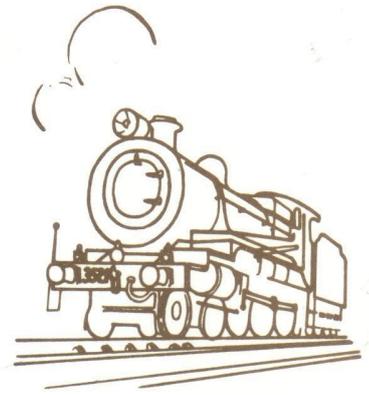


Sydney Live Steam Locomotive Society

Anthony Road, West Ryde, N.S.W.

'Newsletter'

Volume 48. No. 1.
February 2020



Another James Sanders' creation is this 5 inch gauge Sydney Steam Tram, with major components designed by Andrew Allison.

November Running Day.

While there was a total fire ban in place the weather was not too bad. Some high cloud, sunshine with a cool breeze that built up as the cloud cover increased during the afternoon. John H and Barry M were the early arrivals and as others turned up they were at work with the setting up. Mike D set up the signage, John S cleaned the toilets and Graeme K blew the tracks clear of leaves and other vegetable matter. The ground level cars were brake tested by Barry M and Ross B while Martin D watered the club house garden as well as oiling the points. Warwick and Martin investigated the CCTV system that seemed to have a short somewhere in the cables. Before

running began the leaf litter was raked up and watered down, hoses were connected and buckets of water were placed around the ground just in case. The November Newsletters were handed out by John L at morning tea. It was our Redkite day and there were three Redkite volunteers, Olivia, Crystal and Lucy to assist at the gate and take around some collection buckets.

Running on the elevated we had the red car set hauled by Tony K and the 10 wheeler as train engine with Simon and 0-6-0 "Simplex" pilot and John L as guard for the early part of the afternoon. Later we saw Bernie C and Paul T acting as guard. David J was relief driver on the 10 wheeler. The second train was ALCO "Grant" (pronounced Grunt!) driven by Wayne F and Geoff H as guard. The station was attended to by David



friends for their efforts in making the day a success.

December Running Day.

This running day did not eventuate. On the Wednesday before this day the decision was made, very wisely, to cancel the running day. The weather conditions were not favourable and with a state of emergency declared it was a very sound action to take. Our phone message was changed to inform callers of the changed operating arrangements and a sign displayed on the main gate. However a few members were at the grounds and some tasks were completed. There was so much bark and leaf litter on the ground that the great work the gardening team completed the week before was completely overshadowed. Mick and Scott installed some modified bogies on the green and blue ground level carriage sets. It had been found that the brake rigging was skewing, promoting uneven brake block wear and potentially causing brake drag. The modification comprises a pair of release springs between the brake cylinder and the near brake beam and the installation of a lock nut on each push rod to capture the far brake beam. This results in a cleaner brake release, and aids in keeping the brake beams parallel. Time will tell how successful the modification turns out. In working through the bogies on the green set it was found that a number of bearings had come loose on the axles, in some cases causing significant journal wear, and in one case the journal wear was that bad that the adjacent wheel set was rubbing heavily on the bogie side frame

**Above: Ray Lee had a memorial headboard for Allan Mackellar on 3281 for his November running.
Right: Andrew Allison is enjoying the uphill haulage on V1224.**

T, John S and Paul T. Both trains ran well all afternoon. On the ground level inner John H drove the 4-8-2 Mountain on the green set with Arthur riding as guard. The second train, the red set, was hauled by WAGR V1224 with Andrew at the regulator and Neil Mac as guard. Both trains ran well for the day and the inner station was looked after by Ian T and Paul B. The outer main also had two trains in operation for the afternoon. Mick had the Shay in steam coupled to the Central west car set and he and Scott alternated the driving and guard duties for the afternoon. The second outer train was the blue set with Graeme K and 4-6-2 2401 train engine and Ray L with C3281 as train engine. Ray had fitted a head board on the C32 honouring the late Alan Mackellar who had recently passed away. A very fitting tribute. Tony E was guard. Running was reduced to one train late in the afternoon when the Shay and the Murrays had to leave and Ray as well took C3281 back to the depot for an early departure. This left Graeme K to continue with a reduced passenger capacity till the end of the day. The outer station was attended to by Bill P, Martin Y, Tony K and Peter D. The signal box for the day was manned by Mike D, Steve B, Martin D and Barry M. Warwick was there as well with a prospective member Michael W. Neal B was track superintendent for the day and Jo-Anne was gate keeper. Running the canteen we had Diane, Elizabeth, Joy, Lee, Margo and Terri Mac. Peter W was the ticket seller and we gave 1604 rides for the day. This figure was down on previous November runs but it did mean we had a reasonably easy afternoon. Thank you to all members and





Scott and the Shay work uphill on the November day.

– just like a disc brake. As a result our stock of spare wheel sets has reduced a fair bit. Dennis O’B showed some 1928 vintage Hornby “O” gauge rolling stock and Garry B had some vintage “O” gauge stock as well. Paul T had his Hunslet for a hydro test and this was carried out by Brian K. All was good and we may see the Hunslet back in steam very soon. While everyone was trying to manage with the mid 40’s degree day Brian K showed a photo of the engine room temperature gauge on his Karratha based tug boat, it indicated 60.1 degrees C! The water temperature was around 30 degrees C. Mike D took the opportunity for more signal equipment painting and Tony K cut some steel components for his 1.5” scale log buggies. There was a very strong southerly change through late in the afternoon that started to cool things down. John L reported that when the same change reached the Lake Macquarie region about 8.30pm that night there were some drops of rain. The next morning it showed that the spots were like spots of ash on the wagon!

January Running Day

After the extreme heat of last month this running day was disrupted by rain! The forecast was for rain and it did try to rain all afternoon but there was nothing substantial, just annoying spits all day. This of course certainly frightened off our visitors. Setting up took place despite the uncertainty, Graeme K blew the tracks clear of leaves and bark, Mike D put out the signage, Dennis O’B washed the cars down and Martin D checked and oiled the point mechanisms. It was very clear to see that the rain that we had in the previous week was bringing the parched



A typical November ticket office queue with our RedKite volunteer awaiting donations.

grassed areas back to life.

On the table at morning tea we saw the cylinder block for Ross’s Fowler ploughing traction engine and James S’s Sydney steam tram motor. Dennis displayed a photo album covering the Wolgan Valley Railway. After morning tea there was a hydro test carried out on John S’s C32 class boiler. David T was the officiating inspector. There was one crown stay in the fire box that was weeping so there was some more work to be done. Bill P had the bogie frame for his I.O.W. 0-4-4 getting some advice from John L.

James gave the tram engine a run with Andrew A having a turn as well. The run ended when a valve pin came loose. It was single car day on the elevated today and we had three trains running. Warwick ventured on to the ele-

Wayne Fletcher with the growler and a good elevated load in November.





Steve, Mike, Martin & Barry looking after the signal box on our November day, while David and John man the elevated station as Bernie gives the right-a-way.

trains moving while the tickets were sold by Peter W and Margo. The kiosk was looked after by Diane and Gai. Ian T had a very easy time on the gate and track superintendant was David L. We had enjoyed a very easy afternoon but it was a shame we had the constant threat of the rain increasing.

vated with his 13 class coupled to riding truck, water gin, passenger car and two recently completed covered vans, CV, ABV, and his HG van. He enjoyed a short run but there were problems with the locomotives front bogie riding off on the sharp radius of the top curve. The 13 was replaced by James and his Z26 class for the rest of the afternoon. Simon ran his "Simplex" very well for the afternoon as did Garry with His B1 after some adjustments to the drive on the lubricator. Graeme K was to run his Baldwin 2-6-0 on the elevated but stirrup clearance and a bent connection rod ended that plan. Running ended about 3.45pm for an early mark.

There were two trains on the ground level. On the outer main Arthur drove the 4-8-2 Mountain hauling the blue car set with John H riding as guard. On the inner Ross B steamed the 0-6-2 Fowler leading the green set with Neal B acting as guard. Ross ran for about an hour and the Hurst's retired about 4.00pm. In the signal box today Barry M and Mike D kept the



Below, Arthur and John prepare the 4-8-2 in January.

Mike and Ross shunt Toneya at the end of the January running day.

Graeme takes his new 4-6-0 for a trot on the elevated. (DJ photo)



Duty Roster.

March: John Hurst. Jim Leishman. John Lyons. Matthew Lee. Jim Mulholland. Martin Yule. Warwick Allison. Evan Lister. Nigel Woolley. Bill Perrin
April: Ross Bishop / Neal Bates, Tony Eyre, Jo-Anne Topp, Ray Lee, Peter Wagner, Paul Taffa, John Tulloch, Zac Lee, Nick Kane.
May: Mick Murray, Andrew Allison, Mark Gibbons, Wayne Fletcher, Graeme Kirkby, John Noller, Ian Tomlinson, Glenn Scott, Bruce Hartwell.
June: Evan Lister, Simon Collier, Garry Buttell, Barry Millner, Scott Murray, Graham Tindale, Paul Brotchie, Mike Dumble, Deven Shirke.

Gate Roster:

March: S. Collier; **April:** B Courtenay; **May:** G Croudace; **June:** M Dewhurst.

Track Superintendents

March: Neal Bates.; **April:** Steve Border; **May:** David Lee.



Above: Warwick ran a mixed with 411 in January for a few laps before James and 2604 took over. (David Judex photo)
Below right: James and 2604 now in control of the train!
Below left: David Lee fits the new CNC machined lever name plates to the ground frame.



Diary

| | |
|-------------|---------------------------------|
| 1 March | Members Day |
| 3 March | Directors Meeting 8pm |
| 7 March | Special General Meeting 9am. |
| 21 March | Public Running Day |
| 10-13 April | AALS Convention Bulla Victoria |
| 5 May | Directors Meeting. |
| 16 May | Public Running Day |
| 30 May | Presidents Breakfast AGM & SGM. |
| 20 June | Public Running Day |
| 18 July | Public Running Day |

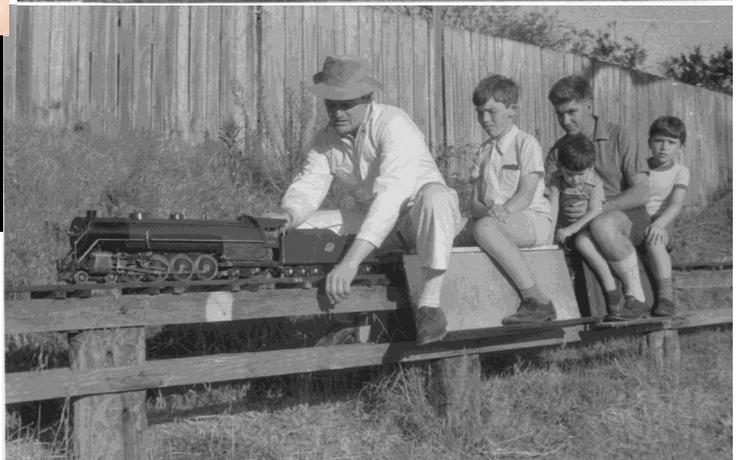
Please see AME for other events.

TELEPHONE: LA 2154 ESTABLISHED 1920

JOHN W. MANN
 94-96 CAMDEN STREET, NEWTOWN, N.S.W.
 ATVERVALS
 ENGINEERS, BRASSFOUNDERS,
 AUTOMATIC SCREW MAKERS

ADDITIONAL ITEMS TO PRICE LIST DATED 1.7.66

| | Packet | Or. |
|--|----------|------|
| SCREWS. | | |
| 5BA x $\frac{1}{4}$ | 50 | 100 |
| x $\frac{3}{8}$ | 60c | 1.12 |
| x $\frac{1}{2}$ | 61c | 1.15 |
| 7BA x $\frac{1}{2}$ | 76c | 1.46 |
| x $\frac{3}{8}$ | 59c | 1.10 |
| x $\frac{1}{2}$ | 73c | 1.40 |
| | 74c | 1.41 |
| NUTS. | | |
| 2BA | 76c | 1.44 |
| 4BA | 76c | 1.44 |
| 6BA | 76c | 1.44 |
| TAPS. MODEL ENGINEER THREAD TAPS AND DIES. PLUG, CUT, INTERMEDIATE OR CARBON STEEL. PAPER LEAD. | | |
| 5/32 x 40TPI | 50c each | |
| 3/16 x 40 | 50c " | |
| 7/32 x 40 | 50c " | |
| 1/4 x 40 | 50c " | |
| 5/16 x 40 or 32 | 55c " | |
| 3/8 x 40 or 32 | 55c " | |
| DIES. Up to $\frac{1}{4}$ x 40 are 13/16 Dia. 1.75 each | | |
| 5/16 and 3/8 are 1" Dia. 1.75 each | | |



Garry had his decorated jeep all ready for Christmas!



Above is John Mann's price list from 1966 (courtesy of Ray Lee) while around are photos from the period from the Barry Millner collection.



Christmas Party Scenes



Editorial

With a new year starting it is hoped that we can look forward to another year of growth and progress for our Society. We have the challenges of two important projects, the western retaining wall and further work on the elevated track replacement. Coupled with these we have the ongoing continual maintenance that we face in keeping the grounds in good and safe condition. All this will require a big effort from our membership to make 2020 another great year. Let us all do what ever we can to help.

John Lyons
Fill in Editor.

Around the



Left: Geoff shows us his trial cardboard and balsa Speedy boiler, complete with stays. Below left: Jo watches Neal run our only New Years Eve train! While Right: They work the BBQ. Below: Peter and Warwick backfill the path repair where the opportunity was taken to lay some conduits while Bill supervises. Below Right: John and Mick at the coal crushing plant.



Election of our 2020 Board – Request for nominations

As required by our Rules, all current members of the board retire at the Annual General Meeting, to be held in May this year. Nominations are required for all board positions for the incoming year.

Nominations need to be in writing, and provided well in advance so that all members can be advised of who is standing for election to the board.

Nomination forms are available in the clubhouse, and will be provided to all members for whom we have an email address. A form can be provided by mail on request to any Board member.

The nomination form gives an overview of the roles and responsibilities of each position. Each nomination must be signed by two members, and the person being nominated. The completed form **must** be provided to Jo-Anne Topp by **Thursday 30th April**.

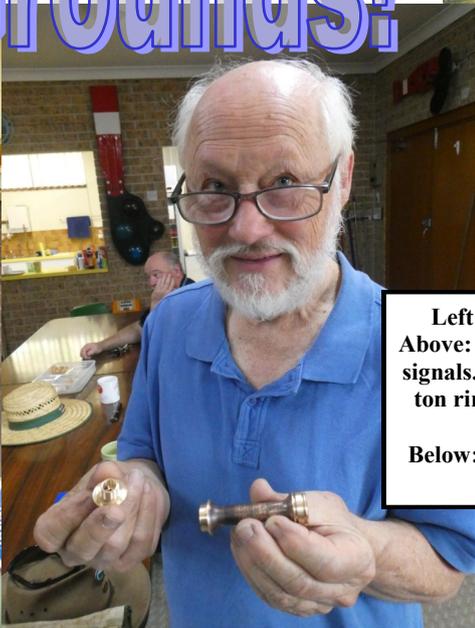
If you wish to stand, or intend to nominate another member to stand, you must follow this process. At the meeting itself, nominations from the floor will **not** be accepted, unless there are insufficient formal nominations. A vote will only be taken where there are more nominations than required for a position. There are a total of seven board positions: President, Vice President, Secretary, Treasurer, and three Directors.

Details of all nominees will be provided to all members with the formal Notice of Annual General Meeting, sent a few weeks before the meeting itself. Should there be multiple nominations for any position, then a Proxy Form will also be included, enabling you to vote for your Board even if you cannot physically attend the meeting.

Of the current board, the following have or intend to nominate for next year:

- | | | | |
|----------------|-----------|---------------|----------------|
| ● Mick Murray | President | ● Evan Lister | Vice President |
| ● Jo-Anne Topp | Secretary | ● John Hurst | Treasurer |
| ● David Thomas | Director | ● Neal Bates | Director |
| ● Ross Bishop | Director | | |

Grounds!

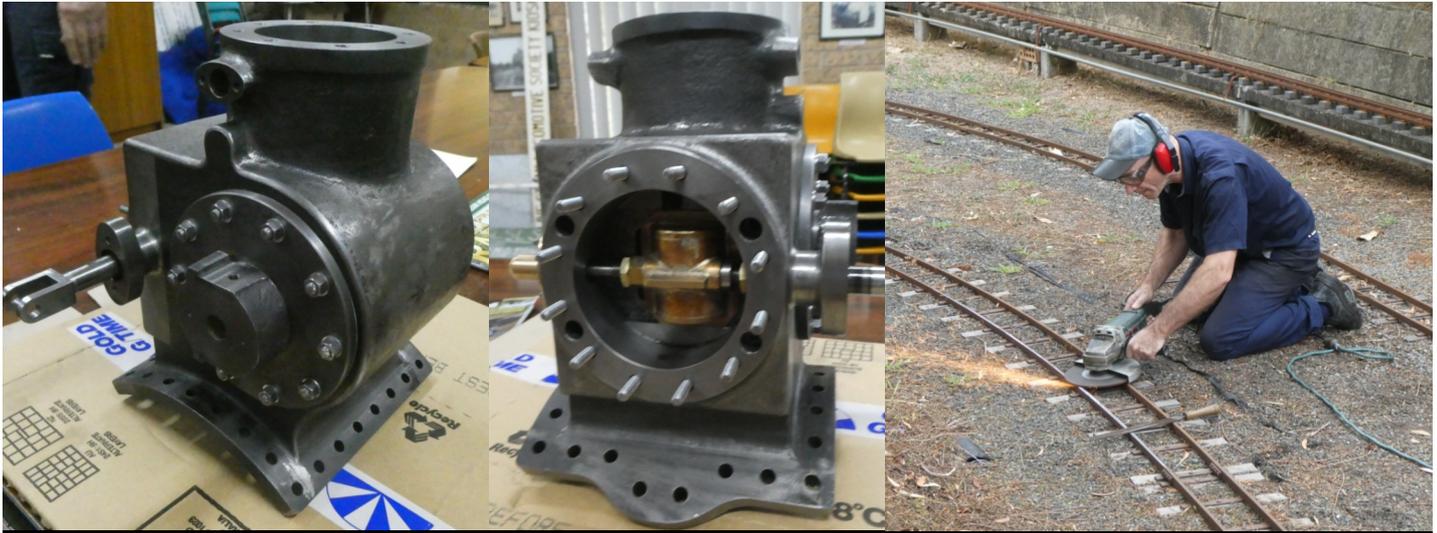


Left: David shows off his 620 class piston valve. Above: Bernie has been rejuvenating the ground level signals. Below left: Simon has made some Clupet piston rings, seen here in front of Warwick's Pullman bogie frame and axlebox. Below: Martin maintaining signals and below right; Mike trying out Austere Ada.



Left: John Lyons supervising Bill Perrins making parts for his IOW O2. Below: Mike reinstalls the STOP sign he has repainted. A lovely job too,





Ross Bishop's ploughing engine cylinder, with fancy streamlined slide valve! Right: Ross reconditions the inner main rail.



Above left: Tony, Pete and Paul ticking the track. Above: David Judex mixing concrete for the retaining wall and path repair. Left: Retaining wall hole digging: Below Left: James Sanders' Sydney steam tram undergoing detailed inspection! and Below Right: Warwick modifying the cement mixer to improve air flow to the motor.



The German War Locomotive- The Kriegslok Warwick Allison

An interest in European steam between the wars and then during the post World War II era was further explored in a recent overseas trip. By courtesy of Stuart Kean I have been reading a British intelligence report on the status of the German Locomotive Industry which provided much interesting technical information on the factories and methods of construction Germany used during the war.

This report was produced from inspections performed in November 1945. As the war in Europe ended on 2 September 1945, this document is very much as it was and thus a valuable insight. By this time the Americans and Russians had occupied the plants and were controlling repairs and production.

Contractors had traditionally built German locomotives and this was the same during the war although what they did was directed by the Reichsbahn. This arrangement permitted a high degree of standardisation and optimisation and high productivity despite the works having forced labour as well as unskilled German labour. After the war a process of de-Nazification was conducted and displaced persons were transported home leaving the works very short of skilled and other workers.

Companies involved included Krauss-Maffei, Jung, Ruhrstahl, Voith, Thyssen, Maschinenfabrik. Krupp, Henschel and others.

The Germans during the war had a drive to increase production of steam locomotives and as a result modified the design so that it reduced construction time. The principal

locomotive produced from 1942 was the K52 Kriegslok, a 2-10-0 design by Richard Wagner (no not the composer!) who was Chief Engineer of the Central Design office of the Deutsche Reichsbahn and instigator of the standards employed for war time locomotives. The K52 evolved from a 1938 K50 design. Some 6,300 were built during the war, and more afterwards.

The wheel diameter was 1400mm and cylinders of 600 x 660 gave it a power of 1600hp. Boiler pressure was 230psi. Axle load was only 15t, so they could go almost anywhere.

The time it took to construct one has been quoted as 9,000 to 13,000 man hours, depending on the manufacturer and extent of supply of specialist components such as wheels and axles. Krauss produced some 40 per month, amongst other production, Krupps produced 30 per month.

The method of construction varies not only from a desire to speed construction, but on the availability of materials and the machines to hand in the particular factory. To speed up production there was no unnecessary machining done, plate edges being left in their oxy cut state. As an example, flanged joints were simply bar welded to a pipe and no machining done on the edges or indeed the face.

The design was for a bar frame locomotive, but ultimately large steel slabs were being prioritised to Panzer tank production so plate frames were substituted. The same cylinders were used with a liner to attach them to the plate frames. Coupling rods and valve gear components were all fabricated with forged ends being butt welded to the main rod.

A K52 on display in Leipzig railway station in June 2019.



The boiler was all steel. As much welding as possible was used in the manufacture, including a fully welded inner firebox which was fully X Ray tested after normalising. Henschel's had a sophisticated process for the manufacture of staybolts from hollow bar, the ends being upset in a forging machine, annealed, drilled, ground and the thread then rolled on the ends. Before the war production was quoted as 600,00 rigid and 80,000 roof stays per month, but by the end of the war it was only 500/hr for rigid stays and 40/hr roof stays. Some shops were using firebox stays that were fully welded on both sides to eliminate much of this process.

Drilling templates were used for all holes and a production line was established in some shops. For example at Henschels (the largest supplier) The boiler and firebox revolve around the boiler centre line to align with a horizontal drilling machine.

A steel casting was preferred for the crosshead but the unavailability of fuel for furnaces and damage to the casting plants meant that a built up crosshead was also used. Alignment of the frames and cylinders were meant to utilise Zeiss optical equipment however it seems the lenses were easily stolen and so generally stringlines, squares and plumbobs were used.

The Reichsbahn also set requirements for bearing white-metal which changed during the war:

| | War Time Mixture | Peace Time Mixture |
|----------|------------------|--------------------|
| Copper | 1% | 6% |
| Tin | 10% | 80% |
| Lead | 73.5% | 2% |
| Antimony | 15.5% | 12% |

Lagging was by glass fibre instead of the unobtainable asbestos. This probably put this aspect some 40 years ahead of the rest of the world!

The output of locomotives was prodigious especially considering the frequent Allied bombing raids. Henschels

produced some 850 K52 locomotives during the war. Despite the push for war locomotives, there were some new developments progressed as well. One was a condenser version of the K52 for use in Russia (which was originally 5 ft gauge) and 180 were built. They cost 80% more than a standard K52. As well K52s built for use in the Russian area were equipped with enclosed cabs, including to the front of the tender. Much of the Russian 5ft gauge was gauge converted to allow the German locomotives to get closer to the action.

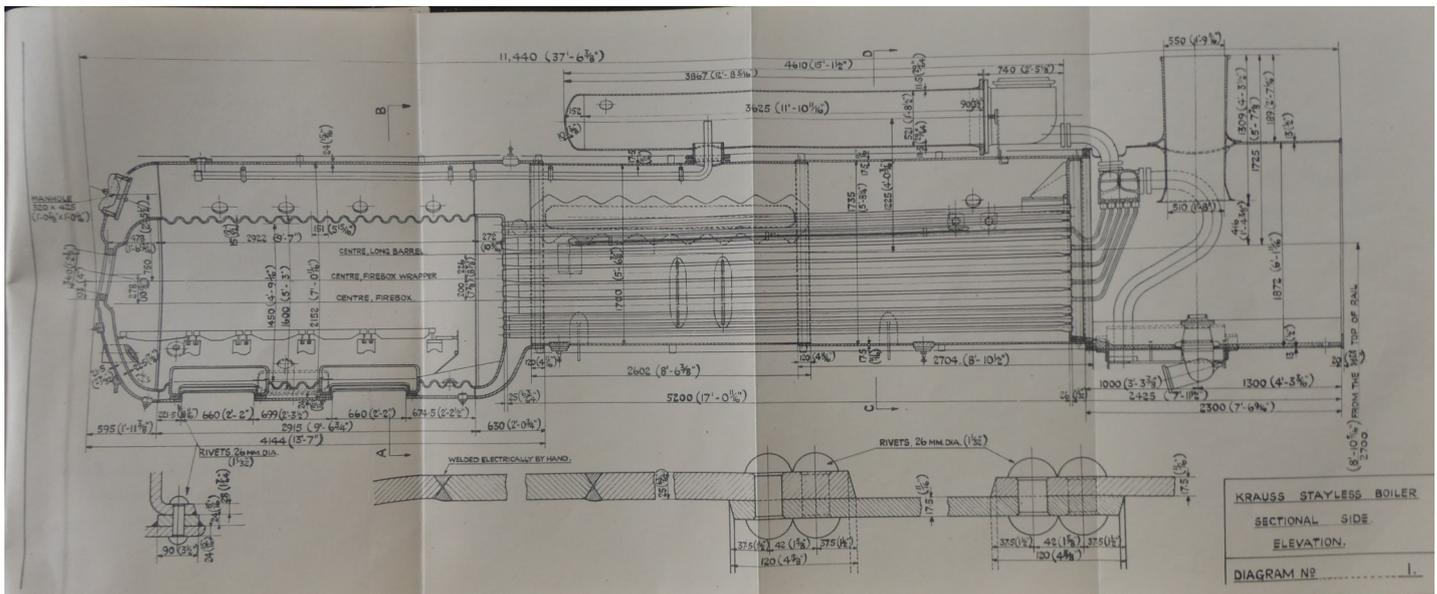
They also produced a V8 cylinder locomotive where a V arrangement of cylinders was applied to each axle (there were no coupling rods). This locomotive was requisitioned by the American forces and sent to the US (never to be heard of again!) It was believed scrapped in 1952. (A model engineer in South Australia has built a miniature of one!)

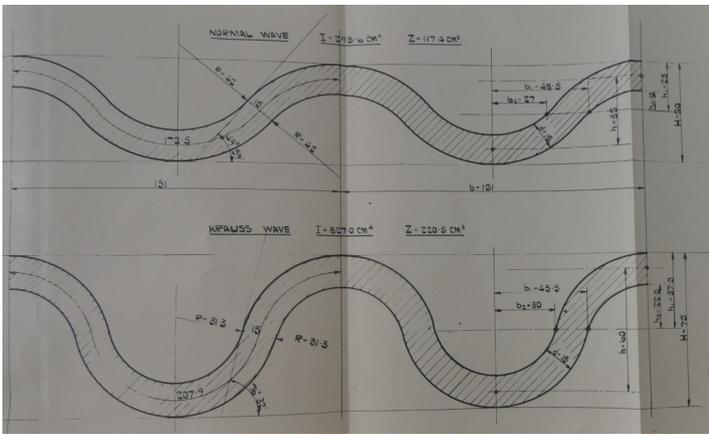
Krupps did some experimental work on 4 cylinder compounds and a turbine locomotive with a 560psi boiler.

Production time and weight was also saved on the tender. Tenders for the Kriegslok were made by Vereinigte Westdeutsche Waggon works. They designed a curved lower part to provide the longitudinal strength for buffing stresses to be taken by the tank itself, so these were produced without an underframe, bogie bolsters being welded to the tank itself. The front bogie rode on side bearers with the rear bogie on the centre pin using the 3 point suspension principle. They produced some 50 tenders per month but maximum total production across all manufacturers were 400 to 500 per month in the middle of 1944. The highest production was by Reichswerke in Vienna which produced 200 per month. Manhours to make the tender reduced from 2,700 hours down to 950 hours.

The Reichsbahn eventually decided the K52s were too light for tracks which could take a heavier axle load and a Class 42 for heavy freight started production. It had a higher axle load of 18t and over 800 were produced.

In conjunction with Krauss-Maffei a number of experi-





Above, the corrugated firebox section while below left is the complete stayless boiler.

mental stayless boilers were built. These had a (approximately) circular firebox of corrugated steel which completely did away with all staying. The corrugations were 151mm pitch and 75 in height on the 13mm plate, which was considered thin enough to promote heat transfer and strong enough with the corrugations to be practical. 5 were ordered with one fitted to a locomotive where the performance was considered to be similar to a normal K52, and thus successful. Interestingly a stayless corrugated firebox boiler appeared on a Russian 2-8-0 in 1944. Coincidence?

The bombing raids by Allied forces intensified from 1944 doing much damage to the factories and it was still staggering to see the large production that was being achieved under such circumstances.

After the war, a process of de-Nazification was carried out. Displaced persons working under duress were repatriated home and the result was the factories were completely understaffed. Repairs to buildings and machinery took time as did building up the skilled workforce. Eventually the Allies were keen to restore German industry for the economic benefit of Europe and reduce the need for external funding. Many K52s found their way to other areas either captured with the territory or as war reparations.

They were thus to be found in many places and in various guises. In Russia they lost their smoke deflectors but gained headlights. By all accounts, the fact that they were austerity locomotives, did nothing to limit their life or usefulness.

These locomotives in their guise as ex Yugoslav Class 33 were in Bosnia and are among the last commercially working steam locomotives in the world.

Thanks to Stuart Kean for the research literature used in the compilation of this summary.

Work holding. John Lyons

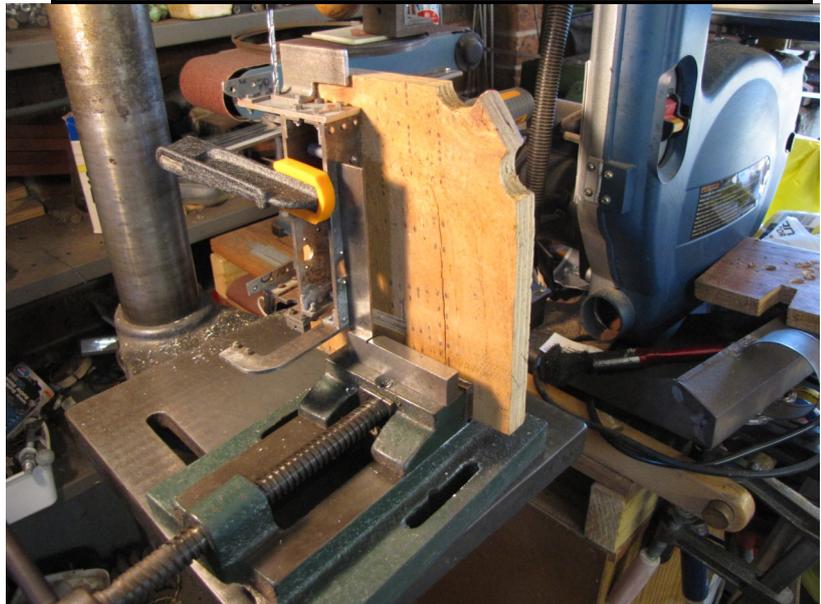
As we go about our model engineering we can often get into trouble by not having our work held correctly. There are a number of results, we break or damage a possibly expensive cutting tool, we damage the component we are working on or we will injure ourselves. In some cases we will have combinations of any of the outcomes mentioned, the worse case all three. (ask Warwick about

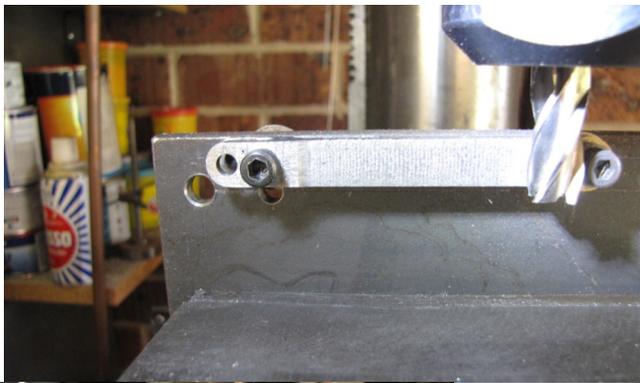
“Mona’s” big end!) In many cases our workshop facilities can be less than adequate and the training that we have had along the way may be more learn as you go than proper trade training. If we consider the machine tools we have at our disposal and give some thought to how the components we are working on are held and supported we may save ourselves some trouble. The relationship of the work to the cutting tool is of consideration as we will have either the work is stationary and the tool moves or the work moves and the tool moves in relation to the work. The other consideration is the age of the machines we are using, are work tables square with spindles and do we have to consider the backlash in the movement of components.

The drill press can cause the most trouble. The action of the twist drill is interesting. The flutes provide the cutting angles and the means by which the cuttings are cleared from the hole we are drilling. This will tend to want to rotate the work and as we break through the underside of the component there can be a lifting action that may be a cause of trouble as well. The biggest mistake we often make is to hold the component on the drill table by hand and hope for the best. A good heavy drill vice and a finger clamp can make drilling much better. Both of these that I use each have a mass of about 10 kgs. The inertia of these devices helps keep the work in place, but even then the work can still lift and upset things so it is important to apply a downward force preferably by a clamping device.

With our other machines, lathe, mill and shaper our work has to be fastened down as there is really no way that it can be hand held. Something that I was taught very early was that once your work was set rotate whatever the rotating component was by hand to check that nothing would catch when the power was switched on. I have found over the years it is sometime easier to fasten your components to a supporting plate then hold that in the machine. The supporting plate can be either metal or wood. I have even held components by welding or soldering to a suitable backing plate. I hope the following photos will be of help.

A rather complex arrangement for squaring and lining things up.





Above: Machining a component of the Avonside's valve gear.



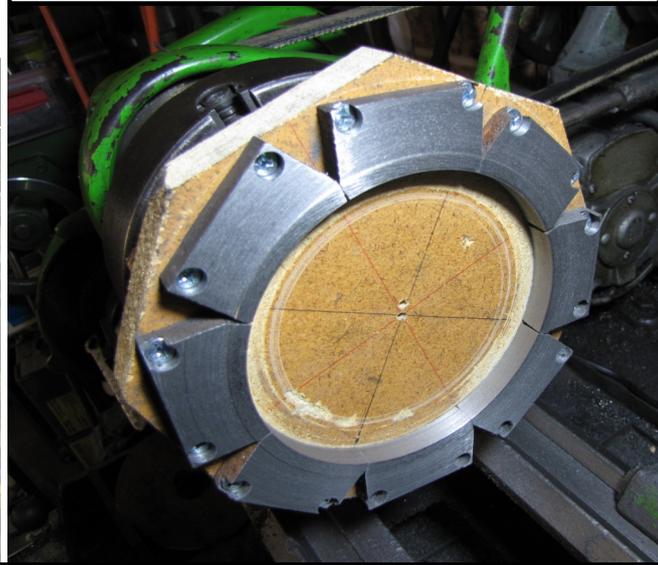
Machining the counter weights for the Avonside.



Left: Holding down a piece of 1.6mm plate for drilling

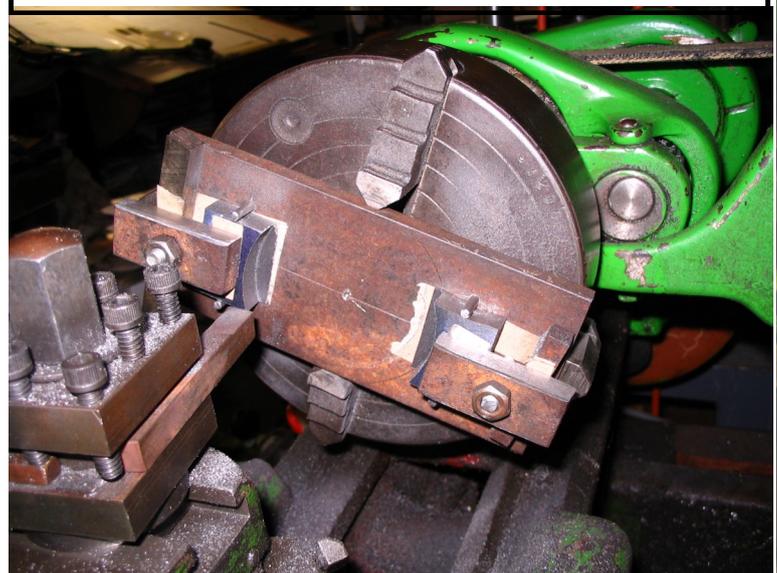
Machining Avonside brake blocks mounted on a particle board plate.

A big heavy finger clamp holding the slide bar mounting blocks in place.



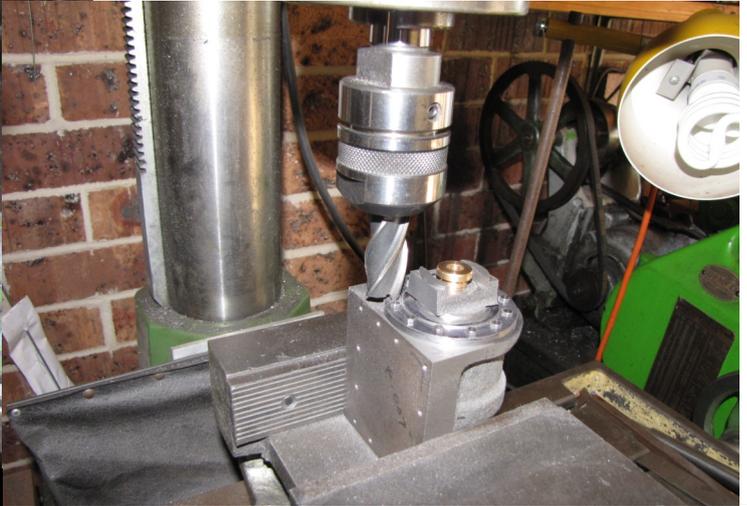
Brake blocks on a special clamping plate in the 4 jaw chuck.

Coupling rod fastened to the face plate for thickness reduction on the lathe.





Work fastened in the tool post and using a fly cutter to form a forked end of Avonside valve gear.



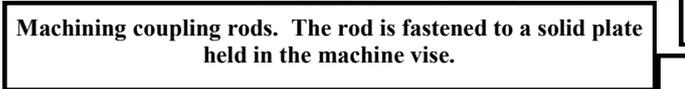
Components partly assembled for machining the slide bar supports.



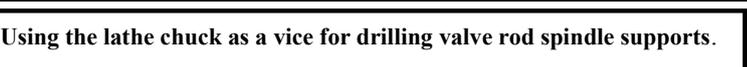
Rounding rod ends with the rotary table on the Mill.



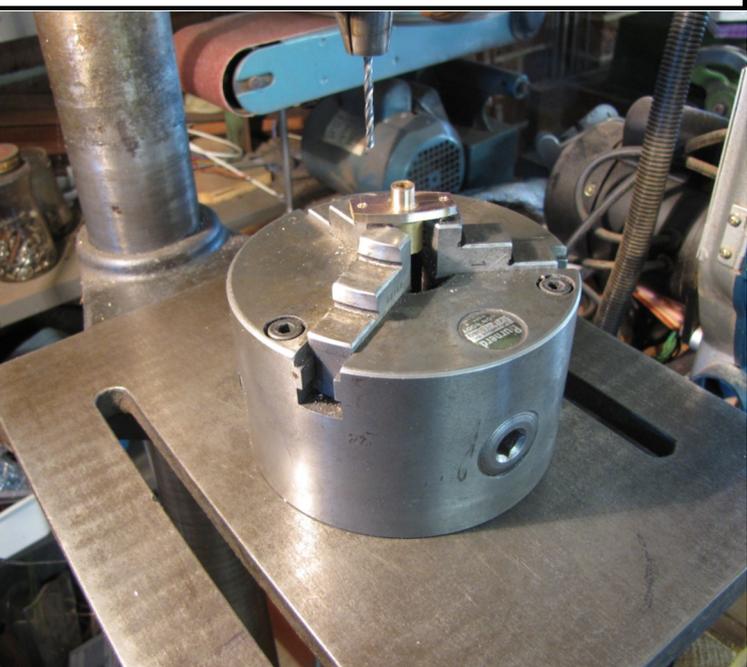
Machining the slide bar ends clamped to the face plate.



Machining coupling rods. The rod is fastened to a solid plate held in the machine vise.



Using the lathe chuck as a vice for drilling valve rod spindle supports.





November Running Day scenes with (above) Ray Lee and 3281 leading Graeme Kirkby and 2401 as Tony Eyre attaches their train. 3281 is carrying a memorial headboard to Allan Mackellar.
Below: Andrew Allison has a full load behind V1224 as it drops downhill on the inner main.



'Newsletter' is Published by: Sydney Live Steam Locomotive Society Co-op Ltd.

Track location is Anthony Rd, West Ryde adjacent to Betts St, behind West Ryde shops. 33° 48' 15.99" S; 151° 05' 12.78" E

Telephone: (02) 9874 8696. **Postal Address:** The Secretary, PO Box 124, West Ryde, NSW, 1685

Web Page Address: <http://www.slsls.asn.au>

Public Running Day is the **THIRD** Saturday in each month from 1.30pm. Entry is \$4 adults, \$2 children. Rides are \$2 each.