

THE NEW YORK-BUFFALO ENDURANCE RUN.

The Third Stage.

On Wednesday, September 11, the third stage of the contest was run. This stage started at Albany and ended at Herkimer, with a noon control at Fonda. The list of the vehicles that started from Albany, with the order and the time of start, is given in the following table:

TABLE I.

Order.	Time of Day.	Class and Number.
1.....	8.2	C 55
2.....	8.2	B 54
3.....	8.2	B 4
4.....	8.2	A 37
5.....	8.2	B 13
6.....	8.3	C 29
7.....	8.3	C 30
8.....	8.3	B 34
9.....	8.3	C 79
10.....	8.4	B 26
11.....	8.4	B 32
12.....	8.4	C 56
13.....	8.4	C 2
14.....	8.4	A 36
15.....	8.5	C 61
16.....	8.5	C 23
17.....	8.5	C 24
18.....	8.5	B 85
19.....	8.6	B 52
20.....	8.6	B 81
21.....	8.6	C 59
22.....	8.6	C 77
23.....	8.8	C 31
24.....	8.8	B 28
25.....	8.8	A 45
26.....	8.8	A 8
27.....	8.9	B 78
28.....	8.9	A 72
29.....	8.9	A 74
30.....	8.9	B 76
31.....	8.10	B 70
32.....	8.10	A 7
33.....	8.10	B 5
34.....	8.10	C 44
35.....	8.10	B 39
36.....	8.11	B 20
37.....	8.11	A 38
38.....	8.11	D 64
39.....	8.11	B 22
40.....	8.14	B 43
41.....	8.14	A 75
42.....	8.14	C 65
43.....	8.15	B 21
44.....	8.15	B 86
45.....	8.15	A 82
46.....	8.15	B 41
47.....	8.15	B 12
48.....	8.16	C 58
49.....	8.18	B 14
50.....	8.18	A 11
51.....	8.18	B 80
52.....	8.18½	A 47
53.....	8.21	A 63
54.....	8.22	B 15
55.....	8.24	B 53
56.....	8.24½	B 40
57.....	8.27	C 1
58.....	8.29	C 18

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Order.	Time of Day.	Class and Number.
59.....	8.30	D 9
60.....	8.33	B 35
61.....	8.34	B 27
62.....	8.35	B 48
63.....	8.50	A 73
64.....	8.50	B 33
65.....	8.51	B 68
66.....	9.01	E 42
67.....	9.07	C 69
68.....	10.00	D 88

The machines were obliged to slacken their speed compared to the rate of the preceding days, due to wet roads in the morning and heavy rain in the afternoon. The weather in the morning was fine from a motorist's standpoint (i. e., little wind and moderate sunshine). It began to rain, however, when the first machines left Schenectady.

At 10:15 the following vehicles were lined up at the noon control at Fonda in the order named: D 64 (made best time), B 26, C 30, C 59, C 23, C 55, C 24, B 4, B 2, A 74, and the rest of the carriages arrived as follows: C 56, 10:57; B 5, 10:57; C 1, 11:04; B 13, 11:06; A 11, 11:06; A 72, 11:07; B 12, 11:10; C 31, 11:10; B 35, 11:10; B 14, 11:15; B 70, 11:16 (front axle bent); B 81, 11:21; C 79, 11:23; B 41, 11:28; A 36, 11:38; C 77, 11:42 (missing badly); A 7, 11:43; B 34, 11:43; B 28, 11:44; B 86, 11:45 (wheels sprung); D 9, 11:50; B 21, 11:52; A 47, 11:59; B 78, 12:03; motor bike, 12:03; B 54, 12:03; B 39, 12:18; motor bike, 12:22; B 48, 12:23; C 2, 12:25; A 8, 12:27; B 43, 12:30; C 18, 12:32 (rattling terribly); big Panhard, 12:34; A 38, 12:38; B 33, 12:38; A 37, 12:45; C 31, 12:45; C 61, 12:48; B 20, 12:50; B 27, 12:53; A 82, 12:55; C 65, 12:58; B 76, 1:30; A 45, 1:30.

Several carriages came up later. These times are not official, but observations of time of arrival at the Fonda control made by our representative. A White steam carriage was seen ditched from the train before reaching Fonda.

REPORTS AND OBSERVATIONS.

Reports of operators and observations of our representatives on some of the machines at Fonda are as follows:

C 77 had ignition troubles; it punctured a front tire and replaced it at Fonda; C 29 had slight ignition troubles (jump spark), otherwise it seemed to perform well; B 43 made no stop; B 81 had some trouble on account of a loose chain which was to be replaced at Herkimer; C 61, bearing ceased heating (see report of Tuesday's run); B 53 came in at 2:18, with the engine missing and muffler off; it evidently could not run on the high gear; C 30 had spark plugs out to clean them; B 5 jammed the rims on the road; D 64 had some tire trouble; B 26 had two rims badly jammed and steering pivot bent; the wheels were off for repair; C 79 had the rims reinforced with side blocks; A 7 was working on trembler for some spark difficulty.

Several of the steam carriages showed

badly sprung front axles or steering pivots.

It rained when the start from Fonda was made and very hard for some time after.

Carriages left Fonda as follows (unofficial) :

TABLE II.

Order.	Time of Day.	Class and Number.
1.....	1.01	C 59
2.....	1.02	C 55
3.....	1.02	C 23
4.....	1.03	C 24
5.....	1.03	B 4
6.....	1.03	B 28
7.....	1.04	C 30
8.....	1.04	B 12
9.....	1.04	A 11
10.....	1.04	B 14
11.....	1.05	B 13
12.....	1.05	B 81
13.....	1.06	C 79
14.....	1.06	C 56
15.....	1.07	C 61
16.....	1.07	B 35
17.....	1.08	B 70
18.....	1.08	B 41
19.....	1.08	C 31
20.....	1.09	A 36
21.....	1.09	B 21
22.....	1.10	B 5
23.....	1.11	A 47
24.....	1.11	B 80
25.....	1.11	C 29
26.....	1.12	A 74
27.....	1.12	D 9
28.....	1.13	A 72
29.....	1.14	C 1
30.....	1.14	B 26
31.....	1.15	B 32
32.....	1.15	B 78
33.....	1.18	B 48
34.....	1.18	B 54
35.....	1.19	C 77
36.....	1.24	B 34
37.....	1.26	A 8
38.....	1.32	A 37
39.....	1.33	A 38
40.....	1.34	A 7
41.....	1.35	B 68
42.....	1.42	A 82
43.....	1.46	D 22
44.....	1.48	B 27
45.....	1.54	C 18
46.....	1.58	B 20
47.....	2.02	A 63
48.....	2.20	B 33

Several were yet to be started when our representative left to catch the train for Herkimer.

DOWNPOUR OF RAIN.

There was a heavy downpour of rain, 8 to 10 miles out of Fonda, which lasted one-half hour and resumed soon after for about ten minutes' time. All the vehicles skidded to the point of danger. A steam carriage went over the embankment, but did not come to grief. Roads were at times good, but again bad and treacherous. C 24 coasted down a steep hill, turned to cross a bridge, turned sharply up a short grade, skidded and forced the hind tires from the rims. Clincher tires are used on this ma-

chine, and their coming off was due to the fact that they were not inflated sufficiently, which the writer noticed shortly before the mishap. The vehicle arrived about 6 p. m.

While the element of sheer rivalry had not been entirely eliminated by the condition of the course and the withdrawal of Bradford B. McGregor as a competitor, the racing was a secondary feature that day to the heroic struggles of chauffeurs who became mud bound.

Incoming operators and passengers of automobiles talked of thrilling experiences on the edge of cliffs and miraculous escapes from collisions with other vehicles. One of the actual escapes was that of H. Rogers Winthrop (33 B), whose machine, after the breaking of a steering wheel, skidded to the outer edge of the roadway that winds half way up the precipitous mountain between St. Johnsville and Little Falls. One of the rear wheels of the machine actually overhung the edge of the cliff, but Mr. Winthrop held his seat until the vehicle had regained the centre of the roadway.

Another experience of the same nature was that of W. Leslie, who, in attempting to make up lost time, dashed down a hill near St. Johnsville in the dark. At the foot he saw an ordinary lantern, which he supposed was carried by a pedestrian. He was within 10 yards of it before he saw a barrier in the road, and, stopping almost within the length of his machine, escaped landing in a ravine, the bridge over which had been removed.

John Jacob Astor left his machine at Albany, placing it in charge of a chauffeur.

The only serious accident of the day was to the automobile Rapid Transit, which left New York three hours behind the vehicles entered in the endurance test. It was wrecked at Mohawk. In crossing a trolley track the front axle and one wheel were broken, and the four men it carried were thrown to the street. They were not seriously hurt.

ARRIVAL AT HERKIMER.

At the arrival at Herkimer our representative made the following notes:

C 59 was running on the low gear; the front axle was sprung and the muffler was off; B 78, gears very noisy; B 26, front axle badly sprung, rear wheel out of true and muffler off; A 8, muffler off; A 74, gears noisy, wheels out of true; C 77, missing ignition.

B 5 lost over five minutes at the start, due to oil on igniters, but arrived at Herkimer as No. 7. The White steam carriages were second, third, fourth and fifth, and then came B 49 and B 5. B 5 tightened up a clutch on the road, and, despite the delays, made good time. C 55 had no delays, but cracked a front spring rest, which was strengthened at Herkimer in the evening by a piece of strap steel. B 26 broke parts of the steering device, ran into a stone wall "head on," then made temporary repairs and arrived at about 6:30 p. m.

B 27 broke one of the live axles en route.

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It is expected to be at the start by 8 a. m. to-morrow.

It appears that all steel rims for single tube tires are too light and of poor construction.

The Packard vehicles have an exhaust relief. Two Wintons and the "Gasmobile" surrey frequently run with their mufflers cut out. Mr. Skinner's muffler has been cut out altogether. The general public is frequently overheard criticising gasoline carriages on account of the racket that a few make, especially when it is done along the thoroughfares of communities. Such practice is calculated to impress the public, but the nature of the impression made is questionable.

This stage was a very hard test for the vehicles. The roads encountered are said to have been the worst of the whole route, and the vehicles acquitted themselves pretty well on the whole.

Sparking troubles on the jump-spark outfits, dented rims, weak axles and steering pivots and tire troubles seemed to be the main difficulties with the gasoline vehicles.

The order and time of arrival at Herkimer are given in the following table:

TABLE III.

Order.	Time of Day.	Class and Number.
1.....	3.25	C 55
2.....	3.58	B 14
3.....	4	A 11
4.....	4.02	B 12
5.....	4.07	B 13
6.....	4.08	B 4
7.....	4.08	B 5
8.....	4.12	C 56
9.....	4.18	C 61
10.....	4.18	C 1
11.....	4.19	C 23
12.....	4.30	C 31
13.....	4.31	B 70
14.....	4.40	B 48
15.....	4.43	B 28
16.....	4.48	B 32
17.....	4.57	C 30
18.....	5.01	B 54
19.....	5.03	B 81
20.....	5.09	C 59
21.....	5.11	C 79
22.....	5.12	B 86
23.....	5.22	B 87
24.....	5.23	A 37
25.....	5.28	A 72
26.....	5.28	A 47
27.....	5.34	C 34
28.....	5.36	B 26
29.....	5.40	A 8
30.....	5.50	C 18
31.....	5.59	C 2
32.....	6.04	A 74
33.....	6.06	B 21
34.....	6.24	B 41
35.....	6.28	A 38
36.....	6.32	A 7
37.....	6.44	B 20
38.....	6.44	C 77
39.....	6.45	B 34
40.....	6.47	A 36

Order.	Time of Day.	Class and Number.
41.....	7.07	B 80
42.....	7.23	B 43
43.....	7.32	B 22
44.....	8.11	B 76
45.....	8.13	A 82
46.....	8.32	B 68
47.....	9.10	B 40
48.....	9.14	A 75
49.....	9.14	B 52
50.....	9.15	B 53
51.....	9.35	C 65

A VISIT TO THE STORAGE STABLES.

Out of sixty-six carriages started from Albany, fifty-one reached Herkimer before 9:40, the time of closing the control.

A visit to two of the storage stables in the evening showed:

C 31 cleaning spark plugs.

C 59 cleaning spark plugs.

C 24 putting on new tire.

C 79 working on engine.

At all the express offices were seen quantities of repair parts for the different makes of machine—spare tires, wheels, running gears, batteries, etc. The De Dion people have a repair van following their carriages, and I believe the locomobiles are similarly provided. The fine showing of the White steam vehicles on the run from Fonda to Herkimer is noteworthy.

This run is not going to be an endurance test in any large sense. The enormous number of parts replaced in some of the machines takes away any bearing the run might have on the question of durability. And the adoption of uncommercial expedients, such as disconnecting mufflers to get a little more power, is much to be regretted. The more I see of the test the less valuable I believe its lessons will be. It is to be deplored that no record of stops for supplies or through accident is kept, and that no record of condition of machine and repair parts used is preserved.

The public everywhere seems remarkably cordial to the automobile. There is a remarkable change of attitude within the last two years. Not long ago they would have stopped their ears, held their noses and said unkind things.

The motor cycles gave up in the afternoon on account of the rain.

BROKEN AXLES GALORE.

Harry E. Dey writes under date of the 11th:

Well, we are in Herkimer, settled for the night, and there is not a man in the party but who is glad the day's journey is over, for it has been a most disagreeable one, both on account of the roads and the weather. The former are a disgrace to civilization and the weather has been a series of showers, alternating with sunshine, causing the roads to be even much worse than they would otherwise have been—which was bad enough.

Mr. Greuter was up until nearly 4 o'clock this morning repairing a broken

axle, and this morning the carriage was in first-class running order. We got started at 8:29, and made good time on the road leading from Albany, but the further we went the worse the roads got, becoming finally a mere single road, the width of a vehicle, running through the woods. Then a hard thunder storm came up and turned the clay into a slippery mass of grease, and caused our tires to act as skates, to take us into ditches and other inconvenient places not on the programme. We did not dare to speed up our machine. On the steep grades the wheels would grind away without progressing; some of the chauffeurs wound them with rope, which helped matters. Many of the men got wet through. We were perfectly comfortable in our machine, with its cover and big boot to let down in front of us. The steam machines had considerable trouble with their boilers priming. Of the vehicles that started this morning there are about twenty machines that have not shown up yet to-night, although their time limit has expired. We arrived at 5:50. One of the White Sewing Machine Company's machines broke an axle to-day.

The further along we get the more interest the people appear to take in us. At Schenectady it appeared as if a holiday had been proclaimed and they had all turned out to see us. Judging from the number of children present the schools must have let them out to see us. In the country the farmers stood out in the pouring rain to watch us, and sometimes we got pelted with flowers. The street was packed in front of the hotel to-night and they gave us a serenade with a very fine band. At some places the streets are decorated.

The scenery along the whole route has been fine, but to-day it was exceptionally so. We have been following up the Mohawk Valley, and it is beautiful from one end to the other, and especially so near Little Falls.

There were sixty-seven starters this morning and fifty-one arrivals to-night.

There were some narrow escapes during the day on account of the slippery condition of the roads. One Packard carriage stripped both rear tires when slewing. The running gears of many of the vehicles are beginning to show signs of weakness.

"AN EVENTFUL DAY."

C. C. Bramwell, who accompanied the St. Louis motor carriage, B 34 writes from Herkimer:

"This has been an eventful day, indeed, and one long to be remembered by many. What with dust, followed by rain and consequent mud, good, rich mud 6 to 8 inches deep, we had a hard time of it.

"The side slipping was fierce, and stunts were the order of the day. Many ambitions have been crushed and several reputations injured.

"Two points stand out pre-eminently in to-day's run. The first is the ill advised

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practice of gearing a vehicle to run at its highest possible speed on good level roads and thus rendering it very unsatisfactory in such conditions as we have just passed through. The second point is the great need for some means of preventing side slip. Some of the vehicles behaved simply frightfully in this respect, floundering all over the street."

OBSERVATIONS MADE ON A "WHITE."

J. W. Jones, riding in the White steam carriage No. B 14, writes from Herkimer:

"Our vehicle was one of the latest to start. We found driving good to Schenectady, but from there on the roads were not so good, and at times wretched. A rain storm struck us so suddenly that we were pretty wet before we could get into our rubber coats. It rained very hard almost to Aiken, and then cleared off, and was bright and dry when we reached Fonda; in fact it seemed as if the rain had not extended beyond Aiken, as the roads were quite dry from there on. The White carriages were all in early at the noon control.

"The steam surrey made by Lane Brothers, B 28, came in with two Foster touring wagons about 11:45. Mr. Lane allowed me to inspect the engine in his vehicle. With the cover off the casing it looked as bright and clear as the works of a watch, the casing protecting it from all dirt, and the crank casing, being half full of oil, keeps the eccentric and connecting rod bearings perfectly lubricated. I think that this fact largely accounts for the good showing this carriage is making. Other steam carriages make many stops to oil up the engine, with the possible exception of the Whites. The one I am riding in has only stopped for water between controls, since leaving New York, and two or three times that the burner had gone out, necessitating stopping to light up. The Foster wagons are running fairly well, and do not experience the difficulty with their burner (back firing) that many of the other steam carriages do. The steel rims on the wheels, which are exceedingly light, are badly bent up around the edges, which is the only apparent effect the run has had on these carriages. Only one of the Toledo carriages reached Fonda up to the time I left. The surviving Victor carriage met with an accident which necessitated the replacing of the boiler with a new one at Albany. I do not know whether they started on time this morning. I lost track of the Century vehicle at Peekskill, but I understand that it reached Fonda at the noon control. The Toledo carriage had a steam leak to-day, due to the blowing out of a plug in a steam connection, which caused considerable loss of time. The air pipe also snapped several times by coming in contact with the running gear or reach. The Toledo engine is hung from under the seat by a ball joint in the main steam pipe and braced by a distance bar. I understand that the engine snapped this pipe and dropped on the ground in the carriage that reached Fonda.

"From Fonda to Herkimer our time was 2 hours 43 minutes for 37.7 miles. We left Fonda at 1:05 and arrived at Herkimer at 3:48. Being the second on the way we overtook the Lane steam carriage taking water from a spring with a steam injector. After filling the water tank they could not start the carriage, as they had used all the water out of the boiler for the injector. It took longer to fill the boiler with the hand pump than it would have taken to fill the water tank with a pail. Of course, as the carriage was standing, no water was pumped into the boiler to replace that being used for working the injector.

"We were caught in a very heavy rain shortly after leaving Fonda, which continued to Little Falls, and we got a pretty bad wetting. I observed a large number of machines coming in from my room at the hotel, while changing my wet clothes.

"The excellent performance of the White carriages is partially due to the expertness of the gentlemen operating them. Mr. White usually keeps his carriage in the lead.

"The consumption of gasoline in our carriage was about one-fourth of a gallon to a mile as near as I could make out.

"President Shattuck made an address to the people of Herkimer in the evening, and met the mayor of the town; his remarks on good roads were enthusiastically received."

The Fourth Stage.

The fourth stage—Herkimer to Syracuse, with noon control at Oneida—was run on Thursday. The distances of the two halves of this stage are 38.3 and 26.8 miles respectively, and it is the shortest stage of the six.

The following are the official figures for the start from Herkimer (the control closed at 10 a. m.):

TABLE IV.

Order.	Time of Day.	Class and Number.
1.....	8	C 55
2.....	8	A 47
3.....	8½	B 54
4.....	8½	B 13
5.....	8.01	A 37
6.....	8.01	C 1
7.....	8.01	B 41
8.....	8.01½	A 8
9.....	8.01½	B 28
10.....	8.02	B 43
11.....	8.03	C 30
12.....	8.03	C 56
13.....	8.04	B 80
14.....	8.04	C 79
15.....	8.05	A 36
16.....	8.05	B 86
17.....	8.06	B 52
18.....	8.06	A 7
19.....	8.06½	C 59
20.....	8.07	A 38
21.....	8.07	B 21
22.....	8.08	B 70
23.....	8.08	C 23
24.....	8.09	C 24

Order.	Time of Day.	Class and Number.
25.....	8.09	B 34
26.....	8.09	C 61
27.....	8.09	C 31
28.....	8.09	C 77
29.....	8.10	B 81
30.....	8.11	C 65
31.....	8.11	B 12
32.....	8.12	B 48
33.....	8.13	A 11
34.....	8.16	C 18
35.....	8.18	B 5
36.....	8.19	B 14
37.....	8.21	D 9
38.....	8.22	B 20
39.....	8.30	A 72
40.....	8.33	B 4
41.....	8.35	B 22
42.....	8.41	A 75
43.....	8.47	A 74
44.....	8.49	B 39
45.....	8.53	A 82
46.....	8.53	B 78
47.....	9.01	C 2
48.....	9.02	B 27
49.....	9.04	B 76
50.....	9.36	A 45
51.....	9.45	B 40
52.....	9.48	D 64
53.....	9.51	B 32
54.....	9.53	B 26
55.....	9.55	A 63

RAIN! RAIN! RAIN!

Rain was in sight when the machines left Herkimer in the morning, and the first drops fell at about 8:45 a. m.

The enthusiasm of the competitors in the event was shown in the fact that not a vehicle in condition to travel was withdrawn because of the wretched prospects, while every available seat in the starting machines was occupied. This was the more remarkable when it is considered that the occupants of the carriages the day before were worn in body and mind almost to the point of exhaustion and that most of them had ridden for hours with every vestige of clothing water soaked.

Fifty-six vehicles made the start from Herkimer, five machines having arrived there after the closing of the control Wednesday night. David Wolfe Bishop was given his customary position at the head of the line, and, as usual, his racing monster was never overtaken.

The roads were mostly miserable in the morning, with only a few fair stretches. Most of the driving was up hill. In the afternoon the sun shone and there was quite a breeze, and the roads were a slight improvement on those traveled on in the morning.

CHANGE OF RULES.

Because of the ill conditions, the rules of the contest were changed to permit chauffeurs to make a through run to Syracuse, with a stop of only half an hour at Oneida for the noon control. Because of this alteration the night control was opened at half past 1 in the afternoon.

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Not even Mr. Bishop was there at that time, however. The roads did not permit of racing, and the use of low speed gears was often resorted to. The run was a ploughing match rather than a speed event, and many machines that had fallen behind when the conditions were different showed a surprising tendency to pull to the front.

C 55 punctured a tire and the chains were showing wear. This machine (D. W. Bishop) arrived at Oneida first, with the Stearns steam carriage in pursuit. The latter has a 5-foot 9-inch wheel base, 28x3-inch tires and tubular wheels. This vehicle has done better than most of the steam carriages. One White had to be towed in to Syracuse to-night.

C 61 broke its rear axle, and must have skidded into the hole in which it was lying. Temporary repairs were made, and the vehicle reached Syracuse late at night.

Mr. Greuter's machine ran into a fence this forenoon, but arrived at Syracuse by 6 p. m., apparently in good shape. B 54 punctured two tires.

All the vehicles skidded; even on the stretches called "good" in the programme. The rain lasted until 12:30 p. m. At times it poured.

AFTERNOON RUN.

Numerous carriages arrived at the noon control in Oneida, and as soon as the time of arrival had been registered, departed for Syracuse, the time of departure having also been recorded. It was said that a Packard lost a rear tire, which was soon put back again. Mr. Skinner broke something in the change-speed gear. A 8 skidded on the wet road; the emergency brake was applied suddenly and the vehicle turned over. No damage was done outside of the body coming loose. B 26 skidded into a stone wall and broke the rear axle outside of Fayetteville.

There was a dearth of arrows designating the road. Early in the morning a number of operators wound hemp rope around the rear tires, but within 6 miles this wore out. One of the Packards used shoes on the hind tires. Practically all the troubles are due to the condition of the roads.

A. R. Townsend (Toledo) was first at Oneida at 11:34. He was closely followed by C. B. Pettengill (Columbia), C. Arthur Benjamin (locomobile), Park Densmore (Foster) and E. L. Ferguson (Thomas motorcycle).

While trying to pass another vehicle near Utica a three-wheeled gasoline phaeton driven by Harry Burhans (A 63) ran into the ditch and was overturned, throwing the two occupants into a gully 15 feet below. Neither was hurt, and with the help of some farmers they righted their vehicle and continued the journey.

To avert "short circuiting" of the ignition circuits, many of the competitors had taken the precaution to cover all electrical parts with oil cloth, and to prevent the up-splashing of water had suspended

tarpaulin sheets beneath the bodies of their carriages.

AT THE SYRACUSE CONTROL.

The following table gives the official time of arrival of all the vehicles (forty-eight) that had arrived at the time of closing the control, 9:30 p. m.:

TABLE V.

Order.	Time of Day.	Class and Number.
1.....	2.34	C 55
2.....	2.35	B 13
3.....	2.38	B 86
4.....	2.41	B 14
5.....	2.43	A 47
6.....	2.44	B 12
7.....	2.52	B 80
8.....	3.08	C 77
9.....	3.09	B 70
10.....	3.10	C 24
11.....	3.12	C 79
12.....	3.21	B 5
13.....	3.22	B 4
14.....	3.28	B 28
15.....	3.30	C 2
16.....	3.34	C 56
17.....	3.43	B 54
18.....	3.53	C 31
19.....	3.55	A 75
20.....	4.01	B 43
21.....	4.03	B 41
22.....	4.08	A 72
23.....	4.32	A 37
24.....	4.34	B 78
25.....	4.48	A 36
26.....	4.59	B 35
27.....	5.03	C 23
28.....	5.03	A 38
29.....	5.10	B 81
30.....	5.13	B 22
31.....	5.21	A 7
32.....	5.26	C 30
33.....	5.29	C 65
34.....	5.34	C 1
35.....	5.42	B 34
36.....	6.01	A 8
37.....	6.08	B 29
38.....	6.12	D 64
39.....	6.15	B 20
40.....	6.15	B 32
41.....	6.21	C 18
42.....	6.33	A 45
43.....	6.46	A 82
44.....	7.26	B 76
45.....	7.53	C 61
46.....	8.14	D 9
47.....	8.25	B 68
48.....	8.45	A 11

Harry E. Dey, in Mr. Greuter's carriage, reports the fourth stage as follows:

"The weather has been making it very interesting for us again to-day. We left Herkimer at 8:16 in a drizzling rain, and the roads as slippery as grease. At Frankfort we saw a rear wheel drop off from an autocar, a broken axle being the cause. A little further on we skated off the road, smashing into a high board fence and stopped with our front wheels well over an 8-foot railway embankment. It was a very close call to taking a double

somersault. I decided that luck is sometimes on my side, and that this was one of the times. The canal was on the opposite side of the road, and hearing the rattle of a farmer's wagon on the other side we called him. He crossed a bridge a quarter of a mile further up and came down and pulled us up on terra firma once more. We found on examination that no material damage had been done except the breaking of the dynamo belt; so after putting on another belt we continued our journey. A quarter of a mile further on we found another breakdown from a broken axle. This time it was a Packard rig.

"Many of the chauffeurs had wound their wheels with rope before starting out. I do not believe it lasted long, as we had not gone 3 miles before we found the road almost lined with rope, all in short pieces. We kept on skating for the rest of the morning, and a number of times, when turning around at right angles to the road, it required the utmost care to prevent a serious accident. The carriages all had more or less trouble, but I think from all accounts we had the most, the carriage being so big and heavy (3,300 pounds) and having such a short wheel base (60 inches). This trip has thoroughly convinced me that for touring purposes, and especially at high speeds, a long wheel base and large wheels are absolutely necessary. Mr. Greuter intends to add about 2 feet to the length of his carriage as soon as he gets back to Holyoke. The weather cleared off a little before noon and the roads gradually improved after that. We arrived at the noon control, at Oneida, 38.3 miles, at 2:20 p. m., and left there at 3:30 for Syracuse. We got along better in the afternoon, the skating qualities of the road having practically disappeared. We have had many long and steep hills this afternoon, some as high as 12 per cent. We passed a Winton semi-racer with a broken axle at Fayetteville. Skinner stripped a gear during the day. He said it had been run about 8,000 miles and was about worn out. We arrived at Syracuse at 6:21; distance, 26.8 miles.

"I have just received the report of total arrivals to-night within the time limits. There were forty-eight out of the fifty-five starters this morning. The motor bicyclists have been having a hard time the past two days, as they have had to walk and push their wheels wherever there was no side path, the road being entirely too bad for any kind of bicycle. Some of them arrived wet and hungry after 12 o'clock last night."

OBSERVATIONS AT SYRACUSE.

The following observations were made at the control in Syracuse:

C 79 had both rear wheels out of true and rims bent; C 31, front axle apparently sprung; A 72, front axle showed weakness; B 22, left rear tire in bad shape; C 30, front axle bent; B 34, engine was missing; A 8, right rear tire was

THE HORSELESS AGE

flat; A 11, right rear wheel in bad condition.

At locomobile headquarters in the evening the machines were found to be undergoing repairs, boiler tubes being expanded in one, the check valves removed from another, valves were packed on a third and burners cleaned on several.

Not so much work was being done on the gasoline carriages that evening. In A 7 (Pierce) an intake valve was taken out, probably with the object of regrinding it. On A 8 similar work was done. C 79 (Packard) was undergoing repairs to the engine.

One of our observers writes:

"It really begins to look, as far as a superficial judgment of this test is concerned, that the trouble with most of the machines is not in the motor power, but largely in the running gear, wheels and tires."

THE "WHITES" LEAD THE WAY.

Joseph W. Jones, in the White carriage B 14, left Herkimer at 8:19 a. m. and arrived at Oneida at 11:11 a. m. It rained from the time of starting all the way to Oneida. The roads were in very bad shape, and all carriages skidded badly on the slippery mud, the heavy gasoline carriages suffering the most. A very strong wind was blowing all day, which carried the mud and water thrown by the wheels and threw it over us in a shower, he writes. At Utica a Pierce gasoline runabout turned turtle and broke a wheel. I do not know just how the accident happened, but I think it must have struck a hole on the slippery road. Through Utica we were spinning along at a high rate of speed on the fine smooth asphalt, and then got into the heavy roads on the other side the rest of the way to Oneida. We stopped twice for water on the morning run. The dirty water caused some slight trouble with the pump checks and necessitated occasional hand pumping on the hills to keep up steam. We had to travel slowly to prevent dangerous skidding, but we had no trouble except that from which all were suffering alike, namely, the rain blowing down our necks and running down our waterproof coats under the "boot" and down into our shoes. We did not deem it advisable to use the "top," as the wind was so strong. Our fire was not affected by the strong wind, but the carriage operated by C. A. Benjamin was seen to have difficulty with back firing.

We stopped only about one hour at Oneida, leaving at 12:13, and arrived at Syracuse at 2:41. The roads were slippery and worse than in the morning. Mr. Bishop in his Panhard passed us about 6 miles out of Syracuse traveling at a rapid rate and skidding a good deal. He arrived at 2:34, seven minutes ahead of us. A White carriage and a "hydrocar" arrived after Bishop and also ahead of us. A third White machine arrived sixth, at 2:44, and the White runabout, driven by

Mr. White, met with an accident to a rear wheel 11 miles from Syracuse. Four gasoline vehicles and one Foster wagon had come in up to 3:12 o'clock.

The Century surrey, which broke a tooth on the rear bevel gear at Poughkeepsie, made repairs and made a good showing on the road during the day. Mr. Woodin, who owns the vehicle, said in the evening that except for that he had no fault to find with the machine, as it traveled regularly without any need of adjustments. He mentioned, however, that he found it necessary to replenish the water supply very often, as the vehicle and load are heavy, and require a good deal of steam. The vehicle is a 2,100 pounds surrey, with a water capacity of 40 gallons.

Mr. Woodin is a strong believer in the bevel gear chainless, as it is dust-proof and easily kept lubricated, whereas all the chain machines have suffered a good deal of grinding, through mud and sand being thrown on the chain by the wheels.

A feature of the White vehicle is the hand oil pump feeding the lubricant to the engine cylinders, which is given a few strokes by the operator every 3 or 4 miles and on the steep grades, when the engine most needs it. This is a very positive and simple method of cylinder lubrication.

The Victor carriage, which had to replace its boiler at Albany, has not come beyond that point, as far as I can learn. Both carriages entered by this company were doing well up to the time of their mishaps, and, I believe, would have made a record for themselves had they been more carefully managed and the operators not tried to beat in each control. The Winton, which broke an axle on the road, was repaired at Oneida, and arrived at Syracuse at about 8 o'clock.

This has been a very trying day's run, especially after having had two such bad days in succession, and the rain, which cleared just before reaching Syracuse, has started again, and the prospects are for another bad day. The rain has been a great misfortune in this contest, but has shown the merits of the carriages in all kinds of weather on average American roads. The trip from Albany through the Mohawk Valley would have been a most delightful one had it not been for the blinding rain. As it was we saw some very beautiful scenery in this most fertile and beautiful valley. We have been getting a good deal of very bad water since leaving Albany, and I understand that it will be worse in to-morrow's run. This will develop some interesting features in the effect on the small steam boilers.

All the White carriages started from Herkimer with $\frac{1}{2}$ -inch rope wound on the tires, but they soon cut through. After traveling 4 or 5 miles they threw the mud and water terribly, and had to be taken off. The White runabout came in at about 10 o'clock with a badly damaged wheel, which was replaced by a wheel off one of the other carriages.



SCENE ON NELSON HILL.

The Fifth Stage.

The carriages started on the fifth stage of the tour, Syracuse—Rochester, 87.2 miles, on Friday morning.

Departures from Syracuse September 13, 1901:

TABLE VI.

Order.	Time of Day.	Class and Number.
1.....	8.02	A 47
2.....	8.03	B 70
3.....	8.03½	B 35
4.....	8.04	A 38
5.....	8.04½	B 32
6.....	8.05	B 28
7.....	8.05	B 22
8.....	8.06	C 77
9.....	8.06	A 8
10.....	8.06	B 41
11.....	8.07	D 88
12.....	8.07	A 36
13.....	8.08	A 37
14.....	8.08	C 59
15.....	8.08	C 61
16.....	8.08	C 65
17.....	8.09	C 55
18.....	8.09	B 80
19.....	8.09	C 31
20.....	8.10	B 13
21.....	8.11	B 78
22.....	8.12	B 12
23.....	8.12	C 30
24.....	8.13	C 86
25.....	8.13	B 5
26.....	8.14	A 7
27.....	8.16	B 54
28.....	8.16	C 1
29.....	8.18	B 39
30.....	8.19	B 76
31.....	8.20	C 56
32.....	8.21	C 79
33.....	8.25	A 75
34.....	8.28	A 45

Order.	Time of Day.	Class and Number.
35.....	8.31	C 23
36.....	8.34	B 4
37.....	8.35	C 24
38.....	8.37	B 43
39.....	8.42	B 20
40.....	8.56	C 61
41.....	8.57	A 82
42.....	8.58	A 72
43.....	8.58	B 81
44.....	9.00	B 27
45.....	9.02	B 14
46.....	9.10	B 34



D. WOLFE BISHOP'S PANEL.



ELSON HILL.

Order.	Time of Day.	Class and Number.
47.....	9.11	A 11
48.....	9.12	B 68
49.....	9.29	C 18
50.....	9.40	B 64
51.....	9.49	A 63

The weather was anything but promising when leaving Syracuse. The skies were gray, and soon after the start it rained a little. Later on the sun shone again. Roads were sandy at times, slippery practically everywhere, and only a few miles of road were in fair condition. One of the Winton carriages, it was said, broke an axle. Robinson's carriage (C 1) ran into the ditch, but was soon gotten out. At 1:45 only thirty-one machines had arrived at Lyons, the noon control.

FRIDAY AFTERNOON'S RUN.

The roads were said to be good after leaving Lyons. As a matter of fact they had been washed out by the rains of the previous day, and were in such a poor condition as to make driving appear like navigating a dangerous channel. Several vehicles got onto the wrong road before reaching Palmyra. The blue arrow at that fork was not bent enough to direct the operators properly. At several other forks there were no arrows. The blue arrows are not very satisfactory, anyhow.

Fifty machines left Syracuse, forty-three arrived at Lyons and thirty-eight left Lyons by 3:40, when the control was closed; thirty-nine had arrived at Rochester by 9:45 p. m.

A 7 broke an axle end (knuckle). A. L. McMurtry had a hot bearing, lost motion in the connecting rod boxes, trouble with the carburetor, and blew out a porcelain in a sparking plug, which detained him

Order.	Time of Day.	Class and Number.
35.....	8.31	C 23
36.....	8.34	B 4
37.....	8.35	C 24
38.....	8.37	B 43
39.....	8.42	B 20
40.....	8.56	C 61
41.....	8.57	A 82
42.....	8.58	A 72
43.....	8.58	B 81
44.....	9.00	B 27
45.....	9.02	B 14
46.....	9.10	B 34



D. WOLFE BISHOP'S PANHARD FIRST AT THE CONTROL.



PASSING THROUGH THE SALT MARSHES AT SYRACUSE.

some on the road, but he arrived shortly before 6 o'clock.

Harry E. Dey writes from Rochester September 13:

"We were one hour and a half late in leaving Syracuse this morning at 9:29. It had been raining, but was showing indications of clearing up when we started. The roads were fairly good for awhile, but later a shower came up, lasting a half hour or more, and made them very slippery. Time and again we would skate and find ourselves pointing toward our starting point, having turned completely around. 'Baby,' as the boys have nicknamed our vehicle, was altogether too frisky, and the consequence was that we had to keep her down to about a 5 mile gait for a long time, until the roads had dried up enough to be less slippery.

"We arrived in Lyons, the noon control, at 2:50 p. m.; distance, 48 miles. When within a block of the control we had a collision with a young lady on a wheel. She was coming down hill toward us and I motioned to her to pass to the left, as we were just turning into a street on the other side. Instead of doing so, however, she turned into the same street and we came together side against side. She fell off her wheel, took a complete somersault and got right up. I jumped out and ran to her assistance, but there was apparently nothing I could do except express our regret at the occurrence. She did not appear to be seriously hurt, her first concern being the condition of her skirt, which was badly torn.

"We left Lyons at 3:40 and arrived at Rochester at 8:24 in the evening; distance, 39.2 miles. The road was fairly good until within 10 miles of Rochester; then it was poor until we struck the city pavements.

"Our starting clutch caused us considerable loss of time to-day, refusing to grip hold of the engine shaft; so a number of times we were obliged to start the engine by throwing in the high gear and pushing the carriage, which is not easy with such a heavy vehicle. We took it apart and cleaned it, but that did not improve it. Apparently it is worn, and the rollers need to be renewed. Mr. Greuter is going to try to get some Stubs stock in the morning and make a set before we start. I think he will have to do some hustling to do so.



THE DURVEA FO



SALT MARSHES AT SYRACUSE.

"Our starting clutch caused us considerable loss of time to-day, refusing to grip hold of the engine shaft; so a number of times we were obliged to start the engine by throwing in the high gear and pushing the carriage, which is not easy with such a heavy vehicle. We took it apart and cleaned it, but that did not improve it. Apparently it is worn, and the rollers need to be renewed. Mr. Greuter is going to try to get some Stubs stock in the morning and make a set before we start. I think he will have to do some hustling to do so.

"C. J. Field took a header to-day, the result of a 'thankee, marm'; the cooling coils of his machine were loosened some, but soon fixed up, and the journey was continued."

C. C. Bramwell, who rode in the St. Louis carriage, writes from Rochester:

"Another day's run has been completed and, like the two previous divisions covered, this one has been very severe. Rain all morning and mud and sand all day.

"The noon control was at Lyons, and while there we saw a number of vehicles practically out of commission. Both the three-wheelers had their front wheels thrown out of line. The Robinson vehicle broke its forward spring connection. One White steam carriage and one gasmobile had bent rear axles. The Pierce vehicles needed some attention, while one of the motorettes, back on the road, had to be doctored up somewhat.

"This does not tell the whole story by any means, but simply goes to show that the troubles were by no means confined to one make or type of vehicle.

"I cannot write a true description of to-day's run without cautioning manufacturers to be careful, in future runs of this sort, to place responsible men in charge of their vehicles and not entrust the machines to boys or hot headed youths.

"Let us take a few examples of to-day's offering to the juggernaut 'Speed': One Winton minus wheel and part of axle; one Packard minus rear axle end and wheel; one White steam vehicle buckled rear wheel; one De Dion with teeth stripped in gear. These are a few of the accidents. There are many others that did not come under the writer's notice. These vehicles are well-known machines, and with rea-



THE DURVEA FOUR WHEELER.

ARRIVALS AT ROCHESTER SEPTEMBER 13, 1901.

Control opened at 3:45 p. m., closed 10:30 p. m.

Order.	Time of Day.	Class and Number.	Operator.	Make of Vehicle.
1.....	3.45	C 55	D. W. Bishop	Panhard
2.....	4.07	C 23	J. W. Packard	Packard
3.....	4.15	A 47	C. A. Benjamin	Locomobile
4.....	4.20	B 5	Edgar Apperson	Haynes-Apperson
5.....	4.32	C 24	William Hatcher	Packard
6.....	4.46	B 80	E. B. Pettengill	Columbia
7.....	4.47	B 12	O. S. Southworth	White
8.....	4.53	B 78	J. Seligman	Columbia
9.....	4.59	B 70	F. R. Densmore	Foster
10.....	4.59	C 31	Albert T. Otto	Gasmobile
11.....	5.01	B 35	S. D. Waldron	Foster
12.....	5.04	B 13	M. Hughes	White
13.....	5.08	B 86	M. H. Winters	Hydrocar
14.....	5.09	A 11	R. H. White	White
15.....	5.09	B 4	Elmer Apperson	Haynes-Apperson
16.....	5.17	B 28	O. K. Raymond	Lane
17.....	5.20	C 2	A. R. Shattuck	Panhard
18.....	5.23	B 32	Percy Owen	Winton
19.....	5.24	C 77	Alexander Fischer	Gasmobile
20.....	5.30	B 14	P. H. Deming	White
21.....	5.31	C 79	Dr. T. J. Martin	Packard
22.....	5.50	A 37	J. A. Mitchell	Locomobile
23.....	5.51	A 72	J. Louvegnez	De Dion
24.....	6.05	A 8	P. P. Pierce	Pierce
25.....	6.22	C 1	J. T. Robinson	Robinson
26.....	6.30	C 30	S. D. Ripley	Gasmobile
27.....	6.36	B 34	J. L. French	St. Louis
28.....	7.08	B 81	F. E. Lewis, 2d	U. S. Long Distance
29.....	7.29	C 65	C. R. Woodin	Century
30.....	7.34	A 82	F. H. Fowler	Knox
31.....	7.37	A 75	C. J. Field	De Dion
32.....	7.47	A 63	H. Burhans	Duryea
33.....	7.48	A 38	G. A. Knowles	Locomobile
34.....	7.54	C 56	A. L. McMurtry	Packard
35.....	8.24	C 18	C. R. Greuter	Holyoke
36.....	8.45	C 59	W. H. Owen	Gasmobile
37.....	9.16	B 27	L. S. Clarke	Autocar
38.....	9.19	B 22	Alexander Dow	Winton
39.....	9.25	B 20	H. Curtis	Toledo
40.....	9.39	B 39	J. W. Clark	Locomobile
41.....	9.45	C 61	J. M. Satterfield	Packard

sonable service would last a long time; but with the reckless and fast driving they have been receiving over the worst imaginable roads, the occasional failure of a part must be expected."

THE "WHITES" AT THE FINISH.

Joseph W. Jones, with the White steam carriage B 14, left Syracuse at 9:02 a. m. and arrived at Lyons at 1:42 p. m.

We encountered slight rains, he writes, with rather slippery roads, but from Camillus on the roads were fairly good. We passed the Stearns steam carriage and also the Grout carriage, the engine of which was giving some trouble, having dropped out the previous day. Further on we passed a locomobile out of gasoline. We encountered only good roads all the way to Port Byron, 25 miles from Syracuse, where we struck the salt marsh, continuing 5 miles to Montezuma. The Reading steam carriage and the Century steam surrey preceded us across the marshes, traveling at a steady 10 mile gait. The Century showed absolutely no strain

and seemed to be doing better than usual in that respect. From Savannah to Lyons the roads were fair. We left Lyons at 2:47 p. m. and traveled 26 miles to Egypt without stop, using 20 gallons of water, which was certainly very satisfactory over roads which were rough and hilly in some places. We arrived at Rochester at 5:30. This day has been the longest run we have had—87.2 miles.

The White carriage B 11 had a partial collapse of the rear wheels, but was able to get into Syracuse, where the wheels were taken to a blacksmith and straightened out; the rims were too light and some of the spokes had pulled out. One of the rear springs was broken on carriage B 13, and a new one was put on at Syracuse. B 14 had a new pilot light fitted on account of the breaking of a needle valve stem. These were all the repairs required by the White carriages. The carriages were oiled up at every control. With the exception of one puncture, the 3-inch Goodrich tires, which were on three of the carriages, came

through without giving any trouble. I do not think they were pumped up after starting from New York.

At the closing of the control at Rochester, at 10:30 p. m., forty-two vehicles had arrived. Among the steam vehicles entered in the run which came through, arriving in Rochester before the close of the control at 10:30 p. m., were the following:

	Started from New York.	Arrived at Rochester.
White	4	4
Lane	1	1
Foster	2	2
Century	1	1
Locomobile	8	4
Grout	1	1
Toledo	2	1
Victor	2	1

One of the companies represented in the run had a repair force on the road of several men, to put the machines in repair at each control.

New engines and boilers were substituted freely. Oiling and hand pumping seemed to be the cause of frequent stops on the road.

One type of light gasoline carriage was subject to all kinds of trouble on the road, but had a handicap over its steam rival by having a "Red Cross" repair wagon in the run containing two trunks full of new parts comprising everything but a new body. It is impossible to determine the wear and tear on some of these vehicles, as some of them were practically rebuilt on the road.

THE ROCHESTER CLUB'S HOSPITALITY.

On arriving at Rochester the mud-spattered and weary tourists were accorded a reception which brought expressions of gratitude and appreciation from all. The Rochester Automobile Club had secured for the occasion an empty stable not far from the Powers Hotel, had provided all necessary supplies for the machines, obtained the protection of the police to keep out the curious crowd, and last, but not least, had set out a substantial luncheon for the refectation of the visitors. Participants in the tour report this as a shining exception—as it were, an oasis in the desert of their way through the swamps and stony hills of central New York State.

The Sixth Stage Abandoned.

Telegraphic news of the death of President McKinley having been received during the night, the committee of the club held a meeting early in the morning and decided to abandon the tour at Rochester and make the awards on five days' performances instead of six. The numbers were removed from the vehicles and nearly all the contestants proceeded on to Buffalo, though more leisurely than they had intended. The Packards were shipped back to Warren immediately, with the exception of the two owned by Buffalonians, which went on home over the road.

Considerable dissatisfaction was shown by the contestants, who felt that after having passed through such trials and tribulations as had been their fate for three days past

they ought to have a chance to raise their average again between Rochester and Buffalo, where the roads for most of the distance were better than in Central New York. But the officials decided otherwise, feeling that the ending of the run under the circumstances would be regarded as a lack of respect for the nation's dead and subject the club to just criticism.

David Wolfe Bishop entered Buffalo at 12:30 p. m., his 30 horse power racer having again made the best time. Next came A. R. Shattuck, at 2:25, and then in the order named G. B. Pettengill (Columbia), Alexander Fisher (gasmobile) and a mobile wagonette. The last two plainly showed the effects of the run.

A Toledo steam carriage arrived at Buffalo on Saturday forenoon, being one of the participants in the run from Chicago to Buffalo, and the only one of the participating vehicles that had arrived up to 5 p. m. The occupants said they had made the 500 miles in four days with no accident except a tire puncture; they ran from 7½ to 8 miles with one gallon of gasoline and 1 mile with a gallon of water.

THE RUN TO BUFFALO.

Harry E. Dey writes of this unofficial run:

"After the race was declared off, Mr. Greuter and I decided to go on through to Buffalo. The weather was fine. He got his starting clutch fixed up, and we left Rochester at 10:40. About twenty-five others also started earlier. After about a 10 mile run we got stuck in a hole, the front wheels being down to the hubs. The hole was filled with water and the rear wheels were on wet clay, upon which they could get no grip. I had to walk a mile to get a farmer to pull us out with a team. He was a good natured fellow and very readily consented to help us out, and in-

vited me to have dinner with him before going back to the carriage; but time was too precious and I declined. There was some misunderstanding about the road near this point, as the vehicles took three different roads. We wished we had been one of the other ones, although we heard that several had been stalled on the main road. We were on a branch which had been selected by the club because of the bad condition of the main road. A short time after getting hauled out of the hole we struck better roads, and our last 40 miles to Buffalo were made at an average of 16 miles per hour.

"The pleasure of the last 30 miles of our run was greatly marred on account of the air being filled with some kind of a gnat or fly. They came against our faces like sleet, filling our eyes, noses and ears. I put on my mask, but they would even crawl up under that. They lasted up to the outskirts of Buffalo. For the past two days previous to yesterday noon 'Baby' had appeared rather weak. We could not account for it; but yesterday when we stopped for lunch we gave her a drink of 5 gallons of gasoline. As soon as we started up it appeared like a different machine. She was her old self once more. So we have naturally come to the conclusion that her former weakness was due to poor gasoline. On the run home then of 36 miles we passed at least fifteen vehicles. Nothing but racing machines were in it with us. I would like to know if others were affected in the same way. We arrived at the tunnel in Buffalo (the place intended for the end of the run) at 6:10 p. m.

"'Baby' has been washed, and will be placed on exhibition to-morrow at the Exposition.

"I think that this run has demonstrated that axles cannot be made too strong. I



WINTON SEMI RACER IN THE DITCH ON NELSON HILL.

have lost count of the number broken on the trip; that the wheel base should be long—at least 8 feet for a high speed touring machine and even longer for a racer—and the wheels should be large, from 36 inches upward. The French machines conform to these conditions much better than the American ones, although their roads are much smoother than ours.

"In wet weather it would be a good feature to have the front steering wheels drivers as well; it would prevent the dangerous skidding. Against this, though, is the lack of traction on the drivers, which is all the more necessary at such a time. In an emergency the machine might be backed up a hill. We found one hill where we had to push a little because of the wheels failing to grip. It was in clay, just after a rain."

Among the vehicles which did not attempt excessive speed but which were generally commended for their reliable performance and freedom from repairs was the St. Louis motor carriage, which maintained a good average speed and stood untouched night after night at the storage stations.

TIRE AND IGNITION DATA.

So far as the different makes of tires are concerned they seem to have been pretty well distributed among the contestants. The Gasmobiles were fitted with Diamonds, one having 3x32 and the rest 4x32. One Haynes-Apperson rig used New York, while the other was shod with Goodrich tires. The Duryea three-wheeler had 3-inch Dunlops, as also did the De Dion, which came through to Buffalo, and the Autocars. All the Whites pinned their faith to the Goodrich clinchers, apparently not in vain, for only one puncture, and that not serious, was reported. All the Packards used single tube Diamonds or Hartfords, while the Fosters had 2½-inch Diamonds.

The Autocars, the Duryea three-wheeler and the St. Louis reported "no puncture." The United States Long Distance reported one puncture in their Goodrich clinchers, due to bad workmanship in setting it.

The only carriage employing Munger tires was the Holyoke, which reported a cut, but no puncture.

The Gasmobiles use two cells of batteries, the jump spark and no generator.

The Haynes-Appersons employ six small dry cells and the Holtzer-Cabot magneto.

Duryea uses the Remy magneto. Oil got into the magneto of the four-wheeler and caused some trouble. Six small dry cells are also employed.

The De Dions are equipped with four dry cells of De Dion's own design.

On the Packard machines four cells of Eclipse batteries are employed without a generator.

In the Knox three-wheeler four cells in series, said to be good for 500 miles, are employed.

The United States Long Distance Company are using six Eclipse cells, said to be

good for 1,200 miles, and no generator, make and break ignition.

On the Holyoke the Apple generator is employed, a four-cell battery being carried along for an emergency.

The St. Louis gasoline carriage is provided with the Motsinger autosparker.

GENERAL SUMMARY.

The highest average speed from start to finish was maintained by D. Wolfe Bishop, the two Packards, driven by J. W. Packard and W. A. Hatcher; the two Appersons, Elmer and Edgar, H. P. Maxim and G. B. Pettengill, with Columbia gasoline carriages; three of the White steam carriages, C. Arthur Benjamin in his locomobile, and Park Densmore, of the Foster Automobile Company.

Some of the machines which made a lower average, however, were favorably commented upon for their freedom from repairs, the machines being left standing in the controls night after night without any attention whatever. This could not be said of a number of the racers that made a higher average at the expense of a great deal of wear and tear and replacement of parts en route. In fact, this whole question of repairs and replacement is destined to be brought prominently forward in the discussions resulting from the run. While some of the contestants took no mechanical helpers with them and no parts except an extra chain or tire, others had ambulances in attendance loaded down with duplicate parts, and sent along by train numbers of the best mechanics from their factories, in order to keep their machines in trim for the morning start.

Some criticism was called forth by the removal of the mufflers from a number of the gasoline machines which ran through the towns and cities with a terrible racket, creating a very bad impression of that type of vehicle among would be purchasers of automobiles. In explanation of this it was said that some of the manufacturers were evidently not sufficiently versed in the art to make a muffler without back pressure.

Occasional complaints of reckless driving on the part of the contestants were heard, one very narrow escape being reported, where a number of men were engaged in unloading telegraph poles by the roadside, and one of them was very nearly run over by an automobilist who was too eager to pass a competitor ahead of him.

CORRECTIONS.

In our report last week mention was made of a number of vehicles being transferred from one class to another as a result of the discrepancy between the declared weights and the actual weights. In the case of John Jacob Astor this was due to his using his gasmobile instead of the Columbia runabout originally entered, and in the case of C. J. Field to the fact that a 15 horse power racer, originally entered,

was not ready, and was replaced by a lighter and lower powered machine.

A. L. McMurtry, driver of the C 56 Packard, which was reported as being "pulled to pieces" at Albany in our last issue, states that this is not correct. His machine was not pulled to pieces during the entire trip. In the dim light of the repair station our correspondent probably mistook the number.

The picture of D. Wolfe Bishop "Rushing Nelson Hill," published in our last issue, was incorrectly captioned. It was not Nelson Hill, but an ordinary hill on the main road.

Comments on the Contest.

Percy Owen has not yet returned to this city from Buffalo, but at the depot of the Winton Motor Carriage Company, Nos. 150 and 152 East Fifty-eighth street, much dissatisfaction was expressed as to the conduct of the contest. Discrimination against the entries of manufacturers is alleged, in favor of private owners of the carriages entered. Vehicles belonging to club members and officials were given undue advantages over other contestants, it is said, notably in the positions in starting from, and in the necessary attentions at, the various controls.

C. R. Mabley, agent for the Panhard-Levassor automobiles, says: "We are naturally much pleased with the result of the contest, even as suddenly and sadly terminated. The performance of such of our vehicles as were given a fair opportunity to make a showing has been highly satisfactory. Mr. Bishop in particular has handled his vehicle with a skill that has received due credit in the columns of the press. Mr. Whipple was not so fortunate with his carriage, for the reason that he insisted, though strongly advised against it, on placing on his tires heavy protecting rims, with horizontally projecting flanges. These flanges broke his driving chain four or five times before he reached Yonkers, and eventually compelled him to drop out of the contest. Mr. Bishop's winning of the cup presented by Mr. Shattuck for the winner of the Class C hill climbing contest and the position of his carriage at the unexpected finish at Rochester have amply redeemed the reputation of the French vehicle. I have as yet heard no expression of dissatisfaction with regard to the conduct of the contest or the fitting and respectful reasons for its sudden termination."

A. S. Winslow, of the New York Automobile Exchange, No. 114 Fifth avenue, said for Mr. McMurtry: "We are, of course, gratified by the showing the Packard carriages have made. Two members of the committee honored us by accepting seats in our vehicles, thus evincing a belief that in such a contest a Packard is a

vantage point from which to take general observation.

"The most serious mishap to a Packard was the accident last Thursday to the Model C (C 61), entered by Mr. Satterfield, which resulted in a broken axle. Under the circumstances, however, I believe the misadventure will not be attributed to any fault or weakness of construction, and the rapidity with which repairs were effected, enabling Mr. Satterfield to make Syracuse within the time limit, demonstrates the recuperative powers of the Packard and its susceptibility of quick road repairs."

W. H. Stearns, the official starter in the Endurance Contest, said: "I think that all of the contestants and everybody concerned are thoroughly satisfied that no better conditions could have prevailed or any fairer opportunity have been offered for testing the various and peculiar capabilities of the different types of vehicles entered in the run. I did not on the road, nor have I since, heard even the whisper of an undertone of complaint as to the original terms of the contest or its conduct to its expedient finish at Rochester. The behavior of the stewards and time-keepers along the road and at the several controls was unprejudiced and impartial. Many more machines went through than I had anticipated would do so, and even the last of these, all things considered, gave a very creditable account of themselves. When the termination of the race at Rochester was discussed, one of the committee proposed that the official numbers be taken from the vehicles and that entry be quietly made into Buffalo; but when it became apparent that the only feasible route to be taken lay along Delaware avenue, and directly before the Milburn house, wherein the body of the martyred President lay, everybody cheerfully acquiesced in the decision reached by the governors and officials of the Automobile Club. Road conditions from Rochester to Buffalo were the best throughout the projected route of the contest, and the positions of the contestants at the former place may or may not have been the same as they would have been had the run been finished at Buffalo. I now hope that another road contest of a like extent and general nature may be a near probability."

President A. R. Shattuck, of the Automobile Club of America, states that, although the favorable conditions of the road between Rochester and Buffalo might readily have put into the first class those contestants who had up to the former point just failed of the 12 miles average, and that although some disappointment might naturally be felt among them at this deprivation of opportunity through the abortive outcome, yet the reasons for the decision arrived at had seemed so strong that they were accepted without dissent; in fact, when it was shown that the entry into Buffalo could not be made without considerable stir and public notice, all the

contestants were most willing to testify to their share in the nation's respect for its dead President by this measure of self-sacrifice.

At the council which declared the contest off there were present the president, two vice-presidents and one governor of the Automobile Club, and two members of the contest committee.

L. Schermerhorn, of the Steam Vehicle Company of America, No. 253 Broadway, says: 'We are perfectly satisfied with the outcome of the contest. My stanhope gave me no trouble, and I am quite contented with its performance. I think this talk of a second contest has its sole origin in the wild imaginations of daily newspaper reporters. I do not think, at least so far as the manufacturers are concerned, that they would care to undergo the expense of another contest. It is possible that a speed contest may be an event in the course of a short time, over either Long Island or New Jersey roads; but I think no endurance run is at present contemplated.'

George Pope, vice-president of the American Bicycle Company, says: "Our headquarters are now in Toledo, and I am in a position to say but little besides that our stanhopes pleased us greatly by their performance on the run. I cannot see the advantage to the manufacturers generally of another endurance run of a similar nature, and I do not think the idea will be popular among them. I think the Endurance Run was fairly conducted and contested."

Albert T. Otto, vice-president of the Automobile Company of America, says: "I am satisfied with the results of the Endurance Run. I believe, however, that had the contest been finished to Buffalo it would have made a difference in some of the contestants' averages. This would have been the case with one of the five vehicles which represented our company. The other four got through to Rochester without a dollar's worth of repairs, and the accident which happened to the delayed carriage—a bursted steam pipe, which was the result of an unexpected meeting with a farmer's wagon—cost not more than a dollar for repairs. I have not heard any talk of another endurance run to be made in the immediate future, nor do I think there is any probability of it—at least so far as the manufacturers are concerned."

Red Cross Doctor Has the Speed Craze.

An incident of the run which is worthy of being recorded took place shortly after leaving Poughkeepsie, when Mr. Rianhart, of the Overman Automobile Company, met with his serious mishap. Being in need of medical attention Mr. Rianhart signaled the "Red Cross" Packard carriage, containing Dr. T. J. Martin, as it whizzed by, but, although the doctor must have seen the wreck of the automobile as he passed, he was too much absorbed in his record breaking run to stop, and was soon out of sight of the injured tourists.