Is wax the only finish you need?

COURTESY YANNICK CHASTANG UNLESS OTHERWISE STATED

Not quite but Yannick Chastang suggests three different formulas for producing your own finish wax

Wax is a wonderful material that's been used for thousands of years to enhance and protect wood surfaces. There are many waxes available on the market, either as ready-made products or in raw material form, all with varying qualities and characteristics. The application of a well-chosen wax can achieve various results; it can impart shine, can dull or can offer more or less protection. Not only can wax be applied directly on to the wood surface, it can also be applied on top of a protective layer to alter the sheen of the polish.

In the field of restoration and conservation a wax finish is becoming increasingly popular as, not only is it easily reversible, but it's also closer to the original 18th-century practice.

This desk from around 1900 has received a wax finish directly on to a shellac polish

Wax is a perfect one-stop finish for this 17th-century marquetry commode

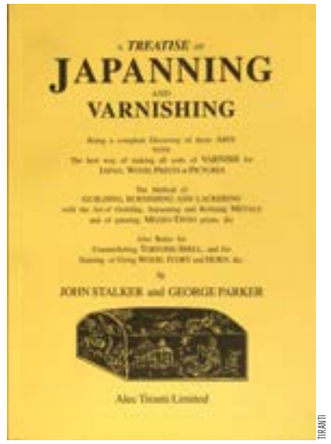
One should remember that French polishing – the application of shellac with a rubber to impart a high shine – is almost certainly an invention of the second quarter of the 19th-century and not appropriate for antiques that predate 1820.

The problem with shellac

Eighteenth-century cabinetmakers finished their pieces with an application of shellac or sandarac, however both presented difficulties. The shellac available was not de-waxed – a process that lightens the shellac. So it remained dark and was generally reserved for dark woods such as rosewood or mahogany. While sandarac has the virtue of being a clear resin it's very difficult to apply and takes a long time to dry, if ever, often remaining tacky and prone to collecting dust. A clear transparent lacquer was highly regarded by the 18th-century cabinetmaker and recipes were published in Stalker and Parker *A Treatise of Japanning and Varnishing,* London, 1668 and Roubo's *L'Art du Menuisier en Meubles,* Paris, 1772-1774 – both available in modern reprints. Both publications suggest reserving the use of lacquer to the highest quality furniture of the time. However, recent research into 18th-century cabinetmakers' bills suggests that wax was generally the finish of choice, favoured even for royal furniture.

Suppliers

Stalker and Parker: A Treatise of Japanning and Varnishing
Product no. 990-506
Price £8.50
From www.tiranti.co.uk
www.laverdure.fr
www.kremer-pigmente.de



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Three types of wax

There are three types of wax that are generally used in the production of wax polish:

1. Waxes of mineral (petrol) origin such as microcrystalline or paraffin
2. Waxes of vegetable origin such as carnauba
3. Waxes of animal origin such as beeswax or shellac wax, which is obtained from shellac.

The three most important properties of any wax are hardness, acidity and reversibility. For the cabinetmaker interested in enhancing the beauty of his wood surface his choice of wax will be primarily dictated by hardness. As a basic principle the softer the wax, the easier it is to apply. This is largely dependant on the amount of solvent used.

However, a soft wax will always remain soft and tacky on the surface, it will attract dust and will be impossible to burnish to a high shine. A hard wax, by contrast, will be extremely difficult to apply but, once achieved, the wax will lay in a hard, solidified film that can be burnished to a high degree of shine. Ready-made waxes available from various manufacturers are no more than a combination of hard and soft waxes in solvent. Quite often the only thing distinguishing them from one another is the price, which depends on the quality of the waxes chosen and the amount of cheap solvent added.

HEMERA/THINKSTOCK

Our friends the bees produce a great natural product but remember it should not be used on metals

ISTOCKPHOTO/THINKSTOCK

Turpentine is the product of distilled resin harvested from pine trees, sometimes called turps

ISTOCKPHOTO/THINKSTOCK

Petroleum wax is used extensively in products around the home such as cosmetics and candles

Why make your own?

There are many different types of wax and knowing their properties is essential. As a furniture conservator I need to be totally cognisant of what substances I'm using. To use a cooking analogy, if you buy a ready-made meal and you don't like it you won't know why. There may be a list of ingredients and you may have your suspicions about the level of salt, sugar, spices, or even miracle flavour enhancers such as MSG, but without knowing what exactly was put into the dish it will remain a mystery.

However, if you've cooked the meal yourself, you'll know exactly what you've put in it and how to go about improving it. Putting aside the conservation issues and considering the ease of making your own and the advantages of being able to manipulate the recipe, why not try making your own? Fortunately there exist many publications detailing the properties of each wax and with a little research and experience you can certainly develop your own preferred wax.

What's in your wax?

A high ratio of solvent to solid will make for an easy and immediately rewarding wax such as that applied by a housemaid to domestic furniture. The solvent wets the wood thereby immediately enhancing its appearance. However, once the liquid evaporates there remains very little solid wax available to be burnished and any long-term effect is non-existent. More expensive waxes can offer better results but you should be sure to use the right wax for the job. Animal waxes such as beeswax are extremely acidic and any wax applied on to metal hinges or gilded bronze will not protect it, but can cause the opposite effect resulting in degradation over a fairly short time.

Reversibility concerns the long-term survival of an object and ease of removal of a wax may also need to be taken into account.

Solvents

Having said that the wax itself is hard or soft, the choice of the solvent can also alter the properties of the finished wax. The two most widely available are white spirit and turpentine. Turpentine, which was historically favoured and combined with beeswax, is slowly being replaced as it's believed to be carcinogenic. However with appropriate protection, and considering the minimal use I make of it, I still regard it as a useable product. Turpentine is obtained from natural sources, being the sap of softwood pine. Given the non-volatile components of natural turpentine, the use of turpentine in wax recipes adds flexibility and ease of application without loss of sheen. Nowadays this could almost be called a plasticiser.

Silicone-based plasticisers are common components of ready-made wax. Although silicone has come a long way since its first appearance, it's still not regarded as easily reversible and I therefore prefer to avoid it. White spirit is a petroleum distillate that dissolves the wax while adding virtually nothing to it so that when it evaporates the wax will harden back to its original properties.

Choosing the ingredients

When making your own wax you'll need to include a soft wax for ease of application, a hard wax for shine and protection and a solvent to dissolve the wax and enable its application as a thin film. My recipes play with the amount of turpentine and white spirit in the same way that I play with combinations of hard and soft wax. Having decided which wax you want to use, be it beeswax, carnauba, shellac or microcrystalline, the ease of application and degree of shine can be adjusted by the proportions of wax and the amount of solvent used. I highly recommend playing about with the quantities to find what works best for you, but here are some of my own.

A block of brown beeswax (1); biscuits of high quality white beeswax (2); shellac wax (3); carnauba wax (4); the mix is stored in an airtight container (5)

1. Soft wax

This blend produces a wax with a nice smell, it doesn't offer much protection but wets wood sufficiently. This is a general wax, particularly useful for interiors and drawers. It's for solid, unvarnished wood only and is acidic so mustn't be used on metal.

200g beeswax
100g white spirit
300g turpentine

2. Hard wax

This wax is suitable for new pieces or for imparting a high shine to antiques. It offers a good level of protection. I use this wax when restoring for dealers. Like the soft wax recipe it's acidic and shouldn't be used on metal. This wax can be applied on top of a lacquer finish.

200g beeswax
100g shellac wax
200g white spirit
100g turpentine

3. Medium hard wax

A blend that will offer good protection but can't be burnished to a high shine. It's very useful for antiques that are part of a collection as it will allow the newly conserved piece to blend with the old. I favour this wax for any museum pieces with which I am entrusted and it should be applied on top of a shellac finish or polish. This wax is also acidic and should not be used on metal.

200g beeswax
60g shellac
150g white spirit
150g turpentine

4. Microcrystalline

This product can be used on its own but it remains very soft. It can be combined with white spirit. Although it can be used on top of a shellac finish it will give a matt finish. Unlike the other recipes, it's safe to use on metal and is generally favoured by conservators.

It can be helpful to keep track of the recipe by labelling the jar

Mixing up

Having selected and weighed all the ingredients the easiest and fastest method of preparation is to melt the wax, preferably in a bain-marie comprising a Pyrex bowl over a saucepan of hot water, before slowly adding the solvents. If no bain-marie is available preparation can be done in a saucepan over direct heat. However this is not recommended as the wax and the solvents are flammable. The importance of having a fire extinguisher to hand is demonstrated by my early experiences of melting wax over an electric plate. Not only were the 50cm high flames distinctly alarming but the resulting fire alarm caused the complete evacuation of tourists from the Louvre which was above the workshop.

As can be seen, all my waxes have a beeswax base. Beeswax varies dramatically in quality and price. I tend to favour the expensive, lighter coloured wax. Traditionally this was the wax collected from the hives early in the spring, however nowadays lightness of colour is achieved by sun or chemical bleaching rather than depending on the time of year of harvesting. Cheap dark beeswax is fine for use in general woodworking or on dark wood.

I generally use shellac wax for the hard element obtained from Laverdure in Paris or Kremer Pigments in Germany. I know that many of my colleagues are happily using carnauba that has a similar hardness. In my experience the bright yellow coloured carnauba will form light coloured residues in the grain of the wood that can be an issue for dark timbers like ebony. This problem doesn't occur with shellac wax. It's also possible to dye your wax with a chosen pigment or dye but beware of the risk of the pigment migrating and staining the wood.

An old glue pot will make a prefect bain-marie

Applications

A soft cloth dampened with white spirit makes applying hard wax a little easier

The application of wax will be eased by the softness of the wax however, in all cases, the secret of a good wax finish lies in not applying too much. Wax should be applied with a rag and, if necessary, the application marks can be smoothed by wetting the rag slightly with white spirit. When using a very hard wax the applied wax can be smoothed using a rubber in the traditional French polishing style i.e. a woollen pad covered with a rag then impregnated with white spirit. Unlike varnish, layering the wax is not going to produce anything different and one coat is sufficient. Once fully dried the surface of the wax can be burnished with another clean, soft rag. However, for that extra professional look try burnishing with the sheepskin pad on the Festool Rotex tool.

In conclusion, wax is a quick and easy way of finishing that has great potential. However, it must be said that no wax or varnish will ever look great on a poorly finished piece of furniture. Unless the grain of the wood has been raised again and again before sanding, the open grain of the wood will prevent the wax achieving a nice surface. In my workshop new pieces of furniture are sanded with 200/300 grit paper, then wetted with warm water before being sanded with 300/400 grit paper. This process is repeated 3-4 times allowing the wax finish to properly showcase the natural beauty of the wood. F&C