

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

MERCURY SAFETY ATTACHMENT FOR ELECTRIC CIRCUITS.—E. MIES, BÜDESHEIM, Germany. The invention relates to that class of safety appliances which permit a sure and complete breaking of the current in the case of short-circuit or overloading and which at once after the interruption of the current can be brought into perfect working order, and thus fully replace an automatic device. This appliance is based on the well-known use of mercury, and is adapted for use with high-tension currents, where unprotected circuits may not be touched and contacts must be avoided, and is applicable to all systems of safety appliances.

Engineering Improvements.

ROTARY EXPLOSIVE-MOTOR.—A PRIMAT, 38 Rue d'Hauteville, Paris, France. In this case the invention refers to a rotary motor of extremely small weight, the motive power of which may be either steam, petrol, alcohol, or gas. The motor is characterized by a kind of ring or rim, divided by radiating partitions in such a manner as to constitute by their combination with the pistons a certain number of cylinders—four, for example. When operated with petrol, alcohol, or gas, it may be constructed as a motor working with a cylinder of four phases and provided with four pistons or for two phases with two pistons.

Household Utilities.

BABY-WALKER.—J. L. PHILLIPS, Washington, N. C. This invention relates to certain improvements in the construction and manner of suspending baby-walkers—that is to say, devices used for encouraging children to walk. The child is free to move around in various directions, but it is at all times supported, and is allowed to press only a small portion of its weight upon its legs.

Machines and Mechanical Devices.

DEVICE FOR OPERATING ELEVATOR-GATES.—H. J. GUTH, Evansville, Ind. The inventor seeks in the present improvement to provide means for positively opening or raising the elevator-gate on the ascending and descending movements of an elevator cage or car, said devices acting automatically to impart the required movement to the gate and some of the devices being in like manner moved out of operative position temporarily, so as to avoid breakage, and thereby insure the operation of the mechanism.

CHANGEABLE SIGN.—M. B. DISKEN, New York, N. Y. Mr. Disken's invention comprises a framing holding together a number of blocks of various shapes, the blocks being arranged in a master grouping and forming a solid mass when assembled. These blocks are independently movable into protruded or retracted positions and are of such form that by pushing some of the blocks in or out, as the case may be, any letter or figure will be described. The blocks are connected with certain mechanism by which the proper ones may be selected and pushed forward.

Miscellaneous.

FLEXIBLE BAG.—JOSEPHINE MÜLLER, New York, N. Y. The purpose of this invention is to provide a construction of bag wherein a fabric is employed woven in a tubular shape and closed in weaving at one end, which fabric is folded upon itself in such manner that its open end is carried inward in direction of the closed end and its open end is concealed. Thus a bag is produced made in one continuous tubular length comprising an outer wall and an inner wall independent of the outer one, the two walls being without a seam at the mouth and sides of the bag and the outer wall without a seam at its bottom.

BOTTLE.—N. D. ASDELL, Lakeview, Ore. According to this invention the bottle is closed and sealed by a cork or other stopper inserted in the lower portion of the neck, and a laterally-projecting lever is connected with such a stopper, so that it may be used to dislodge the latter, and thus unseal the bottle. The fulcrum of the lever is movable, it being preferably a soft-metal ball, and when dislodged it serves to hold the lever in an abnormal position, from which it cannot be shifted.

REFRACTOMETER.—W. L. BURNAM, Kansas City, Mo. The inventor's object is to provide an instrument adapted to measure eye troubles embodying in its construction three lenses, through all of which the eye examined looks at all stages of the test and without being required to look at an opaque object. Two of these lenses are mounted adjacent to each other and are combined with means for adjusting them rotarily. The third lens or objective is adjustable toward and from the pair of lenses.

TOILET-PACKAGE CABINET.—F. H. DAWES, Johnstown, N. Y. The purpose in this case is to provide a cabinet that will hold, for example, one thousand sheets and provide means for conveying them forward one after the other to an engagement with distributing-rollers and to so locate the rollers that after the first sheet has been manually exposed through the medium of the rollers the action of withdrawing the exposed sheet will automatically cause a second to be exposed at the outlet-opening, this occurring each time a sheet is removed.

TEMPORARY BINDER.—A. L. HOLTON, Norfolk, Va. This inventor's improvement is in the nature of temporary binders for use on note-books especially designed for use by stenographers; and the invention provides a combined temporary binder and a support for a book or tablet when used in taking notes and held in the hand by the writer instead of on a desk or other like support.

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. 4504.—To manufacture and market a patented article on royalty.

AUTOS.—Duryea Power Co., Reading, Pa.

Inquiry No. 4505.—For manufacturers of barrel-making machines.

Morgan Emery Wheels. Box 517, Stroudsburg, Pa.

Inquiry No. 4506.—For manufacturers of cement work tools, etc.

"U. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 4507.—For manufacturers of oil filters.

Handle & Spoke Mch. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.

Inquiry No. 4408.—For manufacturers of small table fans and large ceiling fans worked by clock-work mechanism and spring power.

Mechanics' Tools and materials. Net price catalogue. Geo. S. Comstock, Mechanicsburg, Pa.

Inquiry No. 4509.—For manufacturers of racing shells.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 4510.—For parties to whom to apply for second-hand upright engines, portable boilers, portable railway track for construction, and construction dump cars.

For metal articles, any kind, made any shape, write us. Metal Stamping Company, Niagara Falls, N. Y.

Inquiry No. 4511.—Wanted address of instrument makers.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y.

Inquiry No. 4512.—For manufacturers of woven hose, same as garden hose without rubber on it.

Automobiles built to drawings and special work done promptly. The Garvin Machine Co., 149 Varick, cor. Spring Streets, New York.

Inquiry No. 4513.—For manufacturers of machinery for making gents' collars, also for firms making celluloid goods.

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. 4514.—For manufacturers of pressed brick machines.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc., Metal Novelty Works, 43 Canal Street, Chicago.

Inquiry No. 4515.—Wanted a "Humatone," a musical instrument which produces a whistling noise.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

Inquiry No. 4516.—For manufacturers of porcelain or agate buttons.

Contract manufacturers of hardware specialties, machinery, stampings, dies, tools, etc. Excellent marketing connections. Edmonds-Metzel Mfg. Co., Chicago.

Inquiry No. 4517.—For parties to manufacture a file eraser.

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. 4518.—For makers of glass paper weights 2 1/2 x 4 inches and 3/4 inch thick.

WANTED.—A gas producer engineer or draftsman familiar with construction and operation of gas producer. State experience. Weber Gas and Gasolene Engine Co., Kansas City, Mo.

Inquiry No. 4519.—For manufacturers of small silver-toned bells.

American inventions negotiated in Europe. Felix Hamburger, Equitable Building, Berlin, Germany.

Inquiry No. 4520.—For manufacturers of porcelain plates for lining refrigerators.

An established firm of importers in London, England, invite correspondence from firms of good standing having specialties suitable for the British or colonial market. Cash against bill of lading, if desired. Write "Importers," c. o. "SCIENTIFIC AMERICAN," New York.

Inquiry No. 4521.—For canal-making machinery for drainage canal 6 feet deep.

Inquiry No. 4522.—For manufacturers of alarm door knobs.

Inquiry No. 4523.—For manufacturers of glass-ware and mirrored plate glass.

Inquiry No. 4524.—For manufacturers of porcelain and earthenware.

Inquiry No. 4525.—For manufacturers of cutlery, furniture, pianos, cycles, lamps, and iron bedsteads.

Inquiry No. 4526.—Wanted addresses of manufacturers of advertising novelties.

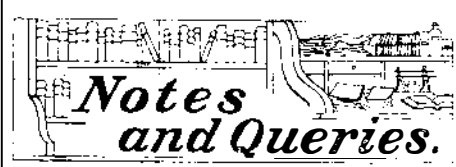
Inquiry No. 4527.—For manufacturers of gasolene engine 2 1/2 or 3 h. p.

Inquiry No. 4528.—For manufacturers of steel and brass springs, racks, ratchets, pinions, machine screws and worm gearing, also nuts.

Inquiry No. 4529.—For manufacturers of steel tubing, type, castings, rods, and spindles.

Inquiry No. 4530.—For manufacturers of perforated metals to order.

Inquiry No. 4531.—For manufacturers of type-writer platens, die plates and type malleable castings, gutta-percha and celluloid and bone knobs for type-writers.



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.

(9161) G. R. B. says: Will you kindly oblige me by answering the following question in your Notes and Queries of the SCIENTIFIC AMERICAN? What is the specific heat at about 250 deg. F. of syrup of such a consistency, that is, containing such an amount of water that when cooled to about 100 deg. F. it will become a thick pasty mass which will just be able to flow? I have consulted various works as have been at my disposal, and am unable to find any reference to the specific heat of sugar or syrup at any stage of its manufacture. A. We would say that we do not know of any exact data giving the specific heat of sugar syrup at different temperatures and different densities. We doubt if such data exist. This specific heat probably does not differ very greatly from that of water. It is a simple matter, however, for you to determine this for yourself by mixing a known weight of syrup at a known temperature with a known weight of water at a lower temperature, stirring the mixture and carefully noting the temperature of the same. It will be necessary for you to allow for the heat given to the vessel containing the water. It would be well for you to use a thin copper vessel for this purpose, because then the heat which it would absorb could be accurately calculated. The formula to use is as follows: (Weight of cool water x weight of copper vessel x .0933) x increase in temperature = specific heat of syrup x weight of syrup x decrease in temperature in syrup. This is a very simple experiment, and if carefully performed, with an accurate thermometer, will give you just what you want.

(9162) F. A. E. says: Does a stationary engineer have to have a license in all States or not? For example, I work in a weaving shop; could I run an engine (stationary) without a license or does the law compel all engineers to have one, stationary and marine? Must I have a license to run a turbine steamer 20 feet long or not in the State of Connecticut? On a former date I wrote to you in regard to alco-vapor engines. You must have misunderstood my meaning. I asked about alco-vapor engine drawings, and you said alcohol motor tests. Please let me know if you have a paper on what I want or if you can tell me where to get it. Could you tell me how to case-harden cast iron and steel? A license is required for every stationary engineer in nearly all States of the United States. We do not happen to know of one where none is required. Second, we believe that a license would be required to run a turbine steamer in the State of Connecticut. You can get definite information on this point, however, by addressing the Secretary of State. We do not know what information you desire regarding alcohol vapor engines. So far as we are aware, there are no such engines in this country which are a commercial success. Iron and steel may be case-hardened by heating them to a cherry-red heat, covering them with powdered potassium cyanide, keeping them at this heat for some time with the cyanide continually in contact with the surface of the iron, and then plunging them rapidly into cold water or brine.

(9163) W. M. R. says: Can you give me the name of a substance, not a metal, that is cool, elastic, and tough? Something better than rubber or cork, if you know of such a substance. Will you kindly give me the pull in pounds necessary to straighten a hook made of steel 1/2 inch broad, 1-16 inch thick and bent to form a loop 5-16 inch in diameter, pull to be exerted by a ring working in the loop? A. It is difficult to answer your question in regard to a substance not a metal, which is cool, elastic, and tough, without knowing the purpose for which you wish to use it. Porcelain is such a substance. Celluloid is another. But possibly neither of these will meet your requirements. The force necessary to straighten out a hook 1/2 inch wide, 1-16 of an inch thick, bent in the form of a loop 5-16 of an inch in diameter, will be about 180 pounds. This will vary somewhat with the character of the steel. We have figured on an open-hearth steel, with a tensile strength of about 70,000 pounds per square inch. If too steel were used, the force required would be about twice as great. A factor of safety should be allowed

if this is to be used in construction, which would reduce this figure to about 1/4 or 1-6 of the amount given above.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending August 18, 1903,

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, including items like Acid in natural phosphates, Acids apparatus for condensing, Air brake systems, Alloys directly from ores, etc.