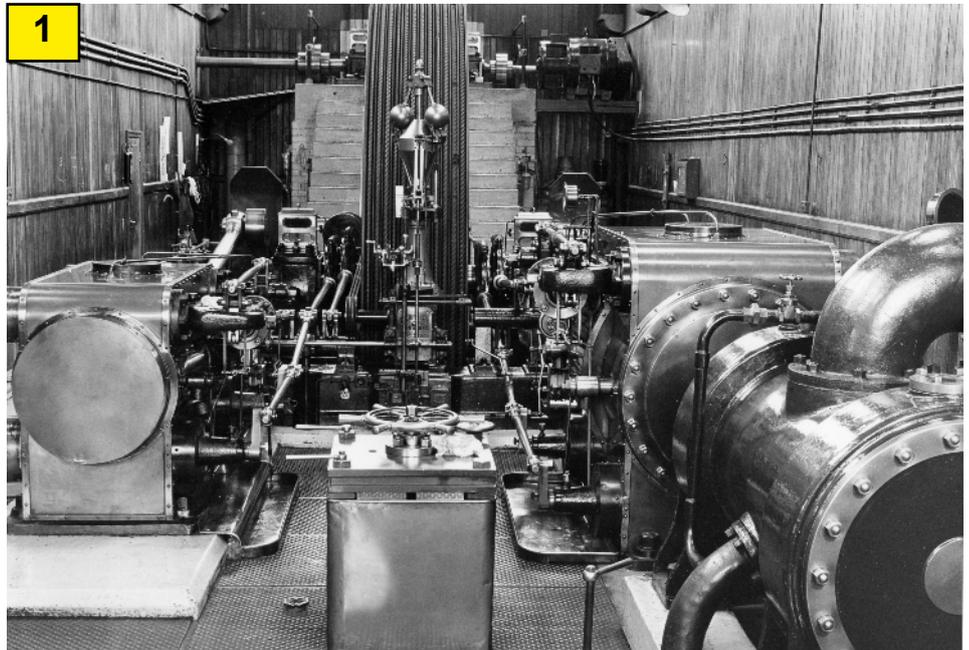


# Steam, Storage and Slide Boxes

**David  
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**Finds that lessons  
learned young  
last a lifetime.**

There has been much discussion recently about how people come into model engineering and how we can encourage others to do so. In my case, I am not an engineer but have spent my time in the textile and clothing manufacturing industry in Lancashire. In my late teens, I started work in a cotton weaving mill where 750 looms were driven by a twin cylinder compound steam engine. The engine had Corliss valves on both high and low pressure cylinders and the condenser drew cooling water from the adjacent Leeds – Liverpool canal. **Photo.1** There is an identical engine running in the Science museum in London and both were made by Burnley Iron Works.



**Steam Engine Lodge Mill Burnley**

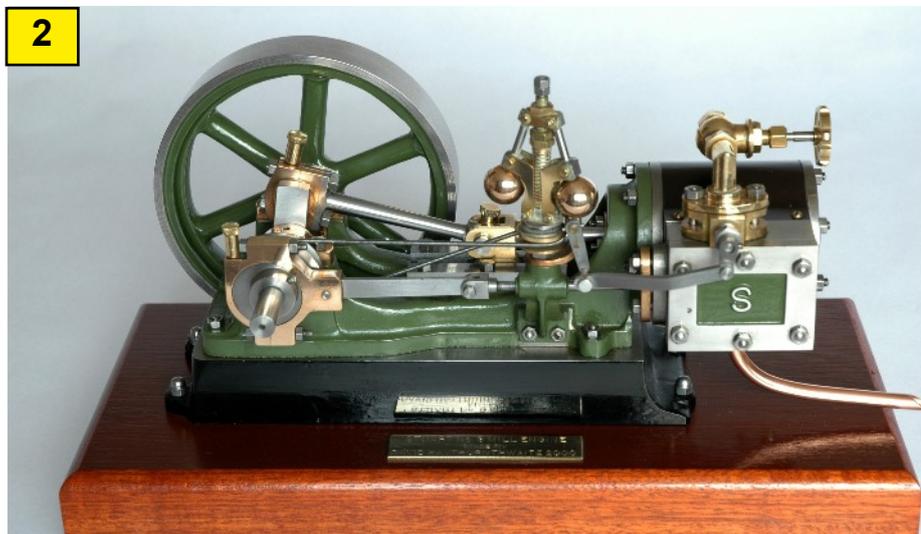
## **Old Albert**

An old style engine by the name of Albert looked after the engine and the whole thing shone so that you could see your face in it. Visitors would come into the engine

house and marvel at the magnificent machine and they would stand with their hands on the steel guard rail. Albert would immediately follow them down the engine house with oily cotton waste (thrums) to remove their hand marks and I was keenly aware that if I touched the

engine with my sweaty hands, then I was likely to suffer bruised knuckles from Albert himself.

The steam engine governor did not react swiftly enough to keep a steady engine speed at start-up when the looms were being started, nor at finishing times when weavers would stop their looms for lunch or home time. During these periods, the engine had to be controlled manually by the main steam valve in the centre of the picture, opening or closing the valve in small increments of a few degrees. This was no mean task with a valve that had 120 degrees of backlash between opening and closing. I was allowed to “Drive” the engine at starting and stopping times and if I didn’t keep a steady speed on the engine, the mill manager was quick to let me know. That magnificent engine ran faultlessly for 80 years, finally stopping for the last time in



**My Stuart No. 9 Steam Engine**

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**Collet Holders and Collets in a Slide Box**

1966. Grown men cried on that day and I have loved steam engines ever since.

### From Being a Child

From being a child. I had always been interested in all things mechanical and Albert put me to work erecting steam heating pipes and learning to file in the small workshop. There was a large, very old lathe – which I wasn't allowed to touch – but Albert could “make it talk” and I was fascinated to watch him turn spare parts and plain bearings for the Lancashire looms. From these beginnings my interest in lathe work was born.

At 33 years of age I managed to acquire an old Drummond “M” type lathe and also bought myself a set of castings for a Stuart No. 9. steam engine. I remember that the first attempt at turning something from a rusty bar of unknown steel, without proper centres was a disaster and so I read and digested the contents of three books. The Amateur's Workshop by Ian Bradley, The Amateur's Lathe by L.H. Sparey and Using the Small Lathe by L.C. Mason. All excellent reading and they illustrated to me just what could be done with the lathe if only I had an infinite number of accessories to go with it. If only M.E.W. had been available then.

Something like 20 years of constructing workshop tools went by with only slow progress on the N0.9. A tool and cutter grinder, milling spindle, dividing head, knurling and many more attachments were all turned out as I taught myself the skills that “proper” engineers learned as apprentices. Albert kept in touch from time to time then, one day, visited my home and nodded his approval at my efforts. I thought I had won a Nobel Prize. The Stuart engine did get finished eventually – **Photo 2**.

### Be Organised

The one great lesson that Albert taught me all those years ago was to be organised with my tools,

putting everything back in place after use and to sweep up after I had used the workshop. The lessons were a bit extreme, in that I couldn't even have a cup of tea without tidying up, but the lesson was learned and I like to keep my workshop tidy and clean to this day.

I do like to keep my various small accessories, taps, dies etc. in an organised state and it stops them from becoming blunt by rubbing together. It is great to lift one box and everything I need is there.

One source of useful boxes for workshop storage can be found in the old wooden slide boxes which used to be popular for keeping 35 mm slides before the days of digital photography. These boxes are often found at car boot sales for a few pence. These boxes are nicely made with comb joints at the corners, although some benefit from fitting better clasps. The wooden dividing strips which originally held the slides can easily be removed and the resulting space filled with MDF board customised to hold various items. If you build up the storage area with various layers of MDF of different thicknesses and make cut-outs from one or more layers with a scroll saw, router or miller, then a variety of tools may be held such that closing the lid of the box will hold the tools

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**Various Dies and Tap Holders in a Slide Box**



**Tapping Equipment in Small Case**

securely. **Photo 3.** Illustrates a slide box holding a collet holder and collets whilst **Photo 4.** shows my dies similarly stored.

The trays of the die box are all different thicknesses to accommodate the contents of that tray and a layer of ¼” foam was stuck to the inside of the lid to maintain overall pressure when closed.

### Car Boot Sales

I have also found at car boot sales, wooden cutlery boxes where the cutlery is long gone and these are ideal for storage of combination squares, accessories for lathes and cutter grinders. Etc.

At the time of writing this, B&Q were selling a set of three aluminium cases (sold each fitting inside the other) for what seemed to be a bargain price (3 for £9) and I have also seen these for sale elsewhere. One of these now holds many of my taps and tap holders **Photo 5.**, whilst another has been compart-

mentalised to hold a variety of tools which is my first port of call when someone says “this isn’t working” !!

**Photo 6.** illustrates an important point when working with MDF. Firstly I prefer to use a carbide tipped router cutter, although milling cutters work well also. Working on a milling table is most helpful in getting things straight and correctly sized and the most important point is to wear a face mask. MDF dust is very fine and is Carcinogenic. You will note that the milling is being done with a vacuum nozzle close to the cutting tool. Be warned.

### Smashed Screen

My general toolbox **Photo 8.** was reorganized after I removed my Multi-meter from it’s previous storage and found that the LCD screen was smashed. This triggered me into action and my new box has individual compartments created



**Milling MDF for Tap Holding**

from 4 mm plywood fixed by halving joints and glue. The depth of the lower section was decided by ensuring that placing the tray on top allowed the tools in the tray to be securely held when the lid was closed. The top tray was filled with insulation board to save weight and the tool positions cut out on the scroll saw. Shaped pieces of rubber carpet underlay were cut to bring all the tools to the top of the tray and this means that pressing on one end of any tool ejects the other end.

I am sure that those of you who turn out machines or locomotives by the dozen will feel that I should get on with making models and spend less time with organizing tools, although I cannot help but feel that old Albert is still watching me from that great workshop in the sky !!



**Two of the Aluminium Cases**



**My “Quick Grab” Tool Box**