

## RECENTLY PATENTED INVENTIONS.

## Railway Appliances.

**CAR BRAKE.**—John W. Neumann and John R. Pfanz, Louisville, Ky. This improvement is more especially designed for the motor car of street cars, the invention providing also a novel form of mechanism for the trail cars, by which the coupling devices will operate the brakes on the latter as the motor car is stopped. Pivoted operating rods are connected with pitman rods attached to the brake beams, and a longitudinally slotted drawhead having depending sides is combined with a wedge-shaped drawhead and a friction roller, the braking of the motor, car causing the wedge-shaped drawhead, as the trail car moves forward, to ride on the friction roller and depress the operating rods, thereby applying the brakes of the trail car.

**CONDUIT TROLLEY.**—James J. Cosgrove, Jr., Philadelphia, Pa. This is a simple form of trolley adapted for use with a continuous metallic circuit, and which may be easily adjusted vertically. Downwardly converging arms have their upper ends fitted to slide on ways on the under side of the car, two axles being mounted in the lower ends of the arms and a trolley pulley on each axle, the inner ends of the axles being inclosed by a casing, and there are connections between the pulleys and the motors, while cables are secured to the casing for raising the arms.

## Mechanical Appliances.

**LATHE CENTER.**—William C. Roe, Honolulu, Hawaii. This center has a conical point from which leads a bore at an incline, a removable lubricating receptacle having an outlet tube entering the bore, while a distributing groove leads from the point of the center along its conical portion. By this means the point and the work revolving thereon are supplied with a lubricant to reduce the friction, thus keeping the point of the center true and accurately round during the time the work is revolving on the center, and producing perfectly turned work.

**WOOD WORKING MACHINE DEVICE.**—Watson T. Webb, Salt Lake City, Utah Ter. This invention combines a collar for counterbalancing the cutters on the spindle and a guard to prevent the operator from being injured by the cutters in case the work breaks. It consists of a washer having an elongated slot and adapted to be secured eccentrically on the cutter spindle next to the head carrying the knives or cutters.

## Mining, Etc.

**ORE CONCENTRATOR.**—Crighton R. Townsend, Idaho Springs, Col. Inclined stationary flumes, connected and one below and in advance of the other, have transverse connected shafts at their ends, on each pair of which is mounted an endless belt with rakes to stir the solid contents of the flumes, to permit a free flow of water through them, and through doors in the bottoms, the invention also including other novel features. The machine is designed to practically take care of itself and run a long time without being cleaned up, handling a large quantity of material in proportion to its size, while being especially adapted for use in saving gold, quicksilver and amalgam, and concentrating crushed or ground rock, sand or earth tailings, etc. (For further particulars as to this invention address J. H. Morris, Whiting, Iowa.)

**SLAG CAR.**—Simon B. Dexter, Glendale, Montana. This car is for use in connection with an ore-roasting furnace patented by the same inventor, being used in connection with an elevator by means of which the track and car are moved upward until the car sides and ends come in contact with the bottom of the furnace. The car sides and ends are spring-supported, and there are locking levers for holding the car securely in a central position; the cars travel on a circular track, and the engagement of the lever of a full car by the lever of an empty car releases the former and allows it to pass by its own gravity. The floor of the car is lined with fire brick.

**WATER-COOLED DAMPER.**—This is a further invention of the same inventor, the damper being applicable to all ducts or flues where flame and hot products of combustion pass, while more particularly designed for use with an improved ore-roasting furnace patented by Mr. Dexter. The pipes forming the shaft of the damper serve to convey water to and away from it, and the damper is counterbalanced by weighted levers attached to the pipes near their free ends.

## Agricultural.

**THRASHING MACHINE.**—John Weller, Funkstown, Md. This invention especially applies to improvements in the stop board or shutter, the shoes, and the blasts and parts connected therewith. The middle and lower shoes are supported in a manner to give a different movement from the upper shoe, whereby the grain will be subjected to a different influence on the middle and lower screens. The upper and lower shoes are operated reciprocally, the former with a long and the latter with a short movement, the former rising as it is moved toward either end and the latter descending as it is moved from its normal position in one or the other direction.

**HARROW ATTACHMENT.**—William O. Silvey, Middleport, Ohio. This is a positive working device, easily applied to any variety of plow, to thoroughly pulverize the turned-up soil, saving a separate harrowing, and the attachment may be turned up out of the way when desired. A shaft carrying a series of knives is journaled to project outward in rear of and beyond the mould board, and an operating handle or lever connected with the shaft extends adjacent to the hand-grasping portion of one handle, while a rigid brace rod extends from the forward end of the plow beam and has a bearing at its rear end in which the outer end of the shaft is journaled. The blades are designed to work the same whether supported on the plow handles, the plow beam, the plowshare, or any convenient part of the plow.

**SEED PLANTER AND FERTILIZER DISTRIBUTER.**—Joseph Laude, Monticello, Ark. This invention provides improvements in the construction of a machine formerly patented by the same inventor, the improvements relating more particularly to the hopper and its connections or attachments, and to the seed-dropping devices of the drum, the machine thus having a wider range of work and being comparatively less expensive to build and more satisfactory in use. By adjusting the driving chains, gear wheels, and seed delivery devices, the drum may be caused to drop any required quantity of seed for a hill, at any required distances apart, and either a fine or a coarse fertilizer may be dropped from the hopper in measured quantities.

## Miscellaneous.

**GRATE.**—Frederick Carel and Wayland F. Davidson, Charleston, West Va. This improvement is designed more especially for a fireplace arranged to open into two or more rooms, there being fitted in such fireplace a revoluble grate having a partition dividing it into compartments, with fireboards or plates conformed on their inner edges to and fitted to the grate. The grate has a socket which fits on a journal on a base which may be readily moved into and out of the fireplace, and it is formed with its bottom dropped or curved downward at its outer edge, so that the fire can be arranged low and provision be made at the same time for pivoting the grate at its center.

**COTTON BALING APPARATUS.**—Edward D. Carter, Celeste, Texas. This is an improvement in machines in which cotton is formed into a continuous sheet or batting and then compressed, providing an apparatus in which the condensing and bat-forming devices press the lint cotton so close that its spring is broken, and avoiding the necessity of additional rollers between the condenser and the press box. The arrangement is such as to save room in the gin house, and means are provided for carrying off the dust and air made by the gin and condenser to the outside of the building, the baling operation being made continuous and inexpensive, and the bales being compressed to the required density without sending to another point to be further compressed by a more powerful cotton compressor.

**STAGE EFFECT.**—Eva Heaton, Holly Beach, N. J. This invention provides an arrangement of machinery to produce a stage effect by means of which the spectators will apparently be transferred for a time to a coal breaker, representing the scene of a play. An inclined railway upon which runs a car extends across the stage, landings being arranged at the upper end of the railway and upon the stage beneath, and a stairway connecting the two landings, while there is a crusher at the foot of the lower landing and a chute extending from the upper landing beneath the railway and delivering upon the crusher, etc.

**SEWING MACHINE NEEDLE.**—Joseph E. Chenette, Johnstown, N. Y. The needle bar, according to this invention, has in its bottom a transverse recess from which opens a radial recess, and the needle held in the bar has a slit extending from the eye to a point adjacent to the recess in the needle bar, where a cam lever is pivoted adapted to be pressed upon one member of the needle. By turning down the lever an opening is made by which the thread may be readily passed to the eye, so that those with poor eyesight or trembling hands may readily thread the needle, or it may be threaded by any one much easier than can the ordinary machine needle.

**SHALLOW WATER INDICATOR.**—Alonzo G. Crossman, Huntington, N. Y. This device consists of a body adapted to be trailed at a depth below the vessel, and having at its lower side a projecting pivoted spear with which is connected a latch and trip mechanism. It is designed to be employed when a vessel is under way in shallow water or near land, being readily manipulated by any one of ordinary intelligence, and when the device engages the bottom an alarm is automatically sounded. The construction of the body is such also that the character of the bottom may be determined.

**TYPEWRITER INKING DEVICE.**—John R. Free, Ovid, Mich. A tube is supported centrally between the type bars and adapted to connect at its lower end with an ink bottle, a pad secured to the top of the tube being connected with the ink by means of a wick, while an inking cup flexibly connected with the upper end of the tube extends into the path of the type. The device may be applied to any kind of machine having the type bars arranged to strike a common center, and will thoroughly ink the type while preventing the ink from coming into contact with anything except the type. When one bottle of ink has been consumed, another is easily substituted.

**BLOTTING PAD.**—Robert Frost, Olympia, Washington. The pad holder, according to this invention, is composed of a spring plate doubled upon itself, one flat portion extending over the other, and the latter having slideways on opposite sides to hold the blotting material, which can be easily renewed when it becomes soiled. It is designed to fit snugly upon the fingers of a hand of any size, and not interfere with the turning of book leaves and similar work, while being always ready for convenient use.

**MICROSCOPIC FILTER.**—Porter W. Shimer, Easton, Pa. A graduated tube or receptacle is provided with a separate and independent plate to cross its lower open end, there being a filtering medium at the lower end of the tube through which the filtrate may pass out laterally and thus leave the deposit upon the plate for examination. A series of these filters may be conveniently arranged in a frame, and the improved apparatus may be used for separating out animalcules and solid vegetable and animal matter from water.

**LEG FOR RADIATORS, ETC.**—Wilbur N. Stevens, Ellenville, N. Y. This leg is built in sections, one adjustable upon the other, whereby, without disconnecting the leg from the article to which it is attached, the leg may be conveniently raised from the floor to admit of a carpet or other article being passed beneath it. The front of the leg is so made that, when resting on a carpet, should the adjustable portion be

turned to carry the foot downward, the latter, while being pressed downward, will not turn, as the foot has a swivel connection with the section. By means of this leg, also, the article supported may be held straight, regardless of any irregularities in the floor or in the article supported.

**CASH REGISTER AND RECORDER.**—Albert R. Abbott, Boston, Mass. Combined with a series of keys are segmental gear wheels pivotally connected therewith, and an adding machine having a casing mounted to slide vertically, and provided with driving gear wheels adapted to engage the segmental gear wheels. The apparatus is simple and durable in construction, does not require frequent resetting, and is arranged to add up the various sales made, at the same time showing the amount of the individual sale and delivering a check or ticket on opening the money drawer, and also ringing a bell.

**TRICYCLE.**—Clarence R. Arnold, Wellsville, Ohio. Combined with a tubular rocking post connected with the drive wheels is an extensible post turning in the tubular post, and connected with the steering wheel to operate it, being provided with operating handles for the twofold purpose of steering and imparting a rocking motion to the tubular shaft. The invention also includes other novel features, the construction being simple and durable, the vehicle being readily propelled by both hands and feet, and steered and braked either by hand or foot.

**BUTTER STAMP AND CUTTER.**—William Hallenbeck, George W. Witt, and Walter Pattison, Hammondsport, N. Y. Combined with a standard is a loosely attached rack, an arm provided with a pinion engaging and encircling the rack, while a tubular knife is carried by the arm, and a plunger, operated upon by a lever, is held to move in the knife. The implement is of very simple construction, the knife being readily forced at will into the tub, whose position may be changed as its contents are taken out, while the knife may be conveniently carried to a stamp and the butter thereby be formed into rolls or pats.

**PUMP AND MOTOR.**—Thomas Henderson, Dallas, Texas. This is a device designed to raise water from a well or cistern to a tank at a higher elevation, or it may be placed on a pump instead of an air chamber and used as a feed pump for a boiler, or on a hydraulic ram as an auxiliary pump. It is a simple apparatus intended to be connected with a main water or service pipe, the fluctuation of pressure in the main operating the pump, so that there will be no direct consumption of water to run the motor and pump.

**DEVICE FOR SECURING ANIMALS.**—Joseph A. Hindman, Iuka, Ill. Combined with two side supports, which may be the sides of an ordinary stall for horses, is an intermediate post from which an upper and lower cross bar extends to one side, a spring-pressed gate bar extending on the other side, the improvement affording a safety device for breeding purposes.

**WATCHMAKER'S PLIERS.**—David Mendelson, Eureka, Utah Ter. These pliers have two pivoted members, one member having a concave lower jaw with a slotted free end and the other member having a rounded jaw carrying a removable punch adapted to enter the slot in the lower jaw. The implement is for quickly and easily removing the hands from watches and clocks without injury to the dial, center staff, or common pinion. The pliers are so made as to be also useful for many other purposes, such as fastening the bow of the watch pendant, rounding ear-ring wires, etc.

**WINDOW BLIND.**—Harvey Murdock, Brooklyn, N. Y. This is a simple and inexpensive form of sliding blind which may be readily pushed up out of the way and out of sight in a casing at the top, or readily held at any desired height. The blind consists of a series of slats hinged together and sliding in vertical grooves which extend upward to the opening in the casing, within which the slats fold one upon another.

**TOWEL BRACKET.**—William A. Neidhardt, New York City. This device comprises a two-part wall plate, one part being fixed and having outwardly extending arms and the other part having arms hinged to the arms of the fixed portion of the plate, the abutting arms supporting a roller and the space between the two pairs of arms being open to permit a towel to depend from the roller. The bracket is especially designed for use in public places, and its construction is such that it may be securely locked so that it cannot be removed except by unlocking it.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention and date of this paper.

## NEW BOOKS AND PUBLICATIONS.

**DIRECT LEGISLATION BY THE CITIZENSHIP THROUGH THE INITIATIVE AND REFERENDUM.** By J. W. Sullivan. Twentieth Century Publishing Co. 1892. Pp. 120. Price 25 cents.

**RAIN PRODUCED AT WILL.** By Louis Gathmann. Chicago, Ill. 1891. Pp. 61.

This volume embodies four papers on man's control of meteorological phenomena, together with a copy of the editor's patent on a method for clearing the atmosphere.

**THEORETICAL ASTRONOMY: DYNAMICS OF THE SUN.** By J. Woodbridge Davis. New York: D. Van Nostrand Co. 1891. Pp. 156. Price \$3.

This volume is the first number of the "Woodbridge School Essays." We have no room to review it in extenso. The eminence of the author and the elegance of the printing and paper give it unusual worth. Magnetism and electricity of the cosmic type receive special consideration. Illustrations are given when required, and mathematics are used with comparatively little frequency. A very full analytical contents is given as

the index at the end of the work. A short contents termed "order of topics" precedes it.

**WAYS AND MEANS.** By A. H. Cleaves, M. E. Chicago; John W. Weston. 1892. Pp. xv, 158. Price \$1.

Nearly everything in the line of minor mechanics, from gluing a broken chair to complicated lathe work and gear calculations, seems comprised within the compass of this production. But metal work is the main theme, and the numerous illustrations and practical nature of the text will, we imagine, make the work of value and interest to progressive mechanics.

**EUHRER DURCH DIE BAUMATERIAL-SAMMLUNG des K. K. Naturhistorischen Hofmuseums.** Von Felix Korper. Wien: R. Lechner, Publisher. 1892. Pp. viii, 355.

**THE PRONUNCIATION OF FRENCH.** By Charles F. Kroch, A. M. Hoboken, N. J.: Published by the author. No date. Pp. 61.

**THE QUESTION OF SILVER.** By Louis R. Ehrich, of Colorado. G. P. Putnam's Sons. 1892. Pp. 115. Price 75 cents.

This book contains several papers opposing the unlimited and free coinage of silver. He believes that the world's conference might however bring about genuine bimetalism and a fixed ratio of value of the two metals, gold and silver. The style of the composition is graphic, and the subject as treated is far from dry.

**THE ELECTRICIAN PRIMERS.** Vol. I. Theory. Vol. II. Practice. London: The Electrical Printing and Publishing Company. Pp. 284. Price \$1 each.

These primers are virtually short tracts, each of from four to twelve pages in length, treating very attractively and with numerous illustrations of the science of electricity of to-day. We imagine that these brief treatments of the subject matters will be very acceptable to many readers.

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