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A warren-ripping innovation

A R. Tomlinson
Department of Agriculture

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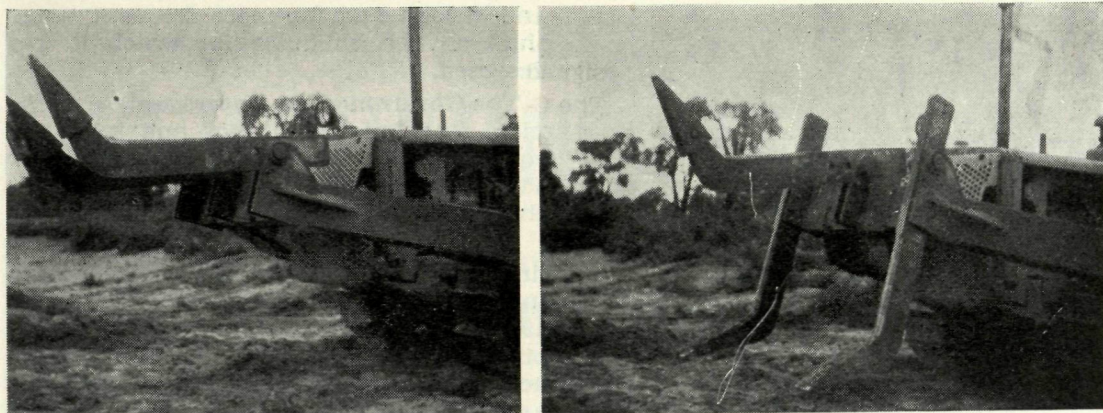


Fig. 1.—The ripping tynes mounted in front of the tractor. At the left, the three tynes are shown in the carrying position. At right, the two outer tynes are down in the ripping position.

A WARREN-RIPPING INNOVATION

Agriculture Protection Board Operates a New Front-End Ripper

By A. R. TOMLINSON, Chief Vermin Control Officer.

THE ripping-up of rabbit warrens has proved to be one of the most effective rabbit control techniques yet applied in Western Australia. Apart from the many rabbits destroyed in the warrens during ripping operations, it was found that the destruction of their harbourage left the surviving rabbits an easy prey to foxes and other natural enemies, besides depriving them of snug breeding quarters.

During 1952, the Agriculture Protection Board purchased a large warren-ripping outfit consisting of a D4 Caterpillar tractor and three-tyned Tracquip roll-over ripper with a low-loader semi-trailer truck for transportation. This outfit was extensively used for demonstration purposes and was also made available to farmers on a hire basis.

While this type of ripper gave excellent results on warrens situated in fairly open country, it was found that none of the orthodox tractor-drawn rippers could effectively destroy warrens situated near rocks, in fallen timber, close to fences and in similar awkward spots.

The advantages of a ripper that preceded the tractor instead of following it were obvious, and the Vermin Control Officer in charge of warren-ripping operations (Mr. G. Atkinson) reported that a small front-end ripper of this type was being used by Mr. J. Walsh of Northam.

On April 15, 1953, Mr. Walsh kindly arranged a demonstration of his machine.

It was, of course, a much smaller outfit than that envisaged by the Agriculture Protection Board, but the performance was so impressive that all who witnessed it were convinced that a front-end ripper would solve most of their warren destruction problems.

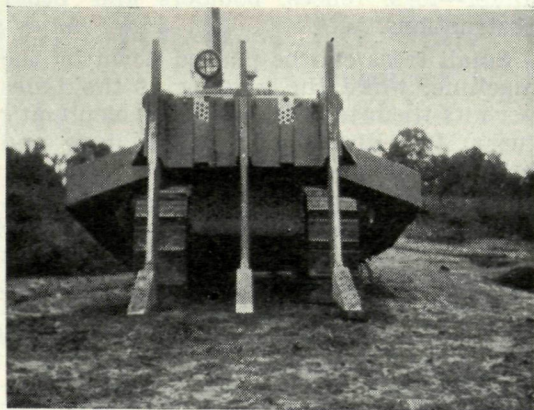


Fig. 2.—Front view of the three tynes in the ripping position.

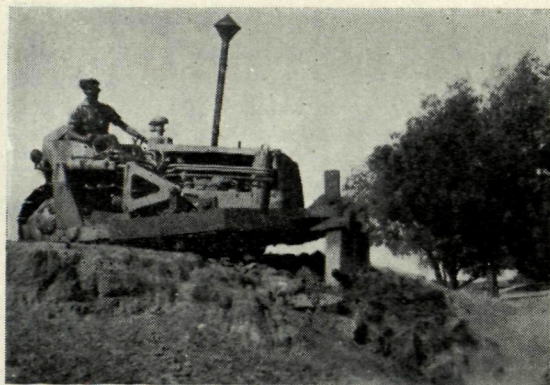


Fig. 3.—The ripper in operation.

Despite considerable scepticism concerning the feasibility of applying the principles to a large-sized tractor, the present attachment was planned and manufactured by the State Engineering Works, with the advice of officers of the Mechanical and Plant Engineer's Branch, the Vermin Control Branch of the Department of Agriculture and the Perth representatives of the tractor firm (Messrs. Wigmores Ltd.).

The Board's D4 Caterpillar tractor was fitted with three ripping tynes mounted in front of the tractor on a framework fitted to a hydraulically-operated bulldozer pushing-bar.

The tynes have a maximum penetration of 32 in. and may be swung individually into a carrying position so that one, two or three tynes may be used. The points are angled forward so that ripping may be carried out right up to—and even slightly under—logs, fences, boulders and other obstructions.

Small trees can be pushed down by the machine, while the angling of the tynes permits them to be used like an elephant's tusks for lifting and rolling logs and boulders.

The outfit operates speedily and effectively in open country and is ideal for operating on creek banks. An added advantage of the front-end ripper is that the tracks, carrying the full weight of the machine, follow the tynes and help to consolidate the ripped ground.

Some problems have already been encountered in operating the hydraulic lift which is subjected to much greater stresses

and strains and far more frequent usage than on the bulldozer for which it was designed.

The Government engineers and the technical staffs of the tractor and hydraulic equipment firms are giving this matter their close attention and are confident that the difficulties can be overcome.

Despite these difficulties with the hydraulic lift, the outfit has been operating in the Moora district since September, 1953, and work has now been completed on 16 properties with a total area of 40,000 acres. The machine has done 475 hours of actual ripping at the time of writing (March, 1954).

CHARGES TO FARMERS

The outfit is made available to farmers at an inclusive charge of £2 17s. an hour.

The average cost of operation was 11s. 5d. per warren (including travelling between warrens) for areas varying from 6 yds. x 6 yds. to 17 yds. x 20 yds.

Cost per square yard varied from 0.29d. for the largest, to 1.4d. for a small difficult warren.

The country ripped included heavy soil and stones, bad gullies, light soils (not sandplain), hilly areas and a number of timber-covered warrens.

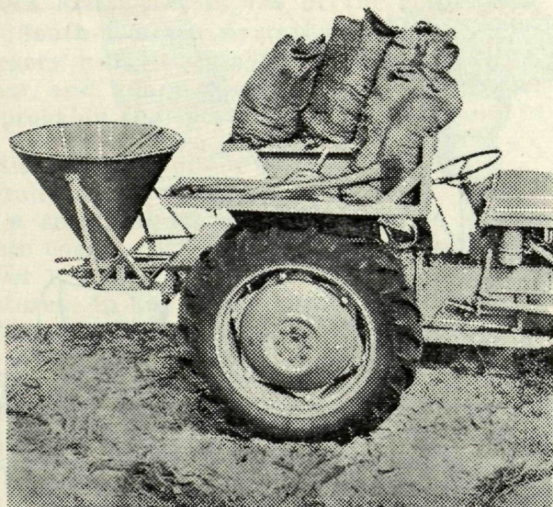
The Agriculture Protection Board has been complimented on its development of the idea by engineers who have seen the outfit at work, and local farmers have expressed their appreciation of the enterprise shown by the Board in performing a necessary work at a reasonable cost.



Fig. 4.—Using the ripper to push aside a fallen tree-trunk.

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