THE WALKING HORSE and CLARKE'S RAILWAY

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2013 is an important milestone in railway history; it is the bicentennial of the start of operation of the third commercially successful steam locomotive in the world. Richard Daglish and Donald Anderson have documented that Robert Daglish built a steam locomotive for John Clarke at Haigh Foundry; Clarke was a Liverpool banker and owner of Winstanley and Orrell colliery and railway. That locomotive was known as *The Yorkshire Horse*, or *The Walking Horse*. Although it is most commonly known as *The Yorkshire Horse*, I prefer to call it *The Walking Horse,* for reasons that I will explain.

Richard Daglish has provided details of the steam locomotive, wagons and track. Anderson documents the development of the steam locomotive and the railroad in the context of the development of the Winstanley and Orrell Coalfield. Robert Daglish himself documented that *The Walking Horse* was the first commercially successful steam locomotive in Lancashire, but nobody has documented the role of *The Walking Horse* and Clarke's railway in the railway history of the world. This is what I attempt to do.

In the Wigan area, wooden wagonways transported loaded wagons of coal from the Orrell coalfield in controlled descents, first to the Douglas Navigation in the 1770s and starting in 1784 to the Leeds and Liverpool Canal. Haulage of loaded wagons uphill was to be avoided.

In 1792, John Clarke and his Liverpool partners leased land from Squire William Bankes of Winstanley Hall and started to mine coal in Winstanley, to the south of Smithy Brook. The only pathway to transport coal from Winstanley down to the canal at Crooke was to cross Smithy Brook, go uphill to Oldham's Fold on Orrell Road, and then descend through Kitt Green to Crooke. Clarke built a stone viaduct across Smithy Brook, known as The Arches, and built a horse-powered wagonway from Winstanley to connect with Berry's earlier wagonway near Oldham's Fold, which he had already purchased. It took about 14 horses to pull loaded wagons of coal from *The* Arches *Viaduct* up to Oldham's Fold, a distance of about 600 yards. Due to the Napoleonic Wars, the cost of horses and horse feed was high.

In about 1804, Lord Balcarres of Haigh hired Robert Daglish as engineer at Haigh Foundry and Daglish built stationary steam engines to pump water from increasingly deep coal mines. Steam locomotives began to be developed in the early 1800s and in 1812 two steam locomotives were operated successfully – on the level – at Middleton Colliery in Leeds. About 1810, Clarke planned to expand his coal mining operations in Winstanley and needed to extend his railway to near Longshaw. At this time, he hired Robert Daglish as his colliery manager and Daglish built *The Walking Horse,* installed fish-belly rails on stone sleepers, and fitted a toothed driving wheel on the left side of the engine to engage with cogged rails. The age of steam locomotives had arrived in Winstanley and Orrell.

Unfortunately, Anderson and others erroneously describe the locomotive as a Blenkinsop locomotive. John Blenkinsop was the manager at Middleton Colliery and he patented the rack system that provided traction for the Middleton locomotives and Daglish's locomotive. Blenkinsop did not,

however, design or build the Middleton locomotives; these were built by the Leeds engine-makers and millwrights Fenton, Murray & Wood. The main reason for calling Daglish's locomotive *The Yorkshire Horse* appears to have been the erroneous assumption by many that Daglish simply copied the Middleton locomotives. This assertion also seems to have led many chroniclers to ignore Daglish's locomotive and perhaps explains why *The Walking Horse* and the Winstanley-Orrell railway have not been accorded their due places in railway history.

From a careful comparison of the Middleton and Daglish's locomotives and railways, I have determined the position of *The Walking Horse* and Clarke's railway in early railway history.

- The Arches Viaduct was the first masonry railway viaduct (c.1790s) in the world and the first viaduct in the world to carry a steam locomotive (January 1813). [Risca Viaduct opened in 1805 and Laigh Milton Viaduct in 1811.] The previous earliest date I can find for a steam locomotive possibly crossing a viaduct is 1816/7, when *The Duke* was set on rails of the Kilmarnock and Troon Railway, part of which crossed the masonry Laigh Milton Viaduct].

- *The Walking Horse* was
  - the first steam locomotive to be built and operate in Lancashire;
  - the first steam locomotive in the world to cross a viaduct;
  - the first steam locomotive in the world to work successfully for four decades;
  - the first steam locomotive in the world to haul loaded wagons up a four percent incline;
  - the first commercially successful steam locomotive in the world to have a wrought-iron boiler and chimney and a feed pump;
  - the third commercially successful steam locomotive in the world; and
  - it was two tons heavier and had more horsepower (8 hp) than the first two Middleton Colliery locomotives, and the tracks had stronger rails (4 ft, fish belly), pedestals and sleepers with chairs fixed by through bolts.

Also, Haigh Foundry was the first foundry and Robert Daglish the first engineer and colliery manager in the world to construct a steam locomotive that operated successfully for four decades. Haigh was the second foundry in the world to construct a commercially successful steam locomotive.

The Walking Horse and Clarke's railway demonstrated significant improvements in power, reliability, stability and stamina over the Middleton locomotives and railway. These and subsequent improvements in early railways led to the development of mainline railways by 1830. Robert Daglish and John Clarke deserve due recognition for their pioneering developments.

References

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Donald Anderson, *The Orrell Coalfield, Lancashire 1740-1850* (Moorland Publishing Co., Buxton, 1975).

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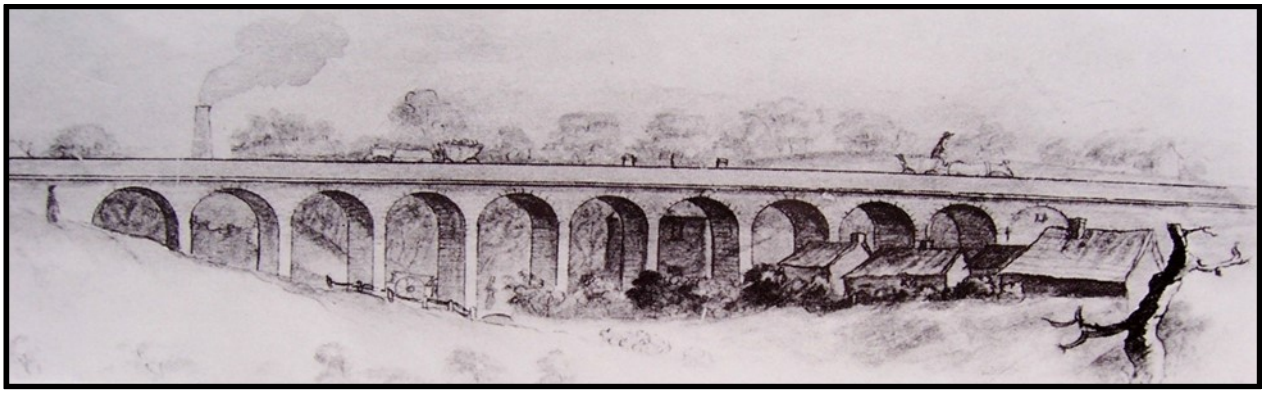
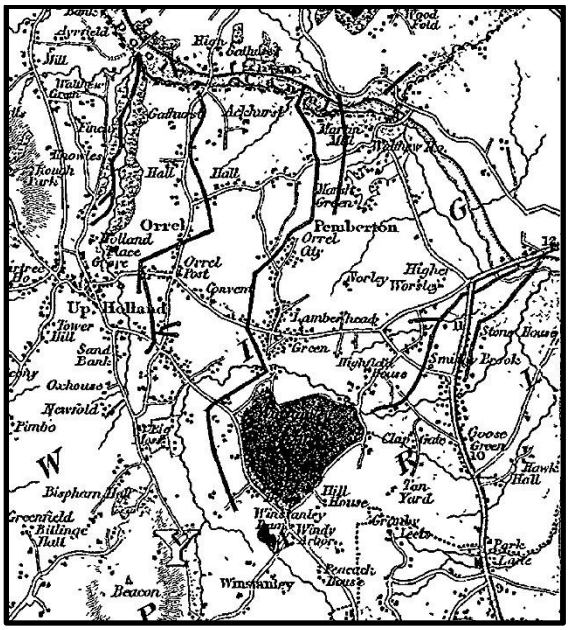


Etching of The Arches Viaduct across Smithy Brook Valley c.1790s.
[Wigan Library no longer holds the etching and Moorland Publishing Company has closed.]

Orrell Mount, home of John Clarke, and Orrell Lodge,
home of Robert Daglish, now WISH FM radio station.



1829 Hennet map. Clarke's railway is the long line from Winstanley to the canal at Crooke