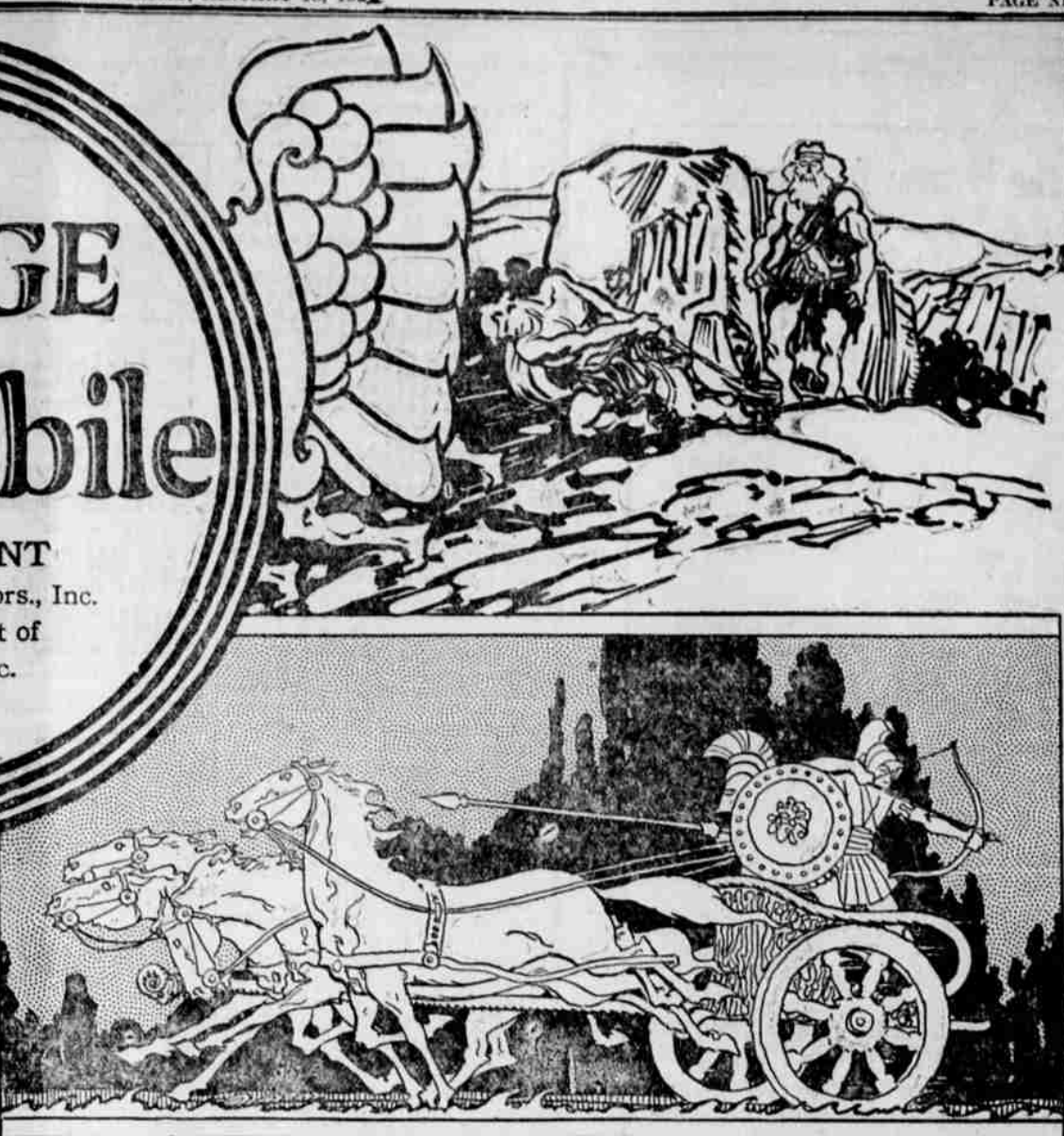


# From SLEDGE to Automobile

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## EVOLVING THE AUTO-MOBILE

1. Primitive man makes a sledge, and ages later puts rollers under it.
2. Prehistoric man invents wheel and fashions rude cart.
3. In 14th Century B. C., Hittites make war on Egyptians with 2,500 armored chariots—precursors of modern tanks.
4. Chariot races of early Christian era foreshadow speedway classics.
5. Ornate state coaches provide limousines for early modern period.
6. In 1796 Cugnot makes first steam carriage.
7. In 1887 Levassor is said to have designed first automobile with internal combustion engine.

white man's progress has passed them by, but the Oriental still finds them satisfactory. The limousine of Eastern Asia.

Into Europe of the early eighteenth century came the steam-drawn horseless carriage, antedating the locomotive, a monster which was legislated out of existence before it was more than a score of years old. The velocipede and early bicycle shortly afterwards took its place. Limousines, these, of the Nineteenth Century.

Finally we reach the present, and "Home, James" sends our upholstered, comfortable vehicle gliding smoothly along paved streets. The limousine par excellence.

In the fourteenth century, coaches of the most elaborate design and finish were being made, but their use was mostly confined to royalty or those of ample means. The State Carriage of Bavaria, for instance, made in the early eighteenth century, was probably the most grotesquely ornate vehicle seen either before or since that time. It was hand carved with elaborate designs that covered every conceivable part, even extending down the spokes.

### Early Steam Carriages

In 1796 Cugnot made a steam carriage in France. It was a great lumbering affair that accommodated three or four persons. But the difficulties which beset the inventor in his efforts to navigate his creation and the dangers attendant upon such a task discouraged him. Nothing much was done with the steam carriage until 1802 when Richard Trevethick made one in England. This remained in the inventor's shop being improved or repaired, as the case might be, until 1824 when several other machines of the same design appeared. In fact it was during that year that a regular line of steam carriages ran between Cheltenham and Gloucester, covering the distance in the hair-raising speed of ten miles an hour.

### Speed Limit—Four Miles an Hour

The opponents to the steam carriage were so persistent and determined in their opposition that they were able to secure royal legislation which prescribed that at least three men must be employed in the carriage's operation; that a man must precede it while in motion with a red lantern or flag; that the maximum speed should be four miles an hour, and that they were forbidden ever to blow off steam. This was such drastic legislation that it discouraged further effort toward mechanical transportation for several years.

In 1885 Butler is believed to have built the first vehicle—a tricycle—propelled by an internal combustion engine. During the same year the internal combustion engine burning petroleum spirit was invented by Gottlieb Daimler, and thus were heard the infantile cries of an industry which was destined to become one of the economic giants of the civilized world. It was the beginning of the present automobile.

### Inventing the First Wheel

The sledge, the first means of human transportation and one that is still used in many civilized countries, was developed in prehistoric days. And from that time on, all things were dragged on sledges until another prehistoric inventor, many years later, evolved the wheel.

But for the wheel, we might still be carrying our burdens piece by piece, walking miles in our labors and making an awful fuss about the whole business.

Chariots, the world's first real vehicles, were formidable conveyances, both in war and in peace. It not only required abundant skill to manage it, since at first the horses were hitched without traces and were free to roam more or less at will to either side, but the driver had to be most dexterous to keep his feet while his chariot was in motion.

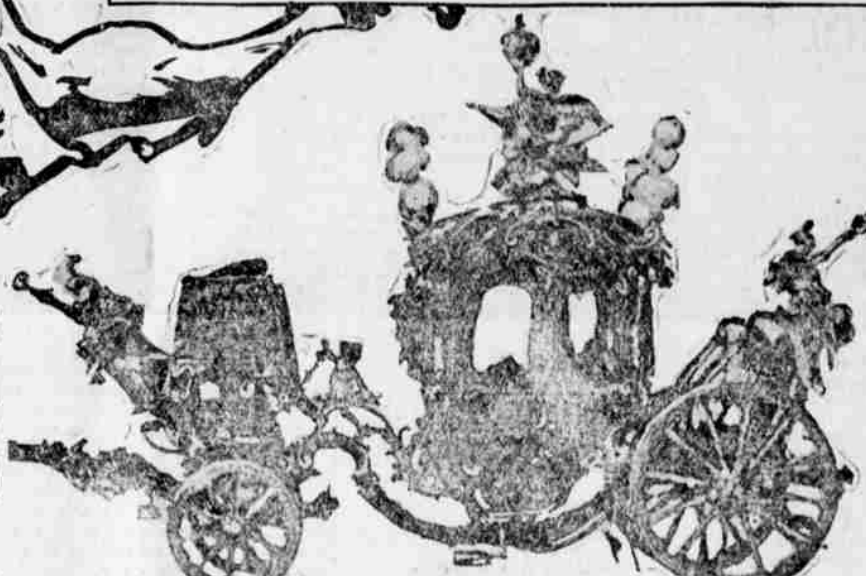
While the Egyptians are given credit for the development of the chariot par excellence, the honor is more properly accorded to the Hittites who became famous for their victories on the field of battle. In the 14th century, B.C., they fought Ramesses II and brought no less than 2,500 chariots onto the field which proved a force so irresistible that Ramesses beat an ignominious retreat. Most of these chariots were equipped with scythe-like knives on the sides and fastened to the spokes, so that everything within the path of the chariot was mowed down as it swept across the field.

Magnificence of Medieval Times  
The earliest English carriage of which there is any accurate historical record belonged to the twelfth century of today!

Limousines of Ancient Times  
The wheels of time and progress moved and the stately chariots, decorated, artistic, carried the statesmen, the tribune, the emperor in procession along the Apollon Way. The limousine of the Romans!

Another circle of the centuries and behold the elaborate state coach of the kings of Europe, great lumbering vehicles wherein progress was slow but the impression upon the peasants great. The limousine of Divine Right and nobility.

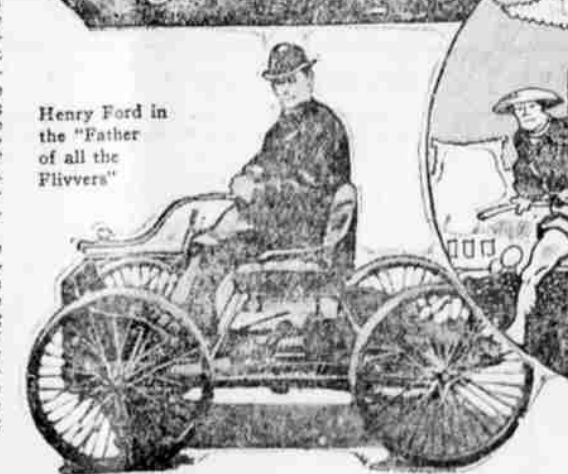
Into the Orient, a hundred or more years later, an American missionary introduced the rickshaw, that two-wheeled vehicle whose motive power was the barefooted coolie. His impromptu invention struck the Eastern fancy, and today in China, India or Japan will be found the same human propelled carts of light bamboo. The



Ornate State Coach of Eighteenth Century



Henry Ford in the "Father of all the Fiftvers"



The First Automobile

One of the most interesting points in connection with the development of the automobile is associated with A. M. Levassor, the first designer. He was a member of the firm of Panhard and Levassor, a French house manufacturing wood working machinery. During the Paris Exhibit in 1887 both Panhard and Levassor became interested in a motor propelled boat exhibited by Daimler. The boat made daily sailings on the Seine and attracted wide attention. After the exhibit, Panhard and Levassor secured the French patents for the motor in its application to the boat and then it was that Levassor made a design, using the motor as the propelling power for an automobile. He worked, of course, without precedent, but, curiously enough, there has never been any fundamental change made in the design which he first outlined.

### Risking Life and Limb in 1894

Progress in the general adoption of the automobile as an economic utility was slow until 1894. Those who had the hardihood to venture forth in a motor car were not only the subjects of much popular derision but they were also conscious of the fact that they were jeopardizing their chances of uninterrupted health to a very marked degree. In 1894, however, the Petit Journal of Paris, organized a trial run from Paris to Bordeaux and return. The winner covered the distance at the average rate of 15 miles an hour, but the event demonstrated to the world that the automobile would go more or less extended distances without blowing up or otherwise putting its occupants to extreme hazards, and that it had endless possibilities in its application to modern civilization.

### America Rises to Control Industry

The race for supremacy between the European countries and the United States in automobile building began. The English invented the

multiple clutch principle, the detachable wheel and the cylinder motor. The Germans produced their Mercedes car which, for several years, was the recognized leader, and the French developed several types that were extremely popular, being pioneers in the introduction of cars of the necessary power but of compact design.

Although the United States had met this foreign competition more or less successfully ever since 1904 when automobiles became a recognized means of transportation in this country, it was not until the war that definite leadership was taken.

### Six Billions is U. S. Investment

This has grown to a point where the United States is a recognized leader in the automobile field. Last year the value of exports of motor cars and parts was \$294,252,376 and the capital invested in the industry was over \$6,000,000,000. There were approximately 7,904,271 cars in operation in the United States and they consumed about 2,178,729,000 gallons of gasoline. At the present time there is a car for every 14 persons, a higher proportion than in any other country. What the future holds in store, even the most optimistic dare not venture to guess.

