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# Automobile Section

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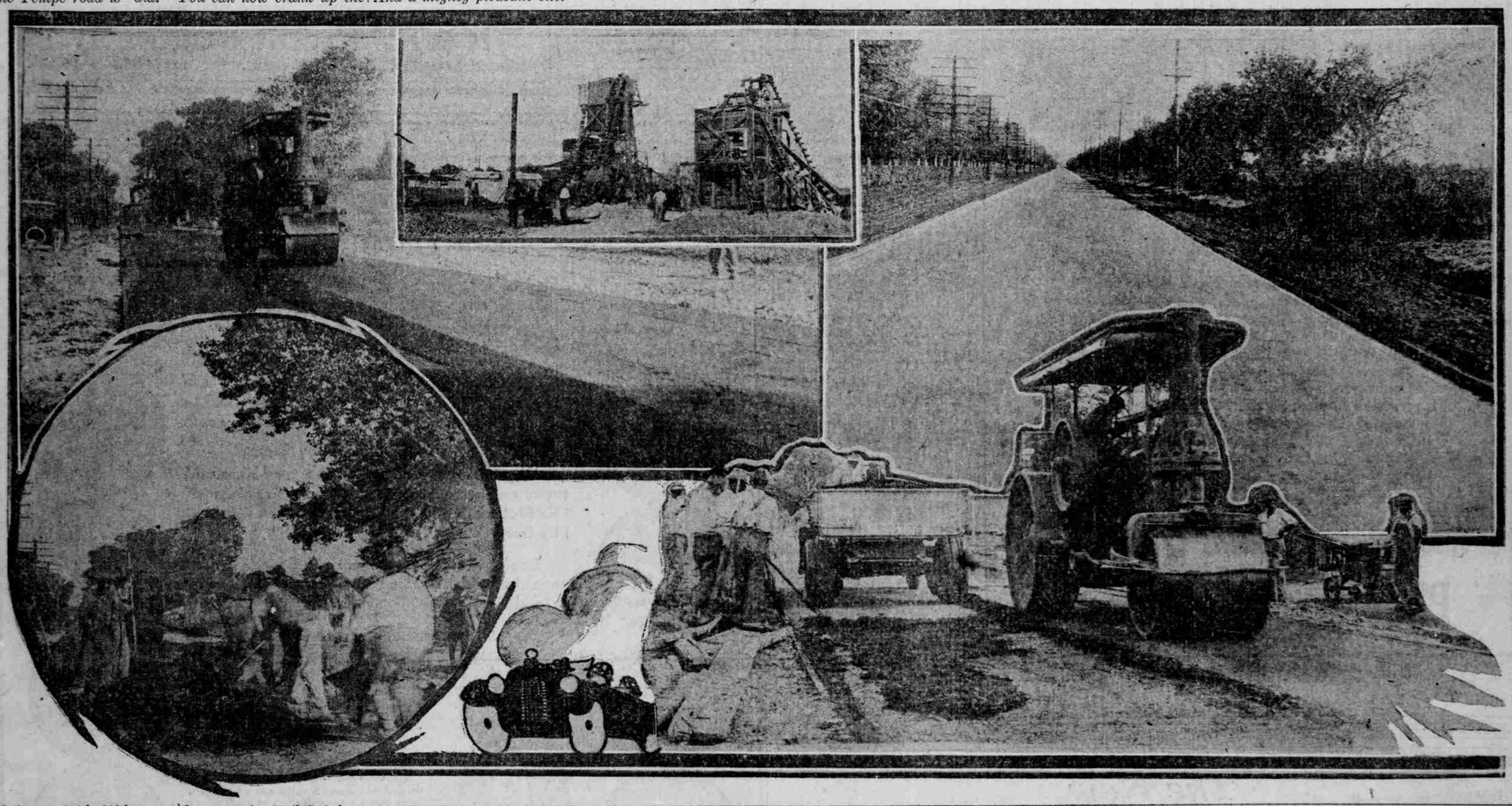
# LAST REMAINING STRETCH OF HIGHWAY BETWEEN PHOENIX AND SOUTHSIDE COMPLETED

*At last the connecting link of highway between the north and south sides has been completed. No more will the motorist have to hop, skip and jump over a three-mile stretch of chuckholes and young mountain peaks. The Tempe road is "did." You can now crank up the family chariot, tour around through Glendale, Cashion, Tolleson and other points west of Phoenix and then come sailing back through town and drive all the way down to Gilbert on pavement. Some drive to be sure. And a mighty pleasant one.*

*The three-mile stretch past the State Institution on the Tempe road has been a bugaboo to car owners for years. It seemed that nothing would ever be done about it. If a car owner ever went over it in one direction he'd go ten miles out of his way to keep from crossing it again.*

*Let's all give three cheers! The Tempe road is "did"!*



Perhaps no stretch of highway ever held more terrors for its length than the three-mile stretch of the Tempe road from 16th street to the Grand Canal. It veritably seemed that this three miles held more holes, more sharp bumps and more ruts than anything the average car owner had ever tackled before in his life. It was even worse than the old Grand avenue road to Glendale. One could at least hang on with both teeth by traveling at 30 miles an hour over that road—or so fast that he would not have time to drop out of sight, but the Tempe road—nothing doing there! The faster one drove the worse it got. The only way the road could be driven with anything short of agony was to put the car in reverse and back over it.

But times have changed. No more will the hospital claim victims with broken ribs, dislocated shoulder straps and with one eyebrow missing, for the road has been paved.

The contractors on Thursday finished laying the pavement on this three-mile stretch, the last remaining portion of the road being opened to traffic on that day. The completion of this link, which extends easterly from Sixteenth street to the Grand canal, makes a completed hard-surfaced road between Phoenix and the towns of the south side.

For some time this stretch in front of the Asylum was the only unpaved portion between Phoenix and Tempe, and those who travelled the highway retain, very probably, a clear impression of the rutty oiled road that existed there. The paving of this road marks another step forward for Maricopa county. The benefits of paved roads are being demonstrated to the people of the valley every day, and the paving of this important link—one of the heaviest traveled roads in the country—will play an important part in the development of the south side.

This three mile stretch of pavement is also of particular interest because it is constructed of asphaltic concrete in both base and surface—a type commonly known as black base. It will furnish an interesting comparison with the cement concrete road that joins it on the east, and is of interest to the people of the county at the present time, because there will soon be available $4,500,000 of highway bond money to be spent in constructing the remainder of the county system. It is proposed to call for bids on this type as an alternate.

Asphaltic concrete base and surface pavements have been in use in the Salt River valley for eight years—principally in the City of Phoenix, and have demonstrated that the type is successful under local soil, climatic and traffic conditions. There has not been one failure in the several hundred thousand yards of this type, laid in the valley. There has been some tendency on the part of people in the valley to confuse this type of construction with oiled caliche roads, such as that which existed on the Tempe road, where the asphaltic concrete pavement has just been laid, with the Tarvia Macadam pavement on West Washington street in Phoenix, and with the Oil Macadam pavement on North Central avenue, north of Palo Verde avenue. The asphaltic concrete base and surface pavement is recognized as a successful, modern highway type, and is considered standard construction by the United States Bureau of Public Roads, and by numerous State Highway departments.

This type is extensively used in Oregon and California highway work, in both state and county systems—the first pavements of asphaltic concrete on the west coast having been laid in 1894. The Oregon state highway system contains 278 miles of this type, and the California highway commission has this year awarded contracts for 20 miles. The fact that the California highway commission are now letting contracts for this type of road is of great importance, because of the wide experience had in that state with highway types.

**Under State Direction**

The Phoenix-Tempe pavement was built under Arizona State Highway contract, a portion of the construction costs being paid with Federal aid funds—the United States Bureau of Public Roads having approved the plans for the road. The pavement has a total depth of six inches—a four-inch base and a two-inch surface—and is 18 feet wide. It was built at a cost of about $24,800 per mile—this cost, including pavement and grading, representing quite a material reduction from the cost of the county roads.

The asphaltic concrete mixture is composed of approximately 95 per cent rock and sand, with five per cent asphalt as the binding material. The accompanying photographs show the central plant at which the material was prepared, and the various stages in the construction of the road—the spreading and rolling of the base course—the spreading of the surface course over the completed base, and the finished rolling of the surface.

In preparing the asphaltic concrete mixture at the central plant, a definite quantity of rock or gravel and sand, scientifically graded to produce a maximum density, was heated and mixed with just sufficient asphalt to thoroughly coat all the particles of mineral aggregate. This mixture was then placed in trucks, and hauled to the road.

In constructing the road, the subgrade or earth base was prepared by plowing, watering and rolling until thoroughly firm, so as to be unyielding. The hot asphaltic concrete base material was then spread on the subgrade, and rolled with a 14-ton roller until the roller wheels left no marks on the surface. After several hundred feet of base course had been laid, the two inch surface course was put on and rolled with the 14-ton roller, until thorough compaction had been secured. The surface course is very similar to the base course, the only difference being in the size of the mineral aggregate used.

Those who have witnessed the building of this road will have observed the substantial nature of the asphaltic concrete construction, and will have noticed that the completed portions of the road were opened to traffic a few hours after being laid.

**Cushion Qualities**

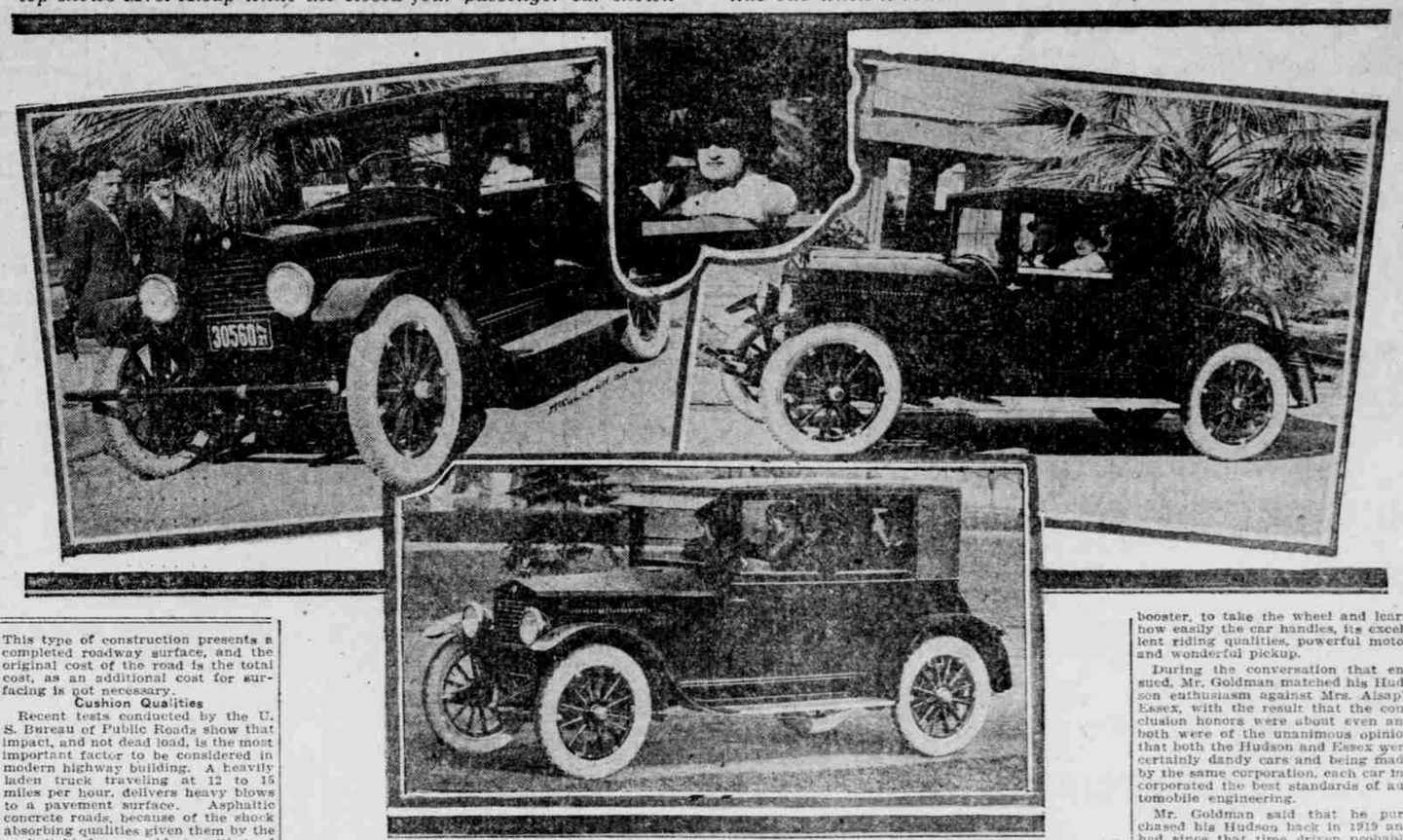
Recent tests conducted by the U. S. Bureau of Public Roads show that impact, and not dead load, is the most important factor to be considered in modern highway building. A heavily laden truck traveling at 12 to 15 miles per hour, delivers heavy blows to a pavement surface. Asphaltic concrete roads, because of the shock absorbing qualities given them by the asphalt binder, are able to withstand this constant pounding, and will carry the heaviest loads without injury. This high resistance to impact forces explains the success had with relatively thin pavements of the type under concentrated truck traffic—and accounts, in part, for the constantly increasing popularity and use of asphaltic concrete

This type of construction presents a completed roadway surface, and the original cost of the road is the total cost, as an additional cost for surfacing is not necessary.

The heavy traffic on the road, since its completion, indicates the great popularity and usefulness of this highway.

## Beauty, Refinement, Comfort, Luxury—The Essex Cabriolet

*Here is a close-up of the new Essex Cabriolet, recently purchased by Mrs. Guy Alsap. A smarter and more comfortable closed car would be hard to find at any price. The insert at the top shows Mrs. Alsap while the closed four passenger car shown at the bottom is the new Essex Royal Coach which is expected to arrive in Phoenix this week. According to Arch Dulmage, this new Royal Coach is an eye-opener. He expects a considerable hub-bub when it rolls in.*



With an eye to the practical as well as the beautiful, women are more and more accepting responsibility and matching their judgment with those of the masculine gender.

That Phoenix women are no exception to this new romance in the general scheme of existence is shown by the fact that Mrs. Guy Alsap, one of our popular young matrons, has just bought an Essex cabriolet. As shown in the picture, Mrs. Alsap is showing her new car to Eugene D. Goldman of Phoenix and San Francisco, while A. C. Dulmage of the local Hudson and Essex agency, who is standing on Mr. Goldman's left, is enjoying the conversation between the two motor enthusiasts. Mrs. Alsap, after pointing out the many salient features of the Essex, invited Mr. Goldman, who, by the way, is an ardent Hudson booster, to take the wheel and learn how easily the car handles, its excellent riding qualities, powerful motor and wonderful pickup.

During the conversation that ensued, Mr. Goldman matched his Hudson enthusiasm against Mrs. Alsap's Essex, with the result that the conclusion honors were about even and both were of the unanimous opinion that both the Hudson and Essex were certainly dandy cars and being made by the same corporation, each car incorporated the best standards of automobile engineering.

Mr. Goldman said that he purchased his Hudson back in 1919 and had since that time driven probably 14,000 miles and that this mileage was accomplished without the least mechanical trouble. The Hudson, he said, was always ready to go and could be depended upon to bring him back in comfort and right on schedule, whether it carried seven passengers or only one. He has driven to San Francisco and back to Phoenix several times, and has toured most of California, including the Yosemite valley with its steep grades and rough going. Mr. Goldman also drove his Hudson super-six touring car to Lake Tahoe, Cal.; Crater Lake and Klamath Falls, Ore., as well as to Fresno and Bakersfield and up and down the coast.

In speaking of motoring in California, Mr. Goldman said that the Essex was very popular in 'Frisco as well as throughout the entire state of California. He said that he had owned several makes of automobiles, but that he enjoyed his Hudson best of all. He said that if he were buying another car, it would be a Hudson or an Essex. The Essex car, he said, was virtually a smaller Hudson and incorporated all the features and refinements that are so essential to satisfactory motoring.

## *Will Build Light Car, Air-Cooled, To Sell At $475*

TOLEDO, Dec. 10.—(Special)—A 1000-pound car that will sell for $475 is to be manufactured here by the Automotive corporation, officials of this concern announced here today Production will commence about January 1.

According to the specifications, the new car will be air-cooled and have four cylinders. The tread will be 48 inches and the wheelbase 95 inches That it will be a sensation in the light car field is regarded as certain, although the fact that the tread will not be of standard width will operate to restrict its use over many roads However, the economical features of the car are expected to be a revelation to the motor world.

The Automotive corporation was originally incorporated for the manufacture of tractors but plans in this respect have been abandoned temporarily.

## *Shipping Perfecto Axles To Hawaii*

Frank Free, state distributor of Perfecto Two-Speed axles for Ford cars, is just in receipt of information concerning a large shipment of Perfecto axles to the Hawaiian Islands. According to Free the Ruckstell Sales and Manufacturing company is fast building up an export business for the California product known as the Perfecto two-speed axle for Ford cars, and already there are many Perfecto equipped Fords in the Orient and on the islands of the Pacific. The most recent order to come in for a shipment of Perfecto axles from the islands was an order received by Glover E. Ruckstell during the past week from Harry Gesner, Ford dealer at Wailuku, on the island of Maui, calling for a large order of Perfecto axles, to be shipped immediately.