

BURRELLS

Rob Shorland-Ball

Burrell ploughing engines Nos. 776 and 777 of 1879 made history at Weeting Rally this year when they worked together again in steam after more than 50 years dereliction. The engines, believed to be the only surviving Burrell ploughing engines (of 51 pairs manufactured) in the world are now owned by the Museum of East Anglian Life, Stowmarket, having been bought at auction from Tom Varley in 1984. The engines won an NCB/Solid Fuel Advisory Service Steam Heritage award this year for their return to steam - which has been a long story.

Nos. 776 and 777 left Charles Burrell's Thetford works on 20 June 1879 bound for Mr Reginald Wilberforce of Beechwood House, Woolavington. Perhaps neither engine was wholly successful because the surviving Burrell works records (in Mr W McAlpine's collection) indicate that new pistons were supplied in 1882 for one engine and then in 1883 for the other. In January 1885, No 776 required two bevel wheels for the differential and the cylinder was rebored to 9 1/8". Perhaps this was carried out at Thetford; certainly the engines were returned to Burrell's before being sold to their next owner, Mr E W Dorkin of the Eagle Ironworks, Colchester, in July 1893.

In their new ownership the engines still experienced mechanical problems. In 1896 the large gear rings on each of the winding drums were changed from cast iron to steel (2" pitch, 3 3/4" wide, 90 teeth). The following year 776 received a new crankshaft.

On 28th July 1904, the engines were sold at auction when Dorkin went out of business, to Arthur Borley of Colchester. While with Mr Borley the engines were photographed at work by Major Ind 776 on 17 October 1905 and 777 on 26 June 1906 "after repainting". According to the late Reverend Stebbing both engines were rebuilt "Just prior to the 1914/18 War". Whether the next entry in the Burrell records; "29 October 1915 - supplied a square dip crankshaft with 4 solid keys for road gear pinions to drawing No. 4790 (for 776)" actually relates to this rebuilding or whether 776 was in trouble again for some other reason is a matter for further research.

On 16 March 1917, through the agency of Geo. Thurlow & Sons of Stowmarket, the two engines were sold to their last commercial owner. The book entry in the Thurlow ledger reads: "W. Morley, Brize Norton. To 1 set second-hand Ploughing Tackle including 2 8 HP Burrell Engines, Van, Cultivator, Plough, Watercart as inspected £300.0.0 Ex A Borley To Bampton Sta. ex Ardleigh £300.0.0."

It is believed that the engines were sold for scrap, to Edwards of Swindon, about 1935 and several pictures survive of the engines rusting away in Edwards yard. Remarkably they were not cut up and, recognising their importance, Tom Paisley bought them both in 1966. Work was put in hand on 777 by Stan Burges of Haddenham. At Mr Paisley's death 777 was still incomplete and 776 was little more than a boiler tube on wheels

The two engines were bought at the Paisley auction by Tom Varley of Todber Steam Museum, Grisburn. He completed No. 777 and she appeared at Expo Steam in 1983, elaborately painted and lined out and with a large cast brass place around the top front of the smoke-box. Work was put in hand on 776; particularly a new welded boiler was made by Rory Woolfe Engineering of Ballymena, Co. Antrim.

On 4 August, 1984, 777 and the still incomplete 776 were sold at auction to the Museum of East Anglian Life in Stowmarket and the two engines returned once more and finally to their native East Anglia. 777 came directly to Stowmarket and various works were put in hand including repainting to an unlined black and red and the removal of several non C19th additions. 776 went to the Leiston Long Shop Museum workshops where very extensive work was carried out to get the engine into working condition once more. Finally, in late June both engines moved to Weeting where, under the guidance of the Museums Steam Consultant, Richard Parrott, the engines to work, finishing touches were carried out to enable together again once more.

Neither engine has proved to be very powerful and No. 776 in particular is very "wet" even at 120 lbs. pressure. Perhaps the two replacement crankshafts were necessary because of "hydraulic"? 777 was rebored to 9 1/8" during her rebuild by Stan Burgess but had the original piston replaced with larger rings and she blows by quite badly. Both engines need attention to regulator and valve faces but, considering their age, they really worked quite well. The biggest practical problem was the rope coiling gear which did not work properly and clearly needs further work.

On their historic first working at Weeting the engines drew a Fowler harrow, itself over 100 years old.

The crews were:

776 Driver - Lesley Colsell (Curator, Museum of East Anglian Life and formerly assistant Curator of the Museum of Lincolnshire Life.)

Mate Jim Wales

777 Driver- Tony Fisher (Engineer, Museum of East Anglian Life)

Mate - Graham Broadhurst

Harrow Godfrey Sturgeon (S.P.C Committee Member)

Foreman Rob Shorland-Ball (Director, Museum of East Anglian Life)

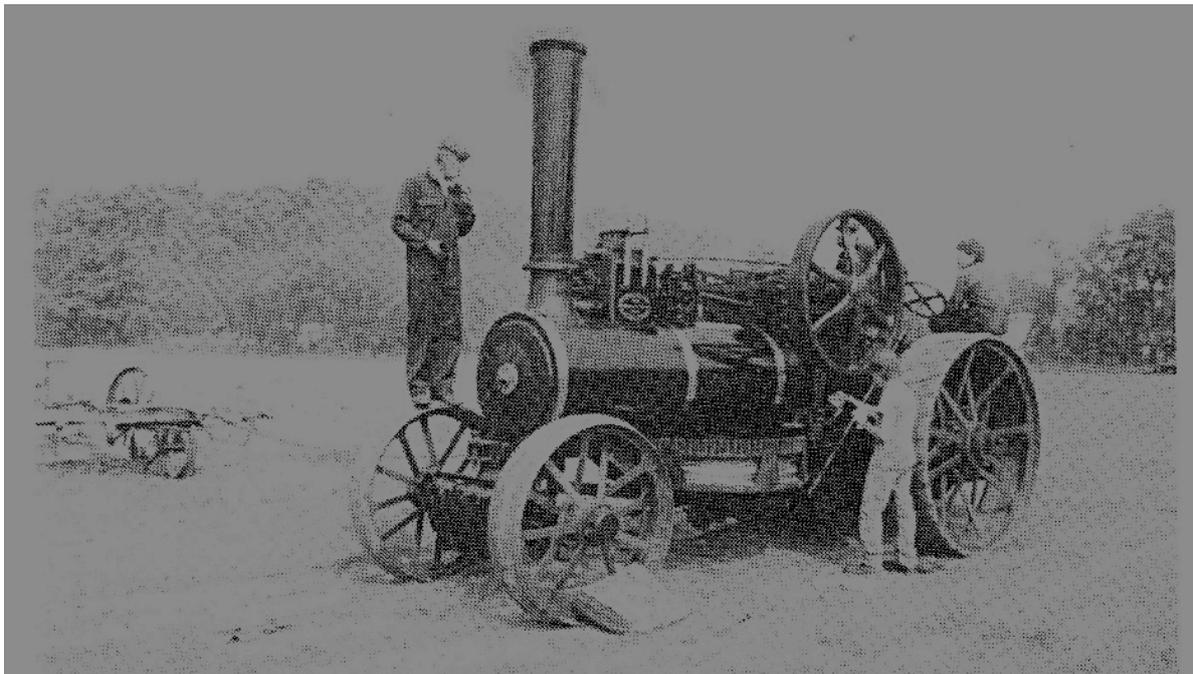
The engines have now returned to the Museum at Stowmarket and will be working again in August and early September.

FURTHER NOTES

1 Coiling gear - one eminent member phoned and said the problem may lie in the fact that metric cable of 18 mm (¾") dia. was used instead of 5/8" (15m.m). The fact that the cable was also plated added to its thickness and thus increased the coiling difficulties.

2 Another seasoned member voted Miss Colsell 110 points out of 100 for effort, especially bearing in mind the overwhelming amount of advice received from S.P.C. members, among others!

3 Bill Smith says very great credit must go to the Director and his staff for their efforts - "they are not the easiest engines to drive or work on, especially the very odd valve gear arrangement. The rusty harrow itself had been idle for 50 years or more and I had a go myself - a very enjoyable day!"



Burrell 777 at the Weeting Rally in 1990. Photo by Pat Freeman from the SPT of March 1991