

# Friends

## Handover in Cheshire

January 2012



A bicycle dating back to the early days of cycling has arrived here at the Museum after being discovered in an attic in Kingswear, Devon. Until cycle historian Nick Clayton informed us that the machine, a Singer 'Courier' had been found, we had no idea that one still existed. Up until then we had only read about the cycle in catalogues and magazines of the period.

CTM Cycle Curator Les Robertson travelled up to Knutsford, Cheshire to receive the historic bicycle with member John Bachelor, They are pictured (left) with Veteran Cycle Club member Bob Bennett at the moment of handover.

The 'Courier' bicycle, which is rusty and unridable, features an unusual design including two chains. But for generous grants from the Friends and the Arts Council of England PRISM Fund the bicycle would surely have been put up for auction.

At the time its owner had preferred to remain anonymous but we have since been given permission to publish the full story. Turn to the back page where you can read about a chance conversation between two old friends that led to the discovery of the bike that has one wheel bigger than the other.

## Dates

Postponement of the Scott Memorial Lecture to March created a need to move our Annual General Meeting to February or April. However Lecture has now been further postponed until October, so the AGM reverts to Thursday, March 15. Formal notice of meeting will accompany the February newsletter.

At this time of year, the Museum and Friends begin planning activities for the coming season.

There will be opportunities for Friends to get involved preparing and accompanying vehicles to shows and exhibitions, store tours etc. Generally technical preparation is carried out by Museum staff. But other work can be available for members. If you have yet to be involved, please get in touch.

JV

## Festival

Entry for the 2012 Coventry Festival of Motoring opens on Thursday, January 26. Those who have asked to be on the Festival of Motoring mailing list will be contacted by their preferred method of either post or email in the next couple of weeks with details of how to enter. If you are not already on the mailing list and would like to be added to it, you can sign up at [www.festival-of-motoring.co.uk](http://www.festival-of-motoring.co.uk)."

## Chairman's Chat

The start of the new year was not entirely cheerful with the Euro in crisis, a threat of further recession, very low forecasts for new car sales in the UK. But this was not the full picture and Jaguar Land Rover's announcements towards the end of 2011 of plans for a new plant in Wolverhampton and 1000 new jobs at Solihull showed a different picture altogether.

Announcements from car makers in the UK so far this year confirm a growing confidence. Rolls Royce report record sales of 3538 cars in 2011, a 31% increase on 2010 and comfortably exceeding the previous record set in 1978. It was helped by the successful introduction of the new Ghost. Bentley managed 37% with just over 7000 sales.

Good news was not just limited to the luxury sector with Mini up 12% and production at Nissan's Sunderland plant up by 14%. Last year, the plant produced 480485 vehicles - a new record for a single UK car plant.

A huge number of these British-built cars are destined for export, with China the biggest growth area for luxury vehicles. 80% of Nissans are exported with large numbers going to Russia. Let's not forget our considerable strengths in automotive design and technology. This is clear from the number of Formula One teams that chose to be based in the UK. So much more goes on behind the scenes.

The committee joins me in wishing you all a good and happy new year.



## The History of Midland Red

with Ashley Wakelin, owner of Midland Red Coaches and 'Wheels' the company that preserves and runs classic Midland Red buses

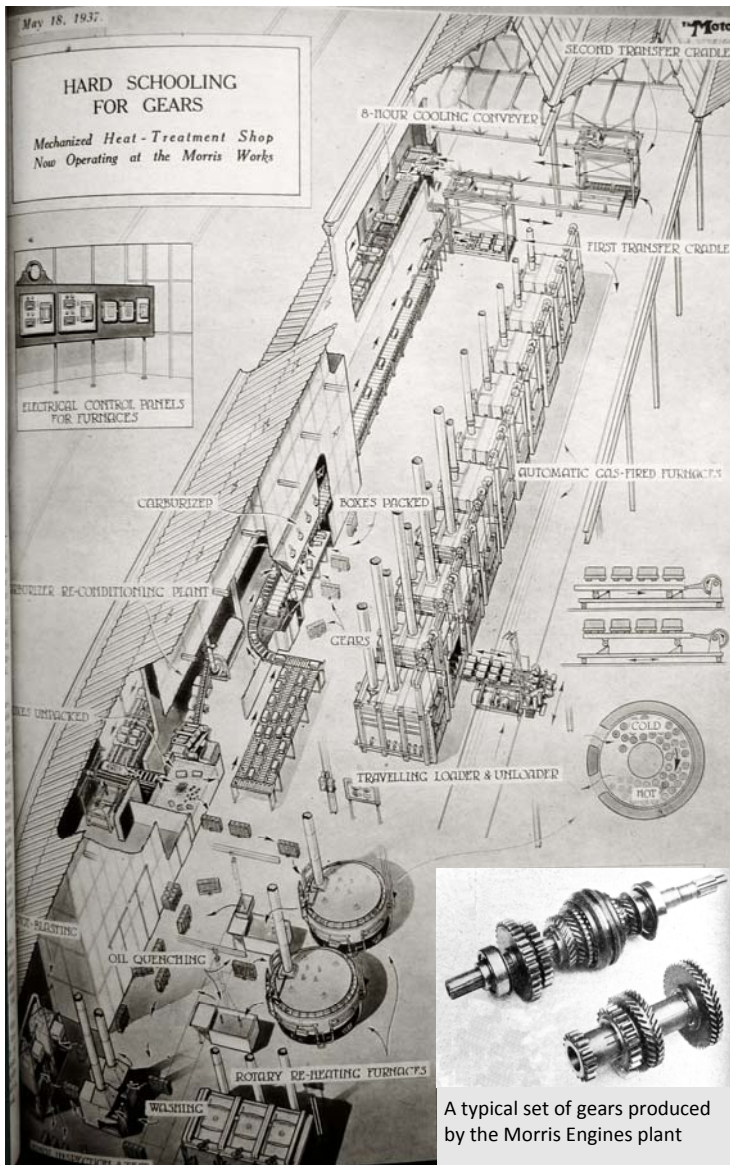
Thursday, January 19 at 7.30 pm

I came across this account of the modernised heat-treatment shop at Morris Engines, Courthouse Green in a May 1937 edition of *The Motor* magazine.

We are now fortunate to have access to these past issues in the SMMT collection. KD

On the outskirts of Coventry there is a large factory which constitutes an important part of the Morris organisation. The plant and personnel are devoted to the specialised job of production transmission gearing for all the chassis made under the Morris aegis in Cowley and in Birmingham.

In addition to containing one of the finest assemblies of gear-cutting machinery which we have seen anywhere in England, this interesting factory is notable for a completely mechanised department in which gears are hardened. A good impression of the general layout of the furnaces, conveyors etc is given by the drawing (below).



A typical set of gears produced by the Morris Engines plant

In order that the process may be understood it must first be explained that the object is to impregnate the steel with extra carbon over the wearing surfaces of the gears to a depth that varies in different types but which generally amounts to half a millimetre. This done by packing the gears in boxes with various carburising materials by which the steel components are completely surrounded and separated.

These boxes are then 'cooked' at high temperature in gas-fired furnaces for six hours or so. After cooling the gears are removed and are twice reheated to somewhat lower temperatures from which they are quenched in oil. One of these cooling processes refines the grain of the core and the other has the effect of producing an



extremely hard skin over those parts of the metal which were impregnated with extra carbon.

An extremely strong and tough type of nickel-chrome alloy steel is employed and part of the art of case-hardening is to ensure that the skin shall be nicely graduated into the tough core of the metal. It is also essential that the temperature attained in all the furnaces should be closely controlled.

Turning to the mechanised layout shown in the drawing, the first stage is to pack the boxes; the gears are brought to the workpeople on trolleys specially designed to prevent accidental damage. When parts have been machined to limits of accuracy measured in tenths

# Morris Engines

of thousands of an inch it is as well to take care of them. The carburising material with which they are packed is supplied from overhead hoppers and every box, in addition to the gears, contains a test piece of the same metal.

The packed boxes are taken by a long conveyor to the end of the shop where they are transferred to an electrically-operated loading machine; this has long arms that reach out to lift the boxes gently and with precision. The loading machine then travels down rails to the required location where it is extended once again to deliver the boxes to one or other of the waiting furnaces. Here they 'cooked' for the prescribed period.

The supplies of gas and air entering these furnaces are entirely controlled by elaborate electrical 'robots' which also draw graphs upon rotating drums so as to provide a continuous record of furnace temperature.

This electrical control gear is placed in a separate bay and embodies red and green light signals which are also reproduced on the furnaces themselves.

When this process is finished the red-hot boxes are withdrawn by the same machine that placed them in the furnace, where they are taken to the top of the shop and are transferred by a travelling cradle to a conveyor that runs outside the main wall of the building. This brings them back to the lower end of the shop, a journey during which the parts have had time to cool.

The next step is to unload the boxes with mechanical grabs to assist the operator. The carbonising material is lifted by conveyor to a reconditioning plant from which it is eventually returned to the packers.

The gears and test piece are removed on trolleys to a pair of rotating-hearth furnaces. Here, after making a complete circuit they are removed at exactly the right temperature for quenching in the oil baths alongside. This quenching process is carefully worked out to ensure absence of distortion and is followed by a series of washing processes, culminating in 'peppering' with fine shot to remove all traces of scale.

Last of all comes inspection by critical and highly skilled operators. Now we were allowed to test the case-hardened teeth with a new and keen fine-cut file of the best quality—only to find that the file became damaged while the teeth remained unaffected.

Under highly skilled supervision the plant is now in full operation and has proved very successful.

No batch of gears is released until the corresponding test piece has been thoroughly examined in the laboratories so that a high standard of excellence is ensured.

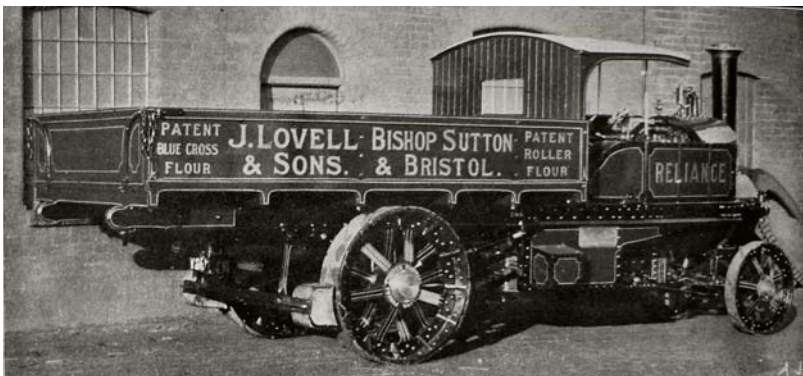
# Steam 5 tonners

from the Automotor Journal 1905 in the SMMT Collection



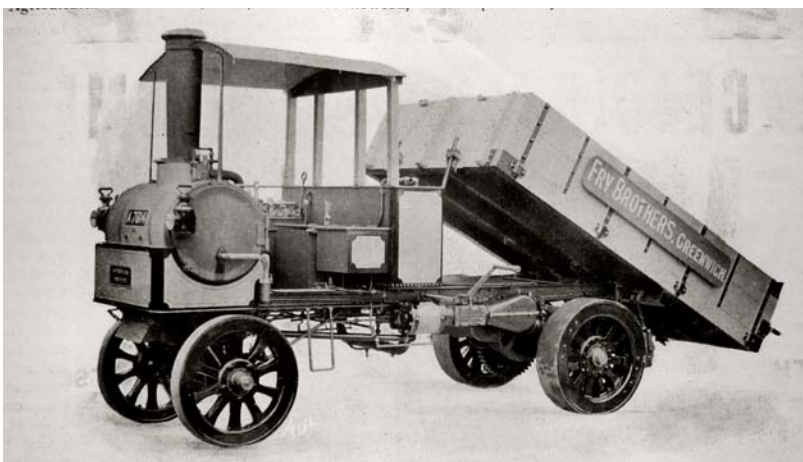
The 5 ton Thorneycroft Standard Wagon has a locomotive-type boiler rated at 45 hp, and 'Ackermann' steering with steering heads on the end of each axle. It can haul a load of 8 tons. Interestingly the firm's Colonial model had its front axle mounted on a turntable—traction engine style.

John Isaac Thorneycroft built his first steam lorry in 1896 at his Chiswick boatyard on the banks of the River Thames. The business was successful and moved to Basingstoke in 1898. That same year his firm built one of the world's first articulated lorries. But by 1902 ignition compression engines were taking over and the last steamer was built in 1907, although a subsidiary carried on production in Glasgow until 1910.



The 5 ton Foden is designed on traction-engine lines with a live rear axle driven by a single chain. It was designed for a 5 ton load but could draw a further 2 tons on a trailer. The engine is of the horizontal compound type and sits on top of the boiler, with jackets formed around them. This kept the fuel hot and the jackets acted as a steam dome for the boiler. The machine was said to run economically.

The production of agricultural engines in the 1870 gave Foden a head start in the development of the steam lorry. After the Red Flag Act the firm produced a series of prototype lorries enabling them to be well prepared for the trials in 1901 when they were consistently faster and more economical than their rivals. Surprisingly Fodens produced vehicles until 1934.



The 5-ton Yorkshire Steam Wagon was shown for the first time at the 1905 Agricultural Show. Its boiler in some respects is similar to that on a locomotive but is mounted transversely and therefore occupies minimal space. Its other advantage is that the water-level in the boiler is hardly affected on varying road gradients.

The Yorkshire Patent Steam Wagon Company of Leeds produced its first steam wagon in 1901. Its designs had a novel double-ended boiler. Production lasted until 1937, but the company itself continued in business until 1993.

## New Home for CTM's Morris



Just before Christmas, our 1948 Morris 10 Series M was transferred to the Oxford Bus Museum through the Museum Association's Effective Collections scheme. The project helps museums to get more of their stored items into use, either by loaning them to other museums on a long term basis, or by transferring them permanently so that they can be used more effectively.

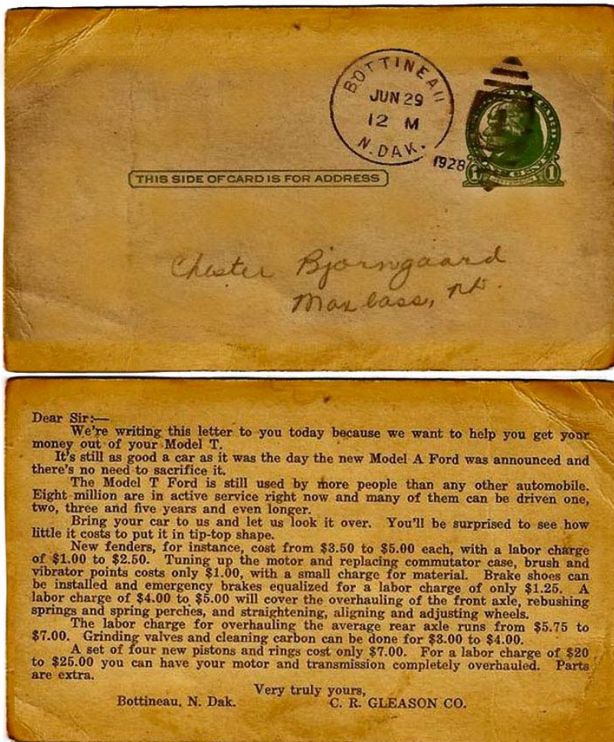
Through a grant we reviewed all of our stored collections and identified the Morris as one such item. It has now been transferred to Oxford where it is planned to restore the vehicle and display it as part of their Morris Exhibition (they have an area dedicated to Morris Cars, because they were built at Cowley in Oxfordshire). They may also make the car roadworthy again for future museum events.

Colin Ellis of the Oxford Bus Museum was delighted to accept the vehicle and is looking forward to being able to make it available for the public to see.

The family of the gentleman who originally donated the car to Coventry Transport Museum has been kept informed about the process and are very pleased that the car has found a new home.

# Brewing up Chester's 'T'

Member Jim Palmer contributes this fascinating piece of American history—an offer by a North Dakota garage in 1929 that Chester Bjorgaard couldn't refuse.



The Model T cost \$850 in 1909, and as efficiency in production increased, the price dropped. By 1927, you could get a Model T for \$290. "I will build a car for the great multitude," said Ford. "It will be large enough for the family, but small enough for the individual to run and care for. It will be constructed of the best materials, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be low in price that no man making a good salary will be unable to own one — and enjoy with his family the blessing of hours of pleasure in God's great open spaces."



## 'Courier' is unearthed

It was a chance telephone conversation between two old friends that led to the discovery of the Singer 'Courier'. Bob Bennett, who lives in Knutsford, Cheshire and is a member of the Veteran Cycle Club, was intrigued when his Devon friend Don Collinson, now in his 90s, casually mentioned that he had an old bike in the loft with one wheel bigger than the other. Bob's first thought was that it was a 'Penny Farthing' and asked Don to send a photograph.

On seeing the photo Bob consulted cycle historian Nick Clayton who was able to identify the unusual machine. It was decided to get the cycle to Knutsford where there is a Penny Farthing Museum and a nearby museum of cycles.

In August Bob drove a van down to Devon to carry the cycle back to Knutsford and the Cheshire experts. He found the road leading to his destination, Kingswear House but soon hit a snag. The lane was half a mile long narrowing between high walls to only six feet wide – making it impossible to drive the van close to the house which was up a steep drive. The house was interesting, having been designed with the living rooms on the top floor to take advantage of the views over the River Dart estuary and out to sea.

After tea and pleasantries Bob asked, "where is the bike now Don?" "Still in the loft" was the answer. So, down came the loft ladder and up went 70 year old Bob to move aside 40 years of accumulated storage and find the bike, 40 pounds of solid metal. He moved it to the gaping hole in the floor and contemplated lowering it down the ladder.

The large back wheel would only go diagonally through the access hole and was lowered vertically until the bike was some four feet off the landing floor. By now Bob was lying on his stomach desperately supporting the weight so that the two 90 year old residents could grasp the machine and lower it the rest of the way. Once on the landing Bob had to carry it down two flights of stairs and then half a mile to the waiting van where his driver declared that he could not help in loading it in the van "as he had a bad back!"

While the cycle was in Knutsford more research was undertaken. It was found to have been first purchased by Mr Collinson in 1962 as part of a "job lot" of "collectibles". At that time the cycle was said to have been in a barn of a house in a village near Chipping Sodbury, Gloucestershire and it is known that the cycle had been there since (at least) 1946. Efforts are now being made to trace the family that owned the house before the war in the hope that more information will reveal the bike's owner at that time.

## Treasures

Time to dig out your treasures when BBC Two's antiques and auction show 'Flog It' arrives at CTM on Saturday March 3. Presented by Paul Martin, the programme is watched by 8 million viewers.

Other experts taking part include David Fletcher and Anita Martin.

The day will start at 9am with filming going on right through to 6.30pm, but the queue for valuations will close at 4pm so be sure to arrive at the Museum in plenty of time.

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