



Newsletter

Keeping Shareholders Informed



Issue 9

Winter 2020

The 4253 Locomotive Company Limited is a non-profit, non-political organization. Reproduction of photos by permission of The 4253 Locomotive Company.

Editors: Dave Farnham and Kelvin Williams

Email us at: gwr4253news@gmail.com

A big 'Thank You' from the directors and the news team

The 4253 directors would like to thank all shareholders for their continued fantastic support throughout 2020 in getting YOUR locomotive back into steam.

This year has been difficult for everyone, to say the least, but shareholders and volunteers alike have continued to give their unfailing support to the restoration of our historic locomotive.

THANK YOU!

A year of good progress



AS we leave this awful Covid year behind us, we can hopefully look forward to much better things in the coming months.

Certainly, as far as the advancement of the restoration goes, we seem to have done fairly well, all things considered.

With our controlled volunteer working schedules in place,

together with all the necessary Covid regulations being observed, we have managed to basically continue (on and off), with quite a bit of work on the project over the past 12 months. This, together with work undertaken by outside engineering companies, has given an overall 'good solid progress' report for 2020.

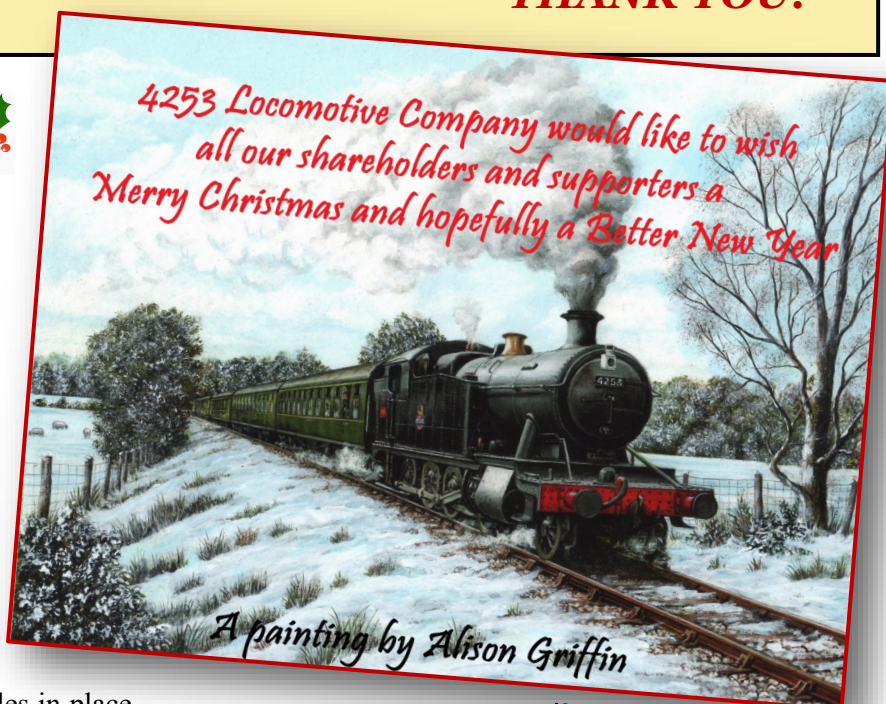
Restoring a 103 year old, 70-odd ton rusting hulk is no mean challenge, and many said it couldn't be done . . . how wrong they were! The skills and knowledge necessary for a complete and successful restoration are wide and varied, but none of it is possible without money - *lots and lots of it*. That's where shareholders and supporters of the project come in, and have done so over the 9 years it has taken to get our loco to this point.

Shareholders and supporters are literally the life blood of a project such as ours. We are all saving an example of incredible British steam engineering that will inspire, be experienced (not to mention marvelled at), by generations in the decades to come. As shareholders, we should all be very proud. An incredible achievement that would not have been possible without *your* support!

To all shareholders and supporters we say a great big 'thank you'.

Dave Farnham

Kelvin and I wish all shareholders and supporters Best Wishes for Christmas and the New Year.



4253 approaches Cranbrook Road

4253 A Riveting Good Read! by Martin Chudley and Kelvin Williams

SO, what does it take to rivet bits of metal together to make a lovely looking water tank, cab, smoke box, or coal bunker etc?

The riveting process takes a large amount of people at times. For instance; a Forge-Master, a pickup-carrier who hands off to the guy who places the rivet in the hole, a holder-upper guy (who is responsible for keeping the rivet firmly in the hole while it's being hammered over, either by brute force or with the aid of a pneumatic ram) and a rivet gunner (who hammers the other end of the rivet down). A minimum of five people. In some cases, the rivet is placed in the hole and a sixth person pulls the rivet through so that the holder-upper guy can get to it, while another steadies an extension support bar for the holder-upper guy. The holder-upper guy can sometimes be replaced by a second rivet gunner when big rivets need hammering in. *Simples!*



To securely rivet just the 10 palm stays to the boiler and throatplate, required a team of seven! From the top: Martin, Henry (*the boss*), Kelvin, 'Orange' Dick, Paul, Scott and Mac. What a fine body of men . . . mmm, maybe I'm overdue at Specsavers?

So, let us start with the Forge Master, who claims he is the most important member of the team. Well, to be truthful, he does have a big responsibility for presenting the rivets in the state required by the rivet gunner. Here is what the Forge Master (Martin Chudley) has to say regarding his work...

"As for the science, umm... there probably is some, but it is more of a knack." (*Actually, the Heritage Railway Association has a 23-page document on riveting, but never mind (editor). To continue...*

Rivet temperature:

You learn to recognise when a rivet is too cold, at first because Henry shouts at you: "Too **** cold!" but as you go on you start to learn the colours, all the way up to the colour *Bryan* (cooked!!). If you let a rivet heat past a pale yellow it will start sparkling and will soon melt, then it will bend or weld itself to other rivets.

4253 A Riveting Good Read! *continued*



Martin doing what he does best.



Rivets in the fire!

The production line: (aka, the wallies with the drills & tongs who drop and bend your beautifully heated rivets).

You need to keep a close eye on where the riveting team is on the workpiece. If they are on a nice straight easy to access run of same sized rivets, then they will knock them down in seconds and you want to avoid being the bottleneck. Ideally, you will hear the rivet gun stop and you will have the next rivet ready for the pickup-carrier man. On the other hand if they are in a tricky section asking for 'specials' of non-standard length or with modified heads, or where loads of fiddly holding up contraptions are required, you might be dishing out only a few rivets per hour.

During quiet times it pays to ask Henry what is coming up, then you can be ready with a bucket of the required rivets (including 10% wastage for the above-mentioned wallies!)



The late Dave 'Rivet' Dee, with a perfect rivet!



Henry with the pneumatic rivet gun.

Rivet herding:

How many to keep going on the fire depends on the demands of the production line, and to some extent the size of the rivets.

3/8ths rivets can go from cold to ready in about a minute whereas 7/8ths ones can take 2-4 minutes - then you get a load of impatient faces watching and nagging you from the work piece. If you keep too many rivets on the fire, then you will lose track of some and they will fall into/through the forge coke. I find that I can manage up to about 8 at a time. The knack is to keep them moving so that they don't start to sink, which brings us to . . .

4253 A Riveting Good Read! *continued*

Forge coke management:

The forge coke will quickly burn away near the hottest part of the fire and this is mostly where you want your rivets. So, keep your stock of rivets on one side of the hot area and add forge coke to the other, then two mins later swap over. Keep the hot part compacted down so that you are not placing rivets onto a fragile pile of ash that will disappear under you. Once a rivet has started to fall in, it will go deeper if you chase it with the tongs and you will probably lose it. Then when the fire is raked down at the end of the day you can expect Charlie to give you a bill!

Forge air setting:

The forge has a built-in variable speed fan which blows air through the fire. You must learn through trial and error, the amount of air to set. It is easy to be too cautious and then it will take ages to heat a rivet and you will get moaned at for it being too cold. Too much blast will eat forge coke too fast, will cook rivets too fast for you to deal with, possibly burn them, and not least it makes the operator too bloody hot.



Double gun riveting.



Some difficult places to 'hold up' in.

Keep the operator hydrated:

Water is ok, beer is probably frowned upon these days, but there is always the pub afterwards.

'How many rivets do we use?' I hear you ask. Well, quite a lot (1,000s), as it happens.

And Finally . . .

If you have reached here after taking this article to bed, in the hope it would put you to sleep

– Sorry! Failed! ☹

ANNUAL GENERAL MEETING - 30th January 2021

PLEASE NOTE. Due to the ongoing Covid restrictions, only the currently elected Directors of 4253 Locomotive Company will be able to attend.

Sufficient business will be transacted at the meeting to keep the company running,
with a view to holding a wider shareholder meeting at a later date,
when Covid restrictions allow.

Notice of the Annual General Meeting 2021 and associated documents, has been emailed to all shareholders.

4253 Crossheads

What is a crosshead and why is it so important?

You may have seen and read about the fitting of the two crossheads in the Sunday Facebook update and how excited we all were; but why?

Well, basically, the end of the piston rod is connected to the front of the crosshead which ensures it only has a back and forth movement and no up or down movement, with the wheel's connecting rod attached to the back of the crosshead by a gudgeon pin. This allows it to rotate in the crosshead for the up and down motion of the connecting rod. The crosshead is supported within slid bars top and bottom as you can see in the picture below. All the excitement means that once the crossheads are in place, the pistons and side rods can now all be fitted!



You can see here the fireman's side crosshead being jacked into position (they are extremely heavy!), ready to be slid onto the top and bottom slide bars. The white metal bearing surfaces can be seen top and bottom, which are constantly oiled while the locomotive is in motion.



These two pictures show the crossheads just after being machined.

You can see clearly the top white metal bearing surfaces that will fit tightly onto the slide bars.

The 'criss-cross' patterns are oilways, which allow oil to be distributed across the surface of the bearing as the crossheads move backwards and forwards.

They were both white metallised by us at Rolvenden, but because our milling machine is not big enough to take them, they were machined at The Bluebell Railway by Henry.

Many thanks to you both.



Christmas is here!



Photo courtesy of Alan Crotty

We have an extensive range of merchandise, such as clocks, pens, mugs, egg timers, note pads etc.

Also in stock are
Fleeces,
Polo shirts
Teeshirts
Sweatshirts
all with the 4253 embroidered logo.

All are available to purchase at our online shop:

www.4253.co.uk



A 4253 mask is for life - not just for Christmas!

**We are pleased to announce the availability of our
4253 specially commissioned Face Masks.**



These can be used as general face coverings for dust/allergies and also to aid in complying with current Government social distancing measures.

Made to last from triple layered cotton for easy care and hand-made in Kent.

Available in: **4253 Red**, **4253 Black**, **4253 Blue** and **4253 Green**

All individually packed. Availability subject to stock.

Priced at £5.25 + 75p postage each.

**Order yours today from our online shop at
www.4253.co.uk**

Colours may appear slightly different from images above, due to photographic limitations.

WITH HBSS soon to finish for their Christmas and New Year break, we now all look forward to the boiler's various elements all coming together in the early part of 2021.

Here's a basic rundown of what's happened so far during 2020:

Backhead removal

As soon as the boiler arrived in Liverpool, HBSS started removing the old backhead, which entailed cutting round all the old stays and removing all the old rivets. With the backhead removed, it gave them a rare opportunity to renew the lap seam rivets, which fix the copper end plate to the rest of the firebox. Once the new backhead is rivetted in place, it is impossible to get to these rivets, so it's obviously prudent to renew while you have access!

Manifold mounting pad and backhead sections

The new manifold pad was machined and drilled by us before being sent to HBSS. Many thanks go to Dick Weekes for all his hard work in getting it cast. The manifold mounting pad was riveted to the upper backhead section, which fitted perfectly. All the many holes were marked and drilled in the backhead section, along with its doubling plate. The doubling plate gives additional support in this area of the boiler where there are necessarily many holes in the platerwork.

The doubling plate was riveted to the backhead section and then finally riveted to the main boiler plates. The lower, much larger, section of the backhead was then offered up and cut to size. This section was temporarily held in position while the side wrappers were being finished. A huge amount of work, just in this area alone!

Side wrappers

The side wrappers were cut to size and have been temporarily fitted to the sides of the fire box and are ready to be welded and riveted into their final positions. This entailed much measuring, cutting and fettling to get them to fit. Both wrappers and the lower backhead section await to be riveted together when other associated work is complete.

Crown stay removal and renewal

All the old crown stays will be removed and replaced with new stays and nuts.

Firebox

When all the many side wrapper firebox stays were removed by us at Rolvenden last year, it necessitated them being drilled and blown out with a torch. A few stay holes were found to be damaged which now requires a copper welding specialist to add more copper to the damaged holes so they can then be reamed out and re-tapped.

All this work is being undertaken in Liverpool and until the damaged holes are repaired and reamed, the side wrappers cannot be riveted and welded into place. Specialists in copper welding seem to be as rare as hen's teeth and although HBSS have booked someone, they are currently waiting for the welding to be completed.

Once this stage is done, everything should hopefully go together fairly quickly.

Fitting internal boiler pipes

The internal steam pipe, blower pipe and the vacuum exhaust are already at HBSS waiting to be fitted.

Here's a list of things left to be completed, which includes:

Copper welding.

Riveting and welding the side wrappers to the boiler and foundation ring.

Marking out, drilling and tapping stay holes.

Screwing in 800-odd new stays.

Installing longitudinal stays.

Fitting the super heater flues.

Fitting the tube plate along with 250 smoke tubes!

Looking forward to 2021

What we would really like to achieve, funds permitting, is for the boiler to be returned to Rolvenden having been fully stayed, tubed and hydraulically tested. This would represent a huge time saving over having to complete the work ourselves and therefore see the loco back in service far sooner.

Stay With Us!



Boiler Stays Appeal



A COMPELLING OPPORTUNITY TO HELP BRING TO FRUITION THE NATION'S MOST EXCITING LOCOMOTIVE RESTORATION PROJECT - SPECIFICALLY TO COMPLETE OUR BOILER!

WE ARE PLEASED TO INVITE YOU TO SPONSOR

CROWN STAYS RIGID STEEL STAYS COPPER STAYS

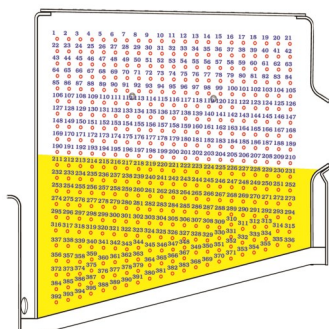
Your chance to help finish the boiler

2019 saw major inroads into our boiler restoration. However, as the year progressed we realised that we had an opportunity to accelerate the refurbishment work on our locomotive to an earlier conclusion than originally envisaged. So, with the blessing of our shareholders present at the January 2020 AGM, we immediately arranged for our boiler to be dispatched to Heritage Boiler Steam Services of Liverpool, where work has been progressing steadily ever since. We had the financial resilience, we had the confidence in our own decision making ability, we had projects in the pipeline and we knew our team could cope with and close the funding gap that existed at that time. Unfortunately, Covid-19 arrived almost immediately thereafter and, as a result, we have been unable to undertake any of our usual fundraising activities. Therefore, we now need as much financial help as possible to keep 4253 on schedule and, accordingly, have launched this sponsorship scheme.

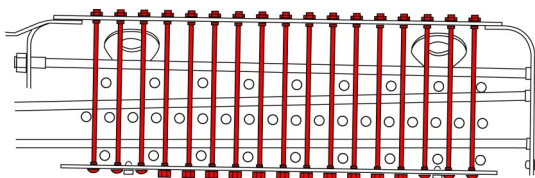
The Layman's Guide to Boiler Stays

Of all the components found in the construct of a locomotive boiler, the humble stay is probably the most important. The thrust of our 'Stay With Us!' campaign is aimed at those encompassing the burning heart of any steam locomotive - the firebox. A seemingly innocuous piece of engineering, boiler stays are generally composed of a steel or copper rod, threaded at each end and depending on location, vary approximately between 6" & 16" in length. In keeping with Swindon practice 4253's firebox area has a copper inner and steel outer wrapper, with a water space between them - in front of, behind, above (the crown) and on the sides. The stays are braced between the two in all these areas, strategically providing rigidity and flexibility to what is essentially a massive pressure vessel. The material used is in accordance with the relevant stress design criteria. They are basically screwed into position and riveted over to finish and seal. Outwardly they have a neat and innocent looking domed appearance - inwardly they present a structural forest. About 70% of the 4253 firebox stays are to be renewed and installed by our contractors at HBSS, Liverpool - all we have to do is supply them!

That's where you come in!



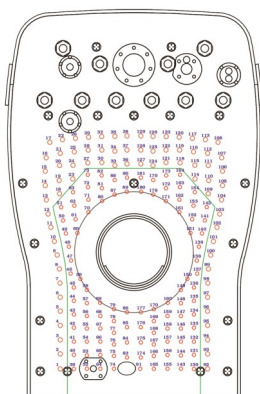
Firebox wrappers
A combination of copper and rigid steel stays. We are renewing all throatplate stays, backhead stays, crown stays and a percentage of the side wrapper plate stays. The stays within the yellow shaded area require replacing.



Cross section of firebox
Side view showing crown stays and nuts (in red). 174 stays are required to complete the task.

How You Can Help

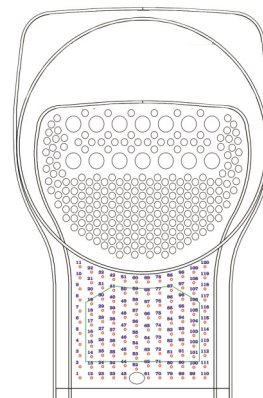
You can sponsor a set of 3 stays for £99. Each set comprises 1 crown stay and 2 nuts, 1 copper stay and 1 rigid steel stay. Two or more sets can be sponsored by Standing Order, spread over 6 months. Alternatively, you can sponsor individual stays.



Rigid Steel Stay
Copper Stay
Crown Stay & Nuts

Per Stay	£17.50	} £99.00
Copper Stay	£35.00	
Crown Stay & Nuts	£50.00	

Total No. of Stays
412
288
174



By sponsoring any of the above you will receive a personalised certificate and be entered into a draw for a footplate ride on GWR 4253 on the earliest available date after launch into service.

Please visit www.4253.co.uk for further information and online payment details.

If you wish to set up a bankers Standing Order, please print the form and post to the address shown.

Please help get YOUR boiler back into steam!

Application to set up a Bankers Standing Order for 'Stay With Us' appeal (minimum 2 sets).
Please print, complete the form and post to the address shown below.



GWR 2-8-0T Locomotive No. 4253 'Stay With Us' Application Form

Please complete the form below in BLOCK CAPITALS and return to:

The 4253 Locomotive Company Limited, Old Chilmington Oast, Chilmington Green, Ashford, Kent TN23 3DP

Full Name: _____

Address: _____

Telephone Number: _____

Email Address: _____

I hereby make an application for ____ Rigid Steel Stay(s) ____ Copper Stay(s) ____ Crown & Nuts Stay(s)
and / or ____ Complete set(s) of Stays.

I enclose a cheque made payable to The 4253 Locomotive Company Limited / a completed Bankers Standing Order
(please delete as appropriate).

STANDING ORDER OPTION ONLY AVAILABLE IF SPONSORING COMPLETE SETS OF STAYS - MINIMUM 2 SETS.

I am a member of The Kent and East Sussex Railway: Yes / No (please delete as appropriate).

☐ I consent to being contacted by 4253 Locomotive Co. via email/post
for information updates about 4253 progress and activities.

Signed: _____ Date: _____

Bankers Standing Order Form ('Stay With Us')

(if you wish to pay by monthly Standing Order over 6 months)

To the Manager: _____ (Your) Bank

Your Bank Address: _____

Please make 6 payments of £ ____ on the ____ day of every month commencing on ____ / ____ / ____ to:
The 4253 Locomotive Company Limited, Account Number 47817011 National Westminster Bank Plc.
20 High Street, Ashford, Kent TN24 8SH. Sort Code 60-01-21.

Account Name: _____

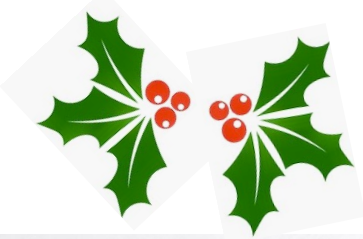
Your Address: _____

Sort Code: _____ Account Number: _____

Signed: _____ Date: _____

*Please quote Reference Number in all payments ____ * to be entered by 4253 Project Staff.

The 4253 Locomotive Company Limited, 25 Winsor Road, Rolvenden Layne, Tenterden, Kent TN17 4NL - Stays



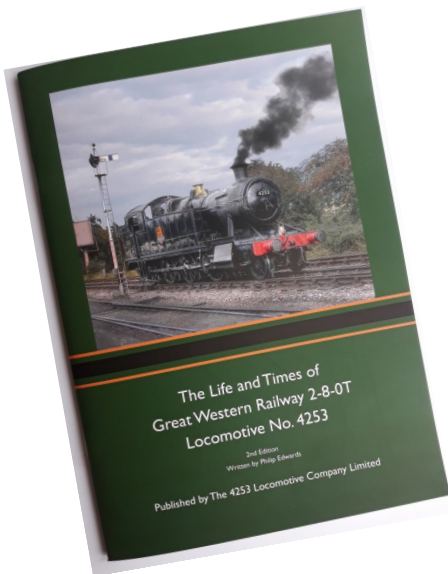
Just in time for Christmas!

*This superb gift set comes in
a presentation box and
includes a 4253 pen and
LED torch with key ring.*

***Priced at just £6.00
including FREE p&p***



***Order yours today from our online shop at
www.4253.co.uk***



As a little Christmas present and a big 'Thank You'
to all shareholders you should, by now, have
received your a free copy of

The Life and Times of Great Western Railway 2-8-0T Locomotive No. 4253

Published by the 4253 Locomotive Company Limited

Written by Phil Edwards

*(If, by any chance, you have not received your free copy,
please contact us at prestonladd258@gmail.com
and we will check against our postal list)*



*Further copies, priced at £9.50 each (including FREE p&p), can be purchased from our website
www.4253.co.uk*

*or, by sending your address and a cheque made payable to:
'4253 Supporters', Old Chilmingdon Oast, Chilmingdon Green, Ashford, Kent TN23 3DP.*

Covid-19 arrangements at Rolvenden and 4253 Visits

Rolvenden Station and Rolvenden Works are currently closed to the General Public under COVID-19 rules.

There is no public access at the moment.

If you wish to visit us at 4253, it is essential you please make prior arrangements with us by emailing: gwr4253@gmail.com