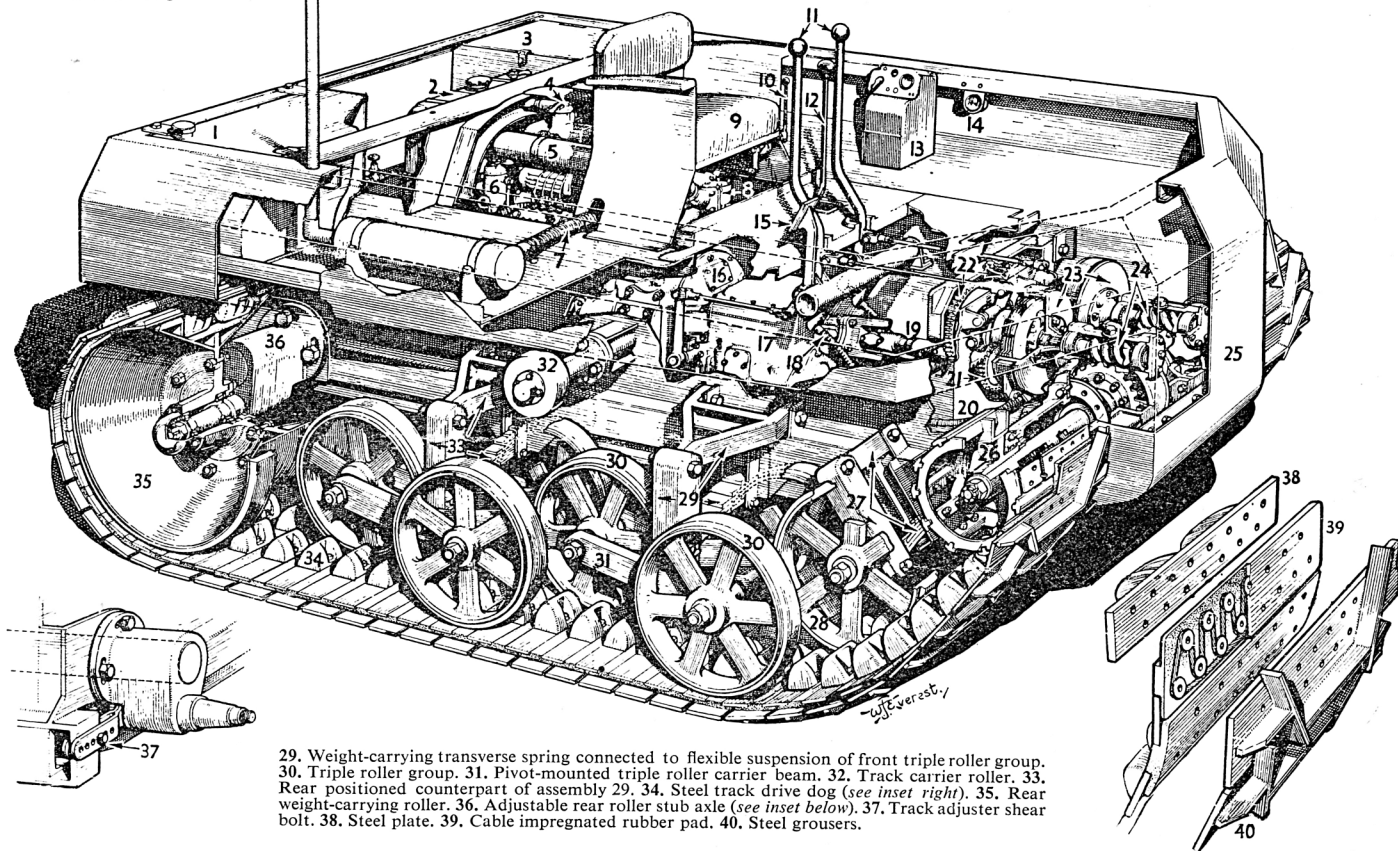


**CUTHBERTSON
WATER
BUFFALO**

KEY TO NUMBERS ON DRAWING.—1. Fuel tank. 2. Radiator. 3. Battery box. 4. Engine oil filler. 5. Air cleaner. 6. Fuel oil filter. 7. Exhaust pipe. 8. Air cleaner to inlet manifold junction. 9. Seat. 10. Throttle lever. 11. Steering clutch and brake levers. 12. Gear lever. 13. Electric junction box. 14. Oil pressure gauge. 15. Engine clutch pedal. 16. Clutch inspection plate. 17. Five-speed and reverse gearbox. 18. R.H. steering brake cable. 19. Gearbox output shaft. 20. Drive distribution box. 21. Gearbox output shaft pinion. 22. Independent clutch drive pinions. 23. Steering-clutch and brake assemblies. 24. Final drive reduction worm gears. 25. Fabricated steel hull, front. 26. R.H. track drive sprocket. 27. Transverse spring-loaded flexible suspension of track tension roller. 28. Track tension roller.



29. Weight-carrying transverse spring connected to flexible suspension of front triple roller group. 30. Triple roller group. 31. Pivot-mounted triple roller carrier beam. 32. Track carrier roller. 33. Rear positioned counterpart of assembly 29. 34. Steel track drive dog (see inset right). 35. Rear weight-carrying roller. 36. Adjustable rear roller stub axle (see inset below). 37. Track adjuster shear bolt. 38. Steel plate. 39. Cable impregnated rubber pad. 40. Steel grousers.

CUTHBERTSON WATER BUFFALO

The model illustrated on the facing page is an advanced prototype designed and manufactured by James A. Cuthbertson, Ltd., Biggar, Scotland. It is one of the most interesting of current developments in tracklayer design. For this reason, and the fact that a prototype is illustrated, the following information does not contain service data. Instead, it describes the outstanding characteristics of this tracklayer.

The Water Buffalo is powered by an Albion 4-cylinder compression-ignition engine that develops 70 b.h.p. at a governed speed of 1,800 r.p.m.

From the engine, which is mounted in the rear of the tractor, the drive is transmitted through a single-plate, dry clutch to a five-forward and one-reverse speed gearbox.

The drive from the gearbox to the track sprockets is through two over-centre, multi-plate steering clutches and two worm-drive reduction gears. A feature of this arrangement is that the steering clutches can remain disengaged to allow the gearbox output shaft to drive a winch whilst the tractor remains stationary.

Contracting band brakes, which operated on the clutch drums, are connected to the steering clutch levers so that the clutches become completely disengaged before the brakes can be applied.

An all-welded, steel hull provides a watertight, boatlike housing for all but the track assemblies. This construction enables the Water Buffalo to ford streams to a depth of about 4ft. whilst the engine and transmission remain dry.

The tracks comprise rubber pads clamped between inverted steel driving teeth below and fabricated steel grousers above. Each rubber pad contains a steel cable arranged as shown in the cutaway insert to the main drawing.

Although this tractor weighs 13,000lb., its ground pressure is only 2.6 lb. per sq. in. This extremely low pressure, in conjunction with the track's high degree of flexibility and the watertight hull, enables the Water Buffalo to exert a high drawbar pull over quaking swamp.