5.00

A Prophecy-
fulfilled

Reprinting with some comments of our own Mr. Kaempffert's admirable article in

JUNE McCLURE'S

THE STANLEY MOTOR CARRIAGE CO.
NEWTON, MASS.

Foreword

WALDEMAR KAEMPFFERT

We try to be uniformly fair in our statements regarding the relative merits of steam and internal-explosive cars.

Closely drawn comparisons between the Stanley and any specific car of the present day would be convincing, undoubtedly, but might be unpleasant.

The car of 1951 is, however, anybody's car; and we feel at perfect liberty to point out the remarkable similarity between Mr. Kaempffert's ideal car of thirty-four years hence and the Stanley car which we offer you today.

Mr. Waldemar Kaempffert is the editor of one of the leading nontechnical scientific magazines of today, the *Popular Science Monthly*.

He needs no introduction. He has been telling the story of science, chemistry, engineering, and invention for twenty years in the language of everyday men and women.

While managing editor of the *Scientific American* he made a name for himself which is second to none in his line of work.

The article reprinted here was published in *McClure's Magazine*.

Mr. Waldemar Kaempffert's prophecy of the Automobile of 1951 is that of a man who has been analyzing the scientific and mechanical progress of the world for years.

He speaks as an authority, and what he has to say in this as in any other connection is worthy of your most serious consideration.

STANLEY MOTOR CARRIAGE COMPANY

The Automobile of 1951

By WALDEMAR KAEMPFFERT

This, the story in the large type, is the complete article as it appeared in June McClure's

THE OLD jingling horse car was the chrysalis out of which the electric trolley emerged. Out of Fulton's old "Claremont" that paddled her way up the Hudson River at the rate of eight knots came the twenty-knot "Mauretania." Ericsson's quaint "Monitor" was the grandparent of the modern super-dreadnought. So every great invention of our time has its outgrown prototype. Its future is dimly revealed in its past. Consider the wonderful mechanisms of today as steps in the development of a mechanical or electrical principle and the future of invention is disclosed.

Steam is the most highly standardized and perfected power in the world. Its leadership in every branch of industry has been well earned. Identically the same characteristics that have given it supremacy in all variable-speed, variable-load work adapt it perfectly to the automobile.

No one is so drearily conservative, so hopelessly unimaginative, as to suppose that the automobile has been brought so near perfection that it cannot be markedly improved. The truth is that the passenger car of our day is to the self-propelled vehicle of the future

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Think what a few years can do! Think of a world without sewing machines, without street cars and trains and aeroplanes and telephones and submarines and electric lights — without concrete and structural steel, without government postal service, without typewriters and adding machines, a world without automobiles. Yet not long ago this world had none of these.

When we think of what the past decade or two has brought forth, the development of the next thirty-four years will pass all credence.

One fact, however, enables us to look into the future with some reasonable assurance that what we see there is real. And the fact is simply this, that progress has always followed in the footsteps of necessity and demand.

Whatever we want today is ours tomorrow. The desires and dreams which were chimerical but yesterday are the commonplaces of life today — the telephone, the typewriter, or any one of the numberless tools of civilization. Today's dreams, just as chimerical, will be the commonplaces of a close-at-hand tomorrow.

what the blunderbuss is to a rifle. Study the automobile in the light of its imperfections — they are glaring enough — and you will see in your mind's eye the car of 1951.

Yet the Stanley files show evidence of this very thing. A Stanley Car of 1906 had the most perfectly designed stream-line body ever recorded. It was well known as the "Armadillo" at that time. It was a special body, built for racing, but it was true stream line, and this body, together with the power of the car, enabled it to make a measured mile at Ormond in 28 1-5 seconds.

Let me show you this automobile of 1951. First of all you are struck with its sheer beauty of line. There are no abrupt, ugly angles. Curve melts into curve with a grace that you associate with the form of a swan. There is no wall-like windshield; there are no obtruding fenders. By 1912 the designer of aeroplanes had discovered that a large, correctly designed bulk is more easily moved through the air than a mass composed of projecting wires, stays, wheels, arms, and legs; that each projection, however slight, rakes the air and leaves an invisible wake behind it. His laboratory experiments proved that if all projections were reduced in number, if the pilot sat in a fish-shaped hull behind which the air closed with hardly a ripple, he could save engine power and gain speed. His work was not lost upon the automobile designer. The stream-line body, as it is called, made its appearance about 1915. By 1951 not only will it have been generally adopted, but it will be far more refined than anything which we can

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To forecast the automobile of 1951, it is then only necessary that we conceive the combined characteristics and abilities — in a word the performance — of the car we would now like to have.

And that this can be done with reasonable accuracy is apparent, because the automobile public is going to have what it wants, no matter what the obstacles, no matter what the problems to be solved.

Mr. Kaempffert, then, has closed his eyes and written about his dream car, his ideal car, — and the fact that you and every other automobile enthusiast can close your eyes and dream of identically the same car is the reason that Mr. Kaempffert's car, just as he sees it, will some day become a reality.

We venture to say that your conception of an ideal car and Mr. Kaempffert's conception of an ideal car almost exactly coincide. In fact, we believe that Mr. Kaempffert's conception of an ideal car and your conception and *our* conception of an ideal car would almost exactly coincide.

now display. It will part the air as gently, as smoothly as a pike slips through the waters of a lake.

Let me open the door and invite you to inspect the driver's compartment. Where, you ask, are the gear-shift levers? Where are the brake pedals? Where is the familiar steering wheel? How is this strange vehicle started and stopped? By what mysterious elements is it controlled?

This thought of Mr. Kaempffert's comes so close to a description of the Stanley Car that comments are unnecessary. We have the steering wheel but no gears to shift, no clutch, no spark or gasoline controls, nor even starting motor. What power other than steam could be so quietly and easily controlled?

Sound mechanical principles underlie these distinguishing attributes of the future automobile. Has it ever struck you how tremendous is the power of a modern locomotive, and yet with what marvelous ease it is controlled? By the mere pressure of his two fingers the engineer opens or closes the throttle valve; a turn of the wrist applies the air brakes. If a six-hundred ton locomotive, the most complicated self-propelled machine in the world, the swiftest artificial creature that man has devised to run upon the land, is so obedient to the feeble muscles of the hand, surely we may expect in the automobile of 1951 something akin to push-button control. The guiding of an automobile or a motor truck in these days of the automobile's infancy is no

And locomotives are steam powered. If locomotive control is ideal what about the Stanley Car?

The simple fact is that we are all after the same things: safety, simplicity, one-finger control, comfort, economy, and power at low speeds, — red-blooded performance. And the very fact that you and your friends are all demanding these same things in a car is the best reason in the world why they will all be attained.

Thousands of engineers, actually thousands of them, are working eight hours a day to give the world and you the car you want. And anything which thousands of engineers set out to do is very apt, in the long run, to come to pass.

Yet the most striking phase of the whole situation is the fact that this dream car of yours, this performance which Mr. Kaempffert believes these thousands of engineers working with the internal-explosive motor may reasonably be expected to develop in thirty-four years' time — this car with this performance is here today and may be had by any one.

It is much easier for us to make this statement and prove it than it is for you to believe it.

It sounds extravagant, not because we want it to, but because it is.

mean physical performance. Arms and legs play far too important a part in motoring. The four million drivers of pleasure cars and motor trucks must pull and push their gear shift levers dozens of times during a single journey to adapt their speed to the conditions of the moment — must thrust down with all their leg power on brake pedals to stop their cars. If a locomotive engineer were thus dependent on his muscles there would be no seventy-car freight trains, no twenty-hour train between New York and Chicago. Think of the physical demands now made upon you and then ask yourself if you have not the right to demand that by 1951 inventors will have tossed gear-shift levers and brake pedals upon the scrap heap.

One lever control is in the Stanley today. This lever either starts or accelerates the car, controlling both speed and power. The throttle and one easy foot brake constitute the control. And this is yours today instead of 1951, if you drive a Stanley.

The ideal automobile of the future will have just one control lever and no more. Step into the car and I will show you how simple it is to start and stop, to slow down and to speed up. See, as I pull or push the lever, I turn the power on or off. Did you notice how the engine slowed down and how the brakes were automatically applied as the car slackens in speed? There are no pedals to operate. The speed of the engine determines how hard the

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It is the broadest statement that any automobile manufacturer could make. And you can judge for yourself if it is not absolutely true.

With all due respect to Mr. Kaempffert's idea of the automobile of 1951, we do not hesitate to say that the actual car of 1951 will inconceivably surpass even his ideal car.

Not that our vision is better, nor that we can see any farther, but we are starting from a tremendously advanced position.

Mr. Kaempffert is looking forward to his car from the conventional car of 1917. We are looking forward, not from the conventional car of 1917, but from the Stanley of 1917, and we feel that the steam car of today is so far superior, fundamentally, to its internal-explosive contemporaries, that the steam car, and not the conventional internal-explosive car, should be used as the vantage point from which to survey further development.

The Stanley is the standard by which others should be judged; and we hope to prove to you that steam is not merely a suitable power for an

brakes shall be applied — in other words in what distance the automobile shall be brought to a full stop. And the speed of the engine is in turn governed by that little lever in my grip. In a sense, the car is its own judge of distances. We are coming to a crossing now. I move the lever ever so slightly. It is as if I speak to the engine and say, "Slow down." Note how the engine obeys. It seems to say to itself, "We are going too fast." And through a series of mechanical and electrical connections it telegraphs to the brakes and commands them to press upon the too rapidly rotating wheels.

This is a remarkably accurate word picture of Stanley control,—

even though the car does not have automatic brakes.

Of course the country road of 1951 must be infinitely superior to the wretched highway of 1917, with its mud and ruts. Your arms ache after manipulating a steering wheel for a few hours in the never-ceasing effort to pick out a valley in an endless series of ruts. In a country threaded with superbly smooth thoroughfares the steering wheel will be abolished. With a little handle you will guide the car of 1951 to the right or to the left. No tense muscles will be called upon to avoid collisions. Steamships have long had their steering engines to swerve rudders that weigh

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automobile, but that it is the only power which even approaches perfect performance in a self-propelled road vehicle.

The fact that *we* believe this is not sufficient. It is necessary for you to believe it, and for Mr. Kaempffert to believe it, and that every man, woman, and child driving a car, as well as every man who builds one, should believe this, too.

Many think that the world has seen enough of steam cars; that they have been tried and discarded; that the gasoline internal-explosive engine drove steam from the lists through a superior performance. This is not true. Neither do we ask you to take our word for it.

It is only necessary for us to point to the fact that steam is the almost universal power for self-propelled road vehicles and the only power having a steady, consistent performance under variable-load and variable-speed conditions everywhere.

This selection of steam has been made, not because nothing else had

many tons. The steering engine is controlled by the wheel on the bridge. So in this car of 1951 the little steering handle causes a motor to turn the front wheels to the right or to the left.

No one but a Stanley driver can realize how nearly the 1917 car can approach this "ideal" car in performance and control.

There are mechanical reasons why control should be simplified. A gearset is a crude, mechanical makeshift. It wastes power flagrantly. It offers only three or four vehicle speeds, but the ever-changing circumstances of the road demand several hundred. An automobile should have as many speeds as a man, and it should change its pace as readily and as automatically as you and I break from a slow into a fast walk, from a walk into a trot and from a trot into a run, with countless intervening gradations.

Any speed and any power without a gear shift, without a clutch, without a carburetor, or even a flywheel to turn at 3,000 R.P.M.

We do it in 1917, but it is wrong, egregiously wrong to drive a vehicle from the rear. Why? Because it is easier to pull than to push. The tugboat pulls its barges; the locomotive pulls its coaches; the freight handler on our wharves pulls his hand truck. Nature seemed to have discovered long ago that pulling is easier than pushing. Unlike the car of 1917, the automobile of 1951 will therefore be pulled by its motor.

Stanley drive, like that of other cars today, is on the rear axle, but instead of the engine being at the other end of the car it is right at the rear axle, where the work is to be done.

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been tried, but because everything else has been tried and found wanting.

It is not necessary to look back very far in order to get a full perspective of the entire automobile industry.

Automobiles were unknown to all save a few so-called cranks and an occasional eccentric inventor up to the dawn of the twentieth century.

Ten years previous to this even they were just beginning to play with the forces that were so soon to revolutionize the transportation of the world. And quite logically the first automobiles were steam automobiles.

Steam was selected by these men as the correct power for the self-propelled road vehicle, just as you would select electricity as the most suitable for an electric fan. Then, as now, Stephenson's engine was standard for work of this kind.

But the fashion of securing "power direct from fuel" was too much for the pioneers in the industry and they deserted the tried and proven steam engine in favor of an "engineering fashion," which had nothing to recom-

And the motor itself — how different from the engine of 1917! Gasoline will cease to be an automobile fuel by 1930. There will not be enough oil in the world from which enough gasoline can be distilled. The alcohol and electric motor will take the place of the gasoline engine. The alcohol car of 1951 will consume far less fuel than the car of 1917. For every dollar's worth of gasoline bought for the automobile of 1917, only ten cents worth of power is delivered at the rear wheels. Think of it! What would you say of a man who throws into the fire all but one hundred thousand dollars of a fortune consisting of a million? Something like that happens when gasoline is fed from the tank of a 1917 car.

A Stanley Car is less affected by fuel variations than any other. The car can be adapted to any liquid fuel, and as it is now made can use kerosene, gasoline, or any mixture of the two without any alterations.

This car of 1951 will husband its energy. The motor will be designed with the utmost scientific care. Less heat, which means less power, will be wasted by radiation than is now thought possible; and the mechanism between the motor and the driving wheels will squander very little of the energy that it is called upon to transmit.

No other self-propelled car, with the exception of the electric, carries power stored in advance. A Stanley can run five miles after the fuel is shut off, on its stored power alone.

It is not to be expected that the automobile of 1951 will be altogether trouble-proof. No machine will ever be devised that will not

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mend it save extraneous complications which have held an irresistible charm for automobile engineers ever since.

Moreover, the fact that there are one thousand, two thousand, or a hundred thousand internal-explosive automobiles on the road today for every steam automobile, — this fact is, at the best, circumstantial evidence that the internal-explosive car has a superior performance. And circumstantial evidence is better known for its unreliability than for its reliability.

Nothing short of an actual test on the road, of the two types of cars, can prove to your satisfaction which is best.

We feel pretty safe in assuming that you are looking for a maximum in automobile performance, and that you are anxious to find for your own use a car which most nearly approaches Mr. Kaempffert's car of 1951.

Yet you know nothing about steam. You simply cannot appreciate its safety, simplicity, or its flexibility. It cannot be compared with any other automobile power. You cannot even talk intelligently about it unless you have first-hand experience with it.

break down. But in the future you will be deprived of your 1917 privilege of tinkering with engines and transmissions. When your typewriter or your phonograph or your sewing machine needs repairing do you dissect it with a screwdriver? Do you not telephone to the manufacturing company to send one of its skilled mechanics? The same principle will be applied in 1951. The mechanism of your automobile will be completely enclosed. You will not be permitted to pry into its inner mechanism, because the manufacturer will make it as difficult for you to do so as possible.

Practically no energy is lost between the engine of a Stanley and the rear wheels. The engine and rear axle are a unit, instead of being separated by the length of the car.

This car of 1951 will be as useful in winter as it is in summer. You will be able to convert it from an open touring car into a closed limousine almost in the twinkling of an eye. In its closed form, its sweep lines will be more than ever a joy to behold. It will have the parabolic look of an egg in front, and it will taper off pleasingly to the rear. Thus conceived, it will remind you of those romantically designed airships in which imaginative novelists transport their heroes and heroines to Mars and Venus through millions and millions of miles of chilly, interplanetary space.

You therefore owe it to yourself at least to try a steam car on the road if it is within your power to do so.

The Stanley Car is fundamentally correct.

It is not a heterogeneous development of an engineering fashion, but is a correct, consistent adaptation of fundamentally correct first principles to the very definite demands of the self-propelled road vehicle.

It is correct as to power generation, power control, and power application direct to the rear axle.

It is surprisingly economical to operate as to fuel, tires, repairs, and depreciation.

It is unbelievably simple, complete, and safe in control.

It will be a new experience for you in comfort and roadability.

It is complete as to equipment and appointments.

Its fuel is kerosene.

It is Mr. Kaempffert's car of 1951.

It is here today in 1917.

Stanley Specifications

Body—Aluminum, stream-line, with flush-doors.

Upholstery—Genuine leather, straight grain, bright finish, stuffed with curled horsehair.

Top—Improved one-man type.

Windshield—Rain vision, ventilating, built into body.

Colors—Body, hood, radiator, and wheels Valentine's Russian Body Blue; running gear, black.

Lighting System—Electric, with Apple generator and Willard battery. Large headlights with dimmers. Electric dash and tail lights.

Horn—Electric, under hood, button under driver's left foot.

Steering Gear—Warner, worm and gear type, with 18 in. wheel.

Wheelbase—130 in. Tread-standard 56 in.

Wheels—34 x 4, with Firestone light demountable rims. Houk wire wheels $90 extra.

Tires—Cord, 35 x 4½, straight groove.

Springs—Full-elliptic in rear, semi-elliptic in front.

Front Axle—Timken.

Rear Axle—Stanley, with Timken bearings.

Service Brake—14 in. diameter, contracting, operated by pedal.

Emergency Brake—14 in. diameter, expanding, operated by lever.

Pumps—Long stroke, driven from rear axle.

Water Tank—Under frame, 24 gal., with gauge.

Condenser Radiator—Mayo, V-shaped, giving water mileage of 150 to 250 miles.

Fuel Tank—Main fuel (kerosene) tank at rear, with quantity gauge. Capacity 20 gal. Pilot tank, with gauges, capacity 5 gal.

Boiler—Regular Stanley type. 23 in. diameter.

Burner—Improved drill type. Can burn either gasoline or kerosene, or any mixture of the two, without alteration.

Engine—With oil and dust tight housing. In unit with rear axle. Runs in bath of oil.

Five Passenger Touring Car	$2,200	*f.o.b. Newton*
Seven Passenger Touring Car	2,300	*f.o.b. Newton*
Three Passenger Roadster	2,200	*f.o.b. Newton*

Stanley

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