

**Reading Society  
of Model  
Engineers  
Charity Number  
1163244**

# The Prospectus

**October 2024**



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Les's Day Out . See page 7

Photo Karl Trussler

**PNEUMATIC LOCOMOTIVES  
CURLY BOWL  
TRUSTEE NEWS  
CLUB AGM 24 OCTOBER**

## THE VIEW FROM THE CHAIR

John Billard

The seasons have changed rapidly and this means more work to keep the club tidy. In the meantime, preparations are well in hand for the Santa specials with nearly 600 places booked. Special thanks to Peter Culham and Donald Pickett for an effective booking process which now uses PayPal.

I have had a call from Peter Harrison who stays in membership despite his move to the north Midlands. He was at the club recently to steam at a public running and tells me how much he enjoyed it and what a good atmosphere there was. He's still looking for a club to join to match what we can do!

The trustees met on 16th September. It was well attended and we quickly got down to business and I think we had an effective meeting that didn't last too long. We have updated our membership list to remove the few who have not renewed so that only paid up members take part in appropriate club activities. Coal stocks are being replenished and there still appears to be reasonable availability for our requirements. And last Barclays Bank have now updated their records to show our legal status as a charity.

September's public running income was slightly down compared with August but remained very healthy (Refreshments £100 and tickets £840). While the workshop refurbishment is largely complete we are fitting a new motor and controller for the Myford lathe. Despite this cost we should still be within budget. A defibrillator is being installed in the club house lobby and dates have been settled for the Santa specials at 7/8 and 14/15 December. The final private party of the season is shortly to take place and we are due to discuss the future of these after the AGM. After many years Peter Culham would like to reduce his commitment and we must deal with this.

We are expecting a visit by the Narrow Gauge Railway Society on 12 October at the club running; and we also making early plans for a possible open day in 2025.

After many years Jim Brown has said that he wishes to step down from the role of Treasurer. Having taken account of his activities it was decided pursue the idea of a bookkeeper for the club. This will be part of modernising the way our finances are managed as part of succession planning.

We are making preparations for the club AGM that will take place on 24th October. Announcement has been prepared regarding nominations and motions that has already been sent to members. Notification of nominations and motions must be sent by members by 11th October. John Billard, Jim Brown and Mick Chalmers retire by rotation and Stephen Millward has decided to step down as a trustee.

As I go to press I have learned of the death of Rob Denton who was previously a long standing member of RSME. He will be remembered for many things and on behalf of the trustees I convey our condolences to his family.

## **Unusual Diesel Transmission Systems- Part 2 Alec Bray**

### **Diesel-Pneumatic (Diesel-Compressed Air)**

Many of us use compressed air to test-run our lovely live-steam locomotives. While nothing can replace the smell of burning coal, or the whiff of hot oil, or the gentle hiss of the blower as the boiler come up to the mark, there is no question that if a quick check is needed, or if something needs to be done in the shed, it's quicker and easier to connect up the airline from the workshop air compressor.

### **ZARLATTI COMPRESSED AIR TRANSMISSION**

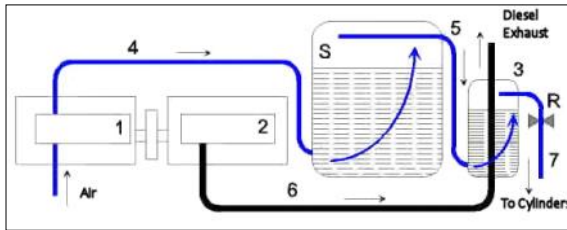
Inventors Fausto Zarlatti and Umberto Simoni proposed a diesel driven compressed air system for full sized railway locomotives, although the idea of using compressed air – stored in this case in on-board reservoirs - was first applied to tramcars by Louis Mekarski, and used successfully in Nantes from 1900 to 1917 - in fact, two Mekarski compressed air trams were tried out on the Wantage Railway in 1880 but were not considered a success as the fuel consumption for the compressor was much higher than the equivalent fuel for steam locomotives.

The basic idea of Zarlatti was a system for the re-use of old steam locomotives. Rather than scrap the whole machine, the cylinders and motion, chassis, wheels, whistles - and anything else needed - would remain unchanged. Simply remove the boiler and replace the steam circuit - saturated or superheated - with compressed air produced on board using a diesel-engine-powered compressor! There was one – fairly large – problem. Compressed air cools when it expands and can cause the cylinders to ice up or freeze. On the other hand, the diesel engine runs hot, and usually all this heat is lost. In the Zarlatti system, this hot air was used to pre-heat the compressed air – and to generate saturated steam.

Between 1928 and 1929, FS (Ferrovie dello Stato Italiane) steam locomotive number 910.042 was modified at the Royal Arsenal of La Spezia to test the system. The 910 class had been built by Ansaldo of Sampierdarena from 1905, the first batch originally going to Sicily, but quickly the entire class became concentrated in and around Milan for suburban services. The boiler and superstructure of 910.042 was removed but the original compound expansion steam cylinders were kept. A six-cylinder, two-stroke, diesel engine built by Fiat-San Giorgio was installed. This engine produced 325 hp at 450 rpm and drove a rotary compressor, built by a Swiss company in Winterthur, which delivered compressed air at 8 bar pressure. A small naphtha-fired boiler with a heating surface of 52 square metres was also installed for the production of steam. Cooling water from the engine and compressor was fed into the boiler at about 70 °C. For cold starting, the boiler was used to pre-heat the diesel engine. When the locomotive started from rest, the original steam cylinders were fed with steam alone, but when running they were powered by a mixture of steam and compressed air. The steam was needed to

prevent the cylinders icing up. The idea, excellent in principle, proved to be problematic in its practical application because of the weight and bulk of the machinery.

There were some variations of the Zarlatti system that differed in the detailed construction, but worked on the same principle. The following description

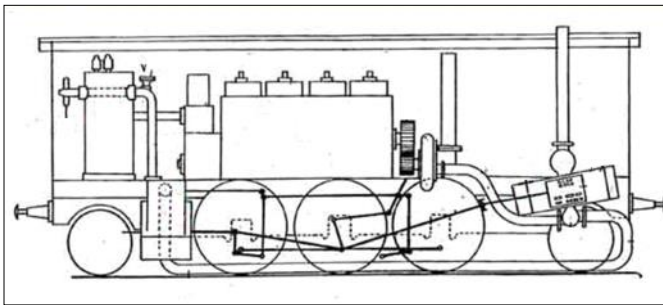


refers to a 1924 patent for a locomotive that is probably the one that was tested on Rome-Civitacastellana - Viterbo railway and of which there are some photographs.

The figure shows the thermal scheme of the Zarlatti diesel-compressed air machine. The diesel engine 2 directly drives compressor 1: compressed air is carried through pipe 4 into the lower part of the main tank S, which actually is the locomotive boiler: in this boiler there is water up to a certain level and the hot compressed air bubbles through the water and then collects in the upper empty space of the tank. From here the compressed air is taken by pipe 5 which is also a container holding water and through which the diesel exhaust - via 6 pipe - also passes: this generates saturated steam to mix with the compressed air. This mix is fed through the regulator R, and so to the cylinders.

It should be noted that a certain amount of steam is already present in the air at the exit from the compressor: in fact, the cylinders could be kept in a sort of “steam jacket” this way although the quantity and temperature of this steam is not constant. The steam generation in the boiler has two purposes: to raise the water temperature by direct heat and to provide the heated water vapour that is released in the cylinder at the time of the compressed air expansion and the consequent cooling and condensation. This process is the same (with some different dispositions) as used by Mekarski in his trams.

The water necessary for cooling the cylinders of the diesel engine and the compressor is contained in tanks mounted in the old boiler, firebox and



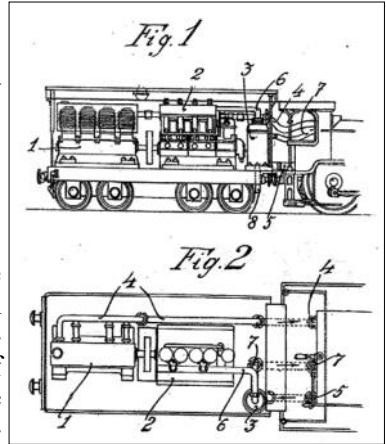
smokebox of the donor locomotive and kept in circulation by a centrifugal pump; a small amount of water is also used to keep the level in the heater constant, compensating for evaporated water and water va-



pour  
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away by  
the  
com-  
pressed  
air.

The diesel engine itself and the compressor were mounted on a separate chassis, as shown in the English patent of 1924 (overleaf). According to the inventor, the performance of the locomotive remained unchanged from the original coal-fired loco to the diesel-pneumatic transmission; but there is some doubt about these statements!

*To be continued*



*Zarlatti 1924 Patent application*

## AN EVENT in CHELTENHAM (The Curly Bowl) by David and Lily Scott

“CHELTENHAM! You can burn that one!” Sticks in my memory from a childhood of Black and White films to fire the imagination. The scene set on the footplate of Gladstone with two Actors well versed in matters driving the full size and Model Engineering. Moor Marriott and Will Hay of course. This years Curly Bowl was to be run within easy driving distance.

72 miles said Google Maps which is consulted whenever we venture out to a new destination even within a much visited town (The Racecourse Car Park) of course. Easy parking, a lovely site and close to an ASDA which came in handy later. The wonders of modern communication told of the road we were on BEING CLOSED so on we went. In other words “Last trains gone!”

Yes there was a diversion after Cirencester and we just went on the old road.

The first thing we saw was the impressive unloading table jutting into the car park with two cars at once unloading something LBSC. We have this reputation so were instantly recognised by the Southport Mob. We had met up at





Maidstone and Guildford IMLECs, Ben Pavier chatted about his Netta, same number of driving wheels as our 01 (*LNER 2-8-0, Ed*) so a must for a match at Rugby in 5 years he jokes. We meet up with his parents most years there. Dad exhibited his 01 at the Midland last year.

Question, "How many Model Engineers does it take to put up a slot together Gazebo with fading numbers and letters?" FIVE with the last man in the middle directing the sheet in a vague direction. Lucky for us the models behaved once the slight slope had been tamed. "Oh, a Minx" gasped the guy assembling another table of unknown weight limit. Models moved several times including a set of Speedy frames from Reading. I had also taken Jessie's front wheels as she had been partly built in this club.



Enter Stage Left, Eddie Castellan who has just finished *A Life of LBSC* so another book to find a place for! Ben told of his picture taken here on page 140 while we planned for a visit to ASDA.

Eddie signed a copy for us and we settled into several rides.

Wow, they have managed to squeeze a 7 1/4" circuit into the cramped site. We settled in behind an 08. Everyone enjoyed their runs and were ever hopeful of a win. There were four of LBSCs locomotives that he had built or owned and one was out on the track enjoying some freedom.

The New Clubhouse was a bit of a Busman's Holiday for me which was timber built and as we munched, various screws not in line cried out for straightening. We both went for extra slices of cakes. A table of STUFF that someone wanted rid of appeared by the full size signal box so I got a roll of drawings, GKN and Sharp Stuart, all on tracing linen.



Then it was prize giving and three winners. Peter Wardropper's locomotive featured in our visit to Guildford last year had got his name on the

Bowl. The finish is superb. And the run a dream. Ben came third this time but it was more the taking part and enjoying that we had all come for.

Eddie handed out books to the winners and as the last word was spoken THE RAIN CAME DOWN. Was someone watching from above?

## LES'S DAY OUT by Karl and Jade Trussler

We talked to the care home where Les now resides about taking him out for the day/afternoon and they agreed, the 30th August.

We picked Les up at 10.30 and then we went to the STEAM museum in Swindon and as a good quote says "a picture says a thousand words" well I think they do by the smiles.

It was very enjoyable day. Les was talking about BA, Concorde, clocks and the locos at the museum and some tales of his youth. We had a light lunch while there then made a bee line home as hoping not to miss tea time. I hope with some help from the trustees and other members we can get Les to the RSME before the weather turns as he misses the club and members dearly.



Photos  
Karl  
Trussler

A big thank you to Karl and Jade for giving Les such a great day. Les Dawson is a most respected Past President of RSME until 2022.

## DIARY

### OCTOBER 2024

Sunday	6th	Public running	Setting up from 09.30 onwards
<b>Thursday</b>	<b>10th</b>	<b>Club Talk</b> <b>David Ford</b> <b>The restoration of</b> <b>34007 Wadebridge</b>	<b>20.00</b>
Saturday	12th	Club running including NGRS	10.30 onwards
Monday	14th	Trustees meeting	19.30
<b>Thursday</b>	<b>17th</b>	<b>On the Bench night</b>	<b>19.30</b>
<b>Thursday</b>	<b>24th</b>	<b>RSME AGM</b>	<b>20.00</b>
Saturday	26th	Club running	10.30 onwards

*Please note that there will be no boiler tests on 12 October.*

### NOVEMBER 2024

Sunday	3rd	Public running	Setting up From 09.30
Saturday	9th	Club running	10.30 onwards
Monday	11th	Trustees meeting	19.30
<b>Thursday</b>	<b>14th</b>	<b>On the Bench Night</b>	<b>19.30</b>
Saturday	23rd	Club running	10.30

*Monthly speaker—to be confirmed*

## BIRTHDAY PARTIES A request from the Trustees

Birthday and other private parties at RSME give great pleasure to so many and are a good source of income for RSME. These have been run very successfully by Peter Culham and his team for a long time and we are very grateful for all they have done. They normally run from April to September/October.

Quite reasonably, Peter has said that he now wants to step back a little, so we are looking for a person or persons who are willing to take some of the load from his shoulders. This would involve helping with the bookings and being there on the day to join the team to set things up and run the day. Every help would be given by Peter to manage a transition.

We are more than willing to adapt things to accommodate a volunteer who might be there to help us. These are always happy occasions looked forward to by so many people, and we hope they can continue.

**The deadline for the November issue is 20 October.**

*Contributions may be submitted in hard or soft copy to the editor.*

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