best book for electricians and beginners in elec-"Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

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Nineralesent for examination should be distinctly marked or labeled.

(7852) J. A. DeV. asks: Can such a current be passed over a cable, composed of six number 6 wires of the Brown and Sharpe gage for copper wire that will deliver 200 amperes at 2,000 volts to a motor at turning cable of the same size, which lies close along beside it. The cables to be five miles long and submerged in the sea but protected by gutta percha insulation to an amount that will equal the cables themselves in weight. A. The underwriters allow a No. 6 wire in waterproof insulation to carry 65 amperes. Your six wires could carry about 400 amperes. If the insulation is all right, there is no reason why the return may not lie alongside of the other cable. Much higher voltages are now put in the same sheathing.

(7853) W. J. Lasks: What proportions are required in the building of a dynamo which is 1/8, 1/3 Fork City, Utah. The fifth-wheel comprises a ring- or anything in that vicinity of a horse power? The Edison with a drum armature is the one I want to build. are secured to the axle at opposite sides of the king-bolt. Give all about size of pieces in the armature and commutator plates, and amount of wire and size of it required. ends of the segmental plates. Heads on the ends of the Also, give size of the iron cores of the field magnets and rollers prevent their displacement lengthwise. The use amount and size of wire used in the winding of them. A. Your request is too indefinite. You do not even state the voltage you expect to have from your dynamo. We recommend you to purchase Parkhurst's "Electric Motor Construction for Amateurs, price \$1 by mail; or Watson's "One quarter Horse Power Motor," price 50 cents and follow the plans given there.

(7854) J. E. C. asks: Have you anything on subject of Clarke's wireless telegraphy as per page 213 Scientific American, issue of April 2, 1898, so one can build the machine. In the issue given above no measurements or data are given. A. We have no plans with details of the instruments used in the Marconi vacuom-pump, which lowers the pressure on the water system of wireless telegraphy, so that one could build machine.

> (7855) X. Y. Z. asks why the following rule is incorrect for calculating the area of a circle or squaring the circle." I have no doubt it is fallacious, but why? The area of a circle equals the square of onefourth of the circumference. A. The area of a circle is found from the formula: Area= $\pi^2$ ; in which  $\pi=3.1416$ . To apply the rule given above,—The circumference  $=2\pi R$ . (14 of circum.)  $^2=\pi^2 R^24$ . Substitute for  $\pi^2$  its value given above and we have for the area of a circle Its only follows is that it i

(7856) S. E. A. asks: 1. What is the exact temperature required to change steam into the gaseous state? A. Steam is already a gas formed by the vaporation of water. The question perhaps is intended to ask for the temperature of the separation of steam into its constituent gases, oxygen and hydrogen. The dissociation of steam begins at 2.2000 Fahr and is complete at 4,500° Fahr. 2. How can the two gases of which it is composed be most easily separated without the use of electricity? A. This is done in great quantities in the doors. An equalizing chain is arranged for winding at DEVICES.—CHARLES P. KNAPP, Deposit, N. Y. This manufacture of water gas. Coal is raised to a high temperature in a furnace, which is then closed and the steam is blown through the hot coal, raising it above the temperature of dissociation. The Scientific American equal closing of the door and, consequently, loss of coal of prongs on its lower face adapted to engage with the Supplement has contained several articles upon this subject. 3. What is the temperature of the oxy-hydrogen blow-pipe flame? A. It is estimated at about 4.000° Fahr. 4. Can oxygen and hydrogen be introduced into the blow-pipe in a mixed state without danger of an ex-Note.-Copies of any of these patents will be furn-plosion? A. They are so mixed in the mixed jet comcapable of convenient and expeditious application to a ished by Munn & Co. for ten cents each. Please state monly used in the stereopticon. Special care must be rail at any point in its length. The car is so constructed the name of the patentee, title of the invention, and date had in the arrangement of such a blow-pipe to avoid explosions.

#### TO INVENTORS.

An experience of fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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Cards playing, J. F. Kingwill Carriage, child's, G. E. O'Hearn
Card separating device, E. E. Proper         646.157           Cards, playing, J. F. Kingwill         645.961           Carriage, child's, G. E. O'Hearn         645.970           Cart, bag carrying, J. B. Rhodes         646.010           Case. See Bookcase. Filing case.         645.974           Caster socket, H. D. Reed         645.974           Cellulose solution for manufacturing threads, production of, E. Bronnert         .646.351           Chain, transmission, P. Hoevel.         646.351           Chair adjustment, J. Karpen         646.074

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