

SMALLEY MARINE GAS ENGINES



"It Is Self Starting"


INDIAN RIVER, MICH., October 14, 1905.
SMALLEY MOTOR CO., Bay City, Mich.
Gentlemen—You can refer anyone to me in regard to the Smalley motor; my motor runs perfectly. There is one thing about your motor that you do not mention—IT IS SELF STARTING. My motor starts just as sure as steam if it has not stood over ten hours; if it has only had to turn the flywheel back one-quarter turn in the morning, but that is all for the day. Your rotary timer starts the engine every time. I don't think you mention this in your catalogue, but for a perfect motor it can't be beat. Yours truly, CAPT. WM. F. DAGWELL.

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Scientific American Supplement 1087 gives a full account of the making of an alternating current coil giving a 5-inch spark.
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struction which is provided with means for controlling at any instant the tension of the line in unwinding.

Pertaining to Vehicles.
AUTOMOBILE.—B. E. HERVEY, Spokane, Wash. The invention is an improvement in automobiles. By supporting the wheel-shaft upon either side of the wheel and by providing the oppositely-disposed crank-arms arranged upon either side of the longitudinal bar all cross strain is obviated, and as a consequence friction is reduced to a minimum. A better and more equal transmission of power is also effected by this arrangement, and a more stable support is provided for the wheels.

TRUCK.—J. D. SMITH, Cheraw, S. C. Mr. Smith's invention relates to trucks especially adapted for handling lumber in mills and elsewhere; and the purpose of the improvement is to provide a truck in which the frame is in one piece, and, further, in which the axles are of such construction as to act as braces and spreaders for the frame as well as axles.

VEHICLE.—J. H. HANSON and J. J. PETRABORG, Aitkin, Minn. The improvement has reference to vehicles, and more particularly to the running-gear thereof. Its principal object is to equalize the movement of said gear. Used in connection with automobiles it will relieve the engine and its associate parts to a great extent from ordinary wear and tear incurred. It will greatly reduce the liability of upsetting a vehicle or displacing its load.

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.

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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.

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- Inquiry No. 7914.—Wanted, makers of gear wheels or cog wheels, or sprocket wheels.
- "U. S." Metal Polish. Indianapolis. Samples free.
- Inquiry No. 7915.—Wanted, a manufacturer of a door check which is placed on the outer corner of the door, as an additional check besides the spring.
- Handle & Spoke Mch. Ober Mfg. Co. 10 Bell St., Chagrin Falls, O.
- Inquiry No. 7916.—Wanted, wrought iron filings or borings; as fine as granulated sugar.
- WANTED.—To secure a party to manufacture a patent Ratchet Drill. Address Drill, Box 773, New York.
- Inquiry No. 7917.—Wanted, information concerning the manufacture of collar buttons, such as material, cost, etc.
- I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y.
- Inquiry No. 7918.—Wanted, makers of rotary or turbine steam engines.
- Well gotten up typewritten letters will increase your business. \$2 per 1,000. Typewritten Letter Co., St. Louis.
- Inquiry No. 7919.—Wanted, makers of drop forging machines, also small machines for crushing cottonseed.
- The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Machine Company. Foot of East 138th Street, New York.
- Inquiry No. 7920.—Wanted, name and address of parties who make a specialty of manufacturing cabinets on contract.
- FOR SALE.—Self-swinging gate, great improvement. Sell or lease on royalty. Patented November 21, 1905. Claude Siebring, George, Iowa.
- Inquiry No. 7921.—Wanted, the manufacturers of the railroad track-laying machine.
- I have for sale the U. S. and all foreign rights of new patent improvements in Water Tube Types of Boilers. Great economizer. J. M. Colman, Everett, Wash.
- Inquiry No. 7922.—For manufacturers of bicycle fittings or bicycles.
- WANTED.—Practical storage battery man to join me in making small storage batteries. Must have some capital. I have building and power. Capital, Box 773, New York.
- Inquiry No. 7923.—Wanted, address of makers of rotary pumps to lift water 15 to 20 feet, and put 75 to 80 pressure on pressure tank and maintain that pressure while 2-inch hose lines work from the pressure tank continuously.
- Manufacturers of patent articles, dies, metal stamping, screw machine work, hardware specialties, machinery tools, and wood fiber products. Quadruga Manufacturing Company, 18 South Canal St., Chicago.
- Inquiry No. 7924.—Wanted, makers of friction clutch pulleys.
- WANTED.—Experienced foreman for erecting department "Four Cylinder Motors" with well-established automobile company. Must have had similar experience with good company. Address Foreman, Box 773, New York.
- Inquiry No. 7925.—For manufacturers of tin boxes made to represent books.
- PATENT FOR SALE.—Traction wheel or runner. A newly invented vehicle wheel or runner; a sled that will run freely and smoothly on snow or ground, and gives good satisfaction. Can be used anywhere in the north or south. Good bargain. Andrew Sell, Bridgie, Itasca County, Minn.
- Inquiry No. 7926.—For manufacturers of dust protectors.
- Inquiry No. 7927.—Wanted, manufacturers of adjustable scaffolds for use of bricklayers.
- Inquiry No. 7928.—Wanted, a small milling machine.
- Inquiry No. 7929.—Wanted, the name and address of the makers of the Norton Door Spring.

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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.

(9894) F. G. H. asks: Will the range (actual and theoretical) of a 30-caliber bullet (any other caliber probably would not matter) fired from a gun weighing ten pounds suspended by a wire, i. e.—free to recoil without friction—be the same as a bullet of the same caliber fired from a gun having an equal bore and similarly suspended, but having a weight or mass of 10,000 pounds? This has puzzled the writer and a number of his friends who are readers of your valuable paper. Any light you can throw on the subject, together with explanation of how you arrive at the correct solution will be greatly appreciated. A. Newton's Third Law of Motion is, "The mutual action of two bodies is equal and opposite in direction;" or, as it is usually expressed, "action and reaction are equal and opposite in direction." The action of the gases upon the gun and the ball are equal in quantity, and each has the same momentum, the ball forward, the gun in the opposite direction. No account need be taken of the weight of either unless the velocity of the two need be determined. The velocity of recoil of the guns will be in proportion to their weight.

(9895) J. K. asks: How cold is it when it is twice as cold as two degrees above zero? The above problem appeared in a publication recently, which caused considerable discussion. Some considered it as a joke, and others more serious. Following issues published different solutions. If I may be permitted to trespass upon your time, please favor by answering the above problem if possible. A. It is not twice as cold when it is one degree above zero, F. as it is at two deg. above zero. To get an absolute comparison of temperature we must measure from absolute zero. Temperatures above absolute zero correspond to the heat required to produce them. Two above absolute zero is twice as hot as one above. Absolute zero is 459 deg. Fahr. below its zero. The real temperature when the Fahr. thermometer shows 2 deg. above is 461 deg. absolute Fahr. Twice as cold, or as it should be expressed, half as hot as this, is 230.5 deg. absolute Fahr.

(9896) S. R. says: I have a maximum and minimum thermometer, the principle of which I find it difficult to understand, and so far have not been able to find any description in any books that I have. It is the bent tube thermometer, containing quicksilver, but with no bulb as a reservoir of the metal. It carries two glass rods with iron pins in them, which mark the maxima and minima, and which are drawn back to place by means of a small horseshoe magnet. A. The thermometer which you describe is a Six's thermometer. The liquid is usually the same on both sides of the mercury, and is usually alcohol. A space above the alcohol in the bulb has in it only vapor of alcohol. When the temperature rises, the expansion of the alcohol in A pushes the mercury and the iron wire above the mercury in B along to the highest point reached by the mercury. When the temperature falls, this wire is left at the highest point it has reached, the alcohol contracts in A and draws the mercury over to the side A. The iron wire is not pushed in front of the mercury in A to the lowest temperature reached by the contraction of the alcohol in A. The thread of mercury is the indicator; the change of volume of the alcohol measures the change of temperature.

(9897) W. A. W. asks: Can it be proved that light is not electrical energy generated by the sun, which energy in coming in contact with the resistance of the earth's atmosphere produces light by friction? Does the wireless telegraph operate through waves of ether or waves of air? A. Scientists believe that light is due to the same waves as electricity, and that these come through space, from any body which can produce them, to the earth. When these waves strike the earth, they are ultimately absorbed as heat waves. If they strike an eye, they are converted into light waves. Any object which is hot enough can emit such waves. Objects which can reflect these waves may send them to the eye, as flowers and other visible objects on the earth do send them. Friction is not involved in the action. Wireless telegraphy is performed by waves which are electro-magnetic in character, and which pass through air or ether on their way, supposedly with the speed of light.

(9398) W. O. D. asks: Should it be practicable to convert the alternating machine, described by N. Monroe Hopkins in SUPPLEMENT No. 1558, by making proper connections with regard to the field and using a separate commutator with the necessary connections in armature. Please advise me as to size of wire to use in both field and armature, together with any other information you have time to give me. A. No change in field or armature winding is necessary to convert the alternating-current dynamo of SUPPLEMENT No. 1558 into a direct-current machine. It is only necessary to replace the collecting rings by a commutator with as many segments as there are coils on the armature, and connect the end of one coil and the beginning of the next coil of the field to the bars of the commutator in regular order around the commutator. The machine will then give a direct current.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending February 20, 1906.

AND EACH BEARING THAT DATE

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

Table listing various inventions such as adding and recording machine, advertising device, air and liquid cooling apparatus, etc., with corresponding patent numbers.

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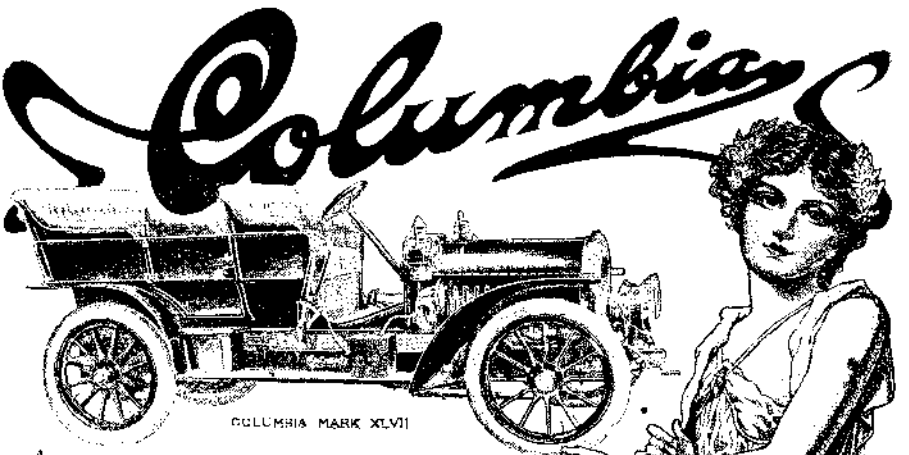
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Table listing various mechanical inventions such as clock, self-winding electric, cloth cutting machines, retaining gear for, etc., with corresponding patent numbers.