AUTO SECTION

ROSEBURG NEWS-REVIEW

DOUGLAS COUNTY

Consolidation of The Evening News and The Roseburg Review

An Independent Newspaper, Published for the Best Interests of the People.

AUTO SECTION

VOL. XXVII NO. 314 OF ROSEBURG REVIEW — ROSEBURG, OREGON, WEDNESDAY, APRIL 13, 1927. — VOL. XVIII NO. 75 OF THE EVENING NEWS

The Foundry Is the First Step in Mass Production of the Modern Car

This is the fourth of a series of articles on the making of the modern automobile.

BY ISRAEL KLEIN

Science Editor, NEA Service.

From the beginning, quantity production takes hold of the automobile industry.

Practically every automobile plant today, no matter how costly or how fine the product, has its chain and roller conveyors, improved machinery that replaces gangs of men and systematized methods that save time and labor.

Quality, however, is not sacrificed. In fact it is assured through faultless machine methods and greater precision instruments. Every step in the process of manufacture is checked up and tested, after which an entire assembly is tried out and checked again.

To insure this quality, however, one step in the manufacturing process has to be so precise as to forego the advantages of quantity production. That is in the design of parts and the making of patterns.

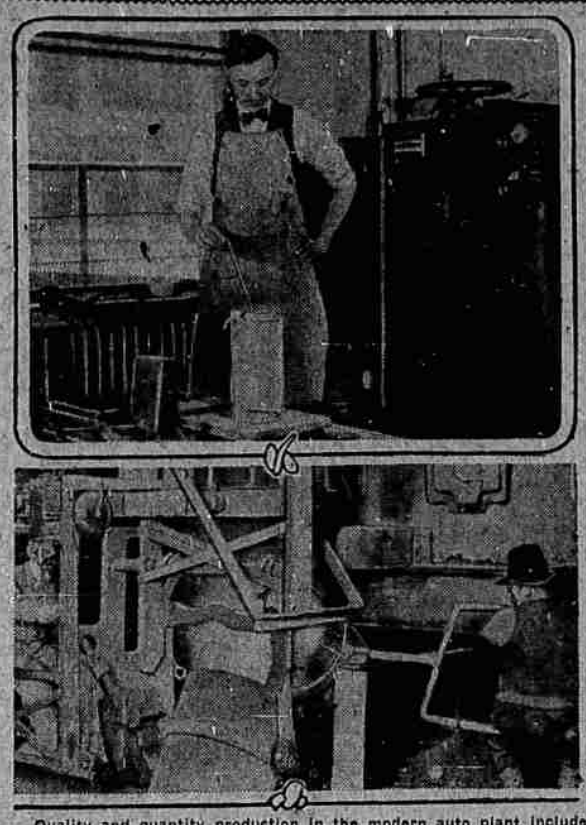
Design covers every single part of the machine, down to the last nut and bolt. For this purpose the automobile shop has a large room where a score or more of mechanical engineers constantly work on plans and the improvement of their design.

"Drop Forgings" First

With blue prints of approval plans made, those requiring forging of parts, such as the crankshafts, the camshafts, connecting rods and axles, go down to the forge shop. Here these parts are pounded out of bars of red-hot steel—the kind that's strong, tough and not brittle—by an electric drop hammer. Only the rough shape is attained, for machines later mill these parts down to the proper measurements.

Other plans go to the pattern-making department for the casting operations on crankcases, engine blocks and other parts.

Wood patterns aren't used in modern foundry practice, for they wouldn't last long under the stress of quantity production and constant use. So molds are made from them and aluminum patterns are cast. These may be used time on end, or until a change is made in the design.



Quality and quantity prodution in the modern auto plant include an experimental foundry, as in upper view, where new alloys and methods are tested, and the massive handling of tons of red-hot metal, as shown below.

In the foundry modern efficiency and systematic methods begin. But the very first step consists of a highly important test on which depends the success of the casting operations. That is a check on the sands used in the molds.

Proper Packing Needed

Each batch is tested to see whether it has the proper amount of binder to keep it firm and whether it will still permit the escape of the gases that form when the molten metal is poured into the mold. If these gases can't escape freely, blisters and holes form in the castings and render the parts useless.

Large overhead electric conveyors carry the sand to hoppers over the spots where the molds are poured. The pattern is set on a permanent base, a wooden box is placed around it and the sand is dropped in.

Holes are gouged out for pouring the metal, the mold is tamped down or packed in by an electric vibrator or pounding machine, it is smoothed off at the top, turned over and the pattern is lifted off.

That leaves a smooth, clean mold, half of the crankcase or other part to be cast. The other half is molded in the same way. The two are put face to face, to form an entire mold, and they are ready for casting.

Rows of Castings

Once done, the molds are lined up in a double row between which a crane travels. A large bucket of hot metal taken from the cupola is conducted down this line, stopping for a moment at each mold and pouring a quantity of the metal into it. One man does the work, sitting in a hanging cage that precedes the metal and controlling the entire operation by electricity.

The metal is allowed to set and cool. Then the molds are taken up and the sand shaken out. That sand, having undergone a chemical change under the heat of the casting, is sent through a cleaning and retreating process that makes it fit for further use.

The castings are cleaned of the sand that sticks to them. Extraneous metal is knocked off or cut off, while other sections are built up by electric welding, so that the entire part may roughly fit the dimensions of the original pattern.

Electric Furnaces

Small brass parts are cast in a separate foundry, in a smaller way. Here, in the more modern plants, electric cupolas or furnaces heat the metal.

In the case of the engine block, the better plants set this part out under the weather for a long as a year to season it thoroughly. Thus this part which has to withstand the strain of great heat and intense cold in our winter day goes through a warping and shrinking process under all conditions of weather.

By the end of the year, it is considered seasoned and its cylinders can be bored and ground down to size without fear of their changing under ordinary conditions of weather.

Next week Klein will tell how the intricate moving parts of the car are made.

How's She Hittin'

By Israel Klein
Science Editor, NEA Service.

Enjoyment of the summer tour depends on the performance of your car. This performance depends on its rehabilitation after the harsh treatment it has gotten under the rough wintry weather.

The car is grimy, it rattles, it clanks and squeaks, so that pretty nearly every part of it needs readjustment. Winter has been hard on it. It has been too cold to get out and tune it up or adjust its parts every once in a while. It has been too muddy to think of giving it a cleaning and oiling.

Now the streets have begun to clear up and the road is calling.

* * *

A thinner mixture of gas and air than that required over winter will result in more economical driving as it warms up. Therefore the screw that controls this mixture should be turned while the engine is running slowly, until it begins to sputter. Then just the slightest turn back, and the carburetor is ready for the summer's driving.

Thinning the mixture means letting less gass enter the cylinders in efficient proportion to the air, reducing carbon deposit and crankcase dilution, and resulting in more mileage.

* * *

The radiator, still reeking with alcohol or an anti-freeze compound, should be flushed thoroughly.

The bottom stop-cock should be opened and all the water in the cooling system drained out. Then, while the engine is running slowly, new water should be added while the stop-cock is still open.

Water should be kept flowing through the system until it comes out as clear as it is poured in.

Then the stop-cock may be closed and the system filled with fresh water.

* * *

All bolts on the chassis, body and engine should be tightened. Winter driving has been hard on the car. It has been shaken up to such an extent that many parts of it are loose. Tightening of the bolts will prolong the car's life.

* * *

The car needs fresh oiling and greasing, as has been explained before, from the crankcase to the rear springs.

The engine, at the same time, may be flushed out with a thin oil before the kind of oil recommended by the manufacturer is put in.

Kerosene should not be used for this purpose, because not all of it can be drained out of the crankcase after flushing. The remainder is not at all helpful to the oil-put in later.

* * *

The engine might need tuning up after four to six months of hard driving. That's the job of a practical mechanic.

It includes grinding the valves, cleaning out the carbon, replacing the spark plugs where necessary and timing the ignition.

In the same process, the carburetor can be adjusted for warm weather driving.

* * *

The battery should be charged, if it is below normal density, and it should be filled with pure water.

The short days and long nights have been hard on this part of the car, so that very likely it is run down. Once recharged, there will be no trouble with it for the rest of the year.

* * *

After these preparations, and cleaning the body, the car is ready for the vacation tour.

SOUTH AFRICA BUYS

South Africa is one of America's best customers. Last year's count of automobiles there showed that three-fourths of its cars had been imported from the United States and Canada.

INSURANCE MAY FORCE GAS TAX

(By NEA Service.)

BOSTON, April 13.—The high cost of the compulsory insurance law in Massachusetts, the first state to adopt this form of automobile legislation, may force the authorities to offset this by a gasoline tax.

Massachusetts is one of the four remaining states that are still free of the gasoline tax.

Now a bill, that has great promise of passing, proposes a uniform registration fee of $3 on every automobile and a tax of 3 cents a gallon for the gas he uses.

STAR STEERING GEAR WORKS EASY

The steering ease of a car is becoming more and more important, especially in metropolitan centers, according to Rapp Bros., local Star car dealers.

"Prompt response to pressure on the steering wheel as well as easy gear movement and clutch action," Rapp declares, "is a vital necessity in this day and age of dense traffic. Even when one is touring the high touring speeds that are preferable demand the same conditions that a driver needs in traffic."

Rapp Bros. point out new fore and aft steering system that has been adopted on the Greater Star Six. They state this system improves the steering ease 100 percent and enables the driver of one of these cars to drive with the minimum of effort.

FOREST WEEK IS SET ASIDE BY PRESIDENT

The week of April 24-30 has been officially designated for nation-wide observance as "American Forest Week" by President Coolidge, in a proclamation made public by the United States Department of Agriculture.

This year will mark the seventh annual observance of the week, President Harding in 1921 having issued the first proclamation which brought the federal government behind the movement. Of the numerous weeks observed in the country, this is the only one to which the government of the United States has given recognition and support.

The president proclaimed the 1927 American Forest Week "in the belief that no other of our internal problems is of greater moment than the rehabilitation of our forests, now so hopefully begun but needing the strong support of our collective will and intelligence." He emphasized the importance of farm forestry as a means for lessening agriculture surpluses and meeting the problems of agricultural overproduction, and the resulting depression in the farming industry. Regarding the part forestry might play in farm relief the president said:

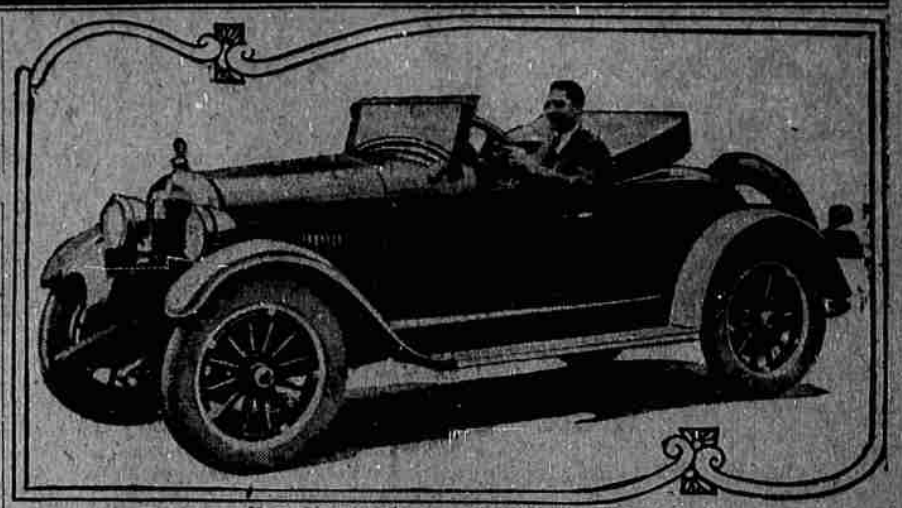
"One-fourth of our soil is better suited to timber-growing than anything else. I can not escape the conviction that our industrial and agricultural stability will be strengthened by bringing into full productive use this great empire of land. Although much progress has been made in public forestry and hopeful beginnings in private forestry, we still have a vast aggregate of idle or semi-idle forest land, and another large aggregate of poor farm land that might more profitably grow timber instead of adding to the problem of agricultural overproduction."

Agriculture would find in timber growing a strong ally, the president said, providing markets for farm produce and for surplus labor.

American Forest Week this year will assume an international scope through the fact that Canada will observe forest week at the same time. Through the Department of State, the Mexican Government also has been invited to participate in this year's campaign for the protection, perpetuation and right of use of the forests.

In making public the president's proclamation, Secretary of Agriculture Jardine pointed out that special significance is attached to the observance of the week in 1927 in view of the disastrous fire season through which the country passed last summer and of the need for bringing home to the people of the Nation the necessity for adequate protection of the forests. Cooperation between the federal government and the states under the Clarke-McNary Act has just got into full swing as well, he said, and 41 states and the territories of Hawaii and Porto Rico are now cooperating with the government in the forest protection and reforestation activities for which the law provides. Thirty states have appointed Extension Foresters and are cooperating with the government in assisting farmers in the handling of their woodlands.

The week will be directed by an American Forest Week Committee, of which Frank O. Lowden, of Illinois is chairman. Nearly 100 organizations, representing a wide variety of interests, are cooperating, among them associations representing outdoor, wild life, and recreational interests, foresters and forestry associations, the lumber industry, consumers of forest products, labor, scientific, civic, and women's organizations, as well as the state and federal governments. The American Federation of Labor, the Farm Bureau Federation, the National Grange, the American Legion, the American Newspaper Publishers' association, the Boy Scouts, the Camp Fire Girls, the National Lumber Manufacturers association, General Federation of Women's Clubs, Young Women's Christian association, National Catholic Welfare Conference, the Daughters of the American Revolution, and the Motion Picture Theatre Owners of America are included among the cooperating organizations. Local Forest Week Committees are being organized in every state.



THE ESSEX SUPER-SIX SPEEDABOUT

Bennie Oosterbaan, the University of Michigan football star, at the wheel of a new Essex Speedabout. Collegians are ordering the car painted specially in their college colors.

Something new in motor cars is announced by the Hudson Motor Car Co., in the introduction of the Essex Super-Six speedabout, a two passenger car of the roadster type which Hudson heralds as "the fastest six cylinder car in the world per dollar of cost."

To assist in high speed performance, the car is built along sweeping and rakish lines. The rear deck is streamlined like a speedboat, the lines curving smartly to a point in the rear. The regulation colors of the cars first manufactured is a bright and attractive green. Special color combination are being asked for, however, and in a number of college communities students are ordering speedabouts done out in the varsity colors.

One of the first men interested in the speedabout was Bennie Oosterbaan, the University of Michigan all-American football star and captain. Oosterbaan passed in his practice of passing footballs to pass along to the Hudson-Essex organization the idea that the cars be trimmed in college colors. Other nationally known football stars have ordered cars especially trimmed.

The speedabout is a car designed especially for youth. Built for outstanding performance, its low center of gravity and perfect balance assure a high degree of roadability and safety. Unlike some roadsters, it was built without rumble seats, because it was desired to achieve streamlines which would be impossible if the rear deck were broadened out. Hudson-Essex states that this car has a performing ability not matched by many cars costing five times as much. The car is unique on the American market.

Insurance figures show that of 20,000,000 motor vehicle owners in this country, 16,000,000 carry some form of insurance but only 4,000,000 carry liability insurance.

TOTAL AUTO TAXES MAY HIT BILLION

By NEA Service

WASHINGTON, April 13.—More than $750,000,000 was paid out by American motorists in the form of federal, state and municipal taxes last year.

This is an increase of $83,000,000 over the total of taxes paid in 1925.

Threats of increased gasoline taxes and promise of another record in automobile sales this year, point to approach of the billion mark in taxes by the end of this year.

Figures showing this great revenue from motorists have been issued by the Department of Agriculture and have been obtained from other sources.

Ten Per Cent Gain

The Department of Agriculture announces that the total motor vehicle registration in 1926 was 22,001,293 vehicles, which included 19,237,171 passenger cars and 2,754,222 trucks and tractors. This is an increase of more than 10 per cent over the 1925 registration.

Receipts from registration fees, licenses and other state annual taxes were $288,282,352, as compared with $260,619,621 in 1925. Receipts from gasoline taxes in 1926 totaled $787,603,291. In 1925 they were $146,028,940.

Proportionately, federal excise taxes on passenger cars and trucks, vehicles for hire and on parts, tires and accessories, it is estimated, have brought in 155,000,000, as compared with $145,296,000 in 1925.

Local Taxes Help

Personal property taxes in 1925 were well over $100,000,000 on automobiles alone, and municipal taxes the same year have been estimated at a total of $15,000,000.

Figuring only a slight increase in these local taxes, puts the motor tax bill for 1926 past the total of $750,000,000.

Most of the money derived from this source is put back into public roads. Motorists therefore may expect a wide expansion of the road building and improvement program henceforth.

GREAT WIND LOSS

The average car, traveling 15 miles an hour, uses one-half horsepower to overcome wind friction. When its speed is doubled, however, the wind friction takes five horsepower, or 10 times as much.

Two or more species of caterpillars attack the pear fruit from the time the fruit sets until it is the size of a walnut. Many injured fruits drop, but others mature as scarred and malformed pears, typical examples of fruitworm injury. These worms appear very early and feed promiscuously over the foliage before the fruit sets. Lead arsenate in the pink spray affords excellent control. The calyx application is not equally successful as it is too late for best results in control.

BEYOND THE CITY

The automobile has converted the American people from thoughts of provincialism to those of nationalism.

Speedy and economic transportation, good roads and especially the family car have taken us out into the country, into places which we pictured crudely in our unimagirative minds, and have revealed to us a world in which our own locality is but a dot.

We have extended our limits of observation, of experience, by use of the automobile. We have enlarged our scope of knowledge and on this we have substituted a wider horizon as the foundation for our thoughts.

Touring, therefore, seeing America, is the greatest educator, for it opens our minds to other ideas. It shows us other groups of people with other industries and other modes of life. It proves to us that our own urban limits are the confines only of narrowness and inexperience.

Beyond these borders lie the beauties of a great country and the revelations of an imposing nation.

BETTER ROADS WILL CARRY A RECORD TOURIST ARMY OVER THE UNITED STATES

By NEA Service.

WASHINGTON, April 13.—Concrete highways, wider and more inviting than those of former years, will speed millions of tourists this year over America's varying landscapes.

This year, for the first time, motorists will find their way across country as easily as going downtown. All important highways under federal aid have been numbered systematically, and all are marked uniformly for the guidance of tourists.

There are eighty thousand miles of such highways. The entire government and state system of surfaced roads covers more than 200,000 miles. This year nearly 30,000 more miles will be prepared for driving.

Most of these roads are of gravel and macadam, but they are well packed, smooth and generally well maintained. The concrete roads cover more than 30,000 miles.

Turn Back to America

Over this network of improved highways will travel a host of motorists larger than any in former years. Last year, it has been estimated, more than 15,000,000 campers alone enjoyed the country's scenery over these highways. These took from five to fifteen days to stay at a single camp, and many extended their tours for more than a month.

Many more millions burned up the roads for weekly and week-end trips. Practically every motorist shared with others the pleasures of short tours lasting no longer than a day.

This year this summer pleasure is expected to increase with the growth in the number of motorists, the improvement of highways and touring facilities and a general awakening to the attractions America has to offer. Thousands of tourists, it is believed, who otherwise would seek vacations by a tour through Europe, will turn their backs on that continent to "See America First."

The result will be a general quickening of motoring activities all over the United States. The national parks will swarm with thousands of visitors. Some 2500 tourists' camps will be packed with transients. Summer hotels and cottages will be filled. Business will rake in millions from the passing strangers.

Billion Is Spent

How enormous this touring activity is expected to become may be estimated from the expenditures of tuorists last year in certain parts of the country. Figures collected by Frank E. Brimmer for the American Automobile Association show that motorists must have spent well over a billion dollars last year over the whole United States.

In Michigan alone, automobile campers left more than $44,000,000 during the touring season, and that doesn't include the sums spent by those passing through the state or taking short trips into it.

The number of motor tourists in this state's parks exceeded 3,500,000, nearly three-fourths of which stayed at hotels, and spent an average of 18 days there.

Every midwestern and western state reported an increase of visitors during last year's touring season, and expect even more this year. The American Automobile Association alone routed more than 50,000 cars into New England, bringing about 150,000 visitors into that territory.

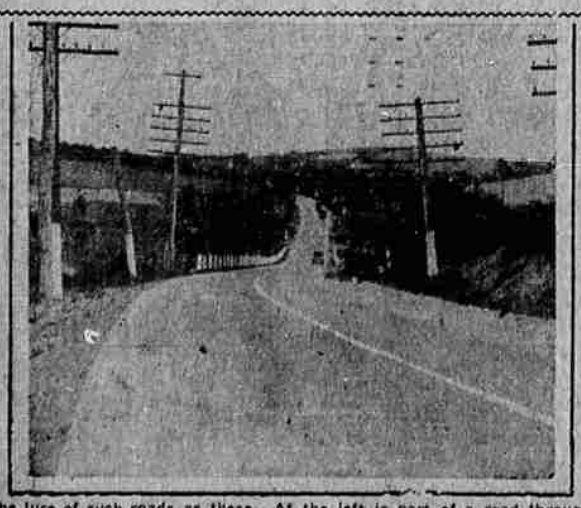
Motorists in Majority

For the first time, says Brimmer, motor tourists last year exceeded rail visitors to the Grand Canyon National Park. Yosemite National Park was visited by nearly 275,000 tourists, a large increase from their former numbers, largely due to motor traffic.

Sequoia and General Grant national parks reported a 60 per cent increase in travel there over 1925, and all the other national parks reported similar increases.

Only Florida showed a decline last year in the number of motor visitors, but that is due practically entirely to the drop in the Florida boom. Those that did come, and there were many thousands, were considered of the more highly desirable class of tourists which well overbalanced the decline in numbers.

The amount of money spent by the tourists ranged from almost $2 to as high as $10 a day. In one case the value of each visiting automobile to the state was estimated at more than $10 a day while there.



No veteran tourist can escape the lure of such roads as these. At the left is part of a road through Essex county, Massachusetts, while the one at the right shows a tempting stretch of smooth concrete along the Lincoln Highway in Allegheny county, Pa.