

# The Development of the Automobile

**T**o hazard a statement as to the best record of the automobile today, when nearly every week brings forth a new claimant for honors, is to say the least, presumptuous, but it may be safely said that a mile a minute is approximately the highest speed

in 1m. 31s. and five miles in 7m. 36s., on his well known record of the road Red Devil, and there are several other contestants who have nearly matched him.

The speed of the motor vehicle of today, rivaling that of the average "flyer" on our railroads, has been a develop-

ment of the latter portion of the last decade, but the invention of the machine itself carries one back well into the past century. As France led in aerial navigation, so also to her credit is the first practical motor carriage, attributed to a Frenchman, M. Cugnot, who in 1769 produced one which may still be seen in the Conservatoire des Arts et Metiers in Paris. This country

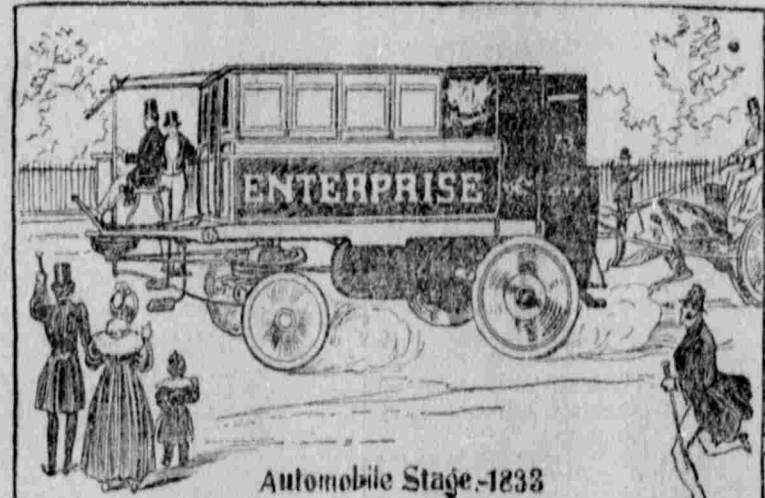
never made any use of them. They lay claim to gunpowder, to printing and to a host of other useful inventions, we know, and the tradition that Father Verrier, the learned Jesuit, when in China some time in the thirteenth century, saw a motor propelled by a jet of steam, may be taken "with a grain of salt." Without, however, going so far back for early examples of the "auto,"

we may be certain that it was in rather common use in England nearly seventy years ago. In 1833, in fact, a steam bus ran regularly between Gloucester and Cheltenham, and a speed of about twenty miles an hour was attained. This machine succeeded one that was used as early as 1828, which made from eight to twelve miles an hour, carrying six inside and twelve outside passengers. Another and improved vehicle also running in 1833 was noted for the ease with which it took steep grades, gaining a great reputation as a hill climber. But all these newfangled carriages encountered great opposition from ignorant people of the period, who threw obstacles in their way, not only

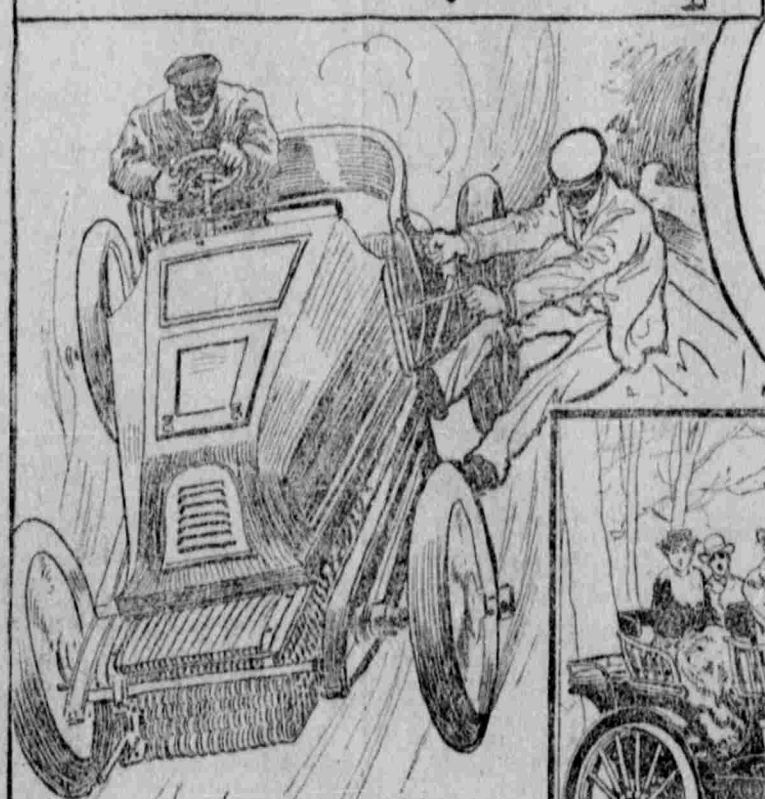
The first automobile contest of importance took place in 1894 at the instigation of the Petit Journal of Paris and was over the roads between Paris and Rouen. One hundred vehicles entered, but few kept up to the last, the race being won by a gasoline motor, which covered the distance of eighty-five miles in a little over five hours. The United States soon took up the race, and in 1895 a race was won here by a gasoline motor built in Massachusetts. The next year the British had a great contest to celebrate the modification of their stringent road laws, and there was also a race in France between Paris and Marseilles. In 1899 occurred the decisive contest of passenger carrying cars in Paris, upon which was based the radical revolution of the system in that city, the electric auto cars superseding horse drawn vehicles altogether. That was only three years ago, and at the same time London and New York, Washington and other large cities were experimenting with the autos with a view to their introduction as a means for city transit which has now become fairly general.

Having survived several protracted periods of neglect in the century and a third that has elapsed since its invention, the motor carriage, or automobile, has at last come to stay and has been accepted as an eventual substitute for horses. Poor equus will have to be relegated to the rear, it would seem, though for some time yet he will be a familiar and obnoxious feature of our streets. Now that speed, strength and comfort are promoted by the use of ball bearings, bicycle construction and pneumatic tires, now that the matter of speed is practically one of good roads and intrepidity on the part of the chauffeur and now that it has been demonstrated that an auto costs hardly more for fuel and repairs than a horse costs for his food, almost any one rich enough to pay the initial price of an automobile may indulge in the luxury of a spin upon his own machine.

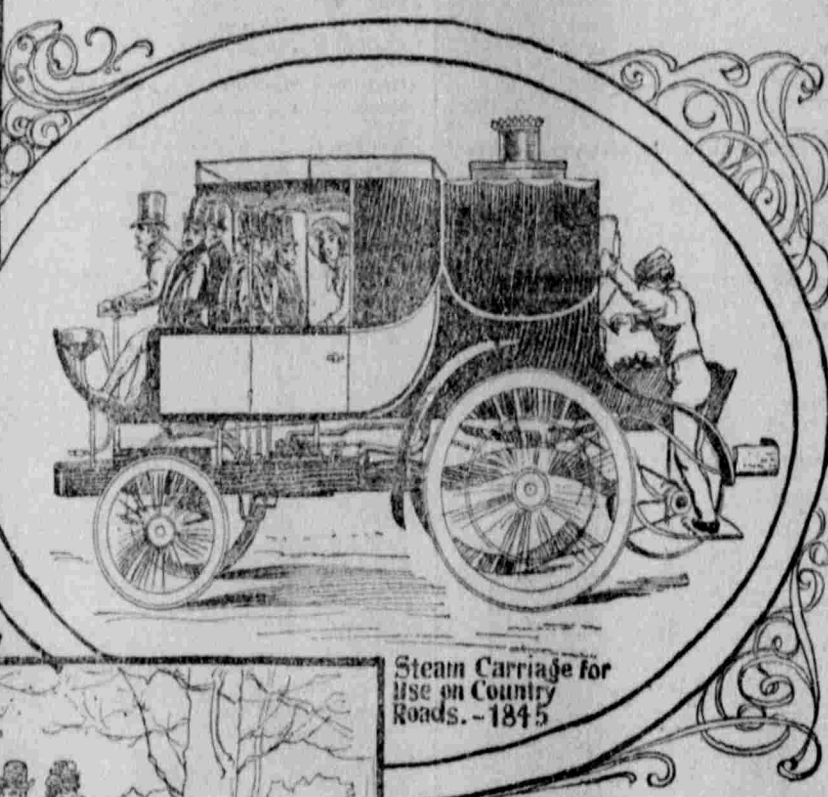
Scarcely a day passes without its chronicle of accidents through the eccentricities of the automobile, which has a most disagreeable habit of "skidding" on wet and clayey roads, sometimes takes a notion to blow up its boiler if a steam auto, to explode if a gasoline or unaccountably balk if an electric. The three different types—the electric, gasoline and steam motors—all have their advocates, but it would seem that the perfect machine is yet to be produced. It may be of one type or another, but will probably be a combination between the gasoline and electric. The great races, such as that from Paris to Berlin last June, when Fournier completed the 750 miles in 16h. 6m. and the populace went wild over the winner, have been won by the gasoline, it is true, but the steam and electric still have their devoted admirers. There is no type so easily managed as the electric, none so strong and economical as the steam and the gasoline, but likewise none so evil smelling and noisy as the latter. At the same time, it will be a survival of the fittest, and there is not the least doubt that the composite machine of the future, provided good road construction keeps pace with the auto inventors and the laws will allow it, will be able to do its hundred miles an hour.



Automobile Stage-1833



Racing Automobile, "Red Devil" owned by W.K. Vanderbilt, Jr. - 1901.



Steam Carriage for use on Country Roads - 1845



Up-to-date Family Automobile - 1900

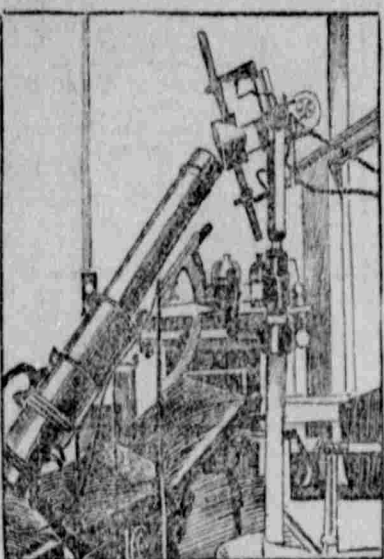
attained up to date. The great dash of Henri Fournier last month at Narragansett park broke a record then existing for speed on a circular course, but his mile in 1m. 7s. was surpassed the following week by Alexander Winton near Detroit, when he made a mile in 52.5s. and a run of ten miles in exactly 11 minutes. At Newport last August W. K. Vanderbilt, Jr., ran a mile

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**APPARATUS FOR "LIGHT CURE."**  
This is the newly invented apparatus for the cure of skin diseases by means



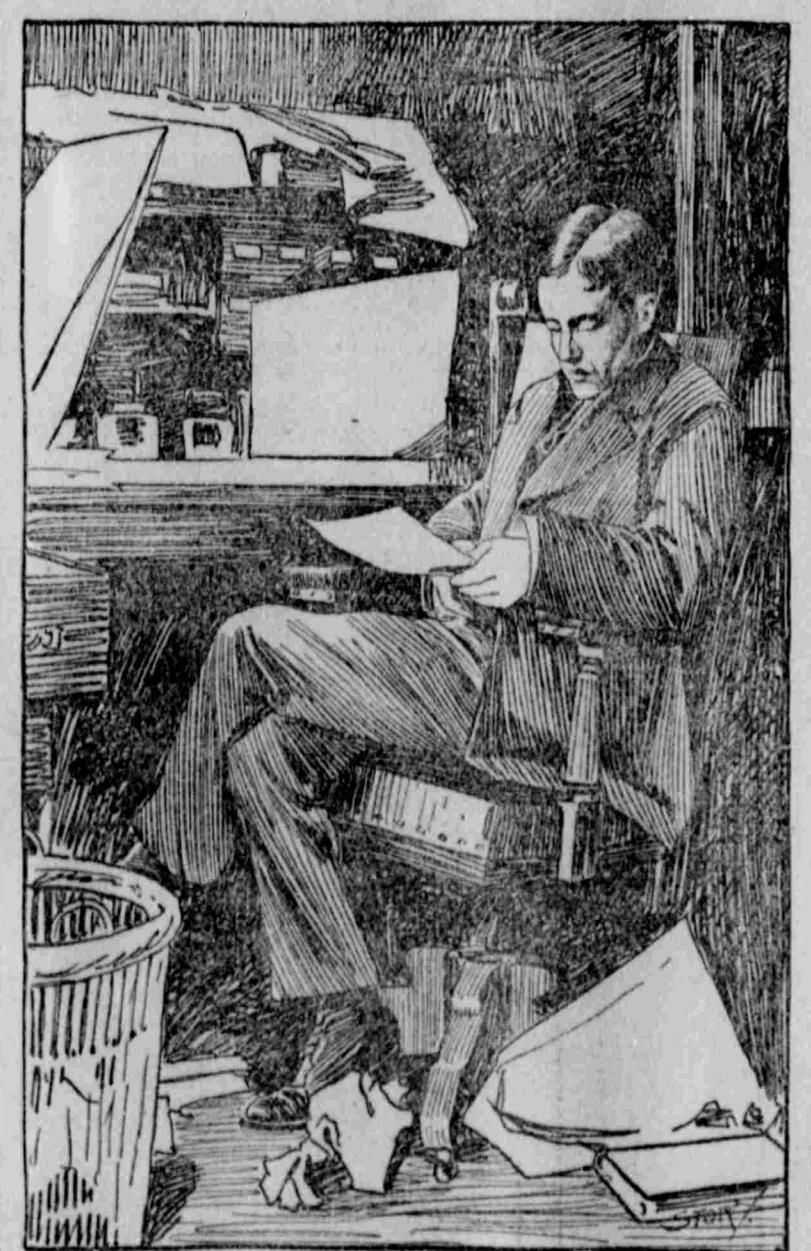
of the sun or electric light. It has been particularly successful in cases of lupus. The germs in diseases of the skin are killed by the concentration of the electric light down the tubes of the telescope from the cup shaped reflector containing glowing carbon points.

**CELTIC CHAIR RECENTLY FOUND.**  
One of the most interesting ancient relics ever found was that recently exhumed in Derbyshire in the shape of a curious stone chair believed to have been used by the Druids. At all events, the rude seat figured in the accompany-



ing illustration is probably of Celtic origin and has excited the interest of archaeologists who have made the Druids and their places of worship subjects of special study.

## JOSHIAH FLYNT, AUTHOR OF "POWERS THAT PREY."



[By courtesy of Collier's Weekly.]

Although he is known as Josiah Flynt and has written many magazine articles and several books over this nom de plume, Josiah Flynt Willard is the full name of the gentleman whose portrait appears in the accompanying illustration. Born in Appleton, Wis., 1869, he was educated at Berlin university, where he remained five years, and then adopted authorship as a profession. Having unusual powers of observation and a facile pen, he has described the doings of "hobos" and other dwellers in the "under world" with great exactness, obtaining his information by "tramping with tramps," as the title of one of his books expresses it, and associating with the lower classes in their lairs. He was so successful in ferreting out secrets that seemed to incupate the police of New York city, the information being published in his "Powers That Prey" last year, that he was for awhile, it is said, the object of a long but vain search on their part. His acute observations on the "world of graft" and municipal robbers in general are further given in the "Notes of an Itinerant Policeman" and have caused great consternation in the ranks of those he aims to expose.

## "RED HOUSE HARRY" WILSON.

The irreverent gamins of London have bestowed the title of "Red House Harry" upon the Rev. Harry Wilson, founder of palatial coffee houses, whose portrait is shown in the accompanying illustration. He is an enthusiast on "palace" building, declaring that by this means he can do a great deal toward wiping out the "public houses" in his parish. Make the coffee palaces as bright and attractive as the runshops, he says, and the habitues of the latter will easily become patrons.



## LIEUTENANT GENERAL FRENCH, SUCCESSOR TO GENERAL BULLER



The appointment of Lieutenant General J. D. P. French to succeed Sir Redvers Buller in the command of the British First army corps is a recognition of the debt which England owes that gallant cavalry leader who has stuck to the Boers so long and fought them so hard during the protracted campaign in South Africa. The appointment is "to take place when his services are no longer required" in the field, but that is rather vague in the face of conditions now prevailing and the continuous hard work he is performing. One of the many Irish born generals in British service, French, now nearly fifty years old, is frequently alluded to as the "Little Phil" of South Africa from his dash and gallantry. Before the outbreak of hostilities there he had seen fighting in the Nile expedition of 1884-85 only, but he won the battle of Elandsburg, harried the Boers on the Free State borders and culminated his brilliant achievements by the relief of Kimberley.

## A PORTABLE POLYCHROME FOUNTAIN.

The latest luminous fountain, shown in the accompanying illustration, is one that works without water and is also portable. It consists of a sheet



metal cylinder with a raised bottom furnished with several incandescent lights. In the center is a funnel shaped opening, through which are forced rice or wheat grains or celluloid balls to a considerable height, and which fall back into the receptacle, only to be blown up again. Light is thrown upon this "fountain" not only by means of the incandescent lamps underneath, but by a circle of others set in a reflector secured overhead. The polychrome effect produced by reflection is said to be exceedingly beautiful and deceptive.

## EFFECT OF AN EXPLOSIVE.

In the accompanying illustration is shown the effect of a powerful explosive set off under water. This experiment was recently conducted under the auspices of government officials and was satisfactory in every respect, the column of water which shot into the air several hundred feet proclaiming the great power of the explosive. As has been frequently announced, the



governments of the world are all experimenting with explosives in order to secure the most destructive. It is believed that the United States has obtained the most effective agent, the component materials of which are kept secret.

## PRIVATE OFFICE OF EMBASSADOR CHOATE.



The accompanying illustration from a recent photograph presents the private office of our ambassador to Great Britain, Joseph H. Choate, in the American embassy, Victoria street, London. It is a cozy but commodious apartment, devoted mainly to business. The walls are adorned with portraits, including ex-presidents of the United States and a portrait of the late President McKinley. This is the actual headquarters of the embassy, and here are conducted important diplomatic affairs by the ambassador, assisted by his trained staff. Mr. Choate's residence is at Carlton House terrace, where hospitality takes the place of statecraft.

## SCIENTIFIC AND OTHERWISE.

Herr Seeffhiner, as the result of studies upon the weight of electrical machinery as related to its output, states that his observations tend to show that up to a certain size the weight of materials per unit of power decreases rapidly with increasing capacity, but that with increase from this point the unit

sions are nearly 100,000 square miles larger than those of the United States, and, taking in the West Indies and Newfoundland, more than 200,000 square miles larger.

Mountain sickness, with the influence on the body of the weather, exercise and other conditions of living at various altitudes, will be better understood after the investigation now in progress in the

Alps by a party of physiologists led by Professor Zuntz.

The species of fungi that have been known to show luminosity are found by Professor D. McAlpine to number twenty, of which eleven belong to the genus Pleurozia, and five are peculiar to Australia. The luminosity is not due to phosphorescent bacteria, but to combustion—probably of excreted metab-

olic products—in the fungus itself. The light is thought to serve the fungus by attracting insects that scatter its spores.

Porto Rico has no debt. No country is more lightly taxed. It pays for no army or navy. It has no internal revenue taxes. It enjoys unrestricted trade with the United States. This amounts to a bounty on every ton of

sugar it raises. Its government is economical. Its chief charge is for schools. Brigandage and petty thieving have been suppressed. After all the strain and vicissitudes which war, hurricane, famine and the reorganization of its political and social system brought, it is awakening to a new life.

The key to the basile is now hanging on the wall in the hall of the old

home of Washington at Mount Vernon, Va. It was given to Washington by Lafayette.

The regular army of Sweden on a peace footing is composed of 34,229 enlisted men, 3,729 officers, 1,963 musicians, 548 engineers and 423 members of the staff, making a total effective fighting force of 39,114. Of these 6,891 are cavalry and 4,422 artillery.

## Kitchener's Former Ladylove and Her Fiance



The engagement of beautiful Lady Helen Stewart, daughter of the Marquis and Marchioness of Londonderry, to Lord Stavorace, son and heir of the Earl and Countess of Lichester, has set English society all agog on account of the great wealth and undeniable position of the twin whose portraits are herewith presented. Not much has been heard of Lord Stavorace except as the second lieutenant of the Third battalion Royal Scots, but of his prospective bride a great deal has been written in praise of her beauty, brightness and good nature. A certain gallant general now ed, but her present choice is approved by all others apparently. She is a devotee of outdoor sports and a fine yachtswoman, but was not with her mother, the handsome Marchioness of Londonderry, when she and the Prince of Wales met with their lamentable accident on board Sir Thomas Lipton's Shamrock II. last May.