

RECENTLY PATENTED INVENTIONS.
Pertaining to Apparel.

SKIRT GAGE AND MARKER.—EMMA A. HOWARD, Colorado Springs, Colo. The object of this invention is to provide a gage and marker arranged to permit accurate obtaining of the intended bottom line on the skirt without assistance, and to permit of marking the skirt for folds, tucks, and trimmings. An initial row of pencil marks is laid out by the use of a specially constructed marking device on the dress, a short distance down from the waist line and while the dress is worn by the woman for whom it is intended, and then a bottom line of marks and along which line the dress is finished as to its length.

METHOD OF OBTAINING THE CORRECT LENGTH OF SKIRTS.—EMMA A. HOWARD, Colorado Springs, Colo. In this case the method consists in first producing a row of marks on the skirt at about the hip line and at a uniform distance from the floor while the garment is supported on the wearer, and after the skirt is removed, producing a second row near the bottom a uniform distance from the first row. The invention relates to dress-making, and enables a woman without assistance, to obtain the correct length of a skirt for her own use, and also permit of marking the skirt for folds, tucks, and trimmings.

SHOE.—C. F. HELFLINGER, Taylor, Wash. The purpose of the inventor is to provide details of construction for a shoe, adapted to wear by persons of either sex, which enables the donning of the shoe in a speedy and convenient manner, and its removal readily when desired. It will fit snugly, will be waterproof at the closure joints thereof, and may be quickly secured by a shoe string without tying the latter.

Electrical Devices.

UNDER-GROOVED TROLLEY-WIRE.—L. SREINBERGER, New York, N. Y. The contact face of the wire which is protected from weather, has a plurality of bearing surfaces insuring contact of considerable area. The wire can be readily substituted for other kinds. The wire is made up from a minimum of metal for the amount of contact surface. It is of a conformity which enables it to be readily suspended from clips; its shape is such that the trolley easily engages it, and the trolley wheel cannot be readily misplaced from the wire when once in contact therewith.

THIRD-RAIL INSULATOR.—L. STEINBERGER, New York, N. Y. The more particular object of this inventor is to provide an insulator suitable for use in connection with third rails and in analogous relations where heavy conductors are employed. Among many advantages, one is in the provision of an insulated rail support presenting a relatively small mechanical contact surface to the rail, thereby allowing the rail free movement and avoiding the possibility of the rail binding on its support by rusting, freezing or otherwise, and thereby bending or breaking it.

SHEAVE.—F. JONES, C. M. BROWN, J. S. FLEMING, and W. L. McDONALD, Plymouth, Ohio. In view in this case is a sheave provided with a grooved rim substantially centrally divided on a plane at right-angles to the axis, forming the entire rim into two separable half sections, each rim section having an internally-projecting flange, a hub portion, and means carried by the hub portion, separable therefrom and from the rim, and having marginal openings engaging flat against the outer surface of the flange of each rim section, forcing the inner faces of these flanges together.

TROLLEY.—A. S. JANIN, New York, N. Y. This trolley has a collapsible diamond-shaped frame, spring and pneumatically operated, and so designed that it will readily operate at all times, especially when used in high speed work and with heavy traffic. The trolley is under complete control of the motorman, and will not leave the wire without being purposely withdrawn.

DRY-BATTERY CELL.—W. S. DOE, Jersey City, N. J. The object here is to provide certain improvements in dry battery cells, whereby the exciting fluid usually discharged from the battery filling when the battery is in use is stored and reused when in an effective manner, to increase the life of the battery and to render the same very effective at all times.

Of Interest to Farmers.

COTTON-CLEANER.—S. WILLIAMS, Texola, Okla. There is provision here for a device in which seed cotton in various states of cleanliness can be treated and then passed directly into the gins. It is a well known fact that the less the cotton is handled to put it into condition for the spinner, the better, since in the various cleaning operations, the fiber is apt to get broken, thereby impairing its usefulness.

CORN-HUSKER.—H. S. BLAIR, Bucyrus, Ohio. The aim of the improvement is to so connect the hook with the palm plate, that it may be moved from side to side and turned to varying angular positions within certain limits and secured to the plate in any position of its adjustment within these limits, whereby it may be relatively disposed on the palm plate to suit the motion of the user.

Of General Interest.

AUTOMATIC PIANO.—F. R. GOOLMAN, Binghamton, N. Y. The purpose of the invention is to provide a piano, and means electrically operated or operated by a coin, whereby to set the instrument in action, the piano acting automatically to complete any tune commenced. Further, to provide a device attachable to any piano of any type, which will render the action of the piano automatic.

DRY MEASURE.—G. W. LYONS, Grand Rapids, Wis. This measure is for use for measuring vegetables, cereals, and like goods, and permits convenient filling of the measure from the top with goods, and at the same time the measure is hung from a barrel or like vessel, containing the goods, or to allow filling the dry measure from the bottom when measuring cereals contained in a bin, barrel, etc., and convenient discharge of contents of the measure by way of the bottom.

SHEET-METAL VESSEL.—J. HÖLAND and K. J. HALLELAND, Stavanger, Norway. This invention is an improvement in sheet metal vessels more especially constructed for containing preserved foods, and has in view the provision of a seam between the can body and can head such that the can will be hermetically sealed without the use of solder and along which seam the can head and body are readily separable.

METHOD OF EXTRACTING TREES AND STUMPS FROM THE SOIL BY MEANS OF EXPLOSIVES.—G. HUNTER, Victoria, British Columbia, Canada. The object of the invention is to so bind a tree or stump that when an explosive is used for its removal in the ordinary way, by putting it into a hole under the tree or stump, it will direct the expanding gases downwardly to expend their energy on and about the roots, thereby extracting them in their entirety without unnecessarily tearing the tree apart.

PIPETTE ATTACHMENT.—A. E. HUTCHINSON, Victor, Colo. This invention is directed to improvements in pipette attachments, embodying a construction easily operable to draw into the pipette when applied thereto, any required quantity of liquid and eject the same when desired. The operation is such that the admission of the liquid to the pipette can be gaged with minuteness, making the invention particularly desirable where precision is required.

SELF-PROPELLED TORPEDO.—A. E. JONES, Plume, Austria-Hungary. The object in this instance is improvements in torpedoes, and relates more particularly to the automatic expulsion of the leakage water, by utilizing the sinking valve itself, and also the protection of the gyroscope and its accessory parts from the harmful action of the said leakage water.

CONTROLLING-VALVE.—E. ENGREBRETSON, Devil's Lake, N. D. The valve is adapted for operation in a substantially automatic manner for controlling the supply of tensional fluids; and the object of the inventor is to provide a valve having adjusting means whereby its position may be varied relatively to the ports controlled by it, independently of the parts in connection with which the valve is used.

Hardware.

SHUTTER-HINGE.—J. B. WRIGHT, Greensboro, N. C. In this hinge the leaves are reversible with respect to each other, thus permitting the hinge to be applied at either side of the blind or shutter. In opening a shutter provided with this hinge, it is not necessary to lift the former, and the shutter is securely locked in its open position. To close the shutter the yoke connected with the hinge is lifted, thus freeing the shutter and permitting it to swing in closed position.

SAFETY-RAZOR.—C. GRABHORN, Hoboken, N. J. The intention of the improvement is to provide a razor, arranged for use in quickly folding the parts into an exceedingly small space when the razor is not in use, and when folded the razor can be conveniently and safely carried in a vest or other pocket, and when extended is ready for use for its legitimate purposes.

LOCK.—A. M. H. DE BRUYCKER, New York, N. Y. The object of the invention is to provide a lock having a bolt formed of hook members, capable of being moved in the direction of their length and adapted to be spread apart to engage the keeper with the hook ends, thus holding the bolt pivotally against retraction unless actuated by the proper key.

Heating and Lighting.

OIL AND GAS FURNACE.—J. W. RUSSELL and T. E. NEYLON, Renovo, Pa. The furnace is adapted for using oil or gas as a fuel for heating bars, frames, or other parts of iron construction, and particularly for welding engine frames. The chief object in view is the production of a furnace distinguished by strength and economy of construction, and in which refuse oil may be burned with efficient result.

GAS-FIXTURE.—A. JARMOLOWSKY, New York, N. Y. The invention contemplates a tubular gas lighter in communication with the valve casing and revoluble and vertically movable around the several lights fed from the casing, the lighter having a valve within the

casing adapted to seat on the gas inlet and thus operate to simultaneously extinguish all lights. It has reference to improvements for which Letters Patent were formerly granted to Mr. Jarmolowsky.

Household Utillties.

INDICATOR.—W. SCHNITZSPAN, New York, N. Y. In this patent the object primarily is to improve and simplify the construction of the present form of indicator, especially the hands or pointers employed, which are made of springy sheet metal and bent into a novel shape insuring against any accidental displacement from looseness when assembled.

Machines and Mechanical Devices.

TANNING-MACHINE.—F. H. YOCUM, London, Ontario, Canada. The tanning is attained by alternately dipping the hides into and removing them from a vat of liquor, and in so arranging the hides that they will pass through and emerge from the liquor in a separated condition, but while out will be in a packed condition, which assists in expressing the liquor from the hides, thus subjecting them to an alternate injection and expression, to cause the liquor to more easily enter their pores, and to change the liquor at frequent intervals.

CONTROLLING DEVICE FOR ELEVATOR-BRAKES.—W. H. C. BRENNER, Poughkeepsie, N. Y. The purpose of this improvement is to provide details of construction for a brake rope controller, whereby the rope will be pulled upon by the upward travel of the elevator platform, and automatically stop the platform at a desired point, that will render the platform level with the floor of the building in which the elevator is installed.

TRIMMER FOR LOOPERS.—W. J. STEERE, Rockwood, Tenn. The object of the invention is to provide a trimmer forming a permanent attachment for a looper and arranged to accurately cut off the surplus material above the loops held on the looper points, to direct the surplus material from the machine, and to remove all lint or other extraneous matter from the seam of the knit fabric.

MACHINE FOR CALKING HORSESHOES.—G. H. SMITH, Great Falls, Mont. The invention in this case is to produce a machine which can be operated so as to effect the operation of inserting calks in horseshoes, threading the shoes, and also providing means for holding the shoes, while the machine is operating upon them. It can be also used to remove worn calks from shoes which are being repaired.

TREADLE MECHANISM.—H. W. LODER, New York, N. Y. The aim of this inventor is to provide a mechanism for use on sewing machines and the like, and arranged to permit convenient and quick adjustment of the treadle, to suit tall or short persons, with a view to enable the same to actuate the machine with the least physical exertion and with the greatest comfort.

KNOTTER FOR COP-WINDING MACHINES.—S. J. MARTIN, Saltillo, Mexico. In cloth factories where cop winding machines are employed, it is necessary to join the ends of the thread to be wound on the cops, which operation is usually performed by hand by tying the ends together. This is a slow and tedious operation, the knots frequently coming untied, or the ends of the thread beyond the knot are not of uniform length. The attachment ties the knots in a safe and rapid manner with a uniform length of ends.

AUTOMATIC SCALE.—A. H. AUSTIN, New Rochelle, N. Y. The device is so constructed that when set to the required weight, and a feed mechanism interposed between the hopper and the scale pan has been adjusted, the material will pass freely from the hopper to the pan until the required weight has been obtained, whereupon the supply of material from the feed mechanism is automatically reduced until when the weight has been obtained the feed mechanism is automatically completely cut off, the controlling factor being electricity.

Railways and Their Accessories.

SAFETY APPLIANCE FOR RAILWAY-CARS.—R. BELDEN, Spanish Ranch, Cal. One purpose of this inventor is to provide an appliance for use for railway cars, or trains of cars, that will act to effectually prevent the cars leaving the track, particularly at abrupt curves, and will also serve to prevent the flanges of the car wheels from having undue frictional engagement with the rails.

Pertaining to Recreation.

ROLLER-SKATE.—T. S. PACIE, Chicago, Ill. The present invention has for its purpose to provide for a movement between the foot plate and rollers with greater ease, and also for the convenient removal and renewal of the cushion, as well as produce a stronger construction. This is accomplished by placing the cushion between the foot plate and roller spindle and pivotally connect these parts in a way such that the opposite ends of the spindle are adapted to swing to and from the foot plate against the action of the cushion.

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.



Kindly write queries on separate sheets when writing about other matters, such as patents, subscriptions, books, etc. This will facilitate answering your questions. Be sure and give full name and address on every sheet.

Full hints to correspondents were printed at the head of this column in the issue of March 13th or will be sent by mail on request.

(12067) H. D. R. asks: My friend claims that when ice is freezing in a river or pond, it first freezes in small particles "of ice" down in the water near the bottom, and then rises up to the surface and freezes solid, and I claim that it does not. Who is correct? A. Ice does not form below the surface of water and rise to the surface. Water at 39 deg. is heavier than at any other temperature. As water cools below 39 deg. it remains on the top, and the water at the surface is colder than anywhere under the surface after 39 deg. is reached. Hence water first reaches 32 deg. at the surface, and ice forms there.

(12068) J. A. B. asks: In carefully reading "The Forms of Water," by John Tyndall, I find the following startling statement (Sec. 56, page 153): "Hence to convert one pound of tropical ocean (water) into vapor the sun must expend 10,000 times as much heat as would raise one pound of iron one degree in temperature. This quantity of heat would raise the temperature of 5 pounds of iron 2,000 degrees, which is the fusing point of cast iron; at this temperature the metal would not only be white hot, but would pass into the molten condition." Can this be actually true? If so, would it not be safe to say the quantity of heat generated in the kitchen stove to thoroughly cook a 7-pound potroast, where more than a pound of water is converted into the form of vapor, would be sufficient to melt 5 pounds of cast iron? Would any rational person believe you? Why would not this enormous quantity of heat melt down the top of the stove? A. The statement you quote from Tyndall's book is undoubtedly true. It is explained by the well-known phenomenon of the latent heat of steam—the amount of heat required to turn a pound of water at 212 deg. into steam at the same temperature. The amount of heat required to boil your pot would undoubtedly burn up the top of the stove if it could be sufficiently condensed both as regards time and space, i. e., if it were not being constantly radiated away by the large surface of the stove, used up in boiling the water, etc. 2. Again, in a recent article on the Panama Canal in the SCIENTIFIC AMERICAN, one objection made to a sea-level canal was that the rush or flow of water caused by the 10-foot difference in the level of the two oceans would have to be taken into account. Now I thought that the old "difference in level" doctrine had long been disposed of, and that the mean sea level was the same on both sides of the Isthmus of Panama. No doubt the writer referred to the tide, but he did not say so, neither would his article suggest the tide at all, as the cause of the difference in level. What is the maximum of high tide at Panama or Colon? And which direction would the tide take through the canal, were a sea-level channel to be made? A. The "doctrine" of the difference of level between the oceans at Panama has not yet been "disposed of." It is a little difficult to dispose of a physical fact of a few million square miles of ocean with a surface 9 feet higher than that at the other end of the canal. The difference of level referred to is caused by tide; it does not cease to be a difference of level on that account. The current through the canal would be nothing very serious; 9 feet head in 42 miles is not much; but in conjunction with a number of other conditions, the filling up of a sea-level canal by detritus from the Chagres River, etc., the daily reversal of a flow of that extent is a matter for serious consideration. The mean sea level is approximately the same at both ends of the canal, but the amplitude of the tide has a maximum of 2 feet at Colon and of 20 feet at Panama. That is to say, supposing the tides to synchronize, low-tide level at Colon may be 9 feet higher than low tide at Panama, and high tide at Panama 9 feet higher than high tide at Colon. The flow from one end to the other of a sea-level canal would be reversed with each mean tide.

(12069) E. G. de C. asks: I beg to refer to you for elucidation a certain point in engineering, feeling certain that you will help me with your kind assistance. Two eccentrics are hitched on to a slowly-revolving shaft, 2 r. p. m. The eccentrics are respectively 4 inches and 8 inches in diameter. To each is attached a rod, connected at the opposite end to a sliding plate, which moves in a horizontal plane. Each plate is perforated with a slot, 4 inches long and 1/4 inch wide. The length of the slot is at right angles to the plane of motion. The slots are so regulated that at the end of each stroke of the eccentric, each slot is exactly under a corresponding slot of the same size, which opens the tapering end of a hopper full of sand,

placed vertically above the sliding plate. Supposing each hopper to be alike, and filled with the same amount of the same grade of sand, what will be the proportion in the rate of flow from the two hoppers? In other words, will the two hoppers be emptied in the same length of time, or in the inverse ratio of the diameter of the eccentrics? I trust that I am not imposing too much upon your kindness, and thank you beforehand. A. As the slots in the sliding plates coincide with those at the bottom of the hopper at the end of the stroke of the former, the time during which the sliding slot coincides with the fixed one will be practically the same for both slots in spite of the difference of diameter of the eccentrics. Were the points at which the slots register in the middle of the strokes of the sliding plate, the plate operated by the 8-inch eccentric would be traveling twice as fast as that of the 4-inch, and the slot would therefore be open half the time and half the quantity of sand would be discharged; but as the speed of the sliding plate is variable, due to the conversion of rotary to sliding motion, and both plates must come to rest at each end of their strokes, the period during which each is at rest will not be measurably different. It is probable that in a long continuous run a little more sand would be found discharged through the plate operated by the 4-inch than by the 8-inch eccentric, but the quantities discharged would not differ by an amount approaching the inverse ratio of the strokes.

NEW BOOKS, ETC.

RUGS ORIENTAL AND OCCIDENTAL, ANTIQUE AND MODERN. A Hand Book for Ready Reference. By Rosa Belle Holt. Chicago: A. C. McClurg & Co., 1908. Quarto; 202 pp. Price, \$5.

Since the first edition of this book was published, circumstances connected with the buying and selling of Oriental rugs have changed, and the number of reliable authorities has increased considerably. The illustrations are of the highest possible order. They are some of the finest examples of color printing which have been brought out in years. The frontispiece is a magnificent reproduction of a beautiful antique Tabriz silk rug. The other plates are equally fine, and will be a great treat to all lovers of rugs. The work begins with the history and details of rug weaving, then the subject of rug weaving in Egypt, Persia, and Turkey is taken up, followed by a description of rug weaving as conducted in India, Afghanistan, Beluchistan, Central Asia, and the Caucasus region. Then miscellaneous Oriental rugs are treated, such as rugs of the Holy Land, Chinese rugs, Japanese rugs, Polish rugs, silk rugs, felt rugs, prayer rugs, hunting rugs. Rug weaving in Europe and the United States is treated separately, the European countries being Greece, Morocco, Spain, Bosnia, Servia, Roumania, Bulgaria, England, and France. The last chapter, giving miscellaneous information, takes up the question of inscriptions on rugs, Oriental symbols, Chinese symbols, Japanese symbols, Persian symbols, Turkish symbols, miscellaneous symbols, and the meanings of some of the place names associated with rugs. There is also some valuable geographical data and an excellent list of authorities.

THE OCEAN CARRIER. By J. Russell Smith, Ph.D. New York: G. P. Putnam's Sons, 1908. 12mo.; 344 pp. Price, \$1.50 net.

At last we have a history and analysis of ocean transportation with a discussion of its rates. This book fills a very much neglected niche in the history of transportation. It is the outgrowth of the study of three questions: The development of line traffic; the combination among carriers to control rates, and the combination of steamship lines and railways. Numerous writers have dealt with the activities of the ocean, which is a fascinating subject. Biographies of men and of ships, technical details of ships, appear to have been the interesting things. Who built the ship; just when; just where; how long she was to an inch; how wide; how deep; the material; the tonnage; the exact size of her engines; the number of strokes per minute, her speed; her best voyage-record; who captained her, etc. Such information can be collected by the volume, but there is an astonishing silence in the pages of the past as to what these wonderful ships actually did and how much they paid; what they carried; where they carried it; for whom; under what method of management, are things rarely, if ever, told by writers of maritime topics. Such records do, however, exist, as incidental statements in a wide variety of documents, and the present work takes up this information in the most painstaking manner. From the immense mass of materials available, the author traces out the main lines of past development and detects the dominant factors in the present situation. The book is well illustrated by carefully chosen engravings of vessels, and by excellent maps dealing with the great trade routes and the activities of the great steamship companies.

THE WONDER BOOK OF MAGNETISM. By Edwin J. Houston, Ph.D. New York: Frederick A. Stokes Company, 1908. 12mo.; 325 pp. Price, \$1.50 net.

The purpose of "The Wonder Books of Science" is to bring home to the young reader the fascination of the marvels of nature, and to explain the wonderful laws which govern them.

The author is singularly happy in getting the point of view of the youthful reader. Having been, during his life, a practical scientist and a successful teacher of boys, he combines the most desirable forms of experience. In this book the author tells of magnetic batteries and magnetic currents; lodestones; magnets that remember and magnets that forget; the compass, the curious causes of its variations and the methods of preventing them; peculiarities of the earth's magnetism; the Auroral Lights; the telephonograph, or talking newspaper, and many other marvels.

GLASS MANUFACTURE. By Walter Rosenban, B.A., B.C.E. New York: Van Nostrand Company, 1908. 12mo.; 264 pp. Price, \$2 net.

The present volume on glass manufacturing has been written chiefly for the benefit of those who are users of glass, and therefore makes no claim to be an adequate guide or help to those engaged in glass manufacture itself. For this reason, the account of manufacturing processes has been kept as non-technical as possible; no appliances have been given, and only a few diagrams have been introduced for the purpose of avoiding lengthy verbal descriptions. There are few industries where the processes of manufacturing are kept more secret, so that the path of the author who would give an accurate account of the best modern processes used in any given department of the industry, is beset with great difficulties. The author has endeavored to steer the best course open to him under these circumstances, and he appeals to the paucity of glass literature in the English language as evidence of the difficulty to which he refers. The physical and mechanical properties of glass are first taken up, then the raw materials of glass manufacture are treated, which is followed by a chapter on crucibles and furnaces for the fusion of glass, the process of fusion, processes used in the working of glass, bottle glass, rolled or plate glass, sheet and crown glass, colored glasses, optical glass, and miscellaneous products.

THE DESIGN OF HIGHWAY BRIDGES AND THE CALCULATION OF STRESSES IN BRIDGE TRUSSES. By Milo S. Ketchum, C.E. New York: The Engineering News Publishing Company, 1908. 8vo.; 544 pp. Price, \$4.

The aim in writing this book has been to give a brief course in the calculation of the stresses in bridge trusses, followed by a systematic discussion of the details and the design of highway bridges. While there are many excellent books in which the different types of railway bridges are discussed in detail, little attention has heretofore been given to the design of highway bridges. As a consequence of this neglect, many of our highway bridges have been very badly designed, the design of these structures being ordinarily left to an engineer without experience or the agent of some bridge company who was more interested in the resulting profit than in obtaining a good design. The calculation of the stresses in highway and railway bridges is similar, but the problems in the design of the two types are very different, due to the different requirements and conditions. The problem of the design of a highway bridge includes the design of both the superstructure and the substructure. Most of the treatises on bridge design deal with the superstructure only, but in this book, due attention has been given to the design of both superstructure and substructure, and to the effect of the design of one on the other. The author discusses in detail the costs of the different parts of highway bridges. These costs are of value principally to the student and to the experienced engineer who is familiar with the conditions of the particular piece of work. The book is freely illustrated with drawings, diagrams, photo-engravings, and tables. It is an extremely valuable book for the engineer.

GENERAL LECTURES ON ELECTRICAL ENGINEERING. By Charles Proteus Steinmetz, A.M., Ph.D. Edited by Joseph Le Roy Hayden. Schenectady, N. Y.: Robson & Adee. 8vo.; pp. 284. Price, \$2.

The book contains a collection of seventeen lectures of a general nature, dealing with problems of generation, control, transmission, distribution, and utilization of electric energy. The work is largely descriptive and not mathematical. An appendix on light and illumination, and another on lightning and lightning protection, are also included in the volume.

SHOP TESTS ON ELECTRIC CAR EQUIPMENT. By Eugene C. Parham, M.E., and John C. Shedd, Ph.D. New York: McGraw Publishing Company, 12mo.; 55 illustrations; pp. 121. Price, \$1.

This is a small practical handbook adapted for the use of inspectors and foremen in the testing of electric car equipments. The tests are of such a character that they may be performed with the instruments and facilities available in a car house. In order to fix the rules and tests in the minds of the readers, many examples are given and a set of questions is provided at the end of the book.

MEMORIES OF MY LIFE. By Francis Galton, F.R.S. With eight illustrations. New York: E. P. Dutton & Co., 1909. Pp. 339. Octavo. Price, \$3.50.

Francis Galton is probably the hardest scientist to classify of our day, for the simple

reason that he was never a specialist for any great length of time, but has been what may be called a good "all-around" man of science. He has been an able statistician, a meteorologist, a "finger-print" classifier, a founder of anthropometrical and psychological laboratories, an explorer, a pedagogue, an authority on heredity, and the founder of "eugenics." These pleasantly written memoirs of his tell the story of his manifold activities in a simple, unaffected way, and give one many a rare glimpse of the great scientists who made the closing half of the nineteenth century one of the most remarkable periods in the history of the world. It is but natural that a man who has such strong notions on the subject of heredity should open his memoirs with a fairly exhaustive statement of his family stock.

Legal Notices

PATENTS

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| Bit, J. C. Krause | 917,951 |
| Bit and pin drill, recessing, W. F. Prentis | 918,365 |
| Blower, A. T. Noe | 918,358 |
| Blowpipe, J. H. Draeger | 917,934 |
| Boat dumping apparatus, canal, G. E. Titcomb | 918,224 |
| Bobbin winding machine, J. C. Liberty | 918,454 |
| Boiler cleaner, D. Mahoney | 918,178 |
| Boiler stay bolt, steam, F. M. Patterson | 918,193 |
| Boiler tube extractor, W. T. Adams | 918,411 |
| Bolt, safety locking, H. W. Harris | 918,316 |
| Boots and shoes, machine for use in the manufacture of, E. Bayard | 918,486 |
| Bottle and ticket holder, N. C. Van Otteren | 917,914 |
| Bottle holder, nursing, D. D. Coombs | 917,753 |
| Bottle stopper, vacuum, G. P. Van Wye | 918,246 |
| Bottle, vacuum insulated, G. P. Van Wye | 917,816 |
| Box, E. L. Ansgore | 917,835 |
| Box, E. E. Flura | 918,138 |
| Box alarm, portable, N. P. Bissonnette | 917,991 |
| Bracelet, R. H. Lewis | 918,175 |
| Brake actuating mechanism, P. Musselman | 918,463 |
| Brick press, J. I. Cross | 917,851 |
| Brooder, G. H. Lee | 918,174 |
| Brush holder, A. Rae | 917,964 |
| Brush holder, adjustable paint, A. J. Compton | 918,420 |
| Brushes, manufacture of, C. Strobel | 917,811 |
| Buckle, W. A. Holden | 918,449 |
| Building block, F. A. W. Davis | 918,030 |
| Burglar alarm, W. T. Davon, Jr. | 918,052 |
| Rutton making machine, E. F. T. Lundquist | 918,177 |
| Cabinet, credit, E. D. Troutman, reissue | 12,942 |
| Cabinet, filing, H. L. Squires | 918,214 |
| Can cover, ash, F. H. Doane | 918,295 |
| Can straightener, T. H. Hart | 918,146 |
| Caney cutter, W. E. Ellis | 918,427 |
| Cap, miner's, W. C. Ballman | 917,987 |
| Cap, washable, S. Graff | 918,037 |
| Car construction, C. A. Lindstrom | 917,956 |
| Car controlling mechanism, elevator, A. W. Hubers | 918,051 |
| Car, dump, C. W. Russell | 918,092 |
| Car feeder, G. A. Blisbe | 918,268 |
| Car fork, mail, H. Lofevre | 917,776 |
| Car, hopper, E. W. Summers | 918,390 |
| Car lift, O. V. Greene | 918,312 |
| Car, passenger, W. J. Mackie | 918,344 |
| Car, railway, E. W. Summers | 918,098 |
| Car wheels and other circular objects, mold for making chilled, T. D. West | 918,236 |
| Cars or the like, air brake cylinder attachment to railway, H. M. Pfager | 917,891 |
| Cars, trolley device for electric, W. A. Crawford-Frost | 918,287 |
| Carbids, producing, R. Catani | 918,419 |
| Card cutter and marker, G. C. Anderson | 918,412 |
| Carpenter's implement, N. P. Crammer | 918,130 |
| Carpet binding, protective, L. H. Koll | 918,331 |
| Case lock, E. S. Royer | 918,374 |
| Cash carrier, M. C. Swezey | 918,009 |
| Casket flower support, F. L. Berg | 917,839 |
| Casting, abrading, grinding, cutting, and polishing substances in a metallic matrix, C. J. & F. G. Marius | 918,069 |
| Casting machine parts, J. T. Uebbing | 918,400 |
| Cattle guard, Sims & Brown | 918,478 |
| Cement and metal constructions, strengthening member for composite, O. M. Davis | 918,019 |
| Cement burning apparatus, H. Ch. Doherty | 918,029 |
| Cement clinker, burning, C. Ellis | 918,384 |
| Cement, waterproof, M. M. Smith | 918,384 |
| Chain machine, H. A. Staples | 917,903 |
| Chart, color, H. G. Maratta | 918,068 |
| Check holder, W. B. Hildenbrand | 917,864 |
| Chuck and driving dog, combined, D. Fisher | 918,031 |
| Churn, J. E. Usher | 917,978 |
| Chute, W. B. Berg | 918,418 |
| Cigar holder, E. A. Ingraham | 917,948 |
| Cigar holder, E. Duplinsky | 918,446 |
| Cigar holder, S. R. Hayward | 918,446 |
| Cigar pressing apparatus, R. Woerner | 917,984 |
| Circuit controller, S. Cabot | 917,749 |
| Circuit controlling device, R. E. Patterson | 918,086 |
| Clamp. See Letter clamp | |
| Clamp operating mechanism for casting apparatus, Waechter & Wurster | 918,403 |
| Clamping machine, A. E. Palmer | 918,192 |
| Clasp, E. Pickhardt | 917,791 |
| Clothes drier, H. M. Burdick | 918,000 |
| Clothes pin, S. J. Johnson | 917,930 |
| Clothes pin holder, E. B. Williams | 918,408 |
| Clutch, friction, H. Horsfall | 917,764 |
| Clutches, arrangement of windings for electromagnetic, H. Ast | 918,254 |
| Coating machine, F. E. Goldsmith | 918,440 |
| Coffee and for other purposes, machine for roasting, S. Cranston | 918,423 |
| Coin assorting, stacking, and counting machine, B. F. Brewster | 918,273 |
| Coin controlled apparatus, F. Magidson | 918,455 |
| Coin controlled mechanism, H. Koch | 918,165 |
| Collar, A. H. Parsons | 918,468 |
| Collar, shirt, E. Christman | 918,284 |
| Comb, woman's hair retaining, I. M. Schwarzer | 918,203 |
| Combination lock, push pin, J. Roche | 918,200 |
| Concrete construction, reinforced, W. J. Warren | 918,231 |
| Concrete, reinforced, H. J. Quereau | 918,366 |
| Concrete reinforcing bar, A. E. Lindau | 917,878 |
| Concrete slab, reinforced, W. A. Fusch | 917,859 |
| Concrete structures, metal reinforce for, E. White | 917,822 |
| Condenser, static, C. D. Babcock | 918,257 |
| Condiment and toothpick holder, combination, Baeder & Lude | 918,115 |
| Conduits, means for closing the ends of, A. C. Thompson | 917,911 |
| Confectionery machinery, S. Pooley | 918,195 |
| Control system, H. D. James | 917,868 |
| Controller frame, H. W. Forslund | 917,858 |
| Conveyer, H. Kille | 917,769 |
| Conveyer, E. D. Seeberger | 917,302 |
| Cooking utensil cover, E. R. Chambers | 918,282 |
| Cord or thread, reinforced coated, Bayne & Subers | 918,414 |
| Cored openings, apparatus for forming, W. H. Lose | 918,342 |
| Corn cutter knife, A. W. Thomas | 917,976 |
| Corset attachment, E. C. Dalley | 917,852 |
| Cotton press and feeder, automatic, F. B. Cumpston | 917,754 |
| Cover lock, W. C. Morrill | 917,786 |
| Crib attachment, K. Baker | 918,259 |
| Crushing or grinding machine, S. Cooper | 918,014 |
| Cultivator, W. P. Dunlap | 918,298 |
| Cultivator and like machine, S. N. Hench | 917,762 |
| Cultivator frame hay rake attachment, F. Richard | 918,474 |
| Cultivator shield for corn cultivators, F. A. Tuttle | 917,912 |
| Culvert mold, Fife & Coleman | 918,030 |
| Current contact apparatus, automatic alternating, C. E. L. Brown | 918,417 |
| Curry comb, C. Mayr | 917,981 |
| Curtain pole, C. F. Laun | 917,772 |
| Cutting tool for boring or drilling machines, J. F. Campbell | 918,003 |
| Cylinder automatic spring piston, liquid, steam, or gas, W. M. Rumsey | 917,798 |
| Dandelion digger, B. Schneider | 917,802 |
| Delivery mechanism, W. Scott | 917,901 |
| Dental cabinet, H. E. Bown | 917,995 |
| Dish mop and scraper, W. D. & R. W. Fletcher | 918,033 |
| Disinfectant briar, G. W. Jewell | 917,779 |
| Display rack, W. L. Nutting | 918,080 |
| Display rack, L. L. Morse | 918,186 |
| Display rack attachment, E. B. Weston | 918,238 |
| Distilling apparatus, wood, H. Copilovich | 918,421 |
| Ditch filling mechanism, Dalton & Clements | 918,016 |
| Ditching machine, C. F. White | 917,821 |
| Ditching machine, B. M. Rolph | 918,373 |
| Door fastener, sliding, J. B. Shinn | 917,969 |
| Door, metal, A. C. Goddard | 918,142 |
| Doors, etc., cushioning device for, G. Kabu-reck | 918,090 |
| Dough mixer and raiser, M. Bowman | 917,921 |
| Downdraft boiler, Chandler & Dow | 917,751 |
| Draft appliance, F. H. Durgin | 918,426 |
| Draft mechanism, H. Messman | 918,183 |
| Draft rigging, W. S. Miller | 918,185 |
| Draperies, etc., device for use in making, W. K. Mallonee, et al. | 918,348 |
| Drawer support, H. B. Morse | 917,885 |
| Dredge, O. H. & A. L. Eliel | 918,302 |
| Dressing stand, S. Reaves | 918,471 |
| Drill, sharpener, operated, J. G. Leyner | 917,335 |
| Drip pan, B. F. Tracy | 917,777 |
| Drummers' samples for textile fabrics, manufacturing, A. C. Korcinek | 918,169 |
| Dry kiln, superheated steam, D. E. Lain | 918,334 |
| Drying materials with superheated steam, D. E. Lain | 918,335 |
| Dust removing pneumatic machine, J. R. Blum | 917,993 |
| Dyeing apparatus, Allison & Shison | 918,485 |
| Dyeing machine, circulating, Allison & Shison | 918,484 |
| Dyes, lakes from sulfonated azo, F. Wurthner | 918,244 |
| Fasel, W. A. Hartman | 918,045 |
| Feg tester, W. C. Hunter | 917,767 |
| Electric conductors, system of insulation for high voltage, F. M. Locke | 918,339 |
| Electric cut-out, T. E. Murray | 918,188 |
| Electric fire and heat alarm, automatic, J. W. Butterworth | 918,278 |
| Electric fixture, W. J. Boemmer | 918,119 |
| Electric flash-light attachment, F. Meadows | 918,181 |
| Electric furnace, J. H. Reid | 917,796 |
| Electric machine contactor commutator, dynamo, Rivers-Moore & Donald | 917,896 |
| Electric motor, R. Siegfried | 917,808 |
| Electric process for gassing threads, Gin & Courteuisse | 918,439 |
| Electric wire for vulcanization, machine for reeling covered, W. Wendland | 918,235 |
| Electric aerial distribution systems, forming junction and feeding points in, H. Behrend | 918,262 |
| Electrode making, E. W. Jungner | 917,735 |
| Electrolytic cell, J. H. Reid | 917,795 |
| Elevator door operating device, J. J. Long | 918,880 |
| Ellipsograph, N. B. H. Sundman | 918,214 |
| Embalming instrument, C. A. Genung | 918,437 |
| Embankment, A. L. Hartnagel | 918,046 |
| Engine. See Fire engine | |