Ballast & Contractors locos: Robert Stephenson locomotives & others on the Bury dominated London & Birmingham

By Tom Nicholls, including many references from Harry Jack[i]

Out of the thirty construction contracts for the line the London & Birmingham company were eventually involved in eight of them. They either assisted struggling contractors or actually took over the work as in the case of Thomas Townshend's who was declared bankrupt[ii].

In 1834 Robert Stephenson, in his capacity as the Chief Engineer and two years prior to Edward Bury's appointment as Contractor for Locomotive Power, advertised the buying of locos for the company to assist with construction. These were in addition of course to the contractors' own locos. Later Stephenson also made other recommendations to the London & Birmingham board to buy his 2-2-2 locos then being built at Newcastle. One request was turned down, in 1836, the other as we seen above, involved the contractor Cubitt buying the Harvey Combe loco which did become L&B stock.

The Vulcan lists state that at least one engine was built for a 'London & Birmingham contractor' in 1835 but no customer name is given. The engine is curious, if these details are correct, in having Stephenson type sandwich frames but outside cylinders[iii].

The London & Birmingham Railway
CONTRACTS

Thirty contracts were let during the original building of the line. Several Contractors (*) failed during the construction period and their contracts were taken over by the Company.

Contract	Length (miles)	Contractor	Price (£)	Revised Estimate(£)	% +
1. Euston Extension	1	W.& L. Cubitt	76,860	91,528	19
2. Primrose Hill	5¾	T. Jackson*/The Company	119,987	280,014	133
3. Harrow	9½	Joseph Nowell & Sons.	110,227	144,574	31
4. Watford	5	Copeland & Harding	117,000	138,219	18
5. Kings Langley	2¼	W.& L. Cubitt	38,900	57,386	48
6. Berkhamstead	4½	W.& L. Cubitt	54,660	65,002	19
7. Aldbury	2½	W.& L. Cubitt	16,694	25,134	51
8. Tring	3	Thomas Townshend*/The Compy.	104,496	144,657	38
9. Leighton Buzzard	7½	James Nowell	38,000	43,162	14
10. Stoke Hammond	3⅞	E.W.Morris	39,303	42,345	8
11. Bletchley	3⅜	John Burge	54,500	61,071	12
12. Wolverton	5	William Soars*/The Company	67,732	107,765	59
13. Wolverton Viaduct	⅛	James Nowell	25,226	28,694	15
14. Castlethorpe	4½	Craven & Son	49,735	71,873	45
15. Blisworth	5	William Hughes*/The Company	112,950	184,301	63
16. Bugbrook	5	John Chapman	53,400	65,013	22
17. Stowe Hill	1¼	John Chapman	23,050	31,536	37
18 Weedon	1⅛	W.& J. Simmons	26,150	31,442	20
19. Brockhall	3⅛	J.& G. Thornton	34,157	50,583	48
20. Long Buckby	3⅝	J.& G. Thornton	42,582	48,256	13
21. Kilsby	1⅜	Nowell & Sons*/The Company	98,988	290,030	192
22. Rugby	5⅛	Samuel Hemming*/The Company	59,283	93,384	58
23. Long Lawford	3¼	W.& J. Simmons	20,330	25,893	27
24. Brandon	4¼	Samuel Hemming*/The Company	40,000	55,090	38
25. Avon Viaduct	1/16	Samuel Hemming	7,979	8,621	8
26. Coventry	2¾	H.Greenshields*/The Company	101,700	150,496	48
27. Berkswell	4½	Daniel Pritchard	53,248	62,738	18
28. Yardley	7½	Joseph Thornton	68,032	78,131	15
29. Saltley	1⅞	James Diggle	32,878	38,707	18
30. Rea Viaduct	⅛	James Nowell	13,644	15,505	14
TOTAL			1,701,691	2,531,420	49

Smallest Contract:	Avon Viaduct	£7,979 / 8,621 / +8%
Largest Contract:	Primrose Hill	£120,000 / 280,000 / +133%
Largest revised estimate:	Kilsby	£99,000 / 290,000 / +192%

Contract for the building of the London & Birmingham Railway and their contractors.[iv]

“On Robert Stephenson's recommendation the London Committee ordered two engines on 24th December 1834, one from Charles Tayleur & Co. and one from R. Stephenson & Co. and began negotiations with the Leicester & Swannington Railway who had replied to a London & Birmingham advertisement and wished to dispose of an engine.” The advert is below:

LONDON AND BIRMINGHAM RAILWAY.

THE LONDON COMMITTEE of DIRECTORS are desirous of receiving Tenders for the supply of TWO LOCOMOTIVE STEAM ENGINES, to be delivered within two months, at the Camden-town-wharf, on the Regent's Canal.

The dimensions to be as follow :—

Diameter of Cylinder from 12 to 14 inches;
Length of Stroke from 16 to 20 inches;
Diameter of Wheel 4½ feet, the wheels to be coupled so that the whole adhesion may be taken.

The weight to be from eight to ten tons upon four or six wheels.

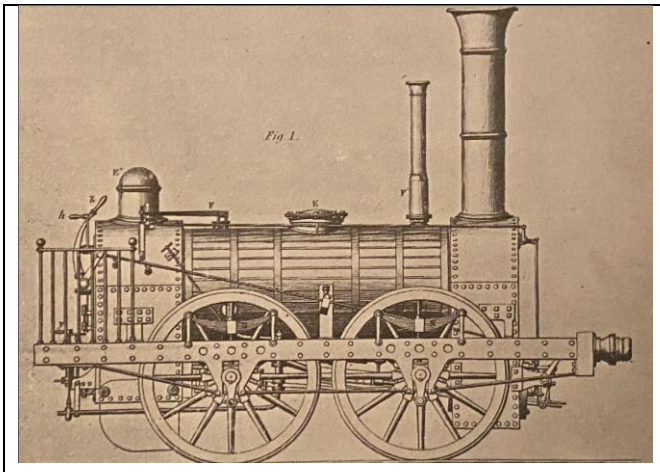
Applications for further particulars to be made to R. Stephenson, Esq., Engineer in Chief of the Company, at the office, St. John's-wood, London. The tenders to be addressed to the Secretary at the Company's Office, 83, Cornhill.—By Order,

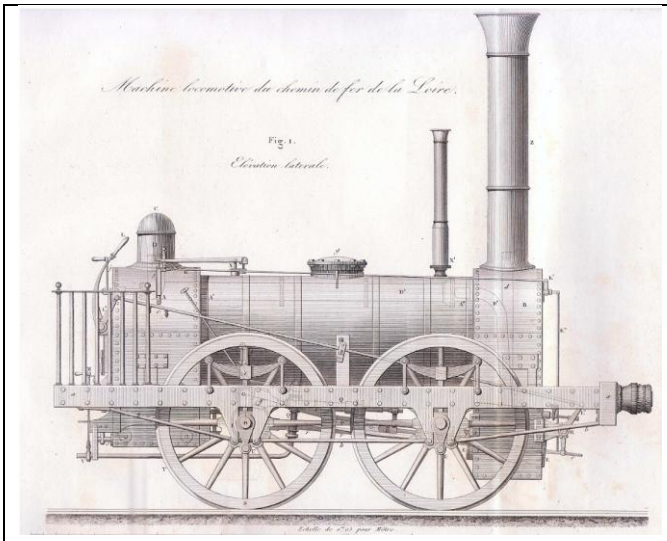
R. CREED, Sec.

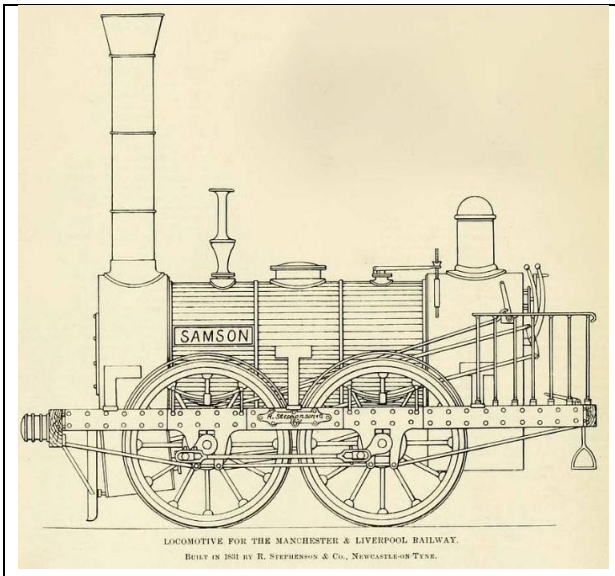
Nov. 21, 1834.

The wheel dimensions here in this advert match those of the first Stephenson Samson locos on the Liverpool & Manchester (Samson & Goliath) of 1831. However the piston dimensions are considerably smaller.

"The Stephenson engine (works No 111) was reported by letter of 11th April 1835 to have been shipped from Newcastle to the Thames. It was at work at Willesden by June."

	Published in Grier's Pocket Dictionary in 1838 (left, side elevation). Note the steam dome is shown in the rear position above the fire box and the tall Stephenson type safety valve cover next to the chimney. Of the L&M 2-2-0 planet class, boilers were consistently either 6'3" or 6'6" long with only three exceptions (see Dawson). Also note the coupling rod is omitted. In American practice the coupling rods were removed because of poor track conditions, but this is surely a draftsman's omission.

	Nicholas Wood's illustration of the 'de la Voire' locomotive.[v] Wood refers this loco as a (coupled) Planet while Dawson refers to the same image as a Samson Class.[vi] The Samson class straddled a period of development. According to Dawson's data there were 6 such L&M locos. These might be divided into three pairs with increasing dimensions. The earliest pair had boilers of 7ft length, pistons of 14 x 16 and 4'6" coupled wheels. Given the L&B locos had pistons of 12 x 14 and the same size wheels the L&B locos appear to be in between Planet and Samson locos in terms of dimensions. (creative commons licence)



The first Samson!
“LOCOMOTIVE FOR THE MANCHESTER & LIVERPOOL RAILWAY. Built in 1831 by R. Stephenson & Co., Newcastle-on-Tyne.” Illustration in American Engineer and Railroad Journal, vol. LXVIII, no. 3, March 1894, New York, p. 130. (Internet archive)
The short boiler but large pistons are very evident in this image, Note also the coupling rod’s inclusion, absent the above images. Wheel splashers have been added. Boiler fittings match those above as well although the steam dome is larger. Note the Chimney height is the same as the ‘de la Voire’ locomotive but Grier’s depiction is shorter.

London & Birmingham Ballast locos

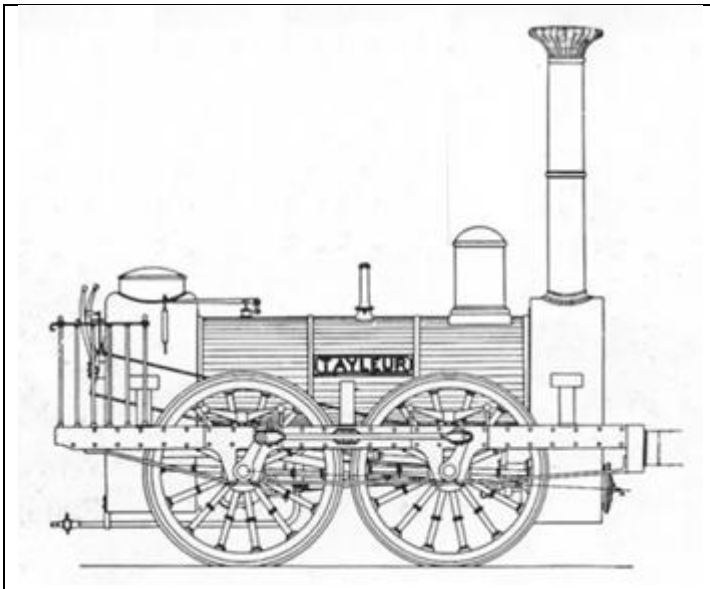
Whishaw gives the following locos as ‘ballast’ locos on the London & Birmingham, data collected between 1837-1839. Note the two named locos ‘Harvey Combe’ , discussed above, and ‘Brockhall’ discussed below. However the four coupled ‘planet’ locos acquired for building the line and those retained as ballast locos between 1834 and 1838 have a number of differences. Whishaw only lists the later 12 x 18 in cylinder locos, while the initial orders were for only 12 x 14 in.

Maker's Name.	No. of Engine.	Name of Engine.	Date.	Cylinders. Diameter in Inches.	Cylinders. Length of Stroke in Inches.	Boiler. Diameter in Inches.	Boiler. Length in Feet.	Tubes. Diameter in Inches.	Tubes. Length in Feet.	Tubes. No.	Tubes. Area exposed to the contact of Heated Air.	Dimensions of Fire-Box. Length.	Width.	Height above the Grate Bars.	Area exposed to radiating Calorie.	Dimensions of Chimney. Diameter in Inches.	Dimensions of Chimney. Height in Feet.	Size. Of Steam Passage. Sectional Area in Inches.	Size. Of Blast Pipe. Sectional Area in Inches.	Wheels. Driving. No.	Wheels. Driving. Diameter in Feet.	Wheels. Carrying. No.	Wheels. Carrying. Diameter in Feet.
Ballast Engines.																							
Rt. Stephenson & Co.	..	Harvey Combe ..	1835	12	18	42	7·50	1⅝	8·00	102	345·98	36½	40½	38	48·38	16	14 6	8·08	..	2	5 0	4	3 6
Tayleur & Co. (18)	..	Brockhall	1835	12	18	36	8·00	2	8·50	89	394·09	24	41¾	51	36·26	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (36)	..	.....	1836	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (37)	..	.....	1836	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (42)	..	.....	1836	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (43)	..	.....	1836	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (44)	..	.....	1837	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6
Tayleur & Co. (61)	..	.....	1837	12	18	40	7·50	2	8·00	88	366·78	28	41	44	33·81	..	..	..	..	2	4 6	2	4 6

Whishaw conducted experiments on the London & Birmingham between July 1837 and Feb 1840. This table was included in his 1840 first edition. The story of the seven Tayleur locos is told below but first a look at the locos for building the line.

No. 18

“The Tayleur engine was paid for on 22nd July 1835 and was maker's number 18. At first it worked on the Primrose Hill cuttings but was probably the engine ordered to be transferred to the Birmingham Committee on 27th January 1836 for the Berkswell contract. Later Tayleur's No 18 acquired the name Brockhall from the contract north of Weedon on which engines were first used in September 1837.”



This drawing is thought to represent the design of '0-4-0 Tayleur' built apparently for the North Union* in 1832 of which three further were built for the Warrington & Newton railway.

This information comes from D.S.E. Gudgin who also claims this as a typical Stephenson design[vii] and it does match the approximate 'profile' of the above Stephenson locos.

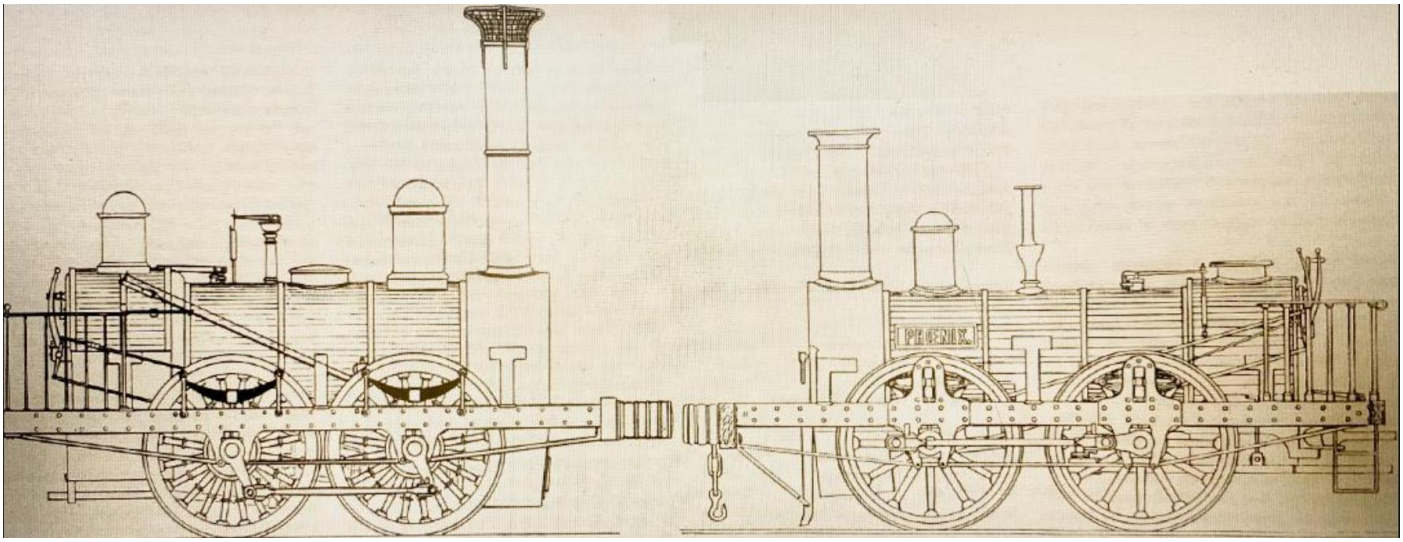
Note the steam dome in the forward position and the absence of the much taller Stephenson safety valve cover present in the above version.

*A.A. Williamson, records that the order was actually placed by the famous colliery owner, and Bolton & Leigh railway operator John Hargreaves, the North Union not coming into existence until 1834. Although this still isn't clear as the Bolton & Leigh was absorbed by the GJR and not the North Union.[viii]

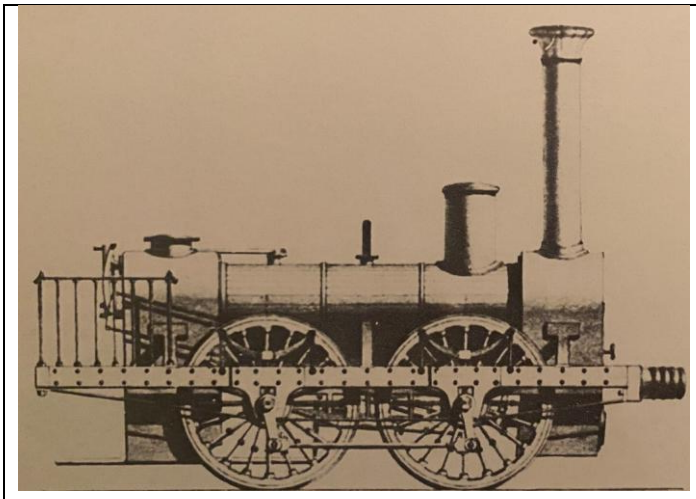
"The Leicester & Swannington engine, No 2 Pheonix, was another similar Stephenson engine, maker's number 6 of August 1832, which the L&S were glad to sell because it was too small for their needs. After repairs it arrived on the L&B in May-July 1835. It probably kept its name."

Harry Jack gives the (left-hand below) loco below the following caption: "Standard 0-4-0 by Chas Tayleur & Co. of the Vulcan Foundry. During 1835 -1837 seven were built by Tayleur; Stephenson built four similar while Mather Dixon and Fenton, Murray & Jackson built one each." Note the double domes an arrangement found on the Tayleur 2-2-2s also. It is possible this is also a later arrangement as opposed to the earlier locos, may reflect the design of those on the London & Birmingham mentioned by Whishaw.

Looking at the Leicester & Swannington engine Pheonix, the shorter chimney is immediately obvious – doubtless an adjustment for the famously early and low Glenfield tunnel. Note the forward steam dome position, the tall Stephenson type safety valve cover and the 'grasshopper' type springing.



“The Birmingham Committee ordered six ballast engines in January 1836. Three of these were from Charles Tayleur & Co, whose first one was to be sent to the London end as a replacement for the engine (Brockhall) transferred to Birmingham in that month; the other three were from Stephenson & Co, Mather, Dixon & Co and Fenton, Murray & Jackson. The Liverpool & Manchester Railway offered their famous old Northumbrian for £450, and Rothwell & Co of Bolton offered an engine called Hercules for £600, or £760 including a tender, but neither was taken because they were not to the Company's specification.”



Another drawing from Gudgin’s Vulcan locomotives. This time ‘Titan’ of the Liverpool & Manchester railway of 1834.
This later Samson engine, the first four being 1831-2, had an 8’4” boiler and was converted by the L&M in 1835 to a 0-4-2.

Titan (and Orion) differs from the London & Birmingham Tayleur locomotives as recorded by Whishaw.
Note the forward dome shape has changed to a flat topped form of cylinder found on a number of Vulcan locomotives of the period.

Locomotive	Year	Wheels	Cylinders	Boiler
L&M Samson	1831	4’6”	14 x 16	
L&M Titan	1834	5’	8 x 20	8’ 4”
L&B Tayleur	1836/7	4’ 6”	12 x 18	7’6’ (?)*

*Whishaw states 7.5 feet, although this could actually mean 7’5”. Brockwall’s boiler was 8’.

No. 36

“The first of the Birmingham Committee's Tayleurs was tested on the Warrington & Newton Railway (which ran past Tayleur's Vulcan Foundry) at the end of May; it was sent off on 6th June and arrived by canal in London on Monday 13th June 1836.

No. 37

The second Tayleur was ready in the same month, Stephenson's arrived at Kensal Green about the same time and by the end of the year all had been delivered except that from Fenton, Murray & Jackson, which was sent by sea from Hull to the Thames in January 1837. Mather, Dixon's engine was working on the Coventry contract by May 1837 when it was seized for the £900 debt of a bankrupt contractor, and had to be bought back from the Sheriff.

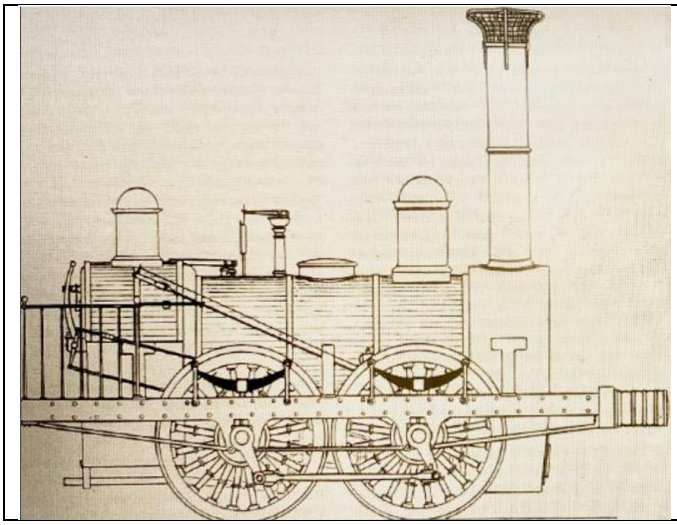
No. 42, 43, 44?

“The London Committee ordered four more in February 1836, two from Stephenson and two from Tayleur. These were evidently to compensate for cancelled train engine orders of the previous month; Stephenson's two were built under works numbers 141/2 which had been allocated to the L&B's cancelled 2-2-2 order. The Tayleurs were received at Wolverton on 10th February 1837.

“In October 1836 Robert Stephenson wrote to the Birmingham Committee recommending the purchase of an engine from his firm. The engine would cost £1,575, the tender £220. From the price this was clearly a six-wheeled engine; his offer was not taken up.”

No. 61

“Another standard ballast engine "like those already supplied" offered by Tayleur at the end of December 1836 was accepted and in September 1837 it was delivered at Coventry canal wharf. This was presumably Tayleur's No. 61. The name Franklin is assigned to 61 in the Tayleur works list. This has led to some confusion there being an old Vulcan Foundry drawing of a Bury-type loco with this name. The name Franklin appears nowhere in the L&B records however and it seems most likely that No. 61 was a standard Stephenson 0-4-0.

	“A Vulcan Foundry drawing dated June 1836 shows an 0-4-0 outside-framed engine for the London Birmingham with 4ft 6in wheels and 12 x 18in inside cylinders. Works numbers 36, 37 and 42 are quoted and the figure 7' is added, which may represent the total built of this type for the L&B.”

[i] Locomotives of the LNWR Southern Division, Harry Jack, RCTS, 2001
[ii] Townshend was also awarded four contracts on the Grand Junction Railway on which he also defaulted leaving Joseph Locke to huge task to complete that line.
[iii] ‘City of Liverpool Museums Locomotives Drawings’, A.A. Williamson, c.1960. Drawing 1835/2.
[iv] Courtesy of Chris Heaven, https://oldrailwaystuff.com/london-and-birmingham-railway - last accessed 15/1/2026
[v] ‘Traité pratique des chemins de fer de Nicolas WOOD, traduit de l’anglais (deuxième édition) par MM de Montricher et de Franqueville , ingénieurs des Ponts et Chaussées et de Ruolz, Planches, Paris, chez Carillian-Goeury éditeur-libraire, 1834.’
[vi] ‘Locomotives of the Liverpool and Manchester Railway’ , Anthony Dawson, Pen & Sword Transport, 2021
[vii] ‘Vulcan Foundry Locomotives: 1832-1956’, DSE Gudgin, Bradford Barton, 1976,
[viii] Williamson,c.1960, ibid.