

RECENTLY PATENTED INVENTIONS.

Apparatus for Special Purposes. PROCESS OF MAKING ALUMINA AND BY-PRODUCTS.—L. R. KEOGH, Hamilton, Canada. The object of the invention is to provide an improved process for the manufacture of alumina and by-products, such as hydrochloric acid, sodium sulfate, sodium aluminate, sodium carbonate, and other substances that may be contained in clay, kaolin, bauxite or other aluminous ores, sulfate of aluminium or other aluminous materials to be treated, and sodium chlorid. This invention is a division of the application for a former letters patent filed by Mr. Keogh.

Electrical Devices. TROLLEY.—S. STITTS, Ironton, Ohio. The invention has reference to a means for facilitating the lubrication of trolley-wheels; and it comprises certain novel devices enabling grease or any other lubricant to be used and to be pressed steadily into the bearing of the trolley-wheel, thus keeping the wheel constantly lubricated.

Engineering Improvements. AIR-BRAKE ATTACHMENT.—F. B. O'BANNON and F. J. CHAMBERLAIN, Albuquerque, New Mex. The prime object in this case is to enable the auxiliary reservoirs in an air-brake system to be recharged without releasing the brakes by the engineer in his cab, thus placing the absolute control of the system in the engineer's hands. This is attained by providing a cock or other means for controlling the exhaust from the triple valve and providing for the cock an actuating means itself actuated by the pressure in the train-pipe. Thus the valve may be permitted to exhaust or prevented from exhausting at the engineer's will, by raising or lowering the train-pipe pressure.

STRAINER.—F. G. BROWN, Sheffield, Ala. Mr. Brown claims that the object of this invention is the provision of a new and improved pipe-line attachment for straining water or other liquid flowing through the pipe-line to prevent trash or other extraneous matter from passing with the feed-water into the boiler or other apparatus.

BOILER.—J. McWILLIAMS, Jersey City, N. J. The object of the invention in this case is to provide a new and improved boiler which is arranged to insure quick circulation of the water and to produce a large heating-surface in a comparatively small space. The boiler is very serviceable for use as a marine boiler.

MARINE BOILER.—P. GRUNEWALD, Duisburg, Germany. The aim of the inventor in this case is to provide a new and improved boiler, more especially designed as a marine boiler and arranged to insure quick heating of the water and generation of steam to a high pressure with safety and without requiring undue increase in the thickness of the boiler material.

Hardware. SASH-FASTENER.—I. A. SHAW, Hutchinson, Kan. The object in view in this case is the provision of a construction capable of easy application to a sash for the purpose of holding it tight against the window-stop, for stopping it at any height, and for locking the sash when lowered. The device will not be clogged by dust or dirt, and it embodies a pull or lift by the aid of which the operator is able to secure a firm grip on the sash, so as to raise it to good advantage should it become wedged in place.

NUT-LOCK.—F. M. BOSS, Waldron, Ark. This invention has reference to that class of nut-locks in which the bolt is provided with a longitudinal groove or recess, in which is arranged a suitably-constructed spring adapted for engagement with one of a series of grooves or notches formed interiorly in the nut or bur, and thereby locking it against reverse turning on the bolt.

Machines and Mechanical Devices. SHREDDER-FEEDER.—G. W. CRANE, Veedsburg, Indiana. In this patent the invention refers to improvements in devices for feeding corn to shredding-machines; and the purpose is to provide a feeder of simple construction that will obviate the necessity of a person placing his hands near the shredding devices, thus avoiding accidental cutting or injury to the hands.

WASHING-MACHINE.—P. R. ENSMINGER, Anaconda, Mont. The present invention is related to improvements in washing-machines, the object being to provide a washing-machine by means of which fabrics may be rapidly and thoroughly washed by forcing the water through the material by both compression and suction. The material is kept in constant agitation and rubbing action.

Of Interest to Farmers. HARVESTER.—E. A. MAINGUET, Evange-line, La. In this harvester the cutter bar is supported in guides in advance of an endless carrier which carries the grain to the packer. The packer comprises an endless apron provided with teeth which is operated by pitman connection with the cutter bar. The base of the packer consists of spring plates of special form. The operating parts are so disposed as not to become clogged by the grain.

Miscellaneous. CABINET.—B. W. SHOLTY, Decatur, Indiana. Two patents on cabinets have been granted to Mr. Sholty which relate to former patents granted to him. The cabinets are supplied with numerous drawers and above these a sliding board which can be drawn out for use as a desk. Above the board a slide carries the typewriter and the case, the latter having an adjustable copy-holder and a prop for tilting the case to bring the holder nearer the eye. The cabinet has side shelves which can be drawn forward and means to automatically adjust brackets to hold the shelves up for use. The brackets turn out of the way when the shelves are pushed back.

DESIGN.—E. T. WHELAN, Jersey City, N. J. This is an ornamental design for a grave-mark. The figure in front elevation shows the body of a wreath representing a series of overlapping leaves tied at the lower central portion and an ornamental open panel at the top in which a name plate is to be fitted. 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.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

MUNN & CO. Marine Iron Works. Chicago. Catalogue free. Inquiry No. 4673.—For makers of machines for pulling trees and stumps. AUTOS.—Duryea Power Co., Reading, Pa. Inquiry No. 4674.—For manufacturers of a pneumatic floor sweeper or cleaner. For mining engines. J. S. Mundy, Newark, N. J. Inquiry No. 4675.—For makers of hydraulic rams suitable for farm water works. "U. S." Metal Polish. Indianapolis. Samples free. Inquiry No. 4676.—For a gas engine of 1/2 horse power. House number patent for sale. Inventor, Box 773, New York.

Inquiry No. 4677.—For address of the makers of the Brother and three cylinder engine; cylinders 120 degrees apart. Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O. Inquiry No. 4678.—For parties who manufacture and install small gas plants for small town. Mechanics' Tools and materials. Net price catalogue. Geo. S. Comstock, Mechanicsburg, Pa.

Inquiry No. 4679.—For manufacturers of a double stereopticon, using acetylene gas or electricity (gas preferred.) Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt. Inquiry No. 4680.—For machinery to manufacture apple barrel stock. I want to place patented cigar holder, also bicycle support on royalty. A. E. Dodson, San Diego, Cal.

Inquiry No. 4681.—For addresses of electrical jobbers and manufacturers of electrical goods. Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y. Inquiry No. 4682.—For manufacturers of small mechanical novelties. Automobiles built to drawings and special work done promptly. The Garvin Machine Co., 149 Varick, cor. Spring Streets, New York.

Inquiry No. 4683.—For a flax-spinning machine. The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan. Inquiry No. 4684.—For a small box-nailing machine, a sand wheel and a press for printing wood boxes. Empire Brass Works, 106 E. 129th Street, New York. N. Y., have exceptional facilities for manufacturing any article requiring machine shop and plating room.

Inquiry No. 4685.—For machinery for making wood tanks, etc. The celebrated "Hornsbly-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York. Inquiry No. 4686.—For manufacturers of toy rubber gas balloons. Contract manufacturers of hardware specialties, machinery, stampings, dies, tools, etc. Excellent marketing connections. Edmonds-Metzel Mfg. Co., Chicago.

Inquiry No. 4687.—For wholesale dealers in an alloy called "Magnalium." PATENT FOR SALE.—Automatic horses. A 1 proposition St. Louis Exposition. See SCIENTIFIC AMERICAN, March 7, 1903. Working model. E. P. Thompson, 156 Fifth Avenue, City. Inquiry No. 4688.—For the maker of a hack saw blade known as the "Horse Shoe Brand." Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery and tools. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 4689.—For manufacturers of machinery for making gas for gas engines. Representatives for Spain.—Hormaechea, Elorriaga & Co., Calle Libertad No. 1. P. O. 10., Bilbao, Spain. Offer their services to represent American manufacturers of novelties and new patented inventions. Will handle agencies to entire satisfaction, guaranteeing best service. A 1 references furnished to parties interested. Inquiry No. 4690.—For makers of small stationary engine 1 h. p. and not heavier than 20 pounds for running ice cream freezer or churning butter.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway New York. Free on application. Inquiry No. 4691.—For makers of small steam engine castings, also of small, double upright marine engines. PATENT FOR SALE.—Stamp and Envelope Sealer. Patent allowed. E. A. Emmerling, 1077 First Av., N. Y. Inquiry No. 4692.—For castings and materials for building a one-half horse power dynamo.



Notes and Queries.

HINTS TO CORRESPONDENTS. Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(9205) J. McD. says: 1. What is the proper pressure to figure the nominal horse power of a steam engine—half the boiler pressure, or two-thirds? 2. What per cent do you subtract from answers when you have figured horse power of engine? That is, what per cent do you allow for friction? I know that the indicator is the only proper method, but want to know the proper answers to questions. We will say that 8 per cent is allowed for friction. 3. Give receipt for a lubricant for fast-running bearings that heat up. I want to make it in small quantities. Shaft makes 1,600 turns a minute. They will run for weeks, and all of sudden they will heat. A. We would say that the nominal horse power of a steam engine depends on the character of the engine as well as on the boiler pressure. If you know the boiler pressure, the average point of cut-off, and the average amount of compression, you can construct an imaginary indicator card which will give you the probable mean effective pressure, neglecting the throttling effects of the valves. It is customary to assume that the true mean effective pressure will be from 80 to 95 per cent of the mean effective pressure determined in this way, depending on the type of engine. The friction of an engine also depends on the character of the engine, and varies from about 4 per cent of indicated horse power to about 12 per cent of the indicated horse power; 6 or 8 per cent would be perhaps a fair average. We can give you no receipt for making a lubricant which will prevent your bearings from heating. If they run satisfactorily for weeks and then suddenly heat, the difficulty probably is that small particles of dirt or grit occasionally get into the bearings, which cause them to heat. The only practical suggestions that we can give you are always (1) to be sure that the boxes and shaft are as smooth as it is possible to get them; (2) to protect them in every possible way from dust and dirt; (3) to be sure that they are continuously and generously lubricated with a suitable oil that is absolutely free from dirt. A pure, light mineral oil is probably the best lubricant for your purpose. For high-speed bearings the oil should be very fluid.

NEW BOOKS, ETC.

THE TOWER CLOCK DESIGNED AND MADE FOR THE UNIVERSITY OF CHICAGO BY THE CHICAGO MANUAL TRAINING SCHOOL OF THE UNIVERSITY OF CHICAGO. By Earl Bixby Ferson, A.M. 12mo. Pp. 57. It would be hard to conceive a more eloquent drummer for a school than such an exposition of work actually accomplished. It is a mistake to suppose that a clock must be made by a clock maker. A large clock is within the province of the mechanical engineer. Both the time train and chime train are admirably designed. The pamphlet is reprinted from the American Jeweler.

MUNICIPAL CIVIL SERVICE EXAMINATION PAPERS. New York: William Beverley Harison. 1902. 16mo. Pp. 149. Price 25 cents. REPORT ON CUBA. By H. D. Dumont. New York: The Merchants' Association. 1903. 8vo. Pp. 40.

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