#### NATIONAL AUTOMOBILE SHOWS PLANS ARE MAKING HEADWAY

### Greatest Exhibits in History of Industry Are Expected-Many Innovations

The New York Show will be held January 6 to 12 and the Chicago exposition, in the Coliseum and First Regiment armory, will be held January 27 to February 2. Both displays are under the direction of the National Automobile Chamber of Com-The Grand Central Palace house the New York show

to help the motorist to not only run Rickenbacker. to add to its appearance, breaks all studebaker. Stude

200,000 Square Feet Space. For the show the four floors of the palace that will be occupied contained 200,000 square feet of space, as each floor is equal to a city block in area.

floor is equal to a city block in area. For the most part, the cars will occupy the two lower floors, but it has been found necessary, because of the great demand for space, to put several of the cars on the third floor.

Higger, brighter, more interesting than ever is the promise that is held out for the 1923 show. It's the same promise that was made for the show of a decade ago and every other annual display before and since. And strangely enough the yearly display invariably has lived up to the optimistic predictions of its sponsors. Since the far-gone days in the early part of the century no national auto-Since the far-gone days in the early part of the century no national automobile show has ever failed to provide a wealth of entertainment not only for the man who drove a car. but equally so far the man who hoped to. Right now a full house is assured. It has always been so; it probably always will be. The annual review is an assured success, because its appeal is as wide as the country itself.

The visitor to the show of 123 may go with the consciousness that he is to for the first time—paying homage to the world's greatest industry. The production of motor cars and their accessories has gradually crept up from the modest figures of early years until at the present time the industry has gone into a leading place of the production of the standing place. the country's commercial standing

New Ideas Looked For. pition will disclose anything revolutionary or radical will remain a secret until the doors of the palace are thrown open on January 6. In every factory throughout the country for months past the brains of the automotive industry have been engaged in the design and production of models for 1923. Away from the drop forges, the whitring wheels and from all the distractions of a noisy plant the designers have evolved ideas of refinements that will mark the cars to be shown.

It is conceded that the coming display will be dominated by the closed types of cars. More and more the

motorist is evincing his desire for the acme of travel typified by the limousine, the sedan, the coupe and the arious combinations of these three standard types put out with more or less whimsical names. Protection from the weather when protection is. With the national automobile show

Various combinations of these three standard types put out with more of less whimskell names. Protection in needed, explains the great and growing popularity of with improved body design which in balmy weather permits of all the advantages of an open inded.

Each year has brought greater lux-yey of interior fittings and upholster to the lowest priced cars have needed to make no apology for their pack of riding comfort. It is safe to assume that the models in the palace show will demonstrate superiority ever all previous efforts in this line. One will demonstrate superiority ever all previous efforts in this line. The policy of the products to no particular time of the year, but most important ones for usually reserved for the national schows. Many hundreds of accessory exhibitors are already listed, and the motorist will find a journey among formative as in previous years. And he is certain to find some surprises.

Optimism Held.

The automotive industry faces the toming pear with extreme optimism and confidence. For this industry, at least, the period of reconstruction.

Many New Models to Be Shown in Gotham.

Gotham.

With the national automobile show in mean dearth of gas in the cylinder and with the exhaust vale evilinder and with the exhaust stroke. Overheating, incomplete scavenging, leaving burnt takes in the cylinder at the end of the exhaust stroke. Overheating, incomplete scavenging, leaving burnt dates are the cylinder at the end of the exhaust role of the show according. Manager in the exhaust vale evilinder and with the exhaust vale evilinder and with the exhaust vale evilinder and with the exhaust vale evilin

toming year with extreme optimism and confidence. For this industry, at least, the period of reconstruction has practically ended. Despite their least, the period of reconstruction has practically ended. Despite their universal utility, motor cars were the first to react to the conditions caused by the high cost of materials and labor during the war period. Car prices have been stabilized even though slowly; the industry is just closing a year that has been kind and sales, and there is every evidence that the public is in a frame of mind to accept the modern car as the highest expression of design that may be expression of design th

safer in these days of crowded streets and even country roads is promised. Also, because of increasingly dense traffic, the method of putting brakes on all four wheels make a strong appeal, and several cars thus equipped are likely to be displayed. Most of the manufacturers, however, are closely guarding their secrets in order that they may disclose them when the show starts.

Demand Continues.

bemand Continues.

"The demand for individual motor transportation continues at a record pace." said Alfred Reeves, general manager of the National Automobile Chamber of Commerce, on his return from a visit to a number of motor ar and motor truck plants in Ohio, Indiana, Illinois and Michigan. "October and November supplied bigger hipments than ever were recorded or the same period of any previous year.

ran.
The same need for motor vehicles, which created a record output of 400,000 units in 1922, or 10 per cent etter than the previous high mark if 1920, will be as keenly felt in 1923. Further, in 1923 more persons will be table to purchase the needed transportation because farming conditions will be better, exports are already showing a turn upward, and the losed car output, which was only 10 per cent of the total in 1919, is running as high as 25 to 30 per cent odds.

"Is fact, the difficulty of

cighty-one different makes of the and more than 300 acmanufacturers listed as extensional automobile to New York and Chicago will biggest automobile exhibited at the shows:

American, Anderson, Apperson, Auburn, Roamer, Rotary Six, Bulck, Car presented in this country, New York show will be held to to 12 and the Chicago exim the Coliseum and First at armory, will be held Janton February 3. Both displays for the direction of the Nather of Country of the Natherland Research of Country of Coun Jordan, King, Kissel, La Fayette, Lex-Jordan, King, Kissel, La Fayette, Lex-ington, Liberty, Lincoln, Locomobile, McFarlan, Maxwell, Mercer, Milburn Electric, Mitchell, Moon, Nash, Na-tional, Noma, Marmon, Oakland, Electric, Mitchen, tional, Noma, Marmon, Oakland, tional, Noma, Marmon, Oakland, Oldsmobile, Packard, Paige & Jewett, Paterson, Peerless, Pierce-Arrow, Pilot, Premier, Rauch & Lang, Reo, Pilot, Premier, Rauch & V. Knight, Bickenbacker, R. & V. Knight, but also in many instances Sayers, Stanley, Star, Stearns, Stephens

#### BRAKE EXAMINATIONS PREVENT AUTO CRASHES

Motorists Should Keep Close Watch on Linings and Drums.

Periodic brake examinations, by ca owners themselves, is the cheapest and easiest measure for avoiding ac cidents and keeping out of trouble W. Perry, general manager of the automotive department of Johns-Manville, Inc., who outlined vesterday a dozen simple rules for keeping brakes in good working order.

Adjust the brakes every thirty days, maintaining between the brake lining and the drum, all the way around, a clearance of about one-sixty-fourth of an inch.

#### READY FOR AUTO SHOW.

RECORD AUTO SHIPMENTS.

#### THE OWNER-DRIVER'S COLUMN

In order to cause an explosion in al

engine's cylinder the gases must first b Are Looked For by Public.

Of the inlet valve while the piston is on the outward or intake stroke. The piston when moving out of the carbureter and manifold to fill this space. As soon as the carbureter and manifold to fill this space. As soon as the crank passes dead center of its roughout not be depicted at the other than the piston is to be defect the work on the Dist moves back into the complete one operation and the district of the piston when moving out of the cylinder and the piston moves back into the crank passes dead center of its roughout the piston moves back into the cylinder and the piston is to ward the enclosed districts early this mouth are to the effect the work on the District work on the Distri of the inlet valve while the piston is on tomobile shows are making great adway. Exports from the factory stricts orly this month are to the ffect the work on the 1923 models obed that dat the exhibition is have been made to ship the ears to show managements and that all arrangements have been made to ship the ears to among chanafacturers, dealers and the show management has been a big factor in arranging the preliminaries. Expect Higgers Show.

Expect Higgers Show.

The continued growth and record output of the industry in 1922, which has astounded some, may be accountended for individual means of travel, and by the fact that montor transportation meets a fundamental human need for individual means of travel, and by the fact that manufacturers the explosion must take place. This drives the piston out the piston of the ultimate consumer, so that motor vehicle values today are the best that have ever been offered."

Expect Higgers Show.

Cars to Be Exhibited.

The following makes of cars will be action of the exhaust valve must be held open for the escape of the exhaust gases. Such is the action of the four-cycle engine.

To the average man it would appear that the inlet valve must open at the beginning of the intake stroke and close at the end of it, that both valves remain closed during the compression and power strokes and that the exhaust valve be opened at the beginning of the exhaust stroke and closed at the end of it. This is, however, not the case. While the crank is passing the dead centers in its rotation the piston is practically standing still. Then as the crank leaves dead center the piston moves with it. This fact is made use of in valve timing. When the crank is passing over inner dead center at the beginning of the suction stroke, the intake valve is not opened until the piston commences to move out; that is when the crank has passed dead center by about seven degrees. Then when the crank is passing over outer dead center and the piston again stands still the intake valve is left open till the piston has started on the return stroke or till the crank has completed from twenty to thirty-eight degrees of the compression stroke. This is done because the gases which rush into the cylinder with considerable force when an engine is running will continue to crowd into the cylinder in spite of the fact that the piston has completed its stroke. More gas in the cylinder, of course, means a stronger explosion. closed during the compression and

stronger explosion. Timing the Exhaust Valve. The exhaust valve is opened long before the piston has reached the outer or dead center of the power stroke and is held open while the real there, though you return crank finishes this stroke and all of the next, which is the exhaust stroke. This is necessary to allow the expansion of the compense that paves the Christmas highway. This is necessary to allow the exhause gases sufficient time to escape so as to clear the cylinder of all useless gases before the next intake stroke. If there is any pressure left in the cylinder when the piston starts

deterioration processes are the stroke. That is, the shaust closes just as the intake commences on the brake. Tighten regularly all lock nuts and rivets, to avoid loosening the turn-buckles, and scoring the brakes and sering the foreign proper position, so that the foot bush and lever in proper position, so that the foot bush and lever in proper position, so that the foot to strike the floor board and so that the hand lever will never pull back and strike in its slot.

Test both brakes before starting. Apply the brakes slowly.

Never let the tires slide.

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As a general thing, however, it will be ming as closely as this. If the actual manufacture is slide.

Test both brakes before starting. Apply the brakes slowly.

As a general thing, however, it will be more than the slowly the slowly the will be applied the slowly the the timing is likely to be correct, as the gears are concerned. It is in the tappets or valve lifters where we must look for trouble.

The ends of the valve stems and of the valve lifters will continually wear off. If this wear is not taken up the valve will open late and close too! somewhere. This is usually ten miles early. In the inlet valve this will mean dearth of gas in the cylinder and with the exhaust valve it means

Hydrometer Reading. Freezing Point.
Fully discharged, 1.180 .13° above zero
\$\frac{5}{2}\) discharged, 1.180 .zero
\$\frac{1}{2}\) discharged, 1.225 .38° below zero
\$\frac{1}{2}\) discharged, 1.260 .60° below zero
\$\frac{1}{2}\) discharged, 1.280 .300 .80° to 90° below zero
Fully chrg d, 1.280 .300 .80° to 90° below zero

We wish Prosperity that never And a Merry Xmas Holiday!.

Our hope it is that 1923 Will see you ride in your Chevrolet With ease and joy and true Into the Land where Dreams

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## The Sunday Motorist

An Abridged Magazine for Car Owners. Edited by WILLIAM ULLMAN

rode on clumsy camels, journeying for days and nights to negotiate a distance that we in our high-powered motor cars could cover today in a few hours. They carried the most rare and preclous treasures of the orient and laid them with gladness, love and worship at the young Child's feet. Then, empty-handed, but full-hearted, as only givers can be, they returned to the countries from whence they came. And ever since, every year through the centuries, other wise men have mitting that you're the original fool. only givers can be, they better the countries from whence they came.

And ever since, every year through the centuries, other wise men have taken that boulevard to Bethlehem. laden with gifts for the Christ chid. They have gone a foot; they have gone to they have ridden in all ways and in all conveyances; they have gone by water, by land, by steam, by motor; but, however they travel, or what gifts they bring, the same intention. like the star in the east, guides them and brings them together in love on the common road to Christmas.

Today, more than ever in history, the wise men will go to Bethlehem by motor. What runs downtown the word what land with the star in the law of the matter of speed and speeding.

"This is the first time you have had to stop mc." And the last:

"What is the speed limit here."

You oght to know, "This is the speed limit here."

You oght to know, who I am." Admitting that you're the original fool.

"My speedometer doesn't verk."

The law doesn't require any motorist to use a speedometer. Law and good judgment are supposed to attend to stop mc." And the last:

"What is the speed limit here."

You oght know who I am." Admitting that you're the original fool.

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"The law doesn't require any motorist to use a speedometer. Law and good judgment are supposed to attend to stop me." And the last:

"What is the y."

"In in an awful hurry." So was the man who left his engine running and blew up the car while they were

Traffic reformers are too often persons who know just how road use could be made absolutely safe through merely changing the ways

journeyed from different directions, unknown to each other until the start which guided all three brought them together on the road to Bethlehem.

These kings did not travel in luxurious limousines, as even ordinary people do in these times; instead they rode on clumsy camels, journeying for days and nights to negotiate a distance that we in our high-powered

You ought to know.

"I've got a wife and three children to support." Why didn't you think of them before you violated the law?

"I'm in an awful hurry." So was the man who left his engine running and blew up the car while they were pumping in gas.

The Old Mechanic Says: "In glosin' up the old shop for the

holiday season, I'm notifyin' my

many friends and readers throughout Copyright, 1922, by the Ullman Feature Service

#### **COMMENCE ON PROGRAM** FOR GOOD ROADS EXHIBIT

BIRMINGHAM, Ala., December 16 .-The executive officers of the United States Good Roads Association, United States Good Roads Show and the Bankhead National Highway Association have commenced actively to arrange the program for these three events that will meet in Greenville

brings them together in love on the common road to Christmas.

Today, more than ever in history, the wise men will go to Betthehem by motor. What runs downtown through kaleidoscopic streets from shop to shop; what errands and what visits from house to house of friends, what generous exchange of hospitality; what journeys of cheer and charity—to a hospital ward with a Christmas tree and basket, to an orphanage with stockings, to the slums, to a bereaved home, around the park with an invalid, to the theater with a joy-starved child. See what a highway of happiness lies before the fortunate owner of a motor car!

So be like the wise men of the cast, of triends and fellow-motorists, and follow the Christmas star to Bethlefor them with the best you have to offer. Then and there, though you return with empty cars, will you know in its wise ment of the tank and freeze if the car is left out too long. Even a little lee on the edges might be enough to clog the fire day and the city of Greenville, S. C., April 16-21, 1923.

Some of the most distinguished to some to take part in the program. The state of South Carolina and the city of Greenville, S. C., April 16-21, 1923.

Some of the most distinguished the may. B. C. april 16-21, 1923.

Some of the most distinguished the may in the program. The state of South Carolina and the city of Greenville, the man who left his engine running and blew up the car while they were pumping in gas.

When Cold and Windy.

On a cold, windy night the car should be parked with the back toward the wind. This is protection for the radiator, water hoses and wisitors to these great conventions.

When Cold and Windy.

On a cold, windy night the car should be exposed with the back toward the wind. This is protection for the radiator, water hoses and wisitors to these great conventions.

When Cold and Windy.

On a cold, windy night the car which the back toward the wind. This is protection for the radiator, water hoses and visitors to these great conventions.

A possible the vind the car in the pro on the edges might be enough to clog the darking branch of the Bank, head National Highway Association and the United States Good Roads Association. Speakers that will deliver these addresses of welcome will be announced at a later date.

When rust appears on the outside Governor-elect Brandon of Alabama.

When rust appears on the outside of the fenders, beware. The next stage in the deterioration process is a hole straight through the fender. Rust does not do as much damage on the underside of a fender as one might suppose, because a coating of road dirt tends to prevent its formation. But when rust starts on the outer surface it runs a merry course and soon makes the fender look like a Swiss cheese. The remedy is a fine trush and a can of black enamel.

With Complete Success.

Real sports, according to trust-

### Beware of rear end trouble



The transmission and differential gears constitute the backbone of your automobile. These gears must perform in some instances a service more severe than that which falls upon any other part of the car. These gears carry the whole driving load.

and takes out the extra play and the grind; it buries the gears in its rich adhesive mass and clings at all speeds.

Sold in five and twenty-five pound cans by garages, gasoline stations occessory dealers. Call for it by name—EBONITE. BAYERSON OIL WORKS, Manufacturers, Erie, Pa.

Pennsylvania Petroleum Products
MAKERS OF AUTOCRAT MOTOR OILS.



To withstand the strain the gears must be correctly

For Transmissions

# -no reason for your car to be out of commission The first hint of snow or cold weather was the signal for ye old time motorist to store his car. He

denied himself the pleasure of motoring just when 'his car would be most appreciated—because he didn't know the secret of buying that supreme provider of

# LIGHTNING MOTOR FUEL

is now recognized as the one sure-fire fuel for all motors, winter or summer. Lightning Motor Fuel, because of its high power test, insures quick starting, quick pick-up, big mileage.

Because of its perfect combustion your motor is always clean and free from carbon troubles.

The best proof of "Lightning" superiority is found in the fact that those who once use it never again go back to old-time gasoline.

"There's a Filling Station Near You"

Penn Oil Company Telephone West 166 Rosslyn, Virginia

ENDERFRESSER FRESSER F

### worthy tradition, wear their trousers baggy at the knees, their hats more or less slouchy and their neckwear as they like it. Judging from the neglected appearance of some of this year's sport models, it would seem that a lot of car owners are trying to earry the sport idea to its logical limit. COMPLETE "MODEL SECTION"

### 37-Mile Stretch in Indiana South of Chicago to Be Dedicated After Two Bridges Are Constructed.

to be cone before the section is ready gned and constructed link in the transcontinental road, but the fortyfoot reinforced concrete surfacing. ten inches thick, is finished.

The section will not be open for traffic until the completion of the two bridges, which are expected to be finished before the first of the year. Stone & Webster, Inc., with headquarters in Boston, Mass., one of the founders of the Lincoln Highway Association, and that organization's main contractors have pushed the paving work with the utmost speed consistent with the highest possible quality of pavement in an endeavor to complete the job this year. In this they have had the fullest co-operation of J. C. O'Connor & Sons, the subcontractors, and of Lockwood, Greene & Co., engineers, also founders of the Lincoln Highway Association, as well as its engineers.

Condition of Ideal Section.

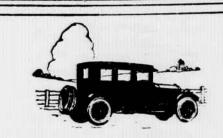
The completion of the pavement and the bridges does not by any means complete the ideal section. Much remains to be done, and early in the knowledge of many of the forement.

the bridges does not by any means complete the ideal section. Much remains to be done, and early in the spring the proper grading of the shoulders, the landscaping of the right-of-way and the installation of the gravel pathway for pedestrians will be undertaken under supervision of Jens Jensen of Chicago, the association's landscape architect. The installation of the modern lighting system for night travel, designed by the illuminating engineers of the General Electric Company, will also be delayed until spring, but the heavy work of grading and paving is out of the way and siready the model. system for night travel, designed by the illuminating engineers of the General Electric Company, will also be delayed until spring, but the heavy work of grading and paving is out of the way, and already the model section gives an indication of its ul-

DETROIT. Mich., December 16 .- time glimpses can be caught of the The paving of the model section on the Lincoln highway, in Indiana, thirty-seven miles south of Chicago and adjoining the Illinois state line, has been completed. Much remains to be earne before the section is ready for dedication as the most ideally deferenced and construction, is located in a really ideal? beautiful spot, which offers infinite ment of a camp site and rest station for tourists which will become nationally known as a model for development. tionally known as a model for deve opment all along the 2 300-mile

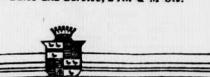
Much to See and Study. Those interested in modern high way design and construction will fine even now much to see and study a the ideal section site, which is being

-I can't marry you. timate appearance. It curves along the slight ridge formed by the once south shore of Lake Michigan, through dense growths of ancient that the only reason? I was afraid oaks, between which from time to you didn't love me!—Pelican.



The typical Cadillac owner firmly believes that he drives the finest car in the world. He further believes that if anything finer develops, it will come from the Cadillac Company.

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