The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

PO Box 14570, Panmure, Auckland 1072, NEW ZEALAND

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Number 690

June 2023

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REGISTERED NEW ZEALAND PUBLICATION

The challenge of a cracked underground fitting

President's Report June 2023

Good day

Winter is fast approaching and the leaves are turning a shade brown Auckland has endured another alarm sounding storm and the track is no worse for wear.

The Saturday working bee has continued to work on adjustments to the track and engine shed, making room for the leaf blower and upcoming points installation. The progress so far is looking fantastic!

A burst water pipe underground near the station temporarily halted our ability to provide water to locomotives at the station, but I am pleased to report that this issue has been completely resolved. Steam operators, please feel free to begin driving again!

As a reminder to all train controllers and volunteers, if there is an incident of any kind, it is imperative that it is recorded in the incident log. This is how we protect and cover ourselves in the event that Meanz or Worksafe comes asking questions. I know you have all heard this rhetoric many times before, but the requirements still stand—if it happens, it needs to be recorded. In this modern day and age, it's not hard to see how a minor incident can be blown far out of proportion by one single overzealous person and suddenly worksafe is bearing down on us.

On a lighter note, Bruce Cooper has kindly offered to have another steam training day on June 11th. Naturally this will be weather permitting, but I look forward to seeing everyone there who wants to learn how to steam and operate the club locomotive!

Finally, we've booked in at the Waipuna Hotel for our annual luncheon on the 2nd December. Doors will be open at 11:30am and lunch served at 12:00. I look forward to seeing everyone there.

Thanks

Philip Dowdeswell

Remember to watch the ASME Website. www.asme.org.nz

Members should keep a lookout on the MEANZ website too, www.meanz.org.nz. It is a good place to find other clubs.

When you are travelling, just like us, our friends nationwide always welcome visitors.

THIS MONTH'S CALENDAR

Tuesday, June 6th 7.30 pm	- General Meeting, (Clubhouse)
Tuesday, June 11th 1130 am	- Steam Training Day (Clubhouse, Weather permitting)
Tuesday, June 13th 7.30 pm	- Workshop Night, (Clubhouse)
Tuesday, June 20th 7.30 pm	- Committee Meeting, (Clubhouse)

Train Roster

ASME **DUTY ROSTER**

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard
4-Jun-23	R Reichardt	I Ashley	Voluntary	**G Wills**	**D Wilson***	L Brown
11-Jun-23	A Bailey	D Housley	Voluntary	**B Aickin**	**R Crook***	R Copeland
18-Jun-23	J Lankow	M Moore	Voluntary	**P Dowdeswell**	**M Luxton***	H Dando
25-Jun-23	B Matchett	R Shearer	Voluntary	**T Lawrence**	**K Ryan***	R Mascarehas
2-Jul-23	M Vickers	C Whitisie	Voluntary	**S Meikle**	**R Souter***	A van Zon
9-Jul-23	R Reichardt	I Ashley	Voluntary	**D Russell**	**D Wilson***	A Tolstykh
16-Jul-23	A Bailey	D Housley	Voluntary	**G Wills**	**R Shearer***	B Matchett
23-Jul-23	J Lankow	M Moore	Voluntary	**B Aickin**	**R Crook***	L Brown
30-Jul-23	C Whitisie	A van Zon	Voluntary	**P Dowdeswell**	**M Vickers***	R Copeland

Please Note:

If for some reason you are unable to attend on your rostered date, you are respectfully reminded that it is your responsibility to find a replacement member to fill the gap – please don't let the rest of the team for the day be left short-handed. Note: the Train Controllers for both affected days must be informed of the swap in advance. It is the responsibility of the person who initiated the swap to do this. Also advise Bob Aickin who is keeping track of the number of duties each of us perform during the year.

The details of the swap should be noted in the Run Book. Also, please ensure the member you arrange a swap with is one who is rostered to undertake the same role to ensure we always have members with the appropriate training and experience on the day.

Club Notices

- The annual ASME Club Lunch is confirmed for Saturday December 2nd, at Waipuna Hotel.
- ASME has an extensive range of Model Engineering Journals (ME and MEW) in the library, managed by Mark Luxton. The collection goes back to the first editions. However as new copies arrive binding takes a while.
- If you would like to read the latest edition they are free to borrow electronically from Auckland Public Libraries. The easiest way to borrow them is using the *LIBBY* app. This gives access to an ME and MEW e-sub. If you encounter difficulties take your device (an iPad is ideal) into any Auckland Library branch.

The ASME duplex pressure test gauge

Dave Housley

Whilst preparing to carry out calibration on our pressure testing rig. I noticed that the gauge was manufactured by Sydney Smith and sons (Nottingham). They made their name by manufacturing the world's first steam pressure gauge in 1847 of which George Stevenson had written " A most important invention has been submitted to me for my approval . I must have these on my machines". At this time the pressure relief was by weights and no idea of boiler pressure was known this was a major advancement in boiler safety. I think that we can be proud to be the possessors of such an important piece of history which is still keeping the faith. A brief rundown of the company is below

Founded in 1847 by Sydney Smith who sprang to prominence in the engineering world as the original inventor and first patentee (22nd May 1847, Patent No. 11711) of the steam pressure gauge.

- This important invention received the warmest support from George Stephenson, the eminent locomotive engineer.
- The patent enabled Sydney Smith to start the manufacture of gauges and later valves and fittings at Forest Terrace, Hyson Green, Nottingham, which continued at this address until 1882 when Sydney died.
- In the early years Sydney's two eldest sons Joseph and Samuel greatly helped their father in testing his many inventions, and he soon employed his eldest sons in turn.
- The Firm's name was changed to Smith Brothers and Company in 1862 and Sydney retired in 1864 handing the business on to four of his sons, Joseph, Samuel, Isaac and William, and also to John Miller his son-in-law.

However, a disagreement on policy in the early 1880s led to three of the brothers eventually severing their connections with the business, and in 1882, Samuel, Isaac and William re-established themselves at the Basford Works, Egypt Road, Nottingham under the name of Sydney Smith and Sons, and Smith Brothers and Company moved from Forest Terrace to Bobbers Mill Road, Nottingham**.**

SMITH BROTHERS AND COMPANY

- By 1889 the Firm under the able management of John Miller Junior, had expanded into larger premises at Bobbers Mill and was exporting worldwide.

- The Company passed from the Smith family but continued to trade as Smith Brothers and Company. Hyson Green, Limited after incorporation in 1906 and then as Smith Dennis Limited from 1962, taking the name from H.W. Dennis Limited, an associate Company from the early 1920s, which had been responsible for introducing Smith Bros. to the manufacture of high pressure valves for oilfields and refineries.

- In 1973 the company was acquired by the Pegler Hattersley Group. **SYDNEY SMITH AND SONS**

- Established in 1882 by three of Sydney Smith's sons, Samuel, Isaac and William, to manufacture gauges, valves and fittings.

- The Company was incorporated in 1906 and continued as Sydney Smith and Sons (Nottingham) Ltd. at Egypt Road and later in the 1950s at Lenton Lane, Nottingham, under the management of the descendants of Isaac and William Smith.

- In 1961 the Company was acquired by Newman Hender Limited which was later taken over by the Pegler Hattersley Group in 1969.**J. S. SMITH LIMITED**

- Founded in 1893 by Joseph Samuel Smith, a grandson of Sydney Smith, who was a member of the firm of Smith Bros. and company before commencing business at 30 Parliament Street, Nottingham and later of Goldsmith Place and St. James Street, Nottingham.

- In 1948 under the management of Reginald Smith, Chairman, and Peter Smith, Managing Director, the Company purchased land and works on Cinderhill Road, Bulwell, Nottingham and moved from Goldsmith Place, and also later from St. James Street to this works, which had been fitted with all the necessary machinery for making the numerous valves and fittings required for the home and export markets.

- In 1965 Peter Smith, Joseph Samuel's grandson, sold the business to the Bells Asbestos and Engineering Group of Companies and continued as Managing Director. **THE PETER SMITH VALVE COMPANY**

- On January 1st 1969, Peter Smith bought back part of the business, and with twenty four former employees of J.S.Smith Ltd established The Peter Smith Valve Company, moving to the present address at Occupation Road, to manufacture small to medium size valves for the United Kingdom and export markets.

In 1971 Peter Smith died, aged 49, and now his son Nick Smith, Managing Director, with a management team and workforce carries on the proud tradition of valve manufacture that was started over 150 years ago by Sydney Smith.

Dave Housley

Clupet piston rings –*Dave Housley*

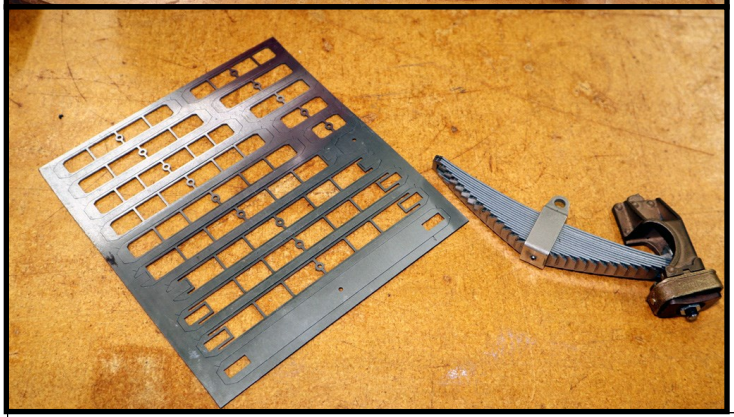
I am wondering whether to manufacture Clupet rings for the pistons on my Beejax I am building so I thought why not check it out on youtube, It can't be that hard can it? There is a very good video called how to make clupet piston rings on you tube by the steam workshop, www.steamworkshop.co.uk , the best of all I can understand them. Clupet rings look like a key ring this gives the advantage that the ring is fully sealing all the way around the bore with no gap. I might consider trying in PTFE also with a bit of estimation for expansion . Has anyone tried these?. Further down the track I might have to consider whether split pistons are the order.

Bits and Pieces—2nd May 2023

The recently discovered water leak at the club was the fault of this buried fitting, it had sprung a leak in the middle of the black piece. Tim Robinson and the works crew have replaced it and water is back on to the engine shed and station.
The club will endeavour to recover excess water charges from the council.

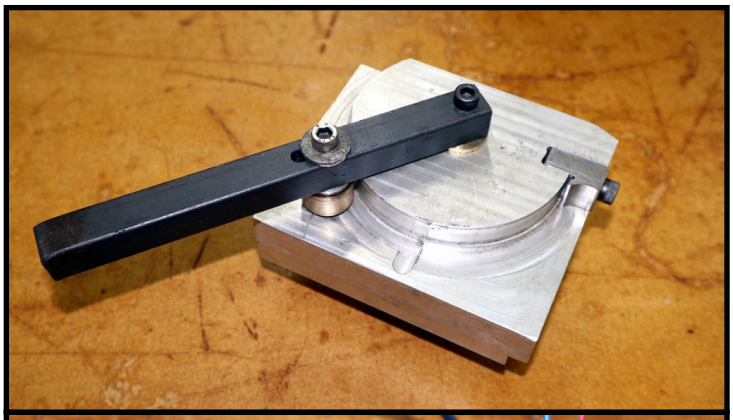
Greville has recently been running his Beejax for the first time at the club track, he has decided that the back-up hand pump is too small so is modifying it by replacing the pump piston and body with one that is much larger. The original is at middle right and the new one at top left in the photo.

One of our new members Artem Tolstykh is building a large electric model car, the chassis and wheels are modified form a commercially available unit. The photo gives an indication of the size of this project, several motors and various gearing has been tried so far and the finished item will be steered via a large servo and everything controlled by either a Raspberry Pi or an Arduino single board computer. We are looking forward to seeing this as it progresses.

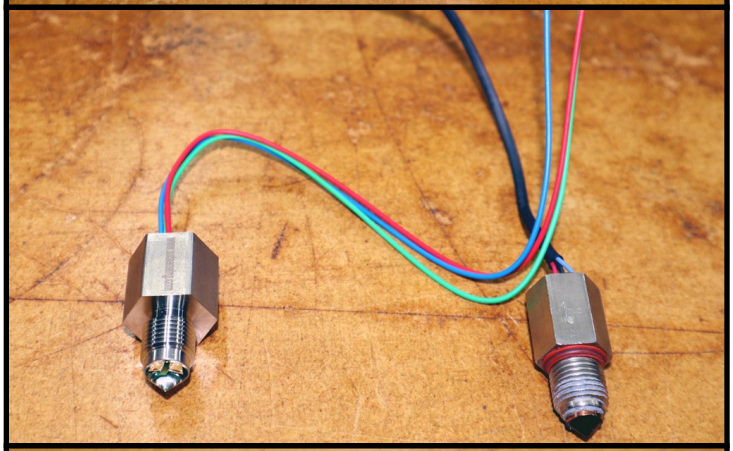


Mike Jack brought in this laser cut spring steel plate to show the hollowed out spring leaves that make up the completed spring at right in the photo, by doing this the spring has the correct spring rate required.

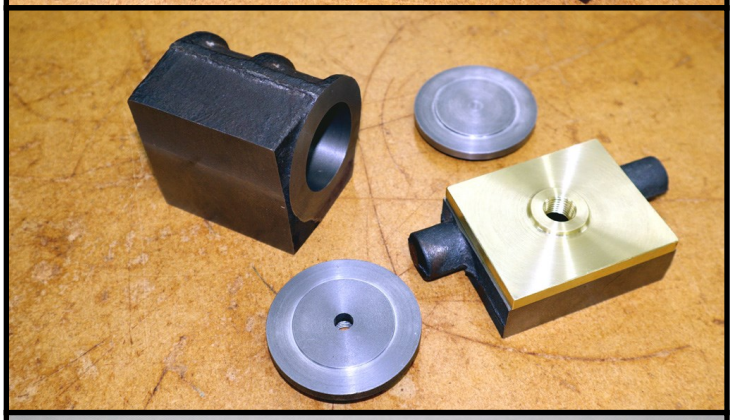
Bits and Pieces—2nd May 2023



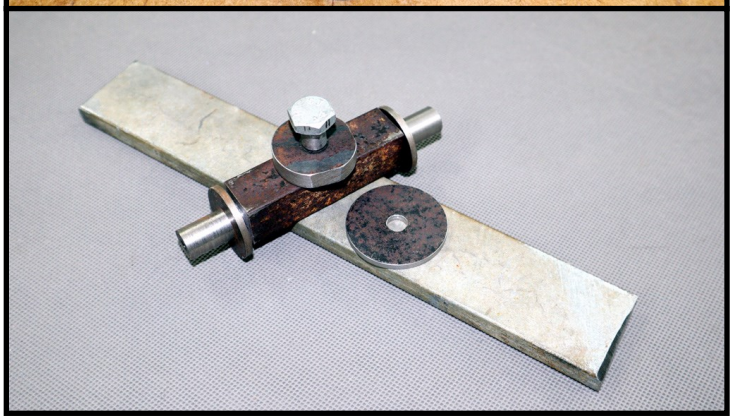
Mike uses this former for bending his spring leaves to the correct radius.



Mike's last item tonight was an infra-red sensor for sensing the wax level in his 3D wax printer. The original one on the right had failed and when the agents for the machine quoted $650 for a new part and $500 shipping ex the US Mike decide to do some homework, he found he could get a similar item made by RS Components in the UK for £63 and a lot less freight (the item to the left).



These Beejax cylinder parts are the fine work of Dave Housley, Dave is really ripping into his Beejax build, all done on his Myford so far with a lot of use of the 4-jaw chuck. Dave has posted some action shots on the NZ Model Engineering Facebook page.



Lastly tonight Bob Aiken had brought in a test bogie bolster for his freelance Hysler styled bush locomotive. Bob has been chipping away at this project for some time now, I wonder does he have some drawings he is working from or is it all in his head.!