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Choosing the right hardware

Part 2: locks

Peter Sefton explains why it helps to know your left throw from your right when choosing the best lock for the job

In this, the second in a series of four articles about choosing the right hardware, I look at a selection of locks from traditional brassware, through to more contemporary rare-earth magnets and push latches.

Peter Sefton

Peter Sefton teaches furniture making for all abilities on both long and short courses. For more information visit www.peterseftonfurnitureschool.com.

Traditional use of locks

Furniture locks historically came into widespread use when householders started to employ domestic staff, and wanted to keep their valuables safe. This, of course, also led the

craftsman of the time to come up with ingenious forms of hidden compartments, and is still a very personal feature that a craftsman can incorporate within his furniture today.

Pressed or extruded locks

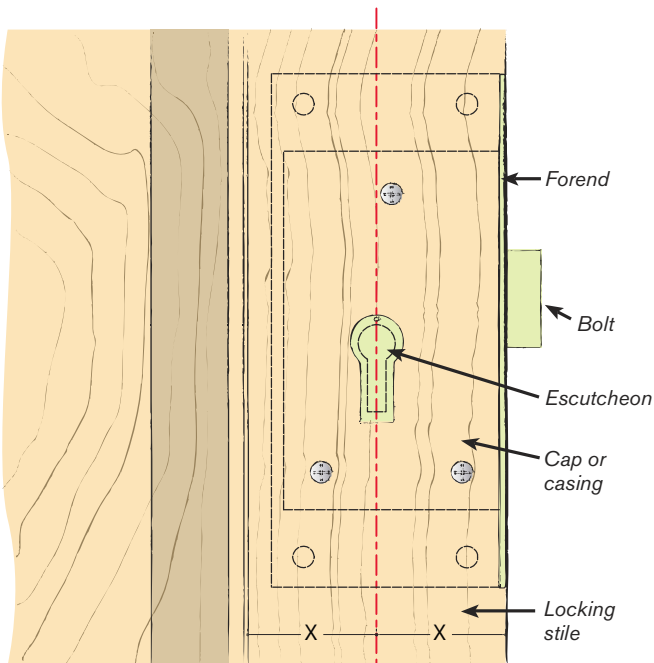


The extruded lock to the right is generally the choice for a quality project, but does cost more

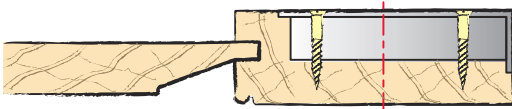
As with hinges, traditional locks can be bought either pressed or extruded. The pressed type are made of sheet brass, bent over a former with a steel cap to enclose the locking mechanism, often attached to the

pressed brass cover by unsightly protruding steel rivets. The extruded type has crisp, clean edges with a brass cap enclosing the locking mechanism, attached with fine brass screws with no protrusions. ▶

► Positioning of locks



Distance to the centre line of the pin can be matched to the centre line of the door



Drawing shows the outside of the door. The lock is right-handed. It is fitted to the right-hand stile of the door, and throws to the right when locked

The position of a door lock may be dependent on the location of a door within a piece of furniture. Generally speaking, a lock would be positioned centre height-wise, within a locking stile as this would be the strongest. However, for aesthetics you may decide to position it either above or below centre.

The lock would be fitted in the locking stile of the doorframe as opposed to the hinging stile. Another consideration is that some of the locks we will be discussing here will need to be ordered as either left or right handed.

You may need to make a choice between aesthetics and strength in the positioning of your lock.

Levers

The cheapest and least secure locks have only one lever, standard furniture locks have two levers, and some have up to four. Household internal doors will have three lever locks whilst your external house doors normally require five levers for insurance purposes.

Top security locks required by banks may require 12 levers, which make them very tricky to pick or to replicate the keys.

Locks are usually specified with a quantity of 'differ', meaning the particular style of lock is manufactured with perhaps only one key or up to 200 keys or differs. So you can order a less secure lock with one differ, and know that everyone purchasing that lock is given the same key as you, or you could order a more secure lock with, say, 12 differs, meaning you will be given one of 12 different keys to open your lock by the manufacturer.

You can also specify a number of different locks, which have only one key to open them all. This is specified as, 'keys to pass/keyed alike'. For example you may build a library where the client only wants one key to open all the cabinet doors within the room.

Straight cupboard lock

The easiest type of traditional door lock to fit is the straight cupboard lock which is placed over the escutcheon hole and screwed into position with no need to chop it into the back of the door stile.

This lock doesn't need to be

ordered handed (left or right).

The locking bolt shoots 'straight' through the lock's cap or casing as the key is turned in a tumbler action. It is easy to fit and a reasonable cost to buy but is a little unsightly when the door is open.

Cut cupboard lock

The cut cupboard lock is a better quality lock than the straight version. This lock requires cutting into the back of the door stile, flush with the inner surface and edge, and therefore looks a lot neater than the straight lock. This lock does require more skill to fit, and must be ordered as either left or right handed. It is available in either pressed or extruded brass.

Mortise cupboard lock

This lock is the neatest of the traditional door locks, as the only part that is seen is the forend or face of the lock, with the bolt that shoots through it. This lock is a smaller furniture version of our household mortised lock that you may find on your front door, and is fully recessed in the edge of the door, making it both secure and clean looking. This lock must be ordered either left or right-handed and is usually extruded, or solid drawn brass.



Straight cupboard lock (left) cut cupboard lock (centre) mortise cupboard lock (right)

Drawer lock chisel



If you can't cut the mortise to accept the lock's bolt before you assemble the piece of furniture, you may need to employ other tools, especially if a standard chisel is too large



An impromptu solution to cutting locks in to tight spaces can be found in unwanted planer knives and even an old plough blade

I try to cut the mortise to accept the lock's bolt before I assemble a piece of furniture, but sometimes this isn't possible. On such occasions a standard chisel is often too large to get inside the cabinet or drawer, so other tools are required. The traditional drawer lock chisel has now been improved by Lie-Nielsen. They make a pair

of chisels made from O-1 tool steel with cutting edges at 90° to the shaft, with one edge at right angles to the other. They have a flat surface behind each blade for a hammer blow, and come as left and right-handed. They are 100mm long, blade widths are 12.7mm and 6.35mm, and the down-turned ends protrude by 25mm.

Drawer or till lock

Drawer locks are practically the same as cut cupboard locks but the keyhole is now at 90° to the lock's forend. Some cut cupboard locks have keyholes cut in two positions, and can be used as either cupboard or drawer locks.

Till locks usually come with the keyhole at 90° to the forend, and traditional ones would be sprung, and have a rounded locking bolt to automatically lock when being closed, as a Yale lock does.

Care must be taken when marking out these locks as the keyhole is often off-centre within the lock. You may wish to buy a brass striking plate to receive the lock's bolt, either fitted to a bolted door or into the cabinet side, as this gives a clean and long lasting home for the door's bolt (that would otherwise damage and wear the cabinet or door).



Some cut cupboard locks can be used as either drawer locks or cupboard locks as they have two keyholes cut in two positions. For a long-lasting home for the bolt, buy a brass striking plate



Nickel cylinder cam lock with 200 differs. Available in either clockwise or anti-clockwise variations

Suppliers

Straight cupboard lock supplier

Web www.isaacclord.co.uk

Product No. 49250

Price £14.63 inc VAT

Cut cupboard lock supplier

Web www.martin.co.uk

Product No. 243B

Price £23.81 inc VAT

Mortise cupboard lock supplier

Web www.isaacclord.co.uk

Product No. 262L50

Price £21.56 inc VAT

Extruded till lock supplier

Web www.isaacclord.co.uk

Product No. 24250

Price £10.63 inc VAT

Till lock supplier

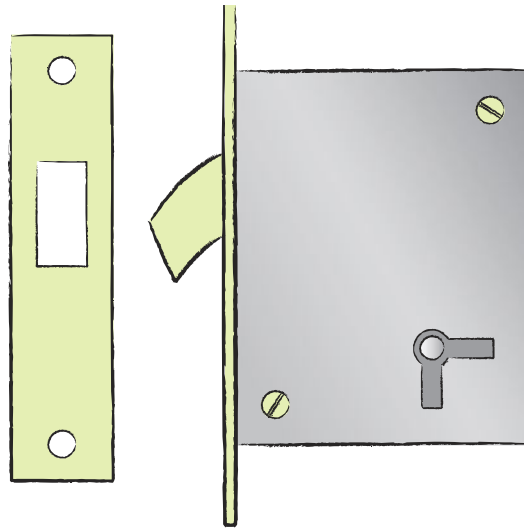
Web www.martin.co.uk

Product No. 575A

Price £10.73 inc VAT

► Hook bolt cupboard lock

If a sliding door or tambour is being fitted, a hook bolt lock may be required. The bolt is curved in shape and hooks into the receiving plate as it is thrown by the key.



The hook bolt cupboard lock is supplied with the receiver plate

Roll top desk lock

This lock is located in the edge of the rotating cylinder, and the sprung receiver plate is fixed flush within the desktop. When the lock is opened, a sprung flap closes off

the receiver plate's mortise hole leaving a neat looking desktop. The lock is supplied with a very basic, but ornate key. However, this lock is now rarely used.

Suppliers

Brass slotted striking plate supplier

Web www.isaacclord.co.uk
Product No. 50SP
Price £1.58 inc VAT

Nickel cylinder lever lock supplier

Web www.isaacclord.co.uk
Product No. 23504654
Price £11.28 inc VAT
Nickel Rosette
Product No. 21919675
Price £1.70 inc VAT

Roll top desk lock supplier

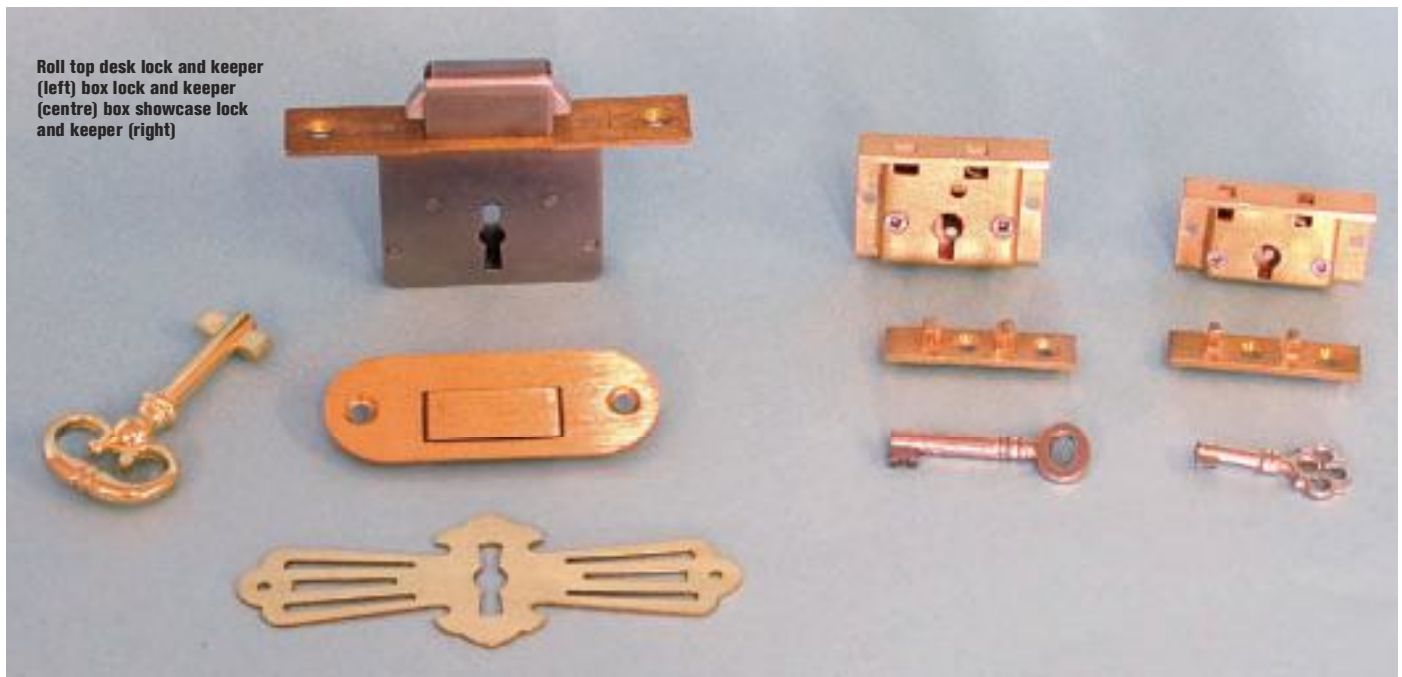
Web www.martin.co.uk
Product No. 3161
Price £41.18 inc VAT

Box lock supplier

Web www.martin.co.uk
Product No. 245A
Price £24.24 inc VAT

Box showcase lock supplier

Web www.martin.co.uk
Product No. 431A
Price £40.40 inc VAT



Roll top desk lock and keeper (left) box lock and keeper (centre) box showcase lock and keeper (right)

Box locks

Box locks have a link plate with hooks that catch the brass hooks or links that are thrown by the lock's movement, when the key is turned. Care must be taken to work accurately fitting these locks, as the positioning of the receiver plate is critical for the smooth operation of

the lock. Again these are available in both pressed and extruded qualities, ranging in size from 38mm to 64mm.

The measurement refers to the length of the lock across the forend. The depth and distance to the pin are also considerations when choosing the lock.

Box showcase locks

These locks are the same as box locks, but tend to be very narrow in height, which makes them suitable for smaller boxes, and they come with more ornate keys than the usual hoop style. A showcase box lock 38mm long may be 19mm high and 12.5mm to the centre of the pin.

Contemporary box locks



Ian Hawthorne's small box locks have a nickel-plated finish on the forend and link plate, with screws and keys to match



These locks look great, and with careful routing, are easy to fit. This one is a nickel box catch

To fit this box lock use a 9mm cutter in your router table, and set the router fence so the lock will be in the middle of the box's side thickness. Set the height of the cutter to 2.15mm above the table to allow the forend to sit flush within the box's inner edge. Then route a slot the length of the forend, centred on the box lengthwise. If you use stops on the router fence for this they can also be used to fit the strike plate in the box top, but reduce

the cutter height to 1.5mm to match the forend's thickness.

Use a 7mm router cutter to give a 3.5mm deep clearance for the hook in the box top, and use the same cutter to a depth of 20mm – in a series of cuts – to get a 20mm deep mortise to accept the lock's casing in the box bottom. Make sure this mortise is shorter than the forend's length to leave a good fixing for the screws to be attached to the lock.

Magnetic catches

Traditional magnets have always had a feeling of poor quality mass-produced furniture about them, but I have used the cylinder magnet catches, which have now been updated and improved with the introduction of rare-earth magnets.

Rare-earth magnets do not lose their strength, and are made from alloys of rare-earth elements. They are very brittle and prone to corrosion so are normally plated or coated for furniture use. Their high strength means you can use very small magnets, and bury them below surface veneer, wooden plugs or leather to disguise them and stop the harsh connecting click. They can be used either in pairs if you need high strength or singularly with a steel dowel or washer for connection. They can also be placed onto the back of existing magnets to give them new life.

Push latches

Push latches can be used when a cabinet requires no handles on the drawers or doors. The door or drawer needs to be able to push into the cabinet by a couple of millimetres so that the catch can then push the door back outside

the line of the carcass, and a finger grip can be made on the inside edge of the door. These Blum push latches are the most unobtrusive I have found when drilled into a shelf front edge, but are still not the best looking product.



Cylindrical magnet catches, rare-earth magnets and Blum push latch

Suppliers

Nickel box locks supplier

Web www.hawthornecrafts.com
Product No. SN-L
Price Lock - £10.00 inc VAT

Nickel box catch supplier

Web www.hawthornecrafts.com
Product No. S-C
Price £9.00 inc VAT

Cylindrical magnet catches supplier

Web www.isaacclord.co.uk
Product No. 273, white or brown
Price 63p inc VAT

Rare-earth magnets supplier

Web www.axminster.co.uk
Product No. 127197
Price 60p inc VAT

Blum push latch supplier

Web www.isaacclord.co.uk
Product No. 970.1002, grey nylon
Price £3.37 inc VAT

F&C

Next month we look at shelf supports and knockdown fittings.