

'MAGIC EYE' SECRET OF RADIO PICTURES

Amazing Photo-Electric Cell Also Used to Measure Far-Distant Stars

send pictures by radio across the Atlantic or by wire across the continent, and that it may be possible before many years by television to see distant events as they happen, is due to the perfection of a little glass instrument no larger than

That it is possible today to your hand, yet one of the most wonderful devices ever conceived. It is the photo-electric cell, an electrical "eye" so keen that it is almost as sensitive to light as the marvelous mechanism of the human eye, of which it is a copy.

The real secret which enables this little instrument to perform its marvels, says Popular Science Monthly for July, lies in its ability to translate variations of light into corresponding variations of electric current. This is the property which has made it possible not only to transmit pictures over long distances, but to perform intricate and astonishing new scientific calculations in terms of electricity.

Only the other day, for example, the photo-electric cell was employed by Professor Joel Stebbins, director of the Washburn observatory of the University of Wisconsin, to measure and weigh stars so far distant that their light takes hundreds of years to reach us. The little glass tube likewise enabled Bengt Stromgren, the Swedish astronomer, to determine the movement of the stars automatically.

A typical photo electric cell consists of a small glass tube with a bulb at one end, somewhat resembling the tubes in your radio set. On the inside surface of the bulb is a thin coating of potassium or similar material sensitive to light, and from this coating a sealed in wire runs to the outside of the bulb. In the center of the bulb and separated from the sensitive element is a ring of non-sensitive metal—platinum or nickel—and from this another wire runs out through the stem of the tube. The two wires are connected through a battery which constantly applies electrical pressure to them through an amplifier. At one point on the bulb is a little window through which light can be admitted.

Whenever light, passing through the window strikes the sensitive film, the latter instantly shoots off electrons, establishing an electric circuit and permitting current to flow through the wires. When the light ceases the current ceases. Thus the variations of light and shadow in a photograph, for example, are translated into variations of electric current.

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Scientists Seek More Data From Iowa Fossils

CHEROKEE, Iowa — Associated Press) — A geological expedition headed by the National Historical Museum society of New York and assisted by the Iowa department of geology and the natural science department of Iowa State Teachers college, will begin excavating next week on fossil bone deposits discovered last autumn near here.

An examination disclosed that the bones represent a rich deposit of mammalian remains. Several specimens were obtained, including vertebrae, ribs, femur and radius and ulna bones. In one instance an entire skeleton was unearthed with all the vertebrae intact.

No definite conclusion has been reached as to the type of mammals represented in the deposit, but American Bison appears to be in evidence.

Oldsmobile Overcomes Obstacles



Mrs. F. E. Griff winning obstacle race with her Oldsmobile De Luxe Coach. The race was held in Seattle, Wash., to promote safe driving.

Safe driving has been defined as having absolute control of a car under any circumstance or condition. But it has been difficult to determine who the safe drivers are as, usually, it has required an accident to prove that a car was not fully under control or the driver was not ready to meet emergencies.

At the insistence of a number of women, who had rebelled against the innuendoes concerning their skillful and safe driving ability, a spectacular test recently was held in Seattle, Wash., which easily could be incorporated in "brake tests" held by many cities during safety drives. The test is one that tries both the skill of the driver and the ability of the automobile's braking, quick pickup and easy steering qualities.

The test was an obstacle race against time over a long city block in which boxes, barrels, packing cases and other impediments had been placed so as to leave a winding trail with barely room for an automobile to pass through. The course required ability on the part of contestants to judge distance carefully, a keen eye and steady

hand on the part of the drivers, and automobiles that could make quick spurts of speed, brake quickly and turn on the edge of a dime. The race was divided into three classes: one for cars under 110 inch wheelbase; one for cars with a wheel base from 110 to 125 and for cars of 125 inch wheelbase and over.

The second class, composed of cars with the medium and popular wheelbase was won by Mrs. F. E. Griff in an Oldsmobile De Luxe coach, with bumpers, trunk and extra tire. Her performance was spectacular to a high degree, the Oldsmobile speeding in and out past the obstructions, speeding up on a short and comparatively straight-away and coming in an instant to a near stop to negotiate a sharp turn. Mrs. Griff has been driving for 14 years, and gave much credit for her performance to the ease of control of her car. Her time was 1 minute and 36 seconds.

At the conclusion of the races, two men endeavored to break the records made by Mrs. Griff in her Oldsmobile, but both came to grief in pitting speed against car control.

SEES BIG SAVINGS FOR OIL INDUSTRY

Dr. Brooks Outlines Plans for Extensive Research in Petroleum Area

(A. D. N. Service) NEW YORK, June 5. — Plans to carry out research in America's nine billion dollar petroleum industry with the \$500,000 provided by John D. Rockefeller and the Universal Oil Products company are outlined by Dr. Benjamin T. Brooks, chairman of the New York section of the American Chemical Society.

His report was made public here by the president of the society, Prof. James F. Norris, of the Massachusetts Institute of Technology.

Little is known of the chemistry of these millions of barrels of liquid fuel whose mysteries must be penetrated not by "pot-boiling" but by "divine curiosity" devoting boldly into fundamentals and fortified with cash, asserts Dr. Brooks.

"In hundreds of research laboratories," he says, "there are men imbued with scientific curiosity who ask only to be 'grub-staked' to go forth and blaze new trails."

Dr. Brooks, who drafted the original brief for the committee which sought the funds for research in the petroleum industry, the second largest in this country, declares that a single saving of more than \$150,000,000 annually can be accomplished by the best modern equipment is applied to the whole industry.

The refining of petroleum for present day products, he points out, is almost wholly a matter of engineering rather than chemistry. Dr. Brooks adds:

"The important advances in refinery technology of the last few years have been mostly engineering improvements. This general

condition is true of any large scale manufacturing enterprise."

Dr. Brooks in his plan indicates that the oil researchers take up the geological history of petroleum called of great interests to petroleum geologists, and conduct investigations into present refinery products and processes.

"An extensive development of the whole field of the chemistry of the hydrocarbons in petroleum and the study of individual hydrocarbons which occur in petroleum or can readily be made from petroleum could well be carried out simultaneously with other researches extending our present very limited knowledge of the hydrocarbons actually constituting the bulk of our different petroleum," says Dr. Brooks.

A study of shale oils and oils from the low-temperature carbonization of coal should be made, he urges, continuing:

"When the time comes when oils from these sources are needed and their market value justifies their manufacture, it will undoubtedly be the petroleum industry that will be called upon to commercialize them."

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SALES INCREASE LARGE

An increase of 268% in sales of the first two months of this year as compared with the same period of last year is reported by the Peerless Motor Car Corporation. The increase coming at a time usually considered the dustiest in the automobile industry is taken as an indication of the unusually strong position of the Peerless Motor Car Corporation and the automobile industry in general.

L. A. Scheelar Auto Wrecking Co., oldest in the Willamette valley. New and used parts and equipment. Low prices and quality service here. 1085 N. Com'l (*)

MORELAND TRUCKS SHOW LARGE GAINS

Increased Sales and Output Reflects Increasing Prosperity in West

BURBANK, June 5. — Increasing manufacturing and sales activity on the part of the Moreland Motor Truck company, whose main plant is located in Burbank, is reflected in motor truck registrations for April, just out.

More than 70 per cent of the heavy duty truck business in California in April was done by four leading companies. Of these four companies, Moreland showed the biggest gain over the preceding month. The actual gain was 73.3 per cent. The others showed a loss. The general average of the four leaders showed a gain of 11.4 per cent.

According to Watt L. Moreland, the excellent showing of the Moreland sales organization last month was due to the rapidly improving situation at the factory with respect to deliveries.

"Production on all models has now reached a point," says Moreland, "where our customers are getting reasonably prompt deliveries. A rush of business in dual axle six wheelers and road runners forced us to neglect temporarily our standard two and a half ton, three and a half ton and five ton models. Now that we are assured a steady volume of all models, we expect a further increase in our sales throughout the west."

"The Moreland factory at Burbank is one of the really large automotive industrial establishments on the Pacific coast. We employ over 400 men and our monthly payroll is in excess of \$70,000. Many of these employees are specialists in their work who have been with the Moreland organization during the full fourteen year term of its existence."

"The Moreland company is pledged to build heavy duty truck equipment for specialized western hauling needs. The most recent addition to the Moreland line are the road runner model for carrying up to two ton payloads and the dual axle six wheelers for carrying six ton and ten ton superloads."

"The popularity of these dual axle six wheelers, which are fully protected by patents, has placed the Moreland company in an exceptionally sound position."

O. J. Hull Auto Top and Paint Co. Radiator, fender and body repainting. Artistic painting adds 100% to the appearance to your auto. 267 South Commercial. (*)

Pies, Cakes, Doughnuts, Bread, in fact everything in the bakery line baked by the Better-Yet Bakery Co., 264 N. Commercial and for sale by all grocers. (*)

'GYP SERVICE CLUB' MULCTING TOURISTS

Autoists Warned to "Look Before They Leap" Into Garage Doors

With the commencement of the tourist season there is the annual attempt by all sorts of "fly by night" organizations to mulct the motorists, garages, hotels, auto camps and other organizations dealing with the motorists, out of whatever they may be able to get from them by all sorts of schemes and wiles imaginable. Such organizations are commonly known among the established, legitimate automotive organizations as "gyp clubs." The Oregon State Motor association together with the Automotive Trades association and other legitimate organizations have kept up a continual fight against the "gyp clubs" and the motor association again advises car owners and business establishments to "look before you leap." In other words, all institutions are advised to investigate any and all organizations before signing the dotted line. A query to the Motor association office, Better Business Bureau, or any other such protective organization will provide advice that may save the prospective victim considerable cash and embarrassment.

Most of these clubs offer all sorts of reductions in gasoline, oil or other accessories, prices as inducements to those they propose to victimize. "We are opposed to these so-called 'Gyp Service Clubs,'" said George O. Brandenburg, general manager of the Oregon State Motor association, in referring to the matter recently, "because they foster business conduct which encourages sharp practices to compensate for losses sustained through giving discounts. Their program is built upon the foundation of price cutting, whereas business generally is conducted today on the basis of quality service at reasonable prices that allow reasonable profits. The history of such organizations—and the investigation of the Better Business Bureau bear this out—shows an unbroken chain of failures in the northwest, with the car owner the chief victim."

"In order that these promoters may prosper, hundreds of business establishments are being asked to give away profits which they must make if they continue as a part of the business community. Individual success is so closely identified with general prosperity, and organizations based solely on price cutting are so foreign to successful business practices, that the Oregon State Motor association feels that every effort should be exerted by legitimate business concerns to discourage in every way possible, these 'Philanthropists' operating under the name of every

sort and variety of "Service Club" title. "The message I wish to emphasize is: 'Be sure and investigate, through some legitimate organization, any proposition offered by a club you are not thoroughly familiar with, before signing a contract or a membership blank

in any organization. That is a business principle that should be made a strict rule with any business concern or individual."

D. H. Mosher, Merchant Tailor, is turning out the noblest and best fitting tailor made suits to measure. 100% business and professional men buy of Mosher. (*)

Hood River—Vinegar plant, burned last year, being rebuilt larger.

Walter H. Zoset, automobile tires, tubes and accessories. Valuing that holds. High quality, superior service. A trial makes a customer. 198 S. Com'l. (*)



EVERY REASON TO SCORE ITS BRILLIANT SUCCESS

STAR Six rides with pleasant Pullman ease—deep resilient upholstery; 90 in. of long and soft-cradling springs; generous-cushion full balloon tires; the low slung comfort chassis.

STAR Six at just \$895 here instantly a popular favorite.

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Bendix Four Wheel Brakes, the type used by Packard and Locomobile and 90% of all European cars.

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Who Is Best Able To Give Good Value In Automobiles

In general, there has been too much "horse-trading" and too little quality merchandising in connection with used automobiles.

In the hundreds of thousands of cars that are turned in each year on the purchase of new cars there remains a vast amount of unused mileage.

Thousands of people want just such cars—provided they can buy them on a sound, honest basis.

But they do want to be safeguarded in their purchase of used cars and the only final safeguard is the dealer. No automobile dealer can escape the penalty or the reward of his methods.

If he is a good dealer, permanently established, giving sound values at fair prices his business will prosper.

The great reputation of Cadillac—its position as the Standard of

the World—is reflected in a dealer body of high standing and of fair, sound methods.

The integrity and standing of Cadillac dealers is woven into the warp and woof of Cadillac's prestige.

The Cadillac dealer looks upon every sale of a used car as the first step in the purchase of a Cadillac by that customer.

As a result he bends every effort to gain and hold the good-will of his used car customer.

In this way he safeguards his future business, and thus safeguards every purchase of a used car.

Furthermore, because of the tremendous sales success of the new 90-degree, eight-cylinder Cadillac, the Cadillac dealer has the very choicest used cars on the market.

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