

1.1 Small tools and equipment

1.1.1 Painters' hand tools

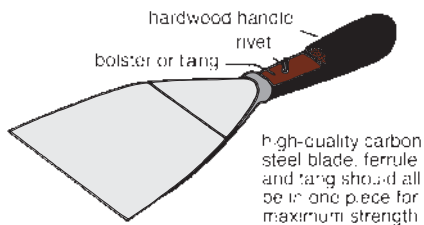


Fig. 1.1 Construction of a good-quality painter's knife

Stripping knife or scraper (Fig. 1.2)

Blades must be capable of taking and retaining a good edge.

Size 25 mm, 38 mm, 50 mm, 68 mm, 75 mm and 100 mm wide.

Use To remove old wallpaper, old paint films or loosely attached deposits.

Filling knife (Fig. 1.3)

Similar to a stripping knife in appearance but having a thinner gauge, specially treated metal blade which is more flexible. The blade need not be sharp, but must be thin and true, without any nicks.

Size Up to 150 mm wide.

Use To apply filler to open-grain timbers and small holes or shallow indentations in uneven surfaces.

Care When not in use, protect blade edge with a timber, soft aluminium or plastic cover.

Continental filling blade (Fig. 1.4)

Rectangular, flexible blade set in plastic handle, which gives rigidity.

Size 25 mm, 50 mm, 75 mm and 100 mm wide.

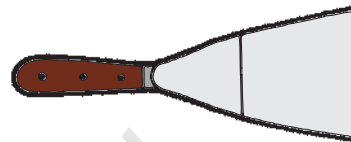


Fig. 1.2 Stripping knife

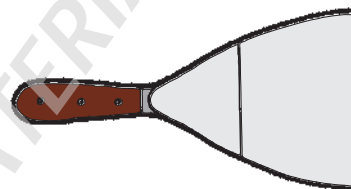


Fig. 1.3 Filling knife

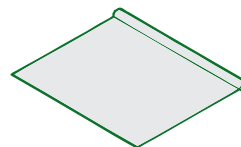


Fig. 1.4 Continental filling blade

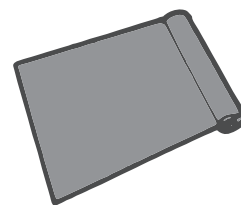


Fig. 1.5 Caulking tool

Use To apply filler to open-grained timbers, small holes and shallow indentations in uneven surfaces.

Caulking tool (Fig. 1.5)

Rigid plastic blade set in a wooden or plastic handle.

Size 200 mm, 250 mm and 300 mm wide.

Use For general filling and bedding-in scrim tape along plasterboard or fibreboard joints before texturing, or other forms of direct decorating on to dry-lined surfaces.

Palette knife (Fig. 1.6)

Long, narrow flexible blade with rounded end. Should be so balanced that when laid on the bench the blade will not touch the bench top.

Size Blades from 75 to 300mm long.

Use For mixing paint both in tins and on palette boards.

Care Ensure that the end does not become bent or burred over.

Stopping knife, putty or glazing knife (Fig. 1.7)

(Fig. 1.7)

Usually has one side of the blade straight and the other curved (clipped), but can be obtained with a double curved blade.

Size Blade length of either 112mm or 125mm.

Use (i) To force putty and hard stopper into small holes and cracks.

(ii) To bevel facing putties when glazing.

Care If the point becomes worn or burred over, the blade should be reground.

Shave hook (Fig. 1.8)

The head has a bevelled cutting edge round the perimeter and is available in the three shapes illustrated.

Use (i) To scrape paint debris from mouldings, cornices and ornamental beadings, usually in conjunction with paint removers or burning-off equipment.

(ii) To cut out cracks in plaster surfaces prior to stopping.

Care Maintain sharp edge with a file.

Universal scraper (Fig. 1.9)

Short sharp replaceable blade attached to a large handle.

Size Blades between 45 and 80mm wide.

Use To remove old paint, varnish or discolouration from timber surfaces.

Care Edge must always be kept sharp.

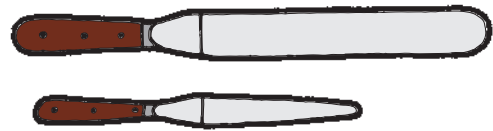


Fig. 1.6 Palette knives

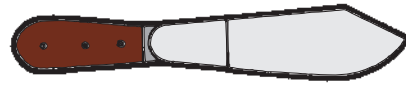


Fig. 1.7 Stopping knife

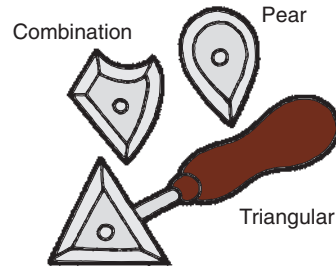


Fig. 1.8 Shave hooks

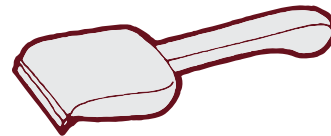


Fig. 1.9 Universal scraper

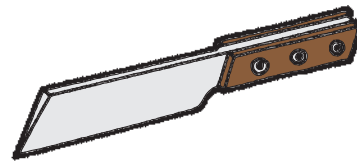


Fig. 1.10 Hacking knife

Hacking knife (Fig. 1.10)

A heavy, rigid metal blade with a leather handle. The back of the blade is flat to take hammer blows.

Size Blades either 100mm or 125mm long.

Use To remove old hard putties before reglazing.

Paint stirrer (Fig. 1.11)

A stiff blade with holes cut along its length. The flat end fits the bottom of the tin, and paint flows through



Fig. 1.11 Paint stirrer



Fig. 1.14 Nail punch

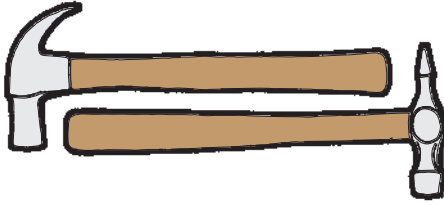


Fig. 1.12 Hammers

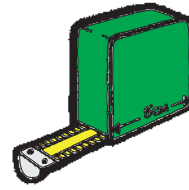


Fig. 1.15 Measuring tape



Fig. 1.13 Pincers

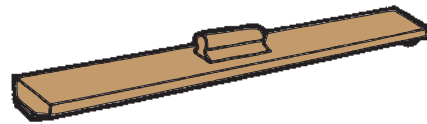


Fig. 1.16 Straight-edge

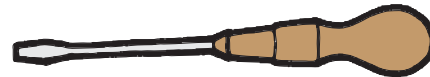


Fig. 1.17 Screwdriver

the holes, mixing the paint more quickly. Usually made of metal, but wooden stirrers are available from manufacturers.

Size Various sizes available up to 600 mm long.

Use To stir paint.

Hammer (Fig. 1.12)

Size 6 oz (170 g) to 8 oz (227 g).

Use (i) With nail punch, chisel and hacking knife.
(ii) To drive in nails, sprigs and pins.
(iii) To remove heavy rust scale.

Pincers (Fig. 1.13)

Size 150 mm, 175 mm or 200 mm.

Use To remove nails and glazing sprigs.

Nail punch (Fig. 1.14)

Size 2 mm, 3 mm, 5 mm point sizes.

Use To punch nail heads below the surface in wood-work before stopping.

Measuring tape (Fig. 1.15)

Coated linen, PVC-coated fibreglass or steel tape.

Size From 2 to 30 m long.

Use To measure for estimating.

Straight-edge (Fig. 1.16)

Straight wooden batten with bevelled edge and two blocks to lift from surface.

Size 300 mm to 1 m long.

Use To guide a lining fitch when running lines (see also Fig. 1.90).

Screwdriver (Fig. 1.17)

Size Blade length about 125 to 150 mm. (Slotted, Pozi-drive and Phillips varieties available.)

Use To remove fittings, window and door furniture before painting and paperhanging.

Wire brush (Fig. 1.18)

(i) Hardened and tempered steel wires in a wooden handle.



Fig. 1.18 Wire brushes

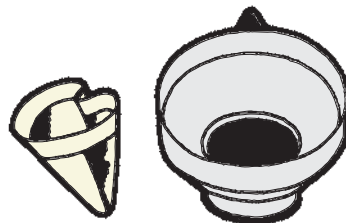


Fig. 1.21 Paint strainers

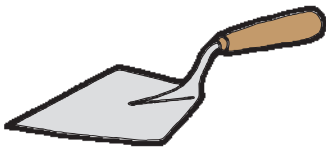


Fig. 1.19 Pointing trowel

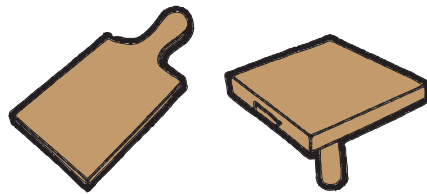


Fig. 1.22 Filling board and hawk

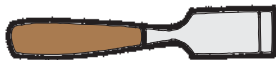


Fig. 1.20 Wood chisel



Fig. 1.23 Rubbing block

- (ii) Bronze wires, which will not cause a spark, for use in areas with a high fire risk.

Size Available in a variety of shapes and sizes from 65 to 285 mm long.

- Use**
- (i) To remove corrosion from iron and steel.
 - (ii) To remove loose deposits from surfaces before painting.

Pointing trowel (Fig. 1.19)

Size 125 mm or 150 mm blade.

Use To make good large cracks and holes.

Wood chisel (Fig. 1.20)

Size Short blade approximately 20 mm wide.

- Use**
- (i) To remove old putties, in place of a hacking knife.
 - (ii) For general purposes during surface preparation.

Paint strainer (Fig. 1.21)

- (i) Metal: tinplate, galvanised iron or zinc. The replaceable copper-gauze straining discs are available in three grades, 30-mesh coarse, 40-mesh medium and 60-mesh fine. Must be cleaned

thoroughly, immediately after use, to prevent the mesh becoming clogged.

- (ii) Cardboard frame and muslin mesh disposable strainer.
- (iii) Nylon cloth or fine muslin stretched over the kettle.

Use To remove dirt and skins from paint and varnish.

Filling board and hawk (Fig. 1.22)

Made of oiled plywood, laminated plywood, metal-covered plywood or thick-gauge plastic.

Size For stopping, approximately 100 × 130 mm; for fillers, approximately 180 × 230 mm – plus the length of the handle.

Use To mix and hold stoppers and fillers before and during application. The hawk is used to hold plaster or sand and cement when filling in large holes and cracks.

Rubbing block (Fig. 1.23)

Made of wood, plastic, cork or rubber (the last-named has the longest life).

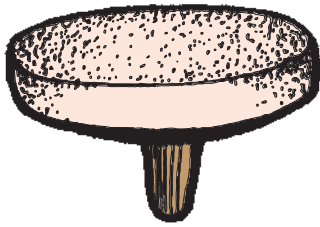


Fig. 1.24 Sponge filling tool



Fig. 1.25 Glasscutter

Size A rubbing face of approximately 70mm wide × 100mm long.

Use To hold abrasive papers, ensuring a flat, smooth surface and providing a more comfortable grip. Also available on a pole for large wall or ceiling areas. Clean-up is minimised with vacuum attachment.

Sponge filling tool (Fig. 1.24)

Circular-shaped synthetic sponge set on a flat stock at right angles to a plastic handle.

Size 200mm diameter.

Use For smoothing the filling compound used in the caulking of plasterboard joints.

Glasscutter (Fig. 1.25)

Single wheel, six wheel and diamond cutters are available. The hardened steel wheel types are most commonly used and are lubricated during use by dipping in white spirit. The six wheel type is in a revolving head to enable blunted wheels to be changed easily.

Use For scribing or scoring the glass at the point where it is to be cut.

Straight-edge (Fig. 1.26)

In use the glasscutter is guided along a straight-edge of varying lengths and made of wood or plastic.

Use Long straight-edges require steadying hands at both ends, and glasscutting becomes a two-person operation, although some have rubber suckers, which grip the glass, holding the

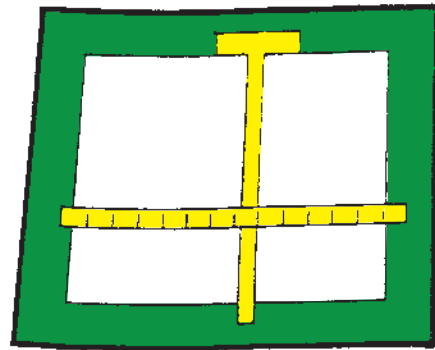


Fig. 1.26 Straight-edge and T-square

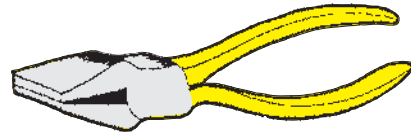


Fig. 1.27 Glazing pliers

straight-edge rigid when in use. When positioning the straight-edge, an allowance of 3mm is made for the width of the cutting head of the glasscutter.

Tee-square (Fig. 1.26)

A straight-edge of wood or plastic with a tee-piece guide at one end set at right angles to the straight-edge.

Use The guide fits the edge of the glass to ensure a cut at right angles to the edge.

Glazing pliers (Fig. 1.27)

Metal pliers with flattened ends to grip the glass.

Use To grip the glass when cutting thin strips. The pliers apply gentle leverage to break the glass along the scored cut made by the glasscutter.

1.1.2 Paint containers

Paint kettle or can (Fig. 1.28)

Made of galvanised sheet iron, black sheet steel, zinc, aluminium alloy or plastic.

Size Available with 125 mm, 150 mm, 180 mm, 200 mm diameter, or holding approximately $\frac{3}{4}$, 1, 1 $\frac{1}{2}$, 2 $\frac{1}{2}$ litres of paint.

Use To hold a convenient quantity of paint decanted from manufacturer's container.

Care Clean out thoroughly with appropriate solvent immediately after each job. Aluminium kettles will dissolve if cleaned with caustic soda. Burning out

weakens welds and joints. Heat and strong solvents may destroy plastic kettles.



Fig. 1.28 Paint kettle and kettle hook

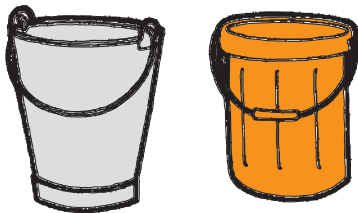


Fig. 1.29 Buckets

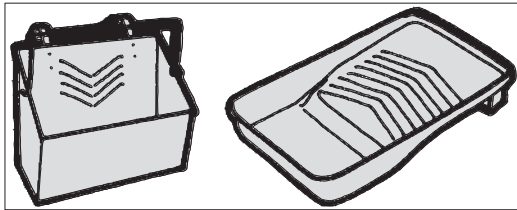


Fig. 1.30 Paint trays

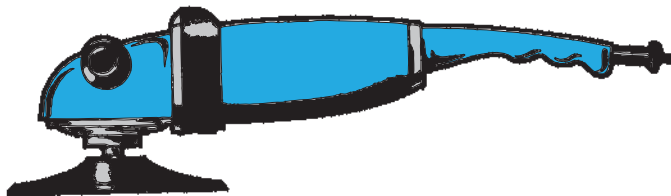


Fig. 1.31 Rotary disc sander

Kettle hook or pot hook (Fig. 1.28)

Wire hook with a double prong, one end used to suspend the kettle from the ladder rung, leaving the operative with both hands free.

Bucket or pail (Fig. 1.29)

Made of galvanised iron or plastic.

Size 7 litres, 9 litres, 14 litres.

Use To hold water, washing solution, paste or water-thinned paints.

Care Plastic buckets will melt if subjected to a naked flame.

Paint tray (Fig. 1.30)

- (i) Rectangular metal or plastic tray; various sizes to take rollers from 100 to 350 mm wide.
- (ii) Tank, bucket or scuttle with either a raised side or a wire grid. Several sizes available containing up to 10 litres of paint.

Use To hold paint for roller application, designed to ensure an even take-up of paint.

1.1.3 Mechanical hand tools

Rotary disc sander (Fig. 1.31)

A disc sander has a flexible rubber or composition sanding head, attached to a motor which can be driven either by electricity or by compressed air. On to the sanding head can be fitted any one of a range of abrasive papers.

Use (i) Fitted with abrasive disc, for general preparation of surfaces including joinery, floor sur-



Fig. 1.32 Rotary wire brush

facing, previously painted surfaces and for removal of rust. Suitable for work on curved surfaces.

- (ii) A lambswool mop can be fitted over the sanding head and used for polishing.
- (iii) A carborundum grinding wheel can be fitted to remove rough surfaces from welds.

Note Difficult to control and liable to damage the surface or leave it uneven.

Safety precautions See 'Rotary wire brush'.

Rotary wire brush (Fig. 1.32)

Radial cup- or disc-shaped wire brush which can be fitted to air-driven and electrically operated motors.

Use To remove loose and flaking paint and rust from metal surfaces.

Safety precautions

- (i) Goggles must always be worn.
- (ii) Hand-held power tools with exposed rotating heads must be switched off and stopped before they are laid down; they may otherwise spin, causing damage and injury.
- (iii) Portable abrasive wheels larger than 55 mm diameter must be marked with maximum speed specified by the manufacturer.
- (iv) In explosive atmospheres, phosphor-bronze brushes must always be used.

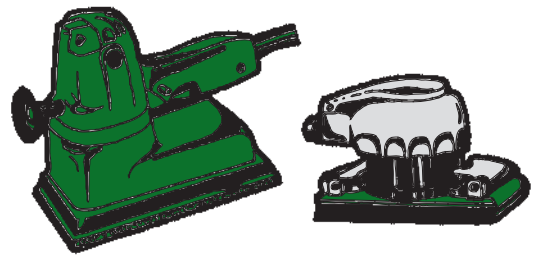


Fig. 1.33 Orbital sander

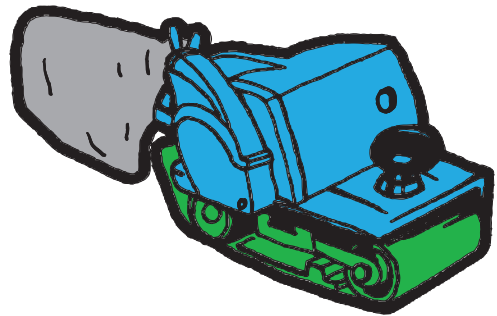


Fig. 1.34 Belt sander

Orbital sander (Fig. 1.33)

Electric or air-driven sander consisting of a rectangular flexible platform pad on to which various types of abrasive paper are fixed. The platform moves in a small circular or orbital motion which abrades the surface. The rate of orbit varies according to make and type but can range from approximately 6000 to 20000 orbits per minute: usually, the faster the motion, the better the finish. Orbital sanders are comparatively light in weight and can be used for long periods without undue fatigue.

Use To prepare and smooth timber, metal, plastic and previously painted surfaces.

Safety Electrically operated types can constitute a safety hazard if used with water. Air-driven types are perfectly safe.

Note Although slower in use, they are easier to control and produce finer surfaces than rotary sanders.

Belt sander (Fig. 1.34)

A sanding machine with a continuous belt of abrasive paper. It maintains a flat sanding action but abrades at a faster rate than orbital sanders.

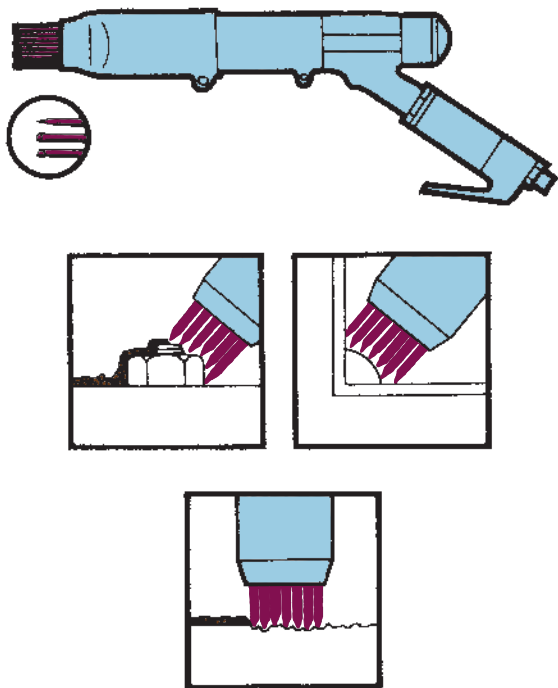


Fig. 1.35 Needle gun

Size Belt sizes either 75 or 100mm wide × 610mm long. Other large heavy-duty machines are available for sanding floors.

Use (i) To sand large areas of timber.
(ii) To sand metal surfaces to remove light rust.

Needle gun or descaling pistol (Fig. 1.35)

An outer body or casing containing a number of hardened steel needles which are propelled forward by an air-driven spring-loaded piston. On hitting the surface, the needles rebound and are again forced forward by the piston. This action is continuous, working at the rate of approximately 2400 blows per minute. The individual needles are self-adjusting, thus ideal for use on uneven surfaces.

Use For the removal of rust, particularly around awkward areas such as nuts and bolts. The method is too slow for economic use on large areas. Also used for cleaning stonework and ornamental ironwork.

Power Driven by compressed air with an air consumption of approximately 5 to 10 cfm (2.36

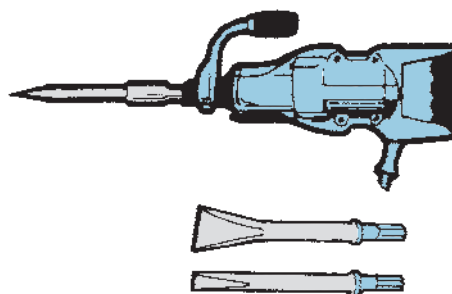


Fig. 1.36 Descaling chisels

to 4.72 litre/s) according to the size of the gun, at 90 psi (6.1 bar).

Needles Three types are available:

- (i) Pointed tip for breaking through heavy rust and millscale. These leave a rough surface.
- (ii) Chisel-ended. Similar use to pointed tip but less damaging to the surface, leaving only a slight surface mark.
- (iii) Flat-ended. These will not mark the metal surface and can be used on thin-gauge metals. Also used on surfaces which require a light treatment, such as concrete aggregate and stonework.

Safety precautions Goggles must always be worn when descaling. *Never* use in an explosive atmosphere – sparks cause explosions (special spark-resisting needles can be obtained for this work).

Descaling hammer and chisel (Fig. 1.36)

This can be a conversion of the needle gun or a specially designed pneumatic or electrically operated descaling hammer. It works by a piston moving backwards and forwards at high speed inside a cylinder. The piston produces hammer blows on the chisel.

Use The constant hammering action of the chisel is used to remove heavy rust and scale. The process is relatively slow and not economic on large areas. The surface of the metal may be damaged as the chisel leaves pits and burrs which are difficult to coat with a full paint system.

Safety precautions Goggles must always be worn when descaling.

1.1.4 Burning-off equipment

Heat is used to soften paint films sufficiently to allow the paint to be scraped off with stripping knives and shave hooks. Must not be used to remove lead paint systems – see 6.4.2.

LPG gas torch

- **Bottle-type torch** (Fig. 1.37)

Operated by liquefied petroleum gases (LPG), either butane or propane (see 1.4.3). Portable and lightweight, with a refill gas bottle which screws under the torch. Various nozzles can be fitted with different jets to produce a range of flame shapes and varying degrees of heat. A small bottle of gas can last from 2 to 4 hours depending on the type of nozzle used.

If this type of lamp is operated at an acute angle, it may flare up or stop.

- **Independent torch** (Fig. 1.38)

Burners attached to hoses which are fixed to large gas cylinders containing from 10lb (4.5kg) to 32lb (14.5kg) of propane or butane gas. Two torches can be run from one cylinder. They are lighter to use and provide easier movement than the bottle type, particularly in awkward spaces.

- **Disposable cartridge type** (Fig. 1.39)

Burner or torch head screwed into a disposable gas cartridge. Very light to use but more expensive than the returnable 'refill' bottles.

These torches have a short burning time, and the flame produces less heat than the larger types.

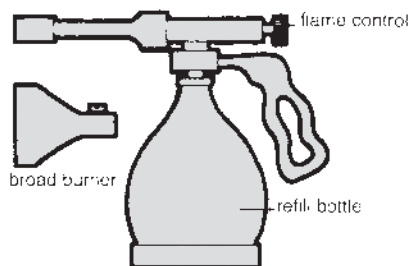


Fig. 1.37 Bottle-type gas torch

Mains gas torch or burner (Fig. 1.40)

A hand torch operated by connection to natural or coke gas supply, convenient in the workshop if gas supply is laid on but with limited use on sites.

Hot air paint stripper (Figs. 1.41 and 1.42)

Similar in many ways to an electric hair drier. Hot air is produced by an electric filament which can be easily adjusted to any temperature between 20°C and 600°C.

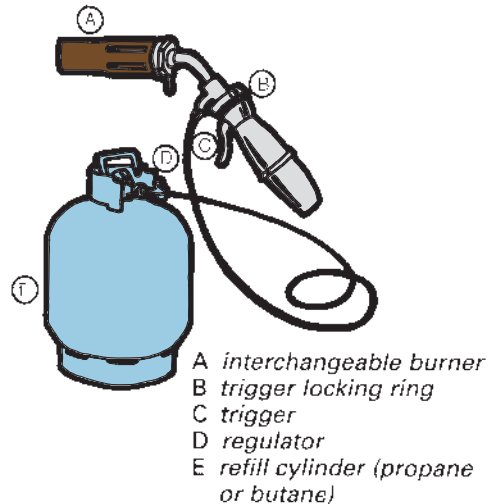


Fig. 1.38 Independent gas torch

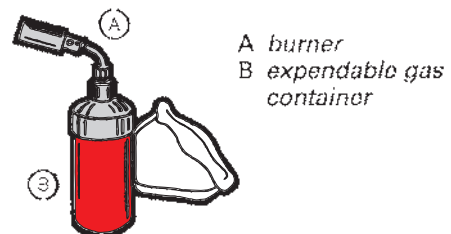


Fig. 1.39 Disposable cartridge gas torch

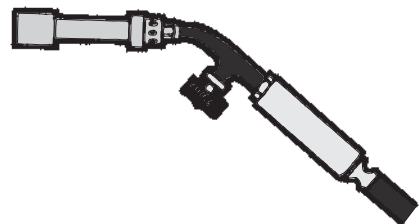
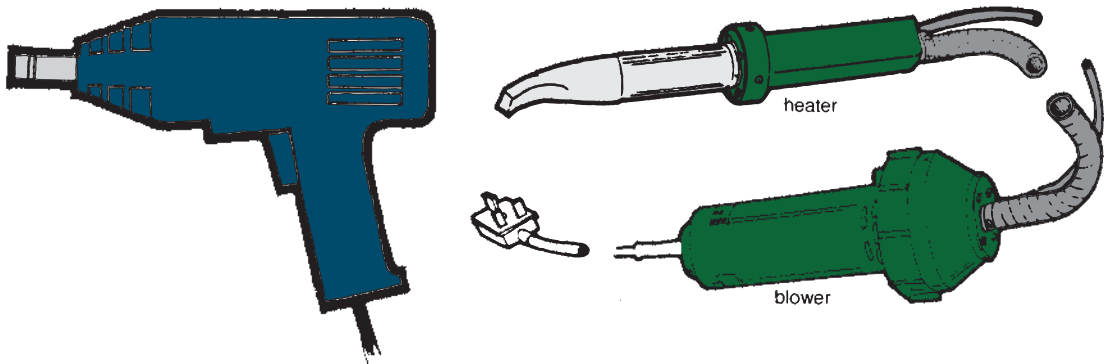


Fig. 1.40 Mains gas torch



Figs. 1.41 and 1.42 Hot air paint strippers

With no flame, the risk of fire is much less than with blow lamps and gas torches. There is less chance of cracking glass, and it is very difficult to scorch timber.

Ideal for use on old or delicate surfaces, and in areas of high fire risk such as eaves of old buildings.

Safety precautions

- (i) *Always* use recommended reinforced hose to avoid kinking and damage on site and to withstand effect of LPG.
- (ii) *Always* ensure that curtains and soft furnishings are removed from the area before burning off.
- (iii) *Always* make sure that no woodwork is left smouldering before leaving the job.
- (iv) *Always* keep a bucket of sand or a fire extinguisher at hand to smother any fire immediately.
- (v) *Always* make sure all charred and burnt paint is extinguished before placing it in a metal bin (safer to place all debris in a bucket of water).
- (vi) *Do not* use to remove old lead paints (see 6.4.2).

1.1.5 Brushes: components and types

Characteristics of fillings

Pure bristle (Fig. 1.44)

This term applies only to hairs from the pig, hog or boar. As domesticated pigs have only a small amount of short, soft hair, the bristles used in paint brushes

Table 1.1 The construction of a painter's brush (Fig. 1.43)

A Handle	Usually made of beech, birch or alder wood. Imported brushes from the Far East and China often use local hardwood. Cheaper varieties will incorporate plastic handles. Some heavily grained timbers are sealed or varnished to reduce splitting and water penetration, whilst alder wood, for example, is suitable untreated.
B Stock	The means by which the handle is fixed to the filling: the ferrule may be made from metal or more recently of plastic. Metal ferrules are of nickel-plated steel, copper or copper-covered steel. Nickel-plated steel will rust when in contact with water for prolonged periods. Stainless steel will not. Copper is a flexible metal and is prone to swelling of the stock if brushes are soaked in water.
C Setting	An adhesive, which cements the filaments together at the root. Traditionally vulcanised rubber but nowadays two-part epoxy resin is used.
D Filling	Four main types: <ol style="list-style-type: none"> (a) bristle; (b) man-made fibres such as Orel® (polyester), Chinex® and Tynex® (brands of nylon); (c) natural fibres; (d) mixtures of bristle, hair and fibres, may also be referred to as <i>union</i>. 'Length out' is the amount of filling visible.

A handle
B stock
C setting
D filling

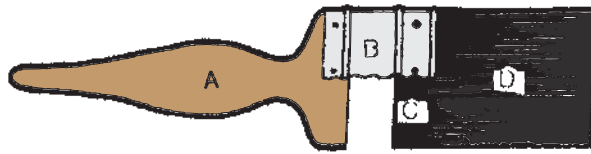


Fig. 1.43 The construction of a painter's brush



Fig. 1.44 Pure bristle



Fig. 1.45 Synthetic filament

come from wild pigs, hogs or boars found mainly in China and India. Chinese bristles are of high quality, very resilient and black in colour. Indian bristles are rather coarse, longer in length, less resilient than Chinese bristles, and they vary in colour. The main properties of bristle are:

- (i) Strength and resilience: they can have a long 'length out' yet still work well and hold the weight of paint.
- (ii) A split tip or *flag* which acts as a barb when releasing the paint and provides a soft tip for laying off.
- (iii) Serrations or scales like minute teeth along the length of the bristle: these prevent the hairs lying too close together, allowing the brush to hold more paint.
- (iv) A natural taper from root to tip which allows a bundle of bristles to lie together in a brush form.
- (v) A natural curl or lean: this enables the bristles to be curved inwards and lie together. Dusting brushes are reversed and curve outward.

Synthetic filament (Fig. 1.45)

Nylon and polyester are two synthetic filaments (man-made filaments) commonly used in the manufacture of synthetic filament brushes, often blended together.

Orel® is a polyester, Chinex® and Tynex® are brands of nylon. They are extruded into a number of shapes and styles.

Hollow filaments, just like a drinking straw, have limited strength and often become misshapen during use. Solid Round Taper filaments (SRT) possess all

the benefits of natural bristle and more besides. They are more hard-wearing, lasting up to five times longer, not affected by ordinary solvents, resistant to many chemicals and not damaged by insects and fungi, require no breaking in prior to use in gloss and are very easy to clean.

With the increased use of water-borne paints, stains and varnishes, synthetic filament brushes reduce tramlines associated with the application of quick-drying products.

Good quality SRT brushes may be used equally well in both water-borne and solvent-based coatings.

Furs and soft hairs

Very fine hairs used in specialist brushes for signwriting, graining and gilding.

Sable This term applies to hairs cut from the tail of various animals of the weasel family. The most commonly used is from the kolinsky. The best hairs are obtained from animals which live in the wild Arctic regions of Asia, principally China.

Sable is a red-brown hair. Although fine, the hair has great strength and will spring back into shape once pressure upon it has been released. It is tapered and produces a very fine tip that makes it ideal for fine, controlled painting. Used principally for signwriting brushes.

Ox Hair cut from the ear of an ox. They are a little darker in colour than sable and although equally fine, they do not have the strength or springiness of sable. Long lengths are used in coach liners. When mixed

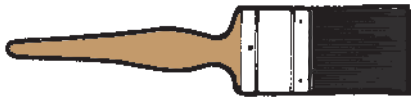


Fig. 1.46 Flat paint brush

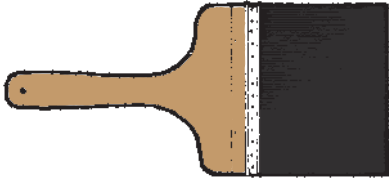


Fig. 1.47 Flat wall brush

with sable, they may be called 'sabox' fillings. Used as a substitute for sable to save costs.

Squirrel Still incorrectly called camel hair and obtained from the blue squirrel, generally those native to the colder regions of Asia and America. It is a dark brown hair and much softer than sable. Squirrel is used as the filling in gilders' tips, sword strippers, mops and graining cutters.

Badger The most commonly available hair is obtained from the Chinese badger. Its long hair, generally off-white in colour with a brown stripe in the centre, has the peculiar characteristic of being slightly thicker in the middle than at its fine tip. This property produces fillings which swell out towards the end, quite opposite to most brush fillings which tend to taper. Badger hair is used in softeners.

Synthetic filaments Most commonly made from nylon. They are very fine hairs with considerable strength and springiness. They can be produced in any colour although bright red-brown is a common colour used. Principally manufactured in Japan. Used in sign-writing brushes and one-strokes.

Flat paint or varnish brush (Fig. 1.46)

Usually pure bristle but also available in man-made filaments. Quality varies according to the amount and quality of the filling and the 'length out'.

Size 25 mm, 37 mm, 50 mm, 62 mm, 75 mm, 100 mm wide. Also varying in thickness and length of filling.

Use To apply most types of paint and varnish to a wide variety of surfaces including doors, sashes, frames and wall areas.

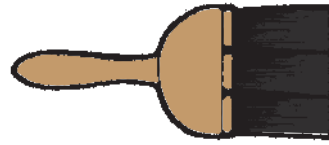


Fig. 1.48 Dusting brush



Fig. 1.49 Fitches

Flat wall brush (Fig. 1.47)

Available in a wide range of varying quality including pure bristle, man-made filament, and a mixture of bristle, hair and fibre (union). Quality is also dependent on weight of filling used and the 'length out'.

Size 100 mm, 125 mm, 150 mm, 175 mm wide.

Use (i) To apply emulsion paints to large areas.
(ii) To apply adhesive to surface coverings.

Dusting brush (Fig. 1.48)

Black or white filling of either pure bristle or man-made filaments, usually nylon.

Size Available as standard type of brush or as a three- or four-ring type, both 90 or 110 mm wide.

Use To remove dust and dirt from surfaces before painting.

Fitch (Fig. 1.49)

Bristle filling, usually white, set in either a round or a flat nickel ferrule.

Size Flat type from 5 to 28 mm wide. Round type from 3 to 20 mm in diameter. Available in eight sizes.

Use To apply paint to detailed work and areas difficult to reach with paint brush.

Radiator or flag brush (Fig. 1.50)

Bristle filling attached to a long wire handle which can be bent to fit into awkward areas.

Size 25 mm, 37 mm, 50 mm wide.

Use To apply paint to restricted spaces such as behind pipes and column radiators.



Fig. 1.50 Radiator brush



Fig. 1.51 Crevice brush

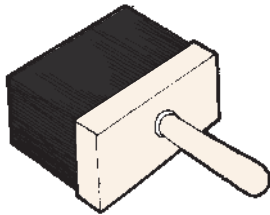


Fig. 1.52 Cement or block brush

Crevice brush or bent fitch (Fig. 1.51)

Similar to fitch, but angled to assist working in awkward spaces.

Size Flat or round, in sizes from 9 mm, 12 mm, 15 mm wide and 18 mm, 31 mm in diameter.

Use Similar to radiator brush.

Cement paint brush (or block brush) (Fig. 1.52)

Man-made filling (synthetic), set in polished wooden handle.

Size 150 mm wide.

Use An inexpensive brush for the application of cement paint and other masonry finishes. The tough filling resists the abrasive action of application to rough surfaces like cement rendering and brickwork. The filling is also unaffected by the lime content of cement paints.

Care and maintenance of brushes

Before using a new brush, flint the bristles if applicable to remove any loose hairs.

Overnight storage Brushes used in oil or alkyd paints can be stored overnight by suspending in water or placing in patent 'brush keep'.

Cleaning brushes after use Clean thoroughly to remove all traces of paint, especially from the root where paint tends to accumulate and harden, causing the brush to fan out. A comb is an invaluable aid in this process. **Method:** Remove all traces of paint with a suitable solvent. Wash out the solvent in warm detergent solution, then rinse thoroughly in clean water. Dry the brush by hanging in a well-ventilated room. Bristle brushes stored damp will be ruined by mildew.

Storage Wrap the fillings in waterproof paper and lay flat in boxes. Sprinkle with moth repellent (not required for synthetic brushes). Store should be neither too warm nor too dry (about 18°C).

Never stand a brush on the filling as this can damage it; either lay brushes flat or suspend them. *Never* wash or use a pure bristle brush in alkaline materials as they destroy the bristle.

1.1.6 Paint rollers

Types of roller

Paint rollers consist of a plastic core and a fabric cover referred to as a sleeve. It is the fabric type that gives the application characteristics of the roller. The roller sleeve is loaded onto a frame for use; this can be a cage or stick system. Cages are for 175 mm and 230 mm sleeves whereas a double-arm frame is required for rollers 300 mm and above. Double-arm rollers are the preferred option for ceilings and flooring to ensure even coverage when used on an extension

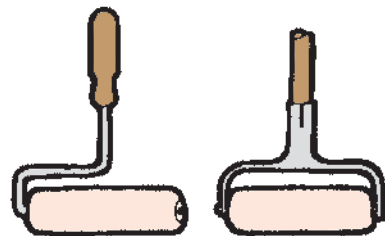


Fig. 1.53 Cylinder rollers

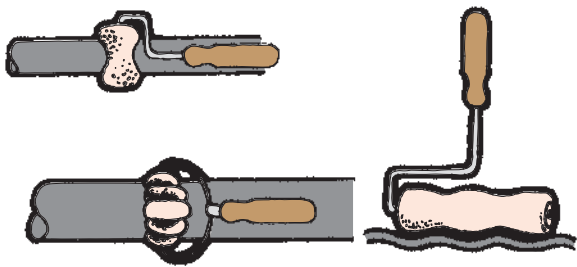


Fig. 1.54 Curved rollers

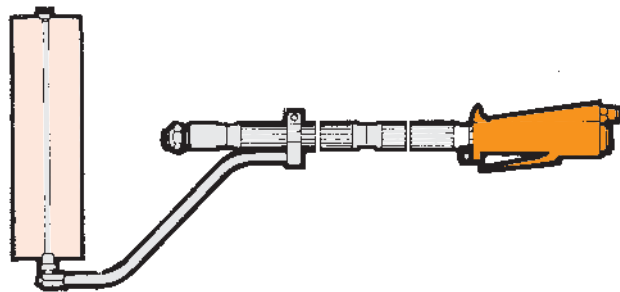


Fig. 1.55 Airless-fed roller

pole. Stick systems require the sleeve to have an internal mechanism. These are very popular on the continent but ranges are limited in the UK. They are also supplied in a 'padded' version, which increases the fabric area providing greater coverage.

Mini rollers, traditionally known as radiator rollers, now come in a wide range of fabrics and sizes – 100 mm, 125 mm and 150 mm – and fit a standard stick system handle that comes in short and long sizes.

Curved roller (Fig. 1.54)

Produced with a hollow section, cut to allow a wrap-round on pipes and poles.

Another type of roller designed for painting pipes and poles has a number of separate roller sections fitted to a spring axle. The axle bends to almost any diameter, and the roller is loaded in an ordinary tray.

Rollers are also produced with several hollow sections designed for painting corrugated sheeting.

These are all now quite rare with people customising standard rollers for these jobs. There are corner rollers available, making it possible to give the same textured effect into corners, but these are not that popular, hence poor availability in stores.

Airless-fed roller (Fig. 1.55)

A cylinder roller fed by an airless spray tip. Paint is pumped through the handle from an airless spray pump. The roller is instantly charged and the paint flow controlled by a trigger on the handle.

Application is fast, but this type of roller has a limited use because it requires an airless spray pump to feed paint to the roller.

Advantages

- (i) Can be used on contracts where application by spray is not allowed.

- (ii) No overspray.
- (iii) Reduces need for masking.
- (iv) Extension arms can be fitted to provide a reach of nearly 2 m. This enables reasonably high ceilings and walls to be coated without using a scaffold.

Extension/telescopic arms

These can be used with most rollers to enable reasonably high ceilings and wall areas to be coated without using a scaffold.

Types of covering

Woven fabrics Generally made from polyamide, a hard-wearing material resistant to tearing on rough surfaces. Other characteristics are enhanced paint pick-up, easy clean, flatter finish (reduced 'orange peel effect'), less tiring to use as pressure is not required for paint discharge.

Knitted fabrics Generally made from polyester, a higher-density fabric will produce a more even finish due to good shape retention. High resilience means good penetration into porous surfaces, but requires pressure to discharge paint, making these more tiring to use especially on rough surfaces. These rollers are hard to clean compared to their woven counterparts.

Sheepskin Made from sheep's pelt, these have a natural high density that cannot be matched by man-made methods. The greatest paint pick-up of all rollers, making these ideal for large areas by reducing loading frequency.

Lambswool Available in a range of pile heights, these are wool woven into a synthetic backing, i.e. no skin. Due to the inconsistent orientation of the fibres and lower density, these do not have as high a paint

Table 1.2 Coverings and their applications

<i>Fabric</i>	<i>Pile height</i>	<i>Surface</i>	<i>Coating</i>
Knitted polyester	4–6 mm	Smooth	Primers, sealers and undercoats
Knitted polyester	10–12 mm	Smooth to semi-smooth	Emulsions, floor paints
Knitted polyester	16–18 mm	Rough	Emulsion, masonry paints
Knitted polyester	28–32 mm	Extra rough	Emulsion, masonry paints
Woven polyamide	4–6 mm	Smooth	Primers, sealers and undercoats
Woven polyamide	10–12 mm	Smooth to semi-smooth	Emulsions, floor paints
Woven polyamide	16–18 mm	Rough	Emulsion, masonry paints
Sheepskin	18 mm	Rough	Very high paint pick-up of emulsion and masonry paints
Mohair	4–6 mm	Smooth	Solvent-based paints, stains and varnishes
Foam	2–4 mm	Smooth	Solvent-based coatings without risk of fibre loss
Microfibre	6–8 mm	Smooth to semi-smooth	Wood stains and varnishes
Microfibre blend	10–12 mm	Smooth	Emulsions no spatter, low coating thickness (not good for covering darker colours), fine finish

pick-up as genuine sheepskin. The short pile is often referred to as simulated mohair.

Mohair Hair of the goat is ideal for a fine finish on smooth surfaces with most solvent-borne coatings and can be used with water-borne, unlike the simulated versions.

Foam Polyurethane foam is ideal for applying solvent-borne coatings without the risk of fibre loss. There may be a need in some coatings to lay off with a brush to remove aeration caused by the foam, and for this reason this is not to be used for water-borne, as their quick-drying nature will leave voids in the applied coating.

Microfibre Fibres of 1 denier provide high pick-up of low-viscosity coatings such as wood stains, and their absorbent nature reduces spatter and runs. These are ideal for water-borne and solvent-borne floor coatings ensuring quick and even application.

Selection of paint rollers

The choice of whether to use a knitted roller or a woven roller depends on a number of factors, and Table 1.3 aims to help you decide which would be the best for any given situation.

There are two types of fabric used in paint roller manufacture: knitted fabrics and woven fabrics. But

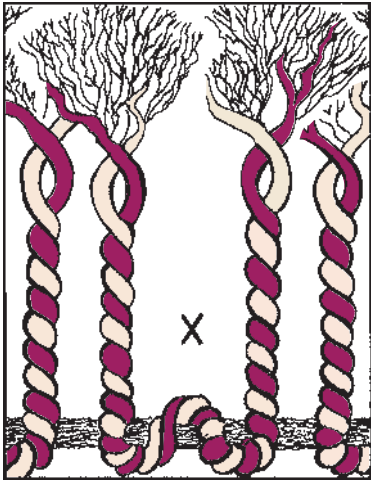


Fig. 1.56 Woven fabric

there is one specific advantage of woven rollers, which is that they are much easier to clean!

Knitted

Knitted fabrics rely on density of individual fibres for paint pick-up and resilience but tend to clog at the base. This is particularly noticeable when cleaning.

Woven (Fig. 1.56)

Woven fabrics have twisted yarns split at the tip into a mass of fibres. This means that the density at the base

Table 1.3 Choosing between knitted and woven rollers

<i>Property</i>	<i>Knitted</i>	<i>Woven</i>	<i>Comments</i>
Paint pick-up	Good	Very good	Difference is greater for longer pile. The long pile woven is closest to sheepskin, which has the greatest paint pick-up. The sheep's wool (woven wool/polyester) has similar properties to the sheepskin but with greater durability.
Coverage rates	Good	Very good	Woven has a greater level of paint release and therefore a greater coverage/loading.
Finish	Stipple	Smooth	The knitted will give more even coverage, which is most noticeable on the first coat. The woven will give a flatter finish.
Penetration of substrate	Very good	Good	Woven lays the paint on the surface whereas the knitted forces the paint into low spots. This is important for porous/coarse surfaces such as fine textured masonry or breezeblock.
Shape retention	Very good	Good	The knitted will maintain a smooth outer diameter and therefore produce an even finish. This is most evident on the medium pile on smooth surfaces. The woven will open up releasing more paint but this will not produce as even a finish as the knitted.
Durability	Good	Very good	Woven are made from polyamide yarns, which are harder-wearing than the knitted fibres of polyester. Therefore, the woven sleeves are longer-lasting.
Ease of cleaning	Average	Very good	Woven are more open fabrics and therefore the paint is easier to wash out.

is lower, hence releasing the paint more easily. This also makes cleaning much quicker.

Woven fabrics contain fibres (mainly polyamide), which are spun into pile yarn and woven in a 'W' form to a fabric backing. The void at the base of the woven fabric allows greater paint storage and, as mentioned above, will release it more readily, ensuring more coverage per loading is achieved. The woven fabric also 'opens up' when rolled, which means it will conform to the surface without too much pressure. This makes the job less tiring especially on rough surfaces.

Splits at the tip of the yarns in the woven fabric also regulate the paint release and mean the woven fabric will cover an area uniformly. The split tips also deliver the paint to the surface in a way that minimises the stretching of the paint and therefore leaves a flatter finish, which makes the woven rollers ideal for the recently launched flat paints.

The majority of woven fabrics are polyamide, which is particularly hard-wearing and will withstand

roughcast surfaces without breaking up. Woven rollers tend to be more expensive than knitted, but the longer life helps to compensate for this.

Use

Rollers can be chosen from the wide range available to suit most types of work, including large areas of flat surface, anaglypta and ingrain papers, roughcast, brickwork and concrete. They are also very useful on perforated hardboard (pegboard), acoustic boards, wire netting, corrugated sheeting and pipework.

Advantages

- Paint is applied several times faster than with a brush on flat and textured surfaces.
- Chances of 'flashing' and 'sheariness' are reduced.
- Extension poles can reduce the need for scaffolding.
- No brush marks, although a slight 'orange peel' texture is unavoidable.

Disadvantages

- (i) Rollers cannot paint right into angles and corners (corner rollers are available, but difficult to find).
- (ii) They are not suitable for fine, intricate work.
- (iii) Some people object to the texture.

Care of rollers

- (i) Rollers must be clean and free from solvents before storing. They can be stored in a 'patent roller keep' if they are to be used in the same material again.
- (ii) After cleaning and washing, rollers should always be hung up to dry, never left resting on the pile, as this will crush and distort the covering.
- (iii) If stored damp, mildew can ruin lambswool or mohair coverings and the metal parts will corrode. Always store in clean, dry, well-ventilated conditions.

1.1.7 Paint pads and mittens

Paint pad (Fig. 1.57)

A short pile face, usually mohair, attached to a foam pad or cushion which is fitted to a handle. Modified versions may have

- (a) detachable head to allow for replacements, thus reducing costs;

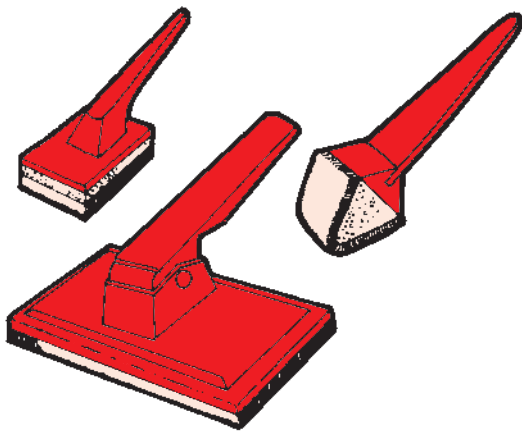


Fig. 1.57 Paint pads

- (b) wheels inserted in the side of the plastic body to make cutting-in easier.

Size Various sizes are available depending on the manufacturer. They range from large (150 × 100mm) down to a small sash painter sometimes called a 'toothbrush' pad. Some firms also make a crevice pad.

Use Can be used to apply gloss, eggshell, flat and emulsion paints, wood stains and varnishes. Used on flat surfaces such as ceilings, walls, woodwork, building boards and over firmly attached wallpaper. Useful for painting bands or lines.

Care Clean only in water or white spirit and soap and water, as appropriate. Strong solvents and some types of brush cleaner may damage the foam pad. When clean, hang up to dry.

Paint mitten (Fig. 1.58)

A mitten, made of sheepskin, designed to fit the hand like a normal glove-mitten.

Use Used to apply emulsion paint, primer, undercoats and finishes to surfaces such as iron railings, behind radiators and pipes, which are difficult to coat by normal methods.

Care Clean in similar way to rollers.

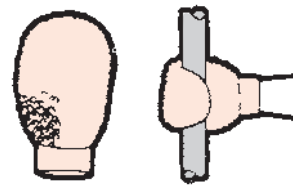


Fig. 1.58 Paint mitten

1.1.8 Paperhangers' tools and equipment

Paperhanging brush (Fig. 1.59)

Made of white or grey bristle or synthetic filaments set in rubber.

Size 200mm, 225mm and 250mm wide.

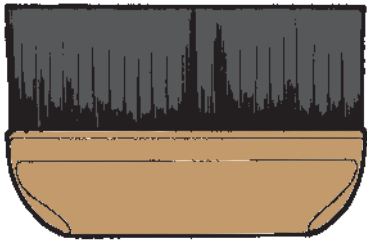


Fig. 1.59 Paperhanging brush

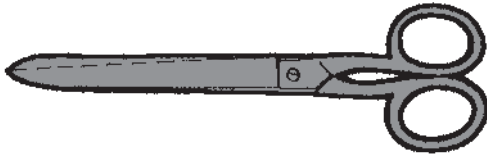


Fig. 1.60 Scissors or shears

Use To apply papers and fabrics to walls and ceilings.

Care Keep clean: wash in soap and tepid water and hang to dry.

Scissors or shears (Fig. 1.60)

Made of polished steel with hollow-ground blades.

Size 250 mm, 275 mm and 300 mm long.

Use To cut lengths and trim at angles and around obstacles.

Care Keep clean and sharp. Never clean with abrasive paper as this rounds off the cutting edge. Store dry and clean to prevent rusting.

Seam and angle roller (Fig. 1.61)

Made of hardwood, foam rubber or plastic. Side arm or double arm fitting.

Size 25 mm and 37 mm wide.

Use To roll down edges of paper at seams and angles.

Care Keep clean and lubricate sparingly.

Felt roller (Fig. 1.62)

Made of a number of felt discs or a felt-covered cylinder.

Size 90 mm and 175 mm wide.

Use In place of paperhanger's brush, it applies a firm, even pressure to the paper without distorting or polishing it.

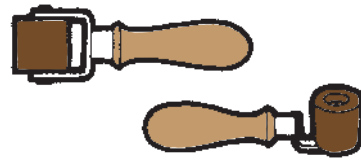


Fig. 1.61 Seam rollers



Fig. 1.62 Felt roller

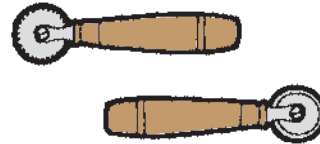


Fig. 1.63 Casing wheels

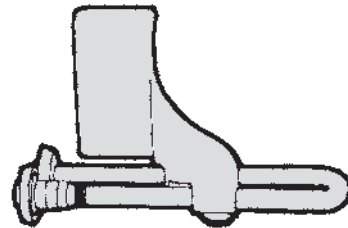


Fig. 1.64 Hand trimmer

Care Wash regularly in warm water.

Casing wheel (Fig. 1.63)

Plain or serrated blades.

Size 37 mm wheel.

Use An alternative method to scissors and trimming knives for trimming surplus paper at angles or around obstacles.

Care Keep clean and sharp.

Hand trimmer (Fig. 1.64)

Two small cutting wheels attached to a guide which is held against the edge of the paper.

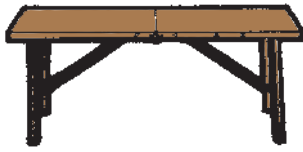


Fig. 1.65 Paste board



Fig. 1.66 Rule

Use To remove the selvage from untrimmed paper, or to cut narrow strips of paper. It is adjustable and can cut strips up to approximately 75 mm from the edge of the paper.

Care Replace blades when blunt.

Paste board (Fig. 1.65)

Made from wood, usually collapsible for easy transportation. Should be firm.

Size 1.830 m long × 560 mm wide.

Use For measuring, cutting, matching and pasting surface coverings.

Care Keep face and edges clean and free from paste.

Rule (Fig. 1.66)

One metre long, made of boxwood or plastic and folded into four sections. Working is more accurate if the rule is used on its edge.

Use For measuring areas, lengths and widths.

Trimming knife (Fig. 1.67)

Available with retractable blade. Replacement blades either angled or rounded.

Use For trimming and cutting at angles and around obstacles.

Care Keep edge sharp or replace blade regularly.

Steel straight-edge (Fig. 1.68)

Perfectly straight with a bevelled edge.

Size 600 mm, 915 mm, 1.400 m and 1.830 m long.

Use To guide a knife when trimming papers and fabrics. Used over a zinc strip to protect the paste board and ensure a clean cut.



Fig. 1.67 Trimming knife

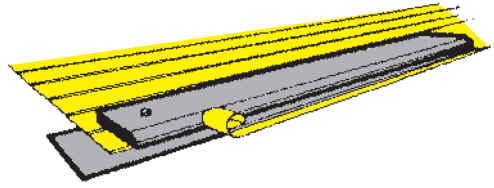


Fig. 1.68 Steel straight-edge

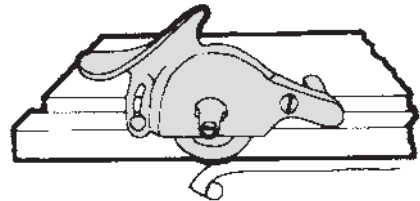


Fig. 1.69 Ridgely track-trimmer



Fig. 1.70 Spirit level

Ridgely track-trimmer (Fig. 1.69)

A combined 1.830 m metal purpose-made straight-edge and cutting wheel used over a zinc strip 75 mm wide × 1.830 m long.

Use To trim or cut widths of paper or fabrics before or after pasting.

Spirit level (Fig. 1.70)

Available in metal or wood to check horizontal and vertical lines.

Size Many sizes, but 1 m long is the most useful when paperhanging.

Plumb bob and line (Fig. 1.71)

A small weight, usually brass or stainless steel, suspended on a length of fine cord.

Use To check that the first length of surface covering on every wall is upright.



Fig. 1.71 Plumb bob

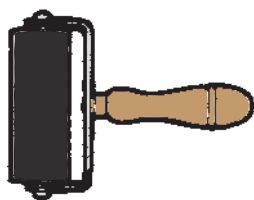


Fig. 1.72 Rubber roller

Rubber roller (Fig. 1.72)

Solid rubber roller.

Size 90 mm and 175 mm wide.

Use To hang materials such as vinyl papers and photo murals where a felt roller or brush would not be heavy enough.

Care Keep clean.

Spatula (Fig. 1.73)

Straight-edged flexible metal or plastic blade set in a plastic stock and handle.

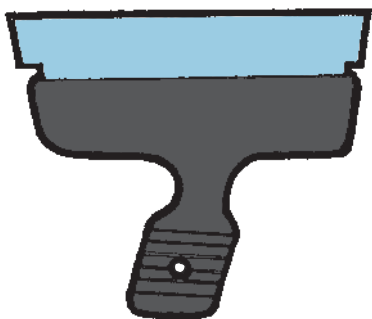


Fig. 1.73 Metal spatula

Size 250 mm and 450 mm wide.

Use (i) For smoothing vinyl papers and fabric-backed vinyl wall coverings.
(ii) For pressing vinyls and papers into angles and acting as a guide when cutting with a trimming knife.

1.1.9 Graining, marbling and broken-colour tools and brushes

Mottler (Fig. 1.74)

Pure white bristle filling, set in a metal ferrule. Sometimes has a short wooden handle.

Size 50 mm and 75 mm wide.

Use (i) For simulating the soft lights and darks seen beneath the surface grain of many woods (mottling).
(ii) As a general graining brush to simulate the straight grain and heartwood patterns of mahogany, walnut and similar woods.

Overgrainer (Fig. 1.75)

Pure white bristle filling, set in a metal ferrule. Similar to a mottler but with a longer filling and much thinner in section.

Size 50 mm and 75 mm wide.

Use To add fine parallel grain patterns to completed work (overgraining). Often used with water-graining colour and passed through a coarse comb to separate the filling.

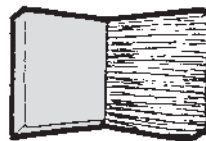


Fig. 1.74 Mottler



Fig. 1.75 Overgrainer

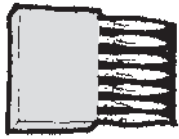


Fig. 1.76 Pencil overgrainer

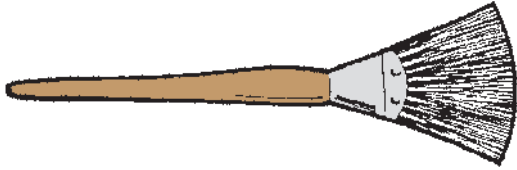


Fig. 1.77 Fan fitch overgrainer



Fig. 1.78 Flogger

Pencil overgrainer (Fig. 1.76)

Separate tufts of pure white bristle filling, set in a metal ferrule. Also available with a pure sable hair filling but expensive to buy.

Size 50 mm and 75 mm wide.

Use Similar to those for the overgrainer.

Fan fitch overgrainer (Fig. 1.77)

Separate tufts of pure white bristle filling, set in a flat-tened metal ferrule to produce a fan shape.

Size 25 mm and 38 mm at the widest end.

- Use**
- (i) To simulate the curly grain patterns of burr walnut, pollard oak and similar decorative woods.
 - (ii) Used as an overgrainer.

Flogger (Fig. 1.78)

Long, pure bristle filling, set in a wooden stock or a metal ferrule.

Size From 75 mm to 100 mm wide.

- Use**
- (i) To simulate the pore markings of wood by beating wet graining colour.
 - (ii) To imitate the decorative texture 'dragging'.

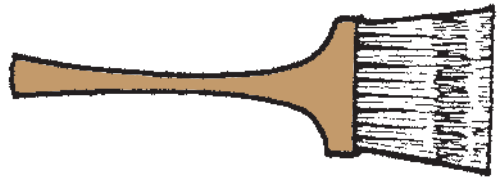


Fig. 1.79 Badger softener

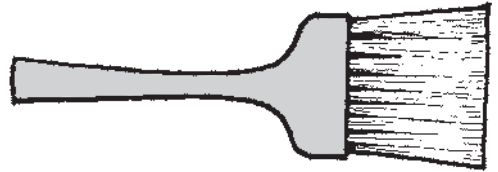


Fig. 1.80 Hog hair softener

Badger softener (Fig. 1.79)

Separate tufts of pure badger hair filling, set in a wooden stock. Some smaller varieties are set in a metal ferrule.

Size 75 mm and 100 mm wide. Smaller flat varieties: 25 mm, 38 mm, 50 mm and 75 mm wide. Smaller round varieties: small size No. 2, to large No. 12.

Use To gently fade out or soften the sharp edges of patterns produced in graining and marbling. Although intended only for use with water-based materials, they are often used with oil-graining colour and marbling gelp.

Hog hair softener (Fig. 1.80)

Similar to the badger softener, but containing a pure white bristle (hog hair) filling.

Size 75 mm and 100 mm wide.

Use As for the badger softener but not as soft and intended for oil-based materials only.

Drag brush or brush grainer (Fig. 1.81)

A filling of pure bristle on one side and coarse nylon on the other, set in separate tufts in a wooden stock.

Size 100 mm wide.

Use To simulate a variety of straight grain patterns by dragging through wet graining colour.

Cutter (Fig. 1.82)

Short squirrel hair filling, set in a metal ferrule.

Size 50 mm and 75 mm wide.



Fig. 1.81 Drag brush or brush grainer

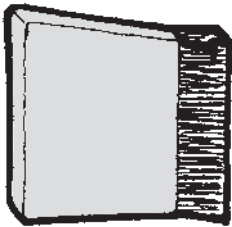


Fig. 1.82 Cutter



Fig. 1.83 Filbert fitch

Use To simulate the fine clean highlights common in feather mahogany and similar decorative woods. Used in conjunction with a wet chamois leather to remove water-graining colour in the area of the highlights.

Filbert fitch (Fig. 1.83)

Short pure white bristle or synthetic filling, set in a flattened metal ferrule.

Size A range from small No. 0 to large No. 16.

- Use** (i) For simulating heartwood grain patterns of oak, pine and similar woods.
(ii) Painting marble veins.

Steel comb (Fig. 1.84)

Flexible steel comb with long, parallel, square cut teeth.

Size 25mm, 50mm, 75mm and 100mm wide, with fine, medium and coarse graded teeth. Also made from cork tiles, with nicks cut out as required.

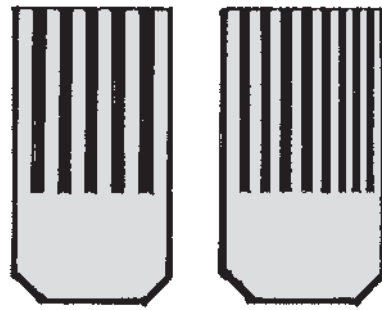


Fig. 1.84 Steel combs



Fig. 1.85 Rubber combs



- Use** (i) To simulate the coarse straight grain patterns of oak, pine and similar woods. Used covered in clean linen rag, and dragged through wet graining colour. Finer grades used for 'cross combing' to break up the coarse straight grain.

- (ii) To produce the decorative texture 'combing' by dragging through wet scumble applied to walls or panels.

Rubber comb (Fig. 1.85)

Flexible rubber comb with short, vee-shaped teeth. Also available with square cut teeth.

Size Approximately 75mm wide. Available with fine, medium and coarse graded teeth. Triangular

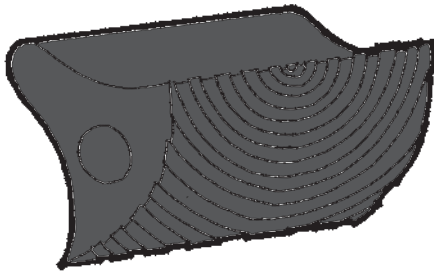


Fig. 1.86 Heart grain simulator

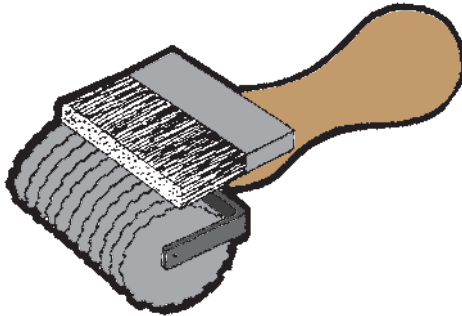


Fig. 1.87 Check roller

varieties contain all three grades of teeth arranged on the three edges. Also available with teeth graduated from fine to coarse on one edge.

- Use** (i) To simulate the coarse straight grain patterns of oak, pine and similar woods.
(ii) To imitate combing similar to steel combs.

Heart grain simulator (Fig. 1.86)

A moulded rubber appliance with a heartwood pattern engraved on the curved working face, and a flat toothed comb on the edges.

Size 75mm and 125mm wide, with fine, medium and coarse grain patterns.

Use For the fast and repetitive simulation of heartwood patterns of oak, pine and similar woods. The curved face is dragged with a rocking motion through wet graining colour. The comb is used to simulate the straight grain patterns at each side.

Check roller (Fig. 1.87)

A roller made from a series of loose-fitting serrated metal discs. Sometimes equipped with a special clip-



Fig. 1.88 Veining horn or thumb piece

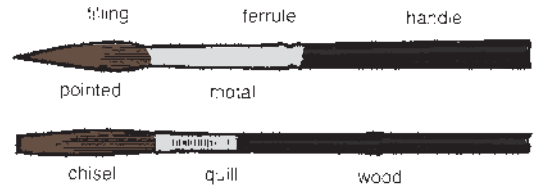


Fig. 1.89 Signwriting brushes

on mottler to feed graining colour to the discs, and to separate them in use.

Size 50mm and 75mm wide.

Use As a printing roller to simulate the dark, broken pore markings of oak and similar woods.

Veining horn or thumb piece (Fig. 1.88)

A flexible strip of plastic, or any similar material shaped with one square end, and the other end rounded.

Size Approximately 100mm long.

- Use** (i) To simulate the grain patterns of quartered oak and heartwood of oak. Used with clean linen rag to 'wipe out' the patterns from wet graining colour.
(ii) For simulating the veins of some marbles.

Feathers

Swan, goose or other large, fairly rigid feathers.

- Use** (i) Applying marbling colour when producing either background textures or veins.
(ii) Producing wavy or curly grain markings of decorative timbers such as walnut.

1.1.10 Signwriting and decorative painting tools and brushes

Signwriting brush (Fig. 1.89)

Also called writers, pencil brushes, or sables. Long-handled brushes with sable, 'sabox' or nylon fillings. They can be obtained through

Table 1.4 Signwriting brush sizes

Ferrule	1	2	3	4	6	8	12
Quill	Crow	Small duck	Duck	Large duck	Goose	Ex small swan	Condor
Diameter in mm	1.6	1.9	2.2	2.6	3.6	4.9	7.8



Fig. 1.90 Lining fitch



Fig. 1.91 Coach liner

Metal ferrule The most common form. The filling is enclosed within and attached to the handle by a cylindrical, seamless, non-rusting metal casing.

Quill Filling enclosed in the base of a bird's feather which is shrunk upon the handle.

Chisel end The tips of the filling finish to a flat end. Suitable for all types of signwriting.

Pointed end The tips of the filling finish to a point. Suitable for fine painting and lettering.

Size Metal ferrule brushes are available in sizes dependent on diameter and 'length out'. Quills are available as the bird's name which relates to the feather size from which they are made (see Table 1.4)

Use (i) Signwriting and decorative painting.
(ii) Veining when marbling.
(iii) Heartwood painting when graining.

Lining fitch (Fig. 1.90)

Bristles set in a flat metal ferrule with a chisel edge cut at an angle.

Size 6mm, 12mm, 18mm, 25mm, 31mm and 37mm wide.

Use Against a straight-edge, to paint straight lines.

Coach liner (Fig. 1.91)

Long-haired brushes, usually with ox hair fillings. Available in quill or ferrule.

Size Similar sizes to signwriting brushes.

Use Running thin painted lines.



Fig. 1.92 Sword striper

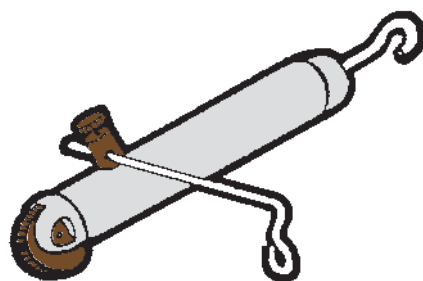


Fig. 1.93 Lining wheel

Sword striper (Fig. 1.92)

Long, dagger-shaped squirrel hair fillings, either in a metal ferrule or bound to the handle with copper wire.

Size In widths from 8mm to 13mm.

Use Running thin painted lines.

Lining wheel (Fig. 1.93)

The cylindrical body is metal. Paint is poured in at one end when the plunger assembly is removed. The serrated wheel assembly controls the line thickness and is available in a number of wheel widths.

Size Wheel sizes vary from 2mm to 6mm wide, and available in double wheel heads.

Use To run thin painted lines, either against a straight-edge, or controlled by the guide which can be adjusted to slide against the edge of a board or panel. Can also be used to run curved lines.

One-stroke brush (Fig. 1.94)

Metal ferruled brushes which have been squeezed flat to produce a spade-like filling. Commonly available with ox or 'sabox' fillings, but very expensive brushes are available with sable fillings.



Fig. 1.94 One-stroke brush



Fig. 1.95 Stencil brush

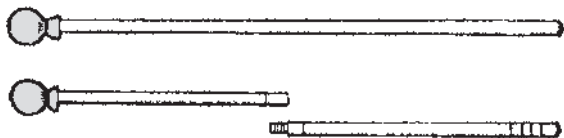


Fig. 1.96 Mahl stick

Size In widths from 4 mm to 25 mm.

- Use**
- (i) Painting types of script letters in one stroke, similar to that obtained with a broad nibbed pen.
 - (ii) Filling-in large letters or large areas of decorative painting.
 - (iii) Painting-in heartwood grain when imitating oak, pine and similar woods.

Stencil brush (Fig. 1.95)

The filling is of short stiff bristles.

Size Various sizes from 10 mm to 38 mm diameter.

Use To obtain decorative effects or lettering by applying paint through a cut-out stencil, or around a template.

Mahl stick (or rest stick) (Fig. 1.96)

A stiff rod of timber or metal padded at one end and usually covered in chamois leather. Can be in one length, or in two or three lengths which screw or push together.

Size Approximately 500 mm long.

Use To steady the hand when signwriting or decorative painting.

Palette board or thumb board (Fig. 1.97)

A rectangular timber or plastic board which fits over the thumb of the non-brush hand.

Size Approximately 230 mm × 160 mm.



Fig. 1.97 Palette or thumb board



Fig. 1.98 Dipper

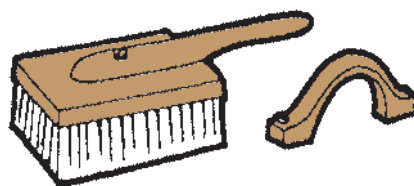


Fig. 1.99 Stippling brush

Use To hold dippers of paint and upon which to shape the brush when signwriting or decorative painting.

Dipper (Fig. 1.98)

Small cylindrical metal containers which clip onto the palette board.

Size Various, but most commonly used are 40 mm diameter × 40 mm high.

Use To hold paint and/or thinners when signwriting or decorative painting.

Stippling brush (Fig. 1.99)

Bristles set in small tufts in a flat stock. The tips of all the bristles are level. The handle may be straight or arched.

Size Various sizes from 100 mm × 75 mm to 200 mm × 150 mm.

- Use**
- (i) To remove brush marks from wet scumble to produce a 'stippled' finish.
 - (ii) To 'blend' wet scumble.

Two-row stippler (Fig. 1.100)

A narrow version of a stippling brush consisting of only two rows of bristle tufts.



Fig. 1.100 Two-row stippler

Size 100 mm × 25 mm and 150 mm × 25 mm.

Use In association with a stippling brush for stippling wet scumble in angles, and on narrow features such as mouldings and edges.

Care and maintenance of signwriting brushes

Cleaning brushes after use Must be carried out immediately after use, otherwise paint that is allowed to harden at the root of the brush may never be removed completely without seriously damaging the hairs. Hardened paint will destroy the shape of the brush. The brush must be rinsed out in the thinners of the paint being used, e.g. white spirit for oil paints, and water for emulsions. When all traces of paint have been removed, the hair should be dried with clean rag to remove the thinners.

The final process is to shape the brush with grease (vaseline). This is done by taking any non-setting grease or oil between the thumb and forefinger, pushing it deep into the root of the filling, and pulling it up to the tip leaving the brush in its natural shape. The greasing protects the filling from damage while being carried around, as well as ensuring that any slight traces of paint which may have been left in the filling will not harden. The grease must be thoroughly washed out with white spirit before re-use.

The use of hot water or strong soaps and detergents to wash soft hairs may result in the hairs losing their springiness.

Storage Lay flat in a tray, drawer or brush box, or bind them to a stiff card using elastic bands. New brushes should be stored with an insecticide to protect them from moth attack which will either destroy the filling completely, or eat away the fine tip rendering the brush useless.

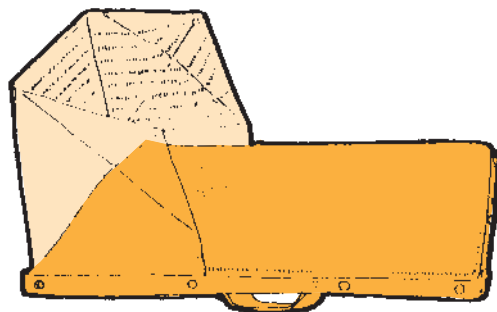


Fig. 1.101 Gilders' cushion



Fig. 1.102 Gilders' knife

1.1.11 Gilding tools and brushes

Gilders' cushion (Fig. 1.101)

A flat board padded with felt and covered with chamois leather or goat skin. One end has a folded parchment shield to protect the gold leaf from draughts. Underneath the board are two loops, one for the thumb to hold the cushion secure, and the other to sheath the gilders' knife.

Size Approximately 200 mm × 125 mm.

Use Upon which to cut loose gold leaf and other metallic leaves into convenient sizes when gilding relief surfaces.

Gilders' knife (Fig. 1.102)

Long, flat, bladed knife which is well ground but not sharp.

Size Usually a standard size of 125 mm blade length.

Use To cut loose gold leaf and other metallic leaves on a gilders' cushion.

Gilders' tip (Fig. 1.103)

Very thin row of squirrel or badger hair set between two pieces of card.

Size Usually 85 mm wide. Available in three lengths of hair: short up to 40 mm; medium up to 50 mm; and long about 60 mm 'length out'.

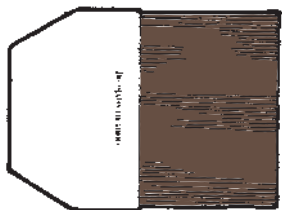


Fig. 1.103 Gilders' tip

Use There are two schools of thought, when the filling is rubbed against the gilder's hair or cheek, the hairs become sufficiently charged with static electricity to attract the gold leaf from the cushion so that it may be applied to the sized areas, whilst others claim it to be natural body oils coming off the skin.

Gilders' mop (Fig. 1.104)

Domed shape squirrel hair with filling set in either a metal ferrule or quill.

Size A range of diameters from 6 mm to 25 mm.

Use (i) To push applied gold leaf into crevices when gilding relief surfaces.
(ii) To 'skew' off surplus gold from relief surface.



Fig. 1.104 Gilders' mop

1.1.12 Texture-painting tools

Mixing tool or bumper (Fig. 1.105)

A round plate made from rigid plastic or aluminium with holes near the rim. Takes a standard broom handle.

Use To ensure speedy and thorough mixing of texture paints by plunging up and down during the mixing operation.

Rubber stippler (Fig. 1.106)

Type A – Fine flexible rubber filling set into a flat base with an arched wooden or plastic handle.

Size 150 mm × 100 mm and 200 mm × 150 mm. A very large type measuring 330 mm × 330 mm is available, which can be fitted with an extension handle for ceiling work.

Type B – A more rigid stippler completely moulded in rubber with thicker filaments.

Size 150 mm × 60 mm.

Use To produce a range of stippled or swirl effects in texture paint.

Comb (Fig. 1.107)

Clear plastic flexible blade with 'V' grooves or curves along the edge. A shorter blade is set alongside to ensure even pressure when in use.

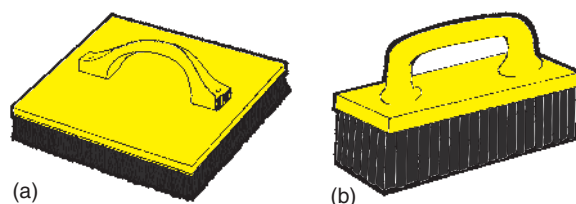


Fig. 1.106 (a) Rubber stippler Type A; (b) Rubber stippler Type B

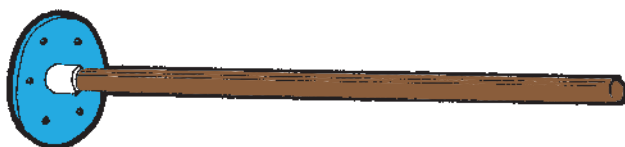


Fig. 1.105 Mixing tool or bumper

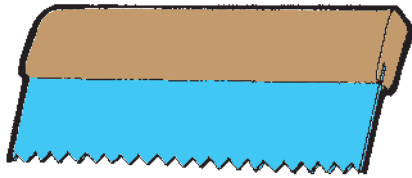


Fig. 1.107 Comb

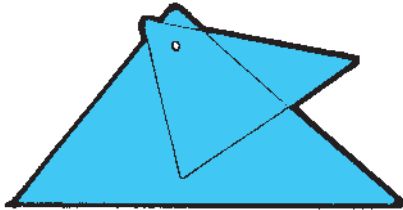


Fig. 1.108 Lacer

Size 90 mm, 180 mm, 250 mm and 300 mm wide.

Use To produce a range of combed patterns in texture paint.

Lacer (Fig. 1.108)

A triangular clear plastic blade with rounded corners, and a smaller blade attached to one corner.

Use Used wet and drawn lightly over partially set texture paint to remove high points and sharp edges or spikes.

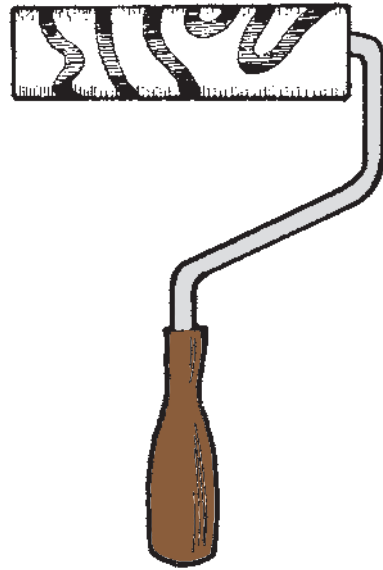


Fig. 1.109 Textured roller

Textured roller (Fig. 1.109)

Synthetic foam rollers with sculptured patterns.

Size Similar to paint rollers approximately 200 mm long.

- Use**
- (i) Used over wet texture paint to give a variety of relief textures.
 - (ii) A smooth plastic type gives a timber bark effect and can also be used as a lacer.