

'ROUGH STUFF' CYCLING IN THE U.S.A.

As far as I know I am the only American cyclist with a special interest in rough stuff riding, but conditions here are such that the interest of others can be expected soon. In the last few years the number of serious cyclists here, both youth and adult, has expanded very greatly; and many of these are persons who also have a special interest in this nation's vast expanse of unsettled country.

The United States, especially in the western states, affords a tremendous contrast between compact and densely populated urban areas adjacent to the great cities and vast reaches of thinly settled and even totally empty country. An hour's drive from the ten million souls of Los Angeles will gain cycling country more unsettled and empty than anything in the British Isles; and in the course of a recent automobile excursion through the state of Nevada I passed a highway sign — by no means unique — advising the motorist that there was *no gas (petrol) no water, no accommodation, for the next 112 miles*. It naturally follows from this sort of variation in population density that large regions have no surfaced roads or no maintained roads at all. This condition is reinforced by the rough and often mountainous terrain; further, many thousands of square miles of this country are reserved in national parks or wilderness areas where access to motor vehicles is intentionally restricted. Then too, much of the American west



The abandoned right-of-way of the narrow-gauge Denver, South Park and Pacific Railroad near the Continental Divide, Colorado, at an altitude of 11,300 ft. The railroad was abandoned in 1910.

was first settled in connection with precious metal mining, primarily in the last two decades of the nineteenth century, which led to the quick growth of many mining communities which have since declined. Some of these still harbour a lingering population, living in memories of past glory in silver bullion; others are literally ghost towns, as they are locally called — nothing but empty buildings, constructed to endure the snows of eternity near ore deposits that lasted only half a dozen years. The era of the frontier, which American 'Westerns' depict on British television, is long past, but the vast landscape on which they are enacted is quite real and endures to this day. He who would explore it on a bicycle will of necessity often be a rough-stuffer.

Wheeled travel in what might be called the 'unpaved West' is hardly limited to the cyclist — indeed the bulk of such travel is done in ex-military jeeps and a variation on this 4-wheel-drive design for use in rough terrain. Once I tried this, but the 4-wheelers have one fatal defect: they can and too often do become immobilised. On the Western slope of Argentine Pass in Colorado, some 12,000 feet high and not too far from the metropolis in Denver, repose several jeeps, abandoned by their owners. The market value of each of them is not short of £200, but the cost of getting them out of this rugged location is even greater than that. Thus each time I essayed a pitch I considered I might not gain, or from which I feared I could not retreat, I thought of those forlorn jeeps on Argentine pass. Next I used a motorcycle. It was more agile than the 4-wheeler, but a defective battery could still its engine and it was rather too big to be wheeled out. Since I was a cyclist anyway, I finally considered the bicycle. It was obviously among all wheeled vehicles the most reliable and unfailing, incurring the least disaster when at last it too might fail. And a bicycle, I also noted, was absolutely unstoppable. At the worst, it can be carried wherever man might walk. This led to my design, in 1961, of a special rough-stuff bicycle, designed for use off paved roads in the western United States.

This design partly reflects conditions common to all rough-stuff cycling and partly those limited to the area of its intended use. Reliability, for example, is more than usually important because of this area's exceptional isolation from supplies. Especially low gears are warranted because of rough terrain, long and severe grades, and high altitudes. In contrast to the clay of Britain, sand and loose surfaces are ubiquitous. However, many rough-stuff 'circle' excursions will involve long mileages on paved roads; thus a versatile rough-stuff bicycle must also be fairly fast on good surfaces as well as tractable on rough ones.



The special bicycle ; note the Fellowship badge.

The basic design consideration is, of course, the wheels and tyres. I chose 650 x 35 mm. tyres and wheels designed for use on continental set-stone pavement ; they have proven an excellent choice. Traction is never a problem and there is sufficient flotation to ride over most desert sand. The tyres, though large in section, are lightly made and feature a matt tread — a virtue because of the propensity of deeply patterned treads to get wedged into them sharp bits of rock, etc., which produce punctures. So far the tyres have not been punctured at all. Their suppleness permits a gear of about 70 where a 280-gram silk will permit an 85 — not too great a sacrifice in speed.

The frame is 22 $\frac{1}{4}$ inches high and 22 inches long, 72 deg. x 72 deg., and features an extra high bottom bracket to clear

obstacles. It was built for me (although probably with some curiosity as to its purpose) by Messrs. Jim Guard of Southampton, of Reynolds butted tubes and Nervex lugs. It is painted a highly practical 'dust-grey' except for the chainstays, which are 'grease black.' Lightweight parts are used throughout, e.g., Nylon saddle, T.A. alloy cranks, a quick-release hub in the rear. The brakes are the exceptionally powerful Mafac 'Criterium Tandem' model, fitted so that heavy braking will not be too fatiguing. "*Un doigt suffit*" even to the limit of traction, which for the rear wheel alone is greater than 1 in 3. Each brake is fitted with two quick-release devices in tandem. The first, normally engaged, allows for wheel removal; the second, normally disengaged, provides when it is engaged a constant tension on the brake lines (variable through the fine adjusters) for the descent of long grades without constant use of the hands. In an earlier period of testing, using the wheels in my regular road frame, I once had to come down an old railroad grade, which, though only 1 in 25, was rough enough to restrict speed to about 10 m.p.h. — for for 10 miles. At the bottom I had blisters on my hands from holding down the brakes over endless bumps, and en route I had plenty of time to conceive the appropriate design modifications which have now been put into effect. The gearing was chosen to provide a wide range and low gears; a Regina freewheel of 15-17-20-23-28, driven off a T.A. 'Cyclo-touriste' ringset of 26-36-46, gives a range between 24 and 79. Generally the upper 4 gears of the big ring are used for pavement; the 5 gears (between 33 and 65) on the middle ring are used for unpaved roads; and 24 and 29 of the inner ring are reserved for the really rough stuff. A sprint in the lowest gear readily lifts the whole bicycle ground the rear axle and deposits the rider on the ground behind. My general preference is for the smooth if unfashionable shifting of a Benelux Mark 8, but in this case the dual need for minimum exposure to passing rock and brush and for unequivocal shifts from 2nd to low at, say 3 m.p.h., suggested the use in the rear of a Simplex Raidex gear. It performs as it should in this connection even though in order to shift from 5th to 4th it is necessary to touch 3rd — a defect present also in the Folly of Vicenza, which shall be nameless. No straps are fitted to the cheap steel pedals, which are no more nor no less vulnerable to the hazards of rough passage than expensive dural ones. The net weight is about 25 pounds; thus in the event of utter calamity the whole machine can be easily carried out on an 18 oz. back-pack frame.

Professional commitments have resulted in more rides planned for this machine than have so far been made on it, but I have at least been able to test it in the desert and mountains and it has been a complete success. The roadability of the bicycle under

adverse conditions is excellent and it can be wheeled or carried at about the same rate as an unencumbered walk. Needless to say this makes feasible many passages which are impossible for even the most resourceful and lightweight motor vehicle. Often in the West one may proceed along an abandoned mining road or old railroad grade with nothing that would obstruct the family auto, only to encounter a landslide or 'washout' — all too common in this land of little rain, when such rain as there is often comes in disastrous cloudbursts — which no motor vehicle can traverse, and on whose 'other shore' the road resumes again as smooth as before.

The growth in 4-wheel-drive vehicle usage has led to some restrictions on their passage through wilder areas; additionally, the use of motor vehicles off the road in the national parks is prohibited. The rough-stuff bicycle is exempt from the prohibitions and is in keeping with the spirit of conservation which the prohibitions are intended to express. The passage of such a bicycle does less damage to the trail than the passage of one horse. Even where the cyclist might be plainly trespassing on private land he leaves an ephemeral track and, most important, he makes no sound. A rough-stuff bicycle can be lifted over fences and round barricades. And often the rancher who takes arms against the motorcyclists will extend aid and comfort to the bicyclist, whom he views as a harmless eccentric.

A typical ride was a passage from the celebrated Yosemite Valley up the 1-in-4 of the Tenaya Switchbacks trail. This is the steepest and roughest trail over which mule trains are regularly run in Yosemite Park. The first few miles from my auto were over paved roads, and the first 3 miles of the trail was smooth enough escarcely to call for the little gears. The ascent from the valley floor (4,100 ft.) began abruptly though, and even a 26 x 28 gear was not enough for the boulder-strewn path. The bicycle was wheeled and carried — (the latter for about 1,000 ft.) — as the trail rose in a narrow gully between two massive vertical cliffs for 3,000 ft. of climb in an endless succession of switchbacks — the mule's reply to the Stelvio. In due course I reached the pine-covered plateau above the valley; the elevation touched 7,000 ft. and I soon encountered the first snows of the winter on a crisp October day. I learned, however, that the French tyres would carry me over crusty snow, so long as the grade did not exceed about 1 in 10; beyond that traction was lost. The prevailing grade was uphill, but a few entertaining descents showed that the brakes were useless in these conditions. After a portentous crossing of fresh bear tracks I came to my goal, the Tioga Road; only 7 miles as I had come from the valley but 50 miles from it on the auto route. It too had a light cover of snow, but just as I gained the

road a Park service snowplough swept by, driven by an inscrutable Mono Indian, leaving me with a clear if wet right of way. A few climbs from Yosemite Creek brought me to the White Wolf summit at 8,500 ft., from which I took my reward of an unbroken descent, on grades between 1 in 16 and 1 in 25, to 3,900 ft. at the Valley floor. Every operating condition I had anticipated and several that I had not were revealed in this highly varied passage.

Later this summer I plan to ride from 3,900 ft., in the Owens Valley in eastern California, to 14,242 ft. at the Summit of White Mountain, where the University of California maintains a high-altitude research station. This is a waterless climb in various desert zones; and it includes grades of 1 in $3\frac{1}{2}$ at 10,000 ft. I hope to report on it later.

Personally I expect rough-stuff riding to increase, because there are now many who are both cyclists and enthusiasts for remote regions and rough terrain. It is not unlikely that they will do as I have done and blend their interest in an American version of the British speciality.

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Totaig to Glenelg

J. W. Taylor's 'Knoydart Notes' in the January *Journal*, prompt me to give an account of this route as traversed with a friend in 1961.

We started at Totaig on one of those days that only the Highlands can produce. The sun burned fiercely down on mirror smooth Loch Duich in which was reflected faithfully the myriad delicate colours of the tree-and-heather-clad hills around, and the cloudless sky above.

At the road end a high wire fence barred the way but we soon found the gate and passed through to commence our journey. The faint path immediately sloped steeply upwards for a backbreaking 500 feet which soon had us panting and sweating. The remains of a broch some way up afforded us a bit of level ground on which to rest a while, but we pushed on as soon as possible as we had no idea what was in store for us. (There is not much of the broch left and is certainly not worth visiting for its own sake). Eventually we reached the top and our efforts were rewarded by one of the best viewpoints I have ever encountered. Immediately below us was Dornie and Eilean Donan Castle, Loch Duich disappeared to the right behind the mountain. Loch Alsh lay to our left, while straight ahead Loch Long wound away into the mountains which