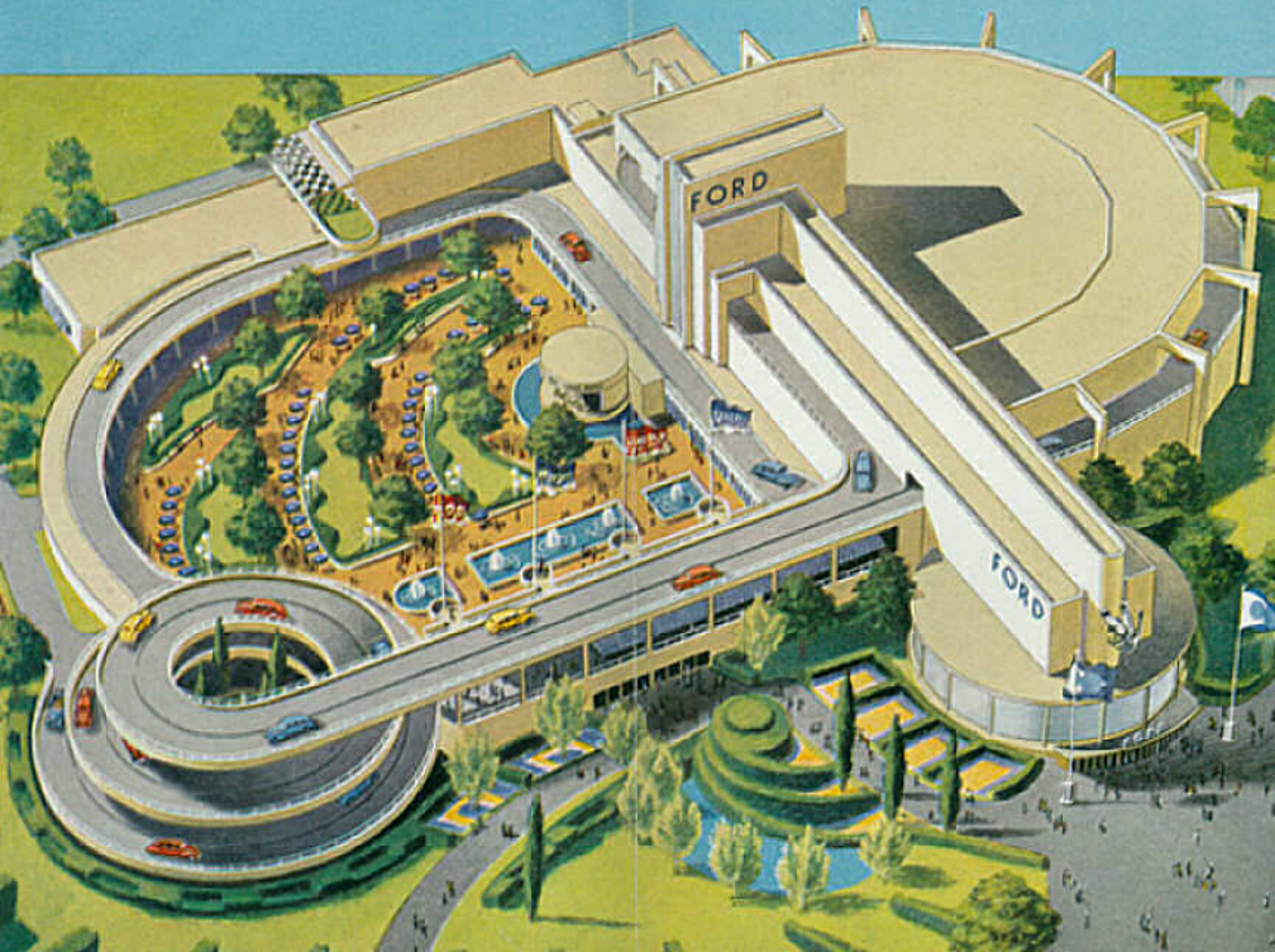
THE Ford Exposition

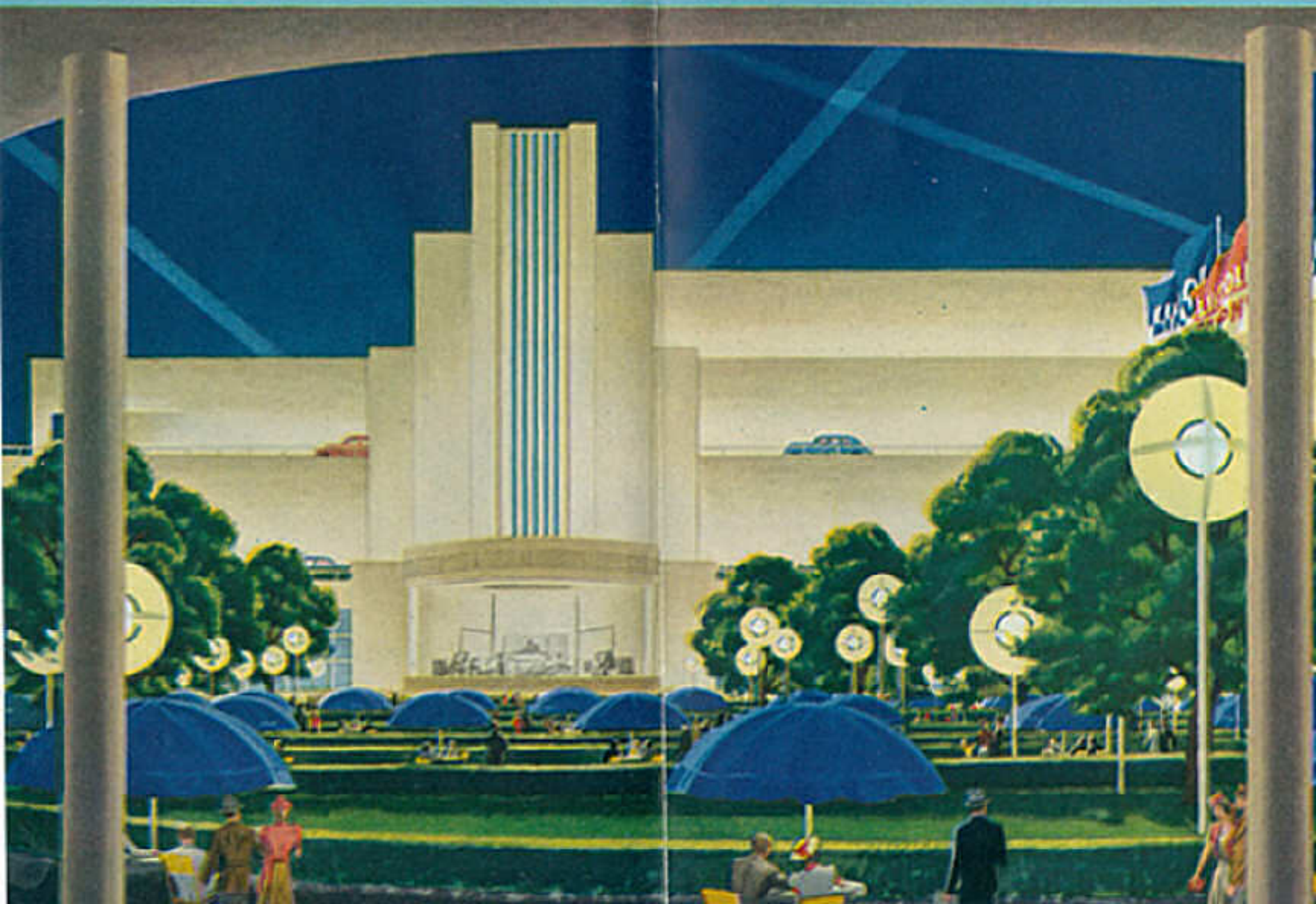
NEW YORK WORLD'S FAIR

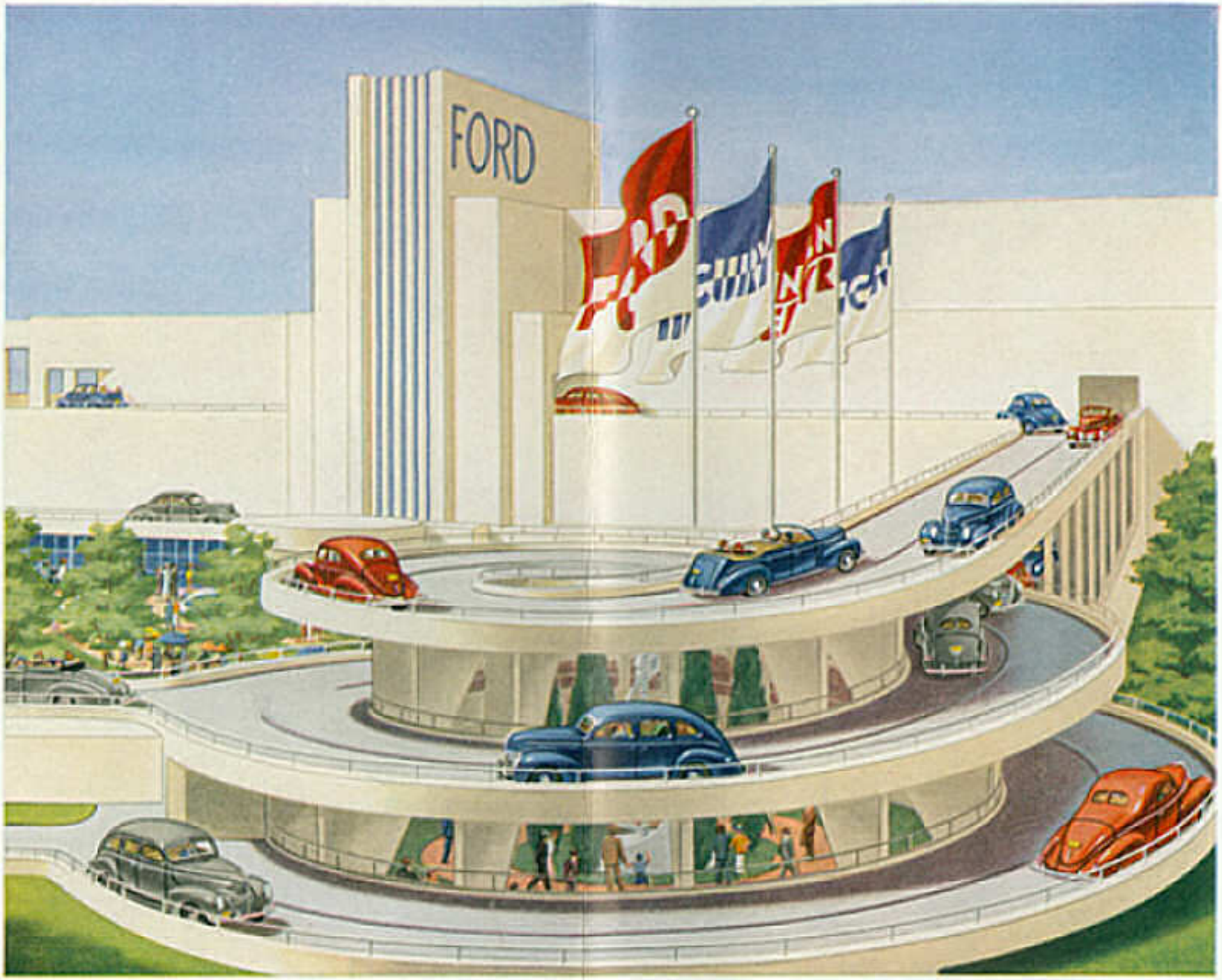
Henry Ford has a conviction that progress comes when you show men's advanced ideas to other men. • He believes that the exhibits at the World's Fair will help young people to gain inspiration and knowledge for improvements that will be as important to the world of tomorrow as the motor car has been to the world of today. • It is with that thought in mind that the Ford Exposition has been developed—that it might present to you both interesting and stimulating new ideas. This booklet will help you to remember the highlights of your visit.



The Ford Exposition Building is strikingly modern, and many interesting features are evident even before you enter. • Over the main entrance is suspended a Twentieth Century impression of the god Mercury, symbol of the swift, effortless magic of modern transportation. This figure is rustless steel, measures twenty-five feet high and weighs five tons. • Most dynamic in effect is the constant movement of the brightly colored Ford, Mercury and Lincoln-Zephyr cars on the Road of Tomorrow. This road, designed as part of the building, is more than half a mile long. It circles the land-scaped Garden Court and rises in a spiral ramp to girdle the building. Visitors who take the trip over the Road of Tomorrow have one of the best views of the Fair possible, for the

Ford building is located on the highest point of land within the Fair grounds. • In the Garden Court, umbrella-shaded tables and chairs provide for the comfort of visitors, who are invited to rest and listen to the music of The New World Ensemble. In the orchestra shell there are four Novachords, the newest type of electronic instrument, and a Hammond electric organ. The musicians are under the direction of the famous composer and arranger, Ferde Grofé, and the interesting and novel musical effects are obtained by special arrangements worked out by Mr. Grofé. • The Ford Exposition building, landscaping and gardens together cover almost seven acres. The building itself is 520 feet long, 420 feet wide and 88 feet high. It is completely air-conditioned.





This part of the Ford Exposition is known as "The Road of Tomorrow," in keeping with the theme of the World's Fair, "The World of Tomorrow." It is the dream road of highway experts who vision elevated roads as the solution to automobile traffic congestion. Over it visitors are driven in Ford, Mercury and Lincoln-Zephyr cars, around the building at an elevation indicating how vehicular traffic will be separated from pedestrian traffic in the future.

THE Road OF Tomorrow

There are more motor cars per thousand people in America than in any other country in the world. The concerted demand of their owners for improved highways is leading not only to more miles of road, but to advanced highway designs.

To suggest the trend toward a special type of elevated highway for city driving, the Ford Motor Company has constructed The Road of Tomorrow as an integral part of its Exposition building at the World's Fair.

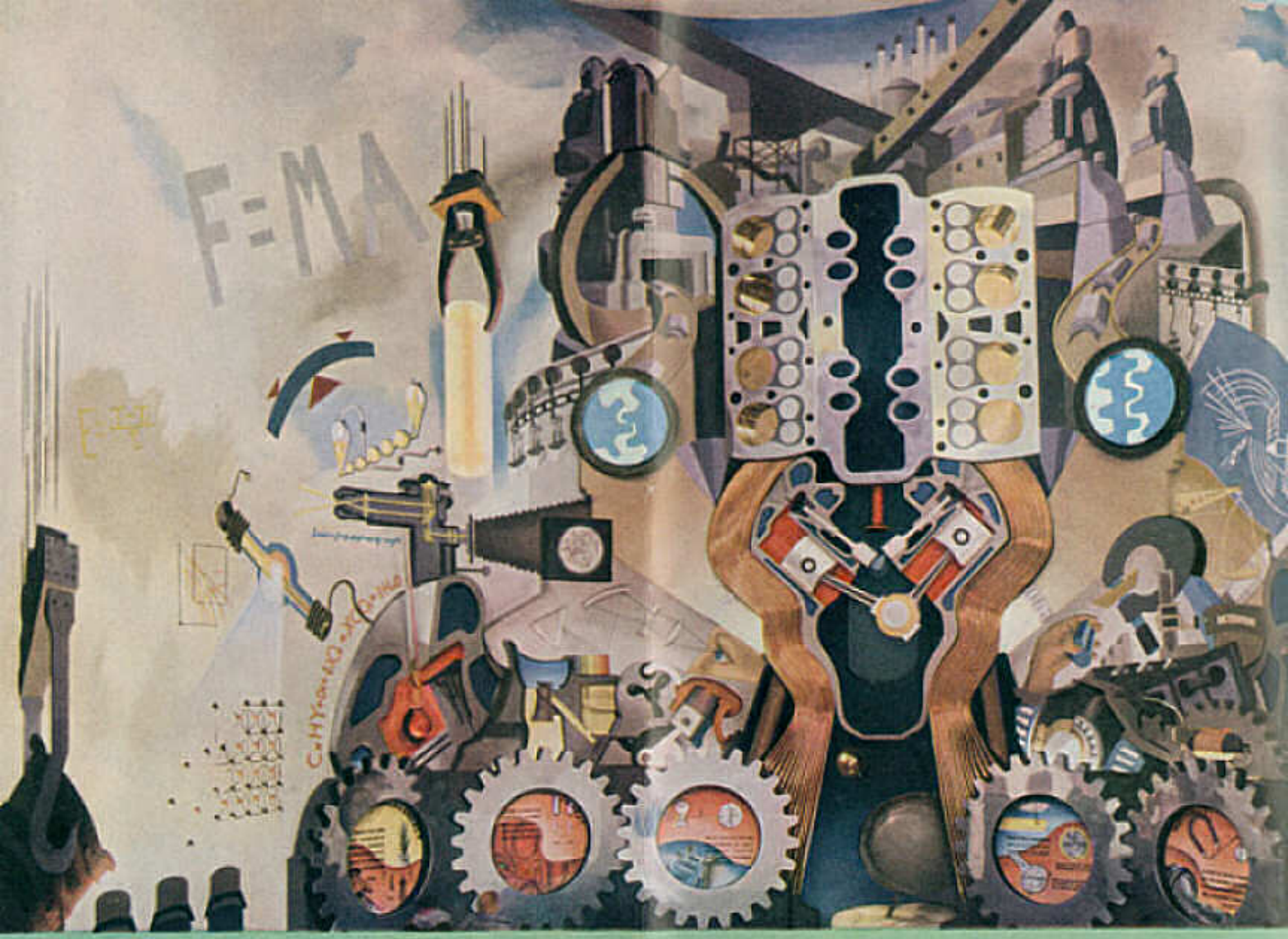
On such roads there will be no intersecting streets, no traffic light delays. They can separate local and express traffic, or separate all motorized traffic from pedestrians. They provide for a complete physical separation of opposing streams of traffic.

The spiral type of ramp is an important factor in our Road of Tomorrow, for it shows how traffic can be lifted to the express level in the heart of a city without wasting space. The Road is surfaced with a composition including cork and rubber, unusually quiet and with excellent non-skid properties.

Motorists of New York City and points nearby already know the convenience of elevated highways, and investigation shows that they no longer need be considered a luxury.

For example, the Pulaski Skyway in New Jersey was built at a cost of more than 20 million dollars. But a traffic count and time study made under the direction of the United States Bureau of Public Roads proved that the savings to motorists using the Skyway are greater than its costs.

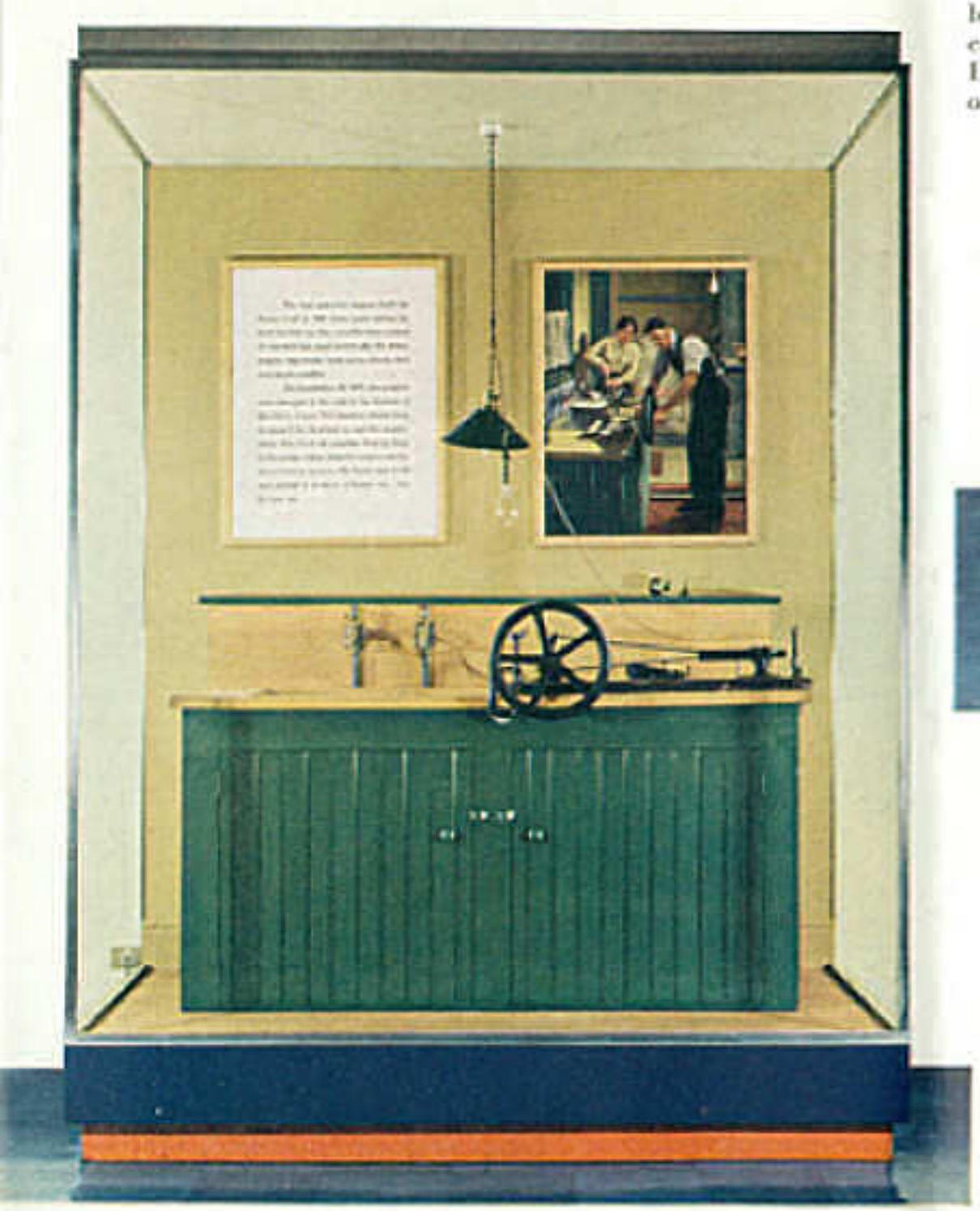
We hope you enjoy your ride over the Road of Tomorrow—and that some day you will be able to do most of your city driving with as little interference from traffic.



THE Mobile Mural

At the end of the Entrance Hall in the Ford Building is the huge mural designed by Henry Billings. This is based upon observations made in the Ford Rouge Plant, and suggests the dependence of modern industry upon the pure sciences. Specifically, it presents the application of six basic scientific principles in the operation of an automobile engine.

It is believed to be the first moving or "activated" mural in the world. The fundamental theme of the work is expressed as follows: "Man can change the form of energy, but he can neither create nor destroy it. The sun pours energy in the form of light upon the earth, where it is stored in many forms. By controlling the channels through which it flows, as it changes from one form to another, industry harnesses this energy for the benefit of man. Eventually, transformed to heat, it radiates from the earth into space."



HENRY FORD'S FIRST ENGINE: In a glass case, in the Entrance Hall, is the first engine built by Henry Ford in 1893. The cylinder is a piece of one-inch gas pipe; practically the entire engine was made from scrap pieces and cost about a dollar. On December 22, 1893, the engine was clamped to the sink in the kitchen of Mr. Ford's home. He turned the flywheel while Mrs. Ford fed gasoline drop by drop to the intake valve. After the engine ran for about half a minute, Mr. Ford shut it off and started to work on a larger one . . . for his first car.

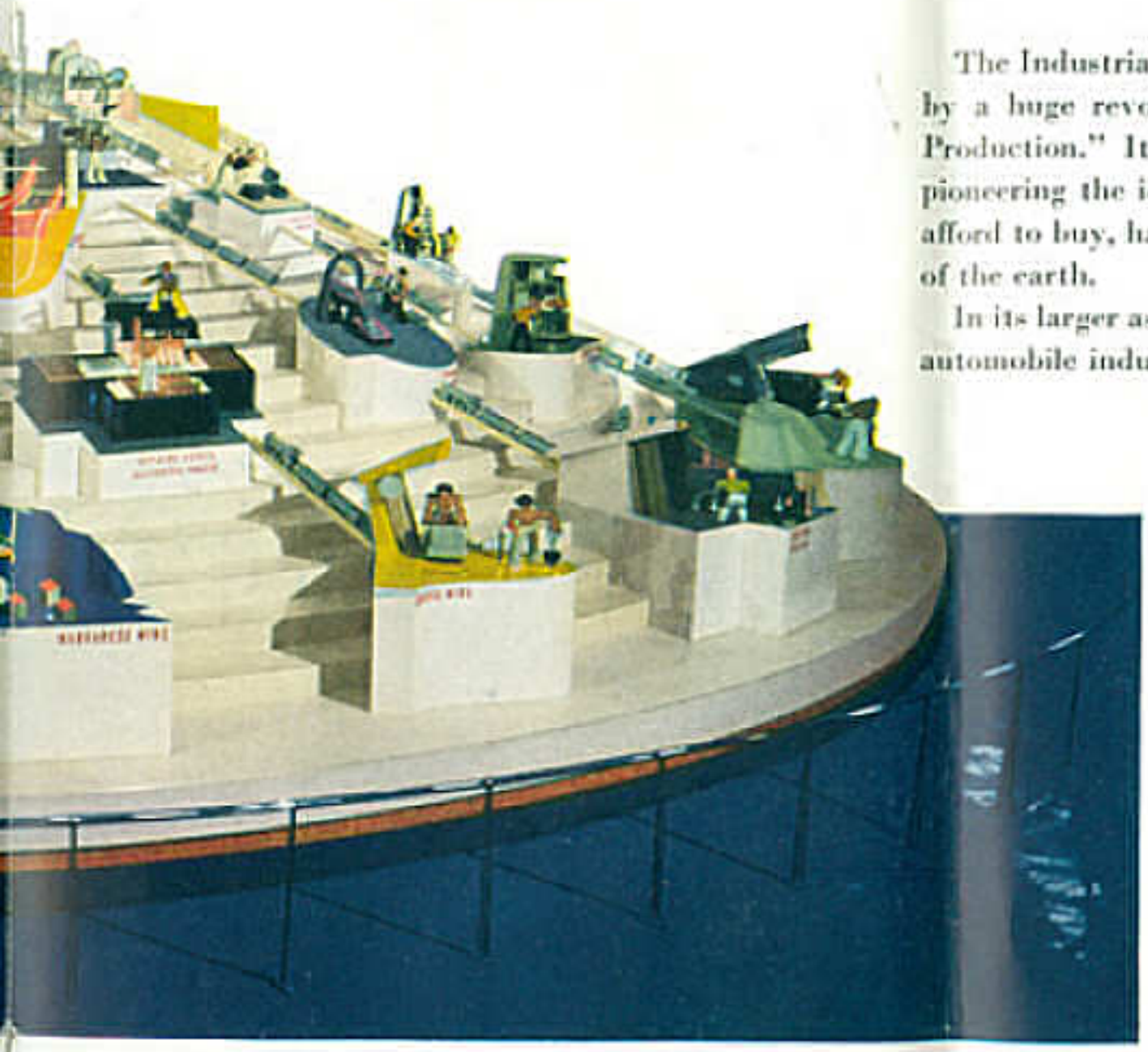
HENRY FORD'S FIRST CAR: In the Entrance Hall is the first car built by Henry Ford. On a May morning in 1896 Mr. Ford pushed the car out of the little brick shop behind his house at 58 Bagley Avenue, Detroit. The engine sputtered and ran; the car shook and then bumped over the cobblestone drive. A dream had come true.

THREE
Famous Firsts

FORD MOTOR COMPANY'S FIRST MODEL: Third of the "famous firsts" is the two cylinder Model A, first model built by the Company after its founding in 1903. It was known as a Touring Car although it seated only two. A tonneau attachment was available, to seat four. As a touring car it cost $850.

FORD CYCLE

OF PRODUCTION



The Industrial Hall of the Ford Exposition is dominated by a huge revolving exhibit called the "Ford Cycle of Production." It shows how the Ford Motor Company, pioneering the idea of a low-price car that millions could afford to buy, has stimulated employment in every corner of the earth.

In its larger aspects this exhibit is symbolic of the entire automobile industry today. It suggests how this industry spreads employment back from the hundreds of thousands directly employed in the automobile plants—back through the thousands of suppliers of those plants—back to the raw materials, and the millions engaged in their production, transportation and early processing.

For this exhibit, 27 typical raw materials have been chosen, and the progress of each, through the processing stages to the finished car part, is shown by activated models. The whole exhibit, suggesting how raw materials are transformed by men, management and machines to serve mankind, forms the background for all the other exhibits in the Industrial Hall.

The turntable itself is 100 feet in diameter, 30 feet high, and weighs almost 152 tons. It is floated on pontoons in a moat containing 20,000 gallons of water, and is revolved by a small two horsepower motor. There are 87 models in the exhibit, 142 human figures carved in wood, and 133,600 individual moving parts.

Hundreds of hours of work were spent on some of the models to achieve the lifelike movements of the figures. The great array of artists and craftsmen employed includes sculptors, pattern makers in metal and wood, artists, electrical and mechanical engineers, wood carvers, painters, seamstresses, cabinet makers, plastic fabricators, art metal craftsmen, welders and blacksmiths.

Exhibits in the Industrial Hall

MOTOR ASSEMBLY: Here a Ford V-8 engine is alternately assembled and disassembled, part by part. The exhibit demonstrates the simplicity of design and the quality features of this famous engine, which introduced eight-cylinder performance to the buyers of a low-price car.

INDUSTRIALIZED FARM: Mr. Ford believes that a great share of the materials for the automobile of tomorrow will be grown, thus conserving mineral resources, and establishing a closer union between the farm and industry. This exhibit shows how soy beans and other farm products are processed into parts for Ford-built cars.

RUSTLESS STEEL WHEEL BANDS: Lyon, Inc., one of the Ford suppliers, have installed regular production equipment to make the rustless steel wheel trim rims furnished at no extra cost on De Luxe Ford and Mercury cars. A fine example of machinery creating employment.

ROLLING MILL: Starting with a billet of steel, this exhibit shows how steel bars are formed in a rolling mill, and the operations that transform the steel bar into a Ford drag link. The upsetting and machining operations are presented by Thompson Products, Inc., a Ford supplier.

HENRY FORD TRADE SCHOOL: The Ford Motor Company maintains a school to give young men not only academic and shop training, but training in qualities needed for leadership in industry. At the Fair, boys from the school demonstrate the practical side of their training.

CAR DESIGN: Here, as you watch an artist sketch a car, you gain a better understanding of modern procedure in car designing. The exhibit indicates how the artist and the engineer cooperate, and how the findings in the Ford Weather Tunnel have affected the design of Ford-built cars.

JOHANSSON GAGES: If your experience with measurement has been confined to a ruler divided into sixteenths of an inch, you will be fascinated by this exhibit. It helps you visualize a *thousandth* of an inch —and shows how fine measurements are made by Johansson Gage Blocks, accurate within a few *millionths* of an inch.

ESSEX WIRE: Here another Ford supplier, the Essex Wire Corporation, shows the modern methods of assembling the electrical wiring system for an automobile. Many modern improvements in cars depend upon wiring. The exhibit points out not only the extra value these represent but the added employment they create.

FOUNDRY: This exhibit, with modern foundry equipment and the latest types of precision machines, shows how the Ford valve guide is manufactured—from the casting of the iron to the machining that makes each part like every other within three ten-thousandths of an inch.

TESTING LABORATORY: A series of torture tests and precision tests of Ford materials and parts, showing some of the methods by which Ford quality is guarded. All these tests are interesting, and some are unusually ingenious—such as the automatic inspection machine for piston pins, which "sees" and "hears" and measures.

BY-PRODUCTS: Here the "mystery" of an automobile manufacturer producing cement, fertilizer, and chemicals is explained. This exhibit indicates how the Ford By-Products and Salvage Department contributes to the value of Ford-built cars—by making savings which are passed on to users in the form of a finer product.

WEATHER TUNNEL: The only full-sized weather tunnel for testing actual automobiles under all climatic conditions is at the Ford plant in Dearborn. In the Ford building at the Fair, a quarter-size replica demonstrates advances in research made possible by the big tunnel at Dearborn.

SHELTON LOOMS: This Ford supplier has installed a loom to show the weaving of Mohair Velvet for automobile upholstery. A carding machine shows the modern method of carding, preparatory to the spinning of thread. Particularly interesting to those who remember the old hand card and the hand loom of grandmother's day.

HOW Machinery CREATES Employment

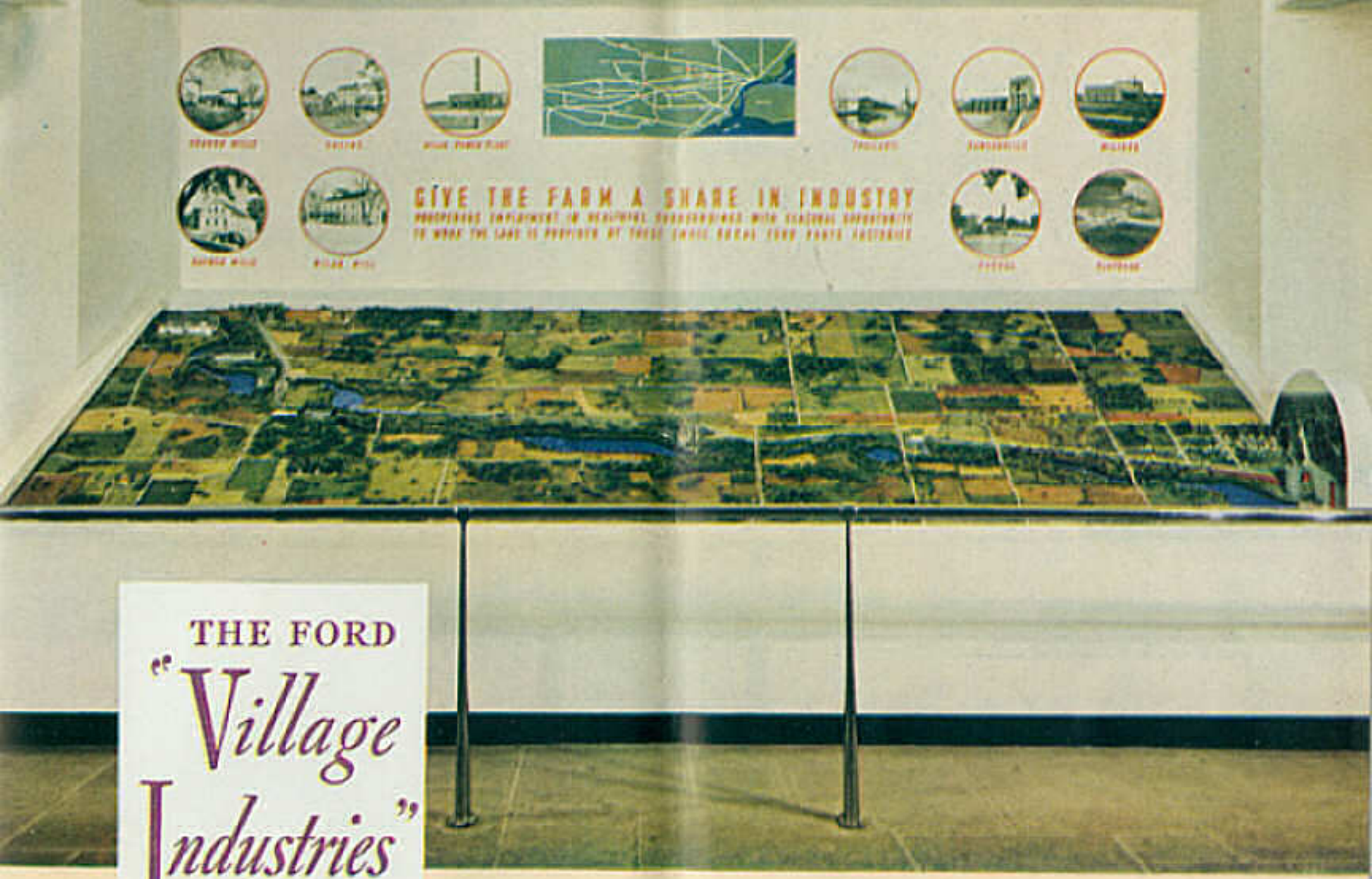
Here at an old-fashioned bench, a metal worker pounds out by hand the inner shell of a Ford hub cap. Beside him is a tremendous automatic stamping press—capable of producing 12 hub cap shells per minute.

The exhibit points out that the big press can make 2160 shells while the handworker is making *one*. Thus, it seems at first glance that the machine is destroying 2159 jobs.

But then the *important* point appears. The big press makes the shell for a little more than 12 cents. *To make it by hand would cost more than $2.50.* To make the entire Ford car by hand in the same manner would cost about $17,000. At such a price practically no cars would be sold; there would be no jobs in the automobile industry, and no automobile industry.

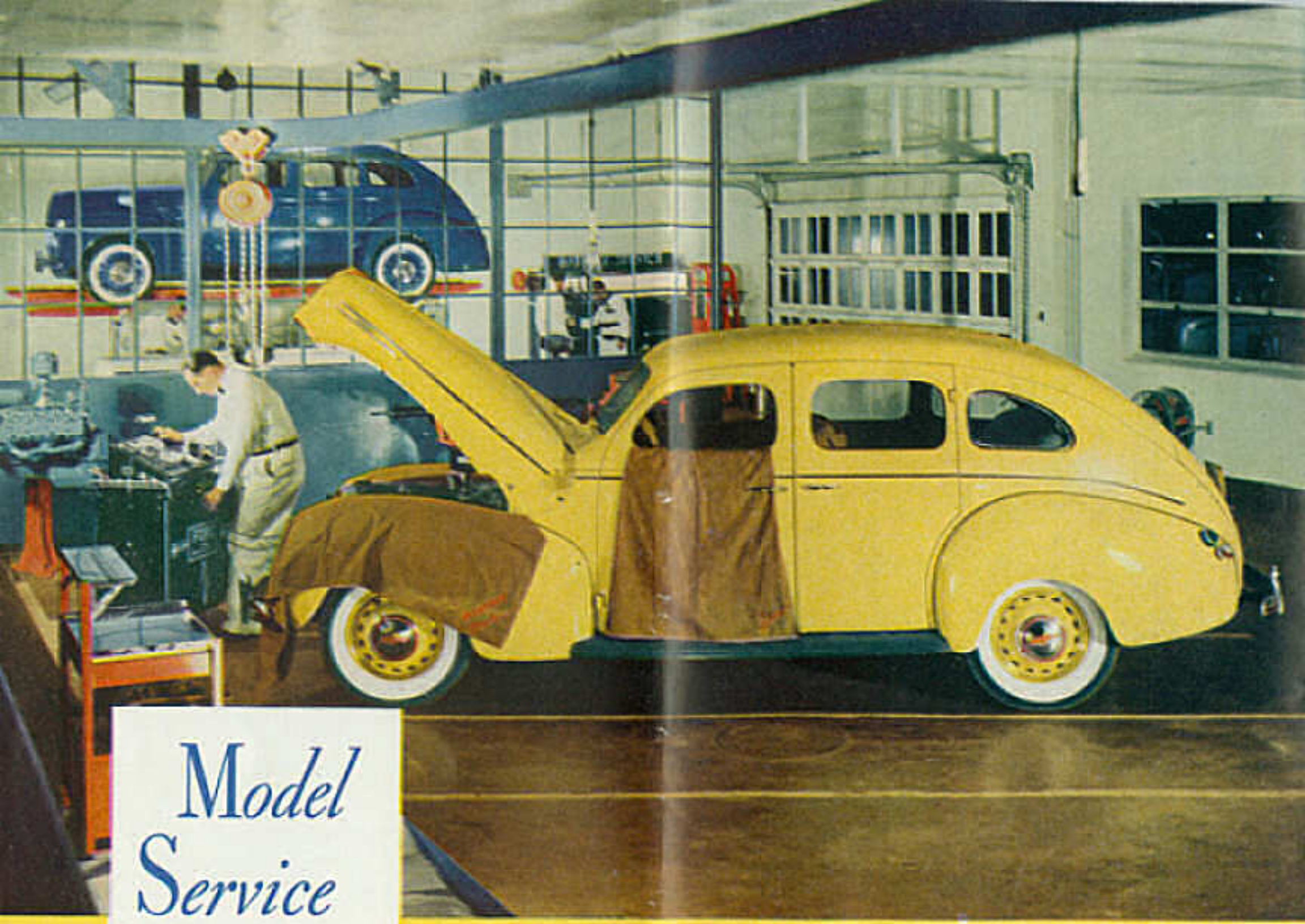
Six million people are employed in the automobile industry and allied industries because *with machinery* cars can be produced at prices people can pay. And that creates jobs at wages that enable people to buy.

A dramatic exhibit in the Industrial Hall.



THE FORD "Village Industries"

This exhibit, off the Garden Court, tells the interesting story of the small Ford plants within fifty miles of the great Rouge plant at Dearborn. They are the Ford Village Industries—result of Henry Ford's desire to decentralize industry wherever possible, and bring about a closer union between farm and factory. • The small plants now employ around 2,000 people, who live in the surrounding territory. Equipped with modern machinery, they make Ford parts and tools. All receive at least $6 for the 8-hour day. And in their spare time, and on off days, many of them operate small farms or garden plots. • They have one foot on the land and one in industry. When slack times come, farm and garden will still provide employment.



Model Service Station

In the arcade at the right of the Garden Court is the Model Service Station. Here, with the latest types of service machinery, mechanics service the Ford, Mercury and Lincoln-Zephyr cars used on the Road of Tomorrow. It is an interesting demonstration of the efficient service equipment used by thousands of Ford dealers throughout the country. The public is invited to visit this Model Service Station and ask questions.

WHAT INTERESTS YOU MOST?

The Ford Exposition is designed for your entertainment and information. It presents swiftly and clearly the fascinating story of the truly modern automobile.

We will be glad to have your comments on what interests you most in the Ford Exposition.

Is it the smooth, quiet performance of the Ford, Mercury and Lincoln-Zephyr cars on the Road of Tomorrow?

The explanation of how the style leadership of these cars has been attained?

The dramatic tests in the model of the big Ford Weather Tunnel, showing the advantages of their streamline styling?

The demonstration of modern foundry methods which cut Ford manufacturing costs and increase quality?

The machining of parts to limits as fine as three ten-thousandths of an inch?

The torture and precision tests which guard the quality of Ford materials and parts?

The explanation of how machinery creates employment?

The social and economic effects of the low price car?

The growing use of farm products in industry?

One impression, we feel sure, is bound to emerge clearly. That is the care, the quality of materials, the methods and resources that combine to produce remarkable value for your money when you buy a car built by the Ford Motor Company.

The complete line of cars—the Ford, De Luxe Ford, Mercury, Lincoln-Zephyr, Lincoln—and the Ford Trucks and Commercial Cars—are on display at the Ford Exposition. Your visit provides an excellent opportunity to study them in detail and learn why each represents the greatest possible value in its price class.

The Quality Group

FORD DE LUXE FORD MERCURY LINCOLN-ZEPHYR LINCOLN