

COURSES IN TRACTOR OPERATION AT O. A. G.

Farm Power Equipment Will Be Studied.

WORK BEGINS TOMORROW

Tractor Companies Lend Machines and Send Experts to Assist in Demonstration Work.

OREGON AGRICULTURAL COLLEGE, Corvallis, Jan. 3.—(Special.)—Fifteen makes of tractors will be available for use in the two tractor short courses, one of 12 weeks and the other of four weeks' duration, which begins here tomorrow. Other equipment includes 10 stationary one-cylinder engines, 10 auto, truck and tractor motors, and three trucks. Four men will be on the instructional staff to assist Professor W. J. Gilmore, who is in charge of the short courses and is head of the farm mechanics department of the college. Farm power equipment, principally the tractor, will be studied in the three months' course, attention being paid to the selection, operation, care, adjustment and repair of these machines. The latter half of the course, Mr. Gilmore says, will be devoted almost entirely to repair work. Men taking the one month's course will receive little instruction in repair work, owing to lack of time, but will get work on all the other phases of tractor and motor problems. A second one month's course is scheduled to begin February 1, and a third March 1. In all these courses, including the three months' course, a fee of \$5 per month is charged to cover actual cost of gasoline and oil consumed.

Experts from the different tractor companies visit the college from time to time and give demonstrations and answer questions regarding their particular makes. The machines which will be used in the courses are lent by the following companies: Case, Cleveland, Russell 10-20, Russell 15-30, Rumley 15-30, Happy Farm, 10-20, A. A. G., Emerson-Krauthammer, Waterloo, Boy-Moline, Helder 9-16, Helder 12-24, Holt 45, and All-work.

COLUMBIAS SELL IN INDIA

THERMOSTATIC SHUTTERS ARE IDEAL FOR CLIMATE.

Distributor for Car There is Oldest Vehicle Firm in the Entire World.

E. Leidich, foreign sales manager of the Columbia Motors company, manufacturers of the Columbia Six, announces that the Columbia line has just been taken on in India by the oldest existing vehicle concern in the world, Ram Natch & Co., 1914 Broadway, Madras, India.

V. K. Rao, who is representing that company in this country, tells an interesting story of the ancient company. It dates its beginning back into antiquity, to the days of palanquins and chariots. Mr. Rao says that the first organized centuries ago and began building palanquins, which were wheelless vehicles in which passengers were seated on the shoulders of four stalwart bearers. Somewhat later, the Natch company built chariots of the early days, while horses were numerous in India, they were used only for horseback riding and war purposes. They were first used in India to haul chariots made by the Natch company.

The next stage of progress in the company's history was the making of two-wheeled bullock carts. "There is good reason why the manufacture and use of vehicles in India did not progress at that time," Mr. Rao. "India has no such thing as a road. Even the streets in the villages were nothing but muddy tracks and nothing except a two-wheeled cart or a bullock cart could travel over them. As late as the date, following the building of fairly passable roads, the Natch company extended their line to the manufacture of four-wheeled vehicles, such as carriages, coaches and wagons.

"And finally, the ultimate stage of their progress was marked by becoming the largest distributors of passenger cars and trucks in India. We have never attempted to build passenger cars or even passenger car bodies, as we found that American manufacturers can do this much better than we can even with centuries of experience behind us. However, we are building a large number of motor truck bodies, suited to the peculiar requirements of India, and mounting them on American truck chassis.

"A considerable number of Columbia Sixes have been shipped into India in the past few years, and my company was so impressed with them that I recently received a cable message advising me to get the line if possible. One reason why the Columbia Six seems so ideally adapted to India is on account of the automatic thermostatically controlled radiator shutters which keep the motor at constant temperature. With the wide extremes of temperature we have in India, varying from an average of over 100 degrees throughout most of the year in the coast cities down to temperate climates in the mountainous territory, we have had a serious problem to find a car which would operate equally well in all territories. The shutters on the Columbia Six seem to be the solution of the problem.

WHEN AUTO ENGINE STOPS

First Thing to Look for is Stoppage of Gas Fuel Line.

When a motor car, after being cranked, runs for a minute or two, and then stops, the first place to look for the cause of the trouble is the gasoline feed line. A partial stoppage in the pipe will lessen the flow of fuel so that the float chamber fills slowly. On being started the motor at once consumes this gasoline and then waits for more. There is another possible cause for this trouble and that is the float of the carburetor sticking. Of course, if the float sticks in a high position the flow of fuel will be greatly lessened or even stopped.

LONGEST HUDSON IN WORLD

It's in Los Angeles. Used by Film Company for Workers.

LOS ANGELES, Jan. 3.—If you stop to look in amazement at one of the longest motor cars ever saw go-

SHORT COURSE STUDENTS AND SOME OF THE TRACTORS TO BE USED IN ONE-MONTH AND THREE-MONTH TRACTOR COURSES OPENING JANUARY 5.



PHOTOGRAPH SHOWING STUDENTS AND TRACTORS AT FORMER TRACTOR SHORT COURSE. A FEW OF THE STUDENTS ALREADY SIGNED UP FOR THE COURSE AND QUARTERS WHERE THEY WILL STUDY TRACTOR CONSTRUCTION, OPERATION AND REPAIR.

ing along the streets of Los Angeles, it will probably be the Hudson 54 recently rebuilt by the Bristol Taxi company.

This lengthy Hudson already had a long record of service when it was rebuilt, having seen 70,000 miles of travel, but in spite of that wonderful mileage it is now satisfactorily given almost daily use by the motion-picture studios, carrying from 20 to 30 members of those studios out to their various "locations" in southern California.

"When I asked H. J. Bristol, president of the Bristol Taxi company, why he used an old Hudson 54 in making this longest car in southern California," said Harold L. Arnold, the man who sold him the Hudson, "he told me it was because that Hudson 54 represented the dependable and enduring quality he had found in all Hudson motor cars and that the rebuilt car was running as perfectly as it did when he bought the car in 1915."

MACK DRIVE UNCHANGED

"AC" MODELS ARE NOT TO USE WORM DRIVE.

Vice-President Fulton Tells of Experiments and Decision That Chain Drive Is Superior.

A rumor that the International Motor company, manufacturers of Mack trucks, had changed the design of its "AC" models is denied by F. C. Atwell, manager of the International Mack corporation in Portland. In support of his statement, Mr. Atwell submits a letter from R. E. Fulton, vice-president of the International Motor company, in which Mr. Fulton says: "It has come to our attention that the sales manager of a motor truck company has issued a letter to his organization in which he says he welcomes the 'A' Mack into the fold of worm-driven trucks. We appreciate his good wishes but desire to correct the erroneous impression given by his letter.

"We will not build any more 'AC' models with worm drive. We have, for several years, built and tried out great many types of worm drive on our 'AC' models, but have not succeeded in finding any which is as satisfactory as our present chain drive. In order, however, to give the worm drive a most thorough test on our 'AC' models, we built 35 chassis with this drive, most of which we have placed in the hands of some of our best customers. Who expressed a desire to purchase a truck with this type of drive. While these trucks have given satisfactory service and we believe we have as good a worm drive rear axle under them as it is possible to have, our experience is that it is impossible to build a worm drive of a reasonable size which will sat-

VOLLEYS OF COVETOUS OHS! AND AHS! WILL FOLLOW THIS GAY ORANGE-COLORED BUG AS IT GALLIVANTS THROUGH OUR STREETS.



Even in this kind of weather the genus bug has its delirious admirers and admireresses. Here's one that will take away many a gentle breath. It is of a new bug type designed and built for the Fields Motor Car company by G. G. Gerber, the radiator man. Among its eminent attractions is a coat of orange enamel of a brightness that will knock an unbraced man off his feet at 200 yards. At the wheel thereof is William A. Belcher, new used car manager for the Fields Motor Car company.

factorily stand the power in our 'AC' motor under severe conditions. "Other motor truck builders have had to sacrifice power and reliability to enable them to utilize the worm drive and were willing to cut down the power of our motor, thereby limiting the usefulness of the truck. We could use a worm drive, this however, we will not do. But if later we work out an inclosed drive superior to anything of the inclosed type now sold, and decide to market some of them, we shall continue to build and recommend the chain as the most satisfactory type of drive for heavy duty trucks."

CAST-OFF TIRES ALONG TRAIL They Take Place of Bones of Yore Through the Desert.

Cast-off tires mark the desert trails of New Mexico, Arizona and Southern California, and not bones, as the story writers have said. This interesting information, says C. B. Caldwell, local manager of the B. F. Goodrich Rubber company, comes from William Dumas Clark who drove a Goodrich Silver-town equipped White car on a tour from Minnesota to California.

"Desert travel is the most severe test a tire can undergo," Clark said, "and while touring through desert country I have seen literally hundreds of discarded tires scattered along the trail. In fact, one man in Arizona has salvaged enough worn-out tires to build a fence in front of his home. "A desert driver cannot be too careful as regards his tires. The heat, the burning, grinding sand and the hot rocks soon play havoc with a poor tire."

LOWER CALIFORNIA HIGHWAY Military Road to Be Constructed by Mexican Governor.

Estaban Cantu, governor of the state of Lower California, Mexico, is entering upon a progressive road program which will provide a military highway from Mexicali to Tia Juana, Mexicali is immediately south of El Centro, in the Imperial valley, California, while Tia Juana is south of San Diego.

Another proposed military road extends from Tia Juana south along the Pacific coast to Ensenada, a distance of 82 miles; the original road between these two points being 30 miles in length. Still another road extends from Ensenada in a northeasterly direction to Mexicali. The three roads thus form a deep triangle, extending into the peninsula of Lower California.

ROAD BUILDERS WILL MEET Arizona Association Calls Session at Tucson January 19.

TUCSON, Ariz., Jan. 3.—Possibly of large importance in defining policies concerning the Borderland highway program, the Arizona Association of Road Builders will meet at Tucson January 19.

Good Roads association, to be held in this city January 19. The call, signed by President Dwight B. Heard and Secretary Harry Welch, stated that complete representation of every section of the state is desired "in order that the sentiment of the entire state on the matter of national and state highway policies may be discussed and fully ascertained."

STUTZ MAKING MUCH MONEY Profits for First Six Months of This Year Are \$653,742.

For the first six months of 1919 the Stutz Motor Car company of America showed net profits of \$453,742, equivalent to \$8.72 a share, compared with \$5.13 a share for the same period of 1918, earned on 75,000 shares of outstanding stock. Net sales for the first half year were \$3,674,848, or \$1,738,891 larger than those for the first six months of 1918. Gross profits of \$739,328 were an increase of \$279,763.

NEW QUARTERS OCCUPIED

J. H. GRAHAM MOTORS COMPANY IN FINE BUILDING.

Coincidentally With Removal First Shipment of Davis Sixes Comes for Case Distributor.

The J. H. Graham Motors company, distributor for the Case and Scripps-Booth, last week removed into fine, spanking, brand-new quarters at 88-90 Tenth street, a couple of doors north of Stark. The new sales room in fact is only a few steps from the former quarters at Tenth and Stark streets, now occupied temporarily by the factory branch here of the Denby truck.

Mr. Graham's new sales room is one of the handsomest in town. The sales room proper occupies 50 by 80 feet, the offices being in the rear on a mezzanine floor above a special room and sub-basement for parts.

These new quarters, however, are only part of the story. The building occupied by the City garage directly adjoining on a 50x100-foot lot is to be torn down directly to make room for a new structure which Mr. Graham will use for his used car, repair and service departments for the Case, Scripps-Booth and Davis cars. The two adjoining buildings will cost approximately \$25,000.

Mr. Graham hadn't particularly intended it to happen that way, but on the very day he removed into his new quarters, the first shipment of Davis sixes, for which he recently was made Oregon distributor, arrived from the factory.

The Davis six is made at Richmond, Ind., and is a car of a distinctively sport type. Motor car owners will be interested in the fact that it is equipped with the new Continental Aero-type 7-hour motor and that it

is guaranteed to develop 60 miles per hour, though this speed is not recommended when cops are about.

Among other units, the Davis six has Borg & Beck clutch, Grant-Less transmission and Hotchkiss drive. It comes in green, blue and black, and in four models, a sport 4-passenger, a 4-door sedan, 6-passenger and roadster.

15 MILES THIS SPEED LIMIT Haverhill, Mass., Enforces Old-Law on Motorists.

"Arrest all motorists who exceed 15 miles an hour through the city streets or be fired from the police force." That is the order issued by Police Commissioner Roswell L. Wood to the members of the Haverhill, Mass., police force. A special detail of men has been put on to watch traffic Haverhill is on the through route from Lowell and Lawrence to and from the north shore in one direction and to and from New Hampshire and Boston in another.

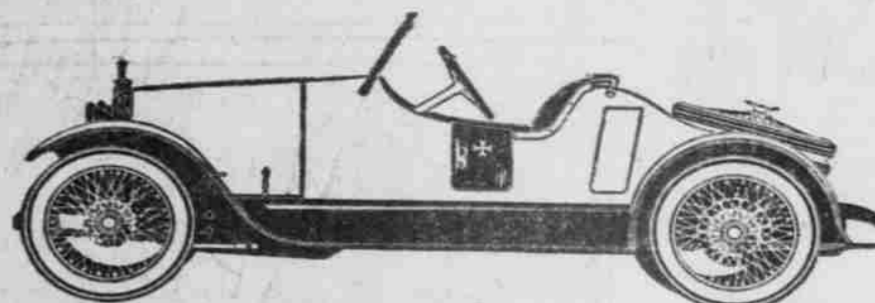
The order came as a result of four children being killed in a few days by motorists, some from other cities. Police Commissioner Wood in his order called attention to the fact that the state law provides 15 miles an hour in the congested city streets, and eight miles turning corners and at crossings, with a stop where street cars are letting off or taking on passengers, yet some motorists race through the city at from 40 to 60 miles an hour if they think they are not observed. With the edict, "stop speeding or get off the force," the policemen intend to obey orders.

FRONT WHEEL DRIVE URGED Australian Inventor Here Declares Increased Power Is Result.

Inventor of a device for driving motor cars from the front axle rather than the rear G. J. Hoskins, Australian engineer, has arrived in the United States and expects to start the manufacture of his device in America. The story of the problem of front wheel drive covers a long period of years. One of the unique cars of

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that type was the Christie racing model, which was driven by the builder in California many years ago. Hoskins claims for his invention a great gain in power with increased speed and increased mileage to the gallon of gasoline. He declares it will make the steering problem an easier one and will eliminate many of the dangers attendant to skidding. In tests with a front drive the inventor was able to round turns at a high rate of speed without skidding as the rear wheels were only used to carry the brakes and simply had to follow in the tracks of the driving wheels.



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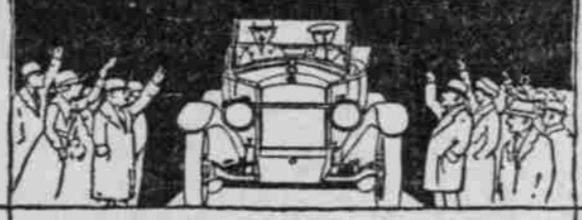
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