THE JUNGNER ALKALINE ACCUMULATOR.

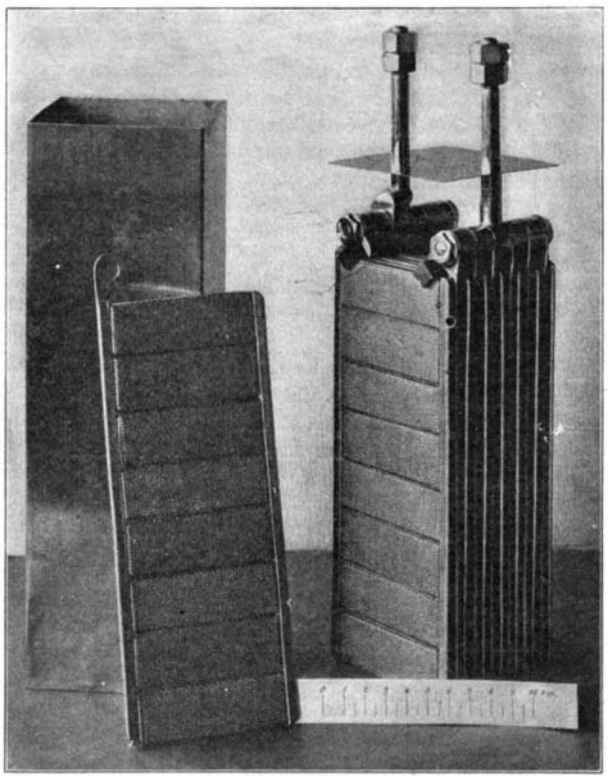
Although the name of Jungner has been heard occasionally in connection with the new type of storage battery which Mr. Edison has perfected and placed on the market in this country, but few are acquainted with his claims to recognition as the original inventor of the alkaline accumulator with unchangeable electrolyte. A complete statement of these claims, as well as an illustrated description of the development of the Jungner battery, will be found in the current SUPPLEMENT.

The illustration we present herewith shows the appearance of the plates and jar of the latest type of Jungner cell, such as is now being manufactured in Sweden and Germany. The plates and pockets of active material are fewer in number than those in an Edison cell, and the pockets are thicker and arranged horizontally instead of vertically. The construction of the plate is also different. Instead of expanding numerous pockets in a thin sheet-steel grid, Jungner uses larger and fewer pockets placed in a frame and running the entire width of the latter. The fewer plates would perhaps tend to make less complication and chance of short-circuiting, but otherwise they have no special advantage; and the more numerous and thinner briquettes of active material employed in the Edison cell, together with the smaller space between plates, evidently is advantageous from the fact that with this cell an average working voltage of 1.24 is had, while with the Jungner cell the mean difference of potential is 1.15. The following are the specifications of the smallest sized cell made by the Kolner Akk. Werke, at Kalk, near Cologne: The cell has five positive plates of nickel and four negative plates of iron. Its capacity at a three-hour rate of discharge is 60 ampere hours, and at a ten-hour rate, 68 ampere hours. The mean voltage on discharge is 1.15 volts. A 30 per cent solution of caustic potash is used as electrolyte. The size of the containing jar is 300x84x72 millimeters (11.81x3.30x2.83 inches).

We refer the reader to the article in the SUPPLEMENT for further particulars regarding this new battery, which is said to be practically indestructible and to be capable of being manufactured at no greater cost than the best lead batteries now on the market.

A RECORD TRANSCONTINENTAL AUTOMOBILE TRIP.

The best previous record for an automobile running under its own power overland from San Francisco to New York was beaten by 28 days upon the arrival in this city, on September 3, of Messrs. L. L. Whitman and C. S. Carris in a 10-horse-power, four-cylinder, air-cooled Franklin runabout, upon which they had made the 4,500 miles in 33 days without any serious mishaps. The start was made at 5 P. M. of August 1, and the arrival in New York took place at 12:30 P. M., of September 3. The first and last days' runs were short ones of only 50 miles, and it is probable that if the tourists had traveled a little longer on these and some of the other days when the roads were fairly good, they could have reduced the record to exactly thirty days, or, in other words, have cut it cleanly in half. That this was quite possible is shown by the fact that a record trip from St. Louis to New York, a total distance of 1,300 miles, was completed on September 6 by a Franklin machine driven by A. C. Halsey and W. K.

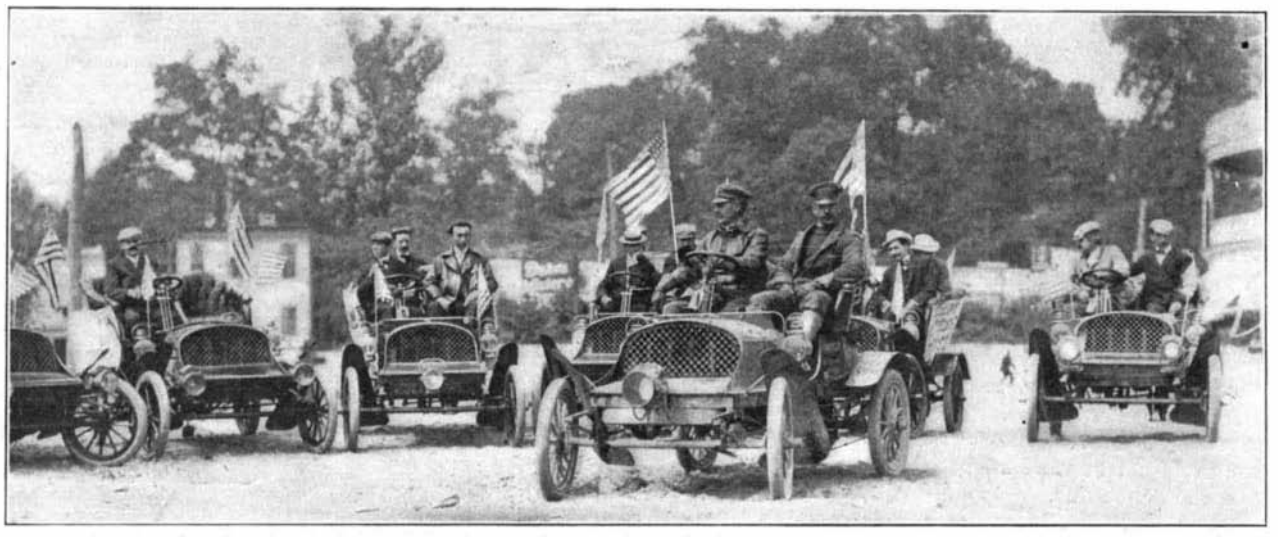


JAR, PLATE, AND ASSEMBLED ELEMENT OF THE JUNGNER ALKALINE STORAGE BATTERY.

Seaman in 5 days and 2 hours, over roads that were in many places extremely muddy, and part of the time through rain. That this particular make of air-cooled motor car was speedy and had endurance, was demonstrated on the track and in the New York-Pittsburg test of last October; but that it could so successfully break all records in a long transcontinental trip over roads, trails, mountains, and across trackless wastes of alkali and sage brush, was something that came as a surprise to all automobilists. The reasons for the success of the record-breakers may be found in the fact that Whitman had crossed the continent before (he made the trip last summer in 73 days with an Oldsmobile) and he thus was familiar with the route and with the conditions to be encountered. Secondly, very little rain was met with, and although the roads were extremely dusty, there were no muddy stretches to impede the progress of the little car. Thirdly, the car itself was very reliable, and, save for the chain breaking once, besides a couple of punctures and a broken spring the last day, there was no trouble in its operation. The air-cooled motor worked perfectly, both in the intense heat of the alkali desert and when running on the low gear in climbing the mountains. Samples of what it passed through in these places can be seen in two of our illustrations, while the third picture shows the machine as it entered New York, escorted by some similar machines.

The route followed this time was across California to Wadsworth, Nev.; thence to Battle Mountain, and then to the northern part of Utah, passing around Great Salt Lake, and on to Ogden, which was reached in 10 days, cutting the previous record exactly in half. From Ogden the tourists went to Allen and Laramie, Wyo., and thence to Denver, Col., which was reached in 16½ days, as against 30 days for the best previous record. From Denver the route lay across Nebraska to Omaha, and through Iowa and Illinois to Chicago. The 3,300-odd miles to the Windy City were covered in 25 days, or less than half the time of Fetch's record with the Packard (51 days). Eight days were consumed in reaching New York, although the above-mentioned record of another Franklin from St. Louis to New York—some 300 miles further—in 81 hours 38 minutes 17 1-3 seconds actual running, proves that this record could easily have been brought down to the one-month mark.

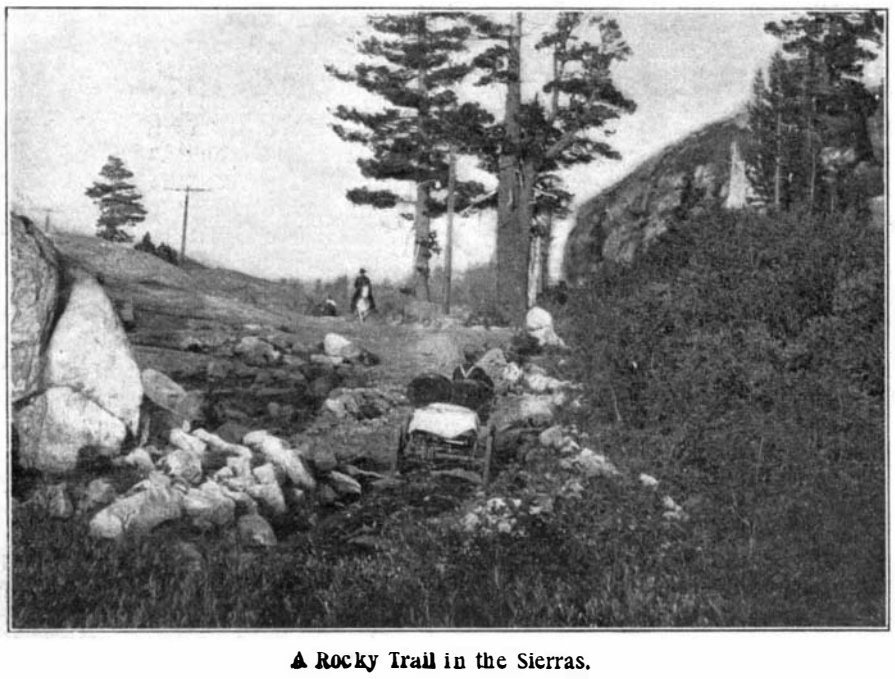
No motor could be submitted to a more severe test than the little four-cylinder air-cooled one on the transcontinental Franklin car underwent, and this test has again proven the entire practicability of the small multi-cylinder air-cooled motor, even when a fan is not used to cool it.



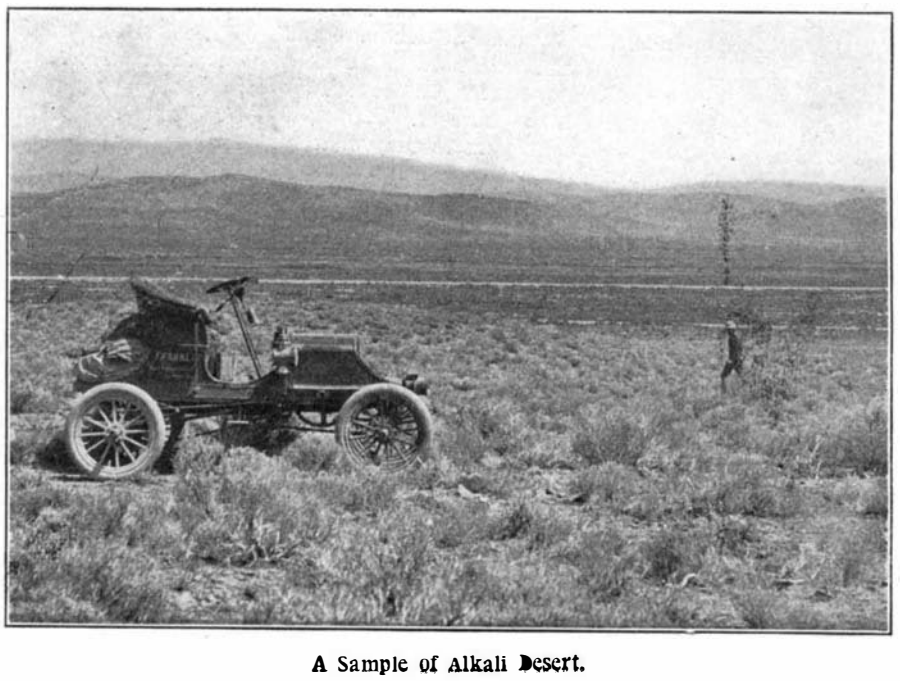
The Arrival in New York, Escorted by Some Similar Cars.

Specimens from the Antarctic.

The first consignment of specimens secured by the "Scotia," of the Scottish Antarctic expedition, has arrived in Edinburgh together with several of the scientific instruments employed during the voyage. The specimens, which were of an animal and oceanographic nature, were contained in 200 barrels and cases. The larger specimens upon their removal from the cases were immersed in specially-prepared zinc tubs containing methylated spirit and provided with rubber-rimmed lids, thus constituting an excellent medium for preservation. The classification of the specimens secured by Dr. Bruce will occupy several years.



A Rocky Trail in the Sierras.



A Sample of Alkali Desert.

THE RECORD TRANSCONTINENTAL TRIP OF AN AIR-COOLED MOTOR CAR