RESEARCH WORK IS DEVELOPED

Ford Motor Company Reach Gigantic Scale in Race With Production

The amount of research and experimental work done by the Ford Motor company is full in keeping with its size and the scope of its activities. This is vital because every move the company makes in carrying out its manufacturing program is done on such a gigantic scale that all guesswork must be rigidly excluded at the very start, and the facts predetermined in the laboratories on a purely scientific basis. Not only must the company be kept fully abreast of the times, but it is even necessary to anticipate automotive developments from time to time.

So wide is the field of Ford endeavor that purely automotive engineering forms only a part of its scientific program, a highly-important one, to be sure, but by no means the only field for research. The Ford car and truck, the Fordson tractor and the Lincoln car each has its own experimental program, not only in their development as individual units but from a manufacturing standpoint as well. The mines, the forest, the factories, the fleet, the railroad and all sources of raw material demand places in the laboratory. Constant experimentaly work with the various substances related to automotive manufacture; fuels, oils, lubricantss, rubber, fabric, glass electrical devices, lamps, and everything else pertaining to automobile—is carried on.

The new engineering laboratory at Dearborn has been completely equipped to handle the bulk of the company's scientific work. Every factory in the Ford industrial research are carried on, but Dearborn is the hub of the Ford experimental wheel.

The equipment is as complete as possible. Any detailed description would read like pages from a catalog of scientific apparatus. There is nothing lacking. In fact the laboratory is prepared to make its own apparatus if necessary, for it maintain a magnificently equipped shop capable of building anything from a spark plug or an inner tube to a locomotive to airplane. Some of Mr. Edsel Ford's famous motor boats have been built here.

Metallurgy and metallorgraphy naturally come in for special consideration on account of the many varieties of metal used in Ford construction. The Ford car has in its makeup 40 different steels, 5 kinds of cast iron, 12 bronzes, 8 brasses, 4 aluminum alloys and three varieties of babbitt metal. In addition to the copper and lead found in alloyed compounds pure copper is found in the wires and radiator tubes and pure lead in the batteries. In all there are 72 metals or combinations of metals in a Ford car.

While it is not the policy of the company to make frequent changes in its basic design, thereby rendering its preceding models obsolete before their time, there are constant improvements being made in the metallurgical specifications. Each succeeding year finds in Ford products more strength and a greater resistance to breakage and wear.

Agricultural research, both botanical and chemical, is also practiced in connection with the Ford farms and the Fordson tractor's experimental program.

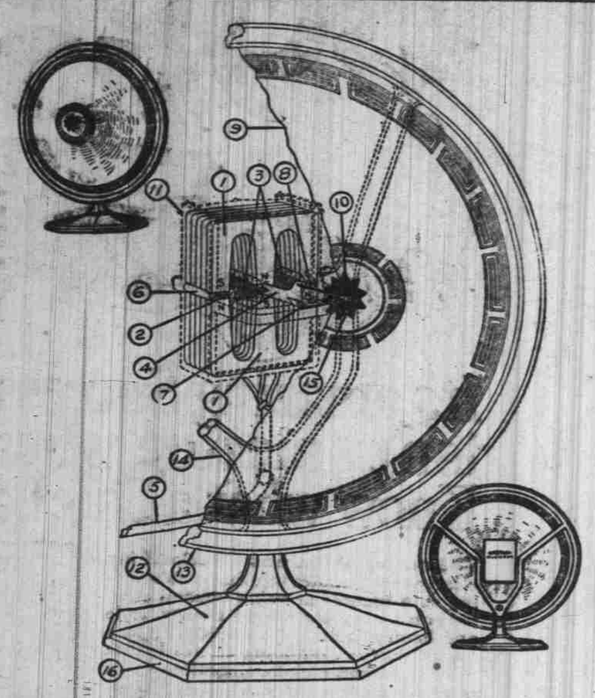
There is an experimental body shop in which various types of automobile bodies are built for purposes of study. If modern coach design presents a new idea, this laboratory will soon discover whether or not it is applicable to the Ford line. Sample cars from all representative American and European manufacturers are always under observation and the large collection of foreign makes always to be seen gives one the impression that it is always "Salon Week" at Dearborn.

The Ford interests receive offers of inventions and processes at the rate of 500 a week, and occasionally something of importance turns up. In such cases the experimental department follows it through. Most of the Ford methods, however, have originated in the company's own laboratories or shops, and have been the result of painstaking work, step by step, in co-operation with other departments.

One reason for the extreme modernity of all Ford methods is Mr. Ford's willingness to back his judgment and that of his engineers with the investment necessary to carry the work to completion. The Piron low temperature coking process required the spending of millions long before the first oven was filled. The first dollars before it made a single revolution. If a new discovery will reduce operating costs, or produce better work, the Ford Motor company will adopt it even though it means the virtual scrapping of hundreds of thousands of dollars' worth of equipment, for any economies made possible will be multiplied by millions and soon write off the investment. The company, however, sticks to its own field and deals only with things bearing on the Ford industries.

Musicone Is Basically New and Different

It Is the Voice of Radio



THE actuating movement in the Crosley Musicone is entirely new, as will be seen in the accompanying illustration. It is basically new and different and is in no way like the old-fashioned re-constructed head-phone unit. No extra amplification is required to operate it and it cannot be overloaded with multi-tube receivers.

Faithful reproduction of the lowest organ tones to the highest violin notes is obtained with the Musicone. No adjustment is required, and, being non-directional, reproduction of the voice or music is sent to all parts of a room.

The accompanying illustration shows how the Musicone operates, from the point where the amplified music or voice leaves the receiver until it is heard by the auditors.

Having tuned the receiving set to the desired broadcasting station's concert, the electrical energy passes through the receiver and enters the Crosley Musicone through the cord (5). From here it is carried to the armature coils (3), which magnetize the armatures (2) according to the incoming signal energy. This armature, being close to the laminated field magnets (1), is accordingly strongly repelled downward or upward, as the case may be. This motion is transmitted to the cone (9) through the armature lever (4); the rod (8); the set-screw (10) and the metal re-inforcement (15). The cone diaphragm (9) vibrates in exact accordance with the signals that come in through the cord (5) from the receiver. There are other parts which serve to aid those already given, such as the spring lever (7); pure rubber pads (6); magnet frame (11); rim (13); frame (14); metal re-inforcement (15); base (12) and felt base (16).

Italy Hears Queer Tales Of Cross Puzzle Zealots

ROME, May 1.—On the heels of the arrival in Italy of the cross-word puzzle, the claim is put forward that Italy is the home of an ancient game which, it is asserted, was the parent of the present form of cross-word puzzle.

Although admitting that the increasingly popular puzzle is of American origin, Italian wiseacres maintain that a cross-word game, a direct ancestor of the modern pastime, was popular for many centuries in Italy, occupying the leisure hours of the habitues of family cafes in provincial villages.

Whether or not the claim be well founded, it is a fact that the American importation is making great headway. Within a fortnight after the first puzzle was printed by a weekly newspaper, two other newspapers, one a weekly and the other a popular daily, followed suit, each of the three sponsors of the new game advertising heavily their enterprise in introducing the novelty.

In addition there have arrived dozens of newspaper articles from the United States and Great Britain describing in somewhat fantastic terms, and with occassional obvious inaccuracies, the hold which the cross-word puzzle is getting upon the Anglo-Saxon peoples. Poker, bridge and mahjongg, it is said, have been forgotten; family conversations consist merely in requests for advice in solving puzzles; dust is allowed to accumulate on rodio sets, and the authorities are considering laws to force the crazed addicts to return to their accustomed tasks.

WELLS IS KNOCKED OUT

LONDON, April 30.—Bombardier Wells, former heavyweight champion of Great Britain, tonight suffered another knockout. He was laid low by Jack Stanley in the third round of their 15 round bout.

SPEEDWAY KINGS SET NEW RECORDS

Culver City Classic Witnesses High Marks; Carburetors Are Praised

When Hartz, De Paolo and Duray flashed across the finishing line at the recent Culver City classic, they not only set a new standard for speed but incidentally added a clump of feathers to the cap of the Western Auto Supply company, distributors of the Winfield carburetors.

The cars equipped with the Winfields made a clean sweep of the leading events of the day. Harry Hartz, winner of the main event and Peter De Paolo, runner up, ran the fastest 50 mile race ever recorded on the racing sheets. Hartz made the 50 miles in 22 min., 14 secs., establishing a speed of 135.25 mph. In the first heat, Leon Duray copped first money with his Miller Special, Winfield equipped. In the second heat, De Paolo's iron steed made the fastest lap in the history of motor racing at the speed of 139.7 miles per hour. Phil Shafer and Wade Morton also drove cars equipped with Winfield carburetors.

"An outstanding feature of the Winfield product," says Mr. W. F. Watson, local manager of the Western Auto Supply company, "is that the self same carburetor used by the knights of the roaring plank may be used on the pleasure or commercial cars. On the highway, it is rapidly becoming the favorite among car owners who demand perfect carburetion with no adjustments for changing temperatures, with quicker acceleration and elimination of the "fat spots."

Photo Courtesy Maxwell and Chrysler Motor Corporations

A World Famous Statue

EVERYONE who goes to Paris makes it a point to see the famous statue of St. Joan of Arc, by Fremiet (1899) in the small Place de Rivoli. This gilded equestrian statue stands before the Hotel Regina, which was used by the American Red Cross during the war as headquarters, and is known to hundreds of Americans.

Moon Motor Car Company reports an unusually large volume of spring business, with production and sales running well ahead of records established for this period of all previous years. Dealers' stocks are said to be small and public demand is continuing strong. Inclosed cars comprise 75 per cent of the company's business.

Studebaker Corporation is preparing to make a strong play for bus business by turning out 5000 specially designed long-wheel base chassis this year, according to a statement from President A. R. Erskine. The chassis will sell at $1785. The corporation plans to pay off all of its $4,000,000 of bank loans by July 1. Second-quarter production schedule calls for 40,000 cars. Present demand exceeds factory production.

Another far-reaching trend which is becoming more and more prevalent is the use of two cars per family. There is a tendency to have both an open and a closed model so as to enjoy the most desirable service for different kinds of occasions. Where the father uses the automobile to drive down town another machine is needed for family use. This is particularly true of any family where the chief wage eaner is using the machine continuously in his business.

Both Sides

Barbara: "Mrs. Helmach said she had to get rid of her maid because she didn't know anything."

Virginia: "I heard it was because she knew too much."

Guarding the Packard's Path

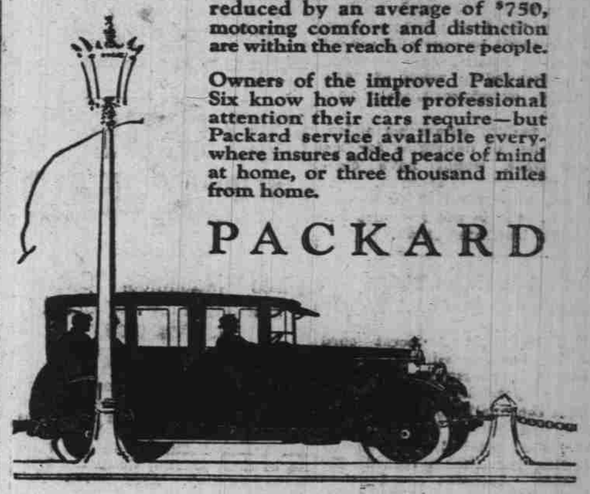
ASK THE MAN WHO OWNS ONE

HOWEVER far the Packard owner may roam he finds the outposts of Packard's service army.

Authorized Packard service stations have quadrupled in four years. Their number is constantly increasing, for since Packard Six enclosed cars were reduced by an average of $750, motoring comfort and distinction are within the reach of more people.

Owners of the improved Packard Six know how little professional attention their cars require—but Packard service available everywhere insures added peace of mind at home, or three thousand miles from home.

PACKARD



FRED M. POWELL
MOTOR CARS
680 Ferry St. Phone 2126

The Ideal Car for Spring

STUDEBAKER

Standard Six Duplex-Phaeton

THE new Studebaker Standard Six Duplex-Phaeton is the ideal car for Spring—and for all the year.

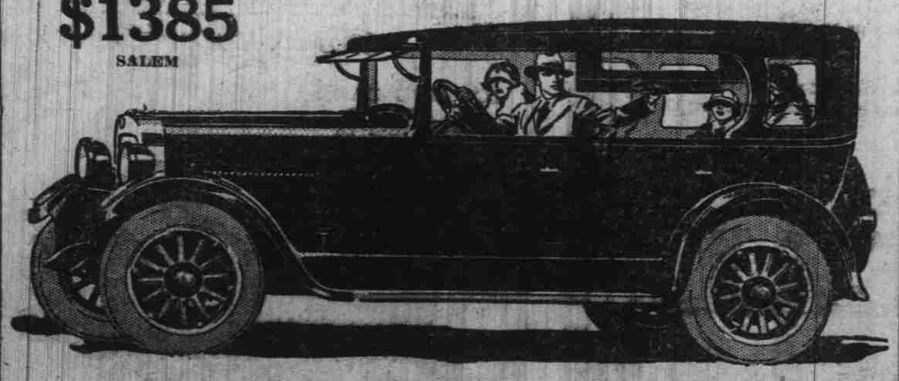
When the sun is shining, it provides the exhilarating freedom that only an open car can give.

When it rains or storms, or on damp, chilly evenings, you have instant protection at your finger tips . . . by simply lowering its roller side enclosures, an exclusive Studebaker feature.

This extra convenience is found only on cars built by Studebaker. And the Studebaker Standard Six Duplex-Phaeton sells at the price of an ordinary open car.

Come in and see this new-type car. Learn what Studebaker offers before you buy.

$1385
SALEM



Marion Automobile Company
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Open Day and Night
235 South Commercial. Phone 362

THIS IS A STUDEBAKER YEAR

You can pay more ~but you can't buy a better battery!

Guaranteed 18 Months (Fords, One Year)

Wizard Storage Batteries respond instantly to the touch of the starter—furnish the plugs a powerful spark—give the lamps a strong, bright light. Wizard Batteries are used on all makes of cars—they will "stand the gaff" under all conditions and they are equal in every way to any battery on the market. They are made by very reliable manufacturers of the highest grade materials and sold direct to you through more than 100 "Western Auto" Stores. No middleman's profit to pay.

6-volt, 11-plate battery for Fords, Chevrolets, Stars, Buick Fours and other small cars. Wizard Special, with wood case $11.85
Wizard Standard, with rubber case, to fit same cars $12.95
6-volt, 13-plate $15.85
12-volt, 7-plate Battery for Dodge $18.95

Other sizes priced proportionately low.

$1185 AND UP

T & M Safety Light

Front View *Rear View*

The white light of the front part of this safety light concentrates on the driver's arm—it gives added safety when using arm signals in night driving. Combination Stop Signal and Parking Light. Price $2.50
Stop Signal only, price $1.50

Bulb Chests

Holds 2 large and 4 small bulbs 50c
Bulbs for all cars, ranging in price from 20c to 60c each.

Radio "B" Battery

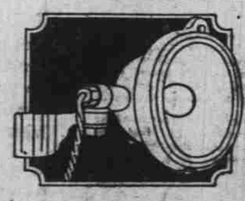
The name "Franco" is well known for its quality—gives dependable service with any radio set. Protected from temperature and climatic changes. 45-volt, 30-cell, in two sizes, price $3.75
4½-volt, 3-cell 60c

Order by Mail—Our Guarantee Protects You

This Week's Special

MacBeth Lens $1.95

A high grade, well-known lens that gives satisfaction. The green visor adds distinction. Complies with legal requirements. Our regular low price $3.25 a pair. This week only, per pair $1.95



S & M Spotlite

This Spot-Lite has a patented regulating bracket that prevents raising the light too high when it points on the road. It absolutely complies with all the laws regarding spotlights. Its finish is baked glossy enamel. 2 sizes, priced at $9.50 and $13.00

Leader Spotlight $2.25
Williams Junior $3.45
Williams Spotlight, large $4.85
"Darsie" Spotlight $7.50

Spark Plugs

We carry a complete line of A. C. and Champion spark plugs for all cars, priced from 55c to 75c each.

Western Giant Spark Plugs

They produce the same even spark in each cylinder and they carry a guarantee for 2 full years—they are indeed a most efficient and durable plug. Price each 55c
Set of 4 with extra core $2.35

Electrical Supplies

We carry in stock at all times a complete line of

Cables — Switch Keys — Coil Units
Switches — Coil Points — Timers

If in need of electrical goods for your car, it will pay you to step into a "Western Auto" Store. You pay less.

100 Stores in the West

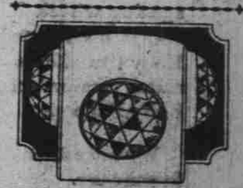
Western Auto Supply Co.

Salem Store Corner Court and High

New Additions to Our Line

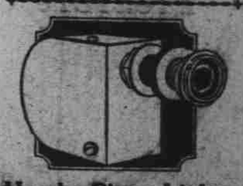
Courtesy Lamp

A pair of these lamps, a red one for the left side and a green one for the right. Gives your car added convenience and safety in night driving. The glass in these lamps is very heavy—the frame is made of brass, heavily nickel plated. Complete with bulbs. Per pair $3.25



Tiffany Parking Lamp

It fits snugly against the fender, has a clear lens in front, ruby lens in rear, and green lens on the side. It gives complete parking protection; 6-volt bulb included. Price—black finish, $1.45; nickel finish, $1.70.



Handy Cigar Lighter

Keep your eyes on the road and hands on the wheel at all times. Just draw the lighter forward—your light is ready instantly. $2.50

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