

# Thomas Flyer

## The High Gear Car

*The remarkable story of a remarkable trip through the Alleghenies, White and Green Mts. by the Thomas Flyer, the "High Gear Car," demonstrating the marvelous flexibility attained through the long stroke motor, combined with extra large valves and six cylinders.*

1800 MILES  
OF  
Mountains, Rocks and Water Breaks  
ON HIGH GEAR



E. R. THOMAS MOTOR CO.

BUFFALO, N. Y.

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BRANCHES:

BOSTON

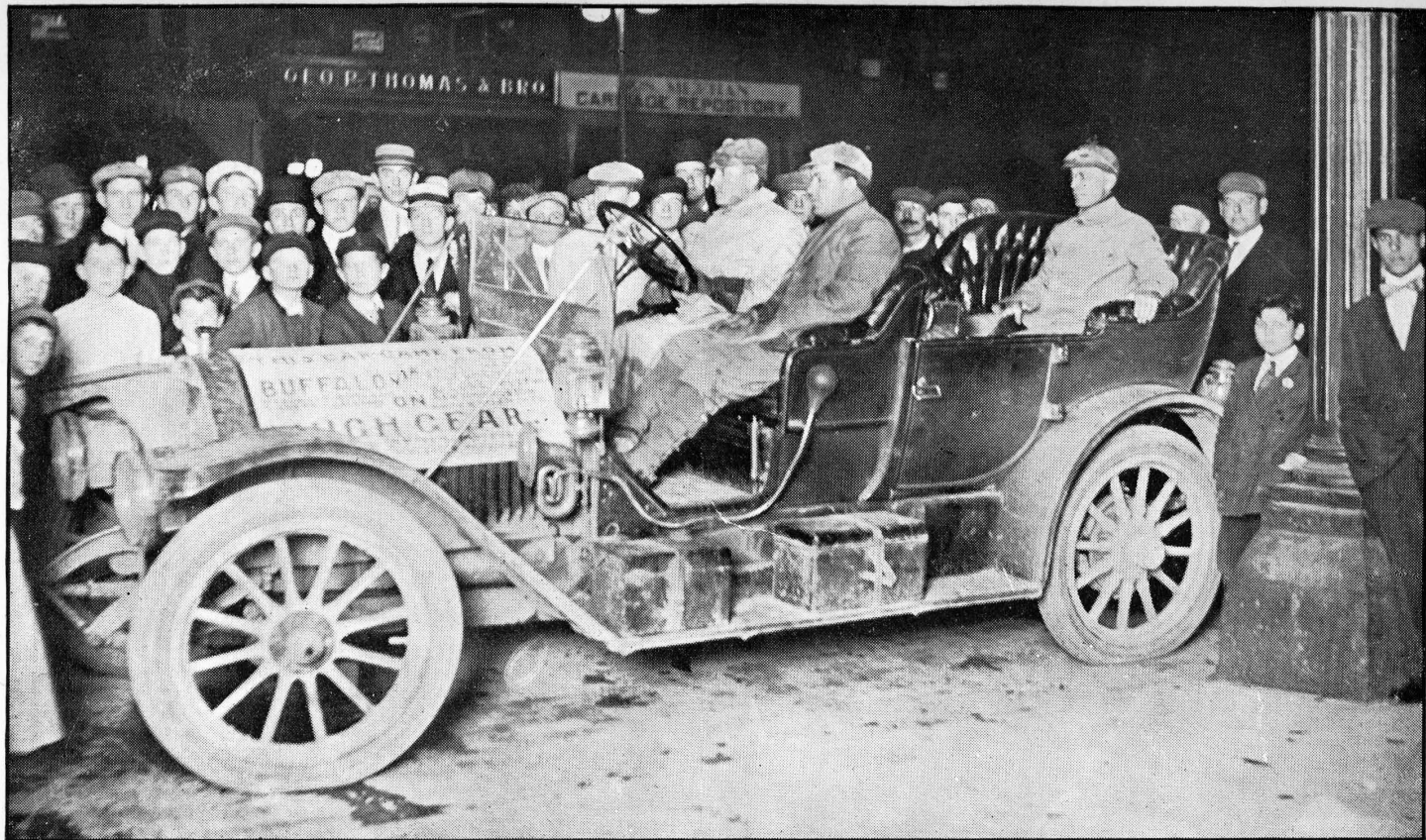
NEW YORK

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The "High Gear Car" as it arrived in Batavia, N. Y. on the last leg of its 1800 mile trip. The trip from Amsterdam, N. Y. to Buffalo, N. Y. 283 miles, was made in a single day's run. Fred Nehrbas, road engineer of the E. R. Thomas Motor Company is at the wheel. Beside him is George Miller of New York to Paris race fame.

## The Story of the Thomas 6-40 Flyer's 1800-Mile High Gear Run

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**N**O feat in years has aroused so much comment in motor circles as that almost incredible performance of the new 6-40 Thomas Flyer, which made the 1,800-mile high gear run over the boulder-strewn, water-broken roads of the Alleghanies, Green and White Mountains. The car, with the transmission stripped of all gears except the high and reverse, covered the distance in the remarkable time of nine traveling days. It climbed grades from 10 to 18 per cent. with ease and demonstrated the efficiency of the new long stroke engine, combined with the extra large valves and six cylinders, over any other car.

This grilling test added the finishing touches to the new Thomas motor and marked the dawn of a new era in automobile construction. It demonstrated the possibility of eliminating the transmission through this combination of long stroke, large valves and six cylinders, found only in the Thomas car. It showed the remarkable flexibility attained and it withstood the racking of the worst roads east of the Mississippi.

### *Hillier Than All Glidden Tours*

The car, a Model M, left the Buffalo Automobile Club after being inspected and sealed, sent away by Dai Lewis, veteran Glidden Tour pathfinder. Lewis stated that the route mapped out for it was the hilliest of all Glidden runs. At the wheel of the car was Fred Nehrbas, road engineer of the E. R. Thomas Company, George Miller, mechanic of the New York-to-Paris race; George T. Verreault and Ray McDonald, observers.

A trip through the mountainous region covered by the high-gear car, under normal conditions, is a severe test on the durability of any car, but when the circumstances under which the car went through are taken into consideration it makes it even more remarkable. Despite the terrible racking given the car, and the rocks and boulders encountered, only twice was the crew compelled to stop on account of tire trouble. The first



A DEMONSTRATION OF THE FLEXIBILITY OF THE



Nearing the top of the Alleghanies looking back at Laurel Range, the roughest roads in the mountains with a steady climb of five miles.



A section of a freshly ploughed road in Eastern New York state where road building was underway. The high gear car overcame much more like this.

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**LONG STROKE, LARGE VALVE, SIX CYLINDER MOTOR**

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puncture occurred at Rutland, Vt., after about 1,300 miles had been traveled. It was found that a large spike had been driven through the outer casing and just penetrated the tube. The other was four miles outside of Batavia, during the last day's run into Buffalo. This saving on tires was an excellent showing for the car.

***Detours Through Corn-Fields***

The first day's run from Buffalo to Erie was made over good roads, the 96 miles being covered in less than three hours. From Erie to Pittsburg the car encountered its first rough going. Extensive road-building operations were under way. The highway was ploughed up, brick piles, sand piles, cement barrels and rocks were strewn along the course for miles at a time. Detours into roadside ditches and through open fields were necessary to avoid steam rollers, stone crushers and repair wagons. Just the other side of Pittsburg, without warning, the car plunged into a stretch of freshly ploughed road. The wheels sank up to their hubs and the front axle ploughed up a little mound of earth in front of the car like a barrier. The crew, after backing out, made a detour through a cornfield and back onto the road again.

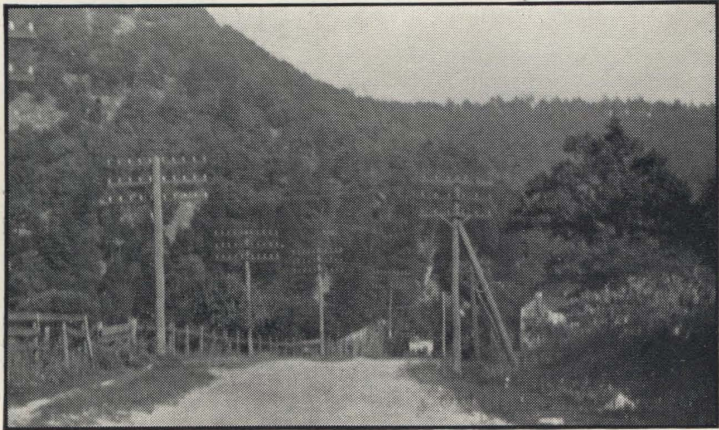
Just before reaching Meadville Mountain, the stiffest grade in Western Pennsylvania, the car encountered another stretch of road when repair work was also under way. The machine in some places had to be driven through deep sand piles left there for building operations. In this section it was also difficult to ascend grades because of the congested condition of the roads, which were thronged with stone crushers, steam rollers, dump carts and other heavy road-working implements. The car, however, behaved splendidly, and, owing to its wonderful flexibility, was able to start again and again on these grades, after innumerable stops, without backing down to gain momentum. The mountain is 1,600 feet high and the winding road led up for a mile and a half, with an average of 16 per cent. The top was reached in better than three minutes.

***Dust Pans Strike the Road***

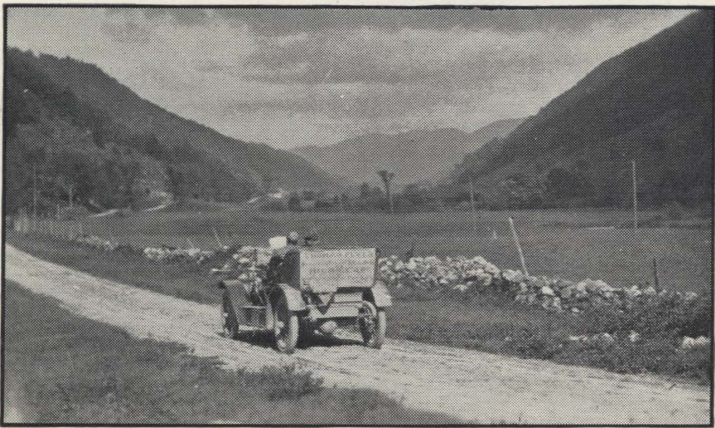
From Pittsburg, the car ran to Gettysburg, right over the Alleghanies, the roughest roads in Pennsylvania. Water breaks, so deep that should the car have been traveling slower, the



A DEMONSTRATION OF THE "EXHIBIT" OF THE



A steep grade between Chocorna and Iona, N. H.



In the Green Mts. between West Bridgewater and Sherburne, just before the 8, 10, 12 and 16 per cent grades leading to the "Back-bone of Vermont."

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**LONG STROK****VALVE, SIX CYLINDER MOTOR**

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front wheels would have become locked in the ruts, were encountered. Many times the pans under the car struck the road after the front wheels had crossed. These conditions existed for the greater part of the distance through the mountains.

At Ligonier, just before the car tackled the Laurel Range, the crew was informed that the road over the range was in the worst condition in years, and it would be useless for them to attempt to cross it. This mountain is not the highest of the Alleghanies, but it is by far the roughest. The climb is about five miles and the road is strewn with rocks from three to five inches in diameter, making travel almost impossible. Heedless to all such warnings, a start was made. Many times the springs were down far enough to permit the frame to touch the axle, but at no time did the car make less than 20 miles an hour, and whenever a short stretch of good road was struck the speed was increased to 25 and 26 miles. By the time the top was reached the car was traveling 30 miles an hour.

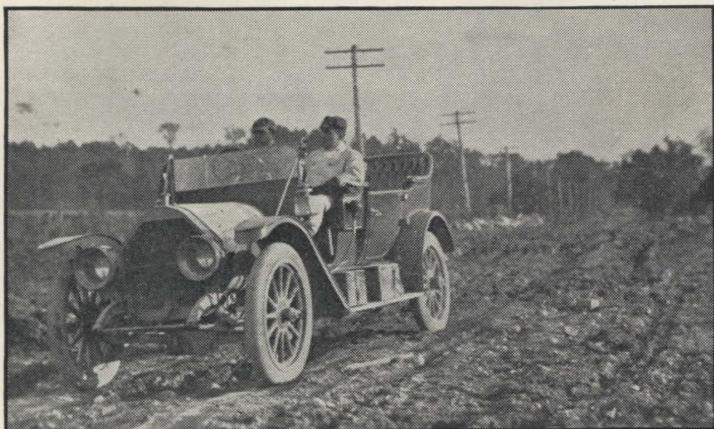
### ***Car Takes a Six-Foot Ditch***

At one point, where bridge-building was under way, the crew felt the need of the long stroke motor more than at any other time. A concrete bridge was being erected and a detour of 100 feet was necessary. It was a case of dropping the car into a ditch about six feet deep, at an angle of 45 degrees, and bumping over a few logs in the mud, placed there to prevent teams from sinking. The little momentum gained by dropping into the ditch had to be taken advantage of to get up the other side, but half way up it looked like a hopeless case. By speeding up the engine and releasing the clutch and again applying it, the car gradually pulled itself out onto the main road again, much to the amazement of the little crowd of onlookers.

Immediately after this experience, the car had a four-mile climb before it. The road wound up the mountain in corkscrew fashion, and down the other side in the same manner. So deep were the water breaks and so numerous the rocks that the car received a terrific jolting, the frame striking the axle at almost every bump. At the top an investigation was made to determine the damage, but outside of the loss of a tail lamp the car was intact. From the top of the mountain to Stoyestown there is a descent of eight miles, of which the greater portion was made with the motor idle.




A DEMONSTRATION OF THE FLEXIBILITY OF THE



**More road building encountered by the car between Saratoga and Troy, N. Y.**

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 **The road near Greensburg, Pa., torn up during repair operations.**

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**LONG STROKE, LARGE VALVE, SIX CYLINDER MOTOR**

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***Doubting Tourists Convinced***

McConnellsburg, at the foot of Cove Mountain, the highest peak of the range, was the next town reached. This mountain, familiar to all tourists, was one mass of sand and much cut up. The road winds up with a number of "S" turns for three and a half miles. Leaving the outskirts of McConnellsburg at 55 miles an hour, the car tackled the road. At the first turn it almost rolled down the mountain side, but righted itself and flew around the next turn and on to the top, which was made in seven minutes, said to be the fastest time ever made up the mountain. Fort Loudon, the next town nearest the mountain, was made 16 minutes after the car left McConnellsburg, which is also said to be a record, the best previous time being 19 minutes. The trip to New York and New Haven was uneventful, the 6-40 romping over any hill with the throttle half open.

At Crawford's Notch the crew met a touring party with two 38 horse-power cars. Just ahead was a grade of 18 per cent. and a steady pull for a mile. The tourists had just descended and were emphatic in their assurances that the high-gear car would not be able to reach the top. They pulled to the roadside to watch the crew tackle it. At the top the Thomas car waited till the astonished tourists, who were forced to crawl up the mountain on low gear, overtook them and examined the 6-40 that had accomplished what they believed to be impossible.

***Over "Back-Bone of Vermont"***

Through the Green Mountains the crew encountered even worse roads than through the White Mountains. The stretch of road over Woodstock Mountain, the "Backbone of Vermont," was the worst of the entire trip. With a steady ascent of six miles, and with grades from 8 to 16 per cent., according to the New England Blue Book, the car was put to a most severe test. Water breaks, seemingly impassable, dotted the road. The pans and running boards struck constantly, but the machine bounded over the ruts and proceeded steadily up the mountain.

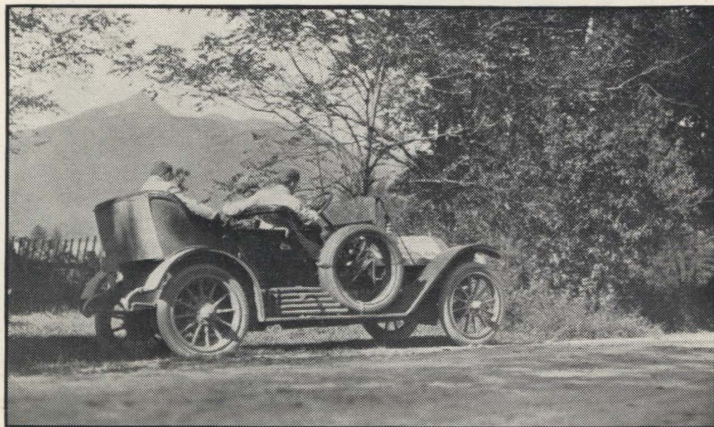
At every turn in the road the crew was deceived into thinking the top had been reached, but upon rounding the next bend another hill, seemingly higher than the one just left behind, spread out before them. After crossing the summit, more dan-



A DEMONSTRATION OF THE FLEXIBILITY OF THE



Entering Crawford's Notch, N. H., near Bretton Wood.



... New Hampshire showing Mt. Chocorna in the distance.



## LONG STROKE, LARGE VALVE, SIX CYLINDER MOTOR

gers loomed up in making the descent down the boulder-studded road.

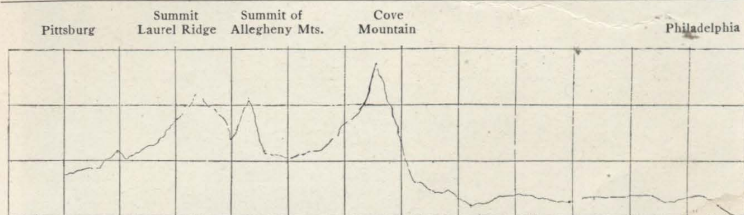
The worst of the journey over, the crew pulled into Rutland, Vt., and headed for Glenn Falls, Albany, and thence across New York State to Buffalo. Leaving Amsterdam, N. Y., on the last leg of its journey, the car covered 283 miles. The crew was met at Batavia, N. Y., by over a hundred Thomas enthusiasts and newspaper men and escorted to the city. The car was inspected and checked in by the committee, that announced the engine running as smoothly as when it left the factory.

One of the most remarkable performances of the car was in Boston, where numerous motor enthusiasts requested that it be driven up Commonwealth Avenue and the Corey Hill. Immediately upon its arrival an extra party was taken aboard and the hill made at the extraordinary speed of 25 miles an hour.

### ***Solves Engineering Problem***

"There's not a thing that this car can't do," remarked Mr. Nehrbas after the trip. "There was not a single moment during the entire run when the high gear test was in danger of defeat. The engine behaved splendidly and we were unable to find a hill that the car couldn't make. We ploughed through swamps and took grades that put many of the Glidden contestants out of the running, and all on the high gear."

"The test proves," said Mr. E. R. Thomas, "that the car has accomplished what no other car has been able to do—the elimination of the transmission. It has solved the problem with which engineers the country over have been struggling for years. It does away with the necessity of changing gears and at the same time gives a range of speed of from two to 55 miles an hour. It has rightfully earned the title of 'High-gear Car.'"



**From Data Furnished by P. R. R. Engineers Courtesy, C. P. McArthur, Chief Asst.**

Profile Map of Route between Pittsburg and Philadelphia.  
Vertical Units, 1000 Feet. Horizontal Units, 25 Miles.

A DEMONSTRATION OF THE FLEXIBILITY OF THE



The main street in Woodstock, Vt., showing an ox team used for hauling in the mountains.



Just before the car tackled one of the grades during the ascent of Crawford's Notch.



## LONG STROKE, LARGE VALVE, SIX CYLINDER MOTOR

The wide-spread interest aroused by this wonderful demonstration is clearly shown by the numerous mentions of it which were made by all well-known newspapers. These are a few extracts selected at random from the exchanges.

### **THOMAS FLYER MAKES RECORD.**

The car covered some of the worst possible roads and took grades that ordinary cars would have difficulty in climbing on the low speeds.

—*Chicago American.*

### **CAR PROVES FLEXIBILITY.**

A Thomas 6-40 car will complete a remarkable efficiency test when it returns to Buffalo after its 2,000 mile trip through the Green and White and Alleghany mountains. The machine was started over its mountainous route after the transmission had been stripped of all gears except the high and reverse. The route covers the worst roads east of the Mississippi and includes grades of from 10 to 18 per cent.

—*Detroit News.*

### **REMARKABLE MOTOR FEAT.**

Using only the high gear, a Thomas 6-40 car completed one of the most remarkable efficiency tests that was ever undertaken. The car was driven through the East and in Boston to prove that it could be throttled down to two miles an hour, the crew walked beside it while it crawled through the traffic laden streets.

—*Sioux City, Mo., Journal.*

### **IMPROVES TRANSMISSION.**

That the E. R. Thomas Motor Company believes it has largely solved the problem of the elimination of the transmission is evidenced by a test run undertaken with a Model M. 6-40 car with all the gears except the high and reverse removed. The route is what Dai Lewis terms the hilliest of all Glidden runs.

—*Minneapolis, Minn., Journal.*

### **INTEREST IN 2,000 MILE TRIP.**

Motorists are evincing much interest in a trip being made by a six cylinder Thomas car which has all its gears except the high and reverse eliminated from the transmission. Mount Washington and the Green and White Mountains will prove good tests of the car's efficiency.

—*Washington Times.*

### **HIGH GEAR TEST SUCCESSFUL.**

The test was highly successful from every point of view, but particularly to the motorist who rode in the car, the general opinion seeming to be that tremendous progress had been made toward the ideal motor car, in the long stroke, large valve, six-cylinder motor.

—*Boston Post.*

### **DEFIES GEAR CHANGING.**

Defying gear changing, and demonstrating conclusively the flexibility claimed for it, a Thomas 6-40 car finished a 1,600 mile run when it reached New York. Despite the tremendous grades in this mountainous region the car took them with ease, the motor spinning like a top.

—*Automobile Topics—N. Y.*

### **HILLS IMPOSSIBLE FOR OTHERS.**

Some of the mountains are almost impossible for other cars on first and second speed, but the Thomas car took them all on high gear, the intermediate gears having been removed from the transmission box.

—*Hartford, Conn., Times.*

### **GREAT FLEXIBILITY SHOWN.**

So flexible is the engine that it can attain a speed of 55 miles an hour and be throttled down to two miles an hour on the high gear.

The roads over which the car passed on its trip through the East were in very poor condition and filled with water breaks and boulders, so that the car was given a thorough test.

—*Lowell, Mass., Sun.*

### **DOES ANYTHING ON HIGH GEAR.**

The test is a remarkable one. Thus far the car has made all the grades encountered and has come through some of the worst roads in this part of the country. If it finishes the journey mapped out for it, it will show conclusively that the new style, long stroke, extra large valve, six cylinder motor is one that can be relied upon to do anything on high gear.

—*New York Sun.*



A DEMONSTRATION OF THE FLEXIBILITY OF THE



The high gear car on the ferry boat crossing Cayuga Lake, New York.



View taken from the rear of the high gear car on a sharp turn in the road, a half mile below Crawford's Notch, near Bretton Wood, N. H.

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## LONG STROKE, LARGE VALVE, SIX CYLINDER MOTOR

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### TESTS ON HIGH GEAR.

There is a degree of flexibility has been regarded by motorists with incredulity. Grades of from 10 to 18 per cent were encountered but the car rode them all.

—*Cleveland Leader.*

### CLIMBS MOUNTAINS WITH EASE.

A new test and by far the most severe for an automobile has been inaugurated by the E. R. Thomas Motor Co. A Model M. 6-40 car is being driven 2,000 miles on high gear by Fred Nehrbas and George Miller, the latter being the mechanic during the famous New York to Paris race.

—*Philadelphia Item.*

### FLEXIBILITY SHOWN.

The object was to show the wonderful flexibility of the motor that will throttle down to two miles and speed to 55 on high.

—*Boston Transcript.*

### LONG RUN FOR HIGH GEAR CAR.

Although high gear endurance tests have been carried out both in this country and abroad, it has remained for the E. R. Thomas Co. of Buffalo, N. Y. to demonstrate the efficiency of its new model M. 6-40 car, by sending it over a varying and mountainous route of 2,000 miles with its gearset stripped of all pinions except the high and reverse. The test was a fitting demonstration of the flexibility of the long stroke, with the large valves and six cylinders.

—*Motor World.*

### THOMAS HIGH GEAR RUN.

The test was made to demonstrate the flexibility of the long stroke, combined with extra large valves and six cylinders. The route covered three mountain ranges and was over the roughest and steepest roads in the East.

—*Horseless Age.*

### SEVERE TEST FOR NEW MOTOR.

It is the only car on the market that can attain a range of speed of from two to 55 miles an hour on the high gear.

—*Dayton, O., News.*

### THOMAS MOTOR DOING STUNTS.

The car was forced to take grades of from 10 to 18 per cent, and travel over the worst roads east of the Mississippi.

—*Atlanta Georgian.*

### MOUNTAINS NO OBSTACLES.

The greatest portion of the course through the mountains was covered with water breaks, and the car demonstrated its efficiency in covering these hilly roads on the high gear where other cars have difficulty in getting through on the intermediate gears.

—*Denver Republican.*

### STANDS WONDERFUL TEST.

The feat has heretofore been thought impossible. The outcome of the trip demonstrated the flexibility of the long stroke, large valve six-cylinder motor.

—*Cincinnati Tribune.*

### UNIQUE MOTOR FEAT.

Laurel Range, at its highest point, two miles from Jennerstown, was made in 22 minutes. At McConnellsburg the car was given another severe test when it headed for Cove Mountain. The three and a half miles to the highest point were made in seven minutes. No adjustments or repairs of any kind have been made to the car.

The test is a unique stunt in motor-dom and is significant in that it proves beyond a doubt the reliability of the Thomas car.

—*Philadelphia Press.*

### ELIMINATES RASPING NOISES.

The elimination of a series of four or five gears will do away with the unpleasant rasping noises and features to which the driver is subjected when changing from the direct drive. The ideal car is the one that has a range of speed of from two to 55 miles an hour on high gear.

—*Pittsburg Index.*

### GREATEST TEST EVER.

The greatest feat ever undertaken by any automobile concern since the famous New York to Paris race was successfully completed in Buffalo, October 1, when the test car sent out by the E. R. Thomas Motor Co. on a 2,000 mile run returned to the factory. The car was driven through the Allegheny Mountains and over the worst roads in New England on high gear.

The car behaved splendidly; took all the grades in the East, ranging from 12 to 16 per cent.; ploughed through swamps and water breakers, and even set several records for speed and hill climbing.

—*Pittsburg Press.*



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## 1800 MILES ON HIGH GEAR

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**MOST SEVERE AUTO TEST.**

Undoubtedly the most severe test that an automobile can be put to is that being undertaken by a Thomas 6-40 car which is being driven 2,000 miles on high gear through the East.

The purpose of the trip is to show what a long stroke, six cylinder motor can do with the extra large valves.

—*Pittsburg Dispatch.*

**CRAWLS THROUGH STREETS.**

With nothing but the high and reverse gears in use, it finished a 2,000 mile trip over roads of all sorts and conditions. Not once did the engine falter.

—*Washington Post.*

**FEAT NEVER DUPLICATED.**

It was truly a remarkable trip and one that has not been duplicated in motordom.

It was a feat that any car would be proud of, using all of its gears, and the fact that the trip was made with only the high gear and the reverse, makes the feat doubly interesting.

A record was established in the run from McConnellsburg to Fort Loudon and up the famous Cove Mountain, three and one half miles high, when the time was caught as 16 minutes. The best previous time was 19 minutes.

—*Buffalo Times.*

**RIDES GRADES WITH EASE.**

The car has been driven thus far through all sorts of country, but the worst sections are yet to be encountered. Through the Green and White Mountains, water breaks obstruct the highway for miles, and if the car is able to finish its trip, the test will be most remarkable.

—*New York Evening Post.*

**AGE OF MOTOR PROGRESS.**

The first part of the route led through Pittsburg over sandy roads that proved a good test in its way. But it was not till Cove Mountain was reached that the real trial as to what could be done on high gear was learned. Cove Mountain put a number of the Glidden contestants out of the running and not one of them made any claim of taking it on high gear. The Thomas raced up the sinuous road without the least difficulty.

—*Boston Post.*

**TWO TO 55 MILES ON HIGH.**

The course covered eight states and over three mountain ranges with grades varying from 10 to 18 per cent. From the showing made thus far, the car ought to accomplish what no other has done.

—*New York Evening Mail.*

**MOUNTAINS ON HIGH GEAR.**

That the long sought for feature in automobile construction, the elimination of the transmission and the necessity of changing gears, is at last a mechanical possibility was demonstrated conclusively when over 2,000 miles through the Alleghany, Green and White Mountains on high gear, returned to the factory with the motor spinning like a top.

The car was put to the most severe test known—that of taking roads and grades on high gear that other cars have been unable to make with three and four shifts.

—*Dunkirk Observer.*

**PLOUGHS THROUGH SWAMPS.**

One of the most remarkable efficiency tests that has ever been undertaken in motoring.

No other engine in the world was ever put to such a trial. It shows the remarkable flexibility of the new type of long stroke, extra large valves, six cylinder motor.

In addition to climbing all the hills that were encountered on the trip, ploughing through swamps and over roads such as no other car would tackle, it showed a marked economy in gasoline consumption. It has honestly won for itself the title of 'high gear car.'

—*Buffalo Courier.*

**PHENOMENAL RUN.**

The car is making a phenomenal run of 2,000 miles over the worst kind of roads and is demonstrating the wonderful flexibility of the Thomas long stroke, large valve motor, which can be throttled down to two miles and speeded up to 55 miles on high gear.

—*Boston Herald.*

**WONDERFUL WORK OF HIGH GEAR**

The Thomas 6-40 high gear car which arrived here on its 2,000 mile run, has done wonderful work since it left Buffalo, and has never yet failed to do what its drivers have demanded.

—*Boston American.*



