

CLASSIC TRACTOR TALES

Classic Crawlers: Part 2

By Ian M. Johnston, The Tractor Historian

In the previous issue of The Australian Cottongrower the author examined a selection of the more interesting crawlers which evolved during the 20th century.

Part 2 of Classic Crawlers reviews additional track machines that were available to Australian farmers and agricultural contractors in those innovative days of tractor development.

1950 FOWLER VF

The British made Fowler VF was virtually a tracked version of its stable mate, the wheeled Field Marshall series. Each shared the legendary Marshall single cylinder valveless two stroke, full compression ignition diesel engine, which first appeared in 1935 in the Marshall 12-20.

In each of the wheeled and crawler versions, the massively rugged engine lay horizontally with the cylinder head facing forward. It featured a 6" x 9" bore and stroke and developed 40 hp at a mere 750 rpm. The transmission in the crawler provided six forward and one reverse gear. The maximum drawbar pull of the four ton tractor was 11,200 lbs at 1.26 mph.

Crawler technology offered low compaction characteristics when compared with wheeled tractors and even a horse team. The Fowler VF left a pressure imprint of only six pounds per square inch.

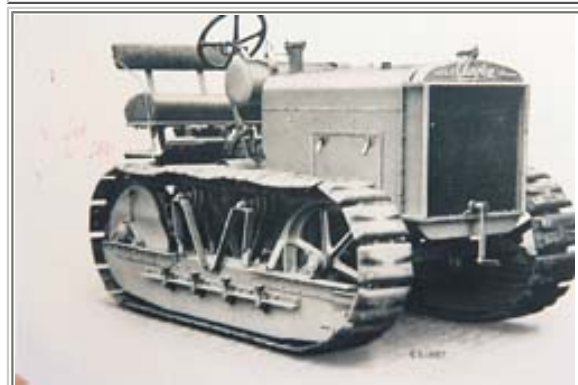
Moore Road Machinery Co. was the main importer of Fowler crawlers with John McGrath Motors the distributor for Queensland.

Owing to its relatively low price, technical simplicity and (importantly) its availability, the Fowler VF crawler attracted a small but dedicated following throughout the wheatfields of Australia.

Opinion: *In the 1950s, Fowler also offered its range of Challenger crawlers, powered by multi cylinder diesels. But whenever the name of Fowler is mentioned today, elderly farmers inevitably conjure up a mental image of the odd ball single cylinder VF. Possibly one reason is, the Challengers could be compared (perhaps unfavourably) with the Caterpillar, International and Allis Chalmers crawlers, while there were no*



A 1949 Fowler VF Crawler owned by Stephen Arbuckle of Christchurch, NZ. Note the massive flywheel of the single cylinder compression diesel engine. The fitting at the lower front of the bonnet is for inserting a lit igniter for hand cranking. A wheeled Field Marshall, the stable mate of the Fowler VF can just be seen to the left of the photo. (Photo I.M.J.).



The 1922 Clayton 40 hp Chain Rail was one of the better engineered and more reliable tractors of the era. But it was relatively expensive to purchase and the Dorman 4JO engine could easily consume four gallons of fuel per hour. (Photo I.M.J. archives).

other diesel single cylinder crawlers with which to draw comparisons to the Fowler VF.

Also, it really was a weirdo with its shotgun cartridge start, or the alternative hand cranking aided by a fizzing igniter inserted into the combustion chamber. But most of all, the bone jarring bouncing vibration from the single cylinder diesel engine is what most old VF operators remember today. This bouncing was arguably more pronounced than experienced with the semi diesel Lanz Bulldogs — and that's saying something!

In theory, farmers accepting delivery of a new Fowler VF crawler should have been provided with a live-in chiropractor as part of the deal.

1922 CLAYTON 40 HP CHAIN RAIL

In 1916 Clayton Shuttleworth Ltd. of Lincoln, England, was awarded a government contract by The British Food Ministry to design and construct 500 crawler tractors. Accordingly, the Lincolnshire factory manufactured the prescribed 35 hp tractors to assist with the production of food, during the latter part of The Great War.

In 1922 the firm introduced a new model named the Clayton 40 hp Chain Rail, which was simply an improved version of the 35 hp unit. It was powered by a four cylinder petrol/kero Dorman engine which produced its 40 hp at 1200 rpm and the transmission featured a two forward and one reverse gearbox.

The four ton tractor could sustain a drawbar pull of 4,780 lbs in low gear, but at the cost of consuming four gallons of kerosene per hour.

Directional control was by a steering wheel which activated a brake drum located on each side of the track drive gear. The brakes could also be applied with individual foot pedals.

The Dorman engine had to be hand cranked into life. The ML impulse magneto meant that a sharp pull-up of the handle was usually sufficient to start the 6,326 cc engine. Petrol was used for the start and then, following a warm up period, the petrol was turned off and hot kero introduced into the carburettor. Although not as efficient as petrol, the kerosene was available for around half the price.

Opinion: Clayton Shuttleworth Ltd. had been around since 1842 and its range of threshing mills and steam engines was held in high respect by farmers world wide. The same integrity of design went into the Clayton 40 hp Chain Rail tractors. Individual components were, by today's standards, over engineered. But then — nothing



This 1957 John Deere 420 C is being driven by Brian McKenzie on his grain property in the Central West of NSW. These excellent little crawlers were equipped with lights, p.t.o., 3 point linkage and an upholstered comfort seat. (Photo I.M.J.).

broke!

The Chain Rail track gear was based upon technology pioneered originally in Lincolnshire in 1870 (which pre dates the Caterpillar lineage of track design). But there was nothing old fashioned about its design. Indeed the Chain Rail tracks could be compared favourably with those fitted to many modern crawlers.

During my research into Clayton & Shuttleworth and the firm's subsequent acquisition by Marshall of Gainsborough, I was privileged to be introduced to an old timer at The Museum of Lincolnshire Country Life. In his youth he had spent many hours driving a Clayton 40 hp Chain Rail. According to him, the Clayton was so dependable that it was the only tractor of the era that never had to be towed home behind a horse!

1957 JOHN DEERE 420 C

Deere & Co. of Moline, Illinois, entered the crawler market in 1939 with its introduction of the BO Lindeman series. This was a derivation of the B wheeled tractor and was assembled at the Lindeman Yakima plant.

In 1949 the John Deere MC crawler was released. Its design was based on the wheeled Model M and featured the same two cylinder vertical petrol engine. This was a break from the normal Deere tradition of horizontally configured engines.

For the record, the first vertical two cylinder engine used in a John Deere tractor was a Hercules side valve NXB fitted to the wheeled Model L in 1937. This was followed by a similar design, but manufactured by John Deere and utilised in the M series. An ohv version appeared later in the 40 C crawler.

The 420 C was launched in 1956. By now the two cylinder vertical engine had grown to 113.5 cubic inch displacement and produced 30 bhp. A four speed or alternative five speed transmission was available. Also, a four or five bottom roller track frame provided a variation in track length. A track width of 10, 12 or 14 inches could be ordered.

Opinion: While the 420 C was very much a farmer's crawler, quite a number were equipped with dozer blades and used on construction and forestry sites. Providing the little dozer was not expected to perform tasks beyond its capacity, the 420 C worked admirably with an outstanding degree of fuel economy.

The four stroke engine revved out to only 1,850 rpm and, as a consequence of having just two

cylinders, emitted a sharp staccato report from its exhaust system.

This distinctive sound came at a decibel level that could prove mentally fatiguing by the end of a long day. Quite a few prospective buyers of John Deere tractors were put off by this "Popping Johnny" cacophony.

A John Deere 420, in either crawler or wheeled configuration, is very much considered a highly valuable prize by collectors today.

1923 BEARCAT

Specifications: Model T Ford engine and transmission. Oregon main frame. "Claw" tracks. That's it!

Opinion: *This "Heath Robinson" tractor is a mystery — and to me doesn't make sense. When Lou Hanslow displayed it at The National Rally in Tasmania last year, I thought at first it was a send up. Upon further inspection I realised it was a production model tractor. According to an accompanying displayed advertisement dated 1923, it was a product of The Bearcat Division of The Yuba Products Company of San Francisco.*

I am well aware that there was a range of excellent crawler tractors made by The Yuba Manufacturing Company of Maryville, California. These were highly sophisticated machines and incorporated a unique steel ball type track arrangement and were identified as a Yuba Ball Track tractors.

I am finding it extremely difficult to link these fine Yuba tractors with this Bearcat timber framed oddity and suspect The Yuba Products Company had no association with the genuine and original Yuba tractors. My suspicious mind suggests that the Bearcat people were hoping to gain legitimacy for their tractor by the association of the name "Yuba".

By way of interest, Henry Ford had to substitute "Fordson" for "Ford" with his early tractors for the very reason that a slick entrepreneurial tractor manufacturer registered the name "Ford", to hoodwink farmers into thinking they were buying one of Henry's products.

The established facts are:

- The Bearcat was originally imported from the US into the Inglewood district in Queensland, where it worked for years snigging timber;*
- The "Claw" tracks and Model T Ford engine and running gear are supported on a Canadian oregon timber frame; and,*

- *The manufacturer claims in 1923 the intention of producing 600 units to sell at a retail price of \$US636 each.*

My learned friend, author Charles Wendel, whose knowledge of American tractors is profound, has no knowledge of the Bearcat. So dear readers I require assistance with this one. Can anyone help with more info? My fax is 02 6553 6253.

1963 EUCLID/TEREX TC 12

The Euclid Road Machinery Co., with origins extending back to 1902, was acquired by General Motors Corporation in 1953. Two years later Euclid rocked the heavy equipment industry when it introduced the Euclid TC 12.

Put simply, the TC 12 was the largest crawler tractor the world had every seen — by a country mile! In a staggering display of engineering daring and ingenuity, the backroom boffins had joined together two heavyweight Euclid C6 crawler tractors longitudinally side by side, retaining only the two outside tracks.

The TC 12 therefore had two GM 671 super charged two stroke diesels, two bonnets, two radiators, two Allison torque converter transmissions, weighed 35 tons, had a width of 12 feet. and developed 450 hp from its twin engines.

In 1955, these were staggering dimensions.

The big Euclid was renamed the Terex TC 12 during the 1960s. It was in this period that all Euclid dozers experienced the name change to Terex.

Opinion: The Euclid/Terex TC 12 was in a way a white elephant. There was undoubtedly a certain kudos to owning the world's largest bulldozer, but it proved impracticable for the majority of contractors. Floats capable of transporting the machine were almost non existent in the 1950s, so the big unit could realistically only have had an application in a mine or similar situation, where it was destined to spend its days.

Most likely a few scribbled mathematics would have proved that two TC 6 dozers (the two halves of the TC 12) would have moved more dirt in a day, albeit with two operators.

When Western Australian contractor Gary Brookes arrived at the 1999 Kukerin vintage tractor rally with his Terex TC 12, balancing on its extendible width low loader, the crowd just gazed bug eyed at the spectacle. But when he climbed on board and fired up the twin super

charged GM donks and then started pushing the planet around, the spectators just gasped!

Special Note: Ian M. Johnston invites readers to visit his recently updated web site: www.ozemail.com.au/~ianmjohnston