PROGRESS KEYNOTE OF PALACE SHOW

Improvements to Be Seen in Self-starting Systems and Other Lines.

By. C. E. DURYEA, M. E.

While the hundred different makes of automobiles, numbering close to 500 cars, to be exhibited at the National Automobile Show in Grand Central Palace January 6 to 13 will reveal many important changes, unusual interest will centre in the self-starting systems now to be found in every make of car to be exhibited. Each year self-starters have shown remarkable advancement, until now it is hard to improve upon their efficiency.

The perfection and rapid rise of the engine starter is unusual, and part of the present popularity of the automobile is due to this device, which has practically wiped out the need for a mechanic to crank the engine and the ever present fear that once stopped it would be beyond the driver's ability to start. It has made the gas car perfectly adapted to the use of the ladies and so has almost doubled the possible market. While as yet this latter fact has not been fully taken advantage of, it is certain that bringing the motor vehicle within the reach of the women has gone far to increase the number of users.

Looking back from the present period, the strange part of the story is that starters found no favor in the early years. Mostly the men drivers of cars felt able to do the required cranking, and as the new vehicles were largely bought by the wealthy they expected the chauffeur to do the starting and were not concerned about added but out of sight mechanism for that purpose. Further, those were the days of large cylinders, and the large cylinder requires starting power that the many cylinders of small diameter do not need.

The spring starter was proposed as early as 1893, but no cars worth mentioning existed and no buyers were in sight. A three cylinder compressed air motor was advertised in the early part of the century, but lack of buyers allowed it to die. Many devices began to be tried as the number of automobiles increased, and some of these were very curious. Revolvers for firing blank charges into the cylinders, starting plugs with powder charges in them, hand pumps for forcing in the proper amount of explosive mixture, igniting cocks through which a big headed match could be introduced and which contained means for igniting the match were among the things tried.

One genius even used carbonic acid gas capsules, which can be bought in many places for carbonating beverages. From the medley of methods order began to come when one maker fitted an air starter as a regular part of the car. This was followed by a wave in favor of gas starters, in which the usual mixture of acetylene gas was used to form a working mixture in the cylinders and was introduced in the proper cylinder at the proper time. These, however, were short lived.

Finally the electric device began to come to the front. Partly this was due to the steady growth of the electric equipment of the car and partly to the public faith in electricity as the universal servant. This latter feeling was stimulated by the growing use of electric horns and lights and many other devices where electricity does the work. Just as the first successful air starter was fitted to the car which used already an air governor for controlling the engine, so the electric starter won out first on those cars where the ignition source demanded a storage battery anyhow.

At first the battery was charged at the garage, but it was found to be lighter and more reliable if a charging dynamo was carried on the car in addition to the small electric motor used for turning the engine. This completed the development of the two unit starting system, but progress did not stop there. Attempts at simplification soon showed that one electric machine could be made to serve as both motor and dynamo and a wave of single unit starters swept over the trade. But doing two jobs was rather difficult and sometimes unsatisfactory, so the pendulum again swung the other way and the two unit outfit again seemed to be favored.

Inventors did not quit, however, and many improvements have been made in the various parts until it is a question as to which will be the final form or whether both will be used. The great show may afford the answer at Grand Central Palace next month.

McGRAW A REAL MOTORIST.

Pilots His Snappy Liberty Six With Much Skill.

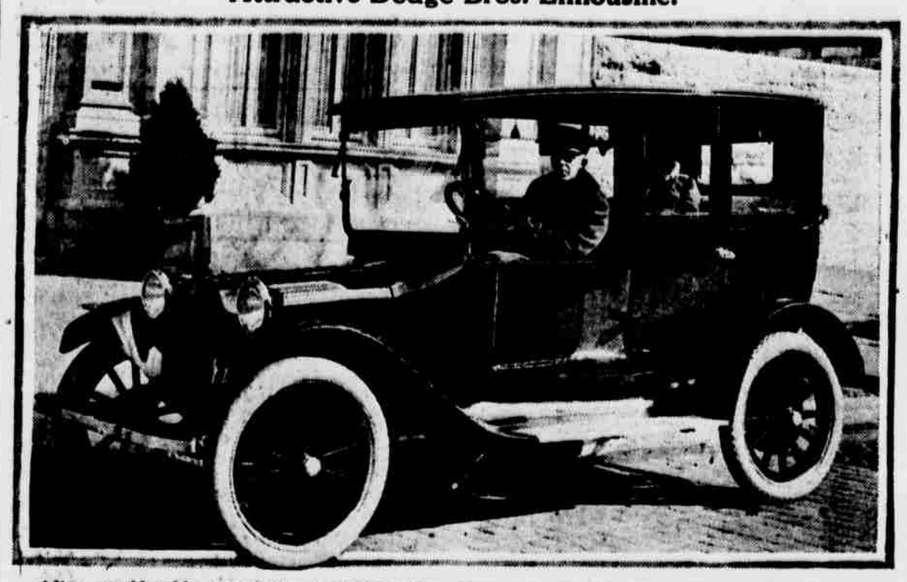
No one at all familiar with the annals of our great national pastime will doubt for a minute the statement that John J. McGraw, famous as "the scrappy leader of the New York Giants," knows how to drive. If his record made over a period of years as manager of the Giants were not ample testimony, the splendid drive his team made last fall when it shattered all major league records for consecutive games won would convince the most sceptical. Furthermore, he is as good a driver off the baseball field as on it. A picture recently taken proves our point. McGraw has a new Liberty Six.

He bought his new car from an old-time race driver, William F. Sternberg, now a salesman in the employ of the Colonial Motors Company, Liberty distributers in New York city.

New Dort Sedan Arrives.

C. T. Silver is rejoicing over the arrival of the latest addition to the Dort line of motor cars. This is the new Dort sedan, which arrived yesterday in all its glory, and it's "some car," as Mr. Silver and his associates say. The Dort sedan sells for $1,065, with its elaborate equipment and extra size tires. The upholstering is of genuine narcissus cloth over deep, soft cushions and the carpeting of Moresque wool. The windows are extra large and easily adjustable. The interior is remarkably commodious and five people can be carried in comfort. Like all other Doris, the sedan has the same easy control.

Attractive Dodge Bros. Limousine.



After considerable speculation in Colt-Stratton offices as to who should get the very first limousine on a Dodge Brothers' chassis to reach New York, the preference was given Mrs. Metta F. H. Dillon, 205 West Seventy-second street, where the above photograph was taken.

Owen Magnetic in Splendid Setting.

"The car with the thousand speeds" now reposes on a salesroom floor amid unusual decorative and lighting features, which bring out the elegance of this make in a fitting manner. The salesrooms at Broadway and Fifty-seventh street are comfortably crowded.

DESTROY CADILLACS IN WAR.

Serbian Kept Cars Out of Enemy's Hands.

When Serbia became involved in the war speculation arose as to the fate of the Cadillac cars which that country pressed into service at the beginning of hostilities. Now their fate is known. They were destroyed to prevent their falling into possession of the hostile armies.

A writer in a leading magazine regrets that, since the thing had to be done there were no American small boys present to witness the spectacle. For it was a spectacular destruction.

The method this man relates was to open up the cars on a road with a right angle turn and a sheer drop of 400 feet to a little stream.

"It was a great game," he says. "A long, gray Cadillac took the brink like a trained hunter, leaping far out over the edge. As the wheels were suddenly released from the friction of the road, the car roared and trembled like a live animal during the instant that it hung upright, held by its own momentum. Then it turned its nose downward and fell true as a plummet until it struck the steep slope, down which it turned quick somersaults, the tires bursting with bangs that could be heard above the crash, finally rolling into the stream."

A ponderous German limousine followed, and tucked its nose into the slope without a spectacular leap. An expensive looking Italian car behaved much in the manner of the Cadillac.

NASH HAS LOG ROLLING TRUCK.

Latest "Quad" Has Unique Loading Device.

An unusual motor truck has just been designed and built by the Nash Motors Company of Kenosha, Wis. It is a two ton Jeffery Quad with a 142 inch wheelbase, upon which is mounted a log loading outfit. The truck was delivered to the Dayton "D" Handle Company of Dayton, Ohio.

Logs are rolled on to the flat body of the truck over a pair of skids by means of a device driven from the transmission. Two uprights with pulley arrangements are on one side of the vehicle's body. Wire cables are simply looped over the logs to be loaded, and when the motor is started they are pulled up over the skids.

The owners of this Jeffery Quad are using it to haul logs to the factory. Besides its self-loading feature, the truck is able to negotiate all kinds of roads going because of its power being distributed on all four wheels.

In Charge of Locomobile.

S. DE B. KEIM.

Manager of the New York city branch of the Locomobile Company of America. He has been associated with the Locomobile company for sixteen years. The Locomobile will be exhibited at the Salon.

BIG DEMAND FOR SEDANS.

Utilitarian Qualifications Make This a Popular Type.

Milady of the Sedan is becoming a more and more familiar figure on the boulevards and highways. Indeed one of the distinctive features of New York's fall automobile trade is the extraordinary demand for the Sedan type of closed car. Fortunate indeed have been those merchants who could make any sort of prompt delivery on the new favorite of all classes of society. The appeal of the Sedan comes primarily from its utilitarian qualifications, as with little or no effort it can be converted into an open or closed car. It possesses the additional advantages of accommodating all passengers and driver in one compartment with the appeal which this makes to the owner-driver.

Demand for the Sedan type has stimulated manufacturers to such an extent that the models coming through at this time are beautiful conceptions of artistry and refinement in coachwork. Notable among these is the new Chalmers Touring Sedan on exhibition at C. T. Silver's showroom on Broadway at Fifty-seventh street. The lines are most delicate and pleasing to the eye.

The Sedan is a veritable little parlor on wheels and of the coziest sort and its interior seating arrangements are most flexible. The driver's seat is of the luxurious parlor car type and separated by a wide aisle from that next it, which is of the folding variety and can be anchored out of the way at will. The only permanent seat is the deep one at the rear. There is an extra seat skilfully built into the back of the driver's seat which, when all seats are used, gives accommodations for six grown persons. This Sedan is making its impression on sales figures now that Mr. Silver is getting them through in numbers commensurate with the demand for this model.

17 EXHIBITORS FOR SALON.

Among Cars Will Be Special Body and Accessory Exhibits.

Among the American and foreign cars to be exhibited at the thirteenth annual automobile salon in Hotel Astor January 2 to 10, are such makes as Brewster, Daniels, Isotta-Fraschini, Lancia, Locomobile, Murray, Navara, which marks the debut in the automobile field of the Herreshoffs of Bristol, R. I., famous builders of racing yachts; Phianna, Rolls-Royce, Simplex, Singer, S-S-E and White. Custom body builders who will have separate exhibits are Brewster, Holbrook, Locke and Rubay. In addition to these seventeen exhibits there will be a half dozen exhibits of high grade tires and accessories. There are also two probable additions to the list of motor car exhibitors.

The foreign makes of motor cars are in a marked minority, and only England and Italy remain of the half dozen European nations which were formerly represented at the annual salons. On account of the war the foreign governments have practically commandeered the automobile factories within their control, and are using them to build motor vehicles for war service instead of de luxe motor cars for the wealthy of all nations.

Since the previous announcement that motor cars would be shown at the automobile salon of 1917 in the balcony of the Astor's grand ballroom, there has been considerable speculation among those who claim familiarity with this room as to the way in which it will be possible to place automobiles in the balcony. The assertion of John R. Eustis, the salon manager, that there is no freight elevator available, and that no ramp will be built and no derrick used, as was done at the former Madison Square Garden shows, adds to the mystery.

Olds First in 24 Hour Run.

As a result of an Oldsmobile entry finishing first and another fourth in the recent twenty-four hour endurance run of the New Jersey Automobile and Motor Club at Newark, N. J., there has been considerable interest in this performance manifested by Oldsmobile owners. The winner of this contest came through 442 miles of State roads without penalty, averaging over 18½ miles an hour, and was the only one of the seven cars of the sixteen original starters that checked in at the finish with a perfect score. "Interest in this test has been manifested not only by Olds motorists but also by many owners in the Olds price class, judging from the flood of inquiries received and increased sales since made by the main and all sub branches in the metropolitan district," declares C. H. Larson, president of the Oldsmobile Company of New York.

ENGINES FOR 1917 REVEAL NOTABLE REFINEMENTS

Few New Designs, but Great Improvements in Detail Result in Higher Thermal and Mechanical Efficiencies.

By J. EDWARD SCHIPPER of "The Automobile."

Thermally, mechanically and economically, the American gasolene engine has received a great forward impulse during 1916. If all the progress made by our individual master builders could be concentrated into a single engine, that power plant would give back more power and useful work from a given quantity of fuel, more energy for a given size, travel farther on a gallon, be less expensive to manufacture, easier to maintain and have a longer life than the product of a year ago.

At this very moment we are in the midst of a period of engine development which makes almost certain the prediction that during the next twelve months a longer stride in the direction of perfection will be taken than the combined steps of the past decade. The latest products of our power plant specialists are capable of a performance as stock jobs that far surpass the special engines of even three years back. And the most significant fact in connection with the development is that nowhere can be found a radical revision of design. What has been accomplished has been done by steady and patient digging into details.

Our engines for 1917 are more efficient thermally, principally because they are more efficient from a volumetric standpoint. The development of the high speed engine has worked against the development of higher volumetric efficiencies and yet the improvements in detail of design have actually brought forth a net gain in that respect. It will be interesting to note, in going through this story of improvement, how minor changes in the valve action in some instances, the port design in others, and in some cases the rearrangement of very small details have added as much as 20 per cent. more power to a power plant.

Mechanical Efficiency Greater.

Mechanical efficiency has been increased largely through the carrying out of trends that were clearly expressed a year ago, and chief of these is the reduced weight of reciprocating parts. Next in order comes the balance of rotating masses, and third the better arrangement and individual design of the lubricating system in so far as the placing of the oil bath at points where it is most needed and in the proper quantity is concerned. Mechanical efficiency of an engine is the ratio of the brake to the indicated horse-power, expressed mathematically. It is a measure of the approach toward the ultimate in any given motor size, and when it is stated that the engine of 1917 has a better mechanical efficiency than its predecessor it means that better performance is being secured from engines of equal displacement. Here again it will be highly interesting to note how the alterations in detail have brought about this important result.

Accessibility and Life.

Coming to another broad highway of progress, that of longer life, it is found that the general methods for securing this have been in the reduction of stresses on parts through better design. Put in another way, it means higher factors of safety secured through better arrangement of parts, better materials, safer dimensions in a few instances, and indirectly through a very important development in the way of accessibility. The two qualities of accessibility and life are bound very closely together.

The qualities demanded by the automobile buyer have forced this progress. A buyer of to-day demands a car that will have a speed range averaging from four to fifty miles an hour on high gear. He demands a large power to weight ratio to give acceleration and hill climbing ability and silence. Smoothness, economy and low price are among some of the other requirements that are made and insisted upon. To meet this demand with an engine that has for its working medium a fuel which is ever presenting greater difficulties in the way of vaporization has taxed the ingenuity of engineers as never before.

One of the greatest factors this year has been in the matter of material prices. Tungsten valves, aluminum pistons and cylinders, aluminum crank cases, alloy steel crank shafts and gears have been particularly affected by the rises. One result is that no attempt has been made to go beyond experiments, particularly in the direction of the aluminum motor, during this year.

On the other hand, the improvement of machining and casting work has continued at about the same rate as in previous years, and much of the credit belongs to these tool room designers, who have enabled the motor manufacturer to produce economically and at a profit, even in the face of the higher cost of materials.

In the general make up of the engine, the trend toward the overhead valve seems to have struck its level, and there has been no falling off or increase during the year that is worthy of note. In fact, the year is notable for the scarcity of new engines and the improvements which have been made on previous designs. The trend toward the detachable head continues. There has been one concern which has dropped the design, but others have added it, so that the scale still shows a balance toward the detachable head.

Crank shaft balance has been made more or less of a fad by the exploitation of some new designs through various sales mediums. As a matter of fact no new problems have been encountered by the engineer beyond those which are natural with the higher speed of rotating and reciprocating parts. Piston speeds have been climbing up to the point where engine designers believe that the best practice for passenger car work is around 2,000 feet per minute piston speed. This is approaching quite close to 3,000 r. p. m. and naturally the question of balance assumes proportions of considerable dimensions when it is remembered that the stresses rise with the square of the crank shaft speed.

Gas and Kerosene Motors.

The curved cheek crank shaft is in the majority, and instances of elaborate systems of counter weighting are practically unknown among the engine specialists. Perhaps the most interesting case of counter weighting is in an engine developed for gasolene-electric purposes, in which the counter weights are carried practically into the plane of rotation of the crank. The weights are brought as closely as possible to this vertical transverse plane while maintaining a pathway for the connecting rod. This is a very small displacement engine, four cylinder 2½ by 3½ inches, designed to run continuously at close to 3,000 r.p.m. and all parts are designed for such conditions.

Another high spot in gasolene engine development is in the provisions made to aid in the vaporization of the fuel. The day is past when the engine builder puts the entire question up to the carbureter maker. Almost every manufacturer of engines has devised some method of preheating the charge, and this in the face of the struggle for higher volumetric efficiencies. Yet it is a matter of necessity now. The day has arrived when the gasolene engine really can burn kerosene, and not a few of them are doing it. The tractor engine is the connecting link where kerosene and gasolene are both being used, and the cored in intake manifold or the unit intake and exhaust manifold have become very prominent this year.

It should be remarked that power plants are not, taking them as a grand average, lighter than last year because the use of aluminum has dropped off in crank case work to some extent. They are more powerful for their weight, however, and this is really what counts as long as the weight is not excessive. Individual parts of the engine which promote efficiency through being light have been reduced in weight.

Aluminum pistons are still in the balance. Personal talks with practically every engineer in the motor manufacturing business still give the general impression that they have neither become accepted nor condemned for general practice. It is not so much a matter of price, although in the opinion of one engineer it costs $6 more per motor to use the aluminum with present prices. A year ago though it seemed as if the aluminum piston would become the standard in all motors within a year. At the present time there is no doubt but that the opinion of the majority of the engineers is that the real light weight piston has not yet been developed. On the other hand, it does not lack its firm supporters, so the matter is still on the fence with experimenting actively being carried on all over the country. One interesting fact is worthy of comment and that is the aluminum piston has found greater favor among the automobile engineers than among the motor manufacturers who build for the trade.

Oiling has not changed greatly except that there is a tendency to keep the valve drive submerged so that is cannot become noisy. The details of this will be considered separately, but in taking up the main trends it may be stated that oiling by circulating combination pressure and splash is typical. The oil pressure has gone up along with the speeds, and now it is not uncommon to send the oil to the rubbing surfaces under a pressure of 40 pounds per square inch.

NATIONALS UNCHANGED.

Not Good Policy to Alter General Lines, Says Poertner.

Motor car buyers to-day more than ever before are very careful about the exterior lines of cars, and for that reason leading makers are no longer attempting to make radical changes in radiator or body design, according to William C. Poertner of the Poertner Motor Car Company, Inc., metropolitan distributer for National cars.

"A customer purchases a car to-day and expects to use it for several years," says Poertner. "Six months from now he is not going to be particularly pleased when the company whose car he purchased announces a new car of entirely different design. If the customer's recent purchase has an angular radiator he is not anxious to see his car made to look old fashioned because the designer brings out a curved radiator, and vice versa. Car owners do not like to be made to feel conscious of the fact that their machine is two or three seasons behind.

"The National car makers for some years have preserved the graceful combination of straight lines with a few slight curves—a design quite distinctive, making the National recognizable anywhere. During the past few years the variation in this has been so slight that the average person cannot tell the difference between the yearly models of the last three seasons merely by superficial examination.

"For 1917 we have numerous refinements, but the distinctive National lines are scarcely changed, so that the purchaser of a National never needs to fear that his car is destined to grow old fashioned in appearance. A new body, without extra cost, has been added to the new Highway six cylinder model. It is offered in either blue or gray. There are two compact parcel compartments, tilted wind shield, which decreases wind resistance and abolishes annoying reflections, and ignition lock, doors that swing open with storm curtains adjusted; new type tire hanger with Yale lock and an aisle way between front seats, which has been a National attribute for three years."

New Firestone Manager.

L. G. FAIRBANK.

Announcement has just been made by the Firestone Tire and Rubber Company of the appointment of L. G. Fairbank as Eastern district manager for the Akron company. Mr. Fairbank for the past three years was assistant advertising manager of the company. He succeeds Dan C. Spender, who goes to Boston as local Firestone manager.

BROOKLYN AUTO SHOW FEB. 24.

Motor Trucks to Be Shown Along With Pleasure Cars.

"Preparedness" for the sixth annual Brooklyn Automobile Show is now going along with a vim. The dates definitely decided upon are February 24 to March 3, and it will again be held in the Twenty-third Regiment armory, Brooklyn. The show committee of the Brooklyn Motor Vehicle Dealers' Association realizes that any successful enterprise requires considerable untiring advance preparation. Judging from the success of the former shows the prospects of the coming one being unquestionably larger and more comprehensive than any of its predecessors seems to spell success for 1917 in great big upper case type.

The sixth automobile show is to be a real motor show in every sense of the word. All of the cars of both the pleasure and commercial varieties will be on the main floor of the huge armory, and the accessory exhibitors will be allotted space elsewhere. In the past accessories have been on the main floor, but this season every inch of space will be required for cars and trucks. Prospective exhibitors who have not already secured space are urged to make their application as early as possible, and in any case not later than Monday, December 18. On that date at 8 P. M. at the Motor Club, 1255 Bedford avenue, Brooklyn, the show space will be allotted, and from the present aspect there will be scarcely enough space to go around, and numerous exhibitors will have to be content with smaller space than they actually desire. As is well known, the Twenty-third Regiment armory has more floor area than Madison Square Garden, New York, and being conveniently located on Bedford avenue, Brooklyn's most used automobile highway, it is the most appropriate building for such a show in the entire borough. As in former years all the leading makes of cars will be exhibited, and the scheme of decorations this year will be in excellent taste, providing a rich setting suitable for the showing of high class cars to advantage.

It has never been the main purpose of the Brooklyn Motor Vehicle Dealers Association to conduct the show as a big money making venture, but rather to give the exhibitors as handsome accommodations and surroundings as their cars and products deserve, and to provide for the public who patronize the show as fine a motor spectacle as is possible.

MITCHELL'S UNUSUAL TRIP.

Travels 6,832 Miles, Consuming Only 472 Gallons of Gas.

President George Stowe of the Mitchell Motor Car Company of New York has just received a letter telling of a remarkable record made by a Mitchell "Midseason Six," owned by F. A. Chamberlain of Merced, Cal.

Mr. Chamberlain took delivery on his car at the Racine factory on July 29 and then drove it to Boston, through Rhode Island, down the Atlantic coast to New York and then to Washington. From Washington he started west over the National trail, passing through Wheeling, W. Va., St. Louis, Kansas City, Colorado Springs, up Pike's Peak and then to Denver.

From Denver to Salt Lake City and Reno the car encountered mud, rain and frightful roads, but arrived safely in California on October 29 after covering 6,832 miles. Mr. Chamberlain in speaking of his trip wrote: "And here we are in Merced after coming the entire distance without a road stop for engine, tire or car trouble. Factory air in four of the tires. This certainly speaks well for the Mitchell after passing through the racing, pounding and almost impassable roads, and on the last 250 miles it shot up the hills better than the day it left the factory.

"On the entire run I averaged fourteen and a half miles a gallon. My total load on the tires was 4,280 to 4,350. Total quantity of gas consumed, 472 gallons. Total mileage, 6,832. After filling the differential case and the transmission case in Rhode Island no more oil was needed."

TO ADVANCE TRADE IN FOREIGN LANDS

Auto Makers Plan to Fill Future Demands for Cars Needed Abroad.

Appreciating that foreign countries are looking to the American manufacturer to furnish motor cars in the future, the directors of the National Automobile Chamber of Commerce at their meeting yesterday took the first step in a co-operative movement to advance export trade by voting to hold a meeting of the export managers of the companies holding membership in the big manufacturers' organization. It will be held some time in January at the headquarters in New York, and with the interchange of ideas is expected to help materially in caring for countries that require the modern motor vehicle which is now so important a factor in our American life. Exports have been increasing every year, and the figures for 1916 will exceed $160,000,000, numbering more than approximately 81,000 cars sent to seventy-four countries.

The conference, it is expected, will help to collect information regarding changes in duties in foreign countries, customs regulations, shipping routes and charges, special permits, lists of dealers, banking arrangements, road conditions and general uses for various types of motor cars, possibilities of interesting agents and broadening markets, the handling of the trade after cars have been sold, and such other matters as might be expected to promote sales abroad.

Notwithstanding the shortage in freight cars, which has seriously affected the industry, shipments of automobiles for the month of November were 17,250 carloads, as against 17,188 for the same month last year. Report was made at the investigation of the Interstate Commerce Commission regarding the rules and practices of railroads taking interchange cars, and it was clearly shown that this service had been seriously impaired by the cars being arbitrarily used in other services. It was also reported that a committee of presidents of the American Railway Association had agreed to establish at Washington a conference committee on co efficiency, consisting of five operating officials to cooperate with the Interstate Commerce Commission in an effort to relieve the freight car shortage.

The automobile industry is suffering particularly because the automobile freight cars after being taken off the main lines have been used for the shipment of other commodities and have not been returned to automobile territories. It is expected that the railroads will soon advance their per diem charge for the use of freight cars by other roads from 45c. to $1 or $1.25 a day.

DEBUT OF BEN-HUR CAR.

New Company Will Open Salesrooms on Broadway Soon.

Cleveland's latest automobile manufacturing concern, the Ben-Hur Motor Company, has just completed a new factory at Willoughby, Ohio, a suburb of Cleveland. It is manufacturing a seven passenger touring car, a four passenger "overleaf" roadster and a touring sedan.

The personnel of the company is as follows: President, F. R. Anderson; vice-president, H. P. Bagley; general manager, F. R. Mott; secretary, T. J. Allyn; treasurer, J. B. Spykema; superintendent, George Weibner; chief engineer, C. R. Armbrust; purchasing agent, W. H. Mairet.

Franklin O. King, formerly with Lee Mahin, has been appointed advertising manager of the Ben-Hur Motor Company. The company will have cars for delivery in January. Salesrooms in New York city will be located on Broadway.

CADILLAC 1915, MODEL 51. Seven-passenger touring car, like new, inside overhauled, repainted, red Silvertown cords all around, top like new, starting system, engine like new, Waltham clock, Warner speedometer, set tools, extra rim, etc. Bargain to immediate purchaser.

CADILLAC RUNABOUT, 1916. Model 52, in very fine condition, less than 2,500 miles, four good tires; a great bargain at a high price.

CADILLAC RUNABOUT, 1915. Model 51, overhauled, repainted, with U. S. mobile on rear, pads on front, first class mechanical shape, tumble seat in rear, an A1 bargain.

1916 OLDSMOBILE. Four cylinder, touring car, in excellent condition, good tires, will make price to see car. "Phone Mulberry 1

DETROIT CADILLAC MOTOR CAR CO., 1538 Broad St., Newark, N. J.

AUTOMOBILE EXCHANGE

HUDSON SUPER SIX COUPE, 1916, SEATING FOUR, MANUFACTURER'S PRICES NOW $2,575.00, WILL SELL FOR $1,800 CASH, GUARANTEED IN PERFECT RUNNING CONDITION, ONLY 2,000 MILES, ABSOLUTELY LIKE NEW, EXTRA EQUIPMENT, DEMONSTRATED BY APPOINTMENT WITH OWNER, HOWARD C. HENDERSON OF HENDERSON & CO., 32 CORTLANDT, NEW YORK.

TIMKEN—BEARINGS—HYATT New Departure Service Sta. The William 253 W. 59th st. (at B'way). Tel. 8556 C.

HANDSOME FAIR BEAR ROBES, two beautiful PLUSH ROBES, GENTLEMAN'S fur lined overcoat, also chauffeur fur coat, perfect condition, no cash offer refused. PRIVATE STABLE, 148 East 58th st., near Lexington av.

FOR SALE—Pierce-Arrow "Little Six" Model 1912 Landaulet body; owner will demonstrate and accept reasonable offer. Room 10-C, 22 William St.

1916 CADILLAC SEDAN—Special seven passenger, used little, perfect. Roskam-Scott Co., 1896 Broadway.

1915 PIERCE LIMOUSINE, 48—Practically new, elegant bargain. Roskam-Scott Co., 1896 Broadway.

1915 PACKARD, 2-35—Five passenger touring, like new, bargain. Roskam-Scott Co., 1896 Broadway.

1913 RENAULT LANDAULET, 35-40. Perfect mechanical condition, fully equipped. Roskam-Scott Co., 1896 Broadway.

1916 DANIELS "8"—Seven passenger touring, like new, bargain. Roskam-Scott Co., 1896 Broadway.

S. G. V. TOWN CAR—Small limousine brougham, latest model, overhauled, repainted. Roskam-Scott Co., 1896 Broadway.

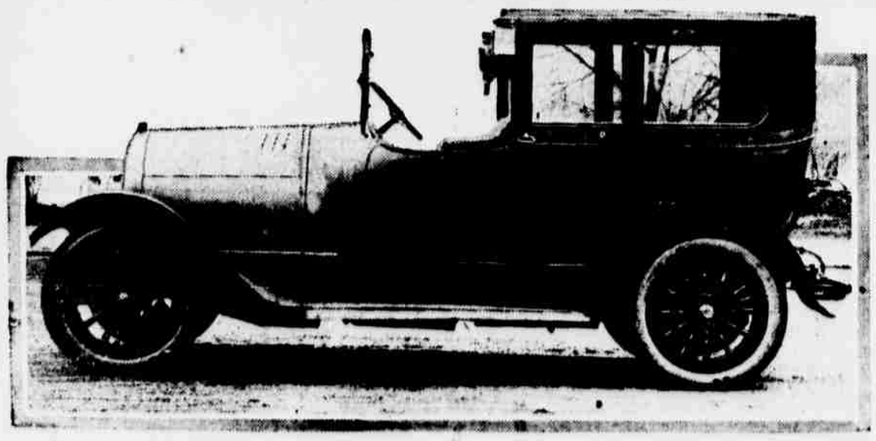
1916 STEARNS BROUGHAM—Landaulet, 6-cyl. motor, like new, elegant bargain. Roskam-Scott Co., 1896 Broadway.

FIAT CONVERTIBLE, 4-5—Electric starting and lighting, with Holbrook collapsible landaulet touring, repainted, overhauled, bargain. Roskam-Scott Co., 1896 Broadway.

1916 CHALMERS SEDAN—Seven passenger, elegant condition. Roskam-Scott Co., 1896 Broadway.

1914 SIMPLEX LIMOUSINE, 40 Horsepower, Washington type body, elegant condition, up-to-date. Roskam-Scott Co., 1896 Broadway.

The Newest Fiat for Fastidious Folk.



This new type has graceful lines in keeping with the other Fiat models. The chassis is mounted with a Brewster body of the brougham type.

Ready for All Kinds of Weather Conditions.

Preparedness against inclement weather is found in the new Reo six cylinder combination brougham pictured above. The body can be opened or closed with little effort. Manager Ingersoll of the local Reo branch is selling this type rapidly, for it is just the car with which to do Christmas shopping.