

RECENTLY PATENTED INVENTIONS.

Apparatus for Special Purposes.

PROCESS OF TREATING FLOUR.—J. M. WILLIAMS, Guthrie, Oklahoma Ter. In this patent the invention is in the nature of a process for whitening, aging, disinfecting, increasing the absorption of, and otherwise improving flour. It consists in subjecting the flour while in a state of agitation to the gases formed by the electrolysis of water or other liquids or compounds capable of generating oxygen.

Electrical Devices.

COMPRESSED-AIR SUPPLY FOR ELECTRIC VEHICLES.—R. L. OWEN and R. O. LE BARON, Pontiac, Mich. The invention relates to fluid-pressure brakes used on electric street cars and other vehicles; and its object is to provide a device for automatically supplying the compressed air required for working the fluid-pressure brakes, the device being actuated during the time the electric power is shut off in stopping the vehicle, thus utilizing the power ordinarily wasted.

Of Interest to Farmers.

INCUBATOR-BROODER.—C. H. SPERLE, Bound Brook, N. J. In this case the objects are to secure as nearly as possible the actual conditions obtaining in the operation of hatching eggs naturally. Mr. Sperle has discovered that the hatching-bird in addition to heating, rolling, and cooling the eggs also clutches them, while the air circulates around them without drafts, an operation not performed by any incubator heretofore known. A further object is to protect the young birds the first sixty days of their lives.

HAND-PLOW PROPELLER.—L. W. AVANT, Atascosa, Texas. One of the chief objects of his inventor is to enable the point at which the propelling force is exerted to be shifted vertically in order that the plow attachment may be adjusted to accommodate operators or plowmen of different heights; secondly, the attachment is so constructed that the force applied by the operator may be varied in its relation to the plow as conditions require; thirdly, the invention includes means for applying the attachment to the plow-handles, which are separated more or less from each other.

Of General Interest.

ARTIFICIAL TOOTH.—F. L. PRIEST, Dallas, Texas. In this patent the purpose of the invention is the provision of a solid or practically solid surface upon the back face of teeth in order to hold the faces firmly to a gold bridge or to a plate at all points, especially at the tips of the teeth.

REST DEVICE.—R. W. SCHROEDER, Bloomington, Ill. The aim in this instance is to provide a rest device more especially designed for use on the backs of chairs, school-desks, couches, and like pieces of furniture and arranged to properly support the back and sides of the person occupying the chair, to avoid undue fatigue and allow natural respiration, and to prevent deformities of the chest and shoulders.

CONDENSER FOR VACUUM-PANS.—J. F. UTRILLA, Jersey City, N. J. This invention has reference particularly to improvements in condensers used in connection with sugar-machines, an object being to provide a simple means for drawing gases from the condenser and dispensing with the vacuum-pump usually employed.

FLY-CATCHER.—J. SCHNELL, Macon, Ga. In this instance the invention is an improvement in that class of fly-catchers in which a continuous cord or strip of fibrous material is drawn through a body of tacky liquid and is subsequently cut off in suitable lengths for use in various localities.

CORNER-IRON FOR SIDING-JOINTS.—J. SIMPSON, Veedersburg, Ind. The purpose of the improvement is to provide corner irons or plates for the siding-joints of frame buildings, which corner-irons will render the joints impervious to water at the corners of the house, particularly such houses as are sided with shingles or clapboards.

Machines and Mechanical Devices.

MOTOR-CONTROLLED FAN.—C. S. WARNOCK, Americus, Ga. Mr. Warnock's invention relates to improvements in motor-actuated fans, especially fans operated by a spring-actuated motor. The purpose is to provide a device wherein the fan-blades or fly-brushes will operate with vibratory motion, enabling the device to be placed upon a table or support quite close to a person, without inconveniencing him. Means hold the fan or brush carrying arms in operating connection with a rocking support, together with means for imparting a cushioned vibratory motion to the racking support from a shaft, and also provide ready lateral and vertical adjustment for the fan-carrying arms. The claim is that the inventor's working model has proved entirely successful in operation.

Railways and Their Accessories.

VALVE.—W. T. HARRISON, Savannah, Ga. In this case the invention refers to improvements in valves for controlling the outflow of water from railroad-tanks, an object being

to provide a valve so constructed that it may be readily removed for repairs without first running the water out of the tank, and, further, to provide a simple means for preventing the rattling or jumping of the valve.

CABLE-TRACTION SYSTEM.—G. W. SANDERS, Gadsden, Ala. In this patent the invention has reference to cable-traction systems, and has for its principal object the provision of an effective means for operating cars in either direction along a track. Mr. Sanders' system is very simple in construction and operation and subjects the cable to but slight wear.

RAILWAY-SWITCH.—M. BARNES, Syracuse, N. Y. In this case the invention relates to improvements in switches, particularly for use on street-railways, an object being to provide a simple switch that can be moved by a motor-man without stopping the car to direct the car in any one of three directions.

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 the 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. 6002.—For information concerning the manufacture of fish hooks.

AUTOS.—Duryea Power Co., Reading, Pa. Inquiry No. 6003.—For makers of electrically driven hammers for riveting steel posts and plates.

"C. S." Metal Polish, Indianapolis. Samples free. Inquiry No. 6004.—For makers of small air-cooled marine and stationary gasoline motors.

Perforated Metals, Harrington & King Perforating Co., Chicago. Inquiry No. 6005.—For machinery required in the manufacture of furniture.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O. Inquiry No. 6006.—For makers of carts, trucks, etc., for heavy service.

If it is a paper tube we can supply it. Textile Tube Company, Fall River, Mass. Inquiry No. 6007.—For manufacturers of silicate of soda, or so-called liquid glass.

WANTED.—Addresses of importers and consumers of bamboo. D. F. Mitchell, Jacksonville, Fla. Inquiry No. 6008.—For manufacturers of slot machine scales.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt. Inquiry No. 6009.—For parties engaged in malleable casting work, brass work, etc.

American inventions negotiated in Europe. Wenzel & Hamburger, Equitable Building, Berlin, Germany. Inquiry No. 6010.—For manufacturers of carpenters' tools.

Agents wanted to sell the Ryede puzzle. Sample by mail for 10c. Ryede Specialty Works, Rochester, N. Y. Inquiry No. 6011.—For makers of prism glass.

The celebrated "Hornaby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company, Foot of East 138th Street, New York. Inquiry No. 6012.—For manufacturers of cork-cutting machinery.

Patented inventions of brass, bronze, composition or aluminum construction placed on market. Write to American Brass Foundry Co., Hyde Park, Mass. Inquiry No. 6013.—For makers of cheap, small, water-cooled gasoline engine castings with working drawings included.

For Sale or on Royalty.—Three United States and Canadian patents on heating stoves and furnaces; or would like to incorporate. F. G. Pioch, Provo, Utah. Inquiry No. 6014.—For manufacturers of machinery for sawing and quarrying sand stone.

NEW INVENTION.—Receipt for shoe polish, the best ever invented. For sale by chemist. Address Chemist, Box 773, New York. Inquiry No. 6015.—For the manufacturers of the Mitchell gasoline automobile.

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. 6016.—For manufacturers of addressing machines.

In buying or selling patents money may be saved and time gained by writing Chas. A. Scott, 719 Mutual Life Building, Buffalo, New York. Inquiry No. 6017.—For manufacturers of life preservers for use on steamers.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc., Metal Novelty Works, 43 Canal Street, Chicago. Inquiry No. 6018.—For makers of stills.

WANTED.—Back numbers: Automobile, October, 1900; Motor Vehicle Review, 1902; Motor Age, 1900; Motor Age, 1901. Mrs. C. F. MacDermot, Hotel Touraine, Boston, Mass. Inquiry No. 6019.—For manufacture of aerated water.

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. 6020.—For a machine for printing on toothbrush handles.

FOR SALE.—Patent on rotary engine, explosive. Patent No. 759,953. The only rotary explosive engine that confines the gasoline in the explosion chamber till it has great force before it strikes the piston. D. V. Bagwell, 4940 Papin Street, St. Louis, Mo. Inquiry No. 6021.—For manufacturers of bottle corks.

D. A. Beaton, Practical Lead Burner, P. O. Box 334 Woburn, Mass. Fifteen years' experience. Inquiry No. 6022.—For dealers in stamped and tinted sofa pillow covers. Inquiry No. 6023.—For importers of tea and coffee.



NOTES 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.

(9461) G. W. T. says: Seeing that your publication answers almost anything in the scientific line, I would be pleased to know if you can tell me of some substance that a magnet will not draw through. A. Magnetic attraction takes place through all excepting magnetic substance. Practically, iron is the only available magnetic screen. If a magnetic needle is inclosed in iron, exterior magnetism will affect it but little. The iron should be rather thick—at least a quarter of an inch. The reason for the screening action of iron is that magnetic lines of force pass through iron more easily than through other materials. When iron lies in their path they take to it, and do not pass through the adjacent air. A needle inclosed in iron is thus screened from magnetism.

(9462) K. A. E. asks: Will you kindly answer me in the Notes and Queries of the SCIENTIFIC AMERICAN the following question: How is nickel-plating to be made? A. For plating with nickel, the double sulphate of nickel and ammonia is almost universally used. The salt is dissolved by boiling, taking 12 to 14 ounces to 1 gallon of water. The density of the electrolyte should be 6.5 deg. to 7 deg. Baumé. Cast anodes are preferred. These should be large enough to reach to the bottom of the work, and have a surface larger than the work to be plated. The voltage may be from 3.5 to 6 volts, while the current should be from 1 to 2 amperes for every 37.5 square inches to be plated. For full instructions we would refer you to Watts' "Electro-Plating," which we can furnish for \$4.50, or to Langbein's "Electro-Deposition of Metals," price, \$4. Van Horne's "Modern Electroplating," price \$1, is a good, though small, book, which may be a sufficient guide.

(9463) A. E. F. says: 1. How can I determine when the condenser of an induction coil is of proper size? What is the effect of one too large? A. An induction coil gives its greatest length and intensity of spark only when the condenser is of the proper size. The spark is diminished if the condenser is either too large or too small. 2. I have a small spark coil of the following dimensions: Length inside of end pieces, 3 inches; diameter of core, 9-16 inch; primary winding, two layers No. 18; secondary winding, 3 ounces No. 36 cotton-covered wire; diameter to outside of secondary winding, 1 11-16 inches. I have been able to obtain a 1/2-inch spark with this coil, and would like to know how to proceed to construct one of say twice the spark length of this one. My reason for asking this is that I seem to have acquired, with a small amount of secondary wire, the results which are obtained with 3/4 of a pound of No. 36 silk-covered wire according to the usual directions for making such coils, but I do not know how to proportion the dimensions for a larger coil on the same lines in order to obtain the best results. A. The proportioning of coils is the result of experience. Of course, there are formulas for expressing the data of construction, but we do not think the ordinary mechanic employs them. To make a coil to give a spark twice as long as another coil, you will not be required to make the dimensions twice as great, but something less than this. All dimensions should be increased. A set of coils from the same shop will usually present a symmetrical increase of power. 3. Should I increase the length, the diameter of the core, use a larger size wire for the primary and increase the diameter of the secondary winding, and in what proportions? Also, if this admits of a direct answer, what is a practical maximum diameter of an induction coil, compared to its length? A. Different manufacturers differ in designing coils, and it would be difficult, if not impossible, to reduce the ratio of length to diameter. 4. If the outside end of the secondary wire is prevented from coming near any part of the primary circuit, is there any tendency to break down the insulation between the primary and secondary windings? If so, why? A. There is a tendency to break down the insulation of the secondary at all points, the greatest at points most widely separated. The reason for this is that the electromotive force rises in the secondary from the negative to the positive

end proportionately to the number of turns of wire.

NEW BOOKS, ETC.

ELECTRICITY AND MATTER. By J. J. Thomson, D.Sc., LL.D., Ph.D., F.R.S. New York: Charles Scribner's Sons, 1904. 8vo.; pp. 162. Price, \$1.25.

This book contains six lectures given by Prof. Thomson in May of last year, at Yale University. In them he discussed the bearing of the recent advances made in electrical science on our views of the constitution of matter and the nature of electricity. The relation between matter and electricity, which has been a characteristic feature of recent electrical researches, such as the study and discovery of Roentgen rays and radium, is here very thoroughly discussed. The book contains chapters on the "Representation of the Electric Field by Lines of Force"; "Electrical and Bound Mass"; "Effects Due to the Acceleration of Faraday Tubes"; the "Atomic Structure of Electricity"; the "Constitution of the Atom"; and "Radio-activity and Radio-active Substances."

ATLANTE DI MACCHINE E CALDAIE CON TESTO E NOTE DI TECNOLOGIA. Per Salvatore Dinario. Milan: Ulrico Hoepli, 1903. 16mo.; pp. 80.

This is a useful handbook on steam boilers, steam engines, gages, and various kinds of steam machinery. It is abundantly illustrated with 112 full-page diagrams.

RICETTARIO INDUSTRIALE. By Ing. I. Ghersi. Milan: Ulrico Hoepli, 1904. 16mo.; pp. 703.

This is a book of valuable receipts for all trades, arts, and industries. It is arranged in alphabetical order, and, besides the receipts, there are a number of physical and chemical tables of value.

DIE WETTERKRÄFTE DER STRAHLENDEN PLANETENATMOSPÄHRE. Von C. Marti, Sekundar-Lehrer in Nidau, Schweiz. Nidau: Buchdruckerei E. Weber, 1904. Pp. 40.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending September 13, 1904

AND EACH BEARING THAT DATE

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

Table listing various inventions and their corresponding patent numbers, such as 'Adding machine, S. H. Drysdale 769,892', 'Advertising display means, J. W. May 769,868', etc.