

RECENTLY PATENTED INVENTIONS.

Railway Appliances.

ELECTRIC CAR BRAKE.—Joseph H. McEvoy, Waterbury, Conn. In this brake the power is supplied by the momentum of the car, but the brakes are set into action electrically, although they may be operated by a brakeman by hand in the usual way. A worm gear connecting mechanism is interposed between the car and its axle to operate a shaft with a drum on which is a chain connected with the brake shoes, the worm gear being made separable and a magnet operating to connect its parts. The brakes may be set into action automatically by the momentum of the car.

CAR COUPLING.—Samuel G. Wilber, Lake Hill, N. Y. In this coupling a spring-pressed follower block, recessed on its under side, slides in a hollow drawhead, in which is journaled a spring-pressed rock shaft, having a latch to swing in the recess of the follower block, a pin sliding vertically in the drawhead, and there being a crank and lever connection between the rock shaft and the pin. The invention is an improvement on a formerly patented invention of the same inventor, the construction being rendered more compact and certain in operation, the follower block being made sure to trip at the right time for automatic coupling and to hold the link at any necessary inclination to readily enter couplings of dissimilar heights.

SWITCH STAND.—Morris G. Prutzman, Lehigh Gap, Pa. This is an improvement in spindle switch stands, in which the actuating rods are connected with a crank shaft or spindle in the switch stand and adapted to operate in connection with automatic split switches pressed one way or the other by a flange of the wheel, or which may be operated by hand. The improvement is designed to prevent the switch from standing in an intermediate position, providing also means for raising the standard so as to prevent any lost motion and providing convenient means for locking the spindle and the spindle column and limiting its rotary movement.

CABLE GRIP.—John C. Dean, Millsborough, Pa. Pivoted cross levers have their shorter ends pivotally connected with oppositely arranged grooved jaws, and a draw chain is connected by links with the longer ends of the levers, forming an extremely simple and inexpensive grip, easily applied to a car and a cable to grip the latter so that it cannot accidentally become loose, the pressure increasing with the increased weight of the car. The device is especially adapted for use with coal cars.

Agricultural.

Plow.—Herman Symmank and Ernst Mattheijez, Giddings, Texas. This is a sweepstock with forwardly and downwardly projecting curved heel carrying a sweep holder, on which is pivoted a shoe, with the rear end of which is pivotally connected a link arm, there being means for adjustably connecting the upper end of the link with the heel portion of the beam. A strong, durable and adjustable implement is thus provided for holding sweeps, half shovels, bull tongues, etc., and the stock is not liable to become choked by weeds.

REAPER OR MOWER.—Alexander Chambers, Tarrytown, N. Y. The main feature of this invention consists in the application to this class of machines of an endless knife and mechanism for driving it, the knife being provided with any approved form of guard, whereby the upper stretch will be a cutting surface and the lower stretch will be prevented from having a cutting action. The finger bar and pulleys thereon have a diagonal position, the pulleys carrying an endless band or knife set at an angle horizontally and returning below its cutting edge and at a distance in the rear, the lower stretch of knife being protected by a guard.

Miscellaneous.

SHIP'S BRAKE.—Ferdinand Tobias, Munich, Germany. To steer or retard the motion of navigable vessels, according to this invention, an apparatus comprising wings or fins is hinged to the vessel and connected to a toothed quadrant adapted to be operated by a spur wheel driven from the main shaft of the ship's engine through intermediate mechanical gearing.

TYPEWRITING MACHINE.—John A. Toomey, Toledo, Ohio. This invention covers improvements in the cheaper class of typewriters, affording a simple machine to be operated by both hands and having a spacing mechanism which automatically makes the required spaces between the letters and words. The machine has parallel tilting levers on one end of which the characters are represented, while on the opposite ends are pivoted oscillating type plates, there being finger pieces and belts for moving the type plates into printing position and a movable platen arranged above the plates.

CLAMP FOR ELEVATOR ROPES.—Constant K. Decherd, Meriden, Conn. Attached to a post secured to the elevator carriage is a fixed jaw having flanges carrying plates and forming guideways in which slides a movable jaw, a cam lever mounted to turn in the plates being adapted to engage the movable jaw to force it against and clamp the rope. The device is of very simple construction and is designed to positively prevent another person from starting the elevator while the operator is in charge of the car.

PURIFYING ASPHALT.—Augustus S. Cooper, Santa Barbara, Cal. To quickly and effectively separate the impurities from bitumen, this invention provides an apparatus consisting principally of an elongated kettle having a feed hopper and a discharge spout, while a cylindrical screen held on a spiral blade is revolved in the kettle, the screen discharging into an elevator at the end opposite the feed hopper. The other end of the revolving screen discharges the sand and other impurities into an enlarged pit formed in that end of the kettle.

ALUMINUM SOLDER.—Marguerite H. Larcion, Bienne, Switzerland. This is a soldering used as easily as any other known solder and designed to support both drawing and rolling, being applied to pure trade aluminum, or to that which has 98 parts or less of aluminum out of 100, the solder having different proportions, according to whether wire, plates or pieces are operated upon. It is made by melting aluminum and subject-

ing it to the action of phosphoric acid or its equivalent, adding copper and tin, with sometimes antimony, bismuth and zinc, and stirring the mass.

THERMOMETER.—Francis S. Tomey, 132 Park Road, Aston, Birmingham, England. This is a thermometer for chemical, clinical, or other purposes, made in the ordinary manner, except that the white enamel stripe usually drawn out and incorporated with the stem of the instrument is omitted, but the rear side of the stem is graduated and covered or backed by a protective stripe of fusible white glass paint or enamel fused on, forming a covering which resists acids and facilitates the reading of the scale.

HOSE PLIERS.—Peter W. Allen, Pueblo, Col. In this implement the jaws are arranged to separate as the handles are forced together, one of the jaws having a nose for engaging the looped end of the hose band and the other being furnished with a clamp for engaging the free end of the hose band. A simple and efficient tool is thus provided for applying a hose band of annealed wire to rubber hose, to fasten the hose to couplings and connections.

HOP CARRIAGE.—Isaac W. Cahill and Laban A. Dickinson, Salem, Oregon. This is a vehicle formed of a two-part frame, the sections hinged together and trucks journaled beneath, one truck journaled at the joint of the two parts, while a slatted floor is secured to the frame. This car or carriage is for use to transfer hops from the drying kiln to the warehouse, and may be used temporarily as part of the floor of the kiln, permitting of the ready drying of the hops and their transfer without injury.

PACKING CASE.—David F. Griffiths, New York City. This is a box preferably made of single side and bottom panels, each panel consisting of a marginal skeleton frame and a single sheet of veneer secured to the top and bottom rails of the frame by tacks, the veneer being also strengthened and secured to the side rails by wires interlaced through apertures. The box combines lightness with strength and durability and may be economically manufactured.

DRESSER FOR BOOTS OR SHOES.—Stephen A. Richards, Fresno, Cal. This is a self-adjusting device to be placed in boots or shoes to be displayed in show windows, giving the goods the appearance they would have when on the feet. It is made with a base having a shape similar to that of the bottom of a last, on which are mounted and held in position by springs, vamp and heel formers made of plates of varying shape, the compression of the springs permitting the ready insertion of the device in a boot or shoe.

FOLDING UMBRELLA.—Frank G. Grove and Don P. Lillard, Luray, Va. The stick of this umbrella is preferably composed of three sections, a ribless cover being secured at one end of the stick and a runner held to slide thereon, while folding braces are pivoted to the runner and secured to the outer edge of the cover. This umbrella is very inexpensive, may be folded into very small compass, or may be used as a walking stick.

PIANO OR ORGAN ATTACHMENT.—James W. Carter, Cisco, Texas. This is a guard device mounted to slide in a plate having guide ways, the plate being adapted for attachment to the under side of the key board, where it may be locked in either a folded or extended position. The plate has handle extensions, and by its use the instrument may be conveniently moved about without danger of defacing it, or the doors, rails, etc., of the building.

POOL TABLE RACK, ETC.—George F. Goss, Wallaceton, Pa. Chutes lead from the pockets to a rack for the balls near the floor, and separate groups of pull rods or cords run to each side of the table, the rods or cords being connected to a rocking frame under the center of the table, the arrangement being such that each player may automatically transfer his ball when pocketed to its proper place in the rack without leaving the table or touching the ball, and so that each player may see that the balls are properly placed, means being also provided for signaling each placing of the ball in the rack and the end of the game, without an attendant.

CLOTHES PIN.—George W. Jones, Richardson, Tex. This pin is preferably formed of spring wire, and has a straight member parallel with the line, while the two ends are bent to form loops, terminating in portions carried above and over the straight member and then downward in close contact therewith. The device adapts itself to lines of different thicknesses, and will hold equally well a bit of lace or a heavy blanket or quilt.

CLOTHES LINE ATTACHMENT.—Leo Oppenheimer, College Point, N. Y. This device comprises a clamp formed of a metallic strip bent in the form of a snap hook, with the upper end of its spring member or tongue overlapping the lower end of its hooked portion, a pulley being journaled in the upper hooked member. The device is more especially designed, where lines are parallel, to prevent the lower strand carrying the clothes from sagging.

MENTHOL CONE.—Thomas D. Vint, Hastings, England. This invention provides for strengthening a menthol cone or stick by means of filaments made to ramify through the mass, the filaments, such as feather tips, hair, wool, etc., being first tightly wedged in or secured to the holder, and their cone-like end being then dipped into a mould holding the melted menthol. The cone or stick is thus strengthened so that it is not liable to break off in use.

CANNULA FOR TRACHEOTOMY.—Ernst Hartstein, Goppingen, Germany. This is an improvement in tubes whereby air is admitted to the hinge when the throat is closed by croup, diphtheria, or other cause, the cannula comprising two tubes fitting one within the other, the outer one being capable of an outward movement independently of the inner tube, with means at the outer ends of the tubes whereby either the inner or the outer tube may be safely and easily changed independently of the other.

Copyright.

"DAILY RECORD."—Mrs. D. W. Sutter, Lake Linden, Mich. An ordinary sized diary is pre-

ferably employed by Mrs. Sutter in making the "Daily Record" book, but in place of an index letter on a projecting portion of the outer edge of each leaf, according to the usual manner of making indexes of a book, such place is occupied by the title of each month. In opening the book one can thus readily turn to any month of the year, where it will be found that the days of the week are each given separate pages, i. e., all the Mondays are indicated—a separate space for each—on distinct pages, all the Tuesdays on other pages, etc. There are also additional leaves for memoranda, addresses, etc.

Design.

FUR TRIMMING.—James Jacobson, New York City. This design consists of a ruffled strip presenting reversed apparently curved loops at the side edges, the returned edges following the lines of the loops, and preventing undulating furry figures.

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.

THE COMPLETE SPORTSMAN. A manual of scientific and practical knowledge. Designed for the instruction and information of all votaries of the gun. By Howland Gasper. New York: Forest and Stream Publishing Co. 1893. Square 12mo. Cloth. Pp. xvi, 277; 17 illustrations. Price \$2.

By a careful reading of the chapters of this excellent work the sportsman may appropriately equip himself for hunting, attain proficiency in the art of shooting, and enter the fields informed of the habits of the game and most approved methods of hunting. There are already a number of books on hunting adapted for the use of experienced sportsmen; the present work will appeal especially to the amateur or beginner. The chapter on the selection of firearms for hunting, their use and preservation, is very valuable, and a careful perusal of this section of the work may prevent costly mistakes in the purchase of guns ill adapted to the needs of the sportsman. This book is not padded out with tales of hunting exploits and experiences, but every page bristles with practical information of positive value to whoever desires success in hunting. The chapter on outfit, guns, boats, dogs, etc., is particularly instructive and interesting. The proper appliances and best methods for pursuit of various kinds of game are well set forth, including duck shooting, goose, snipe, quail, rail, grouse, woodcock, deer hunting, bears, squirrel, muskrat, etc. The book is handsomely illustrated and the typography admirable.

SUBJECT MATTER INDEX OF TECHNICAL AND SCIENTIFIC PERIODICALS FOR 1892. Compiled by Dr. R. Rieth. Berlin: Carl Heymanns. New York: B. Westermann & Co. 4to. Pp. 502.

This valuable annual is compiled by the order of the imperial German Patent Office. All of the papers which have appeared in the journals are catalogued in the language in which they were originally published, provided of course that they come within the scope of the work, which is limited to scientific and technical articles. The work is of the greatest value and circulates through the entire scientific world, to which it has become a necessity.

AMERICAN BIG GAME HUNTING. THE BOOK OF THE BOONE AND CROCKETT CLUB. Edited by Theodore Roosevelt and George Bird Grinnell. New York: The Forest and Stream Publishing Co. 1893. 12mo, cloth. Pp. 345, plates. Price \$2.50.

This work is made up of contributions by members of the Boone and Crockett Club, a well-known association of sportsmen, and is edited by two well-known hunters of big game. In the present volume, which is got up in fine style, the reader may enjoy a rare feast of stories of adventure, the events chronicled having occurred in our own country. Many of the papers are written in excellent style, and we regret that space forbids the publication of the names of the contributors. In the back of the volume will be found the rules of the club, list of members, etc. The volume is a handsome specimen of American book making.

A MANUAL OF TELEPHONY. By W. H. Preece and A. J. Stubbs. London: Whittaker & Co. New York: Macmillan & Co. 1893. 12mo, cloth. Pp. 508, 333 illustrations. Price \$4.50.

The rapid strides made in the science of telephony since 1888 have necessitated not the reissue of Preece and Maier's book, "The Telephone," but the publication of an entirely new work, which will undoubtedly receive the gratifying reception with which the former treatise was distinguished. The subject of telephone exchanges is very well treated, the diagrams of connections being especially clear. There has been a want felt for a long time for a good work devoted to the subject of exchanges, and the description in the manual will prove of great value. A chapter is also devoted to cables and one to the limiting distance of speech transmission.

ARITHMETIC OF MAGNETISM AND ELECTRICITY. By John T. Morrow and Thornburn Reid. Lynn, Mass.: Bubber Publishing Co. 1893. Pp. 145. Price \$1.

The scope of this little work may be judged from the preface, in which it states that in it there has been no attempt at explanation of the phenomena involved, and no deduction of the rules is given. The object, it states, is to enumerate those rules of electricity and magnetism which are directly connected with their commercial applications. It may be noted that some of the rules do not bear very arithmetical appearances. We would cite, as an example of such, the sixth rule. The phraseology in places is not very exact, as where the author speaks of "moving" a force of one pound. A short section de-

voted to alternating current apparatus will be found a valuable feature. A few tables and a reasonably full index conclude the work.

ANALYSIS OF MILK AND MILK PRODUCTS. By Henry Leffmann, M.D., and William Beam. Philadelphia: P. Blakiston, Son & Co. 1893. Pp. 92. Price \$1.

This excellent manual, adequately illustrated and with all the requisites of tables and satisfactory index, must be considered a valuable contribution to the growing science of commercial analysis. The sections touch upon the nature and composition of milk, analytical processes of examination, a very suggestive chapter on data for milk inspection, covering variations in composition, such as deficient solids and abnormal milks. Another chapter is devoted to milk products. This gives the general scope of the work. The authors will be recollected as associated in the production of a similar manual on the examination of water.

ANNUAL REGISTER OF THE UNIVERSITY OF CHICAGO. Chicago. 1893. Square 8vo. Pp. 244.

This register contains a full statement of the organization of the University, the faculties and the courses offered during the year, lists of students, requirements for admission, regulations governing the various schools and colleges of the University, a historical notice concerning the University, University clubs and organizations.

FABRIKATION, BERECHNUNG UND VISIEREN VON FAESSERN BOETTICHE UND ANDERER GEFAESSE. By Otto Voigt. Vienna: A. Hartleben. 1893. 104 illustrations, tables and 317 pages text.

This publication forms the 201st volume of the chemical library published by A. Hartleben. This handbook will prove to be a valuable assistant for coopers and others engaged in the manufacture of barrels, kegs, tubs, and other vessels, and treats on the tools necessary in the trade, the wood to be selected, the manufacture of the vessels by hand and machinery, the calculation and drawing of various forms of heads and other parts and the measuring of the contents of the vessels.

Any of the above books may be purchased through this office. Send for new book catalogue just published. MUNN & Co., 361 Broadway, New York.

SCIENTIFIC AMERICAN

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