

**OWNERS OF ELECTRICS
PORTLAND LOUD IN
PRAISE OF THESE CARS**

Three Standard Machines Are Represented in City; Total of 83 Cars in State.

While Portland ranks very low in the standard of electric automobile cities, still those who own either the electric pleasure car or the commercial car are sincere and loud in their praise of the electric vehicle. The Journal on this page will endeavor to give its readers a review of the electric automobile industry as represented in this city.

There are only three standard make electric pleasure vehicles represented in Portland at the present time. Frank C. Riggs has the Detroit; J. C. Braly has the Ohio, and H. L. Keats has the Rauch & Lang. Several of the eastern electric shows have just been held and the Journal is giving its readers the benefit of first-hand examinations of the cars represented in the local field.

Electric passenger vehicles for the new season are characterized by a number of features which make for greater comfort in driving and also for greater safety in operation without necessitating recharging of the battery.

A study of the productions of the different electric car makers for 1914 will show a particularly strong trend toward control arrangements which permit the car to be driven from either the front seat or the rear seat.

Reason for Dual Control. The reason for this dual control, as it has come to be known, is the endeavor to provide the safety of the front drive which is demanded by the ordinances of some municipalities with that convenience which can be obtained by the rear drive when but two persons are occupying a four or five passenger car. Legal restrictions in some cities and states prohibit any passenger riding in front of the driver.

This unit recently has been the usual arrangement where three or more passengers were to be carried in the enclosed vehicle. Dual control must be looked upon as one of the biggest talking points in the new lines. Where the dual control is listed it is generally confined to one model or two at the most, and these models are invariably five passenger broughams, limousines types or designated in some cases French coach designs. With those listing dual drive the sentiment is general that it will greatly increase in the next few years due to stringent police regulations forbidding passengers sitting in front of the operator. The dual system is an easy solution of this problem.

Production for Past Year. Production of electric vehicles this year approaches \$400. Of this number 5500 have been passenger vehicles, and about 3400 commercial types. Statisticians placed the total number of electric vehicles in use in America at the first of the year at 30,000, a general estimate so that today the grand total reaches 38,000, a good, round number when it is remembered that at the beginning of this year the total number of cars in Germany was but 60,000, there being today more than twenty times as many electric cars in this country as the entire German total.

The growth of the electric over much of the country has been rapid during the past year. It has not been of the boom nature, rather a conservative increase, an increase measured by the capacity of the producers. Electric vehicles, considering passenger and commercial as a unit, have grown over 45 per cent in New York city during the last two years. Chicago estimates its increase in electric trucks at 400 per cent during that time; St. Louis has in the last year had a heavy increase, perhaps over 20 per cent. In Boston the electric truck has grown remarkably, showing a gain of 55 per cent during the last year.

Growth Here Smaller. Portland has not grown as rapidly in the electric field as some of the other cities of its size, still there has been a healthy increase. From information gathered from the different electric dealers it is estimated that there have been sold in Oregon this year 16 electric pleasure cars from the Riggs, Braly, Keats establishments, and about four vehicles have come into the territory that were purchased from firms not represented in this territory. On November 1, there had been registered in Oregon 73 pleasure electric automobiles and 21 commercial cars. This gives Portland and Oregon a fair representation as an electric community.

DETROIT CAR IMPROVED

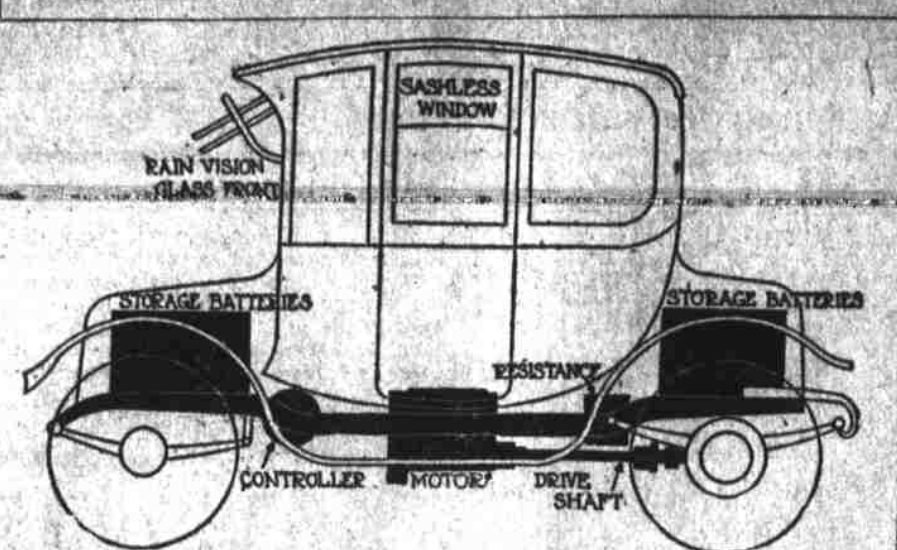
Machines Are Roomier and Battery Capacity Materially Increased. Following is a summary of the different electric cars represented in Portland taken from Motor Age, one of the leading automobile magazines:

For 1914 there are six models of Detroit passenger electric which cover the entire field of these vehicles from the palatial five passenger brougham with its duplex drive to the roadster type, the gamut including victorias in addition to the various brougham styles. The Detroit for next year is a highly improved vehicle as compared with the 1913, yet is listed at considerably reduced prices over those prevailing during the present season, the price range extending from \$2900 to \$3900.

It can be stated generally that on all models the wheelbase is longer, the additional space gained thereby giving more room to the bodies. Tires generally are larger, an example being that a model fitted with 3 1/2 inch tires this year carries 3 1/4 inch tires. In addition to larger tires there is an increase in battery capacity all along the line. As heretofore 40 cells of lead type are standard in all models, but instead of 11 plates per cell the number has been increased to 13. This means raising the ampere-hour capacity from 140 to 162. To accomplish this result thinner grids are used, these resulting in a greater milles per battery charge. Another advantage that may be added is that a higher voltage is maintained with a thin plate cell, which gives more power on hills and aids in acceleration.

A most conspicuous feature of Detroit electric is that three models for next year will be fitted with worm drive, the Lauchester type of worm mounted beneath the axle being used. The models so fitted are the duplex drive, five passenger brougham, and the roadster. The Lauchester worm is of the hour glass type, the teeth being so formed as to partially embrace the circumference of the worm wheel which is fitted to the differential, the teeth of this worm wheel being able to contract to adapt themselves to the worm. Three teeth of the worm always are meshing simultaneously and share the driving load. Modifying the worm beneath the worm permits of its constantly running in a bath of oil. On the other three Detroit models, namely, victorias, four passenger brougham and five passenger brougham, bevel driven axles are employed.

GENERAL SCHEME OF 1914 MODELS OF ELECTRIC CARS



Type of electric car for 1914, illustrating the most popular features found in the new models. It is a five passenger brougham with lever steer, rain vision glass front, sashless windows and 3 1/4 inch cushion tires. All passengers face forward. The specifications of this car include: An I-beam front axle, full floating rear axle with a pressed steel housing, a 40-cell lead battery, half in front and half in the rear, and motor suspended amidships with double reduction shaft drive. The wheelbase is 100 inches. The general scheme of the average electric car for 1914 is shown in the above illustration.

Not to be overlooked in Detroit electric for next year is the duplex drive used on one model officially known as model 48. In this model all passengers face forward, the two front passengers occupying individual armchair type seats. The duplex drive consists in two steering tillers, two controller handles; in short, two complete driving units, one for the front seat passenger, the other for the rear. When the front seat drive is being used the rear seat control parts fold against the wall, and vice versa. This permits the driver to sit in the rear when only one passenger is carried or at the front when there is more than one passenger.

FEW CHANGES IN OHIO CARS

Dual Drive Continues Among Features; Improvement in Bodies. Ohio electric, in three models, practically enter the 1914 selling year with no appreciable change. The chassis are known as the models O, M and Y and are practically the same throughout. The three chassis have a wheelbase of 88 1/2 inches and standard tread. Two of the types, namely, models M, and Y, have the double-drive feature, which was used by the Ohio company this year. Model O is a single drive car, its front seats being pivoted so as to turn in any desired direction, same as used in the other two cars.

In the bodies the most noticeable difference is in the use of sashless windows instead of the framed variety fitted to the cars in 1913. The glass plays in fertilized grooves in the window casings. The bodies as a whole are very beautiful in finish and upholstering and conform to the general trend of design for this class of vehicle. Sheet aluminum is used in the making of the Ohio bodies, the roof being a single sheet. Besides the usual long list of equipment within the luxurious bodies, the new Ohio models are furnished with electric heaters for the winter time. These heaters, one of which is placed in each of the front seat pedestals in the new cars instead of being placed along the front in tube form as heretofore, are of the resistance type. The chassis embodies an overhung cold rolled pressed steel frame of channel section suspended on half-elliptic front and three-quarter elliptic rear springs. The front axle is a drop-center I-beam, while the rear axle is of the floating construction, with the weight carried on the housing. Hess-Bright ball bearings are used throughout the axle and wheels.

A special feature of the Ohio chassis construction is the suspension of the motor by a ball and socket joint amidships of the frame. The torque tube inclosing the driveshaft fastens rigidly to the end plate of this motor through a yoke. At the rear end the torque tube bolts to the rear axle housing through a flange. Thus the rear axle, driveshaft and its housing and the motor form one rigid unit. There are no universal joints in the driveshaft in this construction, the motor's ball and socket mounting allowing it to align with the rear axle at all times. With this direct shaft construction the reduction between motor and rear wheels is four to one. The motor is a slow speed, series-wound type of exceptionally large size.

Battery equipment on the new Ohios shows no change over the present cars. The standard battery equipment is 40 cells of 13-plate Exide. Non-wash jars are added, making it unnecessary to wash them out during the life of the plates. When specified, Edison battery is furnished at an additional cost. The battery is carried in the usual compartments front and rear. Double external contracting brakes act on the rear wheel drums. All models are equipped with an automatic current cut-out on the emergency brake. When the pedal is pushed downward to apply the brake this operation automatically cuts out the current to the motor from the battery. After the brake is released power is not automatically turned on again, however. The car remains still until the controller is brought back to neutral, after which it operates as usual. This is a safety feature of much note.

The control of the Ohio cars is unique in that a small hard rubber disk replaces a control lever. This disk is mounted on the end of the controller and is turned in either direction from a neutral point to give forward and reverse speeds. Besides the speed-regulating disk, the control head embodies within it integrally a bell button for warning signal, the controller lock button, and magnetic brake button. All of these are so close together on the control head that their operation by the left hand is a simple matter, leaving the right hand free for operating the horizontal steering lever. In the double drive models the control and steering lever are in duplicate as well as the pedals. The steering lever when not in use swings down against the body and out of the way. The steering post is carried on ball bearings, making its operation possible with the minimum of effort.

WORM DRIVE TO BE USED Rauch & Lang Cars Also Have Three Different Control Arrangements. Electric pleasure cars of the Rauch & Lang Carriage company, Cleveland, Ohio, are characterized by a change from bevel drive in the rear to worm drive. This feature obtains in the roadster, the club roadster and the demi-brougham models, while the town car will remain bevel drive. The prices of these cars will remain the same as last year with the exception of the brougham. The coach type, model J-3, is offered in a five passenger form. The latter comes with three different controlling arrangements, one driven from the front, another from the rear and the third a selective dual control. The controlling wheels has resulted only in the use of a heavier motor. The high speed motor with worm drive, therefore, gives a light motor with single reduction ratio of 8.6 to 1. The worm shaft is carried on large annular ball bearings and end thrust is provided for by a double thrust bearing at one end of the shaft. This arrangement for the thrust at one end instead of both makes for ease of adjustment. The control system affords two starting speeds and four running speeds forward as well as four reverse speeds. A system of rods and cranks connects the two control levers to the controller proper. The latter is located on the rear seats and the various speeds are obtained by cutting out and inserting resistances and also by the use of a

so called bucking coil in the field of the motor. On first speed the motor fields are in series and resistance is inserted in the circuit. Second speed uses the same field connections but some of the resistance is cut out. Third speed cuts out all the resistance and uses a series field connection. On fourth speed the resistance is cut out still but the fields of the motor are connected in parallel. Fifth speed runs the fields in parallel and shunts no resistance in the line. On high or sixth speed a bucking coil is used with the fields shunted and connected in parallel. All Rauch & Lang electric cars use six speeds and the above method of controlling these speeds. It is claimed that this type affords the proper gradual rise from low to high without excessive drain on the batteries.

All ordinary fast running can be done on fifth speed, but if the sixth is used on the level a speed of over 20 miles per hour can be obtained. An electric brake forms part of the control. This braking action is accomplished by running the motor as a generator and the downward grade and consuming the power generated in a special resistance. This brake alone is said to be capable of holding the car on an eight or 10 per cent grade.

A lock that can be closed only when the handle is in a neutral position is fitted to the control arm. Although this prevents any action of the electrical part of the control system the brake is unaffected and can be applied whether the lock is closed or open. Expanding shoe brakes are employed on the rear wheels and another brake is fitted to the front end of the motor.

The total weight of the double drive coach is about 3500 pounds; approximately 75 miles can be run per charge. The coach has a wheelbase of 96 inches, while that of the other models is 93 1/2 and 93 inches. Upholstery has been looked to in the matter of comfort. The front seats are provided with well cushioned backs and are mounted on tubular pedestals upon which they turn. All wiring and levers from the control arm on the left chair are carried down to the chassis inside of the pedestal, leaving a clear external finish. The interlocking mechanism in the double control machine is also contained in the upper portion of the seat pillar.

Do Not Overcharge Batteries. Overcharging reduces the density of the electrolyte, leaving a greater percentage than the normal charge, as more sulphur trioxide is taken from the electrolyte.

CUSHION TIRES SAID TO BE BEST FOR USE ON ELECTRIC CARS

Are Declared More Economical of Power Than Solid and No Danger of Blowouts.

"In perfecting an ideal tire for electric cars, two fundamental qualities must be incorporated in order to make a dependable tire," says T. H. McGiehan, vice president, The Mott Tire company. "These properties are resiliency and durability, and naturally they are both dependent upon many variables such as compounds, shape of tread, and method of fastening."

"The most important is the general construction of the tire. The tire must be designed so that the minimum amount of energy is consumed in propelling the vehicle. Conservation of power is the one most important factor in the maintenance of an electric car."

"Therefore, the resilient and durable electric tire that covers more miles per battery charge is the only tire for electric cars. Every time a solid tire strikes a road obstruction it takes added power to lift the car over, but when the tire absorbs the shock all the power is used in carrying the car in an onward instead of an upward direction."

"Not only are cushion tires far superior to solid tires in saving fuel consumption, but they are also an important factor in prolonging the life of the mechanical parts of the machine. In this comparison the pneumatic tire comes in for an equal amount of credit. When you consider that the electric pleasure vehicle is the most popular car for women because of its ease of manipulation, then you can readily realize why practically 90 per cent of the electric vehicle manufacturers specified Mott tires for their 1914 equipment. Women cannot and should not be expected to repair a blowout or puncture any more than they should be expected to crank a motor. It was essential that the manufacturers equip their machines with self starters. Naturally the woman buyer

(Continued on Following Page.)

OHIO
THE REVISED ELECTRIC

Demonstrators at Salesroom
J. C. Braly Auto Co.
19th and Washington Sts., Portland, Oregon

Detroit Electric WINS

popularity contest, expressed in motor car registration, on the Pacific Coast, including Electrics represented in Portland

California		Second Nearest Competitor	
Detroit Electric	428		177
Nearest Competitor		199	
Registration September 1-10 to September 1-13			
Washington		Second Nearest Competitor	
Detroit Electric	118		2
Nearest Competitor		14	
Seattle alone 104 Detroit Electrics—22 all other makes			
Oregon		Second Nearest Competitor	
Detroit Electric	20		5
Nearest Competitor		8	

TOTALS—
 Detroit Electric 566
 Nearest Competitor 221
 Second Nearest Competitor 184

MORE CARS MEAN BETTER SERVICE!

FRANK C. RIGGS COMPANY
DETROIT ELECTRIC CARRIAGES AND TRUCKS

Worm Drive

No announcement since we have been in business has created such wide-spread interest as our advertisement of the new Rauch & Lang worm drive. Hundreds of persons have seen these new electric, and orders are fast coming in. No other electric offers the choice of such a drive. Come see it today. Bring an engineer with you. We take pride in showing it to those who know the beauty of mechanics. Thousands of motor cars abroad are being built with worm drives.

The Drive Sensation

of the Electric Vehicle world is the Rauch & Lang Straight Type Worm Drive. The Rauch & Lang light-weight high speed motor is especially adaptable for use with a straight type worm drive. The combination means that power travels the shortest possible route from the motor to the wheels—no waste motion—no waste energy—but uninterrupted, direct application. This combination produces low upkeep cost, is quiet and smooth in operation—eliminates making adjustments—is compact, simple, efficient, powerful. Comprehensive and severe tests for the past five years have demonstrated the excellence of the straight type worm drive. In purchasing a Rauch & Lang Worm Drive car you secure the most perfect electric car manufactured. Nothing to equal it has been offered the public. Passengers face forward. Revolving seats. Three types of control. 1st—Driven from front seat. 2nd—Driven from rear seat. 3rd—Combination, driven from front and rear seat. Telephone us now for demonstration.

H. L. Keats Auto Co.
BROADWAY AT BURNSIDE

The Edison Storage Battery

For Electric Vehicles

"Built Like a Watch, But as Rugged as a Battleship"

COSTS MORE, BUT LASTS FOUR TIMES AS LONG

THE MOST WONDERFUL CONVENIENCE FOR ELECTRIC VEHICLES YET INVENTED.

One good point about the Edison Alkaline Nickel-Iron Storage Battery is that the container, grids, poles, etc., are all made of nickel-plated steel. Collisions, falls or continued service bumps of the hardest kind don't harm it. WE ARE SOLE AGENTS FOR OREGON, AND WOULD LIKE TO FIGURE WITH YOU ON STORAGE BATTERY EQUIPMENT. INVESTIGATE OUR SERVICE PRICES.

GIBSON STORAGE BATTERY CO.
548 Alder Street
The Only Exclusive Electric Garage in Oregon