

MANY CAR FAILINGS REVEALED BY WAR Weaknesses Disclosed in Strenuous Service.

PROBLEMS STILL REMAIN Improvement Over Present Types of Transmission One Greatly Desired by Manufacturers.

The war has brought a number of improvements in the mechanism of the car. That is to say under the stern lash of military needs many weaknesses were discovered and remedied which in the ordinary course of events would have taken years to bring out. Not all these innovations have yet actually made their appearance, but the coming national shows will undoubtedly place most of them on public view.

Whatever else the war may bring, it is devotedly to be that some improvement in present types of transmissions or gearsets may result. Engineers are unanimously agreed that the greatest is far the most backward of all the mechanical units that go to make up the modern motor car chassis. And one may reasonably hope that some improvement in transmission design is imminent so that will be of interest to examine the present types of this mechanical unit in detail.

The function of the transmission or gearset is to change the tractive effort at the rear wheels in proportion to the effort needed. By this means the rear wheels are permitted to run slowly while the engine is running fast, etc. In general, this control over the tractive effort is obtained by means of gears of various sizes. In operation power is generated by the engine, passes back through the clutch, which delivers it to a shaft, which is part of the transmission unit. On this shaft are a certain number of gears which may be shifted into and out of engagement with other gears mounted on another shaft, known mechanically as a countershaft. These gears on the countershaft have varying numbers of teeth, a condition which produces the changes in tractive effort.

Much Power Lost. The mechanical unit just described is known as the sliding selective gearset and while it serves its purpose fairly well it uses a tremendous expenditure of effort to accomplish what is comparatively a small effect. The industry needs a device which shall perform this service in a simpler and easier way, without the constant danger of heating the gears, which exists with the present type.

While the sliding selective gearset is the prominent type today, there are other forms in use. The next most important is the planetary gearset, used in the Ford car, which, in point of mere numbers, makes the type important. The planetary gearset consists of a gear set which meshes always in mesh with a central or master gear. This master gear is known as the sun gear and the spur gears as planetary gears, from a resemblance of the set to the operations of the solar system. In operation the gears are forced to revolve on each other, this action being induced by stopping the movement of the parts supporting the gears, which is accomplished by means of a sliding brake. When the gearset is in high gear, the brake is engaged, and the planetary gears, giving a remarkably efficient action. One of the drawbacks to the planetary gearset is the fact that it can only be constructed to give low speeds, as the adding of other speeds adds so much complication that engineers are loath to employ the type. The Ford car, it is to be noted, never reminds the reader, has but two forward speeds. Still when it is well constructed the planetary gearset serves its end with a reasonable degree of efficiency.

In the truck field there is a third type of gearset known as the constant mesh type. This type of transmission has not come into the passenger car field as yet and so is of no interest for the present consideration.

Fricion Gear Not Used. It is rather a remarkable fact that the simplest and theoretically the most efficient type of gearset, the friction gear, has not come into use in the automobile field. The friction gear consists of two discs—one driving, the other driven. In operation the driving disc is in contact with the driving disc, the rate of speed being determined by its distance from the center of the driving member. Obviously, this arrangement gave an almost unlimited number of speeds, smoothness of action, but the great trouble was that the sets did not stand up under the strains of heavy work. At one time they were abandoned for heavy work, and finally even the lightest cars gave up the friction gear for the sliding selective type. It is regrettable that the friction gear could not stand up under the theoretical virtues that delight the heart of the engineer.

If the car owner will stop for just one moment and consider the essential construction of the conventional gearset, he will realize the need for great care in operation and maintenance. The shafts holding sets of gears which must be brought into engagement while the parts are spinning at a high rate of speed point to the present danger of breakage and injury. And this is actually so. Breakage of members in the gearset and bending of the shafts so that they are out of alignment are common in gearset operation. When the shafts once go out of line there is no hope of decent operation until the condition is remedied, the gears will clash and growl, the teeth will chip or suffer, the more serious breaks and replacement of gears will do no earthly good until the entire transmission is properly lined up again. When the shafts are out of line the gears do not engage evenly, as they are intended to do, which is the whole secret of the trouble.

Proper Lubrication Important. The first thing to do to keep the gearset up to proper operation is to give it proper lubrication. Oil is the proper lubricant for this unit, not grease. In winter it will be well to use a somewhat thinner oil than in hot weather, as the cold tends to thicken the oil, anyway. Every two or three months, or better, every 1000 miles of run, the oil should be drained off from the gearset housing, which should be flushed with kerosene and then refilled with fresh oil. Neglect of this precaution will probably bring premature failure of the unit.

Finally without a gearset operating efficiently the entire operation of the car is thrown out of gear. The car owner should give the part the most scrupulous care that he is capable of supplying.

CALIFORNIA SPORTSMAN MAKES DESCENT OF GRAND CANYON BY MOTORCYCLE.



John Edwin Hogg of Los Angeles and his motorcycle, photographed at the bottom of the Grand Canyon, after perilous ride, Hogg is the first person ever to descend the giant gorge by this means.

GUSHION TIRES STURDY OVERMAN SHOES GUARANTEED FOR 20,000 MILES.

Many Advantages Claimed for Long-Wearing, Resilient and Non-Skid Truck Cushions.

The Howell-Swift Tire company, distributors here for Majestic cord and fabric tires and Overman cushion tires for trucks, has had some remarkable results from the latter since they were introduced here about a year ago. In that time one big Portland creamery company has made these tires standard equipment for its fleet of 40-odd delivery trucks, this decision following a thorough test of the cushion tires on an experimentally-equipped truck.

The particular features claimed for these Overman cushion tires are their resiliency, non-skid qualities and long wearing ability. They are guaranteed for 20,000 miles, but, according to Martin F. Swift, manager of the Howell-Swift Tire company, the average performance is between 25,000 and 40,000 miles.

"We have tried them out thoroughly in this territory by now," said Mr. Swift, "and have found that the factory guarantee of 20,000 miles is decidedly conservative. They will outwear these sets of pneumatic truck tires and two sets of ordinary solid truck tires under ordinary conditions, and at the same time give perfect non-skid traction down to the last ounce of rubber."

The secret of this remarkable performance, of course, is in the special-tyre construction, which makes the use of chains unnecessary.

AUTO NABOBS CONFIDENT HEADS OF TWO BIG CONCERNS NOT LOSING ANY SLEEP.

Cadillac and Hudson-Essex Presidents, in California for Visit, Are Optimistic. There are two nice affluent nabobs sojourning at the Maryland, Pasadena, says Alvin W. Collins, writing in the Los Angeles Times, who don't look a bit like a slum in the automobile industry. They are R. H. Collins, president of the Cadillac and Hudson-Essex, and W. J. McAneeny, president of the Hudson and Essex outfit. And both wear serene brows, play golf and eat heartily, regarding the outlook for trade as highly optimistic and the calamity howlers as mistaken persons suffering illusions.

Mr. Collins is a bit exclusive as benefits the car he represents. I can't tell you much about the industry at large," he said, with an air of being exuberantly unfamiliar with the common herd, "but I can tell you about Cadillac. We had the biggest year in the history of the firm last year, and we expect another this year. Of course there was some overproduction of some makes of cars, where they failed to recognize that the wave of extravagance and high prices which followed the war was abnormal, just as there has been in all other industries, but it is only a matter of a few months for things to be properly adjusted. But as far as Cadillac is concerned we expect to sell cars right along."

The implication being that, of course, there could not be overproduction of Cadillacs, since they are a vital and permanent necessity.

Mr. McAneeny was less exclusive but quite as happily serene. "No, the industry is not suffering, only temporarily discomfited," he said. "You see, it is the first sign of a set-back it has had in its 21 years of existence. You might call it a husky infant industry that is passing through its first infantile complaint, say measles, and its parents being inexperienced, fell a bit panicky when a sore spot came out on its face. But the doctors have reassured them. A little proper medical attention is all that is necessary. Positively no complications. Fine, healthy youngster, sound constitution, soon throw off a little trouble like that."

So Mr. McAneeny hasn't lost a stroke of golf over it. "Some manufacturers failed to recognize the symptoms, that's all," he added, thoughtfully, "and so aggravated the complaint, but there is not the slightest danger. The infant is already convalescing."

GIANT CHASM CONQUERED

MOTORCYCLE RIDER NEGOTIATES THE GRAND CANYON. Terrific Feat of Making Descent Into Canyon and Climb Out Again Accomplished.

LOS ANGELES, Feb. 5.—The world's greatest gorge, the Grand Canyon, has been conquered—by a motorcycle! Sounds impossible in these days of motor vehicles, but a man expected to survive the mile descent down to the Colorado river.

But this is just what John Edwin Hogg of Los Angeles did. A writer, he accomplished, thereby gaining the distinction of being the first person to drive a two-wheeled motor vehicle down a mile down into the great chasm and out again.

The start was made from Peach Springs, Arizona, a small station on the Santa Fe railroad, which in the days before El Tovar was known as the point from which all tourists made their pilgrimages to the bottom of the canyon. At this point the distance from the nearest human habitation to the river is 23 miles.

In former days a tourist hotel was located 21 miles down Peach Springs canyon, at its junction with Diamond canyon, a tributary of the Grand Canyon. Tourists were hauled in stages to this hotel over a rocky trail that with a few pack animals was kept open to traffic. The two-mile descent from the hotel to the river was then made on foot.

After the destruction of the hotel by lightning this route was abandoned and the trail became obliterated by the violent rains that rage frequently in that region. The entire project has now passed away "with-out a trace."

Having made preparation for a four-day trip, Hogg left Peach Springs about noon with a cameraman from the Fox Film company and a local Indian guide and two pack mules laden with provisions and camp equipment.

With the machine in low gear, Hogg tackled the first mile, which was a boulder-strewn canyon, and the party pitched camp for the night 12 miles down the gulch. The grind was reamed the first morning and after several more hours of almost unbelievable bouncing, plunging and hurtling, his Harley-Davidson sport model and its Goodyear tires rolled down to the edge of the murky Colorado.

But piloting a motorcycle from the rim to the bottom of the yawning chasm is difficult as it is a child's rider when compared to the grief a rider must go through to get out again.

Hogg, however, was master, and after another two days' terrific grind, in which he fought foot by foot up the rugged floor of the gorge, he reached the top of the canyon, and with jagged boulders and clumps of thorny cactus, pulled up at the trading post at Peach Springs—the first man to put a motorcycle into the bottom of the Grand Canyon and back again.

Hogg's feat is the more remarkable when it is considered that despite the terrific strain on the machine and its tires, not a single instance of trouble was experienced, either tire or mechanical.

GRAPHITE OIL AFTER SQUEAKS New Product Put on Market Here by Alemite Company.

The latest addition to the products of the Basic Manufacturing company, who are the producers of the well-known Alemite lubricating system, is a new type of penetrating oil. A shipment of this new graphite oil has been received in Portland by the Alemite Lubricant company of the Northwest, 24th and Oak streets, and has already attracted considerable interest as being something entirely new. The new oil is a penetrating oil which is evaporated, leaving the residue as a lasting lubricant.

BETTER BUSINESS IN CHICAGO R. E. Murphy of Twin States Motor Co. Returns From Trip.

That the wave of better business in the automobile field is rapidly moving westward, is the word brought back by R. E. Murphy of the Twin States Motor Car company, Chandler and Cleveland distributors here, who returned last week from a visit to Chicago and other middle west points.

DODGE BROS. HEAD NAMED F. J. Haynes, a Pioneer Official of Company Is President.

NEW YORK, Feb. 12.—Announcement was made here this week that Fred J. Haynes has been elected president and general manager of Dodge Bros. of Detroit. The news was made known at a convention of more than 100 Dodge Bros. dealers from all parts of the country, including the Pacific coast.

Chevrolet advertisement featuring the 'Valve-in-Head' logo and the Chevrolet 490 model. Text includes 'The 490—The Product of Experience' and 'EMBODYING all of the experience of the General Motors Corporation—largest manufacturers of motor cars in the world, the "490" will enthrall you at first sight and earn your utmost admiration by its performance.'

Fields Motor Car Co. advertisement. Text includes 'TEACHING SALES IS HOBBY GARBE MANAGER GETS MUCH ENJOYMENT FROM WORK.' and 'SPEED COP IS MYSTIFIED May Have Thought Electric Car Was Running on Reputation.'

Renewed Cars advertisement. Text includes 'RENEWED CARS That Are Really The Equal of New' and 'It Will Be a Genuine Pleasure if you have shopped around trying to find a real bargain in a used car that hasn't outlived its usefulness and have seen the usual run of cars offered—cars that you would not have as gifts—to visit our East Side Salesroom.'