

Rocket Auto May Herald New Era

Transportation

A new method of transportation with the motive power furnished by spurts of expanding gases, like the trail of a Fourth-of-July rocket, is about to make a bid for practical success.

After secret experimental development, a rocket automobile has been given speed tests at the racing track of the Fritz Opel motor-car factory at Russelsheim, near Frankfurt, Germany, where it was built. Speeds of slightly over 60 miles an hour were attained eight seconds after the start.

A demonstration before experts at the Avus racing track in Berlin is scheduled for the near future. As the speeds on this track are limited to a hundred miles an hour, plans are under way to utilize later a stretch of railroad track which has been offered for this purpose by the German States Railways.

Tests of the rocket automobile are believed to be merely preliminary to the construction and launching of a rocket airplane capable of arising to heights that ordinary propeller-driven airplanes cannot possibly attain. Journeys to other planets across the great distances of airless space are theoretically possible through the use of the rocket exhaust kick as the motive power, for experiments show that the kick of the exploding rocket charge is just as effective in a vacuum

where there is no air as it is under ordinary conditions where there is plenty of atmosphere. Propellers of ordinary airplanes need the air to work against. The rocket is effective in vacuum for the same reason that a rifle fired in an airless chamber would have the same sort of kick that it would in air.

The rocket airplane, once it reached the airless outer space or the upper rarified portion of the atmosphere, would attain great speeds because of the lack of air resistance.

The Opel rocket auto looks like a multiple-barrelled piece of light artillery in speedy retreat. From the rear of the car project twelve large tubes arranged in a rectangle. From these tubes the exploding gases emerge with terrific kick, which sends the car racing along the track. Any highly explosive mixtures can be used such as light gasoline, alcohol, or even pure hydrogen and oxygen mixtures which give the greatest expansion for the least weight.

The pioneer work on the rocket method of propulsion was done by Prof. R. H. Goddard of Clark University, Worcester, Mass., who has studied the problem for the past 19 years. He is now perfecting a rocket intended to travel into the rarified upper air and solve the mystery of its composition and conditions.

Ten years ago Prof. Goddard, a modern Jules Verne, interested the scientific world by publishing data supporting the practicability of a rocket flight to the moon. These researches were under the auspices of the Smithsonian Institution. He designed a rocket that could achieve a speed of 6.6 miles a second, nearly 400 miles an hour, a speed that would allow it escape from the gravitational attraction of the earth. The journey to the moon, at a still greater speed, could be made in eleven hours. The arrival of the rocket, which would not carry a pilot, would be signaled from the new moon's dimly lighted surface by an immense explosion of flashlight powder contained in the rocket's nose.

The chief utilization of the rocket method of propulsion will probably be in the airless outer space because of the low efficiency of the method. The rocket conveyance is self-consuming since it uses fuel rapidly and only a small amount of the energy in the fuel, whether gasoline, explosives or hydrogen and oxygen gases, can be made to kick the rocket along. Where the ground, as in the case of an automobile, or the air as in the case of an airplane, exists, it is better to use the wheel or the propeller to obtain traction.

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Edison Could Explore Says Nobile

Geography

Gone are the days when the Arctic's secrets must be wrested by strong men skilled in ice travel. Today Edison himself might travel in an airship to the arctic and make his own observations.

Such is the opinion of General Umberto Nobile, commander of the dirigible Italia, now engaged in scientific exploration of the arctic regions. In a recent communication to the American Geographical Society General Nobile summarized as follows the revolution in exploration brought about by aviation:

"Aviation, which is bringing about profound innovations in every human activity, has opened a new era in the history of polar exploration.

"Nobody can doubt the superiority of aircraft—airplanes or dirigibles—

as a means of exploring the unknown regions of the earth. We can truly say that aviation has produced a revolution in this field. In a few hours it is possible now to make a journey that in the past required months and years of travel with ships and sledges. From Spitzbergen we reached the North Pole in the Norge in sixteen hours, while Nansen in one year and eight months reached only latitude 86 degrees 14 minutes; and in only thirty hours we traversed the unexplored area between the pole and Alaska for a distance of 2000 kilometers.

"One radical change that has taken place in the matter of polar exploration is this: Experts who know how to travel on the ice are no longer needed, and men who know how to

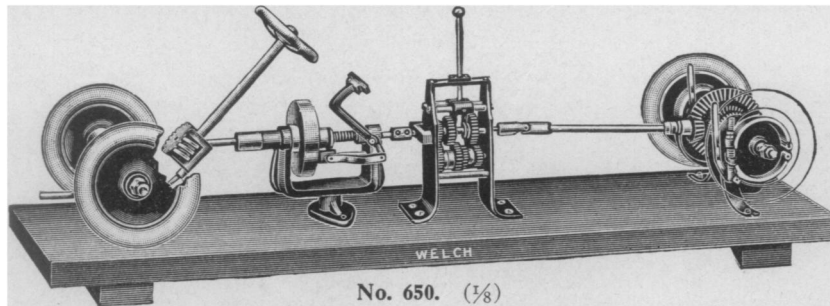
navigate the air take their place. In addition, it is no longer necessary that the scientists of an expedition be men strong enough to support long journeys on the ice and trained in making them. Edison could be a member of an expedition of this kind and read his own instruments himself.

"Certainly there is no field of human activity so well suited as polar exploration to impart a realization of the great contribution that aerial transportation is bound to make to human knowledge; in one year it is possible to reveal what has been sought for centuries."

Unknown Land Objective

One of the few remaining unexplored areas of the world is the first objective of General Umberto Nobile's exploratory (*Turn to next page*)

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Edison Could Explore—Continued

party on the dirigible Italia, now at Spitzbergen and about to set forth on an arctic voyage.

Northern Land, also called Nicholas II. Land and Lenin Land, is known only on its eastern coast. The western coast and its extent toward the west are entirely unknown since the Russian ice-breaking ships which in 1913 discovered the new land were prevented by ice from proceeding around the northern end of the large island. The map is a blank in much of the area between the 100th and 80th meridians of longitude south of the 80th degree circle. This is the area that General Nobile hopes to map and explore scientifically.

Northern Land is totally uninhabited and is not even visited by the nomadic tribes of the Siberian tundras farther south upon the mainland. But reindeer, lemmings, polar bears and birds do make it their home.

The discovery of this new land was made just before the World War on the third voyage of the Russian ice-breakers Taimyr and Vaigach under the command of Captain Vilkitski. The presence of land close to Cape Chelyuskin, the portion of

the Siberian mainland just south of Northern Land, was unexpected since the cape was circumnavigated nearly two hundred years ago by the Great Northern Expedition of 1734-1743 and later by the explorers Nordenskiöld, Nansen and Toll. At the same time that Northern Land was discovered, two islands were also located for the first time. These lie southeast of Northern Land and are now known as Little Taimyr Island and Starokadomski Island. The explored coast of Northern Land consists of cliffs more than a quarter of a mile high between which glaciers descend. This area is characterized by heavy ice conditions.

After the exploration of Northern Land, Nobile intends to go to the North Pole and search for possible land in that portion of the unknown Arctic Ocean not visited by his previous dirigible expedition and the recent Wilkins flight.

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A magnet more than twice as powerful as ordinary tungsten steel magnets can be made from cobalt steel.

Only two per cent of the trees struck by lightning in national forests catch fire, but this causes 17 per cent. of the forest fires.

Cricket fights are a popular sport in China, and a champion cricket is valued at \$100 or even more.

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