

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

**INTERNAL-COMBUSTION-ENGINE REGULATOR.**—A. N. HATHERELL, Appleton, Wis. This invention relates to means for automatically regulating the speed of internal-combustion engines. The regulator consists principally in a swinging contact member actuated by centrifugal force through the revolution imparted to the regular member in time with the operation of the engine, said contact member being combined with conducting devices in such a manner as to short-circuit the electrical igniting apparatus, thus stopping the ignition of the charge of fuel when the speed of the engine becomes too great.

Of Interest to Farmers.

**WIRE-FENCE LOCK.**—J. W. DRUMMOND, Chillicothe, Ohio. The object of the improvement is to provide a simple, cheap, and easily-applied lock for connecting the horizontal strands of a wire fence to the vertical cross members or stays in such manner that the lock will be a strong and rigid connection of the two members and will not slip on either of them.

**FLOW.**—J. COLLINS, Dockery, Miss. The plow is especially adapted for opening new ground, but may be successfully employed in all work adapted to the plow. Adjusting mediums are provided for a knife-coltter whereby said colter may be given vertical adjustment to or from the point of the share, which mediums can be quickly and conveniently operated and are of such construction that a guide is provided for the colter between its ends and the colter is held at the side of the beam, the colter's adjustment being made by sliding the mediums to and from the heel of the beam.

**TRACTION-ENGINE.**—R. REED, Logansport, Ind. The engine is capable of general use, but is especially adapted for agricultural purposes and to which many kinds of farm implements may be applied. The device will operate any kind of a farm implement that can be drawn by horses or a motor. Means are provided whereby the power can be transmitted to all of the wheels upon which it operates. Also for turning the vehicle about sharp corners by operation of the motor itself, and for additional manually-operated steering means. Power may be applied at will to rear and front wheels or either alone for changing speed and direction of motion.

**LEVELING AND RAISING DEVICE.**—G. H. TENPAS, Sherman, N. Y. The aim of this invention is to provide a leveling and raising device which forms a permanent part of a portable machine, such as a grain-separator or the like, and which is arranged to permit convenient leveling of the body of the machine or raising the same, if necessary.

**INSECT-DESTROYER.**—L. TANNER, Cheneyville, La. This insect-destroyer is especially designed for destroying boll-weevils, cotton caterpillar-moths, boll worm-moths, sharpshooters, and other insects injurious to the cotton-plant and other growing plants. It can also be used on insects in gardens and orchards.

Of General Interest.

**SCRAPER.**—I. W. EVERY, Athens, N. Y. In its preferred embodiment the invention comprises a carriage formed of two runners with rigid connection between them. On the runners is arranged a movable draft-bar, and to this bar is connected a scraper proper, which is normally held rigid with the carriage, but which upon the release of a latch is drawn to the bar into dumping position. Operation is entirely automatic except for manual operation of the latch. The scraper removes snow from ice or other surfaces, but is useful in connection with other materials.

**STEAM-TRAP.**—E. J. RYAN, Danville, Ill. The object of the invention is the provision of a new and improved steam-trap arranged to periodically and automatically insure a complete discharge of the water of condensation without danger of leakage of steam. The device is composed of comparatively few parts, not liable to easily get out of order.

**IMITATION EMBROIDERY.**—N. NOEL, St. Chamond, Loire, France. The present invention relates to letters of the alphabet, figures, and other embroidered signs the characteristic feature whereof resides in the fact that the letters and signs are made with a cord having swollen portions. These letters applied on paper are sewed upon all kinds of tissue. They are made of thread or cord having some parts thicker than others, corresponding to the calligraphic outline of a previously-made design.

**SHIRT AND GARMENT SUPPORT.**—S. LONDON, New York, N. Y. The improvement has reference to shirts or shirt-waists, such as worn by small boys. The object of the invention is to provide a garment of this kind with means for supporting the trousers in a resilient or elastic manner without recourse to suspenders.

**GIRDER-CARRIER.**—C. L. KETCHAM, Springfield, Mo. This device handles heavy bridge-girders and deposits them in place upon the structure to which they belong. It is of especial use where desirable to avoid delaying traffic by blocking up the main line over the bridge. It also effects economy in construction, both as to the number of men employed and the time required for accomplishing the placing of the girders.

Pertaining to Vehicles.

**HORSE-COLLAR.**—J. S. HULL, Manly, near Sydney, New South Wales, Australia. This pneumatic horse-collar comprises an outer casing and a pair of inner independent inflatable pads and having the lower ends thereof closed and overlapping one another, each pad being provided with an inflating-valve and provided at its lower end with an opening for a cord for introducing the pad within the casing.

**VEHICLE-WHEEL.**—J. M. CARPENTER, Millersburg, Ohio. In this case the invention pertains to improvements in wheels for vehicles, particularly automobiles, the object being to provide a wheel with hard metal or steel teeth on its periphery to prevent slipping on ice or frozen ground, the parts being so arranged as to not interfere generally with the spring-yielding of the wheel.

Designs.

**DESIGN FOR A TOILET-POWDER RECEPTACLE.**—W. A. BRADLEY, New York, N. Y. Mr. Bradley has invented a new and original design for toilet-powder receptacles. The body of this receptacle is nearly round, being slightly flattened in its broadest part. It is flat bottomed. The head tapers from neck portion up to the orifices at the top and the whole constitutes a very graceful and ornamental toilet article.

**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.

Marine Iron Works. Chicago. Catalogue free.  
**Inquiry No. 7496.**—For manufacturers of iron baking ovens and bakers' supplies.  
 "U. S." Metal Polish. Indianapolis. Samples free.  
**Inquiry No. 7497.**—For makers of pin machines.  
 Drying Machinery and Presses. Biles, Louisville, Ky.  
**Inquiry No. 7498.**—For makers of luminous paint.  
 Handle & Spoke Mch'y. Ober Mfg. Co., 10 Bell St., Chagrin Falls, O.  
**Inquiry No. 7499.**—For machinery for manufacturing steel pens, nibs and holders.  
 Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.  
**Inquiry No. 7500.**—For manufacturers of hot air pumps.

I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y.  
**Inquiry No. 7501.**—Wanted, a machine for automatically affixing postage stamps to letters.

**WANTED.**—Patented specialties of merit, to manufacture and market. Power Specialty Co., Detroit, Mich.

**Inquiry No. 7502.**—Wanted, a machine for stamping letters on metal disks.  
 The celebrated "Hornby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company, Foot of East 138th Street, New York.

**Inquiry No. 7503.**—Wanted, a machine for manufacturing corkscrews.

**WANTED.**—Young man experienced in drafting and designing textile machinery "New England." Machinery, Box 773, New York.

**Inquiry No. 7504.**—For makers of paper bottles, for milk delivery, also of machines for corking the same.

**WANTED.**—Ideas regarding patentable device for water well paste or mucilage bottle. Address Adhesive, P. O. Box 773, New York.

**Inquiry No. 7505.**—Wanted, a machine for projecting opaque pictures or objects.  
**FOR SALE.**—Paying up-to-date metal working plant. Best location; good building. \$75,000, or will sell large interest to right man. Chance, Box 773, New York.

**Inquiry No. 7506.**—For the manufacturer of the explosive Rack-a-rock.

**Manufacturers of patent articles,** dies, metal stamping, screw machine work, hardware specialties, machinery tools and wood fibre products. Quadriga Manufacturing Company, 18 South Canal St., Chicago.

**Inquiry No. 7507.**—Wanted, woodworking machines for sash and door factory.

**WANTED.**—An experienced master mechanic, who has received not less than \$2,500 per year, to take charge of a large manufacturing plant in New England. References required. Plant, Box 773 N. Y.

**Inquiry No. 7508.**—For makers of portable houses.

Absolute privacy for inventors and experimenting. A well-equipped private laboratory can be rented on moderate terms from the Electrical Testing Laboratories, 548 East 80th St., New York. Write to-day.

**Inquiry No. 7509.**—Wanted, a small ice machine of about 50 to 100 pounds a day.

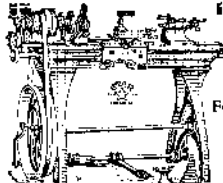
Manufacturers of all kinds sheet metal goods. Vending, gum and chocolate, matches, cigars and cigarettes, amusement machines, made of pressed steel. Send samples. N. Y. Die and Model Works, 508 Pearl St., N. Y.

**Inquiry No. 7510.**—For the makers of the Garden City Rotary Air Compressor.

**INVENTIONS WANTED.**—Undersigned will consider one or two good patented or patentable inventions to manufacture on royalty. Something in popular demand preferred. Honest treatment guaranteed. F. Rantville Company, Grand Rapids, Mich.

**Inquiry No. 7511.**—Wanted, the makers of a novelty called the Tumbler, being a blue capsule with a buck shot in it, and small American flag around it; the capsule to hold about 1 ounce.


**WANTED.**—Competent man who has knowledge of Mechanical Engineering, to take a position as traveling salesman for the selling of construction material used in Insulating Refrigerating Plants. Apply by mail to the Bruening Cork Company, Oakdale, Alfy Co., Pa.



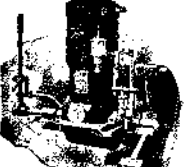
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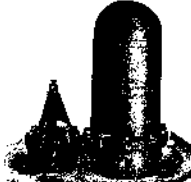
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**Notes and Queries.**

**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.

(9840) J. F. writes: In regard to the answer to question 9697, SCIENTIFIC AMERICAN, July 15, 1905, I doubt that the lead ball should strike the ground earlier than the one of cork. Supposing the balls to fall in a vacuum from the same height and at the same instant, the only force acting on them will be the force of gravity. This force produces a constant accelerating velocity of 32.16 feet per second on any freely falling body, disregarding weight or shape. Therefore both balls will receive the same velocity and consequently strike the ground at the same time, when falling in a vacuum. In the case of bodies falling in the atmosphere, the only difference from the former case consists in the introduction of the resistance of the air, retarding the velocity produced by the force of gravity, and whose effect on the falling body depends only upon the amount of surface the latter presents to the air. The shape of the balls being the same, the resistance of the air will be the same for each. The resulting velocity, or velocity produced by the force of gravity minus the amount of velocity neutralized by the resistance of the air, is the same for each ball, the two terms of the expression being the same for each, they reaching the ground, therefore, the same instant also when falling in the atmosphere.

(9841) C. V. asks: Please give formula for "frosting" incandescent lamps (electric); also for dyeing same in either three following colors: scarlet, blue, and green. How long should they remain in frosting or dyeing fluid for good, permanent frost or dye? A. The colors used for dipping incandescent lamp bulbs are generally aniline dyes dissolved in varnish. A transparent varnish should be used, and made quite thin. It is better to make several dippings of a thin color than to attempt to reach the depth desired by one dipping. The bulbs must be perfectly clean and dry when dipped. They may be washed in soap and water, dried, and wiped with alcohol just before dipping. The hands should not touch them after the washing. A good method for doing the same thing by means of photographer's collodion is given in SCIENTIFIC AMERICAN, Vol. 74, No. 10, answer to query 6751, which we send for ten cents. Another good article upon the subject may be found in SUPPLEMENT No. 948, price ten cents.

(9842) J. R. D. asks: If agreeable, will you kindly advise what metal has the most expansive property when subjected to heat, and also state to what extent quicksilver or mercury will expand by heat, and whether or not quicksilver expands more by heat than does water? A. We give you the rates of expansion of several of the metals which expand most rapidly by heating: Potassium 0.000249, sodium 0.000218, mercury 0.000182, indium, 0.00014, cadmium 0.000094, lead 0.000088, aluminium 0.000070. Mercury expands more than water does for the same change of temperature near the freezing point. The rate of expansion of water as given in the "Physical-Chemical Tables" of Castell-Evans is 0.0000644. All the figures we have given above are from the same tables, which are of the highest authority.

(9843) J. F. W. asks: 1. In a series or current transformer, will the E. M. F. of the secondary vary as the current in the primary increases or decreases, the E. M. F. of the primary remaining constant? A. In a transformer the voltage in the secondary varies with the ampere turns of the primary. Hence a change in the amperes in the primary would make a corresponding change in the E. M. F. in the secondary. 2. In the boosting transformer when the primary winding is connected across the mains and the secondary in series with the circuit, the E. M. F. of the secondary is added to that of the circuit. If both windings be connected in series with the circuit and with each other, as in the following diagram, what, if any, effect will take place in the E. M. F. of the circuit? A. If both primary and secondary were connected in series with the line, they would simply act as any other inductive resistance would act, and would retard the current. They would simply constitute a part of the load of the dynamo.