

## RECENTLY PATENTED INVENTIONS.

## Electrical Devices.

**METAL POST OR COLUMN.**—S. H. TYSON, Zanesville, Ohio. The invention is an improvement in skeleton iron or steel posts or columns, particularly such as are intended and adapted for use as poles and supports for telegraph wires. The post is strong and rigid, and the concrete base forms a practically indestructible foundation.

## Of Interest to Farmers.

**PLANT-PROTECTOR.**—F. C. ELLIOT, Tallahassee, Fla. The object of the invention is to provide a partial shade for growing plants, such as tobacco, pineapples, etc., the protector being so arranged that the plants are subjected to alternate bars of sunlight and shadow, the bars extending north and south, so that during the apparent motion of the sun from east to west the bars of sunshine and shadow will travel from west to east, thus subjecting each part of the plant to alternate bars of sunshine and shadow.

**BEE-FENDER.**—W. L. JOHNSON, Killbuck, Ohio. The improvement is in the fenders, which are constructed and adapted to be secured to the outer sides of hives, the same consisting of a small tin or other receptacle for saccharine matter and provided with openings in the side next the hive through which the bees may pass freely in order to obtain access to the feed in the receptacle.

## Of General Interest.

**LOOSE-LEAF BINDER.**—F. H. CRUMP, Los Angeles, Cal. The object here is to provide means for binding loose leaves having perforations in their edges, instead of the usual slotted openings, and for holding the binders in proper spaced relation in respect to each other and for permitting the removal of either of the binders without disturbing the other, the leaves being inserted by moving longitudinally on the posts instead of perpendicularly thereto.

**MANIFOLDING SALES - CHECK.**—F. THOMAS, New York, N. Y. The invention has in view the provision of a sales check for hotel and restaurant use by which it will be impossible, without the same being detected, for the waiter to render the patron a bill for any other amount than that specified by the other slip or slips turned in to the checker or cashier, also to keep the check in a clean and sanitary condition.

**LIFTING-JACK.**—J. S. HEARN, Jett, Ky. The object of the invention is to provide details of construction for a device compact in arrangement and adapt the device for manual operation in different positions, enable the raising and lowering of a heavy load and afford a very powerful jack at a moderate cost.

**SACK-FASTENER.**—E. C. FAWCETT and A. MCKILLOP, Lake City, Colo. The fastener is especially adapted for bags containing granular or pulverulent materials, and the bag being filled, the strain on the sides of the bag will tend to move the sections of the fastener outward, and since they overlap, this outward movement will be toward each other, thus moving the hooks into closer engagement with the cross bars.

**JOINT FOR SCREENS AND OTHER FRAMES.**—F. W. VAN FLEET, Mount Blanchard, Ohio. The invention has reference to improvements in joints for screens and other frames and has for its object the provision of a joint which shall be simple, cheap and efficient and one which renders a frame rigid and permits of making frames of various sizes.

## Hardware.

**SUPPORT FOR TRUNK-LIDS OR THE LIKE.**—J. A. I. CLAUDON, Mexico, Mexico. In this case the invention is an improved means for supporting the lid of trunks or the like, designed to maintain the lid, when open, in an upright position, thereby preventing it from falling forward or backward when the trunk is for any purpose open.

**TOOL.**—F. E. GORDON, Lincoln, Maine. The improvement provides an ordinary pair of pliers, comprising handles having jaws adapted to grasp the stud of the mount, with a third member composed of a handle having a jaw and supported upon one side of the pliers to move in a plane at approximately right angles to the plane of movement of the plier handles and jaws, the third member being reversely curved so that both its handle and jaw pass to the opposite side of the pliers from the point of its support.

## Heating and Lighting.

**STEAM-TRAP.**—L. HAND, Amsterdam, N. Y. The invention relates more particularly to water-level regulators such as are adapted to be connected to boilers, tanks, or the like, for maintaining a constant water level in the same and preventing the level from exceeding a predetermined height.

## Household Utilities.

**COMBINED MOSQUITO-BAR AND TABLE ATTACHMENT FOR BEDSTEADS.**—MARY E. C. COWDREY, Early County, Ga. The invention provides, by a simple economical construction, a mosquito bar for bedsteads, cots, and cribs, which may be easily and quickly attached and detached, and adjusted higher or lower and in other ways as required by conditions; further, that the main parts may

be detached from each other and packed compactly for storage or transportation.

**SHADE.**—L. VERCOURE, Lebanon, Mo. One purpose of this inventor is to provide a portable shade adapted for use in connection with lamps or lights of all kinds, and to so construct the device that the curtains carried thereby are removable from their supports and can be quickly and conveniently partially or completely folded or partially or entirely spread out upon said supports.

## Machines and Mechanical Devices.

**PRINTING-PRESS ATTACHMENT.**—C. MERZ, Fort Lee, N. J., and F. LEBART, New York, N. Y. In the present patent the invention has reference to platen or job printing presses, and its object is the provision of a new and improved attachment whereby the type is uniformly inked and double rolling is entirely prevented.

**VIBRATOR.**—F. R. MUENZENBERGER, New York, N. Y. The invention relates to improvements in hand-operated devices for giving vibratory massage, and relates more particularly to that type of device in which there are provided a vibratory arm having engagement with a cam, the cam being rotated by the aid of a series of gears, and the motion being rendered more uniform by a fly wheel or balance wheel rotatable with the cam.

**MECHANICAL MOVEMENT.**—J. H. FLOWERS, Enterprise, Ore. This invention relates to mechanical movements, and is particularly useful in connection with washing machines, churns, and devices of similar character in which an alternating rotary movement of certain parts is desired, or in which certain parts are to be reciprocally rotated in one direction and then another.

## Prime Movers and Their Accessories.

**VALVE.**—F. L. ORR, Thurman, Iowa. The device is designed for use with starting means of gas or gasoline engines, of the internal combustion type, and the particular form of starting means employing air or gas, stored under pressure adapted in use for starting the engine in operation, by means similar in form to means disclosed in two Letters Patent formerly granted to Mr. Orr.

## Railways and Their Accessories.

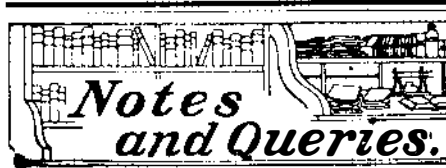
**TIE-ROD FOR RAILROAD-RAILS.**—H. HERDEN, Wellsboro, Pa. The purpose of the invention is to provide a tie rod having novel features, which adapt it for quick application or removal, as occasion may require, and that will, when employed in sufficient number, secure track rails upon cross ties, clamp the tie plates thereon, and prevent the track rails from shifting laterally.

## Pertaining to Vehicles.

**HUB, SPINDLE, AND AXLE-ARM.**—W. E. BAXTER, Frankfort, Ky. The inventor provides a wheel and spindle in which inner and outer cups are held to turn with the spindles and fit over tubular portions of the hub, which tubular portions fit over but turn freely around the axle spindle, and do not contact therewith so that the load is borne by the cups bearing upon the tubular portion of the hub.

**WAGON-BRAKE.**—R. C. PRYOR, Wolfsville, Md. The purpose of the inventor is to provide a brake for vehicles which can be automatically applied by the backing of the team, and wherein the automatic brake mechanism can be rendered inactive at the will of the driver. The mechanism is positive in action.

**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.



Full hints to correspondents were printed at the head of this column in the issue of November 14 or will be sent by mail on request.

(11023) C. L. W. asks: The writer observed to-night, no doubt in common with others, what he had never before seen, though he has observed the moon closely at various times for many years. A bright elongation on the upper right-hand edge (that furthest away from the earth) the earth being in the direction that the arrow points. The elongation was probably a mountain, projecting high, and strongly illuminated by the sun, but it was so different from the irregularities usually observed in the edge away from the sun, was so large and so strongly illuminated, that the writer thought it would be at first a very large and bright star just on the edge of the moon. He first observed it at 9:45 P. M. and it had not changed its position at 11:00 P. M. The remaining portion of the upper edge of the moon showed no particular irregularity, this large protuberance standing out in bold relief. Is it possible that it is anything of scientific interest? It was no optical illusion. A. If the object you saw on the terminator of the moon was a lunar mountain, you will be able to see it at the next lunation in the same phase. The moon presents the same side to us at the same time each

lunar month. A particularly clear night may have enabled you to see what had previously escaped your notice. No reports have reached us that any change has taken place upon the moon.

(11024) A. H. W. asks: Given a bottle, sealed airtight, the air within which is at 50 deg. above zero F., what fabric can I wrap the bottle in to insulate it against a surrounding heat of 120 deg.? Of course, I know that insulation cannot be complete, and insulation in this connection only means to retard the encroachment of heat. A. Loose wool, goose feathers, carded cotton wool, and hair felt are the best common materials (in that order) in which to wrap a hot or a cold body to prevent its radiating or absorbing heat from surrounding substance or air. Best of all is a partial vacuum, if it can be managed; if your sealed bottle were put inside a larger vessel also sealed, and the latter partially exhausted of air, there would be no appreciable change of the temperature in the inner bottle for many hours.

(11025) J. S. C. says: 1. Will you please give me specific directions for electroplating with copper leaves, flowers, insects, etc., similarly to the rosebud hat pins, so often seen now? A. Specific directions for preparing flowers, insects, etc., and plating them with copper, may be found in Watt's "Electro-Plating," which we send for \$4.50. We must be excused from copying several pages from a book, when it can be had by buying the book. 2. If the objects are to be covered with graphite, how shall it be made to stick on? The powder form doesn't seem to. A. The objects are not covered with graphite, which is too coarse and cannot be made to adhere by any simple method. Silver is employed, and it is precipitated by phosphorus upon the leaves. 3. What voltage and amperage is necessary for good results? I can use six large bicromate cells or four Edison caustic soda cells or both. A. Silver plating requires about 1 volt; the amperes vary with the number of objects to be plated at once. Your Edison cells can be used for the purpose. 4. Can you recommend three or four good books dealing with the above and amateur electroplating in general? A. Watt's book will be quite enough, as it is authoritative on this subject. You will need no other book.

(11026) L. H. R. asks: 1. Does a static electric machine depend for its volume of electricity on the superficial size of plate or velocity and will a sufficient series of plates at a greater speed give off very much electricity at a high speed on one large disk, at 200 or 300 revolutions? Please answer an old reader in query column next issue, to satisfy a difference of opinion. A. The discharge of a static machine depends upon several conditions, size of plate, swiftness of rotation, dryness of plates, absence of dust, etc. The spark cannot much exceed the radius of the plates in length, since it will find the distance less between the combs if the balls are separated more than half the diameter of the plates, and will pass between the combs, taking the axle of the machine on its way across. This is the reason for using as large plates as convenient. Glass is the best substance for the plates. Since there is a limit to the safe speed for glass, hard rubber is now used a great deal. This can be run at any speed desired, and a very strong spark can be produced. It is better to use several smaller plates than one large one, because of compactness and neatness of appearance. A well-made machine with two 18-inch plates of hard rubber, driven by a quarter horse-power motor, gives a steady stream of sparks at 1,800 revolutions per minute. It may also be driven by hand, though no one can maintain that speed very long. 2. Are mica plates superior to glass? A. Mica differs very little from glass in its inductive capacity, and would serve equally well for the plates of a static machine, if pieces of sufficient size could be had at a moderate cost.

(11027) F. A. V. asks: Please inform me how a small dry battery for a pocket search-light may be recharged from a 110-volt direct-current circuit. The batteries become exhausted very quickly, and it is rather expensive to be continually buying new ones, while I have the 110-volt circuit to draw from, where the minimum amount of current charged for is not being consumed. A. A small pocket dry battery is not worth recharging. They are thrown away when exhausted. To reduce a 110-volt current to 4 or 5 volts for this purpose would be very wasteful. A pocket search-light is a luxury which those who carry must be willing to pay for. The battery is never durable, and soon gives out whether used or not. It is usually overrated. 2. What resistance in the way of 16-candle-power lamps should be used in a 110-volt direct-current circuit to enable it to be used for electroplating? What should the voltage and amperage be? A. The voltage for electroplating varies with the metal to be deposited. It is from 0.5 volt to 7 volts. The amperes depend upon the area of surface to be plated. The data are to be found in such books as Langbein's, which we send for \$4, and Watt's, which we send for \$4.50. 3. I have an ammeter whose limit is 20 amperes. How many lamps in series or parallel should be connected in the 110-volt circuit to obtain a reading on the ammeter? What is the resistance of a 16-candle-power lamp? A. If your ammeter does not register till 20 amperes are flowing, you will require

forty lamps to make it indicate any current. The resistance of an incandescent lamp when hot is about 220 ohms.

(11028) C. B. H. asks: Is it possible for the human eye to possess any of the features of a camera? I have noticed peculiarities about my own eyes being able to see objects a second time, after looking away from the object looked at, especially if in the shadow. The force of this lasts several seconds, being of greater strength with certain colors, etc. Will you have the kindness to answer this query, without reciting it in the columns of your paper? A. It is not a peculiar experience that you can still see an object before the eye after you have gazed intently at it for a brief time. Everybody can do the same. If you look at a colored object, say a bright blue, the object seen afterward will be a yellow. We call these objects seen after the object has disappeared, after-images, and the color presented by one of these is the complementary of the color presented by the object itself. Such an after-image will drift before the eye in a very curious fashion along a dimly-lighted wall, larger than the object if the wall be farther away from the eye than the object was, and smaller if the wall be nearer. This proves that the image is in the eye and is simply projected against the wall in the line of sight. You will find these matters discussed in books of physics under the name Accidental or After-Images. As you send no post-office address, but only your name, we can only reach you by publication of the information in our columns. We think too that the matter is of general interest, so as to justify its publication. Quacks often prey upon the fears of the nervous by means of these after-images.

(11029) C. L. K. asks: Will you please advise me through your query column how to get the various broken parts of the mercury column in a thermometer together after they have been separated in shipping? A. To reunite the parts of a broken mercury column in a thermometer, first try jarring it by taking it in the hand and striking the arm suddenly downward as if to give a blow with a hammer, being careful that there is nothing in the way of the arm which the thermometer can hit. If this does not accomplish the object, tie a sufficiently strong cord to the thermometer, and whirl it rapidly around the head. In this way centrifugal force and momentum may bring the mercury together. As a last resort cool the bulb in a freezing mixture, and contract the mercury till it is all in the bulb at the bottom of the tube. When the instrument warms again, the thread of mercury will be continuous. The break in the column of mercury is caused by minute air bubbles in the mercury and on the glass. These are pushed down by the mercury as it contracts into the bulb, and so the column becomes continuous when the mercury expands from the bulb again. If there is a small cistern at the top of the tube, the mercury can be heated till the broken portions are driven up into this cistern, thus accomplishing the same object as if the bulb is cooled.

(11030) C. D. R. asks: Can you give me a receipt for transparent etching ground, for retouching? Silicate of soda is transparent, but leaves a ragged edge in the lines. Is there anything I could add to it for the purpose that would not destroy its transparency? A. Retouching varnish, sandarac 1 ounce, castor oil 80 grains, alcohol 6 ounces.

(11031) F. C. asks: How can I cover a pulley with paper or leather? Pulley is of cast iron 9 inches by 8 inches with an extra smooth face. A. Scratch the face of the pulley with a rough file thoroughly, so that there are no bright or smooth places. Then swab the surface with a solution of nitric acid 1 part, water 4 parts, for 15 minutes; then wash with boiling hot water. Having prepared a pot of the best tough glue that you can get, stir into the glue a half ounce of a strong solution of tannic acid, oak bark or gall nuts, as convenient to obtain, to a quart of thick glue; stir quickly while hot and apply to the paper or pulley as convenient, and draw the paper as tightly as possible to the pulley, overlapping as many folds as may be required. By a little management and moistening of the paper, it will bind very hard on pulley when dry, and will not come off or get loose until it is worn out. Use strong hardware wrapping paper.

(11032) L. A. S. asks: 1. What per cent of electricity, going out through the trolley wire, gets back to the dynamo through the rails or ground? A. All the current returns to the dynamo in one way or another. 2. Would it be possible under existing conditions of insulation, to send the current out through the rails and back to the dynamo through the trolley wire, and if so, would the electrical efficiency be the same? A. The trolley wire is made plus, not as you seem to think, because the current might not go out properly if sent out by the rails, but to protect metals, water and gas pipes, etc., from corrosion as much as possible. It makes no difference to the electrical efficiency which wire is attached to the trolley, the plus or the minus. If, however, the current flows from the trolley wire to the ground on its way back to the station, it will not act by electrolysis so much upon the metal which it traverses, as if it flowed in the opposite direction. Iron and lead are positive, and tend to attach themselves to the negative pole of the circuit. If then the

rails, and water and gas pipes are in the direction of the flow of the circuit, they are not reduced by electrolysis as they should be if the current were flowing the other way, from the rail to the trolley wire.

#### NEW BOOKS, ETC.

**VENETIA AND NORTHERN ITALY.** Being the Story of Venice, Lombardy, and Emilia. By Cecil Headlam. Illustrated by Gordon Home. London: J. M. Dent & Co., 1908. New York: The Macmillan Company. 8vo.; pp. 347. Price, \$2.50 net.

The object of this book is to recall familiar scenes to those who have visited them, to suggest them to others, and to be of use upon the spot; to deal in outline with the history, architecture, and art of towns of northern Italy which lie within the triangular space bounded on the north by the Alps, on the west by the Apennines, and on the east by the Adriatic Sea. It embraces the Lombard Lakes and the Lombard Plain; the chief towns that lie in the valley of the Po and its tributaries and along the great Aemilian Way, which the railway follows from Como and Milan to Bologna, Rimini and the sea. Following the railroad northward through Ravenna, Ferrara, and Padua to Venice, and omitting the northeastern portion of the Veneto, it treats of the towns that lie at the foot of the Alps, from Vicenza, Verona, and Brescia to Bergamo. In each Italian town there is a distinct personality, an individual charm, the outcome of the history and development so curiously individual and distinct. The author has endeavored in this book to show the history of each town of which it treats, as it is illustrated by its art and architecture, and he has endeavored to show how the various styles of art and the various buildings enumerated are the direct and natural outcome of history and tradition, of despotism or independence, of invasion or commerce, of political, social, and geographical environment, of the dominating, fascinating personalities who have guided the destinies of these towns. The illustrations are peculiarly charming, and it is little wonder that the author says in the preface that the good wine of Mr. Home's illustrations needs no bush. This attractively printed and bound volume belongs to the "Old World Travel" series.

**THE WORLD'S GOLD. ITS GEOLOGY, EXTRACTION, AND POLITICAL ECONOMY.** By L. DeLaunay. Translated by Orlando Cyprian Williams. New York: G. P. Putnam's Sons, 1908. 12mo.; 242 pp.

The present work was written by a Frenchman, translated by an Englishman, and Mr. Charles A. Conant of New York furnishes an introduction. The subject is treated in a very interesting manner, and those who deal in any degree with the subject will be benefited by a perusal of its pages. It is filled with most valuable information, some of which cannot be found elsewhere.

**CHAPTERS ON PAPER MAKING.** By Clayton Beadle. New York: D. Van Nostrand Company, 1908. 16mo.; 182 pp. Price, \$2.

The present volume treats of the theory and practice of beating, and gives the best English practice. It is an extremely technical book which will be of the greatest value to all paper-makers. There is practically no literature available either here or abroad on the lines of this work, and it is to be hoped that more will be forthcoming—books by the same author on other subjects relating to paper making.

**THE BOOK OF THE PEARL.** By Dr. George Frederick Kunz and Charles Hugh Stevenson. New York: The Century Company, 1908. Royal 4to.; pp. 550. Price, \$12.50.

The preparation of this book has been a joint labor during the spare moments of the two authors, whose time has been occupied with subjects to which pearls are not wholly foreign—one, Dr. Kunz, as a gem expert, and Charles Hugh Stevenson (LL.M., D.C.L.), who has been connected with the U. S. Fish Commission since 1891. For many years the authors have collected data on the subject of pearls and have accumulated all the available literature in either printed form or in manuscript. Dr. Kunz has been fortunate in being able to handle personally the crown jewels of Russia. The English and Saxon crown jewels were also seen under favorable conditions. In "The Book of the Pearl," no possible point of interest relating to pearls is left untouched. It illustrates the use of pearls as objects of art and ornamentation, past and present, showing the gradual development and changes in prevailing fashions; it notes their decorative value as shown in portraiture and in imaginative designs by the greatest artists; it brings together the many theories and facts concerning their origin, growth, and structure; it sets forth their values, artistically and commercially, and shows how these are determined; it describes the proper treatment and care necessary to enhance and preserve their luster and beauty; it recounts the history and methods of the various fisheries throughout the world, and directs attention to the importance of conserving the resources, and the possibilities of cultivating the pearl oyster. One hundred full-page plates go to the making of this exquisite

book—three photogravures, seventeen pages in full color, and eighty in tint and black—all showing some rare and rich or unusual phase of pearl life or romance. These include portraits of famous women wearing superb pearl ornaments, wonderful crown jewels, notable jewels, and unusual uses of pearls.

**MAGNETOS FOR AUTOMOBILES. HOW MADE AND HOW USED.** By S. H. Bottone. New York: D. Van Nostrand Company, 1908. London: Crosby, Lockwood & Son. 16mo.; 88 pp. Price, \$1.

The author has endeavored as far as is permissible within the limits of a small work to give a brief outline of the history, construction, and furnishing of the magneto as generally used by motorists in the hope that an amateur provided with a machine of this type may not be at a loss should slight repairs or adjustments be required when the services of an electrical expert are not obtainable, and given the requisite tools, skill, and patience, may be able in an emergency to make the repair himself. That the magneto system has found much public favor is not surprising when the many advantages of that system in avoiding the trouble and expense entailed by constantly recharging the accumulator cells, the attendant danger of spilled acid and burnt-out coils are considered. The illustrations might have been larger and a great deal better.

**THE STORY OF GOLD.** By Edward Sherwood Meade. New York: D. Appleton & Co., 1908. 16mo.; 206 pp. Price, 75 cents, postage extra.

This book is an attempt to present the development of the modern gold mining industry with special reference to the connection between its development and the habit and vogue of business prosperity. The connection between the gold supply and prosperity is now thoroughly understood. Without a supply of gold increasing at a rate corresponding to the volume of business transactions, the prices must decline and the scale of business operations must be curtailed. On the other hand, in a gold mine furnishing adequate supply of reserved money which serves as a foundation for the immense edifices of credit and token money, the prices tend upward and prosperity endures and increases. From the author's account of the history of gold production material is drawn which serves as a basis for a forecast of the future of gold production. For a small-sized volume it is well illustrated.

**SEWERS AND DRAINS.** By Anson Marston, C.E. Chicago: American School of Correspondence, 1909. 8vo.; 156 pp. Price, \$1.

In recent years such marvelous advances have been made in the engineering and scientific fields, and so rapid has been the evolution of manufacturing and constructive processes and methods that a distinct need has been created for a series of practical working guides of convenient size and low cost embodying the accumulated results of experiments, and the most approved modern practice along a great variety of lines. To fill this acknowledged need is the special purpose of the series of handbooks of which this is the latest. It is especially adapted for the purposes of self-instruction and home study. The method adopted in the preparation of this volume is that which the American School of Correspondence has developed and employed so successfully for many years. It is not an experiment but has had the severest of all tests, that of practical use which has demonstrated it to be the best method yet devised for the education of the busy working man. The book is excellently illustrated with well-chosen engravings and diagrams.

**THE LAW AND COMMERCIAL USAGE OF PATENTS, DESIGNS, AND TRADE MARKS.** By Kenneth R. Swan, B.A. New York: D. Van Nostrand Company, 1908. 12mo.; 386 pp. Price, \$2.

This is a volume in the "Westminster" series, the object of which is to bring before the keen eye of the non-technical reader an accurate knowledge of manufacturing processes and the practical application of modern science to industries. Each volume is written by an expert to the end that practical readers and all who are engaged in the numerous allied branches of engineering and technical trades may have reliable works of reference. The work is, of course, from the standpoint of English law; for the book, though also published in this country, has its origin in England. The author is a barrister-at-law of the Inner Temple.

**CONFESSIONS OF A RAILROAD SIGNALMAN.** By J. O. Fagan. Boston and New York: Houghton, Mifflin Company, 1908. 12mo.; 181 pp. Price \$1 net.

The author is certainly familiar with the "tower," and he writes in a fascinating vein that holds his readers spellbound until the end of the book. The contents are "A Railroad Man to Railroad Men"; "The Man"; "The Management"; "Loyalty"; "The Square Deal"; "The Human Equation"; "Discipline." Perhaps a better idea of the contents may be gained from some of the titles of the illustrations: "A Typical Smash-up"; "A Head-on Collision"; "Yard Wreckage"; "A Typical Derailment"; "A Rear-end Collision"; "What Comes from a Misplaced Switch"; "Down an Embankment in Winter," and the "Aftermath." This is not a very cheerful list of titles, and

after a perusal of the book one wonders at the comparatively few accidents compared with the endless possibilities for trouble.

**FAR EAST REVISITED.** By A. Gorton Angier. With a preface by Sir Robert Hart. London: Witherby & Co., 1908. 8vo.; 364 pp. Price, \$4.20 net.

The author is the editor of the "London and China Telegraph" and "London and China Express." Books of this kind have a singular appropriateness at this moment in a record-making epoch. The East is up and awake, and foundations are being laid for fuller share in the work of the world and for more intimate relations for all that concerns international intercourse and the influence one nation can exert on all others. Change is in order and developments will daily be more and more important, and whatever tends to clearness of ideas as to what is, or helps to guide thought toward what is to be will not fail to find its place in the general scheme of things. In "Far East Revisited" the author has done the public a service in thus reproducing the outcome of personal travel and observations made on the spot. He has repeatedly seen the localities and peoples which he describes and has accordingly been able to illuminate both past and present, so that the comparison thus made gives additional value to the work. The book is divided into four parts: Malaya, China, Korea, and Japan. There are a number of excellent plates.

**AMERICAN ANNUAL OF PHOTOGRAPHY. 1909. Volume XXIII.** Edited by John A. Tennant. New York: Tennant & Ward, 1908. 8vo.; 328 pp. Price, paper, 75 cents; cloth, \$1.25.

The American Annual of Photography is always a most welcome guest, filled as it is with pretty pictures and articles on improved methods. The present volume is of exceptional interest and shows the constant upward trend of the photographer. It is freely illustrated.

**MAGAZINE WRITING AND THE NEW LITERATURE.** By Henry Mills Alden, LL.D. New York: Harper & Bros., 1908. 12mo.; 321 pp. Price, \$2.

The author has been editor of Harper's Magazine for forty years. From an outlook of nearly half a century of close association with literature Mr. Alden has been singularly able to discern the forces that have been at work during that period, and to bring them forward with a rare personal touch. That part of the book which relates to magazine writing is really an account of the important influence of periodicals upon general literature and of the relationship to the magazine of every significant writer. The underlying theme of the book is the ever-developing relation of modern literature to life itself. The "new" literature is the result of recent tendencies in thought and feeling which have created new forms of expression.

**SHADOW WORLD.** By Hamlin Garland. New York: Harper & Bros., 1908. 12mo.; 295 pp. Price, \$1.35.

Do the dead speak to the living? Is there a way to find out whether they do? The "Shadow World" of Mr. Garland is one of the most exciting replies ever offered to such speculations as these—and we do speculate about it. He does not try to convince—he only states what he himself has seen and heard. And it reads like fiction—the little group of a half-dozen men and women whom the author brings together, some half afraid, some openly scoffing, all finally persuaded to form themselves into a little circle, and suddenly finding that one of their own number, a woman, possesses, unknown to herself, the powers of a medium. Several experiments almost transcend belief, and yet—they are testified to by a man's experience.

**MACHINE SHOP CALCULATIONS.** By Frederick H. Colvin, A.S.M.E., F.I. New York: Hill Publishing Company, 1908. Pocket size. 174 pp. Price, \$1 postpaid.

Figures are simple tools and a help in securing accuracy, in saving time, and making a man more valuable to himself and others. Too many good mechanics get along with only enough mathematical knowledge to count up their wages, but the men who get to the top are not those who depend on others to tell them what gears to use, or the depth of the 9-pitch thread. The author has attempted to show in the present work how simple methods can be applied to everyday shop work. Only such rules and calculations are given as have been proved useful in the shop. For example, anyone would be at a loss to readily find the proper method of using the micrometer gage.

**THE HOME BUILDER.** By Lyman Abbott. Boston and New York: Houghton, Mifflin Company, 1908. 16mo.; 129 pp. Price, 75 cents.

The versatile editor of "The Outlook" has contributed a most interesting little book of which the contents are as follows: "Her Monument," "The Daughter," "The Bride," "The Wife," "The Mother," "The Housekeeper," "The Philanthropist," "The Saint," "The Grandmother," and "Alone." It is daintily printed and bound.

**HANDBUCH UEBER TRIEBWAGEN FÜR EISENBAHNEN.** Von C. Guillery. Munich und Berlin: Druck und Verlag von R. Oldenburg, 1908. 8vo.; 202 pp.

## PATENT CAUSES

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## INDEX OF INVENTIONS

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AND EACH BEARING THAT DATE

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