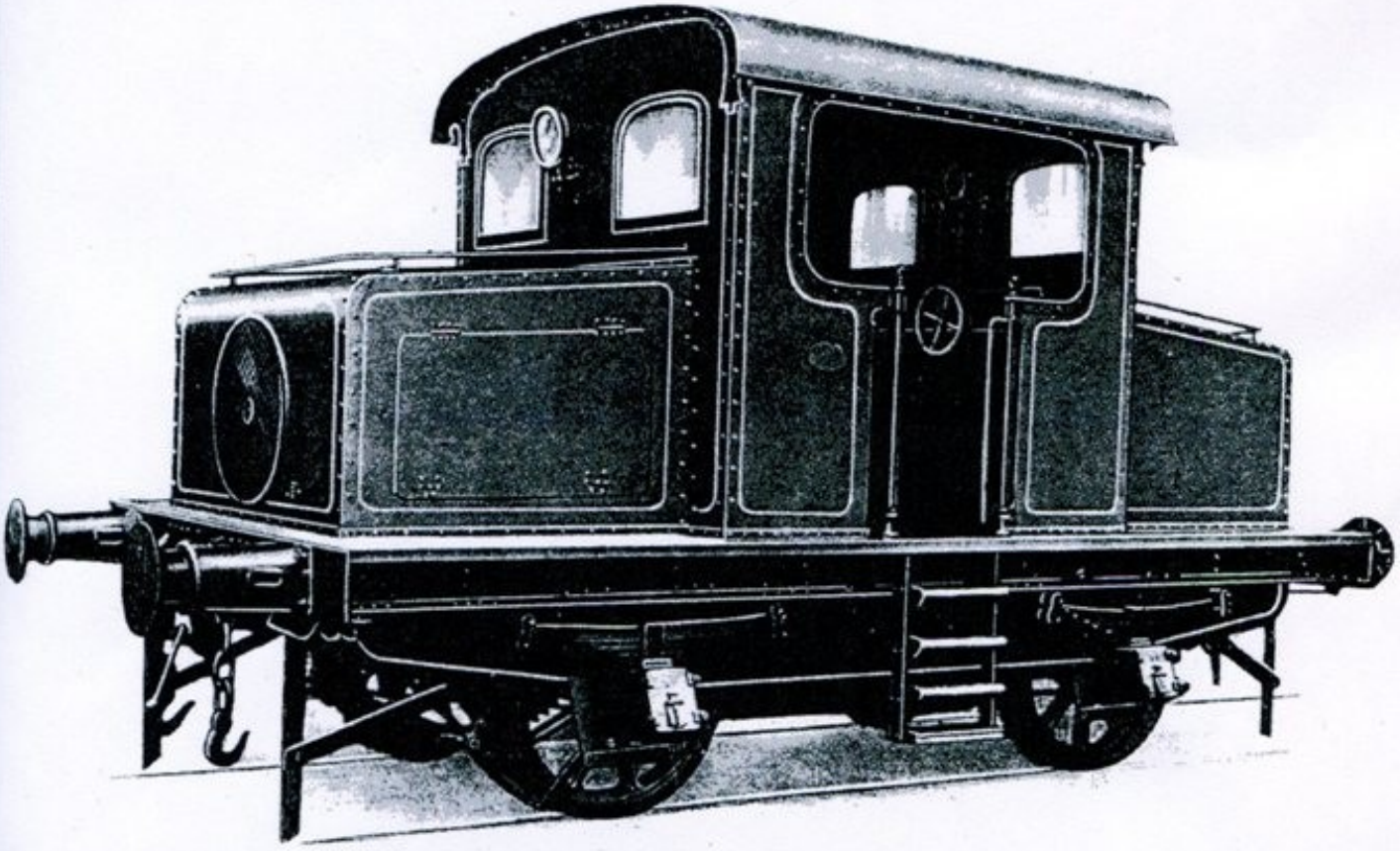
LOCOTRACTEUR
A ESSENCE

POUR VOIE NORMALE

POIDS 20 TONNES - PUISSANCE 90 H.P.

TRANSMISSION
DÉMARRAGE ET ÉCLAIRAGE
ÉLECTRIQUES
FREIN A AIR COMPRIMÉ



TÉLÉPHONE CENTRAL 25-19

GASTON MOYSE
110, Rue Réaumur - PARIS (2me)

R.C. SEINE 200.306

conclusion as to the initial cause, but in this case there was a definitely defective length of track extending for, perhaps, 80 to 100 yds., and the derailment followed much more quickly.

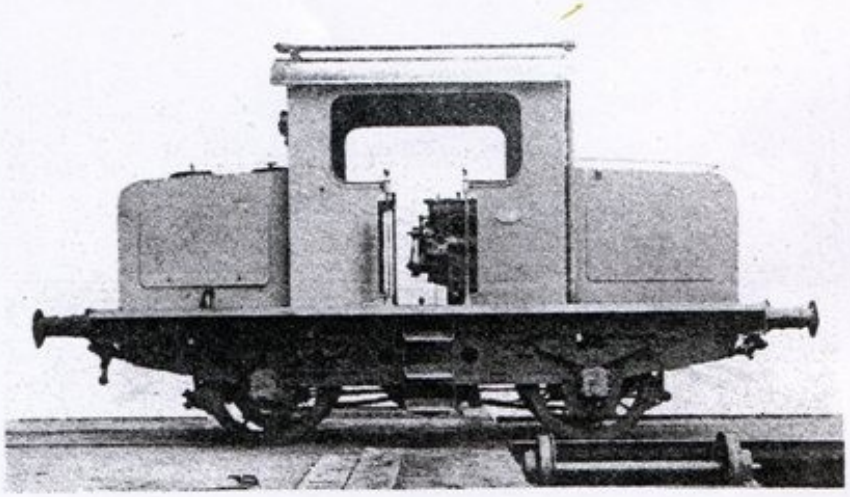
After the mishaps a series of trials were carried out with engines 803 and 890, of the "River" class, and tender engine 782, of the "King Arthur" class, first upon the L. & N.E. Ry. between Huntingdon and St. Neots, and afterwards on the Southern Ry. between Woking and Walton. The object of the trials appears to have been to demonstrate the safety of tank engines, especially the "River" class, for express service on a properly maintained track. Many years' use of such engines suitably constructed for this work on various railways without mishap appear to afford more satisfactory evidence than any isolated trials could possibly give. It is well known that the margin between an ideal track and one which has become so defective as to be dangerous is a fairly wide one, especially for tender engines; for tank engines it is probably somewhat narrower. Full details of the trials are given by Col. Sir John Pringle, and from these it appears that the engines ran more steadily on the L. & N.E. Ry. than on the Southern Ry., and that No. 803 was rather steadier than No. 890. It was also remarked that the engines rode more steadily when running backwards with bogie leading than when running chimney first with the Bissel truck leading. Probably this was due to the more substantial weight, 19 tons 3 cwt., on the bogie compared with the very meagre amount of only 11 tons on the Bissel truck. Many very interesting details accompany the report of the Sevenoaks accident. In addition to those already referred to there are numerous tables showing detailed speeds of the train which was derailed, and of various fast timings on the Southern and other railways worked by tank engines, complete list with dates of the "River" class, and a table of tank engines with various wheel arrangements on the different railways of this country. Diagrams are also given with plans and gradient profiles of the line on which the accident occurred, and also of those over which the trial runs were made, together with a dimensioned diagram of the "River" class engines, forming a very useful record for all interested in locomotive practice.

The Hunslet Engine Co. Ltd. has just received an order from the London, Midland & Scottish Ry. Co. for a further series of twenty-five tank locomotives, similar to those previously built. This is the fourth order received by the Company from the L. M. & S. Ry., and will complete a total of ninety locomotives.

NEW LOCO-TRACTOR OR LOCOMOTIVE FOR SHUNTING.

BY the courtesy of the maker, Mr. Gaston Moyse, of 110 Rue Reaumur, Paris, we are enabled to illustrate and describe a novel form of shunting locomotive they have introduced for service at goods depôts on the French railways and in industrial works, etc. The disadvantages of steam locomotives in such services are well known, but hitherto, attempts at replacement with any arrangement of locomotive of the internal combustion type has been much handicapped by the lack of elasticity or flexibility in the gear for transmission of the power generated by the engine to its application through the wheels to the rails. In the engine under notice electric transmission has been successfully applied, thus securing a traction unit possessing similar elasticity to that of a steam locomotive.

The power of this new tractor originates in a four-cylinder Panhard-Levassor petrol motor. This drives direct an electric generator of Thomson-Houston construction, delivering direct current for operating the two closed motors, one of which is applied to each of the two axles of the locomotive.



PETROL SHUNTING LOCOMOTIVE AT THE MICHELIN CO.'S WORKS, ETRURIA, STAFFS.

By the electrical manœuvring gear installed for starting, stopping, etc., the locomotive can exert hauling effort to any figure up to, say, 10,000 lb. in either direction forward or backward; it can exert a maximum tractive effort at 3 m.p.h. of nearly 9,500 lb.

The weight in running order is 20 tons and the maximum speed it can attain 15 m.p.h. The total length over buffers is 22 ft. and the wheelbase 9 ft. The engine can satisfactorily handle a load of 700 tons on the level at an approximate speed of 3 m.p.h. or in similar manner a load of 150 tons up a grade of 1 in 50.

The construction of the locomotive shown conforms to all the requirements of the standards laid down by the Berne Convention, but manifestly these can be varied by the makers to meet any specification of users. For satisfactory control the locomotive is fitted with Westinghouse air brake apparatus and is lighted by electricity. Special arrangements are made for the efficient lubrication of the engine, generator and motors; all the fittings for this purpose have been most carefully devised.

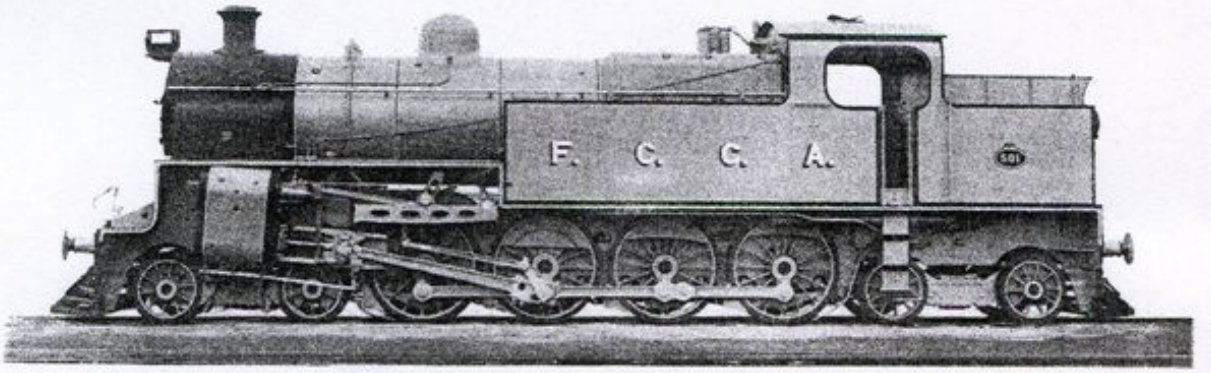
Compared with a steam locomotive the makers urge the following:—There is no pressure plant, boiler, etc., no water supply arrangements to provide, and during periods of standing no fuel is used; there are no needs for unnecessary running for replenishing fuel, water tanks, etc.; only one man as a driver is required for operating, and, finally, there is no smoke or risk of fire from sparks, ashes, etc.

One of these locomotives is engaged in shunting duties at the Michelin Co.'s works at Etruria, Stoke-on-Trent.

4-8-4 TWO-CYLINDER COMPOUND TANK ENGINES, CENTRAL ARGENTINE RAILWAY.

BY the courtesy of the Consulting Engineers, Messrs. Livesey, Son & Henderson, we are able to publish illustrations and particulars of a heavy 4-8-4 tank locomotive, ten of which have recently been built by Messrs. Sir W. G. Armstrong, Whitworth & Co. Ltd., at their Scotswood Works, for the Central Argentine Ry., to the requirements of Mr. W. P. Deakin, chief mechanical engineer, Rosario.

These locomotives are of the cross compound type, with an intercepting valve between the high and low pressure cylinders, in conformity with the established practice for compound engines on the South American railways. The two cylinders are placed outside the frames, the high pressure cylinder, 22½ in. dia., being on the left, and the low pressure, 31½ in. dia., on the right-hand side; the stroke is 26 in. for each. The



4-8-4 TWO-CYLINDER COMPOUND TANK LOCOMOTIVE, No. 501, CENTRAL ARGENTINE RY. BUILT BY SIR W. G. ARMSTRONG, WHITWORTH & CO. LTD.

LONDON, MIDLAND & SCOTTISH RY. (L. & N.W. SECTION).—The first ten of a new series of 0-6-0 superheater goods engines are now in hand at Crewe, Nos. 4507-16. New Derby-built 2-6-4 type passenger tank engines, Nos. 2310-4, are in service and stationed at Longsight. The first two of these are painted red and the remainder plain black. Latest 0-6-0 standard shunting tanks to be delivered by private firms are—Nos. 16907-12 *ex* Beadmore's, and Nos. 16642-3 *ex* Hunslet Co.

"G1" class 0-8-0, No. 9249 (old No. 39), has been fitted with and *ex* L. & Y. eight-wheeled tender, presumably taken off one of the large-boilered 0-8-0's, several of which have lately been scrapped at Harwich. About fifty of the *ex* R.O.D. type tenders are also being utilised, following reconditioning. Some are attached to engines of the "Claughton" and "Prince of Wales" classes, and others to "George the Fifths" or 0-8-0's of "G2" and "G1" classes. "Claughton" class 4-6-0's Nos. 5926 and 5943, have been fitted with reduced chimneys, the latter engine being also provided with a smoke deflector.

Owing to the allocation of the "2300" series of numbers to the new 2-6-4 type tank engines now building at Derby, the N.S. section 0-6-0's numbered between 2300 and 2367 are being renumbered from 8650 to 8680 inclusive.

Three additional 4-6-0 "Experiment" class engines have recently been withdrawn from service as follows:—Nos. 2624 "Saracen," 5470 "Palmerston," and 5512 "Terrier."

inside admission type piston valves have a diameter of 14 in. and a maximum travel of 6⅞ in.

The engines are equipped with Walschaerts valve gear, and the cylinders drive the second pair of coupled wheels; these, as well as the intermediate pair, are flangeless; they are 5 ft. 2 in. in diameter.

The leading and trailing bogies each have a wheel-base of 6 ft. 6 in., with wheels 3 ft. 2 in. dia., and are designed for a total side play of 5½ in., the lateral resistance being obtained by swing links of the two-point suspension type.

The boiler has a Belpaire pattern firebox 8 ft. 8 in. in length outside; the distance between the tube plates is 14 ft. 10⅛ in. The working pressure is 200 lb. per sq. in., relieved by four safety valves 3½ in. dia. The boiler is lagged with "Limpet" brand asbestos mattresses 1 in. thick, and the firebox is clothed with asbestos mattress ½ in. thick, with wire netting embedded. The ⅝ in. dia. stays in the firebox are of Brown, Bayley's Longstrand Hollow steel.