

EUROPE TURNS TO THE LIGHT SIX MOTOR CAR

Foreign Makers Following the Lead of American Manufacturers, Says I. W. Hill

It is claimed that Europe gave up the building and use of six-cylinder cars. This is entirely incorrect. Europe never had to give up. Conditions in Europe are so radically different from those in America that there seemed no call for sixes there. Yet as a matter of fact sixes are growing in favor. Small experimental sixes were entered at the last Grand Prix races and made a remarkable showing, so much so that the Autocar, a leading London motor car journal, commented on the rapid rise to favor of the six and stated it unquestionably would increase in favor both in England and on the continent. Two of the highest grade English makers build sixes—the Rolls-Royce and the Napier.

The roads of Europe are like a billiard table. It has been said the worst European road is better than the best American roads. They are hard, level, dry.

Only the smallest amount of power is needed to drive even a large car. The car runs so smoothly that the vibration, so objectionable and costly on American roads, is almost entirely lacking.

Then, too, the car owner in Europe is fixed according to horse power and cylinder contents. The aim is to keep the engine rating as low as possible. They have not yet learned to make the small six cylinder. That is coming. The Sunbeam car, a small cylindered six, made a wonderful record in the Grand Prix and attracted a great deal of attention. This promises to result in much interest in the small six. Europe is slow to take up improvements. Until this year they scorned the self-starter.

G. G. Behn, chief engineer of the Hudson Motor Car Company, who returned from Europe last month, tells how in conversation with English engineers they acknowledged that the Americans had "slipped one over on them."

The foreign makers admitted that they were forced to put on self-starters and electric lights in order to compete with American cars. The same falling into line promises to be the result of the American light six. Already France and England are buying many of these light sixes. Mr. Behn found intense interest in the Paris and London shows in the Hudson 6-40, the Hudson light six. It really was one of the features of the show. Just as soon as European owners learn they can have all the advantages and pleasures of the six with a lesser fuel consumption, lower tire cost, and reduced repair bills they will demand six cylinder motors. Then Europe will be forced to do just as they have done in the case of the self-starter and electric light—build six cylinder cars or see their trade taken from them by American makers.

MODERN METHODS IN FARM CULTIVATION

High Cost of Living Reduced by Scientific Use of Improved Machinery on Land

BY S. S. MORTON, Mechanical Expert, Morton Truck & Tractor Co.

In reply to the request of "A Reader" in your issue of February 20, relative to more detailed explanation of the plans and process of a modern method of accomplishing more and better results from the farm. To do this work requires the following equipment for a four hundred acre farm.

The first and most important is necessarily the power which consists of a small four wheel drive tractor with open faced wheels which will not pack the ground and at the same time has a tendency to cut up the road. On this is mounted a 40 horsepower oil or gasoline motor, together with a small generator for the purpose of driving an electric motor on the other machines, which, when not otherwise needed for electric lighting purposes. Next in order is a four-bottom gang plow capable of plowing from fifteen acres per day at a consumption of two gallons of fuel per acre and which requires but one man to do the work; next is a double disc harrow twelve feet wide which thoroughly levels and pulverizes from twenty to thirty acres per day with but a gallon of fuel per acre. The combined seeder and planter likewise twelve feet wide suitable for any kind of grain and fertilizer or three rows of corn covering eighteen to twenty-four acres per day with but a gallon of fuel per acre requiring two men.

To work or cultivate the grain in rows requires a motor tricycle cultivator which is operated by one man and consumes less than one gallon per acre for a fifteen acre day.

For cutting the grain and grass we use a twelve foot cutter bar attached to the tractor and equipped with an electric motor deriving its power through an insulated wire from the generator on said tractor we have an attachment for the cutting of wheat and oats which averages from six to eight and four to five feet wide to dry and will cut from twenty to thirty acres per day at an average of one gallon per acre.

Our thrasher is equipped with an electric motor attached to the cylinder and is driven by a current from the generator on the tractor. The thrasher is drawn by the tractor and is provided with a feeding elevator which lifts the grain, drops it in the cylinder and as the grain is separated it runs through the elevator to a tank wagon which is, also, attached to the tractor, leaving the grain in a window which is afterwards gathered by hayloader on a large flat farm wagon. The tank wagon for the grain has a capacity of 100 bushels which when filled after detaching the thrasher from the engine, the said grain tank is conveyed to the grainery which is provided with an electric portable elevator, which will deposit the grain in the upper part of the grainery at the rate of ten bushels per minute. We can thresh and store from eighteen to twenty-four acres per day, depending somewhat on the distance the grain must be hauled, consuming two gallons per acre and use of two men.

For harvesting the corn, the stock is cut by hand immediately above the ear and preserved which part left standing dries and afterwards is gathered by a machine which cuts the stock close to the ground and passes through the husker and is elevated to the tank wagon and carried through the same process of unloading as described above. The stalks which fall to the ground after passing through the husker are gathered as fuel by the hayloader and conveyed to a convenient place close where the grain is prepared and stored. We can thresh and store from eighteen to twenty-four acres per day, depending somewhat on the distance the grain must be hauled, consuming two gallons per acre and use of two men.

Speaking of the equipment, we include the tractor, plows, harrows, seeder and planter, motor tricycle, cultivator, cutter-bar with attachment thrasher, loader, unloader, tank wagon and platform wagon, portable electric elevator and corn husker and picker. This equipment is separate from the machine used to grind, scald and prepare the grain for food, but the same power is used to do the work.

You will notice by this process that the grain is raised and elevated to the grainery with less cost, but little labor than it would cost by the old method to plow the ground. We eliminate the handling of sheaves and straw by hand, the feeding of a gang of threshermen, buying of twine to bind the grain, the stacking and carrying the grain and keeping of a dozen or more horses over the winter.

There are many other detailed descriptions into which we might enter, regarding the construction of the grainery and the grinding and scalding process which we shall be glad to do upon request of any who are interested, and we submit figures showing the cost of labor and fuel for cultivating three hundred acres:

"SIXES" vs. "FOURS"

It is reasonable to suppose that the one company which dissents should be right against such overwhelming evidence?

Pretty nearly all present owners of "Sixes" have at some time been owners of "fours." Ask them which is the better car—"Six" or "four." Did you ever know of a driver of a "Six" to go back to a "four" of equal price?

Drivers of "Sixes" will tell you that there is something inherent in a "Six" that makes it better than a "four," just as there is something inherent in a thoroughbred that makes him better than a horse of common blood.

Outside of the companies that have over-priced "fours" to sell the little talk there is against the "Six" comes from people who never rode in a "Six." To all such we say—ride 50 or 100 miles in any good "Six," not only the Chalmers, but any good "Six." Until you have made such a test reserve judgment. We have no doubt of your judgment if you will only take the ride.

Don't Buy a Near "Six" When You Can Get a Real "Six"

The best known builder of high-priced "fours" this year admits the superiority of the "Six" by using a mechanism which it is claimed will give to the "four" some of the recognized superior qualities of the "Six." How consistent of those with "fours" to sell, to decry "Sixes" in one breath and in the next tell you they have a device that makes a "Six" of their car—nearly! The superiority of a "Six" over a "four" exists in the motor—and can be obtained through the transmission or rear axle.

The last resort of the four-cylinder advocate is that the "four" is more economical than the "Six."

Positively, it is not.

It costs less to drive a Chalmers Master "Six" 5,000 or 20,000 miles than to drive a "four" of equal size and power the same distance. We have had in the Chalmers factory every well known "four" of \$1800 or over. We have run them side by side with the Chalmers "Sixes" and here is what we have learned:

Because of its steady, uninterrupted flow of power the "Six" is easier on tires and easier on every moving part than a "four."

The most prominent "four" in the same price class as the Chalmers "Six" has less power and weighs more. In the Chalmers the labor of moving that weight is divided among six cylinders; in the "four" each cylinder does more work because of the greater weight carried by four cylinders. Don't you see that in the "four" each cylinder must be doing more work all the time?

In other words, the four-cylinder motor is forced to work at full capacity more of the time than the "six." It is always working harder than the "Six"—and that means shorter life.

"But a 'Six' burns more gasoline," say four-cylinder builders.

Again we say, that is not true.

For any considerable distance the Chalmers Master "Six" can be run on as little gasoline as any "four" of equal motor displacement and with equal car size. This is not merely an advertising claim. We have proved this by actual tests.

Power and Performance Considered, "Six" Is More Economical Than "Four"

The fallacious statement that the "Six" burns more gasoline than a "four" originated in the fact that in the past four-cylinder cars were compared with six-cylinder cars of nearly twice as much power. Compared on an equal footing, as to power and car size, the economy argument is all in favor of the "six."

While six-cylinder builders are working toward greater fuel economy all the time, builders of "fours" are going the other way. The Chalmers Master "Six," for instance, has only a 4-inch bore and a 5 1/2-inch stroke. A few years ago six-cylinder cars of equal power had bores of 4 1/2-inch to 6-inch. In the Chalmers Master "Six" which sells for \$1800, the motor is even smaller—only 3 1/2-inch bore. Yet this motor has developed 53 h. p. All engineers admit that small bore and long stroke make for greater fuel economy. So builders of "Sixes" are at least on the right track.

Four-cylinder designers, on the other hand, are forced constantly to increase the size of their motors to get enough power adequately to handle cars of increasingly greater weight.

The high-priced "four" grows each season to be more extravagant in fuel; while the well built "Six" becomes more economical.

A leading builder of high priced "fours" is now announcing through the newspapers that he "has no intention of building a Six." We believe this must be a welcome announcement to a great many intending buyers who had already finally made up their minds to buy a "Six" and had, perhaps, been wondering whether this particular manufacturer would build one.

Now they have only to pick out the best "Six." They need no longer hesitate, anticipating that this particular builder may produce a "Six." Such statements of policy do much to clarify the public understanding of the motor car situation.

Chalmers Policy Is to Build Best Cars Possible at Chalmers Prices

As in the past, our policy shall always be to build the most efficient, most up-to-date quality cars to sell at medium prices. We shall change the design of Chalmers cars whenever adherence to that policy shall make changes necessary.

We are proud of the changes we have made in Chalmers cars. For all progress is change. To keep pace with the advance of science it is necessary to change. Every change we have ever made has given our customers higher value, more comfort, greater safety and more beauty in Chalmers cars.

We always build the best cars human ingenuity, painstaking workmanship, and fine materials can produce to sell at Chalmers prices. We introduce new and good things as they are discovered, and proved worth while.

It is in pursuance of this policy of advancement that, having proved the "six" superior to the "four," we are concentrating the production of Chalmers factory on "Sixes."

We predict that within two years all cars selling above \$1500 will be "Sixes." Even those who now decry the "Six" will be building "Sixes" within two years or building a "four" at a great reduction from their present prices.

Cars selling above \$1500 belong to the six-cylinder field as much as the cars selling below \$1,000 belong to the four-cylinder field.

It is just as impossible to stop the trend toward six-cylinder cars as it would be to dam the Niagara Falls. Crying against it won't stop it—it only increases the desire for an investigation and a comparison of the relative merits of "fours" and "sixes." That is all that we as manufacturers of "Sixes" ask.

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Why sink money in a car already out of style and bound to become more so each day? When you buy a "Six" you buy on a rising market. When you buy a "four" you buy on a declining market.

Our proposition is simple. We say, ride in "fours" and ride in "Sixes." Ask your friends who have "Sixes" if they would go back to "fours." We are sure you will want a "Six" after making such a test.

And having reached that conclusion we ask you to then take the Chalmers Road Test. After this we are sure your purchase will be a Chalmers Master "Six." We invite comparison, with even the highest priced cars.

Any Chalmers dealer will give you the Chalmers Standard Road Test. It is proof positive of every claim we make. Judged by the measure of this rigid test, we know that no car within \$500 of the Chalmers price can even approach the Master "Six" in power, quietness, absence of vibration, flexibility, comfort, beauty, convenience and luxury.

That is a sweeping claim. But it will cost you nothing to prove to yourself that we are right. Don't buy any car until you have done yourself and us the justice of investigating the Chalmers Master "Sixes."

Chalmers Master "Six," 5-passenger body \$2175
Chalmers Master "Six," 4-passenger body 2175
Chalmers Master "Six," roadster body 2175
Chalmers Master "Six," 6-passenger body 2275
Chalmers Master Light "Six," 5-passenger body... 1800

Chalmers Motor Company

MID - WINTER PRICES
—ON—
Used Automobiles

Here's a tip for you, Mr. Wide-awake. Do you know that real money held under a dealer's nose these days is worth more than an automobile value than can be had when the Spring sun begins to peep through the clouds. We have a number of used cars that we will let go at interesting figures.

CRISPEN MOTOR CAR CO.
413-417 S. CAMERON ST.

JEFFERY
Including
Cross Country Automobiles
\$1,550 to \$3,700

Marathon Automobiles
\$925 to \$1,400

JEFFERY TRUCKS
1,500 and 2,000 Pounds Capacity

W. E. Garage Co.
AGENTS
Kelker and Logan Streets

AS A HILL CLIMBER

the METZ "22" has no superior. It will climb hills as fast as any car made, regardless of its price. The METZ engine develops more than one horsepower per 50 pounds of weight, hence its great reserve power.



The Gearless Car
No Clutch to Slip
No Gears to Strip

Equipped Complete
1914 Improvements

METZ "22" \$475

WINNER OF THE GLIDDEN TOUR

A remarkable example of low price and minimum cost of upkeep combined with the essential features of the strictly up-to-date car. A thoroughly practical car. The ON "X" car in the Glidden Tour that held a PERFECT SCORE for the entire eight days of the race.

Call and investigate, or Phone or Write for Catalog

MONN BROS.
17th and Swatara Streets, Harrisburg

Indian Brakes Are Powerful in Construction

"Years before the 'Safety First' movement was born the protection of the motorcyclist and pedestrian alike was considered and amply provided for by the Indian engineers," points out the West End Electric & Cycle Company, local distributors of Indian motorcycles. "Double brakes as large and powerful as those fitted to many automobiles, and supplemented by double control, long have been a part of Indian equipment.

"The Indian engineers were the first to adopt the famous V band type of brake which, by reason of its ingenious construction possesses more than twice the contact surface and gripping power of the ordinary motorcycle brake. The double control permits the operator to retain full mastery of the machine whether his feet are on the pedals or comfortably outstretched on the footboards. Both the V type brake and double control now have been adopted on all prominent American motorcycles as standard features.

"The famous combination of external expanding brakes working on a single drum with independent control by hand and foot levers, continues an exclusive Indian feature, as it has been for five years. Either of these brakes is powerful enough to bring the machine to a quick stop when traveling at high speed.

"Few motorcyclists know how to use their brakes properly. Locking the driving wheel, or applying brakes before disengaging the clutch, may be a spectacular, but it is not good braking and makes the tire man happy. It is an easily demonstrated fact that a machine can be stopped more quickly by a gradual application of the brakes sufficient to retard the revolution of the wheel, but without actually locking it. Motorcyclists should practice braking and become thoroughly fa-

Public Demand Forced the Development of the "Six"

The admitted mechanical superiority of the "Six" over the "four" and the demand for this superiority on the part of those who are willing to pay any price for motor car luxury, forced these builders of high-priced cars into the six-cylinder field.

So, too, were other successful builders of "fours," such as Oakland, Oldsmobile, Stevens-Duryea, Jeffery, Mitchell, Studebaker, Marmon, white, Hudson and Buick, forced into the six-cylinder field.

None of these companies changed their designs or spent thousands and thousands of dollars for new machinery and to market new types of cars just to satisfy a whim.

Through sheer merit the "Six" has conquered. Practically every well known company this year building a car of \$1250 or over, except one, builds "Sixes."

It is possible that all of these admittedly successful companies are wrong? Isn't it logical to suppose that the majority is right?

Plowing 10 days, 1 man	15.00	Corn	15.00
200 gallons gasoline	30.00	Wheat	15.00
Oil	1.00	Onto	15.00
Harrowing, 5 days	7.50	Onto	30.00
Harrowing, gasoline	15.00	1.00	1.00
Harrowing, oil	.50	7.50	7.50
Seeding—6 days, 2 men	18.00	15.00	15.00
Seeding, gasoline	15.00	15.00	15.00
Seeding, oil	.50	.50	.50
Cutting	.50	6.00	6.00
Fuel	15.00	15.00	15.00
Oil	.50	.50	.50
Thrashing	15.00	15.00	15.00
Gasoline	15.00	15.00	15.00
Oil	.50	.50	.50
Cultivating 3 times	30.00	\$154.50	\$154.50
Gasoline, 300 gallons	45.00		
Oil	1.50		
Husking labor	24.00		
Gasoline, 250 gallons	37.50		
Oil	.75		
Corn, 40 bushels to acre, 100 acres—4,000 bu. @ 40c	\$1,600.00		
Wheat, 100 acres averaging 20 bu.—2,000 bu. @ 90c	\$1,800.00		
Oats, 100 acres, 50 bu. per acre—5,000 bu. @ 35c	\$1,750.00		
Cost of outfit	\$5,150.00		
Interest on investment	\$4,500.00		
Amount paid for labor and fuel	225.00		
Depreciation 10 per cent.	549.50		
	450.00	\$1,224.50	
Profit		\$3,825.50	

KEYSTONE MOTOR CAR CO.
1019-1025 Market St., Harrisburg, Pa.

malhar with their brakes, so that they may be prepared to meet emergencies without becoming unnerved, a condition which is responsible for many of the accidents which occur."


\$3.50 Recipe Free, For Weak Men.

Send Name and Address Today. You Can Have it Free and Be Strong and Vigorous.

We have in our possession a prescription for nervous debility, lack of vigor, weakened manhood, falling memory, and lame back, brought on by excessive unnatural drains, or by excesses of youth, that has cured so many worn and nervous men right in their own homes—without any additional help or medicine—that we think every man who wishes to regain his manly power and virility, quickly and quietly, should have a copy. So we have determined to send a copy of the prescription free of charge, in a plain, ordinary sealed envelope to any man who will write us for it.

This prescription comes from a physician who has made a special study of men, and we are convinced it is the surest-acting combination for the cure of deficient manhood and vigor failure ever put together.

We think we owe it to our fellow man to send them a copy of this confidence so that any man anywhere who is weak and discouraged with repeated failures may stop dragging himself with harmful patent medicines, secure what we believe is the quickest-acting restorative, upbuilding, SPOT-TOUCHING remedy ever devised, and so cure himself at home quietly and quickly. Just drop us a line like this: Interstates Remedy Co., 4933 Goodyear Building, Detroit, Mich., and we will send you a copy of this splendid recipe in a plain ordinary envelope free of charge. A great many doctors would charge \$3.00 to \$5.00 for merely writing out a prescription like this—but we send it entirely free.—Advertisement.



CHALMERS

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Chalmers Master Light "Six," 5-passenger body... 1800

Chalmers Motor Company

STUDEBAKER

4-Cylinder, five-passenger \$1050
6-Cylinder, seven-passenger \$1575

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MILLER NON-SKID TIRES

Grip the Road Like a Cog-Wheel

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