THE AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

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REGISTERED NEW ZEALAND PUBLICATION

ASME INC.

The MICROMETER

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Hammering out a draw bar on the steam drop hammer in the blacksmith shop, Santa Fe R.R. shops

August 2010 | Number 549

Train Roster

Date	Electric	Electric	Steam	Steam	Station	Station	Station	Extra Guard #
1-Aug-10	A Murley	J W-Buys	**A Pritchard**		A Foster	**D Hamp***	R Hannah	
8-Aug-10	M Plant	P Woodford	**D Russel**		G Healy	**P Jones***	G Kemp	
15-Aug-10	J Yearn	D Black	**G Wills**		J Lankow	M Luxton	**I Lyons***	P Dowdeswell
22-Aug-10	D Booth	T Boyd	**G Anderson**		H Martin	**S Meikle***	G Murray	
29-Aug-10	B Cotton	R Craig	**G Bell**		E North	**J Olsen***	B Parker	
5-Sep-10	T Crake	P Eaton	**S Day**		**G Quayle***	R Reichardt	M Richardson	J Reavley
12-Sep-10	M Granger	J Harrison	**L Farquhar**		**K Ryan***	B Sanford	A Shirley	
19-Sep-10	M Hollis	D Housley	**A Gasteen**		R Stratton	**R Street***	T Taylor	
26-Sep-10	J McManus	P Moy	**M Jack**		S Weston	D Addis	**I Ashley***	P Tomkies

Bold and Underlined name – is the designated **Train Controller**, i.e. the person in overall control of all operations for the day. If you are the **Train Controller** you should phone around the others rostered for that day to make sure they remember to turn up.

Bold with Asterisked* name – is the designated **Stationmaster**, i.e. the person responsible for activities in the station area for the day. The Stationmaster is also responsible to account for the day's takings. **Please Note**, there is no expiry period or date on train ride tickets previously sold.

Please Note, You will notice from the above roster that new members to the club have been rostered on as the Extra Guard. The committee has decided to do this so that the new member has a chance to learn the ropes at the station without being under undue pressure. Please note on your rostered day you should arrive by 12.45pm to get prepared for the days running.

Club Calendar

3rd August	General Meeting, Speaker, Alan Gasteen talking on Deltic Diesels
10th August	Committee Meeting
14th August	Working Bee, To prepare stage 2 of the basement concrete job
15th August	Visit to the club by the Railway Enthusiasts Society, some extra help may be needed on that running day later in the afternoon.
17th August	Workshop Night Hosted by Greville Wills at his home.
7th September	General Meeting, Michael Cryns will give a talk on his visit to Europe featuring clocks and with a slide show.
18th September	Onehunga Heritage Festival, we will have an exhibit there.
25th & 26th September	ASME Annual Exhibition & open weekend at clubrooms, judging of displayed items.
5th October	General Meeting - Club Auction
15th October	Club Spring Saturday running day with loco competitions 10.00am – 3.00pm
16th November	Workshop Night, "Milling 101", Peter Woodford will give a basic demonstration of milling using the mill that was donated to the club.
11th December	ASME Christmas Dinner and Annual Exhibition Awards presentation

Presidents Report July 2010

The latest on our saga to get new leases (licenses) in place with ACC is that I have been informed that Transpower and ACC have now agreed to the terms of the license between themselves and that ACC are awaiting the documents for execution. Once that is done, ASME will be issued with new documents for our consideration and if thought fit, execution. It is hoped this can all be wrapped up before the Super City, but it looks like it's going to be a close-run thing.

The Club's Annual Exhibition will be less than 2 months away by the time you receive this Report, so I hope you are all giving some thought as to which items you may be able to complete, polish up and contribute for the show. This will be held in our Clubrooms over the weekend 25th & 26th September and includes the annual judging for Club awards – these will be presented at the ASME Christmas Dinner event to be held on 11 December.

We need a member to volunteer for co-coordinating all the display items for the Exhibition. This is not a difficult or onerous job; it just requires someone being the contact point for recording the offers of exhibits from members and perhaps a bit of ringing around to ensure a broad selection of items for display. If you can undertake this job for the Club, could you please give me a call as soon as you are able to. In addition we need someone (preferably a couple of guys) who would be prepared to stay overnight on the Saturday and provide security for the display items.

The working bee on Saturday 10th July was well supported with 10 members turning up and putting in a good mornings work. The preparatory work for concreting the left section outside of the basement was completed; as well some cleanup work around the track, by the timber retaining wall and downhill run from the girder bridge, was undertaken. On the following Tuesday, a contractor laid the new concrete pad; with a little bit of surplus concrete available, the Tuesday Club were under a bit of pressure to get some boxing done pronto, but came up with the goods – as a result the main support for the three-way bridge was encased and some concrete placed to tidy up the area by the bottom tread of the back steps. Another working bee for general members is planned for Saturday 14th August when the other (right hand) section of the concrete slab outside of the basement will be prepared for concreting, so please do diary this date now and come along by 9am for a few hours to help out. When all this concreting is complete, we should have a pavement area virtually free from "trip" points and some easily graded ramps to assist equipment and wheelchair access.

A small sub-committee (consisting of Timothy Robinson, Mike Jack, Greville Wills and myself) has been formed to review ASME's current track and trolleys situation. Two meetings have been held by the sub-committee with progress towards a number of options which may be considered as alternatives to upgrade our miniature railway with key goals of enhancing rail safety and extending operating life. The sub-committee will report back to the main committee in the first instance and then if any changes are to be recommended by the committee, to the Club itself.

The bad weather Sundays I commented on in my last report continued right through June, but fortunately the first Sunday this month was a boomer where we gave more rides on that Sunday than for the whole of June! While bad weather is to be expected in winter, we have certainly had more than our fair share on Sundays this year already.

I will be off- shore from just after the August Committee meeting through to the end of September, so Vice President Greville will be stepping in to run the September meetings. Please give him your full support. I will be spending sometime in UK and in Europe catching up on a holiday intended for last year but which had to be postponed till now. A visit to some transport museums and heritage railways are planned which should be very interesting and may even lead to a few stories to tell on my return!

Well that's all for now; remember we are on the right side of the shortest day now, so not long to spring! Make the most of your model engineering activities.

18th July 2010

Grant Anderson

Bits & Pieces, General Meeting - 1st July 2010

A good variety of pieces tonight, started off with more radius rods motion gear by Mike Jack for his customer.

Graeme Murray brought these in for Mike who is away, and included a brief description on how Mike approaches the machining of these parts. Mike attaches the blank steel to a "sacrificial" piece of Aluminium, milling the "plan view" first, then rotating the job by 90degrees and milling what one normally sees as the side view of the rods.

Mike uses "P20" steel which is strong enough to make the parts close to scale size, the webs being only 1/16th thick.

Vastly better than the originals! **Photo A**

A black box attached to a piece of Aluminium angle, proved to be a laser set-up tool by Dave Russell for his round column mill. Once attached to the head stock of the mill, Dave shines the laser across the workshop where a mirror reflects the beam back to a near wall, doubling the accuracy of the set-up and making it easier to position the head as the "dot" is now closer to the operator and not across the room! One millimetre offset on the wall equals 1 thou on the mill.

More "electrickery" was by Greville Wills for his HHDU (home heating dispersal unit.) After some outrageous quotes by companies to install similar systems, Greville bought the ducting and motors from a hardware store for a fraction of the cost. Greville's electrical boxes are to sense the temperature and control the speed of the fans at three locations. This will be over-and-above what one normally gets from the home heating suppliers. **Photo B**

Peter Woodford brought in a packet of "freebie" paint stirrers and file cleaners, which once were strain test samples from work.

The bigger boiler on show was for a 5inch Springbok loco and is on sale by Bill Parker. **Photo C**

A Stuart Turner H10 was presented by Murray Lane, as were the plans. Murray improved the scale appearance of the model by using smaller studs and bolts. Murray also had a few goes at getting a good finish on the cladding looking right using chemical and heat treatment of the steel, finally using new blue-ing agent from a gun shop.

A set of brass name plates for Hugh Martins Prairie were specially made for him by Diane Carney in the U.K.

Apparently one only has to send the loco details to Diane and she will research the shape and authentic numbers and make them to scale. http://www.loco-nameplates.com/ is the web site. Hugh has also copper plated the top of the chimney for his loco by placing it in some old pickling solution and connecting up a 9v battery. **Photo D**

Alan Emerson brought in the patterns for the foot-valve of the HWSTCS (house water-supply tank cleaning siphon) he made. Once the foot valve is attached to a long plastic tube and a flexible end, the siphon is started by a few “pumping” actions from the operator. Once started the strong siphon action is used to clean the bottom of the tank of the detritus which accumulates. **Photo E**

Murray Lane has also pulled his two-row Monosoupape engine apart to re-make some parts now that new information is at hand. Murray outlined some of the technical difficulties inherent with the design of the crankshaft. **Photo F**

An odd curvy “whatsit” brought in by Alan Emerson didn't have many people stumped, and it was soon identified by members as a Ford A10 valve guide remover! **Photo G**

Dave Russell made a parting-off tool holder for his Myford.

This is used on the opposite end of the cross-slide and the blade is held upside down. The milling cutter shown is a disused slot drill ground on one flute to provide the 15° angle required for the blade to seat on. Dave’s improved design will make it easily removable when not in use. I find this would be a good addition as its possible to run the other post into the outside of the chuck when one is concentrating on the action at the chuck centre! **Photo H**

Mike Jack used his CNC machine to make a 5inch scale Timken roller bearing cover, and used this to make a silicon mold.

From the silicon mold, as many covers as needed can be cast in resin. **Photo I**

John Olsen made some stands for his 3 vintage model engines.

2 Diesels of about the WWII era and one Glow Plug type. An engine block casting for the Sparey design was included. **Photo J**

(Bits & Pieces continued on page 8)


A


B


C

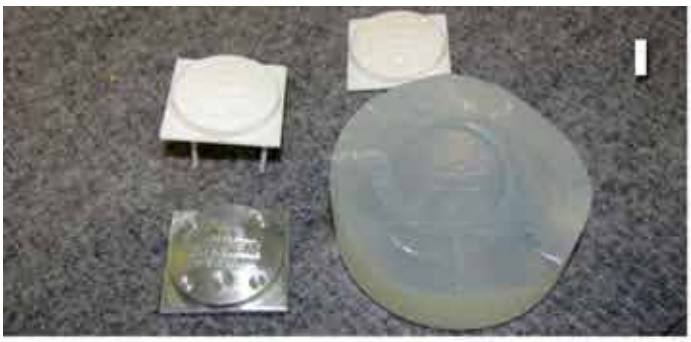

D
5102
5102
5102


E


F


G


H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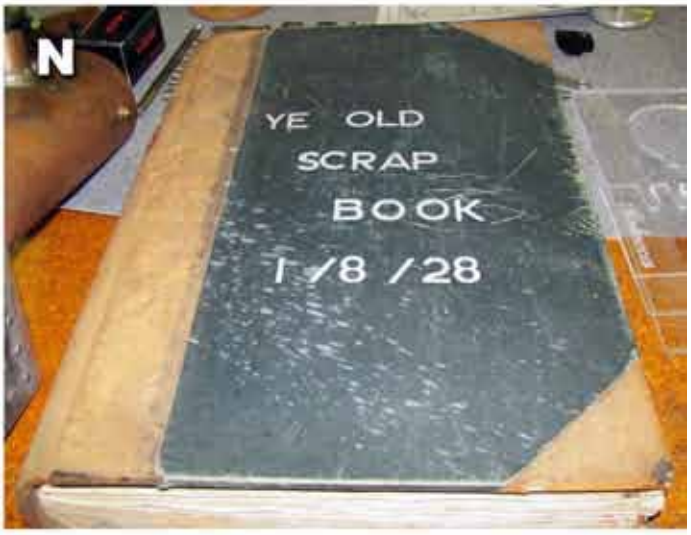
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1/8/28


O


P


Q

John Olsen also exhibited an air tool he modified to take a router bit safely by making a cover for it. With this tool John was able to get into those hard-to-reach places in the canal boat he is making. **Photo K**

Dave Housley proved that its cheaper to get his tool makers vee-block directly from toolsNZ.com than from the U.K. The postage from the U.K. Would have been 67pounds alone! **Photo L**

Graeme Murray showed his extra long guide for his saw bench which is operated by clever clamps from the operator end. **Photo M**

A marvelous leather bound huge ledger book was taking up half the table. This turned out to be a family scrap book from almost 100 years ago. Not only did it have current events from way back, but was originally a ledger of items purchased by NZ rail, showing costs and dates of the purchases. A very interesting historical artifact. **Photo N**

Greville Wills also displayed a set of carpenter drill extensions he had made a few years ago, but used recently for his HHDU project. Greville used these to drill down through all the nogs in the wall to run the wires. A few amusing anecdotes were mentioned by members, of experiences had when drilling holes through walls..... appearing in cupboards etc. **Photo O**

Boiler number 2 on show was the boiler for Kathleen which Trevor Tailor had brought in for a boiler test. It passed with no problems. **Photo P**

A pair of larger metal links are for Richard Streets surface grinder, assembled with a little help from Murray Lane. **Photo Q**

A large threaded “whatsit” was identified as being from a Colchester Student lathe, brought in by Richard Street.

The talk was John Olsen translating on the fly, a video of the French locomotive works at Nantes in the 1950s. This was enjoyed by all, thanks John.

Thanks to all for exhibits, Roger.

Roger van Ryn

Around the Clubs: Reviewed by Alan Emerson

Durban Society of Model Engineers , July 01

Sad to note the passing of long time member Steve Stevens.Judging by the Obituary by Errol Koch he was a great and useful character.Article on the National Steam Meet held at Rand SME.Also celebration of the 150 years of Railway History of South Africa,with a photo of President Dave Rose driving Natal 11.

Alan Emerson

NB: If you are interested in reading any of the full articles, they can be found filed in binders at the club-rooms, just below the notice board.

The 'D' Bit

By IAN BRADLEY

The drilling of deep holes that run true axially is a problem that has often to be faced, and it is sometimes not appreciated that the twist drill alone cannot provide the degree of accuracy needed. The greater the length of the drill the less it can be relied on to run true, although an extension device, comprising a standard drill grafted on to a length of steel rod equal in diameter to the drill shank itself, may do something to help.

The best method, however, is to make use of the D-bit. This is a tool taking its name from the cross-section of its cutting end, which the builder can make for himself and which will pursue a straight course because of its inherent rigidity and the built-in guidance it possesses. The basic shape of the tool is shown below (Fig. 1)

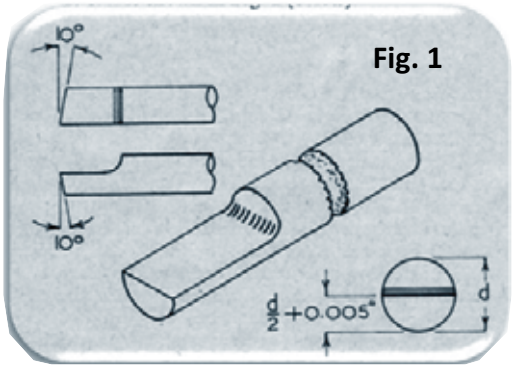


Fig. 1

The D-bit has a flat land machined or filed on it extending backwards from the tip for a distance equal to three or four times the shank diameter , the land being formed some 0.005 in. above the centre line. This dimension is important in order to maintain guidance.

Commercially produced D-bits were usually provided with a duct to convey lubricant to the cutting edge. This took the form of a small gutter on the upper part of the shank; in addition, the rounded portion of the guidance behind the cutting edge was sometimes relieved, though the benefits from this practice seem somewhat obscure. These points are brought out in Fig. 2.

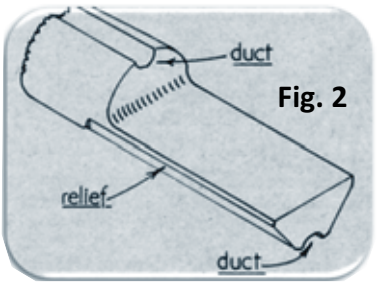


Fig. 2

These refinements are not of particular importance to the amateur worker, though he may find the lubricant duct of value in deep drilling.

Whilst professionally made D-bits are commonly made from high-speed steel, the amateur worker will use silver steel for the purpose. This material is readily obtainable in the form of bright round bars some 13 in. long, ground to close limits of accuracy. Silver steel is easily worked both by hand or machine methods. It can be hardened and tempered with simple equipment such as is usually found in the small workshop.

All that is needed is some means of bringing the point of the tool to a red heat, and subsequently to temper it after the hardening process has been carried out.

Hardening the material is brought about by heating it until, in the case of the D-bit, the cutting edge, and

an area some in. behind it, becomes red hot. The tool is then plunged into clean, cold water and stirred about until all heat goes from it. At this stage the tool's edge is too brittle for practical purposes so must be tempered to provide adequate strength for the steel. To do so the tool must be first cleaned and polished with emery cloth to a bright finish before the shank is heated gently. The flame must be applied, as shown, well below the cutting edge of the tool, then as the shank is raised in tempera true, a play of colours will be seen to creep along it ranging from light straw to dark blue and finally black. The colours denoting the extent of tempering needed for satisfactory working lie in the straw- coloured range. Light straw provides an edge somewhat too brittle for heavy machining, so it is advisable to arrest the tempering as soon as a medium- to-dark straw colour appears around the tool's edge. This arrestment, finalising the hardening and tempering process, is performed simply by again plunging the tool into cold water. The process of hardening and tempering carbon or silver steel applies equally to lathe or shaping machine tools made from this material.

Sharpening the D-bit

Once the tool has been hardened and tempered it will need to be sharpened. The somewhat ragged edges left by the file, or perhaps a machinery operation used to shape the D-bit, are not good enough for practical purposes, so the tool needs first to be ground and then stoned so that a fine cutting edge is produced.

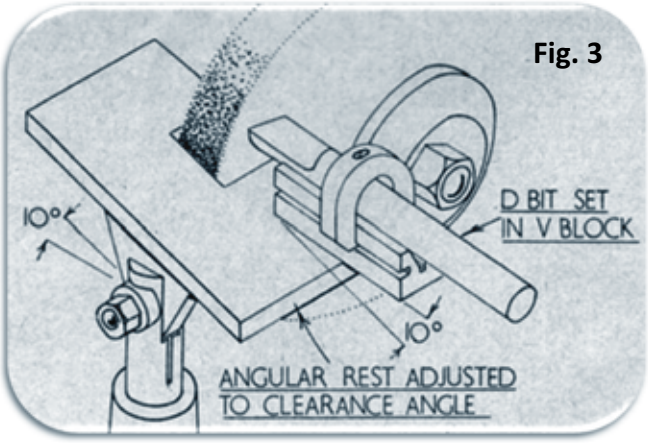


Fig. 3

Grinding is best carried out on the side of the wheel using an angular rest which will be described later when dealing with tools for use in the lathe or shaping machine. Since the D-bit is made from round material it is best to catch it in a small V block. Otherwise it may not be possible to maintain the clearance angles required because of failure to keep the tool in a constant position relative to the grinding wheel itself. Fig. 3 depicts the method advisable.

Using the D-bit

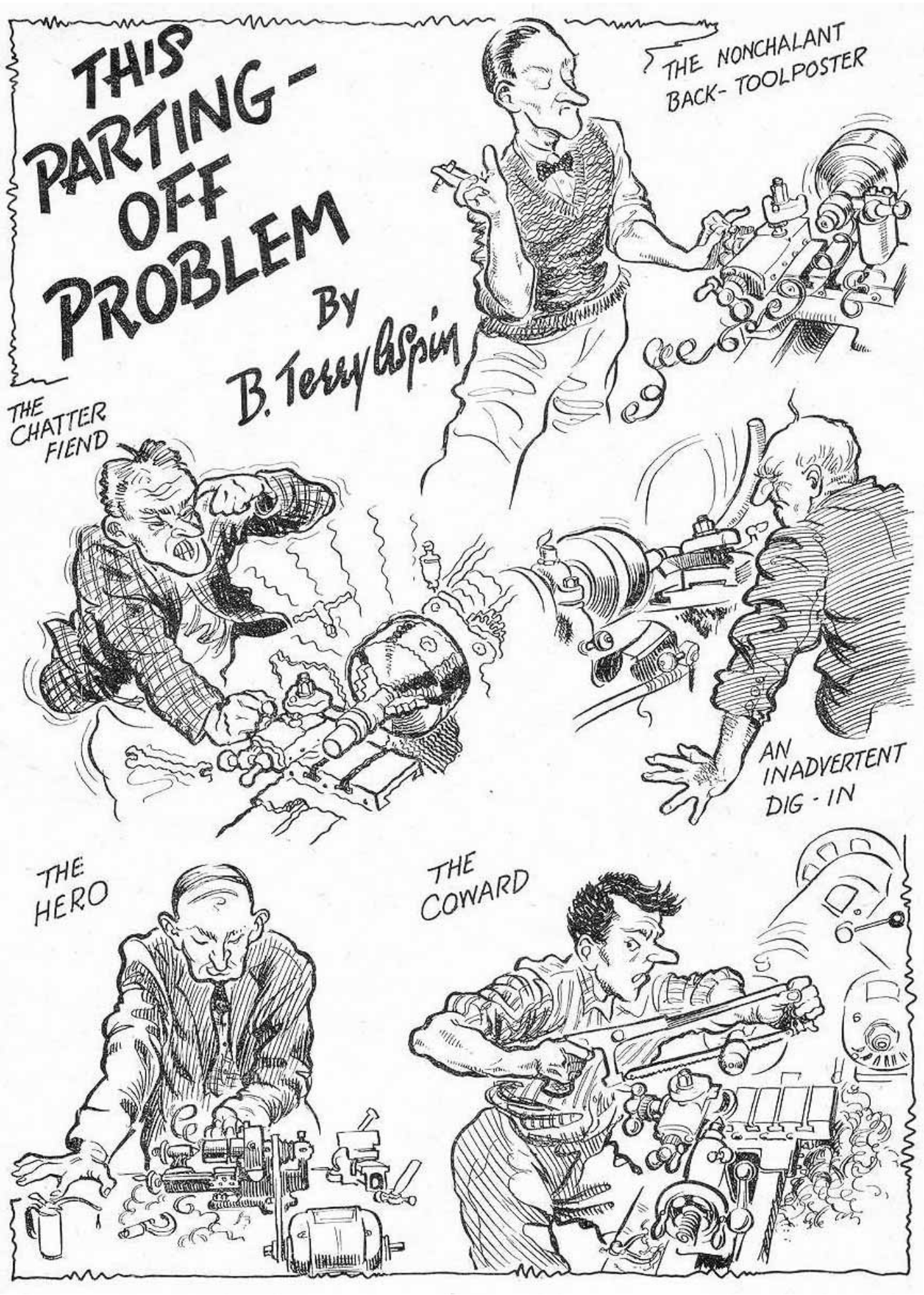
If success in employing the tool is to be achieved, it is of the utmost importance that it starts work correctly. For the most part the components to be machined will be too long to be held by the chuck alone; they will, therefore, need to be supported by the fixed steady.

The sequence of operations that then needs to be adopted is as follows: First, the work must be centre-drilled to provide an accurate start for a pilot drill some 1 1/6 – 3/32 in. smaller than the size of the D-bit itself. This drill should be fed in deeply. If an extension drill is used, and it is known always to follow a true course, it will be in order to comp lately penetrate the work since this will ease the work of the D-bit. However, complete penetration is not essential and should not be employed if there is any likelihood of the pilot drill running out.

After the work has been drilled, the resulting hole must be opened out with a boring tool until the D-bit will enter without shake. The depth of this machining should be made equal to at least twice the diameter of the bit to be used, and the test for the entry of the tool made with the D-bit set in the tailstock chuck. Needless to say the tailstock used must be .accurate or the whole exercise will be brought to nought. Commercially made D-bits usually have tapered shanks so that their correct alignment in the tailstock is automatically assured. In this connection it was, of course, important that the surf aces of the mating tapers remained undamaged.

Where the bit is being used, it must be withdrawn from the work frequently in order to remove swarf, for unlike the twist drill which has partial self-clearing properties, the D-bit has none. It, therefore, needs to be withdrawn regularly to avoid the swarf packing on the cutting edge. At the same time the shanks of the tools need to be lubricated in order to preserve the smooth finish on the work.

(Model Engineer, 20 February 1970)


THIS PARTING - OFF PROBLEM
By B. Terry Aspin
THE NONCHALANT BACK-TOOLPOSTER
THE CHATTER FIEND
AN INADVERTENT DIG-IN
THE HERO
THE COWARD

Classifieds

Wanted

Tailstock to suit Myford ML7

Contact Dave Rodgers via email.

drog@xtra.co.nz

For Sale

Copper boiler new 5" gauge "springbok" B1 Martin Evans design.

Hydraulic tested.

Ph 09-2352018, Bill Parker.

For Sale

5" Gauge 0-4-0 Ajax, built in 1987 by Ron Moffat to a Dick Simmonds design.

The boiler has been re- certified by the Tauranga club and expires 14/12/12.

Contact Geoff Hallam via email. Please see pictures below.

tiraugeoff@clear.net.nz