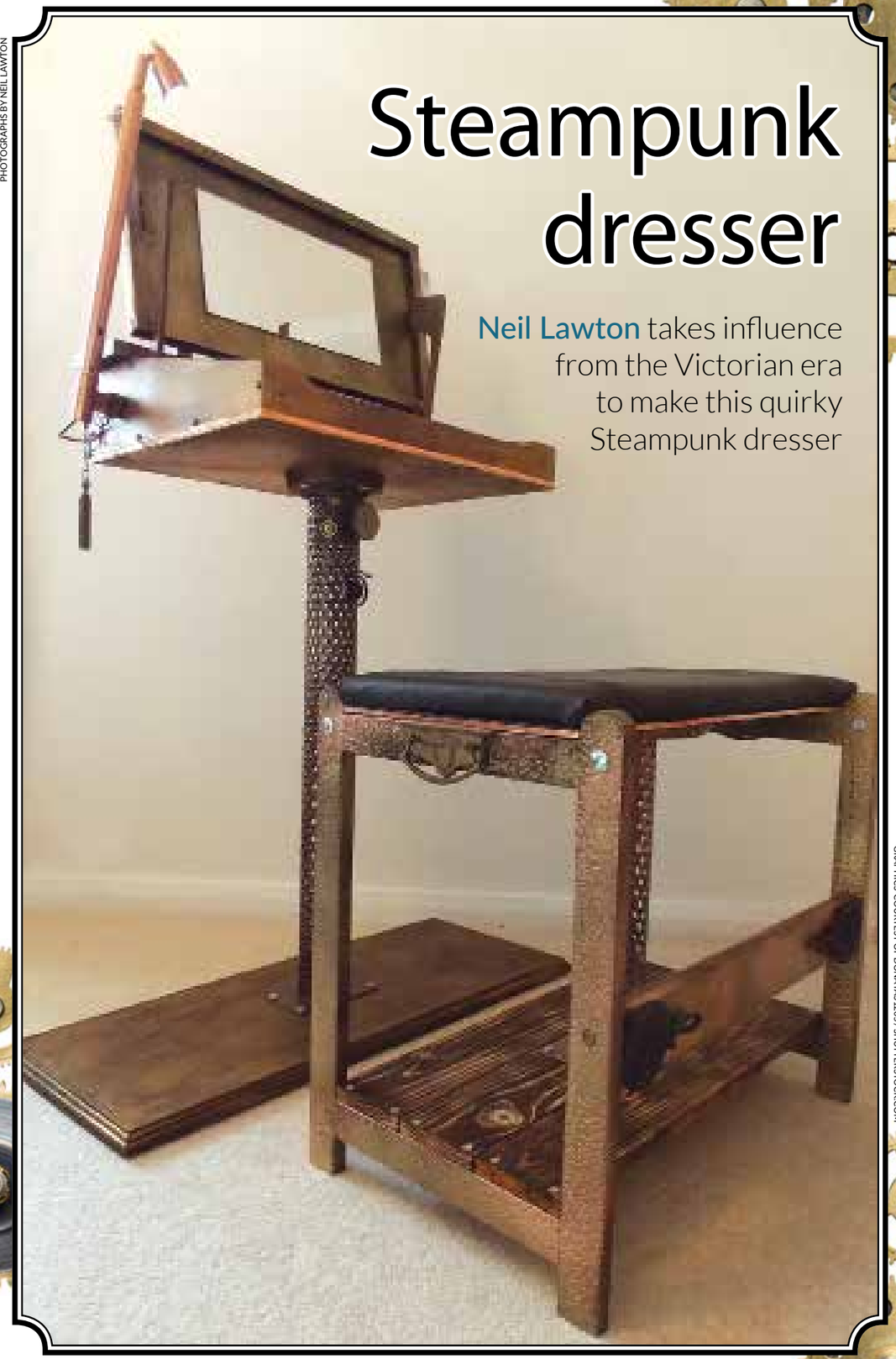
Power woodworking

PHOTOGRAPHS BY NEIL LAWTON



Steampunk dresser

Neil Lawton takes influence from the Victorian era to make this quirky Steampunk dresser

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Neil Lawton

Neil is a woodworker/turner who specialises in the use of reclaimed and recycled materials in his projects and seasons native timbers for his turning work. He works from his home workshop in York, North Yorkshire and works part time in the Design Technology department of the local school.

I've probably mentioned before, how I hate seeing materials go to waste. Most of the materials for this project were recovered from skips and already on the first step of their journey to landfill. Modern machine jointing techniques have made it possible to utilise offcuts of timber, or timbers that were previously considered commercially unviable, to make various items of flat-pack furniture at an affordable price. But, I still see no reason to let this cheaper material go to waste.

A piece of flat-pack is always going to resemble a piece of flat-pack, so this was never going to be an example of fine woodworking, but rather a re-imagining of its form and use, to bring a discarded item back into service.

I find the Steampunk genre intriguing and decided that in this case, it might be fun to 'punk the junk', so to speak. With this in mind, I incorporated a rather pointless, but working mechanism that can be used to lift the lid and turn the light on. Pointless, it may be, but it is very much in keeping with the Steampunk ethos. The finished item can still be used as originally intended, though now at adult height, or as a dresser with the integral mirror and light.

What you will need

- Reclaimed desk
- Hardwood offcuts
- 6mm ply
- Disc sander
- Gear templates
- Scrollsaw
- Bandsaw
- Sanding stick
- 15.875mm Forstner bit
- Steel rivets
- Wood stain
- Gilt cream
- Black, gold and copper paints
- For the handle: piece of birch ply, a bolt & several nuts
- Magnet
- 22mm plumbing fitting
- LED cluster from torch
- Hot melt glue
- Plastic pipe
- Light switch: small angle bracket & half a spring clip
- Self-adhesive copper tape
- Small resistor
- 9V battery
- Counterweight
- Small safety chain
- Reclaimed metal tubes
- Iroko (*Milicia excelsa*) offcut
- Rotary burr
- Piece of ply for the bottom
- Carpet offcut
- Piece of old leather
- Scorched pallet boards
- Old wooden barometer surround

1 The original desk was retrieved from the skip. It had obviously been exposed to the elements for a long time before being dumped. The bottom had gone completely and the laminated top had warped and twisted too far to reclaim for this project. What remained of the finish was removed using a combination of planing, power sanding and re-routing out the pen slots in the top piece.

2 Some hardwood offcuts and a piece of 6mm ply were then cut to make a new lid. The lighter weight lid would help reduce the strain on the opening mechanism, which was an important feature for this desk.

3 The hardwood battens were then simply glued and pinned to the underside of the ply. Once this was complete, the lid was then checked for fit. I decided to fit some cheap, but more elaborate surface mount hinges, more in keeping with the Steampunk theme. If you do a search online for Steampunk hardware, you will find all manner of quirky items that you could potentially use. The lid was made to fit the frame, rather than have the original overhang; this would help enable access for the mechanism. ➤

Steampunk refers to a subgenre of science fiction and sometimes fantasy – also in recent years, a fashion and lifestyle movement – that incorporates technology and aesthetic designs inspired by 19th-century industrial steam-powered machinery. Although its literary origins are sometimes associated with the cyberpunk genre, steampunk works are often set in an alternative history of the 19th century's British Victorian era – source: Wikipedia Commons


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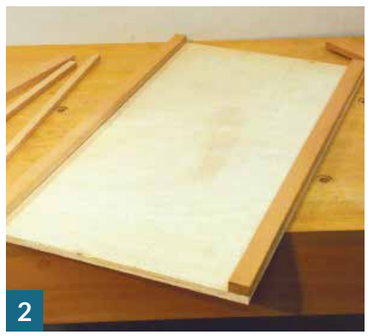
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4 I found that a little more internal depth was needed to accommodate the mechanism, so the original bottom rebate was fitted with pallet wood rips, which were later filled and sanded so they were flush.


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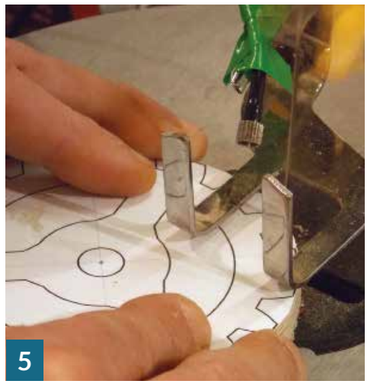
5 The gear templates were printed out from a free online gear generator – www.woodgears.ca – and glued to offcuts of 12mm birch ply. The waste was roughly bandsawn away, then the gears sanded on the disc sander to the flats of the template. The teeth themselves were then cut out using the scrollsaw. The cut has to be accurate and the blower on my saw is not very efficient. I managed to overcome this by taping the outlet of my airbrush compressor to the machine, ensuring the line was never obscured by the dust.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6 Pilot holes were drilled through the centres and the gears loosely pinned to a piece of scrap, to check the meshing. As it was, the gears worked perfectly, but this would have identified any catch points, which could have been ironed out by the simple use of a sanding stick.


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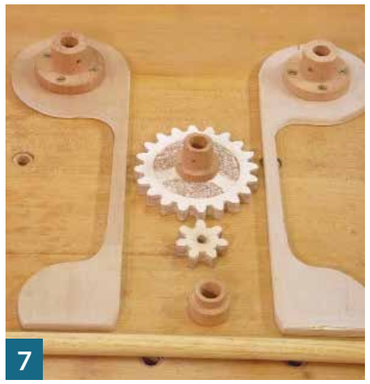
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7 The lifting arms for the desk were cut from 6mm ply and bosses turned from beech *(Fagus sylvatica)*. All pieces were drilled to accept a piece of 15mm dowel, which would act as the axle.


8

8 The sides were drilled with a 15.875mm Forstner bit, to allow movement of the axle without too much play. As part of the decorative aspect, the heads were cut from some steel rivets. These would be glued into holes drilled in the panels to give a more industrial effect.


9

9 All the moving parts were stained, rather than painted, to ensure wear would not expose bare wood after continued use. Gilt cream was also applied to give a more metallic effect.

10 The frame was sprayed with a combination of black, gold and copper paints and assembled with the mechanism installed. Gilt cream was once again added as a highlight.


10

11 A simple handle was made from birch ply, with the addition of a bolt and several nuts. This was then glued and pinned to the smaller gear.


11

12 With the lid fitted, it became apparent that some sort of end stop was required to stop the lid flipping over and disengaging from the mechanism. This old brass fitting seemed appropriate. A magnet – not shown – was also fitted to one of the lifting arms and the corresponding point inside the open lid; this would help to keep the mechanism engaged.


12

13 A 22mm plumbing fitting was drilled and then screwed onto the boss at the other end of the axle; this would provide a seat for the moving light.


13

14 An LED cluster was removed from a torch bought at the pound shop and the connecting cable soldered on. Hot melt glue was then used to insulate the back of the cluster. Part of an old light fitting and a piece of plastic pipe were assembled and sprayed to complete the unit.


14

15 The light switch was made from a small angle bracket and half a spring clip. They only make contact when the lid is in the correct open position. One wire from the cluster will be attached to the screw that holds the spring clip, with the other going to the battery holder. The circuit is completed by the self-adhesive copper tape and a small resistor. This was included to allow the lower voltage light to be powered by a single 9V battery.


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16 The completed light assembly. A counterweight and a small safety chain were added to avoid causing unnecessary strain on the mechanism.


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17 The metal tubes were another skip find, one of these and an offcut of iroko *(Milicia excelsa)* tabletop will become the base of the dresser. A disc and small blank were roughly turned to fit the open tube end; these were then screwed together to form the support for the units base. This was then textured using a rotary burr. This is very dusty work, so I utilised the down draught table I made in *WWP* 99.


17

18 The tube and support was painted and checked for fit.


18

19 Next, a piece of ply was cut for the bottom, drilled, countersunk and marked out for the central support. ➤


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20 The bottom was then coloured and fitted. The screws that can be seen from the bottom of the support are for effect only; the base is properly attached by screws through the base into the support. With the chain temporarily detached, the lid was lifted without bringing the mechanism with it. This made positioning the acrylic mirror easier. The lid magnet can also be seen here.


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21 The tabletop offcut was drilled to accept the mounting bolts for the tube, it was then sanded, routed and coloured. Some gears and clock parts were added to the tube, with room for more embellishment.


21

22 The original leg assembly, with a few additions, was used to create the stool. The padded seat was made by attaching two layers of carpet offcut to a piece of ply and covering with a piece of old leather. Scorched pallet boards, part of the other tube and an old wooden barometer surround, helped to bring the whole thing together.


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23 A few additions to the stool and the dresser is ready to go! ■


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