

EARLY AMERICAN HISTORY TRACED FROM OLD BEAMS

WASHINGTON, D. C., March 14. A grant of \$5,000 by the Research Committee of the National Geographic Society for the study of old beams and timbers in the Indian pueblos of the Southwest was announced today by Dr. Gilbert Grosvenor, President of the Society.

Behind this announcement, which on its face might relate only to a problem in history of timber preservation, is a fascinating scientific "detective story."

More Accurate Than Egypt's Calendar.

"With saws and drills and microscopes," says a bulletin from the Washington headquarters of the National Geographic Society, "the specialists engaged in the beam studies are digging from the heart of ancient logs and beams a more accurate calendar of happenings in the southeastern United States than that which we possess for the civilizations of the Egyptians or the Mayas. The work is built on the fact that every growing tree leaves in its trunk a ring for each year; and on the further fact that each one of these rings has an individuality of its own—different width, definiteness of character resulting from different climatic or seasonal differences. Furthermore all trees in a given region show the same ring sequence; and some of the rings, deposited in an especially characteristic season of drought or moisture, stand out so plainly that it is almost as if nature had rubber-stamped the rings. This is the year 1375 A. D."

"The work was undertaken after expeditions of the National Geographic Society had uncovered the ruins of Pueblo Bonito in New Mexico, one of America's earliest apartment houses. Many interesting things were learned about the customs and culture of the 2,500 people who once occupied the great structure, but the date at which they flourished remained a secret. Some of the old beams used in supporting the roof were well preserved, and when sawed showed characteristic rings. The idea was conceived of tracing a tree-ring calendar back from the present to the days when Pueblo Bonito's beams were growing.

Only Small Gap Remains.

"The work has been in charge of Dr. Albert E. Douglass of the University of Arizona, and has progressed so far that two unbroken sequences of rings have been assembled, one reaching back from the present to the year 1260; the other a preliminary sequence of six centuries. The latter group includes the tree rings from Pueblo Bonito. Checks through pottery and other sources lead the investigators to believe that the gap separating the two series is only about 150 years wide, and that beams from a certain area will close this unknown space. Even if beams bridging the gap have been charred into charcoal, the story their rings tell can still be read."

OAKLAND-PONTIAC INSPECTION IS RIGID

Thousands of visitors who have gone through the recently opened plant of the Oakland Motor Car company, at Pontiac, Michigan, have received an accurate conception of the meaning of "precision manufacturing"—a little-understood phase that for a number of years has been identified with the automobile industry.

In this plant, where nearly all buildings are completely new within the past two years, and where equipment is of the finest "precision" type yet devised, light rays and diamond recoil tests, and many other methods of measuring accuracy, substitute, in a number of manufacturing operations, accuracy to within one ten-thousandth of an inch, the equivalent of less than seven inches in a mile.

To achieve this exactness, an army of upwards of 500 inspectors check every operation in the Oakland and Pontiac motor building and car assembly lines, using for this work gauges far more exacting than the human eye. Everyone of these gauges periodically is subjected to the inspection of the Johansson master block gauge which correctly measures limits up to two-millionths of an inch.

Inspection of small parts received at the assembling desks is done through a device of such accuracy that the recoil of a tiny diamond, suspended from a fine watch spring, correctly notes the slightest deviation in the hardness of the metal tested.

Crankshafts and flywheels are balanced by an ingenious machine which utilizes the turning accuracy of a reflected beam of light. The operator can tell at a glance how much the shaft or wheel is out of balance at what angle and marks it for the machine operator who removes the excess stock by grinding. Crankshafts are tested for a balance variation of not more than three eighths of an inch ounce.

Cylinder heads, after being checked for size, finish and hardness, are held to a limit variance in the lift curve of not more than one ten-thousandth per degree for twenty-degree angle of lift.

A special diamond boring process holds the fit of the piston pin bushing and the pin to a limit of three ten-thousandths of an inch. A diamond is used as a cutting tool by the Oakland-Cadillac company because its hardness insures a perfect taperless bearing surface at this vital point.

In addition to tests for hard-

ness, pistons are held to further limits for weight and size. Both pistons and rods are weighed for center of gravity and held to a limit of five ten-thousandths of an inch for out-of-round and taper.

Even these tests are made more rigid by sorting pistons according to variation in size. Cylinder bores similarly are sorted into different grades according to variation, and in the final assembly of the motor an "A" grade piston goes into an "A" grade bore, a "B" piston into a "B" bore, etc., to assure smooth operation and freedom from vibration.

"The result is a smooth running car of long life, enjoying a high measure of public confidence, as is shown by the fact that the Oakland Motor Car company today is fourth largest in the industry, while the Pontiac Six for several months had led all other makes of six cylinder cars in the United States in registrations," says Mr. Sanderson, the local dealer.

PRESENT MOTOR CARS FINEST EVER BUILT

C. W. Churchill, general sales manager for Buick Motor company says:

"No one attending the recent automobile shows could escape the conviction that the motor cars now being offered to the public are by long odds the finest motor cars ever built. No matter from what angle they are viewed—appearance, performance, or durability—the automobiles for 1929 show a tremendous amount of progress over those of any other year since the industry's inception.



C. W. Churchill

"All this is probably only natural, for never has greater attention been focused by manufacturers on the one objective of making motor cars better. The manufacturer has no choice in the matter, for the public has learned to judge automobiles with accuracy, and the demand for real value in return for the public's dollar can not be disregarded.

"A fact which we have long recognized at Buick, and which has guided the whole process of designing and building our cars, is that more change does not necessarily represent progress. Because this is true, we have adhered consistently to definite principles of chassis design and the valve-in-head principle of engine design, which Buick not only pioneered but developed over 25 years, and to numerous other features long associated with Buick cars.

"There is, in many directions, evidence of continued effort toward performance—an item of value which we have always considered paramount, particularly when interpreted to include endurance. The fact that six, as evidenced by volume, very nearly monopolizes the industry today confirms with itself full justification for the assertion that motor car values for 1929 will be far and away greater than ever before, and that six cylinder cars will lead in greater volume than ever before.

"Speaking in the light of careful observation at the shows—as well as with the knowledge of the advances embodied in every segment of our own 1929 car's value, it is possible to predict for the coming 12 months an era of unprecedented acceptance of motor cars—a period during which their usefulness will attain new peaks, and the service they render become more indispensable than ever."

SUMMER SHADE HATS

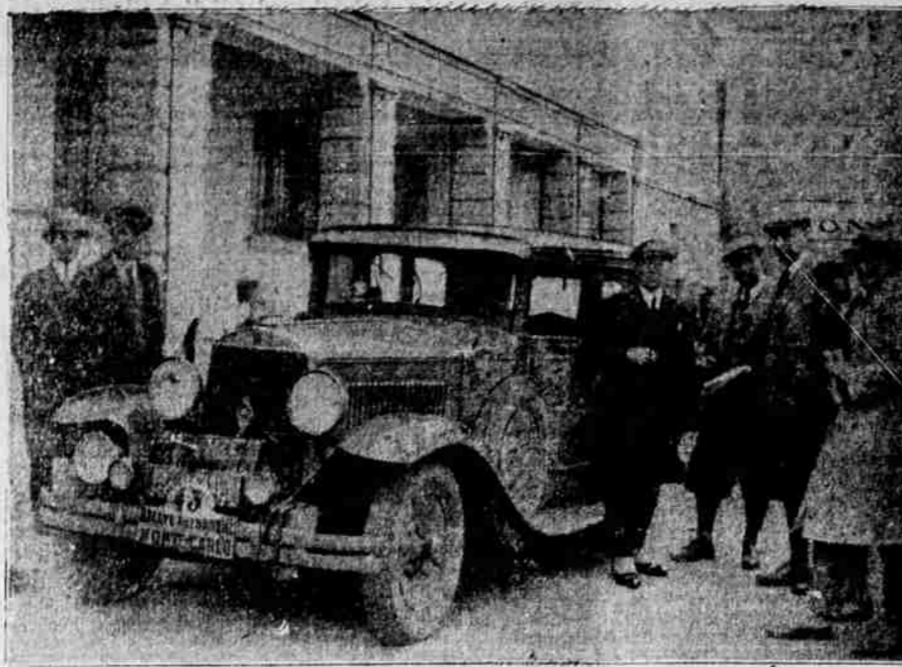
PARIS.—Summer shade hats are going to be wide, extending to the tip of the shoulder in some instances, but they will not be round, since the front will nearly always be shorter than the back and sides.

Double deckers of felt and straw are chosen by a dressmaker-millions of wide influence. Nearly all hats at this particular house are mushroom in shape.

Natural straw hats of enormous size, with crowns covered with printed or plain colored silk to match the sport or beach costume, are an important phase of summer millinery. Use of matching scarves as hat trimmings, particularly on natural-colored silk costumes, is another innovation.

One reason why the moon is not fit for human habitation, besides the two well-known facts that it has no atmosphere and is subject to unendurable extremes of temperature, is that it undergoes the incessant bombardment of innumerable meteors. The majority of these bodies are no larger than grains of sand, but have great penetrating power, as they fly at speeds ranging up to forty miles in more a second.

American Car Wins European Championship



The photograph shows Dr. J. J. Spenger van Eijck and his four-speed Graham-Paige, checking in at Monte Carlo, 74 hours 17 minutes after his departure from Stockholm, Sweden, 1,810 miles away. Despite terrific obstacles of snow, ice and fog, the winner maintained an average speed of 21.93 miles an hour from start to finish, and won the Monte Carlo Rally and the \$10,000 prize offered for the best performance. The test required that they maintain an average of not less than 20 miles per hour or more than 25. The Graham-Paige defeated the leading European makes of cars. Three-speed American cars finished in 16th, 17th and 23d places.

LEAGUE PROBES DIXIE PEONAGE WITH CONVICTS

By Joseph E. Sharkey

GENEVA (AP)—A report on human slavery and forced labor throughout the world, just issued by the International Labor Bureau of the League of Nations, states that the practice of leasing negro prisoners to provide employers with a labor force in the southern states of the United States.

The report will be used as a basis for preliminary negotiations at a conference to be held in Geneva this year for the abolition of involuntary servitude in all its forms.

That section dealing with the United States begins with citing the thirteenth amendment to the constitution which says that neither slavery nor involuntary servitude "exists as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, and any place subject to their jurisdiction.

As evidence to prove the existence of leasing negro prisoners the report then prints an extract from the book of an American writer, Edward Byron Butler, "The American Slave Problem," which alleges that in the case of negro petty offenders it has been customary to impose a fine-work sentence. By this, says the quoted author, it is meant that the offender has the choice between paying a cash fine or working a specified number of days in a chain gang.

The report defines forced labor as "all work or service which is exacted under menace of any penalty or its non-performance and for which the worker concerned does not offer himself voluntarily." The bureau does not suggest that any international convention regulating forced labor which might be adopted should prevent the self-governing people of an independent state from imposing compulsory labor upon themselves.

The forced labor dealt with in the report is that of dependent peoples, whether found in independent states, colonies or mandated territories; who can be compelled by existing laws and regulations to work on plantations for private employers or on public works of various kinds. The experts say:

"It would indeed be of little use solemnly to abolish slavery of conditions of employment analogous to slavery were still to be maintained in the form of forced labor. For this reason the assembly of the League of Nations in 1926, after adopting an international slavery convention, passed a resolution drawing attention to the importance of the work being undertaken by the International Labor Office with a view to studying the best means of preventing forced or compulsory labor from developing into conditions analogous to slavery."

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SINGER GAME IN BUD TAYLOR GO

NEW YORK, March 16.—(AP)—Al Singer, East Side featherweight, again has taken Bud Taylor's measure, and has proved his gameness. Accused of lack of courage, especially when hit about the mid-section, Singer captured a close decision over Taylor in 10 rounds in Madison Square Garden last night.



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Singer won on a foul from Taylor here a month ago and immediately was charged with taking "the easiest way out."

PARIS, France, March 16.—(AP)—Physicians of Marshal Foch and had obtained some sleep. His temperature was 98.6 and his body and mind when they visited him this morning. They said, however, he had passed a quiet night and had obtained some sleep. Today he used for the first time the American invalid bed which permits him to sit up without actually being moved.

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