CHAPTER SEVENTH.

PAINTS, LACKERS, ETC.

COMPOSITION AND PREPARATION.

The proportions are given for 100 parts by weight of prepared colors, &c., when not otherwise designated.

A gallon of Linseed oil weighs	7.5 lbs.
Spirits of turpentine	7.25 "
Japan varnish	7. "
Sperm oil	7.12 "
Neatsfoot oil	7.63 "

Boiled Oil.

Raw linseed oil	103.
Copperas	3.15
Litharge	6.3

Put the copperas and litharge in a cloth bag and suspend it in the middle of the kettle. Boil the oil 4½ hours, with a slow, even fire, so that it may not be burnt: then let it stand and deposit the sediment.

Dryings.

Mixture of copperas and litharge taken from the boiled oil	60
Spirits turpentine	56
Boiled oil	2

The mixture taken from the boiled oil to be ground, and mixed with the turpentine and oil.

Putty.

For filling cracks in wood:

Spanish whiting, pulverized	81.6
Boiled oil	20.4

Made into a stiff paste. If not intended for immediate use, raw oil should be used, as the putty made with boiled oil hardens quickly.

Another kind of putty for the same purpose is made by mixing fine sifted oak saw dust with linseed oil which has been boiled until it assumes a glutinous consistency.

Grey, or *Stone Color*, (for Buildings.)

	1st.	2nd.
White lead, in oil	78.	100.
Boiled oil	9.5	20.
Raw oil	9.5	20.
Spirits of turpentine	3.	
Turkey umber	0.5	
Lampblack	0.25	0.25
Yellow ochre		3.

Mixed like the lead color.

A square yard of new brick work requires, for 2 coats, 1.1 lb.; for 3 coats, 1.5 lb.

Cream Color, (for Buildings.)

	1st coat.	2nd coat.
White lead, in oil	66.66	70.
French yellow	3.33	3.33
Japan varnish	1.33	1.33
Raw oil	28.	24.5
Spirits turpentine	2.25	2.25

square yard of new brick work requires, for 1st coat, 0.75: for 2nd coat. 0.3 lb.

Wash for Buildings.

Boil half a bushel of flaxseed in 5 gallons of water, and use this for slaking 1.5 gals. of lime. Add 1 gal. of salt, 1 gal. of fine sand, and as much water as may be necessary to thin it. Stir it frequently to prevent the sand from settling.

To give this wash a *cream color*, add yellow ochre; for a *grey or stone color*, add lampblack, previously deadened with whiskey, and a small quantity of ochre.

Linseed oil, with a small quantity of glue mixed in it, is sometimes used, instead of flaxseed.

To make the wash incombustible, add 1 lb. of alum and ¾ lb. of potash.

Lacker for Iron Ordnance.

1.—Black lead, pulverized	12
Red lead	12
Litharge	5
Lamplack	5
Linseed oil	66

Boil it gently about twenty minutes, during which time it must be constantly stirred.

Lacker for Iron Ordnance.

2.—Umber, ground	3.75
Gum shellac, pulverized	3.75
Ivory black	3.75
Litharge	3.75
Linseed oil	78.
Spirits of turpentine	7.25

The oil must be first boiled half an hour. The mixture is then boiled 24 hours, poured off from the sediment and put in jugs corked.

3.—Coal Tar, (of good quality,)	2 gals.
Spirits turpentine	1 pint.

The turpentine to be added in small quantities during the application of the lacker.

In applying lacker, the surface of the iron must be first cleaned with a scraper and a wire brush, if necessary, and the lacker applied hot, in two thin coats, with a paint brush. It is best done in summer.

Old lacker should be removed with a scraper, or by scouring, and not by heating the guns or balls, by which the metal is injured.

About 5 gallons of lacker are required for 100 field guns and 1,000 shot; about 1 quart for a sea-coast gun.

Lacker for Iron Ordnance, (used in the British service.)

Anti-corrosion	40 lbs.
Grant's black, ground in oil	4 "
Red lead, as a dryer	3 "
Linseed oil	4 gals.
Spirits turpentine	1 pint.

This mixture when well stirred and incorporated, will be fit for use; but as by long keeping in this state it becomes hard, no more should be mixed than may be required for immediate use.

Anti-corrison:—Slag from iron foundries, pounded	12
Chalk	12
Soot, common	1

Lacker for Small Arms, or for Water Proof Paper.

Beeswax	13 lbs.
Spirits turpentine	13 gals.
Boiled linseed oil	1 "

All the ingredients should be pure and of the best quality. Heat them together in a copper or earthen vessel, over a gentle fire, in a water bath, until they are well mixed.

Lacker for bright Iron Work.

Linseed oil, boiled	80.5
Litharge	5.5
White lead, ground in oil	11.25
Rosin, pulverized	2.75

Add the litharge to the oil; let it simmer over a slow fire 3 hours; strain it, and add the rosin and white lead; keep it gently warmed, and stir it until the rosin is dissolved. Apply it with a paint brush.

Varnish for Holsters, Scabbards, &c., (or Patent Leather.)

For 1st and 2nd coats:

Prussian blue, in lumps	4.
Sugar of lead	0.7
Aqua fortis	0.7
Linseed oil boiled	70.
Spirits turpentine	24.6

The ingredients, except the turpentine, are boiled together in an *iron* kettle 8 hours, when the mixture will assume a brilliant black color. When the varnish is nearly cool, stir in the turpentine. The kettle in which the varnish is made should be of a capacity to hold double the quantity of varnish to be boiled.

For the 3d or finishing coat.—COPAL VARNISH.

Gum copal, (in clean lumps)	26.5
Boiled linseed oil	42.5
Spirits turpentine	31.

This varnish is made in a *copper* vessel, smallest at top, in the form of a still. Put the copal in the vessel, set it on a charcoal fire for one hour, in which time it will melt, and all the watery particles will evaporate. Add the oil whilst the copal is warm, but not boiling hot. When nearly cool, add the turpentine, which will give it a proper consistency for use.

For 5 lbs. copal and the proper proportions of oil and turpentine, the vessel should hold six gallons.

Japan Varnish.

Litharge	4
Boiled oil	87
Spirits turpentine	2
Red lead	6
Umber	1
Gum shellac	8
Sugar of lead	2
White vitriol	1

Japan varnish is generally purchased from the paint sellers. It is made by boiling over a slow charcoal fire, for five hours, all the ingredients, except the turpentine, and a small portion of the oil; the latter is added as required to check the ebullition and allay the froth which rises to the surface. It must be continually stirred with a wooden spatula, and great care is necessary to prevent it from taking fire.

The turpentine is added after the varnish is nearly cool, and it is stirred well in. The varnish must be put in demijohns or close cans, and kept tightly corked.

Grease for Carriage Wheels.

Hog's lard, softened, (if fresh,) by working it.

If this cannot be procured, *tallow* or other grease may be used; if hard, it should be melted with fish oil.

About 1 lb. of grease is required for four wheels.

Booth's Patent Grease for Railway Axles.

Water	1 gal.
Clean tallow	3 lbs.
Palm oil	6 lbs.
Common soda	½ lb.

Or, Tallow	8 lbs.
Palm oil	10 lbs.

To be heated to about 210°, and to be well stirred until it cools down to 70°.