

this parachute rigid guys or braces operate in conjunction with a sail or kite to extend it; and the inventor's objects are to provide means for effecting the opening of the parachute in descent; to afford facilities for folding and stowing the device, and to provide a durable and simple construction of the several parts of the parachute and its entirety.

**CAPPING-MACHINE.**—C. A. YOUNGMAN, Louisville, Ky. The intention of the inventor is to provide a machine, arranged to press the cap or capsule snugly onto the head and neck of the receptacle, without danger of marring the cap or capsule, or scratching or removing the paint, wax, or other material with which the cap is decorated.

**Railways and Their Accessories.**

**SWITCH MECHANISM.**—F. F. YOUNG, Lowell, Ohio. The invention pertains to railway switches, and particularly to the switches of light railways such as trolley tracks. The inventor's aim is to provide means for operating the switch from the car platform so as to obviate the necessity for operating the switch by hand.

**AUTOMATIC SWITCH-STAND.**—E. E. STAGGS, Hachita, New Mex. An object here is to provide a switch in which the target will always indicate the true condition of the switch. This obviates a grave danger which arises from the use of switch stands of the ordinary kind since with this invention there must be a positive movement by some one who wishes the switch to be changed before the target will indicate such change. The change made, the target will be shifted to indicate the change and will be positively locked in its shifted position.

**LOCOMOTIVE ASH-PAN.**—J. S. DOWNING, Atlanta, Ga. The inventor's object is to provide a novel positively operating construction for discharging ashes from the ash pan. This is an automatic self-cleaning ash pan having a system of hoses attached to the piston rod, and a cylinder adapted to receive fluid pressure for reciprocating the hoses in the ash pans for discharging the ashes thereon.

**RAIL CHAIR AND BRACE.**—E. JANDREAU, Cherry Valley, N. Y. The object of the invention is to provide a chair and brace, by means of which railroad rails can be securely held in place upon the cross ties, and which serve to brace the rails against lateral movement at curves and other points of the track where such bracing is necessary.

**METALLIC CROSS-TIE AND RAIL-CLAMP.**—H. S. KILBOURNE, Washington, D. C. An object of this invention is to provide a cross-tie of light weight but strong and durable. In carrying this out I-beams of standard sizes and shapes are used, thereby reducing cost of manufacture. The tie requires but few bolts, the main connecting member being a clamp of a peculiar form.

**Pertaining to Recreation.**

**MOVING-PICTURE DEVICE.**—W. HENDRICK, New Haven, Conn. The object of the present invention is to provide certain improvements in chaplets and shrines of the holy rosary, whereby actuating mechanism is employed and the endless web containing pictures is properly actuated, to accurately display one of the pictures at a time and to display the several pictures in the proper order according to the intended devotional exercise.

**Pertaining to Vehicles.**

**THILL-COUPLING.**—V. B. HENBY and H. FINTEL, JR., Hardy, Neb. The main object in this case is to provide an improved means for enabling the draft eye to be detached or inserted, while at the same time means are provided for holding the draft eye in close contact with the coupling pin to prevent rattling of the various parts.

**POLE-TIP.**—J. W. DEAM, Geary, Okla. The invention relates to tips for wagon poles and the like, and more particularly such as have resiliently controlled means for securely holding a neck yoke in place on the pole. In operation, the latch cannot drop out through the slot of the casing, as the stop with its shoulders, which are transversely disposed with respect to the slot, is covered by the end of the pole.

**PNEUMATIC TIRE.**—P. I. VIEL, 27 Rue de Rivoli, Paris, France. This invention relates to a tire characterized by the use of a lining formed of a metal cable of wire. This packing or lining is intended to entirely do away with ruptures resulting from excessive pressure or excessive weight, or overheating and punctures. This lining diminishes in no way the flexibility of the tire.

**BOLSTER.**—J. HELMLICHER, Defiance, Ohio. The aim in this instance is to provide a bolster for wagon bodies and the like, which is light in weight and inexpensive to manufacture, and which can be easily fashioned from standard structural iron or other metal pieces, such as I-beams and channels.

**Designs.**

**DESIGN FOR A CUT-GLASS DISH.**—T. B. CLARK, Honesdale, Pa. This highly ornamental dish is of a circular form and its height is about one-half the diameter of the top and open part. The pattern cuttings are of great variety and exquisite design.

**DESIGN FOR A TOBACCO-PIPE.**—J. M. TATTUM, Athens, Texas. The bowl in this ornamental design represents the body of a tree with

several roots sawed off close at the base. The handle has a symmetrical curve. The words Dum Tacket Clamet are inscribed across the bowl and also large initial letters W. O. W. arranged vertically.

**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.**

**THE COMMERCIAL PRODUCTS OF INDIA.** By Sir George Watt. New York: E. P. Dutton & Co., 1908. 8vo.; 1,189 pp. Price, \$5.

This work is an abridgment of "A Dictionary of the Economic Products of India," which was published in 1893-4, and which has been out of print for some time. The government of India therefore decided that a correct and abridged edition should be brought out. The instructions provided that the work should be limited to a single volume, the arrangement of which should follow that of the dictionary and should be confined to products which are at present of prospective industrial and commercial importance. The book is a monumental work, and represents a vast amount of labor. It will prove valuable to those who are in any way identified with Indian industries.

**THE PHOTOGRAPHIC MANUAL.** Edited by H. Snowden Ward. London: Dawbarn & Ward, Ltd. New York: Tennant & Ward. 12mo.; 237 pp. Price, paper, 50 cents; cloth, \$1, postage extra.

This is the fifth edition of an excellent English manual which incorporates the figures, facts, and formulae of photography, and is a guide to their practical use, and is intended for all photographers. This collection of formulae is one of the best that we have ever seen. It is a book which should be in the hands of every photographer.

**THE ANGLER'S GUIDE. A Manual for Campers and Anglers.** Edited by Wainwright Randall. New York: The Field and Stream Publishing Company, 1909. 18mo.; 242 pp. Price, 50 cents.

This little volume contains a description of all popular fresh-water and salt-water fish. It describes tackle and bait for the expert angler; it gives complete information on how, when, and where to fish, and a summary of the fishing resorts of the United States and Canada. The book is admirably arranged, and is very well printed. Its form is so convenient that it can be carried in the pocket. Among the features which appeal to us particularly are the views and plans of bungalows, the fishing charts, and the directions for preparing food suitable for a fishing camp. The book should be in the possession of every fisherman.

**THE DIRECTORY OF DIRECTORS IN THE CITY OF NEW YORK.** New York: The Audit Company, 1909. 12mo.; 860 pp. Price, \$5.

The tenth edition of this useful work has just come from the press, and maintains the reputation of its predecessors for completeness and reliability. The Directory this year contains over 32,000 directors, each director's name being followed first by the name of the firm or company with which he is directly associated, and then by all the companies in which he is a director. Select lists of corporations in banking, insurance, transportation, manufacturing, and other lines of business, alphabetically arranged, accompanied in each case by the names of the company's officers and directors, are to be found in the appendix, as well as a list of the principal exchanges in New York, with their officers and managers. This is a book which no business house dealing with a large number of companies or their stocks and desiring to know by whom their clients' interests are controlled, can afford to be without.

**THE IMPLEMENT BLUE BOOK.** St. Louis: Midland Publishing Company, 1909. 8vo.; 460 pp.

This is a very useful book of reference for all users of or dealers in vehicles of all kinds, agricultural machinery and implements. A remarkable feature is the simplicity with which one can find any name or subject heading one wants, the book being described as "self-indexed, double-indexed, and cross-indexed." It begins with a classification of manufacturers in the alphabetical order of the implements they make, following with vehicles in the same manner. Then comes a list of manufacturers in alphabetical order, with lists of the specialties they make, and then a list of branch jobbing and transfer houses in geographical order, with the names of manufacturers whose lines they handle.

**ENGINE LATHE WORK.** By Fred H. Colvin. New York: Hill Publishing Company, 1909. 16mo.; pp. 180. Price, \$1.

The writer is Assistant Editor of the American Machinist, and is the author of many well-known books on mechanical subjects. The present volume gives practical suggestions which will give the young machinist or apprentice the foundation principles of engine lathe work. The illustrations number 127, and are well executed. The author states that while the suggestions have been written especially for those with a limited experience, it is quite probable that many of the ideas and suggestions may be new to some of the older

men who have not had a chance to see what other shops were doing.

**RADFORD'S ARTISTIC BUNGALOWS.** Unique Collection of 208 Designs. Chicago and New York: The Radford Architectural Company, 1908. 4to.; pp. 221. Price, \$1.

In the last three years the number of bungalows which have been built in the United States has increased by leaps and bounds, and whole farms are being split up into lots for the erection of bungalows consisting of from two to five or more rooms. The work before us consists of a collection of wash drawings and floor plans. Plans and specifications for any of them are furnished by the publishers at moderate rates. The illustrations are hardly as attractive as they would be if they were made from photographs of bungalows which have actually been built.

**THIRD REPORT OF THE WELLCOME RESEARCH LABORATORIES AT THE GORDON MEMORIAL COLLEGE, KHARTOUM.** Andrew Balfour, M.D., B.Sc., F.R.C.P. Edin., D.P.H. Camb., Director. Published for Department of Education, Sudan Government, Khartoum, by Balliere, Tindall & Cox, 8 Henrietta Street, Covent Garden, London. Depot for U. S. A.: Toga Publishing Company, 45 Lafayette Street, New York city, 1908. 4to.; pp. 476.

The admirable work conducted in the Wellcome Research Laboratories is undoubtedly familiar to our readers. The laboratories were established to promote technical education in general; to further the study of tropical disorders, especially the infective diseases of both man and beast peculiar to the Sudan; to render assistance to the officers of health and to the clinics of the civil and military hospitals; to aid experimental investigations in poisoning cases by the detection and experimental determination of toxic agents, particularly the obscure potent substances employed by the natives of the Sudan; to carry out such chemical and bacteriological tests in connection with water, food stuffs, and health and sanitary matters as may be found desirable; to promote the study of disorders and pests which attack food and textile produce and other economic plant life in Sudan; and to undertake the testing and assaying of agricultural, mineral, and other substances of practical interest in the industrial development of the Sudan. The two volumes of reports previously issued by the laboratories cover the period from the foundation of these laboratories in 1903 to 1906. The third report completes the record up to 1908. The work of the laboratories has been so far extended that the latest report contains some 480 pages or detailed records of many interesting experiments, and researches principally connected with tropical medicine. The volume is profusely illustrated, and includes many valuable colored plates. Simultaneously with the Third Report, and as a Supplement to it, is published a Review of the Progress made in Tropical Medicine during recent years, compiled by Dr. Balfour and Dr. R. G. Archibald.

**DICTIONARY OF CHEMICAL AND METALLURGICAL MACHINERY, APPLIANCES, AND MATERIAL MANUFACTURED OR SOLD BY ADVERTISERS IN ELECTRO-CHEMICAL AND METALLURGICAL INDUSTRY.** First Edition. New York: Electro-Chemical and Metallurgical Industry, 1909. 12mo.; pp. 182. Price, 50 cents.

**LA MORPHOLOGIE DE L'INSECTE.** Par Charles Janet. Limoges, France: Imprimerie-Librairie Ducourtieux et Gout, 1909.

**INDEX OF INVENTIONS**

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