

TILLAMOOKERS VISIT AUTO FACTORY IN THE EAST.

Are Surprised at its Magnitude—Have Interesting Time.

Carl Haberlach and F. W. Christenson, Willys-Overland dealers in this city were two of the 5,000 dealers visiting the great Toledo plant in connection with the immense convention now in progress, recounts their experience in this interesting letter to the editor:

Some action!
Nothing was ever so impressive as our tour of the great plant that turns out Willys-Overland cars.

Our Pullmans all parked in the company yards. There was room enough for there are seven and three quarter miles of track within the plant.

Each man got a card containing a picture of Mr. Willy and an autographed message of welcome from him. Next thing we knew we were lined up on the steps of the stunning new administration building getting photographed.

Elevators shot us to the company's own restaurant on the sixth floor. There we had a corking breakfast. At each plate was a copy of the live new Willys-Overland house organ "The Starter." It mapped our day's program.

Then started our tour of the plant. Our guides were carefully picked men. They knew the plant from end to end, and the parties were small so that each member of the party could have his questions answered.

Nobody ought to try to sell Willys-Overland product without knowing this plant. You can't grip the immensity of the proposition till you do.

It is no piker business. \$25,000,000 are tied up in land, buildings and machinery, not to say a word about the stock of parts and raw material. From the roof of the wonderful administration building, which stands out like a steel capital, you get a great panorama of the plant. You can readily believe that it occupies 103 acres, with 4,486,680 square feet of floor space in daily use and a production capacity of 1000 cars per day.

You can appreciate the growth from 250 employes in 1908 to 17,200 in 1916.

1,000 persons, more than the manufacturing force of many a company, work in the administration building alone. This structure, 375 feet long, has every facility for rapid work, including dictaphones, its own telephone and telegraph system and a mail handling department that does about everything but write the letters. 388 persons can feed in the restaurant at one time.

But this is nothing to what hits you when you cross into the shops. It is a whirl of action, yet all is system.

Parts by the untold thousands are here, with a value into the millions of dollars. There are lines of motors. I never saw so many crank shafts together. Our guide said 6,000, I'd have believed 60,000.

There is stock in bins, stock in yards, stock along the walls, connecting rods, frames, fenders, mudguards, hoods, rims, springs, axels, torsion tubes, transmission gears, shafts, brake parts, steering rods, pedals, it is an unending procession.

Every thirty days sees an average of 100 tons of steel come in. It is handled by a magnetic crane that enables two men to do a work that formerly required thirty.

There are amazing machines. The toggle press, for example, held us all. This monster, with its pressure of 1000 tons, shapes cold steel like cardboard. A piece of metal fed into it comes out as a side frame. It can make 2000 of these in an eight hour day.

Other mighty machines stamp out radiator shells, fenders, cowl dashes and doors.

You take off your hat to the drop forging machines. Down comes the hammer and the fiery piece of iron is beaten into shape. The complete drop forging of the front axel can be accomplished with one heat.

Every kind of part requiring strength was drop forged while we looked on, axels, crank shafts, brake assembly rods, brake and control rods, spring shackles, gear blanks and brake rod sectors.

We saw the company's accurate system of dye making. It calls for a special workman on each detail. One works on the shaper, another on the planer and a third on die sinking.

The multiple spindle drill in one operation drills all the holes in the front axel. This is a guarantee that each will be in right relation to the other.

It was hard to drag us away from the automatic turret lathe that surfaces and finishes fly wheels. It works as though somewhere in its metal vitals a brain was concealed. The workman has only to put on the

rough fly wheel, adjust the first set of tools, push the lever, and let the machine do the rest.

The cast iron is peeled off as readily as wax. Sometimes four or five operations are performed at once. When one set of cuttings is done, the machine stops automatically, and the next set of tools comes automatically into place. Twenty operations are performed in fourteen minutes. 26 pounds of metal are removed from the wheel. One man can watch three of these machines.

Moving up and down, the cutter at the same time slowly revolves, the fly wheel turning in the opposite direction. By the time a complete revolution of the fly wheel has been accomplished, all the gears are cut.

We all fell for the aluminum foundry and for the machines that finish the aluminum parts.

The multiple spindle drill bores 81 holes in the crank case in one operation. This is proof of the superiority of machine process, for the holes must be in the right relation to each other.

Another machine smooths the surfaces of the crank cases, finishing 7 in nine minutes.

Diamonds, real diamonds, are consumed with apparently reckless indifference in the wet grind room. Placed in small tools they are used to true the emery wheels on which are ground the bearing surfaces of the crank shafts.

They are bought in \$15,000 lots.

We looked on while the forests of lumber were being turned into bodies in the wood work department. This lumber comes in by carloads. As 214 feet of wood is required on a small touring car, we could readily see why so much was required.

You can make this round and you can understand this company's immense consumption of material, 18,000,000 pounds of solder annually, 2,500,000 pounds of tin and lead for smoldering, 10,000,000 pounds of brass and copper, 12,000,000 feet of steel tubing and 125,000 tons of steel.

But what impressed us more than all was the department in which materials are tested. They have to know a thing is right before it goes into a Willys-Overland car. That's how they safeguard the public.

Tests in physical and chemical laboratories are made in two ways. Complete steel parts are subjected to terrific tests. Axels are twisted like rolls of taffy candy. Small bolts of steel, six inches long, cut from completed axels, are attached to both ends, and literally pulled apart. The registering machine shows 200,000 pounds to the square inch necessary to accomplish this, whereas a resistance up to 125,000 pounds would be proof of ample tensile strength. Springs are tried for their resistance.

Steel articles are also put through both heat and chemical tests. The former determines the amount of carbon, an important factor; the other determines the chemical composition of the steel.

Naturally every operation in all the plants tends finally towards the assembly conveyor tracks. There are four of them, each 645 feet long.

We followed the whole operation. We began at one end where the frames and rear systems are put in place. By the time the other end of the conveyor is reached the frame has grown into a finished car.

From overhead parts are lowered by chains. Along the way men are attaching the parts. The frame is not in motion all the time, but can instantly be connected with the links of an endless chain and sent on its way whenever desired.

Top quality of workmanship is assured by having each man do work on which he is an expert, if it be only to tighten a bolt.

Lines of motors, already tested, wait on both sides of the conveyor. These are put into place, cantilever springs are put on, steering mechanism and lighting and starting systems are adjusted. Gradually the car takes form.

Instead of painting the chases with a brush, a sprayer is used. It does the work more rapidly, more uniformly and at a lower cost.

The tracks of the assembly lead directly through ovens in which the paint is baked. Fenders and running boards come into their place.

Wheels with the tires on are brought along on a runway. First comes a front wheel then a rear wheel. You ought to see them put on the tires. It is lightening. By a special device, invented by one of the men in the department, the tire can be put on a wheel in three seconds.

From overhead bodies are dropped down on to the chases and soon made fast.

The car is now ready for its test. Rapidly revolving wheels in the floor engage the wheels of the car, and send them at high speed to make sure they are operating freely. This is not a test under the power of the car.

Gasoline and water are then put into the car. It is pushed off the track into another room, till its wheels are in contact with wheels in the floor.

With the use of the self starter, they were off with a rush. There was not a hitch or delay. All the work had been done right. In a few minutes the motor was working apparently almost as smoothly as if it had been a year on the road.

We saw how the cars were shipped. The export department has the big feature in this line. The finished car undergoes preparation by having its wheels taken off and fastened on the under side of the frame which forms the top covering for the car. The top is covered with a tar paper as a protection against the elements, and all is securely boxed.

Along comes a big crane running in an overhead groove a quarter of a mile long. The operator sits in a small cab not unlike that of a railroad engineer. Chains contain the box containing the car, and within forty-five seconds have carried it outside the building and place it on the first freight car.

It is processes like these, all that I have described, that explain why every car in the Willy-Overland line is what it is at so low a cost. Making so many is the answer, making them to go all over the world and having profited by the experiences of users everywhere. Quantity production, immense and costly machines, skilled designing, careful inspection, accurate tests of material, efficient factory methods, rapid assembly and advanced methods of handling, all these we saw; all these tell why the Willys-Overland Company lives up to its ideals of a car for every need or taste, price, class and service right.

We saw the line. It is quality from the lowest price to the headliner. It will be the marvel of the automobile shows. This sightseeing tour is only one angle of this convention. Tonight we will hear policy defined by the various officials.

The two day's program includes a rollicking beefsteak dinner, a more formal banquet, a minstrel show, a concert by the famous Overland band and a concert by the Glee Club.

Finally there will be a speech by the moving genius of it all Mr. Willy himself.

You will agree with us that this is some project to have been put together all within one plant and by the people of the organization.

Death of Mrs. Herman Tohl.

After a two days' illness Mrs. Herman Tohl died of heart failure December 12, 1916, at her home in Nehalem.

Marie Kindermaun Tohl was born in Therhauser, Germany May 8, 1849, and was 67 years, 7 months and 4 days old at the time of her death. She was baptized and confirmed in the Lutheran faith in her early youth.

In 1873 she was married to Herman Tohl and they lived near the town of Thehausen for 5 years. In 1879 they emigrated to America and located in Nebraska where they engaged in farming for 5 years. Learning of the better opportunities awaiting them in the West through Mr. Tohl's relatives, they left for their new home in Oregon. They arrived in the Nehalem Valley April 10, 1885 and located on a homestead one-half mile west of the present town of Nehalem. Here they resided until three years ago when they rented their farm and moved to Nehalem.

Mrs. Tohl took a great interest in educational affairs and she was instrumental in building the first school house in this end of the county, which was located near her home.

She was a devoted wife and a loving mother and she will be missed by a host of friends.

The funeral services were conducted in the Nehalem church Friday afternoon Rev. D. M. Young officiating, interment in the Paternal Union cemetery.

Besides her husband, Herman Tohl, she leaves the following children: Mrs. Victor Brandt, Portland, Ore.; Mrs. Emma Sponogle, and Mrs. Martha Howe, Point Orchard, Washington; Mrs. S. A. Smith, Maples, Oregon; Mrs. A. C. Anderson, Mrs. A. D. Thompson, Mrs. Bert Gresham, Julius and Henry Tohl, Nehalem.—Nehalem Times.

ASTOUNDING REPORT FOR TILLAMOOK.

The wife of a merchant had stomach trouble so bad she could eat nothing but toast, fruit and hot water. Everything else would sour or ferment. One spoonful buckthorn bark, glycerine, etc., as mixed in Adler-ika benefited her instantly. Because Adler-ika flushes the entire elementary tract it relieves any case constipation, sour stomach or gas and prevents appendicitis. It has quickest action of anything we ever sold. J. S. Lamar, druggist.

CHRISTMAS GIFTS!

For Young and Old.

- IVORY**—The largest and best assortment ever shown in this city.
- Some very choice **LEATHER ROLL-UPS** in Manicure sets, all prices.
- FRESH PURE CANDIES**, bulk or package.
- LETTER KNIVES**, Libby Cut Glass, Clocks in Ivory, Gold Watches, Ivory Picture Frames.
- FLASH LIGHTS**, Fancy Pipes, Cigars in Christmas packages, Amber Cigar Holders, Travelers Sets in Genuine Leather, Purses of all kinds.
- ERECTOR and Mechano Sets** with electric motors.
- SHAVING SETS**, Shaving Mugs and Brushes, Safety Razors, Card Games, Fancy Playing Cards in Leather Cases.
- BOOKS**—All the late books, Large Assortment, Reprints, Leathered Covered Poems, Leather Bibles and Testaments.
- TINKERTOYS**, Building Blocks, Doll's, the kind that will not break. Candles and Holders, Potted Plants, Cut Flowers, Bulbs.
- XMAS DECORATIONS**, Seals, Tags, Tape, Cord, Crepe Paper, Holly Paper, Festoons, very choice Engraved Christmas and New Year's Cards, Package Perfumes.

AT C. I. CLOUGH'S.

Pomona Grange.

Tillamook County Pomona Grange met in Cloverdale Wednesday and continued in session until 2 o'clock Thursday morning. There were members present from every corner of the county.

Among the officers elected were W. Christensen, Master; Mrs. Dunstan, Overseer; R. Y. Blalock, Secretary; Geo. R. McKimens, Treasurer. The names of the balance of the officers were unable to get.

The county budget was discussed and a resolution passed recommending the passage of the \$15,000 for the Little Nestucca Road. They also recommended the cutting out of the budget the \$2000 for a county library. They went on record as not favoring paying \$500 for county veterinary and a motion to disburse with the county agriculturist was defeated by a small majority. They recommended that the budget contain \$4000 for the completion of the Sandlake road.

The program and entertainment were pleasing features of the session. They adjourned to meet at Pleasant Valley the first Wednesday in March.—Courier.

Harry Viereck Goes to England.

Frank Viereck, a resident of Astoria, yesterday received word that his brother, Dr. Henry C. Viereck, of Philadelphia, sailed from that city on December 2, for England where he will become an officer in the British army, medical department.

Dr. Viereck is a son of Mr. and Mrs. Samuel Viereck, well known residents of Tillamook where Mr. Viereck is proprietor of a bakery. The young doctor formerly lived in Tillamook and Astoria and was also a resident of Portland for several years, living at 495 East Pine Street.

He is an honorary member of the Multnomah Amateur Athletic Club and graduate from the University of Oregon. He is also a graduate of the medical department of the University of Pennsylvania and belongs to Alpha Tau Omega and several other college fraternities.

He was prominent in student affairs at both Oregon and Pennsylvania universities and was married only last year in San Francisco to one of the popular young society women of that city. He will be accompanied to England by Mrs. Viereck.

Dr. Viereck for the past year or two has been actively identified with the Medico-Chi hospital in Philadelphia where he has been practicing.—Astorian.

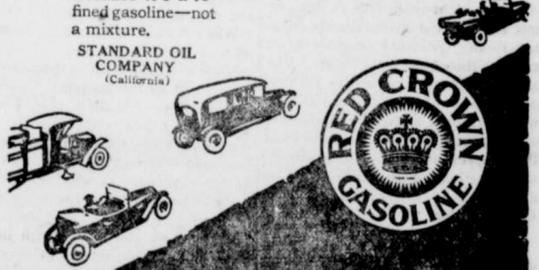
Garibaldi Defeats Tillamook.

The Garibaldi Athletic Club and teams met on the local floor Friday evening and the local team was defeated 28 to 24.

Those who failed to witness this contest missed a game that was clearly up to the standard of any played last year and was clean and fast throughout, showing none of the ruggedness of early season games. The visitors deserved a victory and the score just about measures the playing of the teams.

These two teams will meet again next Friday evening at Garibaldi where the High School boys are determined to even up the count between the two teams.

ALEX. McNAIR & CO.
GENERAL HARDWARE
Kitchen Ranges and Heating Stoves.
THE BEST STOCK OF HARDWARE IN THE COUNTY.
See Us for Prices Before Ordering Elsewhere.

More users every day
Because it's a refined gasoline—not a mixture.
STANDARD OIL COMPANY
(California)


Tillamook people will have an opportunity to see the local boys in action against other high schools this season as McMinnville High School plays here Jan. 13 and Newberg High School Jan. 27. Our team between semesters will play several games in the Willamette valley and enthusiasm at the high school is at high pitch.

Notice of Sale.
Notice is hereby given, that the undersigned, executor of the estate of Mattie E. Oliver, deceased, will on and after the 29th day of December, 1916, sell at private sale the whole, or any portion thereof, as may be necessary, of the following described real property, situate in Tillamook County, Oregon, to-wit:
Lot 8, of Block 12, of Necarney City, and Lot 4, of Block 7, and Lots 4 and 5, of Block 8, in Tohl's Addition to Nehalem City.
Said sale to be made in pursuance of an order of the County Court of Tillamook County, Oregon, made on the 24th day of November, 1916. Said sale will be made for cash or upon such terms as may be approved by the County Court.
Bids will be received by the executor at his residence in Nehalem, Oregon, from and after the above named date.
Dated this 25th day of November, 1916.
Herbert V. Alley,
Executor of the Estate of Mattie E. Oliver, Deceased.

Cough Medicine for Children.
Mrs. Hugh Cook, Scottsville, N. Y., says: "About five years ago when we were living in Gurbutt, N. Y., I doctored two of my children suffering from colds with Chamberlain's Cough Remedy and found it just as represented in every way. It promptly checked their coughing and cured their colds quicker than anything I ever used." For sale at Lamar's Drug Store.

H. T. Botts, Pres., Attorney at-Law.
John Leland Henderson, Secretary, Treasurer, Attorney-at-Law and Notary Public.
Tillamook Title and Abstract Co.
Law, Abstracts, Real Estate, Insurance.
Both Phones.
TILLAMOOK—OREGON.

Brave the Wind AND STORM
in the best wet weather togs ever invented
the FISH BRAND REFLEX SLICKER
(PATENTED) \$3.00
and **PROTECTOR HAT 75¢**
Dealers everywhere
Our 80th year.
A. J. TOWER CO. BOSTON



MARIE L. HOLDEN
Teacher of Piano.
Assistant to Mrs. E. E. Koch. Lessons given at the home if preferred. Terms reasonable.