

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

LOCOMOTIVE BELL RINGER.—Henry Breitenstein, Laramie, Wyoming. This inventor has devised a bell-ringing mechanism in which the steam operates a plunger or piston in one direction only, the movement in the reverse direction being effected by the weight of the bell. It comprises a cylinder with inlet and exhaust ports, and a shifting valve having a port discharging against the operating piston, this port being alternately brought in register with the inlet and exhaust ports. The cylinder also has a supplemental port discharging under the shifting valve, so that when the piston reaches its uppermost point the air or steam will pass down under the shifting valve and shift it to an exhaust position.

CAR FENDER.—Marguerite and Victor F. Maidhof, New York City. This is an improvement on a formerly patented invention of the same inventors, providing for a yielding connection between the fender and the car body, so that any motion of the car will not interfere with the fender, and roller bearings are provided for the pivot of the fender, to operate in conjunction with the yielding connection. A better rolling support is also devised for the receiving member of the fender, which has a special guide in case it is used with cable roads or underground trolleys, or when a slot occurs between the track rails. The entire fender remains at all times close to the pavement and under the platform of the car, its forward supporting wheels traveling upon the rails.

DROP BOTTOM CAR.—Henry D. Carry, New York City. The hinged bottoms of cars may, according to this improvement, be conveniently operated for wholly or partly and positively opening or closing the bottoms, and holding them in any desired position. Connecting rods or links are pivotally connected with the free ends of the hinged bottoms, and the rods are also pivotally connected with a movable head having an interior screw thread screwing on a screw rod. On the lower ends of the two screw rods on the sides of the car are bevel gear wheels on a transverse shaft adapted to be turned with a crank arm or wrench, positively and simultaneously moving both doors. The car bottom doors have no interior connections, and the loaded material does not interfere with the operating devices.

Electrical.

STOP MOTION FOR WARPING MACHINES.—Clayton Denn, John Cocker, and Charles Denn, Philadelphia, Pa. This is an improvement on a formerly patented invention of the same inventors, insuring a positive action of the circuit closer at all times, the thread guides permitting slacking in the threads without closing the circuit and stopping the machine. The thread guides are pivoted on a conducting strip forming one terminal of the circuit, the pivoted ends of the guides having a sliding connection with the strip and a contacting strip forming the other terminal of the circuit, while an inclined contact surface is adapted to be engaged by the lower bent ends of the guides.

Mining.

PLACER MINING.—Samuel S. Harper, Denver, Col. This inventor has devised a method and apparatus for raising gold-bearing gravel and delivering it into a flume or sluice boxes, with means for draining the pit which the dredger digs. The stream is dammed and diverted around the pit, washing the dredged gravel and draining the pit, while the bedrock is cleaned up and the scrapings washed. A dredger is employed to raise the gold-bearing gravel and deliver it to a flume or a series of sluice boxes, the latter being formed of removable or separable connections suspended from trolleys movable on transverse cables. A channel is kept flooded by a temporary dam, in which the dredger may float and be at work while the pit previously digged is having its bottom scraped.

Mechanical.

COTTON ELEVATOR AND DISTRIBUTER.—Friedrich Zedler and Perry L. Ward, Cuero, Texas. This invention is for a mechanical conveyor in connection with a blast device, making a positive force feed, placing the cotton evenly over the gins. An overflow box is employed and independent means of feeding the cotton through the blast device, or from a vehicle or bin, or from the overflow box. The blower or fan employed in connection with the pneumatic conveying device may also be used for forcing the seed delivered from the gin to any desired point. The machine is very simple and inexpensive, and is designed to have a substantially perfect force feed.

PRINTING METALLIC CAPSULES.—Falk Lewin, Herzogenbosch, Netherlands. For printing in colors the side surfaces of these capsules, such as are used to close vessels, or as etiquettes on the mouths of bottles, this inventor has devised an apparatus consisting of two movable frames pivoted on independent parallel pivots, the frames being engaged by screw-threaded portions of a rotatable spindle, while a shaft journaled in one of the frames carries a holder for the article to receive the impression. In the other frame are journaled two shafts, one forming a holder for the impression head and the other carrying an inking head. The coloring thus produced is very durable and difficult to remove, and the work is rapidly performed.

Agricultural.

CORN PLANTER.—Albert J. Helvern and Joseph W. McGuire, Burrows, Indiana. This planter is designed to accurately check row, the parts being automatically operated and driven from one of the ground wheels, and the construction being exceedingly simple and inexpensive. The check markers drop in making a mark, and move rearward with a timed movement while the mark is being made. The mechanism operating the drop slide is controlled by a trip device operated by a wheel independent of the frame of the machine and located to track one of the ground wheels. It is designed

that, with a complete revolution of this regulating wheel, tracking either of the ground wheels, two hills shall be planted.

THRASHING MACHINE.—William H. Bowen, Wise, Michigan. This improvement provides for a movement of the straw discharge fork, the straw being also shaken to discharge any grain clinging to it. The fork is near the delivery end of a series of carriers which have a rotary and reciprocating movement, the fork being pivoted to a fixed support, while a shaft journaled below its lines carries S-cams with shoulders at each side of their centers, the shoulders alternately engaging the tines to raise them, while the points of the cams extend upward between the tines and toss the straw.

PLOW SUBSOIL ATTACHMENT.—Le Roy McWhinney, Creston, Ia. The common plow may be readily connected with this attachment without disconnecting or rearranging any of the parts. The subsoil attachment has a supporting portion at the right side of the shear edge, to cause it to run level and take off the strain of the weight of dirt raised, and the right side of the shear or cutting plow is arranged parallel with the land side, so that when the cutting edge wears away and is sharpened it does not become narrower. When a pair of these attachments is secured to the plow, one of them may be fastened to the plow standard and the land side.

STUMP PULLER.—Charles F. Anthony, Cedar Rapids, Ia. This device comprises a windlass on a heavy plank, the base of the windlass having a hook to be engaged by a rope or cable connected with a tree or other support, and there being at its top a cap which may be conveniently engaged by a sweep. On the post of the windlass is a spool carrying a cable which passes through tackle blocks, one of which is connected by a rope or chain with the stump to be pulled, while the other tackle block is connected with a near-by stump or other fixed point. A novel slack-taking-up device is provided for the draught cable, and the whole apparatus is very simple, a small power only being required to pull heavy stumps.

Miscellaneous.

BUTCHER'S DERRICK.—Charles F. Brown, Shreveport, La. This is an inexpensive, easily handled tripod, to be erected by the windlass it carries, to facilitate lifting a carcass in position for taking off the hide and for other work upon it. It comprises three pivoted legs, on one of which is a roller which rolls upon the ground, and on one leg is a windlass, the hoisting rope or cable being so arranged that it may also be used in stripping the hide or skin from the animal.

BACK PAD FOR HARNESS SADDLE.—John S. Powell, Marshall, Texas. This inventor has devised a back pad having a concave top enabling the saddle to fit nicely upon it, the concavity being made in a cheap and simple manner, and the pad top being neatly and inexpensively finished. The pad back has transverse holes at opposite sides of its center, the outer edges of the holes being stitched together and the strip between the holes being fastened to the pad at its edges to overlap the edges of the holes.

OPERATING ORGAN PRESSURE BELLOWS.—William Schwarze, Brooklyn, N. Y. This improvement provides simple means for operating pressure box bellows to provide for a quick response between the pressure of a key and the sound of an organ tube, the valve or pallet controlling the bellows being actuated either by pressure or exhaust. The operation is very quick and the construction simple and quite inexpensive.

PENCIL ATTACHMENT.—Cyrus C. Clark and Albert J. Vick, Waterloo, Wis. This is a ferrule-like spring clasp, open on one side, and adapted to be readily clamped upon a pencil. An elongated spring knife has its shank secured to the outer side of the clasp, an outwardly bowed portion causing the free end of the blade to lie along the surface of the pencil, and the attachment thus forming a convenient envelope opener and paper knife.

LAMB'S WOOL OR SLIPPER SOLE.—Sasuel Berchardt, New York City. This invention relates to soles for crocheted uppers, and provides a sole which does not require binding. A stiffening strip is secured to an upper strip of soft material, a fastening strip of leather or similar material being cemented to the stiffening strip, while the finishing or bottom strip is wider than the other strips, and has a draw string at its margin, by drawing up which the margins of the other strips are concealed. The sole thus formed has an upwardly extending flange for attachment to the upper, the string likewise being a medium for attaching the upper to the sole if desired.

OVERSHOE FASTENER.—Wakefield C. Arnold, Columbus, O. This is a device for automatically locking the overshoe at the heel upon the shoe proper, readily releasing the overshoe when desired. It consists of a thin plate-like bracket piece embedded in the material of the overshoe at the heel, and embracing and interlocking with a spring dog adapted to engage the heel crease of a leather shoe where the heel joins the upper. The overshoe is thus locked in place when the leather shoe is pressed down into it, and may be released by pressing together the upper limbs of the dog, when the latter may be drawn away from the heel of the leather shoe.

SEWING MACHINE FELLING ATTACHMENT.—Joseph W. Betz, Brooklyn, N. Y. This device consists of a sheet metal scrolled piece of special outline formed on or secured on an extended end portion of the base plate. The device affords means for convenient adjustment to gage the width of the welt, and insure an even width for felled seams, which may be readily felled thereby at any point on a garment on an ordinary sewing machine, the attachment particularly facilitating work on the back and sleeve seams of tailor-made coats.

BATHING APPLIANCE.—Joseph L. Prentiss, Canon City, Col. This inventor provides a hollow head from which water is forced under pressure against the body through a diaphragm having many small passages, the water being projected from the

pressure head against submerged portions of the body, especially against sore joints, and the device thus acting as a massage bath, affording pleasurable sensations, stimulating the circulation of the blood, and effecting a thorough kneading action.

METAL MIRROR FRAME.—Albert Wanner, Jr., Hoboken, N. J. For the manufacture of frames for mirrors, stands, etc., this inventor provides a stock or material that may be bent into form without buckling. It consists of a flexible narrow strip of sheet metal having at one edge an outward and inward bend overhanging the body of the strip, and legs secured exteriorly on the strip, the points of connection on the strip being overhanging by the outward bend.

CURLING AND CRIMPING IRON.—John H. Broomall, Baltimore, Md. The members of this iron approach and recede from each other by a parallel motion, so that they do not have a tendency to pinch and burn the hair near the handles nor hang in the hair at their outer ends when opened. The device has a single handle, having a mandrel and parallel clasp member, a spring-seated slide being laterally adjustable in relation to the handle and carrying one of the members of the curling iron.

DESIGN FOR A WHIFFLETREE.—Rice E. Gregory, Owensboro, Ky. This whiffletree has its ends curved and extended to form arms at an angle to the longer central portion, the arms terminating at each end in returned ends or hooks.

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.

A TEXT BOOK OF CHEMISTRY. Intended for the use of pharmaceutical and medical students. By Samuel P. Sattler and Henry Trimble. Philadelphia: J. B. Lippincott Company. 1895. Pp. 950. Price \$5.

This very beautifully printed work seems to be a really admirable contribution to chemical science. It is designed for the library of the physician, and of students in chemistry, pharmacy, and medicine. It contains a brief outline of quantitative and qualitative analysis, including a number of pharmaceutical assays according to the pharmacopoeia. It opens with a course in elementary physics, treating of the special properties of matter, heat, light, and magnetic and electrical energy. It then treats successively of the chemistry of the non-metals and of the metals, of organic chemistry and of analytical chemistry and pharmaceutical assaying. In this one volume a singularly complete resume of pharmaceutical science is found, the whole making a very attractive contribution, and covering the entire field of mechanics, physics, and chemistry.

MINERAL RESOURCES OF THE UNITED STATES. Calendar year 1893. Washington: David T. Day. 1894. Pp. 810.

It is doubtful if any of the government publications are entitled to more favorable notice than are this series of reports, of which ten volumes have now been issued. It is sufficient to say that the present volume, edited by David T. Day, covering the calendar year of 1893, is of the full standard of merit established by its predecessors. As its letter of transmittal indicates, it is a species of farewell to Major Powell, long known as the head of the United States Geological Survey. It is to be hoped that the publication will be continued in the future, the one criticism being that it is always somewhat in arrears.

ANTISEPSIS AND ANTISEPTICS. By Charles Milton Buchanan, M.D. With an Introduction by Professor Augustus C. Bernays. Newark, N. J.: The Terhune Company. 1895. Pp. xvi, 352.

This very useful work covers considerable ground and will be found of decided interest. It contains numerous biographical notes and its illustrations include some very suggestive and rather dreary ones of surgical practice as produced by the artist from the field of actual hospital practice. The author advocates the unfortunately odoriferous dry dressing as superior to wet dressing. There are two indexes, one of subjects and one of authors, besides the table of contents. These features constitute an effective testimony to the careful preparation of the book.

GARDENIER'S READY HELP FOR LOCOMOTIVE ENGINEERS. Being an educational chart for locomotive firemen seeking promotion, for the scholar and student, and for the help of the examiner when employing or promoting new men; and is a ready help to engineers while on the road, it comprising a remedy for every conceivable breakdown or disorder that may occur to a locomotive. By Norman Gardenier. Philadelphia: Edward Meeks. 1895. Pp. 117. Price \$1.

This book is a catechism for locomotive engineers, and possesses the very great virtue of having the questions given separate from the answers, so that when a question is given its answer does not immediately follow, and the student can endeavor to answer it before turning over the fifty or more pages which intervene between the question and answer. The book contains 596 questions.

TASCHENBUCH ZUM PRAKTIISCHEN GEBRAUCH FÜR FLUGTECHNIKER UND LUFTSCHIFFER. Unter Mitwirkung von Hauptmann H. Hoernes, Dr. V. Kremser, Ingenieur P. Lilienthal, Dr. A. Mieth, Professor Dr. K. Mullenhoff u. A. Herausgegeben von Hermann W. L. Moedebeck, Hauptmann und Kompagnie-Chef im Schleswig-Holsteinschen Fuss-Artillerie-Regiment Nr. 9. Mit 17 Textabbildungen. Berlin W.: Verlag von W. H. Kuhl. 1895. Pp. 198.

THE POCKET LIST OF RAILROAD OFFICIALS. Containing the names of officials in charge of railroads, private car companies, fast freight lines and transportation companies of the United States, Canada and Mexico. Also showing the gage of each road, number of miles operated, and rolling stock in service of each company. New York: Published by the Railway Equipment and Publication Company. G. P. Conard, President and Treasurer; J. Alexander Brown, Manager, 326 Pearl Street. Pp. 292. Price \$1 per annum.

BOILER INCORUSTATION AND CORROSION. By F. J. Rowan. New edition. Revised and partly rewritten. By F. E. Idell. New York: D. Van Nostrand Company. 1895. Pp. 118. Price 50 cents.

This little work is to be recommended to the users of boilers. It brings out strongly the evils to be avoided and contended with in preserving boilers from deterioration.

THE CENTURY MAGAZINE.—The Century Company, 33 East Seventeenth Street, New York, have just issued in handsome binding the Century Magazine for the last six months, from November, 1894, to April, 1895. Price \$3. In this volume Thomas Comerford Martin describes and illustrates with half tone prints Tesla's most important inventions, and a full description, with illustrations, of Maxim's flying machine, which has attracted much attention abroad and in this country. This article is written by the inventor, in which he claims to have solved the air ship problem. The new weapons of the United States army, with eighteen illustrations, in which the writer, Victor Louis Mason, claims that our equipments are now equal to those of any European nation. It is needless to add for the information of the regular readers of the Century that this volume contains other articles of equal interest to those denoted, by leading writers of the day.

SCIENTIFIC AMERICAN

BUILDING EDITION.

MAY, 1895.—(No. 115.)

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2. Perspective elevation and floor plans of a cottage at Tenafly, N. J., erected for Chas. Vogt, Esq., at a cost of \$5,800 complete. Mr. W. L. Stoddart, architect, New York. An attractive design.
3. A dwelling at Kennebunkport, Me. Three perspective elevations and floor plans. A most picturesque residence, with many artistic features. Mr. Henry P. Clark, architect, Boston, Mass.
4. A log cabin chapel recently erected at Black Rock, Conn. Perspective elevation and ground plan. Mr. Bruce Price, architect, New York.
5. A cottage at Park-Hill-on-Hudson, N. Y., recently erected for Geo. L. Rose, Esq., at a cost of \$12,000 complete. Two perspective elevations and floor plans. Mr. A. F. Leicht, architect, New York. A well executed design, showing many excellent features.
6. A house at Orange, N. J., recently completed for Thomas L. Smith, Esq. Messrs. Child & De Goll, architects, New York. A pleasing design in the Colonial style.
7. The Youkers Public School, No. 8, at Bronxville, N. Y. A good example of school architecture.
8. A dwelling of modern design, recently erected for M. Strong, Esq., at Montclair, N. J. Two perspective elevations and floor plans. Cost complete, \$6,000. Mr. Christopher Myers, architect, New York.
9. A house at Indiana, Pa. Perspective elevation and floor plans. Cost complete \$3,100. Architect, Mr. E. M. Lockard, Indiana, Pa. An attractive design in the Colonial style.
10. A very attractive residence at Montclair, N. J., erected for Frederick S. Gage, Esq. Perspective elevation and floor plans. Mr. E. R. North, architect, Montclair, N. J.
11. View of Capistrano Station, California.
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