

Hints & Tips

An Alternative Tender Brake Gear Mechanism ~ *By Ron Spearman*

Your Editor approached me with a problem. He wanted to use what on the big B17 tender was the water pick up wheel on the front plate as the mechanism for operating his 5" gauge tender brake. Normally this would not be a problem as is illustrated in drawing A. This is the standard well known method. However, Grahame's problem was that the position of the column, instead of being something like $\frac{3}{4}$ " in front of the brake shaft X as in drawing A, came out directly over the shaft and therefore the standard arrangement was not possible. I suggested the arrangement shown in drawing B. Incidentally, I have not shown the full mechanism which Grahame eventually built, consisting of a vertically mounted handwheel with a bevel gear, because this would unnecessarily complicate the drawing. Instead it is represented in the drawing s by the simple handle. In A the column is fixed and the shaft turns within the column when the handle is turned so that the nut runs down the thread and so pulls the brakes on through the attached levers. In B the column rotates when the handle is turned. The column is threaded on the inside and the cranked shaft is also threaded. When the column turns the cranked shaft is wound out. The nut is secured on the lower thread of the shaft with 2 locking nuts and therefore cannot turn. Note that the shaft does not turn-indeed it cannot turn because it is cranked. The effect in pulling the brake on is similar in each case although a clockwise movement of the handle pulls the brakes on in A whereas an anticlockwise movement pulls the brakes on in B. Naturally the column needs securing to the tender front plate in A and B but must be free to rotate in the case of B.

Grahame tells me that although the mechanism works well he's made such a bodge of the bevel gear mechanism that he treats the brake with care in case he has to rebuild it!

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Packing/Parallels ~ *Colin Bainbridge*

I have found a useful source of accurate packing (for setting up and clamping when machining) in the form of individual 'tool bits' used in commercial 'die boxes'. Usually square or oblong in shape they provide two good accurate dimensions – i.e. width and thickness and come in various (small) sizes. I usually buy them singly or in pairs from rummage stalls at shows. Bought in ones or twos they are cheap (typically 25-50p) as unless they are four they are not worth much to the trader. I have also found the square shanks of tool bits made for commercial lathes/CNC machines ($\frac{3}{8}$ – 1" section) to be another source of fairly accurate packing. If large enough they can be used as parallels when setting something in a machine vice. These should also be cheap to buy (50p - £1). As tool bits they are probably too big for the average model engineer's lathe so the trader will usually sell them at a reasonable price.

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By Colin Bainbridge

A Free Workshop Shovel A small shovel for removing swarf can easily be cut out of a plastic milk bottle. Various shapes of shovel can be made depending on the position of the moulded handle. Next time you buy a pint or two pint bottle look at the handle's position and imagine the shovel in its outline – then just take a pair of scissors to it (After drinking the milk!) and cut it out – a three minute job!
Oiling the Lathe If your lathe has oil nipples and you use an oil gun with plunger to lubricate it, to prevent the oil squirting or leaking around the oil point as the pressure is applied, intersperse a piece of rag (shirt material is good) between gun and nipple.

This allows the oil to flow and also provides a seal which prevents the oil from leaking.