

RECENTLY PATENTED INVENTIONS.

Electrical Devices.

REGISTERING DIFFERENTIAL - SPEED INDICATOR.—J. RICHARD, 25 Rue Mélingue, Paris, France. The invention relates to an improved registering differential-speed indicator, and is useful in the study of alternating currents and for other purposes where it is desired to measure fluctuations of speed. The displacement of the differential train is recorded and amplified, so that a slip equal to a small fraction of a revolution can be observed.

Of General Interest.

PIPE OR CONDUIT.—C. H. WILSON, Red Oak, Iowa. A pipe or conduit is employed comprising a metallic frame, around which is applied or molded concrete or other composite material of which the structure may be formed, the frame becoming thereby embedded within such material. In manufacturing sections of which the pipe is made portions of certain members of the frame at each section are left free of composite material at ends of the section, thereby enabling adjacent ends of successive sections to be united, after which further composite material may be applied to joints between sections in completion of the pipe.

COMBINED SCOPE AND DISTANCE FINDER.—T. H. MITCHELL, New York, N. Y. The inventor's object is to provide a finder for use in connection with a camera and arranged to permit the user to conveniently and quickly determine the scope of the object to be photographed and the exact focal distance between the camera and object, to allow quick, convenient, and accurate adjustment of camera according to the distance obtained, to produce a sharp focus of the object and the subsequent production of photographic views of high quality and merit.

CALENDAR.—J. N. PARKER, Bedford City, Va. The calendar comprises a series of leaflets, a suspension-board, and triangular links connecting the ends of the leaflets and the adjacent ends of the board, the apex of the links being connected to the board and the base thereof passing through aligned openings in the leaflets whereby to permit the leaflets to hang parallel. Each leaflet may be made of blotting-paper or preferably with calendar-surface on one side and a blotting-surface on the other. At the beginning of each week the leaflet of the previous week is removed and used as a blotter.

Hardware.

SAW-SET.—J. F. DORMAN, East Tallassee, Ala. The inventor's object is to provide a saw-set arranged to permit of accurately setting a large number of teeth in a short time without the aid of skilled labor and insuring long life to each saw-tooth, as the latter are hammered while being set, and hence are not liable to break off or spring back to former position. The several parts can be readily adjusted to permit of setting saws of different width, thickness, shape of teeth, etc., and by using a plunger or hammer the tooth is gradually hammered down onto the anvil, so as to remain perfectly set without danger of springing back.

Machines and Mechanical Devices.

WASHING-MACHINE.—R. J. DUNGAN, 28 East Oak Street, Norristown, Pa. In this case the invention has reference to improvements in machines for washing clothing, the object being to provide a washing-machine of simple and novel construction that may be of comparatively small size, yet capable of rapidly and thoroughly cleansing the clothing.

MECHANICAL MOVEMENT.—F. N. LIVINGSTON, Ballard, Wash. The invention pertains to a new mechanism for transforming reciprocatory into continuous rotary motion, and, conversely, for transforming continuous rotary into reciprocatory motion. It is useful principally as a substitute for the crank-shaft, although it may be put to other uses, as will suggest themselves to skilled mechanics.

CALCULATING-MACHINE.—C. A. MERLICK, Hanley, Assinibola, Canada. The object of this invention is to produce a simple mechanism which will enable charges or accounts of different kinds to be easily computed. It is especially applicable in computing interest upon notes, but is capable of use in various connections for the general purposes stated, and when in the latter the character of the scales and tables would be changed to suit particular units of measurement or requirements.

WASHING AND SCOURING MACHINE.—R. F. E. OKRASSA, Antigua, Guatemala. The object of this invention which relates to the washing and scouring of coffee, grain, and like materials, is to provide a scrubbing-machine arranged to insure a quick and thorough washing and scouring of the coffee, grain, or other material and a complete separation of the washed material from the water or like liquid used as a washing medium.

HAT-MACHINE.—C. P. WILDENBERG, New York, N. Y. This machine is for use in supporting wires and shaping them in order to produce frames for ladies' hats. Principal objects of the invention are the provision of means whereby the several wires forming a part of a hat-frame can be conveniently and accurately supported by means of hooks even

when the frame is of unusual shape, having re-entrant portions, and the provision of means for conveniently removing the frames from the machine.

Railways and Their Accessories.

AIR-SUPPLY APPARATUS FOR AIR-BRAKES.—E. B. ALLEN, Louisville, Ky. This apparatus not only keeps the air-supply up to its standard pressure at all times, but also utilizes the power in compressing this auxiliary charge as a means for stopping the train, thus securing a double effect, since the power used to oppose the stopping of the train in one instance operates through the booster-pump of the apparatus to supplement or reinforce the pressure in the reservoir for subsequent stops in the application of the air-brakes.

SLACK-ADJUSTER.—C. O. ANDERSON, Omaha, Neb. In this case the invention relates to means for automatically taking up slack which may occur in the brake-rigging of railway-cars, due to wear on the brake-shoes or other parts. The apparatus may be used on either hand or power brakes and will not interfere with the employment of the usual manually-operated slack adjustment.

STEP-HOLDER FOR CARS.—J. EDWARDS, New York, N. Y. The improvement pertains to running-boards or steps of street-cars, such as used usually at the sides of so-called "summer cars." Where such cars are operated on double tracks it is usual for the inner board or step to be turned up out of the way, this step being usually mounted upon pivots or hinge connections for this purpose. The object is to provide simple means for supporting the running-board and for holding same in folded position out of the way.

DOOR-FASTENER.—J. P. SNELGROVE, Atlanta, Ga. The fastener is especially adapted for car-doors, although it may be used upon any class of sliding doors. It obviates the necessity of cleating the door and when sealed cannot be unlocked without breaking the seal. It is easily assembled, and broken parts can be easily replaced. There is but little liability of breakage from swinging outward of the door, since in such swinging the stress will be directed outward, which stress the latch is especially designed to resist.

Pertaining to Vehicles.

WAGON-WHEEL.—I. T. HURD, Lansing, Mich. The effect aimed at in this invention is the provision of a new and improved wagon-wheel more especially designed for use on road and farm wagons and arranged to combine strength with durability and to allow forming the wheel of wood with a hub and tire of metal.

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. 8185.—For manufacturers of "cotton-flock" for the wall-paper printing trade.

"U. S." Metal Polish, Indianapolis. Samples free. Inquiry No. 8186.—For makers of styptic pencils in quantities.

Handle & Spoke Mch'y. Ober Mfg. Co., 10 Bell St., Chaffin Falls, O.

Inquiry No. 8187.—Wanted, the address of the Crown Cap Co., manufacturers of the metal cap for bottles; also for makers of similar bottle caps.

I sell patents. To buy, or having one to sell, write Chas. A. Scott, 719 Mutual Life Building, Buffalo, N. Y. Inquiry No. 8188.—Wanted, the name and address of a second-hand dealer in screw and drop presses.

WANTED.—Architectural draughtsman, capable designer. State experience and salary. Hutchinson & Nobles, Regina, Sask, Canada.

Inquiry No. 8189.—For makers of mail order goods.

Metal Novelty Works Co., manufacturers of all kinds of light Metal Goods, Dies and Metal Stampings our Specialty. 43-47 S. Canal Street, Chicago.

Inquiry No. 8190.—For makers of or dealers in magnets or loadstones of considerable power.

FOR SALE.—Water front in New York harbor with upland and riparian right. Address X. Y. Z., Box 773, New York.

Inquiry No. 8191.—For manufacturers or jobbers of a hand or tubular lantern using calcium carbide to produce the gas for fuel in same.

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. 8192.—Wanted, address of Follett Steel Numbering Machine Co.

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

Inquiry No. 8193.—For machines for wall paper preparing.

Automobile experts are in constant demand at high salaries. Our seven weeks' course is the most thorough and practical fitting men to drive, handle and repair Day and evening classes. Special course for owners New York School of Automobile Engineers, 146 West 56th Street, New York.



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.

(10032) W. J. B. asks: Is it preferable to have all south poles on one side and all north poles on the other to work independent armatures suspended above them, or will alternate polarity, north and south, give as good results? A. We do not see that it makes any difference in which way the several armatures are connected up, so long as each magnet works by itself, as your sketch shows that it does. It is more symmetrical to connect all the same, and then in any repair you will know from what point each wire comes.

(10033) F. S. asks: 1. Is there any destructive local action in a storage battery between the oxide filling and the lead alloy of the plates? A. No. 2. Will the presence of a saturated wooden diaphragm increase or diminish the resistance to a current passing through a liquid? A. It increases the internal resistance.

(10034) B. W. L. asks: If a bridged, grounded telephone wire came in contact with one wire of a lighting circuit carrying 5,000 volts, would there be any disastrous effects to either? A. It would be very bad for the telephone. You would need to put in a new one, since there would not be much left of the old. 2. If one wire of this lighting line were to break and fall across the telephone wire, what would be the probable effect? A. If these wires were bare, the best course would be to call out the fire department immediately. In the description which you give of what took place in your case, we judge that there was no contact of bare wires, and perhaps no wires came into contact at all. The swinging of the light wire near your telephone wire would produce all the phenomena you describe; while the fact that you could get no circuit from the ground showed that the wire had not broken and fallen anywhere along the line.

(10035) J. R. H. asks: Do you have a SUPPLEMENT that treats of intercommunicating telephones and setting up and construction of same? A. We have no article giving practical details on this point. You can find various systems described in Miller's "American Telephone Practice," price \$3 by mail.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending June 19, 1906.

AND EACH BEARING THAT DATE

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

Table listing inventions with patent numbers and dates. Includes items like Acetylene generator, Addressing machine, Air-brake, Alarm lock, Amalgamator, Animal trap, Apron, Automobile controlling mechanism, Automobiles and the like, Baby holding and walking device, Band clasping, Banjo, Bath tub, Bed, Bed bottom, Bed clamp, Bed davenport, Bed extensible sofa, Bed, invalid, Bed spring tightener, Beet toppler, Belt driving, Bicycle pedal crank, Binder, Binder frame, Boiler fine, Boiler with superheating tubes, Bolters, Book cover, Book, manifolding account, Boot-tree and the like, Bottle, Bottle holder, Bottle, non-refillable, Bottle, non-refillable, M. Loftus, Box, Box blanks, means for dampening the score, lines of folding, Davidson & Wesson, Bracelet, T. W. Foster, Brake actuating device, J. Post, Brake beam, C. F. Huntoon, Brake mechanism, E. O. Pflichinger, Brassieres, G. M. Poix, Brick, knife for striking off, Jackson & Hobbs, Briale bit, Turton, Brooches, scarf pins, and the like, safety lock for, F. Drissler, Brooder, chicken, G. S. Summers, Brush, J. W. Ferguson, Brush holder, W. L. Waters, Buckle, wrought metal, C. S. & A. S. Huntington, Building construction, Harris & Stocker, Burglar alarm, I. Watkins, Burial casket, J. D. Rensler, Butter and fats, apparatus for melting and purifying, C. D. Monroe, Cabinet, compartment, R. W. Sturr, Calculating machine, G. H. Sears, Calculating or computing machine, J. Gruner, Calendar, perpetual, J. Guidinger, Cameras, reversible back for photographic, L. Borsum, Can drying apparatus, M. Leitch, Can loading and counting machine, J. G. Hodgson, Can loading and counting mechanism or apparatus, J. G. Hodgson, Car, combined stock and freight, E. Wyatt, Car, coupling, W. Slayden, Car coupling, automatic, S. P. Bush, Car door lock, C. M. Carnahan, Car door operating mechanism, J. C. Herrmann, Car dump, S. Otis, Car end brace, H. W. Wolf, Car end bracing, H. W. Wolf, Car frame, railway, W. F. Kiesel, Jr., Car grain door, L. J. Mighell, Car roof door, J. C. Herrmann, Car, stock, C. W. McKeen, Car, metallic underframe for passenger, A. Stucki, Carbureter, explosive engine, J. B. D. M. Malezieux, Card, coin, F. W. Stack, Carpet fabric, C. C. Stewart, Carrier system, J. A. Suerth, Case, See Thermometer case, Cash register, L. Cooney, Jr., Cash register, W. G. Doty, Cash register, L. Cooney, Jr., Casting anode plates, mold for, E. Truswell, Cement, mold, W. F. Namire, Centrifugal machine, F. Kaehl, Chair back, adjustable, M. F. Glennon, Check loop, W. W. Gleckner, Cheese cutter, computing, C. D. Lender, Chest and desk, field, E. S. Sayer, Jr., Chuck, J. Petrelli, Chuck, P. Thomas, Churn and ice-cream freezer, combined, D. D. & E. F. Mayfield, Cistern, W. O. Wayman, Clamp, F. E. Walden, Clamp, D. Swape, Clock, intermittent alarm, W. E. Porter, Clothes line reel, W. J. Connell, Clothes pin, J. 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The Truth about the Mutual Life

THIS is a matter of great interest to the public, and of still greater interest to thousands of individuals. People with the fairest minds—and that means most people—have been disturbed and unsettled by the developments and denunciations of the past few months. What these people want is the truth—the plain unvarnished truth. To give them this truth is the object of this announcement.

The Mutual Life Insurance Company was organized in 1843, the first of its kind in America. In 24 years it had become the largest in the world. For 39 years, in spite of the keenest competition, it has held the lead, passing unharmed through panics, failures, strikes and wars; meeting with promptness its every obligation and having over 470 millions of assets to-day; this being 78 millions in excess of the 392 millions required by law as a reserve fund for paying all the Company's insurance risks, as certified by the New York Insurance Department; and all other legal liabilities.

The recent Insurance agitation was unique. The investigation certainly was thorough. As every one knows the Mutual Life was on the firing line. The smoke has now cleared away. What do we find?

In the first place we find that the Mutual Life is still the largest and staunchest Life Insurance Company in the world. Without defending or in the least belittling the abuses and extravagances recently brought to light, everybody should keep in mind the fact that the solvency of this Company has not for a moment been affected thereby. Concerning the work of the finance committee which has been attacked in the press, this Company's auditing committee consisting of Messrs. Truesdale, Auchincloss, Fish and Dixon stated on February 15th, 1906:

"The Committee certify that the investments of the Company are of the highest order and well selected," and "have found the valuation given safe and conservative, in many instances less than the market value, and in none in excess of such value."

In the next place, extravagance has been stopped, and those responsible for it have gone; a new management has been installed, and retrenchments have been affected that have already saved vast sums of money and will save much more as time goes on. Legislative reforms have likewise been anticipated, and the Company is now as sound at the circumference as it always has been at the core.

In the next place, the ending of the first quarter presents an excellent opportunity for comparing this year with last.

The amount paid policy holders is \$9,608,436.50, an increase of \$1,070,835.26. The receipts for premiums were \$15,082,484.57, a decrease of \$57,995.29 for the period. This is a shrinkage of less than 5 1/2 per cent. The amount paid for expenses was \$2,935,552.44, a reduction of \$1,547,279.36.

This remarkable showing is a good thing to be kept in mind by everybody—those now insured in the Mutual Life, and those who should be. It cannot be accounted for by the smaller amount of new business written. Of the saving for the quarter, the sum of \$390,961.52 is in items not connected with the obtaining of new business.

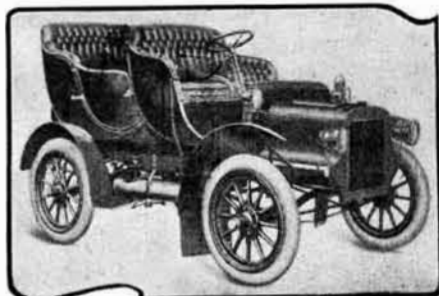
In the next place we find that this Company is doing business—more business than any other company in the world with one exception. Far from being paralyzed or demoralized it is forging right ahead. Policies by the hundred are being written each day; honest trustees, keenly alert, are directing its affairs; faithful and experienced men are doing its intricate work; loyal agents are explaining its advantages and discriminating people are obtaining its protection.

In the next place we find that there need be no question as to the future. A policy in the Mutual Life is just as good as gold. No obligation could possibly be better. A bond of the United States Government is no safer. It will, therefore, be a misfortune if any one is misled by the writer who prints for revenue or for notoriety, or by the attorney who is out for his clients, or the competitor who is out for himself, or even by the gentlemen who have organized themselves into committees under an honest misapprehension of the facts. Such incidents may tend to hinder business, but need deter no one who needs insurance.

With economy, which means rapid improvement in regard to earning of surplus for dividends, everywhere at work in the Mutual Life; with its immense size as the basis for moderate general expenses; with smaller liability for renewal commissions to agents than any other Company; with the cost of new business limited by law for all Companies, how can any one possibly better provide for the uncertainties of the future than through a policy in the first Insurance Company in America, and the strongest in the world—

The Mutual Life Insurance Company of New York New York

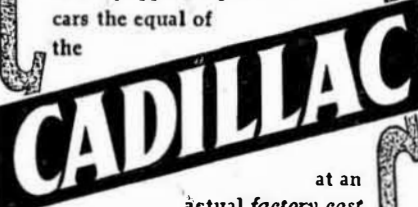
The Mutual Life issues a policy at a notably low rate, which provides most far-reaching protection. Send your address and let us inform you as to the particulars.



Model M Touring Car, \$950, f. o. b. Detroit, (Lamps not included)

Motor Value

The Cadillac is undeniably the greatest automobile value ever offered—not alone in fairness of price, but in the satisfaction and everlasting service received for that price. In fact, there are few establishments, if any, sufficiently well equipped to produce cars the equal of the



at an actual factory cost of less than our selling price. This is but one of the many benefits a Cadillac purchaser derives from the wonderful combination of equipment, skill and experience that backs up every car we build.

The Cadillac couldn't be better if you paid just twice the price. Your dealer will tell you why. His address—also our finely illustrated Booklet N—will be sent upon request.

- Model K, 10 h. p. Runabout, \$750
 - Model M, Light Touring Car, \$950
 - Model H, 30 h. p. Touring Car, \$2,500
- All prices f. o. b. Detroit

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Principles of Home Decoration

BY JOY WHEELER DOW

A Series of Monthly Papers in American Homes and Gardens

MR. DOW is contributing to AMERICAN HOMES AND GARDENS a series of monthly papers on interior household decoration, under the comprehensive title of "Principles of Home Decoration."

The papers are richly illustrated and are written in the keenly critical spirit for which Mr. Dow is well known. They admirably summarize the whole subject of household decoration, and abound with admirable hints and suggestions. The photographs published with the articles are supposed to emphasize some principle of decoration, showing what is admirable and what is to be carefully avoided.

The July issue was a general introduction of the subject, together with examples of one or two typical English living rooms. The August issue treats of the subject of Halls. Subjects to follow will relate to the Dining Room, the Drawing Room, etc.

Every one who is interested in home decoration will be interested in and receive valuable suggestions from this series by Mr. Dow.

American Homes and Gardens

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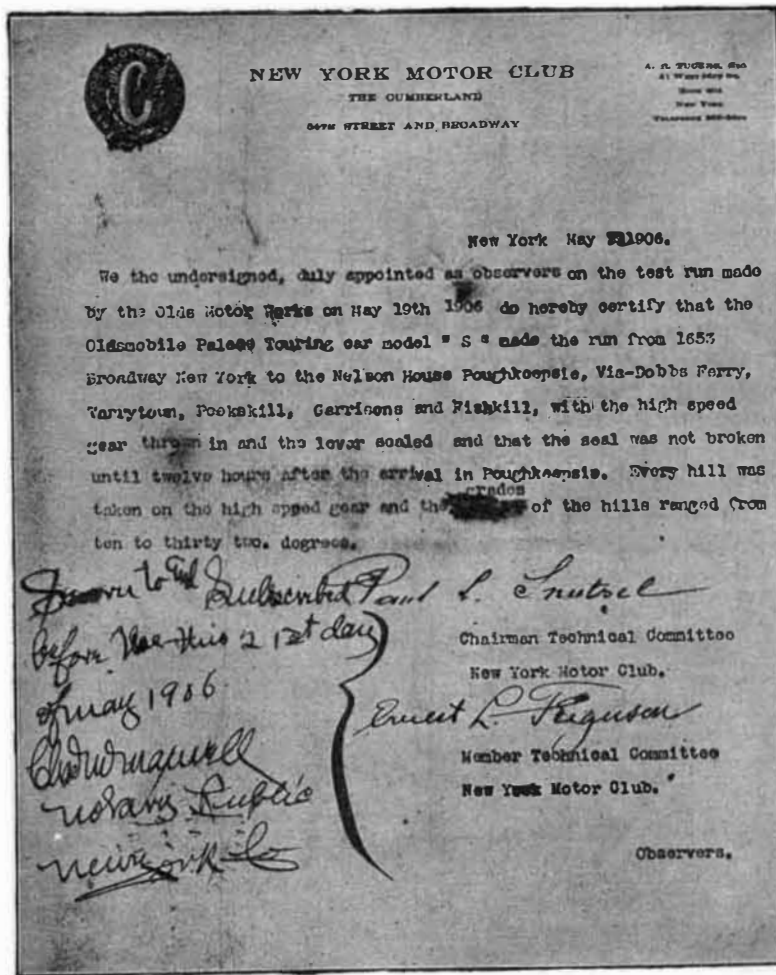


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In addition to the wonderful records of the 100-hour non-stop runs made in Chicago and Cincinnati and the 200-hour non-stop run made in Detroit, the Oldsmobile Four-cylinder Touring Car has made a record run from New York to Poughkeepsie without changing the high-speed gear. Of this run "Motor Way" says:

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"Under the conditions of the test the control lever was thrown into the high-speed position and sealed by Mr. Ferguson in the presence of several members of the club and members of the press. It was necessary to start and operate the machine entirely on high gear, as the drivers were not allowed to change speeds even for reversing. Due to the fact that the car has a range of from 3 miles an hour to 52 miles an hour, it was possible to make the whole trip without violating any of the speed ordinances and at the same time have sufficient power in reserve to climb all the hills en route."



We want to tell you more of the wonderful possibilities of this wonderful car. Address Dept. S. A.

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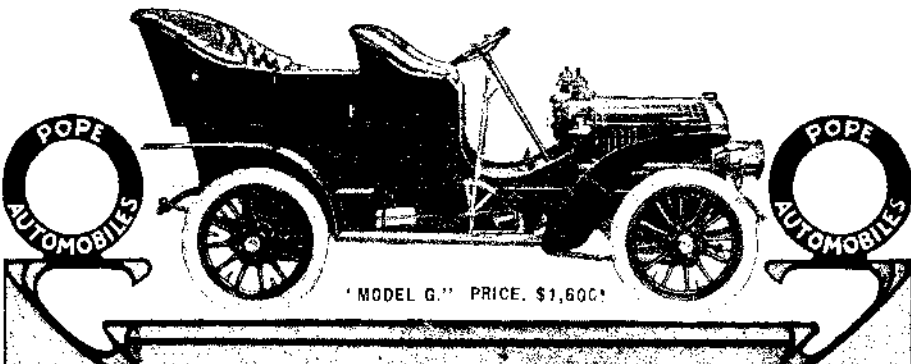
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BODY: Divided front seat and double side entrance tonneau. SEATING CAPACITY: five. MOTOR: two cylinder, horizontal opposed, located under the hood. HORSE POWER: 18. IGNITION: jump spark. TRANSMISSION: sliding gear, three speeds forward and reverse. DRIVE: shaft with bevel gears. BRAKES: double-acting brakes expanding in drums, attached to each rear wheel hub, double-acting band brake, attached to rear of transmission shaft. With top, \$125 extra.

PRICE, WITH OIL LAMPS, \$1,600

Pope-Hartford Model E, "The King of Hill Climbers"

and generally pronounced the wonder of the Automobile shows. BODY: Divided front seat, double side entrance. SEATING CAPACITY: five. MOTOR: Four-cylinder, vertical, water cooled. VALVES: located in top of head, all mechanically operated and interchangeable. HORSE POWER: 20-25. IGNITION: jump spark. TRANSMISSION: sliding gear, three speeds forward and reverse. DRIVE: bevel gear. BRAKES: double acting, expanding in drums, attached to each rear wheel hub, and one on rear of transmission shaft, both operated by foot lever. CONTROL: spark and throttle levers on top of steering wheel, but not revolving with it.

PRICE, \$2,500

Pope-Tribune Model V, is an up-to-date, light touring car, easy to operate, economical to maintain and thoroughly reliable; two-cylinder motor, developing 14 H. P. It is simply constructed and free from complicated parts.

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Pope Manufacturing Co., Hartford, Conn. New York City: 1733 Broadway. Boston: 223 Columbus Avenue. Washington: 819 14th Street, N. W. A. L. A. M.

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