RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

STACKING-ATTACHMENT FOR THRESHING-MACHINES.—FRANK HARTLEY, Hartland, N. Y. This strawstacker, capable of being attached to any threshing-machine, is provided with a turn-table which can be operated to move the stacker from an extreme right to an extreme left position. The operator, standing on the ground, beside the thresher, can turn the hood in any direction and lengthen or shorten the delivery or discharge-tube. Ball or roller bearings are used to reduce friction.

PLOW ATTACHMENT.—JOHN E. JONES, North Bridgewater, N. Y. The invention provides a simple means for preventing the plow from jumping out of a furrow should the point strike an obstacle. Rollers are employed, one forward and one rearward of the share, which can be simultaneously raised or lowered, the mechanism employed being controlled by the movements of the animals hitched to the plow.

HARROW-TOOTH AND CLAMP THEREFOR.—WILLIAM M. BAKER, Fortville, Ind. A simple device has been conceived whereby teeth can be adjustably and securely fastened to the frame of the harrow. The tooth is provided with a number of recesses designed to engage the forward wall of the upper slot of a clamp. The tooth can be adjusted by causing the proper recess to engage the upper slot-wall and can be secured in adjusted position by tightening the clamp-screw.

Engineering-Improvements.

VALVE-GEAR.—ALFRED WETZEL, Charlottenburg, Germany. There are separate channels for the inlet and outlet of steam, and, consequently, separate means for opening them. All the valve-gear parts are outside of the cylinder. The inlet-valves are opened by springs secured to the piston; and adjustable springs are employed for pressing the inlet-valves upon their seats for the purpose of regulating the inlet of steam. The valve will be closed when the piston reaches a position farther away from the beginning of the stroke than that at which the valve was opened, for the reason that the steam pressure upon the one side of the valve is counteracted by that upon the other side and that the valve offers a certain resistance.

LUBRICATOR.—HARRY R. WHITE, Hartford, Conn. The lubricant-feeder is especially designed for use on locomotive-engines. It comprises a cylinder in which a piston moves. A chamber is connected with the cylinder for receiving oil and steam. A delivery-chamber is connected by a bore with the receiving-chamber. A carrier-valve moving with the piston, extends in the bore, and is arranged to receive oil from the receiving-chamber and to carry it to the delivery-chamber.

Mechanical Devices.

BLACKBOARD-ERASER-CLEANING MACHINE.—ROBERT J. RILEY, Lafayette, Ind. The cleaning of erasers is ordinarily effected by knocking the pads against any convenient object. The chalk-dust which fills the air is unfit to breathe. The inventor has devised a simple machine, which is to be placed in the basement or or open air, and which, in a few minutes, will thoroughly clean the erasers without the annoyance of dust. The machine comprises an overhanging, laterally-swinging bed for holding the erasers, a series of beater-arms, and a rotary shaft with wiper-arms or cams for drawing the beater-arms away from the erasers. Independent springs for each beater-arm, throw the beater-arms with independent forceful blows against the erasers.

STRAIGHTENING AND DRILLING MACHINE.—JAMES R. NEILSON, Delamar, Nev. The machine is designed to straighten rails, axles, pipes, and the like, and to drill holes in rails for fish-plate bolts. The frame is U shaped and is provided with ends for engaging an article at spaced points. A tubular bar slides in the frame about midway between the frame ends. The tubular bar is threaded at one end to receive a ratchet-wheel held against longitudinal movement. A holder engages the frame ends and the bar to prevent the bar from turning and the ends of the frame from spreading. A drill turns in the tubular bar and can be moved longitudinally by the bar.

Railway-Appliances.

CAR-COUPLING.—JOHN B. EAVES, Forest City, N. C. The invention is a coupling in which the coupling-device itself is locked by means of a block or jaw pivoted within a chamber or recess in the coupling-head or draw-bar and adapted to swing vertically for engaging or releasing the coupling device. The strength and solidity of the draw-head enables it to withstand the shock of impact when the cars meet, so that supplemental buffers are unnecessary.

TRACK-SANDING DEVICE.—WILLIAM H. PRENDERGAST, Southern Express Building, Savannah, Ga. This apparatus is designed to feed sand to the rails under a locomotive in order to prevent the slipping of the wheels. The device can be readily transformed from a pneumatically-operated sander to a straightway device should the pneumatic apparatus sustain any injury. The air ducts and sand-cup can be easily kept free.

AUTOMATIC COUPLING.—THOMAS H. PATCHING, Strathfield, New South Wales. The invention consists of a ratchet-bar hinged to a draw-bar of ordinary construction, so constructed as to be received by a mating-section. The mating-section consists of two metal bars of peculiar construction, similarly hinged to a draw-bar of ordinary construction and having an eccentric pawl between them, which is operated by means of a lever. Whatever may be the draft-strain, the pawl can always be withdrawn from the ratchet, to disconnect the cars.

Miscellaneous Inventions

PERPETUAL CALENDAR.—JOHN M. BIGGS, 502 Fourth Street, Louisville, Ky. The calendar is of the perpetual-date class, and is provided with specific improvements in the manner of constructing and assembling the parts, so that the calendar can be cheaply made and securely held together. The material used is either sheet metal or cardboard. The calendar is a most attractive advertising-novelty, sufficient space being provided for advertising matter. The inventor manufactures his calendar in all sizes and shapes.

STRAIT-JACKET.—JAMES M. HOOPER, 128 N. Eutaw Street, Baltimore, Md. The invention provides a bed-sheet of extra-strong material, with appliances attached to give it the function of a strait-jacket, and attaching devices for securing the sheet to a bedstead, cot, surgical table, or other support. The strait-jacket is designed to hold a patient securely, to insure immunity from self-injury without in the least interfering with personal comfort. The strait-jacket can be adjusted to any cot or surgical table, and can be sterilized, washed and laundered.

VEHICLE-SHAFT SUPPORT.—EDWIN JARRELL, Riverdale, Kans. The shafts can be held in a vertical position, so as to be out of the way when bringing the horse into position for harnessing. The main object is to provide a support capable of being finely adjusted, so as to fit shafts of different shapes or shafts in which the cross-bar is at different distances from the thill-couplings or vehicle springs. The support utilizes the vehicle-springs; and a threaded shank for the supporting-arm is employed, so that the arm can be adjusted to a nicety to adapt itself to shafts of different forms and sizes.

PROCESS OF PREPARING SARDINES.—JULIUS WOLFF, 47 Hudson Street, New York city. One of the chief difficulties encountered in packing American sardines is the removal of the water from the fish, so that the oil is not rendered turbid and unpalatable. The inventor has devised a new process for preserving the sardines. The process consists in depositing them in receptacles, which are placed in an oven having a temperature of about 300° F., for about one-half an hour. The receptacles are then removed and immersed in oil at a temperature of about 235° F., and retained therein until the water remaining in the fish after baking, is removed.

CONCENTRATOR.—CLEOFAS GALVAN, Zacatecas, Mex. The concentrator is composed of two parts—a stationary separator, in which the material is subjected to the action of a blast, and a vibrating, concentrator-table. The air-blast throws the lightest particles of ore far enough to clear the concentrator-table, and the blast, instead of being an unbroken stream or current, consists of a series of jets, which act much more thoroughly to grade and separate the material. The portion of the material which falls upon the table is subjected to a separating action by the vibratory motion, the lighter particles being thrown off, while the concentrates are collected.

THILL-COUPLING.—JOHN FREDENBURGH, Athens, Penn. The coupling is designed detachably to connect the thills with the axle-clips of a vehicle. The device is constructed so that the thills may be raised or lowered to extreme positions, and so that while the vehicle is in use there will be no lost motion or rattling in the connection between the thills and the vehicle.

DOOR-CASING FASTENING.—JENS HENRICK IBSEN, Chicago, Ill. Eyes are attached to the inner sides of the casing-strips near their rear edges. Through the eyes, wires are looped and passed through openings formed in the casing-stud, the wires having their ends twisted together at the inner side of the stud. With these fastening means a door-casing can be completely finished and polished in a factory and then taken to a building to be put in place; for there is no danger of marring the wood or of breaking the plaster. The fastening devices, moreover, are wholly hidden from view.

COMPOSITION OF MATTER FOR FURNACE-LININGS AND OTHER PURPOSES.—RUDOLF KECK, Denver, Colo. In the production of lining bricks, burnt magnesian minerals are used which are mixed with a small percentage of binder such as tar, clay, or ferruginous loam, etc., and burned at a very high heat. It is, however, impossible to produce a thorough mixture, for which reason the bricks, if not immediately used, disintegrate. To overcome the difficulty, the inventor employs a flux or binder which can be used in large proportions without disintegration. For this purpose he finds the sbale constantly occurring in the Jura-Trias along the eastern foot-hills of the Rocky Mountains admirably adapted.

WHIFFLETREE ATTACHMENT.—REINHOLD KLATT, Strong City, Kans. The invention provides means for preventing the reins from falling beneath the singletrees, the contrivance being particularly adapted for use in connection with pairs or teams of horses. The action of the singletrees can be controlled relatively to the guard-bar for the purpose mentioned. The singletree is held in its proper position and is prevented from tipping up or down, should the bolts between the singletree and the doubletree loosen. The cutting of the doubletree by the singletree ends and tugs is also prevented. The device likewise serves as a stay-trap, taking the place of the usual leather strap over the center of the inside half of a singletree.

CURTAIN-FIXTURE.—JACOB KOLB, Lancaster, N. Y. Upon this fixture curtains may be adjustably hung in such a manner that they will be removed from the window sufficiently to permit inside blinds to be freely operated and to allow free access to the window. Curtains may be carried to one side of the window, leaving the full inner surface entirely uncovered. The supporting-sections of the curtains can be quickly taken down for adjustment, the curtains draped thereon, and the fixtures as readily restored to place at the window.

FIRE-ESCAPE.—AUGUST KURRE and WILLIAM H. GIESELER, Brooklyn, New York city. The fire escape can set up adjacent to a window or can be permanently attached to the casing of the window. It is so constructed that, after a person has descended from the building, the supporting tape employed for descending automatically wound up. An automatically-operated brake is provided for the tape.

TUBE EXPANDING, BEADING, AND CUTTING TOOL.—HENRY G. LYKKEN and JOHN C. HOISVEN, Grafton, N. D. The invention provides a gage for the tool, which gage comprises two members. The one member is turnable, is adapted to abut at one end against the flue-sheet, and is formed with teeth at the other end. The second member is secured to the tool-body and is formed at its inner end with teeth in mesh with the teeth of the first member. The two members are secured together after adjustment. By this means the tool can be brought into proper position.

VEHICLE-BRAKE.—RICHARD C. G. NEUMANN and GEORGE L. HARTMANN, Seattle, Wash. The brake is of that type which, in application, comes in contact with the ground and raises the rear wheels. The mechanism comprises besides the ground-shoe, a rock-shaft mounted in the vehicle, a hanger constructed in hinged sections, one of which is connected with the brake-shoe, and a connection between the rock-shaft and the hanger, so that when the shaft is rocked the sections of the hanger will be moved to bend or straighten the hanger.

FORMALDEHYDE-LAMP.—SIDNEY KAUSCHENBERG, Mount Vernon, N. Y. Formaldehyde is usually produced by passing air and methyl-alcohol vapor over glowing coke, platina, or copper. The process is not well under control; and hence there is danger of explosion of the alcohol-vapor. The inventor instead, uses an apparatus on the principle of a lamp, comprising a fount for methyl-alcohol, an asbestos converter prepared with platina and metallic oxids, a wick for carrying the methyl-alcohol to the converter, and a chimney.

AQUATIC CAROUSEL.—SAMUEL REDFERN, Negaunee, Mich. On a float a deck is built surmounted by a roof. An anchor-chain has a swivel connection with the bottom of the float. Sail-carrying frames have trunnions mounted in standards on the roof of the deck. Stops limit the movement of the frames in one direction. Ordinarily the sails will be sufficient to propel the float; but should greater speed be desired, or should there be no wind, an engine will be employed.

WATER-PURIFIER.—CHARLES A. SCADDING, Buffalo, N. Y. The object of the invention is to provide a new purifier, designed for use in boiling water in kettles and arranged to collect and store the impurities. The contrivance comprises a floatable vessel on the top of which a fluted collector is mounted, having its lower ends terminating above the top so as to form channels for the impurities to pass over the top into the vessel.

LABEL-CUTTER AND COVER-LIFTER.—WILLIS S. SMITH and DAVID W. LANAGAN, Chicago, Ill. Labels are often so placed upon boxes as to extend upon both the body portion and cover; and a knife is required to cut the label before the cover can be removed. To overcome the objection, a label-cutter is attached to the can or box, by means of which the label can be quickly cut at the junction of the body of the can and the cover-flange, the device also forming a finger-piece for removing the cover.

SASH-LOCK.—CONRAD F. STEIN and GEORGE BICKELHAUPT, 243 and 245 W. 47th Street, Manhattan, New York city. The device is arranged to lock the upper and lower sashes together and to lock the lower sash to the window-casing to prevent the opening of the window from the outside by forcing the screws used for securing the lock to the lower sash. The sash-lock comprises two bolts movable at an angle to each other, both being shifted by an operating-lever to an outward, locking position. A locking device holds the bolts in locking position; and another lever is employed to release the locking device whenever desired.

AMUSEMENT DEVICE.—GEORGE C. TILYOU, Coney Island, Brooklyn, New York city. The invention provides a device for application to a floor. The apparatus consists of a movable platform adapted to be depressed by the weight of a person. Cams are mounted beneath the platform and are driven continuously, so that when the platform engages the cams, a vibratory movement will be given to the platform. Simultaneously a great noise will be produced.

COMBINED CARD-CASE AND GAME-COUNTER.—WILLIAM TREWARTHA, Angel's Camp, Cal. Travelers often play cards to pass the time; and it would, therefore, be very desirable to be able to provide for cards a game-counter and cribbage-board which might be used temporarily and which would be inexpensive. Such an arrangement has been devised by the patentee of the present invention.

Designs.

WINDOW-SHADE RUNNER.—ZACHARY T. HEAL, Brooklyn, New York city. Two designs granted to the inventor provide new forms of runners for adjustable shade rollers, which are of such construction that they cannot change their position relatively to the guides.

TILE.—WILLIAM C. MORRISON, Smethport, Penn. The tile is provided with grooves which receive the cement. Thus the tile is firmly locked in place, the grooves being essentially locking devices.

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.

NEW BOOKS, ETC.

THE ELECTRIC AUTOMOBILE: ITS CONSTRUCTION, CARE AND OPERATION. By C. E. Woods, E.E., M.E. Chicago and New York: Herbert S. Stone & Company. 1900. 16mo. Pp. 177. Price $1.25.

At last we are beginning to have really valuable books upon the automobile. Most of the literature at present deals with obsolete types and other matter made up from patents. Now, however, it seems we are to have real live books, and we trust that the present will be the precursor of many. It is handsomely printed and illustrated and the subject is dealt with by an expert. There is an excellent skeleton for the organization of an automobile club in the book.

THE UNKNOWN. By Camille Flammarion. New York: Harper Brothers. 1900. 12mo. Pp. 485. Price $2.

The publication of "L'Inconnu" made a veritable sensation in France, and it can hardly fail to arouse the greatest interest in this country. It is an eminent scientist's study of the phenomena of the so-called spirit world. In touching upon the various psychical manifestations, M. Flammarion cites many absolutely authenticated instances, and chapters of his book are as wiredly fascinating as the most fantastic of Poe's tales. It is always interesting to have a scientific man write a work of fiction in which more or less science is cleverly incorporated.

Notes & Queries

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.

(7886) H. C. K. asks: 1. I would like to know how high the vertical wire of the wireless telegraphy has to be to send a message one mile and how much higher every extra mile? A. For 1 mile, 20 feet; for 4 miles, 40 feet; for 16 miles, 80 feet. These numbers are from Fahres' "History of Wireless Telegraphy," price $2 by mail. This book gives a complete outline of the subject up to date of publication. 2. Is it necessary to have an induction coil for a telephone if you have a metallic circuit instead of a ground circuit? A. An induction coil is necessary when any form of transmitter is employed. It is not connected with the use of a metallic circuit. The metallic circuit prevents the induction of neighboring circuits from affecting transmission of speech. 3. How does an induction coil change the electricity so that it is felt very much although one cannot receive a shock from the batteries? A. By raising the voltage of the current so that it becomes able to force its way through the body.

(7887) J. L. S. asks the difference between the currents generated by a Torpler-Holtz and a Raney-Wimshurst-Holtz static machine. A. All static machines generate electricity of very high voltage and very small current strength. Thousands of volts are required to produce a spark of an inch in length, the number varying with the form and size of the terminals between which the spark passes. We are not aware that any essential difference exists between the currents produced by the machines named.

(7888) J. E. T. asks: 1. What is the best source of current for "electro plating?" A. A dynamo is now used for plating where ever there is work enough to make it economical. For a small plant or for small pieces, the Gravity battery may more economically be used. 2. Would the storage cell, described in SCIENTIFIC AMERICAN, of April 28, 1900, on page 261, be suitable for the art? A. Any storage battery may be used for plating if you have the means of recharging it. 3. Advise me, what would be the best book on Electro-Metallurgy? A. That depends upon how much you wish to pay for the book. We name Watts Electro-Deposition, price $3.50; Watts Electro-Metallurgy, price $1.00.

(7889) C. L. asks: How can I kill "poison ivy" mercury. The roots are in a rough, laid-up retaining wall alongside of my home, and impossible to dig out. Is there any cheap chemical that will kill it off? A. The only sure way to kill this pest is to dig it out and either burn it or dry it till it is dead. There are people whom it does not poison who can do such work. In your case you can try kerosene oil, or hydrochloric acid. Either of these will kill where it touches the plant. No complete ridding of the country of this vile weed can be had except all the people combine to fight it and enforce the laws respecting such plants.

(7890) P. J. M. asks: Will you kindly inform me how I can best secure a knowledge of the X-ray apparatus, its operation and its uses? A. The best method of learning the mode of working X-ray apparatus is to take lessons from some person of experience. There is danger of accident without such teaching. However we recommend the following books:—Morton's X-rays, price 75 cents; Meadowcroft's A B C of X-rays, price 75 cents; Thompson's Light Visible and Invisible, price $1.50; Walsh's Medical Use of X-rays, price $2.25; Bottone's Radiography, price $1.00.