

RECENTLY PATENTED INVENTIONS.

Pertaining to Apparel.

SUPPORT FOR GARMENT-HANGERS.—**FANNIE WOLF**, New York, N. Y. This support is adapted to be secured beneath a shelf or within a wardrobe, showcase, or the like. The invention relates more particularly to a carrier in which a plurality of rods are used, one being longitudinally movable in respect to the overhead support, and another of the rods being carried by the first-mentioned one and also longitudinally movable in respect thereto, so that the support may be extended to its full length out from beneath the overhead support.

Electrical Devices.

TROLLEY-GUARD.—**S. G. WILCOX**, North Adams, Mass. The guard is in the form of a spring-pressed slidable plate, nominally extending across the top of the trolley wheel, to prevent it from leaving the trolley wire, the plate readily passing the trolley wire hanger, and the arrangement permitting withdrawing of the plate by the operator, at the same time pulling down the trolley pole.

IGNITION APPARATUS.—**G. HANIQUET**, Longbeach, Cal. It is sought in this invention to provide means for retaining a thin lubricating oil within a circuit closer. In addition the invention comprehends mechanism for reducing the electrical arcking as the contact shoe leaves the contact bar. It further contemplates slowing down the speed of the circuit closer shaft, as compared with the main shaft.

INSULATOR.—**P. S. DUMBOLTON** and **F. FRANZ**, Burke, Iowa. The invention is more particularly an improvement in insulators mounted on spiral wire coils which are suitably attached to a supporting screw pin. It is adapted for lateral oscillation, so that it may be used without danger of breaking, as is often the case with insulators so fixed on their supports as to be incapable of yielding to jar or vibration.

INDUCTOR-DYNAMO.—**G. A. COLMAN**, Seattle, Wash. The more particular purpose of the inventor is to produce a dynamo having a minimum of wearing parts and without brushes, collectors, or commutators. It relates to the construction of a high-speed rotor having generally the form of a smooth disk made entirely of solid metal, yet heterogeneous as to the magnetic properties.

Of Interest to Farmers.

CULTIVATOR ATTACHMENT.—**D. B. BROWNING**, Morrison, Okla. In operation the fender is supported by the hanger arm and the runner is adjusted a sufficient distance below the edge of the blade to prevent the soil thrown up by the plows from covering the plants, while permitting some soil to be thrown toward the plants at the roots. Engagement of the runner with the ground prevents the fender being moved out of place by the soil thrown up by the plow. The runner also permits the fender to fall in with the inequalities of the ground, so as to protect the plants, even when they occupy a lower level than the wheels.

Of General Interest.

TARGET-HOLDER.—**C. P. WORRELL**, Zanesville, Ohio. The object of this invention is to provide in connection with the front of the box, clamping strips to bind the edges of the target and laterally adjustable to stretch the target out, and a member closing the rear of the box to check the shot or bullets, the member being preferably in the form of a separable metal plate.

ENVELOP.—**L. C. VAN RIPER**, New York, N. Y. The envelop has an ungummed flap which may be held within a pocket, or removed therefrom in order to allow the contents to be inspected by postal authorities. It is provided with the ordinary gummed flap, intended to be a sealed envelop, and yet allow the same to be sent through the mail at the postage rates required for unsealed matter.

FIRE-ESCAPE.—**R. W. SCHWEIMLER**, Louisville, Ky. Here the intention is to provide a device in which a person may be safely transported to the ground from an elevation quickly but without injury. It provides an inclined covered chute of zigzag construction. The user is conveyed to the ground while sliding in a sitting posture.

SCREEN.—**F. J. REMBUSCH**, Shelbyville, Ind. In this instance the invention pertains to screens, the more particular purpose being to provide a screen which offers a total obstruction to the passage of light through it, and in this manner improves the distinctness, clearness, and brilliancy of images thrown upon the screen.

SUBMARINE MINE.—**A. P. BROOMELL**, York, Pa. This invention relates to mines in which a mine is connected by a line with an anchor with means for paying out the line and for checking the paying out, so that when the mine and attached anchor are thrown overboard the mine will float as the anchor descends, and as it approaches the bottom it operates to draw the mine below the surface to an extent proportioned to the length of the gage line connected with the anchor.

EXTENSION-BOLT.—**F. H. CRUMP**, Los Angeles, Cal. This improvement provides an extensible formed bolt in which the solid bolt proper has a threaded engagement with a hollow internally threaded cylindrical member and an outer casing or sleeve surrounding the two,

so that the bolt may be shortened or lengthened by turning the first two mentioned members relatively to each other. Further extension of the bolt within reasonable limits may be made by interposing additional threaded sections.

Hardware.

FAUCET.—**W. F. ODEN**, Ophir, Utah. The faucet is arranged to permit the operator to quickly change the position of the working parts for opening the faucet to the full extent for the removal of a mixture of solid and liquid material or for discharging a mixture of solid and liquid material through a desired sized spout or for completely closing the faucet.

LOCKING DEVICE FOR AWNING CORDS OR STRAPS.—**S. ASCH**, New York, N. Y. This invention is for use in preventing mischievous children having access to awning cords. Means are provided for inclosing and locking up the lower portion of the cord or strap at the point where it is attached. By means of a key access may be had to the interior so as to adjust the awning when desired.

Heating and Lighting.

FURNACE-GRATE.—**W. J. THOMAS**, Salt Lake City, Utah. The invention relates more particularly to a grate in which the grate bars are utilized as conduits for the delivery of air under pressure to the burning material. An object is to so construct the parts that any one of the bars may be removed independently of the other bars and without interrupting the delivery of air through the latter.

COMBINED MATCH-BOX AND CIGAR-CUTTER.—**E. OLDENBUSCH**, New York, N. Y. The box is adapted to receive a card or package of detachably connected friction matches. It is formed of two sections movable in respect to each other and one so formed as to frictionally retain the package or card of matches in engagement therewith, independently of the other section of the box which constitutes the cover.

Household Utilities.

COMBINATION CHAIR AND IRONING-BOARD.—**ROSE HUFFT**, care of C. C. HARRELL, Port Arthur, Texas. An object of this invention is to provide a device which in its normal form constitutes a chair, and which can easily be changed from the normal form into a stand, such as a table, ironing board, or the like. The invention effects economy of space in a household.

CUSPIDOR.—**M. D. GREEN**, Flora, Ill. This cuspidor may be hermetically sealed for sterilizing purposes. An object is to provide one having a removable receptacle therein and also means whereby a sterilizing or cleansing fluid may be applied thereto. A series of cuspidors may be cleaned and sterilized simultaneously.

WINDOW-SCREEN.—**E. T. PETERS**, Lincoln, Neb. The invention comprises a combination with a casement having sash grooves, and pockets in its head and sill, the pocket in the head being in alignment with the upper sash of the receiving groove and the one in the sill in alignment with the lower sash, both slidable in the groove of a screen resting on the upper sash, and movable into and out of the head pocket, a screen detachably connected with the lower sash, and movable into and out of the sill pocket, said pocket having a pan with slidable sections, the lower section being provided with an outlet.

TABLE-SLIDE.—**L. A. WIEDEMAN**, Louisville, Ky. In this slide the two side pieces are fastened to the respective halves of the table, while the central portion is fastened to the center leg; when the sides are pulled apart the side pieces will slide relatively to the center piece, the latter remaining practically in normal position. The table may be extended until the stop members of the slides engage the end top members on the central portion. Intervening leaves may then be inserted and will rest upon the upper parts of the slide.

Machines and Mechanical Devices.

ADDRESSING-MACHINE.—**T. E. PLATER**, Monett, Mo. This inventor seeks to provide the machine with cutting mechanism for severing the strip bearing the addresses, and also seeks the provision of means for moistening the strip immediately before it is cut, the strip being provided with a gummed surface to cause the portions severed to adhere to the articles to be addressed.

PORTABLE CONCRETE-MIXER.—**C. W. OVERTURF**, Dumont, Iowa. One object here is to provide a device in which the time during which the materials are subjected to the mixing process may be varied at will of the operator. This is done by means of a mixing cylinder through which the materials pass and which can be inclined to a greater or lesser degree, thereby increasing or decreasing the rate of travel of the charge therethrough.

CASH-REGISTER ATTACHMENT.—**J. E. COSBY**, Richmond, Va. The present invention includes a device operated on and by a key coupler which in turn operates upon the intermediate parts to effect a movement of the advertising mechanism, which may be operated step by step to expose successively the succeeding faces or inscriptions upon the cylinder.

GLASS-MOLDING MACHINE.—**W. J. MILLER**, Coffeyville, Kan. This invention relates to semi-automatic glass molding machines in

which a table carries a series of molds and is given an intermittent rotary movement through a mechanism including cylinders, and the patentee provides an improved valve arrangement for controlling all the different mechanisms incidental to the several operations of the machine.

Prime Movers and Their Accessories.

REVERSING TURBINE.—**H. T. WEBBER**, New York, N. Y. The turbine is capable of being rotated in either direction. The invention resides in the construction of the rotor, which enables it to be driven by steam admitted on either side. Admitting it on one side drives the rotor in one direction, and on the other side drives it in the opposite direction.

Railways and Their Accessories.

SIGNALING DEVICE.—**W. P. SMITH**, El Paso, Texas. In its present embodiment, the invention comprises a plurality of levers arranged to display signals or be housed within a casing, and mechanism whereby the levers may be locked in either position, and also means for locking the operating mechanism. Said locking mechanism may be controlled from the cab or other locality occupied by the operator.

GRAIN-CAR DOOR.—**J. F. MCGLENN**, Harvey, N. D. In operation blocks are engaged with their respective plates, after which the door is positioned, and hinged plates are turned into position against the edges of the door's inner face, and locked by pins. When the car is to be unloaded the blocks are removed, and the door's lower section swings outward. After enough of the load has passed outwardly to relieve the pressure on the upper section, the entire door is removed and suspended by hooks.

SWITCH-ROD.—**E. W. BROWN**, Grenada, Miss. This invention pertains to adjustable switch rods for railroad track switches. One intention is to provide a switch rod having shoulders against which the flanges of the switch points may be firmly held, thus preventing any lateral movement of the points.

RAILWAY-TIE.—**E. BUTCHER**, Chanute, Kan. The object in this instance is to provide a construction for ties which facilitates railway construction; provide a construction which may be in part or wholly renewed and re-used; provide a construction which lends itself to varying conditions of railroad construction, while being standard in form; and provide a construction which cushions the road-bed and allows for leveling the same.

FASTENING DEVICE FOR INCANDESCENT BODIES.—**E. STEIL**, 26 Winterfeld Street, Berlin, Germany. The invention pertains to means for fixing the incandescent body and its accessory, such as a projecting basket, on the burner head or to the frame of a gas lamp for the illumination of railway carriages, in connection with which the device is especially intended to be used.

Pertaining to Vehicles.

VEHICLE-CUSHION.—**J. E. MOSEMAN**, Donaldsonville, La. The object of this inventor is to provide a device wherein a pneumatic cushion is interposed between the body of the vehicle and the axle. The cushion may also be used with railway chairs, the legs of the chair resting upon the upper bar, and the lower bar being secured to the floor.

GRIP-THREAD FOR VEHICLE-WHEELS.—**F. HOLAN**, Niobrara, Neb. This invention refers to attachment for the rim of a vehicle wheel for the purpose of enabling it to grip the road-bed. An object is to provide a construction for the device which is simple and which can be readily attached when desired to the wheel.

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.

TEXT BOOK OF THE HISTORY OF ARCHITECTURE. By A. D. F. Hamlin, A.N., Professor of Architecture, Columbia University. Eighth edition. New York: Longmans, Green & Co., 1909. 12mo.; pp. 467; 235 illustrations. Price, \$2.

In this work Prof. Hamlin has presented an admirably concise sketch of the various periods and styles of architecture, and has briefly criticised the more important works of each period or style. Despite the fact that extreme condensation in presenting the leading facts has been necessary, the work gives a very comprehensive view of the development of architecture. Not the least valuable feature of the work is the manner in which technical terms are defined and explained, together with a glossary at the end. Good judgment has been shown in the selection of the illustrations.

TIME AND TIDE. A Romance of the MOON. By Sir Robert S. Ball, LL.D., F.R.S. London: Society for Promoting Christian Knowledge, 1909. 16mo.; pp. 192. Price, \$1.

This is a reprint of the second edition of "Time and Tide," which consisted originally of a series of lectures delivered before the London Institution. The book although popu-

lar presumes an acquaintance on the reader's part with such ordinary astronomical facts as may be contained in a work on so difficult a subject of comprehension as the tides. If we have any objection whatever to offer against this admirable work, it is simply that it is not what is now called up-to-date. In other words, we find the subject of solid tides on the earth, that is, the displacement of the earth's crust itself, not dealt with. It seems to us, in view of Dr. Hecker's recent experimental investigations of this subject and his convincing proof of Sir George Darwin's theoretical estimate of the "pull" on the solid earth, that it might have been wise to incorporate in this reprint these later investigations. As it is, however, the book covers the subject well and lucidly.

TWENTY-FIVE YEARS OF ROPE DRIVING. Mishawaka, Ind.: Dodge Manufacturing Company, 1909. Quarto.

It is not the usual practice of this journal to review in its columns trade publications or catalogues. In this particular instance an exception must be made because of the character of the work which lies before us. It is not only an example of admirable printing but a good piece of technical compilation. In the 103 pages of this book much solid engineering information is given as well as an occasional useful table. The material on Features of the American System of Rope Driving, Rope Drive Designs, American vs. English System, and Mechanical Power Transmission, is particularly good because it seems to state very fairly the main differences between two widely used methods of transmission.

ELEMENTS OF TRANSPORTATION. By Emery R. Johnson, Ph.D. New York and London: D. Appleton & Company, 1909. 12mo.; 360 pages. Price, \$1.50.

This is a valuable discussion of steam railroad, electric railway, and ocean and inland water transportation. The author is Professor of Transportation and Commerce in the University of Pennsylvania. It has given us great pleasure to review in a short period two other books by Mr. Johnson, viz.: "American Railway Transportation" and "Ocean and Inland Water Transportation." The volume before this is fully as interesting, and these three books should be in the library of every person who wishes to keep fully apace with the times. The author's vast experience has enabled him to handle the subject in a masterly manner. The maps are particularly valuable, many of them being printed in both red and black, showing the increase in mileage at various periods, and also the maps showing the various so-called "routes."

DIE HAUS- UND HOTEL-TELEGRAPHIE UND TELEPHONIE. Von O. Canter. Dritte, gänzlich neubearbeitete Auflage. Von Paul Riemenschneider. 153 illustrations. Octavo. Vienna: A. Hartleben, 1909.

The book which lies before us has passed into its third edition. It is a text book for those electricians who are concerned with the installation of house telephone and telegraph systems. Since such electricians are not always technically trained men, the author begins the book with the usual popular discussion of the cause and effect of the galvanic current, electro-magnetism, and induction. Then follows a description of the apparatus employed, which description is as exhaustive as possible, and deals with the underlying theories of each part thoroughly. After a discussion of the simple and most common house telegraph apparatus, namely, alarms of various constructions, with their accompanying circuits, we find discussion of annunciator systems and telephone and microphone inventions. The subject of house telephony is described at length, as well as suitable protective devices against atmospheric electricity. Interesting is a discussion of tell-tale door contacts, clock contacts, fire alarms, etc. After describing the material necessary for the installation of a house telephone or telegraph system, the author passes to the manner of installing the systems described, and testing methods for the detection of injured portions. The estimates of cost given would hardly apply in this country, but serve the purpose at least of showing the relative value of different parts.

THE FORCE OF THE WIND. By Herbert Chatley. 80 pp.; 12mo.; ill. with diagrams. London: Charles Griffin & Co., 1909. Imported by Lippincott. Price, \$1.25.

We find in this little book collected and correlated methods of calculation of wind stresses and wind power which we have often sought with difficulty from scattered formulae in engineering pocket books and text books, and believe that it will fill a long felt want among engineers who have to deal with wind load on structures and similar problems. The formulae, many of which are derived by the author, are as simple as moderate accuracy will permit, and calculus methods are introduced only where it is impossible to avoid them. The book is thoroughly up-to-date, including the latest results obtained by Lanchester and Eiffel, and is throughout clear and practical.

CO-ORDINATE GEOMETRY. By H. B. Fine and H. D. Thompson. 300 pp.; 12mo.; 9 plates. New York: The Macmillan Company, 1909. Price, \$1.60.

In this book the several conic sections are treated early and in some detail, partly because of the value of a knowledge of their more im-

portant properties, partly because of the advantage, when presenting the analytic method to the student, of applying it in the first instance in the systematic study of a few interesting curves. In deference to usage, a chapter on the circle is introduced immediately after that on the straight line; but, if experience is to be trusted, it is better in a first course to proceed from the straight line directly to the parabola, so that, as early as possible, the student may get the impression which comes from seeing a method employed in the investigation of new material. The part of the book devoted to solid geometry is more extended than is customary in elementary textbooks; but it is desirable that the material here given should be easily accessible to students. Although intended as a college textbook, the present work follows the fortunate modern tendency toward the practical and forms as good a treatise upon the subject as possible for the non-collegiate student.

A MANUAL OF PRACTICAL ASSAYING. By the late H. van F. Furman. Revised and enlarged by W. D. Pardoe. 497 pp.; 8vo. New York: John Wiley & Sons, 1909. Price, \$3.

This standard work on assaying has, in the new (sixth) edition, been thoroughly revised and brought up-to-date. The chapters on zinc, water, and coal analyses have been rewritten, and minor changes have been made in certain parts due to the description of new methods. Because of their increasing importance commercially, chapters have been added on the assay of telluride ores, tungsten, molybdenum, and vanadium. On the latter important subjects the reputation of the work as one of the leading text-books on the subject has been completely maintained and the usefulness of the whole enhanced.

STRUCTURAL DETAILS. Elements of Design of Heavy Framing. By H. S. Jacoby. 368 pp.; 8vo.; 6 folding plates and 34 full-page ill. New York: John Wiley & Sons, 1909. Price, \$2.25.

The title of this volume corresponds to a course of instruction conducted by the author in the College of Civil Engineering in Cornell University during the past nineteen years. In this course the students receive their first instruction in the application of the principles of mechanics to the design of the details of structures. Experience has shown that in many respects problems involving timber construction are better adapted for this purpose than if confined to structural steel. It may appear at first as if too much attention to details is given in the examples on the design of joints, beams, and trusses. The author believes, however, that the importance of careful study of every detail can only thus be properly emphasized. In practice it seems to be the exception rather than the rule to give the same attention to details of timber structures as to those of steel. In the interest of sound engineering practice it is essential that all connections and details have the same degree of security as the framed members. In several articles the order of design is given in full, with a view of economizing the time of the student, and of promoting systematic habits in making the computations required, these objects being regarded as important elements in efficient engineering education and practice. Whereas the book is intended for college use, much of it is so written as to be intelligible without the mathematics involved and valuable to the practical carpenter or builder desirous that his work shall be on sound principles or interested in the theory upon which are founded the rules of his practice.

THE INTERNAL COMBUSTION ENGINE. By H. E. Wimperis. 320 pp.; 8vo.; fully ill. New York: D. Van Nostrand Company, 1909. Price, \$3.

This is the first treatise on gas, oil, and gasoline engines we have seen which goes as thoroughly into the subject both theoretically and practically as do the best text-books on the steam engine. The author traces the energy that drives our engines all the way from solar heat and molecular action to the uses to which the modern internal combustion engine is applied, covering sufficiently the laws of thermodynamics, the chemistry of combustion and explosion, the best design in gas engines and producers, and oil and gasoline engines. The final chapter on gasoline engine efficiency and rating is the best we have seen on this much debated question, and is in so far practical and helpful to the amateur and the sportsman as to discuss the modification of accepted ratings which should be made in hill-climbing and other automobile competitions.

HENRY HUDSON. A Brief Statement of His Aims and Achievements. By Thomas A. Janvier. To which is added a newly discovered partial record, now first published, of the trial of the mutineers by whom he and others were abandoned to their death. New York and London: Harper & Bros. 148 pp.; 12 ill.; 16mo. Price, 75 cents.

The Hudson-Fulton Celebration has aroused keen interest in the life of one of the most romantic characters among the explorers and navigators of the sixteenth and seventeenth centuries. The book before us is divided into two parts, the first consisting of a brief sketch of the life of Henry Hudson, and the second

dealing with newly-discovered documents. The latter have remained neglected for three centuries, and are here published for the first time. The discovery of these documents is due to Dr. R. G. Marston, M.A., as a result of a search in the Record Office in London. The story of the trial is of great interest, but of little satisfaction, inasmuch as we are ignorant of what punishment, if any, was inflicted upon the mutineers of the "Discovery." The importance of these documents is that they establish the fact (until now not established) that the mutineers were brought to trial, and that they embody a sworn testament, hitherto unproduced, of six members of Hudson's crew concerning the mutiny. The illustrations include no portrait of Hudson, since the author is satisfied that no authentic portrait of the man is in existence. Outside of the new documentary evidence above referred to, the narrative of Hudson's life is a condensation of the facts that have been recorded by Hudson's authoritative biographers, notably Purchas, Gerritz, Van Meteren, Asher, Murphy, Brodhead, and Read.

MACHINE SHOP DRAWINGS. Reading Drawings, Making Shop Sketches, and Laying Out Work. By Fred H. Colvin, A.S.M.E., F.I. New York: McGraw, Hill Book Company, 1909. 16mo.; 139 pp. Price, \$1.

This little book is intended to be a help to those who do not thoroughly understand the reading of drawings, rather than an attempt to teach drawing in itself. It shows how seen and unseen portions are represented, the use of full and dotted lines, the way in which different views are drawn, and how to study them all so as to secure a correct idea of the shape of the piece represented. Many actual examples are given from the drawing-room practice of the leading shops in this country, and the meaning of each carefully explained. The book is an eminently practical one and is illustrated by well-executed engravings, the wax process, which is the only suitable one for the purpose, being used.

A Book of Fourth-Dimension Essays.

The subject of the fourth dimension seems to have aroused so much interest among the readers of the SCIENTIFIC AMERICAN that we have decided to publish in book form the prize essay, the three essays that received honorable mention, and about sixteen of the best essays which were submitted in the recent Fourth Dimension Contest. The entire collection will be edited by Prof. H. P. Manning, who will prepare an introduction of considerable length, in which the subject of the fourth dimension will be simply and lucidly discussed. The book will be ready about the latter part of December.

Legal Notices

PATENTS

INVENTORS are invited to communicate with Munn & Co., 361 Broadway, New York, or 625 F Street, Washington, D. C., in regard to securing valid patent protection for their inventions. Trade-Marks and Copyrights registered. Design Patents and Foreign Patents secured.

A Free Opinion as to the probable patentability of an invention will be readily given to any inventor furnishing us with a model or sketch and a brief description of the device in question. All communications are strictly confidential. Our Hand-Book on Patents will be sent free on request.

Ours is the Oldest agency for securing patents; it was established over sixty years ago.

MUNN & CO., 361 Broadway, New York Branch Office, 625 F St., Washington, D. C.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

October 26, 1909,

AND EACH BEARING THAT DATE

[See note at end of list about copies of these patents.]

Table listing inventions with patent numbers, including items like 'Account register, Clundt & Reidt', 'Acid derivative, guaiacol carbonate sulfo, A. Einhorn', 'Acid, derivative of aminoarylsarsinic, Ehrlich & Berthelme', etc.

Main table listing inventions with patent numbers, including items like 'Amusement device, N. P. Lithander', 'Amusement device, J. J. Tanner', 'Animal trap, J. Jackson', 'Animal trap, J. D. Pettit', etc.

Continuation of the main table listing inventions with patent numbers, including items like 'Door release, electrically operated, W. H. Snyder', 'Door stop, W. Boettcher', 'Draft equalizer, J. Van Matre', etc.