best). The perfume must now be added, and may be either essence of lemon, bergamot, or any other scent preferred; about three drachms will suffice for the quantity of fat warmed. After this, with a wooden spoon, or knife, the mixture should be continually stirred or beaten until it be thoroughly cool.

(2) One pint of olive oil, two ounces of white wax, one drachm of tincture of cantharides; oil of roses, two drops (or any other scent preferred). Put the oil in a jug, on a hob, and dissolve the wax in it, and then mix in the other ingredients; to be poured into the pots while hot.

To make Hard Soap.

Pour four gallons of boiling water over six pounds of washing soda (sal soda) and three pounds of unslacked lime. Stir the mixture well and let it settle until it is perfectly clear. It is better to let it stand all night, as it takes some time for the sediment to settle. When clear, strain the water, put six pounds of fat with it, and boil for two hours, stirring it most of the time. If it does not seem thin enough, put another gallon of water on the grounds, stir and drain off, and add as is wanted to the boiling mixture. Its thickness can be tried by occasionally putting a little on a plate to cool. Stir in a handful of salt just before taking it off the fire. Have a tub ready soaked, to prevent the soap from sticking, pour it in, and let it settle until solid, when you will have from the above quantity of ingredients about forty pounds of nice white soap.

WAXES.

Black Sealing-wax.

1. Shell-lac 2 parts; yellow resin 3 parts; ivory black 2 parts. Powder fine, and mix by melting carefully.

2. Yellow resin 15 pounds; lard 1 pound; beeswax 1 pound; lamp-black 3 pounds. Mix with heat.

Soft Sealing-wax.

Yellow resin 1 part; beeswax 4 parts; lard 1 part; Venice turpentine 1 part; colour to fancy. Mix with a gentle heat.

Gold Coloured Sealing-wax.

1. Bleached shell-lac 1 pound; Venice turpentine 4 ounces. Melt, and add gold coloured talc as required.

2. Bleached shell-lac 3 pounds; turpentine 1 pound; Dutch leaf, ground fine, 1 pound or less. Mix with a gentle heat. The leaf should be ground or powdered sufficiently fine without being reduced to dust.

Green Sealing-wax.

Shell-lac 2 parts; yellow resin 1 part; verdigris 1 part. Powder and mix by heating slowly.

Scented Sealing-wax.

1. Balsam of Peru 2 parts; sealing-wax composition 130 parts. Mix with a gentle heat.

2. Sealing-wax composition 99 parts; essence of musk 3 parts. Add the latter when the wax is cooling, and stir well.

3. Wax composition 96 parts; oil of lavender 4 parts; oil of lemon 3 parts. As before.

Blue Sealing-wax.

Shell-lac 2 parts; smalts 1 part; yellow resin 2 parts. Powder, and mix carefully with heat.

Red Sealing-wax.

1. Shell-lac 2 parts; resin 1 part; vermillion 1 part. Powder fine, and melt over a slow fire.

2. Yellow resin 14 parts; Venetian turpentine 4 parts; beeswax 1 part; red or orange lead 5 parts. Mix with heat.

3. Oil of turpentine 1 part; lard 1 part; vermillion 2 parts; gum-lac 12 parts. Mix with a gentle heat.

4. (Very fine.)—Shell-lac 4 parts; Venice turpentine 1 part; Vermillion 3 parts. Mix.

Engravers' Border Wax.

Beeswax 1 part; pitch 2 parts; tallow 1. Mix.

Black Bottle Wax.

Common resin 20 pounds; tallow 5 pounds; lamp-black 4 pounds. Mix with heat.

Red Bottle Wax.

Common resin 15 pounds; tallow 4 pounds; red lead 5 pounds. Mix with heat. Any colour may be employed.

Marbled Sealing-wax.

Take wax of different colours and melt them in separate vessels, and when they begin to cool a little stir them all together, and form the mass into sticks.

Practical Memoranda.

Absorption of Heat.

The following table shows the influence of surface as to the capability of a body being warmed, and supposing 100 incident rays of heat to fall on a surface of lampblack, and the whole to be aborbed.

Blacklead would also absorb	.....	100
Writing paper	"	98
Common glass	"	90
China Ink	"	85
Rock salt	"	72
Silvered glass	"	27
Mercury	"	23
Polished iron	"	23
Polished zinc	"	19
Polished steel	"	17
Platina, slightly pol.	"	24
" in thin leaves	"	17
Tin	"	14
Speculum metal, pol.	"	14
Brass, highly polished	"	7
Copper	"	7
Gold	"	5
Silver, polished	"	3

Lampblack absorbs all the rays of heat from whatever source they fall upon it, and the absorptive power of metallic surfaces, though small, is uniform for different sources. The less intense the source of heat, the greater is the amount usually absorbed. Franklin observed that when peices of cloth of different colours, but the same size and texture, were placed on newly fallen snow, the snow melted with greatest rapidity under the cloths of darker colour, the absorption being greatest with black, less with blue, still less with green, and diminishing with purple, red, yellow, and white."—*Tomlinson.*