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**CASSELL AND COMPANY, Ltd**  
**LONDON, NEW YORK, TORONTO AND MELBOURNE**

**First published March 1904.**

**Reprinted April 1905, July 1908, July 1912, May 1914, August 1917  
October 1918.**

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## PUBLISHERS' NOTE

THIS short treatise on Upholstery is issued in the confident belief that it is not only thoroughly practical and reliable, but is so simply worded that even inexperienced readers can understand it. Should anyone, however, encounter unexpected difficulty, he has only to address a question to the Editor of *WORK*, La Belle Sauvage, London, E.C., and his query will be answered in the columns of that journal.

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# UPHOLSTERY



## CHAPTER I.

### UPHOLSTERERS' MATERIALS.

THE object of this handbook is to treat the subject of upholstery so simply but so exhaustively that any person handy with tools can, from the instructions here given, successfully upholster any piece of furniture, or repair furniture already upholstered. Upholsterers' work includes the hanging of fancy draperies and decorations, and the planning and laying of linoleum and carpets, and these matters will also be discussed.

A start will be made with some notes on the materials used in upholstering furniture.

Morocco leather, sometimes called levant, is a natural leather made from the skin of the goat. It is generally dyed a maroon, which is the most common colour used in furniture coverings, and it is usually finished with a rough pebble grain, though samples often met with are embossed in various geometric patterns and richly gilt. It is tough, durable, pleasant to the touch, and soft and pliable.

Roan skins are manufactured from sheep skins, and are dyed various colours. They are grained in imitation of almost any natural leather. They are often sold as real moroccos, to which they have a somewhat similar appearance, but they are not so durable though somewhat cheaper. Roan skins and moroccos are not large enough to cover a large chair seat or couch bottom; consequently two or three skins have to be seamed together to get the re-

quired length. In this way furniture covered in real skins can easily be distinguished from those in leather cloths.

Real morocco leather and roan skins are sold by the skin, according to size and quality, and the beginner will find them difficult to lay; there is often much scheming to prevent waste, as only certain parts of a hide can be used.

Carriage cloth is used considerably for covering medium-class furniture; it is made in a variety of colours and textures, such as corduroys, Bedford cords, tweeds, diagonals, serges, etc., and varies in width from 27 in. to 54 in., and costs from 1s. 6d. to 4s. per yard.

Hair cloth or hair seating is used to a large extent on ordinary couches and sofas, and cottage furniture. The horse-hair intended for this cloth is dyed black, and woven in hand looms with a black linen warp. The hair is soaked in water to make it supple, and put in one length at a time with a peculiar kind of shuttle. The weave is a kind of sateen, the weft or hair in this case being flushed to the surface. It is woven with a raw edge on each side, no selvedge being possible on account of the short length of the horse-hair. After leaving the loom the cloth is hot-rolled to give it a lustre. Hair-seating is made in widths varying from 16 in. to 30 in. It is a very strong, durable material, not liable to fade, but on account of its open texture catches a lot of dust. There are several cheap imitations which usually consist of black polished linen warp and weft, both plain and figured.

American leather is largely used for cheap and medium-class work. It consists of a waterproof paste spread on calico, and can be obtained in almost any colour, and grained or embossed in a variety of patterns. In the trade it is known as **A C leather** (American-covered leather). This material is difficult for a beginner to lay on properly,

being apt to kink and wrinkle unless carefully handled.

Velvets embrace a large variety of materials, and their chief feature is their pile or nap surface. Stamped velvet is a plain velvet stamped or embossed in a rotary press with suitable designs. Common mixed goods go through this process, the better qualities, such as Genoa, friese, plush, etc., being figured in the weaving. There are several mock velvets, known as velveteen and plushette.

Friese velvet is distinguished by its ground being covered with small loops left uncut.

Utrecht velvet is made from mohair, the wool of the Angora goat; it is heavier in pile and texture than the silk and mixed velvets, and is also cheaper. In conjunction with Wilton pile, a kind of carpet, it is often used for making velvet borders for furniture upholstered in saddle-bags.

Velveteen is a short pile material, the weft and warp being composed of cotton.

Wilton pile—French moquette—is sometimes used, but the heavy pile of the cloth prevents a neat appearance being obtained.

Velvets are obtainable in 24-in. widths, and vary in price from 2s. to 10s. per yard. Saddle-bag coverings are made from Wilton-pile saddle squares, sometimes called moquette, and plain Utrecht velvet borders. Saddles can be bought in stock sizes of 18 in. and 22 in. square, and also extra large sizes for couch and settee seats, 27 in. wide. The velvet borders are seamed to the edges of the saddle-bags. Care should be taken in laying on saddle-bag coverings to get the squares parallel with the frames. Half-saddles are often used for small chair-backs and arms.

In some velvets the pile surface is produced by inserting steel wires across the warp threads, these wires being secured by the raising and depression of the loom healds or harness, thus producing a shed

or opening in the warp threads for the insertion of another wire. In Fig. 1, one of these wires is shown in section with warp threads thrown over and uncut. The small groove at the top is for the insertion

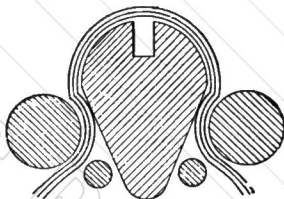


Fig. 1.—Grooved Wire in Velvet Weaving.

of the velvet knife, which cuts the threads and allows the wire to be removed, the cut threads forming the pile surface. Terry piles have the loop left intact or cut in certain portions only, forming raised figures, etc. After cutting, the goods are sheared to get an even height of pile, and steamed to make the pile stand up. Another method of pile weaving much used for plushes, which are a variety of heavy silk pile velvets, is by producing two single pile fabrics at one operation, and without the use of

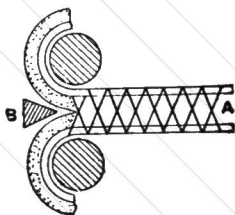


Fig. 2.—Lister Method of Producing Velvet Pile.

wires, this being part of the Lister patents. The cloth is woven as a double fabric with the weft yarn A (Fig. 2) interlacing from one to the other; before leaving the loom this weft is cut in the centre by



a mechanically operated knife shown at B, thus forming two separate fabrics ready for the finisher.

The crimp coverings used in upholstery are made of cotton warp and weft, and are woven with two warps or beams. The bottom warp is white, and this makes the plain part; the top warp is blue, and makes the crimp stripe. In Fig. 3 A is the warp beam which contains the white yarn; this is heavily weighted in the usual way with levers, etc. The

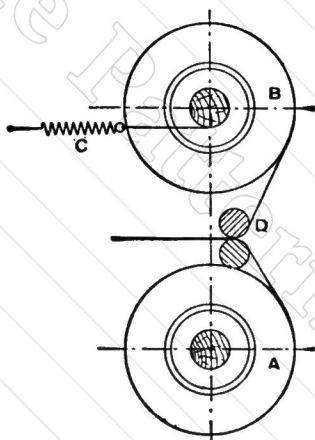


Fig. 3.—Weaving Crimp Coverings.

yarn from this warp passes over the lower rod of the bar bearer D. B is the crimp warp which contains the blue yarn; this is very lightly braked with a chain and spring c, which is secured to the loom top. The top bearer rod is worked backward and forward by a lever and eccentric, the yarn being pulled off the top beam at treble the speed of the bottom. Owing to this slackness, the yarn forms itself into loops on the surface of the cloth, thus giving it a crimped appearance in the blue stripe only. The draughting is exactly the same as plain

cloth—first and third, then second and fourth in healds, two ends in a dent.

Damasks are rather expensive, as they are usually of silk. They are very richly ornamented, but are not much used at present.

Brocades are made both in silk and wool. The figuring is raised slightly above the surface, which is not piled or cut. They are not very costly, and wear well.

Irish terries are not much used at present. Terry has a very rich lustrous surface ; the pattern, generally of a geometric nature, is of worsted warp and silk weft. It is a tough, warm material, and about the same price as velvet.

Silk tapestry differs from other coverings in not being a woven fabric. It is made by a kind of embroidery process, the pattern being worked on a web foundation with needles instead of shuttles. It is very costly, and is mostly used for high-class drawing-room suites. The name tapestry is given to a large number of woven fabrics, some of which are merely cotton prints. A variety known as Gobelin tapestry is mostly imitations of pictures, etc., in silk.

Cretonnes are printed twilled-cotton fabrics used for upholstered wicker-work furniture, breakfast-room suites, cheap cushions, dust covers, etc. They can be bought in widths of 27 in. upwards.

Tabinet is a delicate kind of silk, usually water-marked by being subjected to pressure whilst damp. It is chiefly used in conjunction with silk damasks and brocades for Persian bedsteads and hangings.

Repp corduroy is a kind of worsted or woollen cloth of a very stout, close texture. It is sometimes called railway cloth, from the fact that some of the railway companies use it as a covering for carriage seats and backs. It is a very strong, warm material, not expensive, and is made in various colours and patterns.

Serges, beavers, and tweeds are not very suitable for furniture coverings, but are largely used in upholstering carriages, etc.

For stuffing, curled horse-hair is the best material to use, but it has one disadvantage in that it is rather expensive. Several substitutes are sold, the following being the most important: Cocoanut fibre is a splendid material for getting firm edges: it should be of the clean, long-stapled variety, and not powdered. Algerian grass, dyed black, has much the same appearance as horse-hair, but is harsh and brittle. New Orleans moss and wild pineapple fibre are also used as horse-hair substitutes. When horse-hair is burnt it leaves a black ash, whilst vegetable fibres burn to a light grey ash.

Alva, a seaweed from the shores of southern Russia, the Baltic, and other places, is used in large quantities in the upholstering trade. It should be dry, as the damp green portions often seen in a bale of alva are liable to breed vermin. German alva is inferior to French, which is crisper and has more spring in it. The Dutch alva is the cleanest and most free from lumps. None of the vegetable fibres, however, is to be compared with hair, as they do not present the same amount of elasticity. Take a handful of each material and compress it; good hair will expand again on pressure being removed, while the others will do so only to a very limited extent. In use, seats stuffed with them become hard and lumpy very soon, while hair retains its spring for a considerable time, though, of course, it eventually becomes matted.

Cotton and woollen flocks were, until recently, almost exclusively used in the north of England for stuffing cheap furniture and beds. Flocks—short stapled, fluffy fibres—are the waste and fallings from the various machines used in preparing the threads for the looms and in finishing the cloth. There are several qualities and varieties of flocks,

the best being those made in the operation of raising or fulling fine woollen cloth. The cheapest are the screenings from the cotton-cleaning machines. There are also mixtures of cotton and wool, dyed and in natural colour. Flock makes a nice warm stuffing, but is inferior to the fibres mentioned above for making good edges.

Raising flocks are the short fibres torn from the surface of woollen cloth in the process of raising the nap or pile.

Cutting flocks are thrown off in the operation of cutting or clipping the face of certain kinds of cloth; these are cheap, usually very short in staple, and enter into the composition of flock wall-papers.

Milling flocks are formed in the operation of milling the surface of woollen fabrics.

Noils are the short fibres of wool removed in the process of wool-combing. Noils and millings are almost pure wool, and command a good price; they are chiefly used for woollen flock beds.

Mill puff is cotton or a mixture of cotton and worsted waste, and is much used in stuffing cheap furniture. It is mostly the screenings or fallings from cotton, etc., thrown down during cleaning and burring.

Mungo is prepared from woollen rags torn into short fibres. Wool extract is very similar to mungo, but has all the vegetable matter extracted by a chemical process. In preparing flocks for the market, they are mixed or blended to produce the different qualities and colours. Cotton flocks, such as teased or mill puff, are usually packed in bags of 56 lb., whilst woollen flocks are put up in 50-lb. bags.

Flock manufacture is usually carried on as an adjunct to a woollen mill, the woollen waste being sorted on large wire grids, which allow the dust and powdered material to fall through. The better qualities are dyed, dried by heat, and passed into a

"willowing" machine, which beats and opens all the fibres. They are then passed into a curling machine, and blown out by compressed air, and afterwards packed in 50-lb. bags for the market.

The machine used by upholsterers for dressing flocks is known as a teaser or willey (see Chapter II., p. 27).

Teazed wools are a pure wool flock, but are a bad colour, with no curl, and are manufactured from the fluff and sweepings of the mills; they are very cheap and warm.

Black wool flocks are in many different qualities and colours, and are chiefly made by the combing machines used in wool carding; they are of medium curl, are much used for mattress stuffings, and are often blended with coloured flocks and sold as "red spot fancy," mottled mixture, brown mixture, etc., the name denoting what colour has been blended with the black. White wools are a pure wool flock with a full curl and soft elastic feel, which in ordinary circumstances last for years without matting.

In addition to the fillings already mentioned, there are special materials for hot climates, the principal of these being paper shavings, wood wool, manna, aloes, etc., the object being to get a loose texture which will admit of more perfect ventilation.

Wadding is cotton or cotton-waste very finely carded to give it a soft, fluffy appearance. It is gummed to tissue paper. The grey wadding is the kind mostly used by upholsterers.

Hessian is a coarse jute cloth, and is used as underlinings, first stuffing, etc. The manufacture of this cloth forms the staple industry of Dundee in Scotland. It is made in many varieties and widths; that known as spring hessian is a very strong cloth, about twenty picks to the inch, and weighs  $10\frac{1}{2}$  oz. to the yard 40 in. wide. The coarser kinds, such as scrym, are used as underlinings and first stuffings.

B

Web or webbing is strong coarse braid composed of cotton-wool alone, or mixed with linen woven plain or tabby, and can be obtained in rolls of 18 yards. Spring web is very strong material made of linen with a pointed twill or herring-bone pattern running through it. Webbing is used for spring seats, and other light work. For backs, etc., not intended for rough wear, a cheaper variety, known as German webbing, is used, but not in good work, in which webbing forms the foundation for the whole job. Consequently, if poor material is used, the work sinks and bags quickly.

Gimps are used to give a finish to the tacking rebates in upholstered work, and are generally  $\frac{1}{2}$  in. wide. The kind used for hair-seated work is black polished linen, either plain or figured. Scroll gimp is a kind of thick silk twist in zig-zag form, stiffened by coarse threads running through it, and is used on velvets, plushes, etc. Gimps are sold by the gross yard, wound on a card.

Banding is very similar to gimp, and is used for much the same purpose. It is made from long strips of covered leather, folded double and pasted fast at the back, and can be got to match any colour of leather used in upholstered work.

Buttons may be had to match all kinds of furniture coverings. They are packed in cardboard boxes, which each contain one gross.

Upholsterer's twine is a special twine, very strong and tough, and sold in  $\frac{1}{4}$ -lb. and  $\frac{1}{2}$ -lb. balls. Good twine should not break when pulled in use. Twine used in mattress making is of two kinds; one, the thicker of the two, is tufting twine, and the other stitching twine.

Wire spiral springs have the diameter of their centres half that of their ends, the free ends of the wire being coiled inwards, to prevent cutting the coverings. Sizes from 4 in. to 12 in. are obtainable. They are made of different gauges of wire to suit

various purposes ; 4-in. springs are of No. 12 gauge, and the 12-in. springs of No. 6 gauge. They are secured to wood spring-rails in sofas, etc., with wire staples put over the bottom coil, and are tied or stitched with twine to furniture which has webbed foundations.

Old-fashioned springs sometimes met with are found to have the free ends tied down to the first coil by lapping with fine rose-wire. This method results in a certain amount of roughness, which is liable to cut the underlinings unless well lashed with cording. Springs are so cheap that it will not pay to lap the ends by hand labour ; but should a spring need shortening for some special purpose, use a pair of strong round-nose pliers, care being taken not to buckle the spring.

Springs used in mattresses are discussed in Chapter IX.

Pom-poms are used for ornamenting upholsterers' work. To make a pom-pom lap a wood or cardboard washer with three or four thicknesses of fibres, which may be of silk, worsted, or cotton. Cut all the fibres at the outer edge of the ring with a pair of pointed scissors ; this will release the ring. Bind the tuft in the centre with fine silk twist, and trim the pom-poms to shape. Another method is to knock two smooth spikes into a board, say 1 ft. apart, wrap the materials round the spikes to the required thickness, and tie up every  $1\frac{1}{2}$  in. Cut off in the centre of each tie, which will make eight pom-poms. Flatten with a blow from a mallet or under a press. For fine work, a rough creel could be fitted, and ten to twenty of the strands wrapped at once. A vandyked edge could be given to the pom-poms by trimming with a mattress tuft punch.

Mattress ribbons are used to bind the parts together, and can be procured in colours and stripes to match the ticking, being packed in rolls containing one gross yard. The flocks used for mattress

fillings are almost all woollen; cotton flocks are used, but to a limited extent only. The flocks most seen are the self-colours, which may be black, brown, etc.; these are often mixed and blended with one another, and sold as spot fancies, brown mixtures, greys, mottled, etc., and prices vary from 1½d. per lb. for a black wool to 1s. for the best bleached white woollen flocks. A good bedding flock should have a fine and even texture, free from powder and loose fluff, and the fibres should separate freely, be soft and springy, and have a wholesome smell. The horse-hair used for hair mattress fillings should be curly and much shorter in staple than that used for upholstering furniture; this material is much adulterated with brush-draft and dyed vegetable fibres, which are very difficult to detect. However, the burning of a sample may prove an easy test, horse-hair giving a black ash and vegetable matters a light grey; this has already been referred to. A reasonable price for mattress horse-hair is from 1s. to 2s., or even more, per lb.

Ticking for mattress-making is stocked in widths of 58 in. and 63 in. Cotton ticking costs from 10d. to 1s. 3d. per yard, union ticking from 1s. 4d. to 1s. 9d. per yard, and linen ticking from 2s. to 5s. per yard. Black linen and coloured sateens and lustres are used for backing purposes, and cost from 3½d. to 7d. per yard. Trimmings are used for finishing purposes, and are made in silk, wool, cotton, or leather, the last named being called banding, which is usually secured with fancy- or plain-headed studs. Mattress buttons are obtainable in any material used as mattress coverings.



## CHAPTER II.

### UPHOLSTERERS' TOOLS.

UPHOLSTERERS' tools are usually not numerous or costly, and in the following list every tool and its use is explained.



Fig. 4.—Packing Needle.

Fig. 4 shows a packing needle, used for coarse rough sewing, such as seaming hessians, scrym, etc. Other finer needles are required for thimble work, but an assortment beginning with the carpet needle



Fig. 5.—Stitching-up or Mattress Needle.

and ranging in size to the packing needle here shown will doubtless meet all requirements.

Fig. 5 is the stitching-up or mattress needle, pointed at each end, and varies from 8 in. to 10 in.



Fig. 6.—Half-moon Needle.

in length. It is used for stitching the edges of stuffed-up work, also for buttoning or tufting, and blind-stitching the edges of mattresses. A substitute for this needle can be made from an old solid-steel

## UPHOLSTERY.

umbrella wire. First scrape off the enamel and grind both ends to a fine point, using the hole in which the umbrella cover was fastened as the needle eye.



Fig. 7.—Hand Knife.

Fig. 6 is a half-moon needle, known as a spring needle. It is used for stitching the springs used in spring seats and backs to the webbing or canvas.

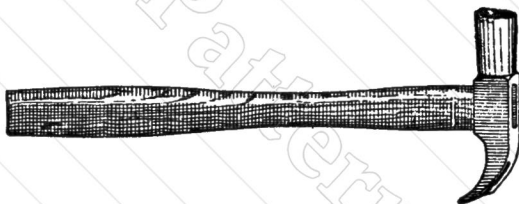


Fig. 8.—Canterbury Claw Hammer.

Fig. 7 shows a hand knife, which should be stropped on an emery board and finished on a strap. Fig. 8 shows a hammer, known as a canterbury

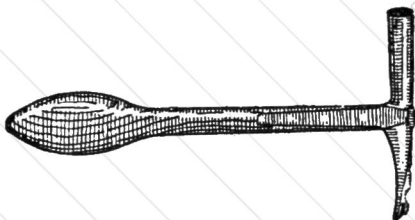


Fig. 9.—Gimping Hammer.

claw ; this is used for driving in tacks and general work. The upholsterer's gimping hammer (Fig. 9) has a small round polished head much longer than the ordinary hammer. It is used for gimping,

## UPHOLSTERERS' TOOLS.

banding, and fixing fine laces by means of small enamelled nails called gimp pins. Fig. 10 illustrates an upholsterer's pincers. These are almost



Fig. 10.—Upholsterer's Pincers.

indispensable for straining short webs, leather coverings, etc., as they hold the material much

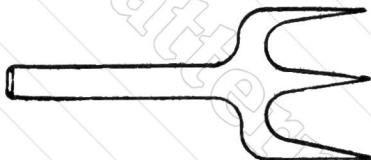
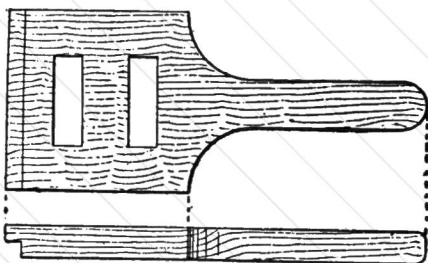


Fig. 11.—Stud Gauge.

firmer than the ordinary pincers and without the risk of tearing the fibres. Gimping hammers and pincers are sold in three sizes.



Figs. 12 and 13.—Web Strainer.

Fig. 11 is a stud gauge, which is useful for marking the positions of the brass-headed studs used for

finishing edges. For ordinary  $\frac{3}{8}$ -in. brass studs the points of the gauge should be  $\frac{1}{2}$  in. apart. In marking for studs, put the last point of the gauge in the last hole made before striking again, to ensure

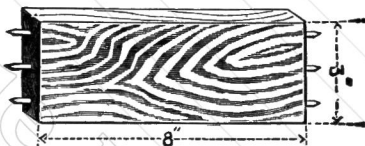


Fig. 14.—Web Strainer with Spikes.

that the holes shall be at equal distances apart. A large prick wheel is often used for the same purpose.

Figs. 12 and 13 show a web strainer. It can be made from a piece of hard wood, such as birch or beech, 12 in. long, 4 in. wide.

Another type of web strainer or stretcher, as

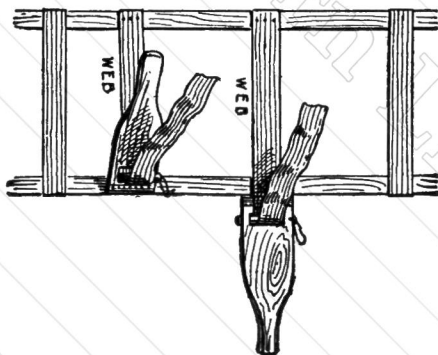


Fig. 15.—Web Strainer in use.

shown in Fig. 14, is made out of 1-in. stuff, fitted with spikes or nail points at each end—one set to stick in the stuffing rail, and the other to embed in the web. This has then to be pressed down till the web is perfectly taut, when it can be tacked on to the

rail (the other end having been previously tacked down) and the stretcher released, the web being cut off 1 in. from the tacks and nailed over. The pair of web strainers shown by Figs. 15 and 16 have no spikes to weaken the web. They can be made out

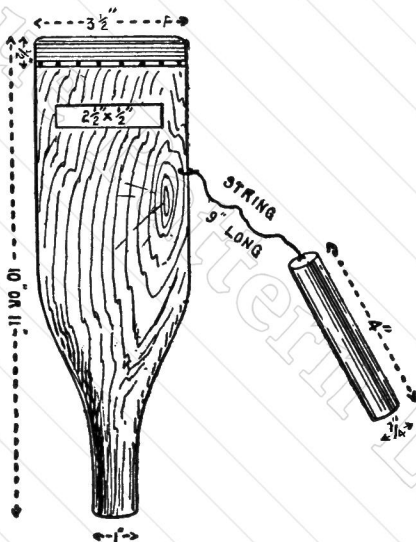


Fig. 16.—Parts of Web Strainer.

of  $\frac{7}{8}$ -in. or 1-in. oak, or any hard wood. The web is first tacked on one side of the job, the strainers then held in an upright position on the edge of the wood, the web passed through the hole of strainers in the form of a loop, and the roller put through the loop; it is then levered down till the web is tight.

The regulator (Fig. 17) is for working the stuffing materials to the edges during the process of stitching-up. It is similar to a broad flat packing needle fixed in a wooden handle.

The stuffing stick illustrated by Fig. 18 can be

made from a piece of hardwood about 2 ft. 6 in. long by 1½ in. thick at the other end. Cut a  $\nabla$  notch in the smaller end, and hollow the large end with a gouge chisel. A stuffing stick chiefly used in mattress making is shown by Fig. 19.

A pair of strong scissors about 9 in. long, a 2-ft. rule, a tape measure, and a couple of chisels and a heavy hammer for taking off sofa backs, etc., will

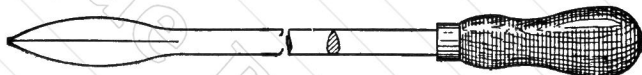


Fig. 17.—Regulator.

be required. For trade purposes a treadle sewing machine cannot be dispensed with; there are several suitable machines on the market, such as the Singer Co.'s No. 7; Bradbury's also make a good machine. In seaming leather or leather cloth, it is important to use "leather point" needles.

For supporting the frames whilst being upholstered, a pair of light wood trestles, about 2 ft. 6 in. high and 3 ft. long, should be used, and for small work a bench with a flat top, about 4 ft. square, will be useful.

Upholsterers' aprons have two pockets in the front, lined with stout moleskin. One pocket is



Fig. 18.—Stuffing Stick.

used for tacks, and the scissors, etc., are carried in the other.

In re-upholstering it is necessary, before using the matted stuffing materials over again, or before using new stuff, to pick or card them, so as thoroughly to tear and separate the fibres. Flock-carding or dressing machines are made both for hand and power, and some have special attachments for teasing hair and fibre. It is a good plan to have a

separate room for these machines, as the operation is very dusty, and, except at the feeding and delivering parts, the machine should be cased in with boards, sliding or hinged doors being provided for cleaning and oiling. The casing should be continued to a tapered funnel communicating with the



Fig. 19.—Stuffing Stick for Mattresses.

open air, and, if possible, a power-driven exhaust fan should be fixed in the upper parts of the funnel to remove the dust and other impurities. Hand cards have the same purpose as the machines. Fig. 20 shows the top portion of a pair of hand cards; the bottom part is similar, with the exception of the handles, which are used to give a sliding motion to the top part, the bottom part being held stationary on the bench. Fig. 21 shows the principles of a flock-carding machine, which is known as a teaser

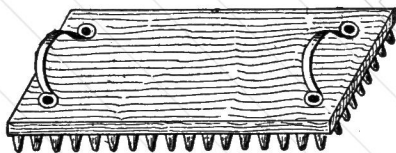


Fig. 20.—Top Part of Pair of Hand Cards.

or wiley. **A** is a large drum covered with spikes or card cloth, and geared to run at a high speed. The small drums or worker rollers (**B** and **C**) are also covered in a similar manner. The material to be carded is fed into the hopper **D**, and is carried round the large drum, coming in contact with the worker rollers, which tear up and separate the fibres; these are then thrown on the revolving delivery table **E**

by suitable catch rollers. The power is imparted by a cranked handle, or belt-driven pulleys. The working parts are cased in to prevent the material flying off the drums.

Fig. 22 shows a pair of grapple hooks, useful for

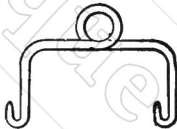


Fig. 22 —Grapple Hooks.

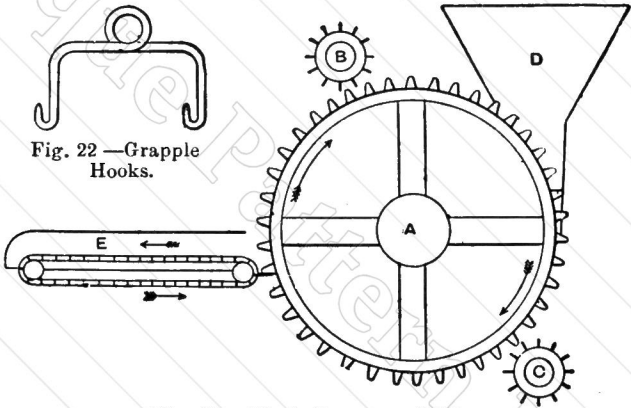


Fig. 21.—Flock Teazer, or Willey.

suspending bales of flock, etc. These are slung from the ceiling by means of ropes passing through the eyes. Each hook grips the opposite side of the bale; thus the bale mouth is held open, and as the bale is not liable to tilt over, much waste is prevented.



### CHAPTER III.

#### FRAMES, WEBBING, SPRINGING, AND STUFFING.

UPHOLSTERED furniture frames are of two kinds, stuff-over frames (Fig. 23) and show-wood frames (Fig. 24). Stuff-over frames (Fig. 25) are generally

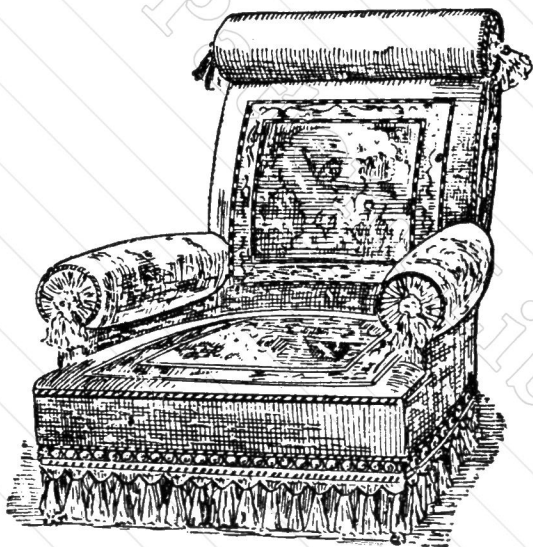


Fig. 23.—Stuff-over Chair.

heavily built, as the whole of the woodwork is covered with the exception of the bottoms of the legs. They are, however, more difficult to stuff than the show-wood frames (Fig. 26), which are generally ornamented with moldings and carvings.

## UPHOLSTERY.

Upholstered furniture is generally made up in sets known as suites; these usually consist of one couch or settee, one pair of easy chairs, sometimes called divans, and from four to eight small chairs, according to the size of the room being furnished. Odd chairs are known as occasionals.

The modern construction of chair frames is anything but satisfactory, too much time and labour

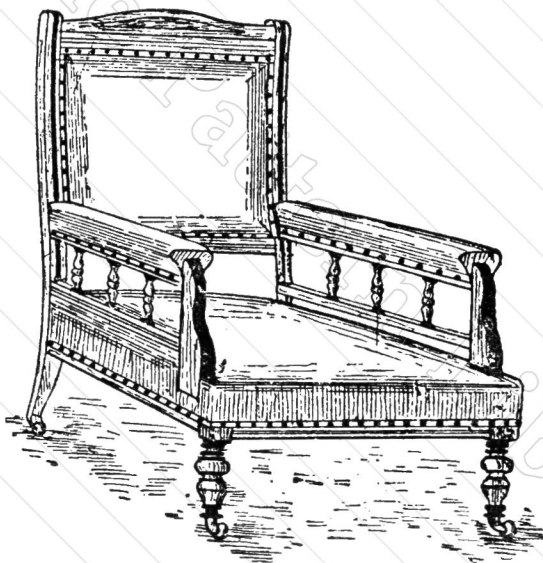


Fig. 24.—Show-wood Chair.

being spent on ornamentation instead of sound jointing. The joint almost universally used in chair-making is the dowel joint (Fig. 27). The advantage of the dowel joint over the mortise joint is solely in the saving of wood, as it will be seen that the length of the rail is exactly the distance between the uprights. The joint is made by boring holes and

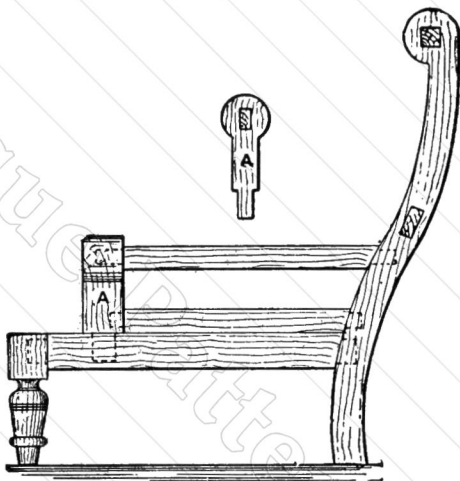


Fig. 25.—Frame for Stuff-over Chair.

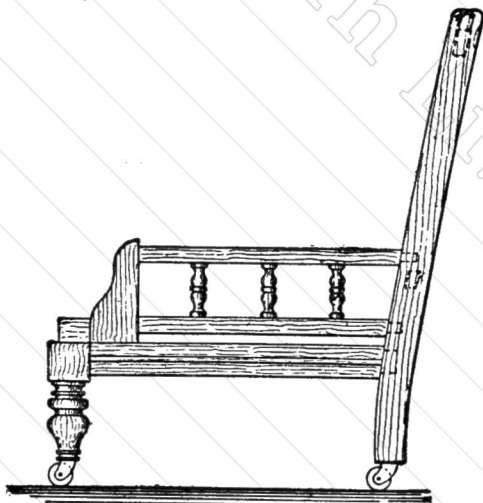


Fig. 26.—Frame for Show-wood Chair.

pegging up with dowels, and it is preferable to use dowels made with a dowel plate instead of machine-made dowels, as the force applied in driving the

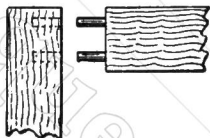


Fig. 27.—Dowel Joint.



Fig. 28.—Dovetail Mortise Joint.

wood through tends to consolidate the fibres. Fig. 28 shows one of the best joints for securing the seat rails of chairs to the front legs.

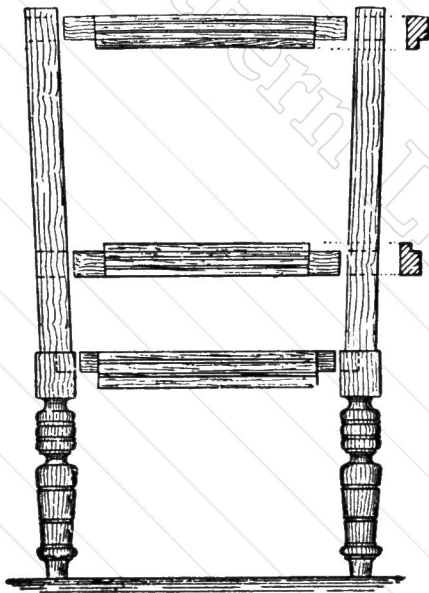


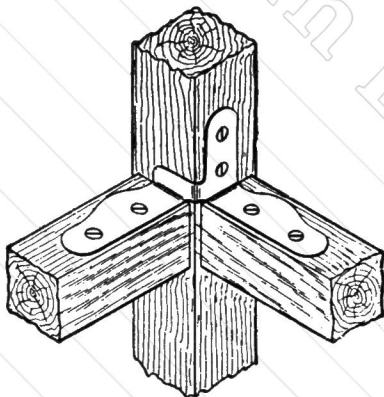
Fig. 29.—Chair Framing.

**FRAMES, WEBBING, SPRINGING, AND STUFFING. 33**

The correct method of framing a chair is shown by Fig. 29. The frames are made strongest when the two back legs are straight except for a slight



**Fig. 30—Part of Crown-back Chair.**



**Fig. 31.—Rubery's Chair Brace.**

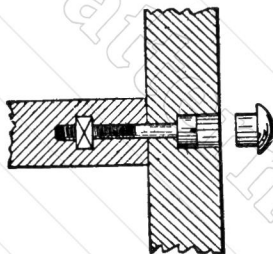
sweep at the bottom. The cross rails must be straight, and all joints should be mortised, the front leg joint being preferably dovetail-mortised, as in

**c**

**Fig. 28.** Compare this construction with one of the modern crown-back chairs (Fig. 30), where the chair back is made with four pieces of wood; the grain runs across the stuff where the dowels are put in, as shown. When extra pressure is put on the joints they snap, and sometimes break away a piece of the wood.

Couch and sofa frames should have the rails mortised into the legs and not the legs dowelled into the bottom of the frame.

There are several appliances for strengthening chair joints, two of these being shown by Figs. 31 and 32. The first is Rubery's chair brace, and con-



**Fig. 32.**—Reilly's Chair Bolt.

sists of a malleable iron bracket or brace with three arms, one to secure to the chair leg and the two others to the opposite seat rails. It should be placed underneath the chair seat. Fig. 32 shows Reilly's patent chair bolt. A square nut is let into the seat rail, and a hole is bored through the back leg and into the end of the seat rail. The bolt is inserted from the back and is screwed up with a turn-screw. The hole in the back leg should be plugged with a turned wood pattress or button as shown at the side.

Webbing is the first operation in all framed seats and backs. This is very important in furniture upholstery, as it forms the foundation, and if not done

**FRAMES, WEBBING, SPRINGING, AND STUFFING. 35**

properly the stuffing will sag and the appearance be entirely ruined. For example, suppose that an ordinary stand chair is to be stuffed up with a spring seat. Place the chair legs on the bench or trestles, and take a roll of No. 14 white web. Turn the web end over for  $\frac{1}{2}$  in., and fasten to the centre of the seat rail with four  $\frac{5}{8}$ -in. tacks. Pass through it the strainer, as shown in Fig. 33. The web must now be stretched perfectly tight by placing the rebate of the strainer on the under edge of seat rail, and grasping

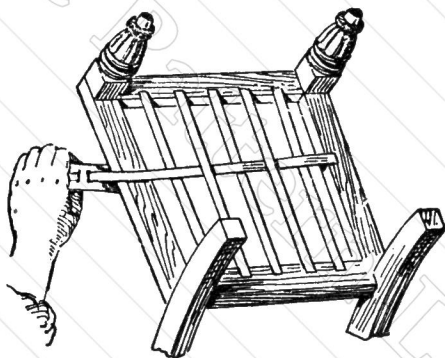


Fig. 33.—Web Strainer in use.

both handle and webbing firmly, pressing downwards. See that the web is straight, and fasten down with  $\frac{1}{2}$ -in. tacks, or  $\frac{5}{8}$ -in. large headed nails may be used if desired, putting four on each end of the web. Then remove the strainer and cut off  $\frac{1}{2}$  in. from the edge. Double this over and fasten down.

The other webs are fixed in the same way, the number varying according to the size of the frames. For spring seats a space of 2 in. should be between the webs. Now turn the chair and cross-web from side to side, interlacing the webs alternately, as shown in Fig. 34. Straining the webs with the hands alone should never be attempted. The webs

cannot be stretched too tight, as the least bag will be very evident in the shape of the seat when the springs have been inserted.

Backs are webbed in exactly the same way, except that the webbing is put on the inside. For this work it is usual to use the German webbing, as these parts are not liable to the same hard wear as seats. Fig. 35 shows another kind of chair bottom in the process of webbing, and Fig. 36 is an inside view of a webbed back.

The next operation is springing, and for this four 8-in. chair springs will be required. Sometimes

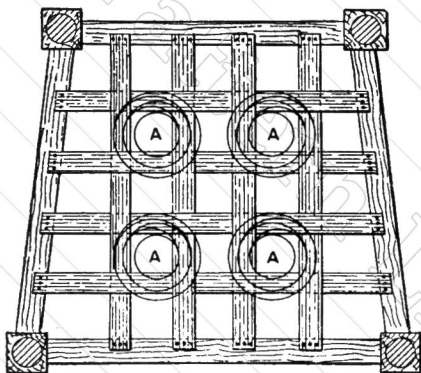


Fig. 34.—Seat with Springs in Position.

three springs fixed in the form of a triangle are used for small stand chairs, but four is better. They should be free from kinks and buckles. First place them on the webs in the positions shown by A in Fig. 34, at least 4 in. from the edges, and when dealing with a chair seat having a curved front, leave out one spring from the row nearest to the curve. Then take the curved spring needle, thread with double twine, and in four places sew the springs to the webs by the bottom coil. Some workmen employ



**FRAMES, WEBBING, SPRINGING, AND STUFFING. 31**

the method of stitching all round the coil and tying the ends together. Tie off at each place with a double knot (in the case of a couch the springs would be sown to the bottom cover by the method shown in Fig. 37). In first-class work the tops of the springs would now be lashed with laid cord; this will be described later, as the method now described is common, and secure if properly done. Measure the distance over the springs with a tape measure, and cut a piece of hessian large enough to cover.

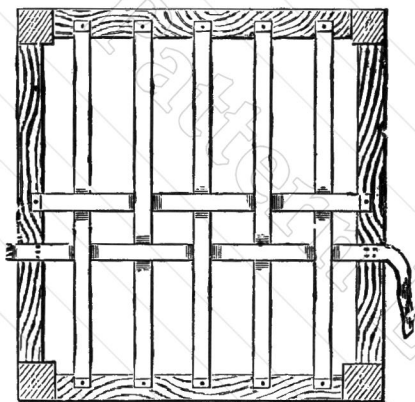


Fig 35.— Chair Bottom during Webbing.

Take this along the front rail just below the top edge, draw it over to the back, and pull it down in the centre until the springs are compressed one-third their length. Get the fibres of the hessian perfectly straight and start tacking, working from the centre to each end. Do the same at the sides and cut off. The springs will now be between the hessian cover and the webbing, and must be secured on the top. Work each spring in an upright position from the underside of the seat, and, with the spring needle sew the top coil of the spring to the cover.

Press down, and if any springs clash or bind, the cause will probably be that they are not perfectly upright.

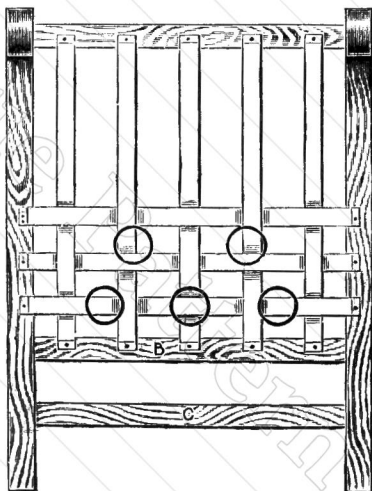


Fig. 36.—Inside View of Webbed Chair Back.

First stuffing, for which the seat is now ready, can be of alva, which makes excellent edges. Begin by making loops or long stitches of twine on the top of the seat and 2 in. from the outside edge; two



Fig. 37.—Springs Sewn to Bottom Cover of Couch.

stitches to each side will be sufficient. Then pull moderately tight and tie off. Pack some alva tight and even under the strings to a height of about 3

*FRAMES, WEBBING, SPRINGING, AND STUFFING.* 39

in. (see Fig. 38), and spread out 6 in. wide. The space in the centre can be filled with a layer of cotton or woollen flocks. Cut off a piece of scrym (a coarse hessian), fix at the back with four stay-tacks

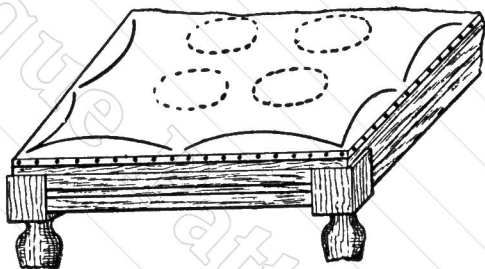


Fig. 38.—Stringing Alva in Edges of Chair Seat.

partly driven in, and smooth over with the hands to the front. Get the scrym fibres perfectly straight, and tack on the front stuffing rail in the centre and work to the ends, inserting more alva at the same time. When finished, the appearance should be a moderately firm roll of stuffing, about 4 in. high all round the seat. In tacking the scrym, double the edges to obtain a better hold for the tacks.



Fig. 39.—Seat with First Row of Stitching.

The process of stitching up the edges will now be dealt with.

In stitching up the edge of the seat, first insert the point of the regulator (Fig. 17, p. 26) through

the scrym on the top of the seat 4 in. from the edge, and work the stuffing well to the edges. The first row of stitching (Fig. 39) can now be done by what is known as the blind stitch (Fig. 40). Thread the mattress needle (Fig. 5, p. 21) with twine, and in-



Fig. 40.—Blind Stitch.

sert it in the stuffing just on the top edge of the stuffing-rail. Push the needle forward, let it come out on the top of the seat about 6 in. from the edge, and draw the needle out for about half its length. Then back the needle 1 in. farther to the right than where first inserted, and in doing this get as much stuffing as possible in the loop or stitch. Wrap the twine twice round the needle and pull tight; this will draw and secure all the stuffing contained in the stitch to the edge. The twine will be seen only on the front. The stitches should be 2 in. apart, work-

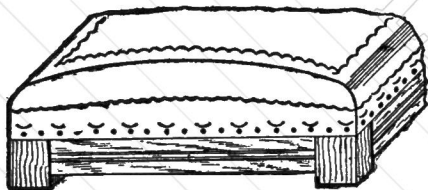


Fig. 41.—Second Row of Stitching.

ing to the right. After stitching about 6 in., insert the regulator and work freely to the edges. Some upholsterers take up about 1 in. of the edge of stuffing, and form a distinct roll  $\frac{1}{2}$  in. in diameter. This roll should be firm and hard, and should not bow down when pressed.

The second row of stitching (Fig. 41) is put right

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through. Use the same needle and work to the right, beginning 1 in. higher up the edge than the first stitching. Pass the needle through and draw out on the top 2 in. from the edge. Do not turn the needle round, but back it out on the front eye end, make a 1-in. stitch, and pull tight. It is a common practice to stitch only the front and sides of small stand chairs, the back edge being left with the blind stitch only.

The last row of stitching (Fig. 42) is the same as the second row, but only  $\frac{1}{2}$  in. from the edge. Care should be taken to make the stitches straight and even, as on this depends the correct sweep of the

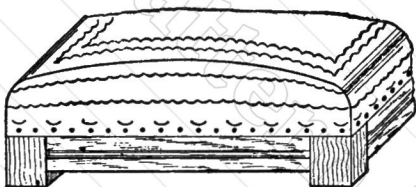


Fig. 42.—Third Row of Stitching.

finished seat. Fig. 42 shows the stitching completed.

The second stuffing can now be done. Fill the seat with a layer of flock about 4 in. high when pressed down, which will give the correct rise to the seat. Over this lay a sheet of grey wadding, pulling close to the extreme edges. In common work it is usual to lay the outside covering directly over the wadding, but it is better to cover with unbleached calico, as this prevents dust rising from the stuffing. The calico must be tacked in the centre and strained with the pincers. If the seat slacks when sat upon, the calico is not tight enough, or there is not sufficient flock in the second stuffing.

In stuffing the back, which is presumed to be firm-stuffed and buttoned, lay it on the trestles or

bench. First cross-web with four rows of webbing, which should be tacked to the rebates. Measure the space, cut off a piece of hessian, and tack it on all round. Then with needle and twine make loops with one break in the centre, to go right across the back. Fill the loops with well-picked fibre or alva, and tack over a cover of scrym, filling with more stuffing until the back is fairly firm but not hard. The edges should be even. Now with the long needle blind-stitch the edge all round in the manner described for the seat. This will be sufficient, as the back is to be buttoned. Then give a second

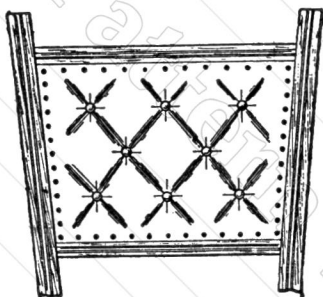


Fig. 43.—Tufted Chair Back.

stuffing with flock, and afterwards a layer of wadding, and cover with unbleached calico. Any staining, polishing, etc., can now be done, but not the final spiriting-off, which is generally left until the covers are put on. (Wood finishing is outside the scope of this work; consult the companion handbook devoted exclusively to it.)

When the polishing is finished, the outside covers, which may be of any material, can be fixed. Soft goods such as velvets, reps, etc., are much easier to lay than leather or leather cloths, which require a considerable amount of straining to get free from pleats and wrinkles. For velvet, measure

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the seat from mould to mould, cut the cover, lay it on the seat, and smooth it with the hands. Get the threads and pattern straight, and stay-tack the four sides. Begin tacking with  $\frac{3}{8}$ -in. tacks 1 in. apart, keeping them as close as possible to the mouldings, so that the trimmings hide the heads of the tacks. Tack the front first, then smooth over to the back and tack in the middle and work to each corner. The sides should then be tacked, leaving the front corners until the last. These should be doubled under the front, pulled down with the pincers, and tacked through the double thickness. Now run the hand-

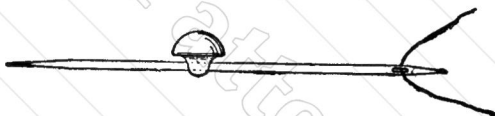


Fig. 44.—Sewing Button to Chair Back.

knife round the edges, keeping close to the moulding and cutting off waste stuff. The back is covered in the same manner, but a little gather should be allowed on the top so that the tufts will sink better.

The back can now be tufted (see Fig. 43) and buttoned. To do this, get some velvet-covered furniture buttons, the same colour as the cover, and mark their positions with a piece of chalk. Thread the long mattress needle with twine, pass it through the stuffing from the back, and let the point come out on a chalk mark. Draw the needle out, but not all the twine, push the needle through the tag of a button as shown in Fig. 44, then back through the stuffing from the front,  $\frac{1}{2}$  in. from where the needle came out. The two ends of the twine will then be at the back. Insert the point of the regulator through the hessian at the back and work away the stuffing all round where the button will sink (see Fig. 45); pull the ends of the twine and draw in the button, thus throwing up a tuft all

round. Tie the ends of the twine and put a leather mattress tuft (Fig. 46) between the knots. Another method is to tuft the whole back with one continuous length of twine, finally tightening up and tying off, as shown by Fig. 47. The first method is preferable.

A method of getting a deep tuft much used in the trade is to leave the two ends of twine long enough to reach to the nearest cross-rail; a tack is driven in half-way, the strings pulled tight and given a few laps round the tack, which is then knocked home. This gives the button a permanent set.

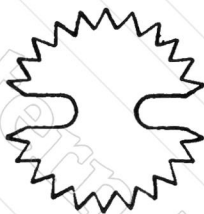


Fig. 45.—Section of Tufted Chair Back. Fig. 46.—Mattress Tuft.

To prevent the twine used for tying the buttons cutting the canvas when tying up, put a tufting washer, made from clippings of leather or stout cloth, between the ends before the knots are tied. The creases between the tufts are set in by tapping them with a hammer whilst laid on a piece of hardwood; care must be taken to have all the tufts of the same height.

The stuffing material has much to do with the set of the tufts; hair and other springy fibres set up much better than flock or similar short stapled materials.

A method of marking out furniture for buttoning is to set out on the back of the material either with chalk or black pencil a series of cross lines, and



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where they intersect the buttons B should come, as shown in Fig. 48. The distance apart must be regulated according to the method of buttoning adopted, if close together or few as possible. Make the "diamonds" about  $1\frac{1}{2}$  in. or 2 in. longer on each side than their actual position to allow for the fullness in stuffing.

The above instructions apply to all kinds of soft coverings, but in putting on coverings such as leather or leather cloths always begin in the centre, and use a pair of pincers for stretching the material, as it is liable to form into "pipes" and "wrinkles"

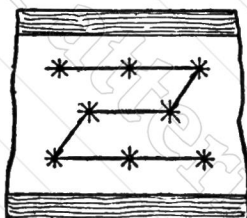


Fig. 47.—Chair Back with Laced Tufts.

at the edges. These should be removed before tacking, if necessary cutting out a narrow V-shaped piece from the wrinkle and tacking securely.

In cold weather all American cloth covers should be warmed before a stove or fire, to prevent the enamelled surface cracking and peeling. It also allows the cloth to expand when laying, and the contraction on cooling makes a neat layer when the work is carefully done.

The edges of the cover can now be finished with suitable coloured gimp to match the covers if soft goods are used. This is secured with black gimp pins, sold by most ironmongers. Keep the gimp tight and straight, and place the pins 1 in. apart in zig-zag fashion.

For leather or leather cloths banding is used

instead of gimp, this being secured with brass or solid leather-headed studs, spaced at equal distances apart with the stud gauge. The chair back

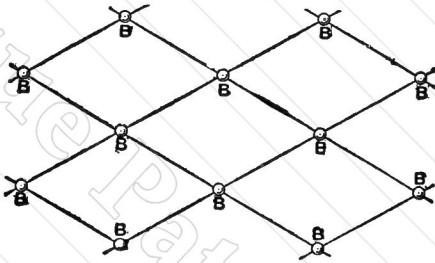


Fig. 48.—Marking out Buttoning.

can be covered with velvet or other material, and the under-side of the seat may have a cover of hessian, or it can be left open, thus being convenient for dusting.

## CHAPTER IV.

### MAKING SEAT CUSHIONS AND SQUABS.

THE making of seat cushions and squabs is included in upholsterers' work. Cushions are made with square edges, and vary from 2 in. to 4 in. in thickness.

Squabs are thin cushions chiefly used for carriage-back upholstery, saloons, etc.; they differ from cushions proper in being invariably secured to the frame or seating.

Cushions are made in two different styles, known as piped-edged cushions and plain-edged cushions. Fig. 49 is an enlarged section of a piped-edged cushion, the edge being formed with piped seaming lace sewn with the double stuff. Fig. 50 shows the plain-edged cushion; the raised appearance of the seam is caused by a narrow strip of the material being drawn out and over-seamed on the edges. The advantage of the plain-edged cushion is that it is in two pieces only, whereas in the piped-edged cushion the top, bottom, two ends, and two sides are separate. All cushions are seamed inside out, so that the raw edges do not show in the completed article.

In setting out the dimensions for a piped-edged cushion, allow 1 in. all round the top and bottom pieces for seaming and tufting; the edge strips require an allowance of  $\frac{1}{2}$  in. all round. The seaming lace shown in Fig. 49 can be obtained in a variety of colours and materials at most wholesale houses. It is very cheap, and is usually of soft sateen jean twill, and is sold with the piping cord worked in. Seaming lace can be made from the

material, but it does not pay to do this. It is sold without the cord; therefore, before being used, double the lace and place between the folds some piping cord or thick twine. Fold the two ends together and baste fast with coarse stitches. Then pin or baste this between the two edges of the top and side piece, taking care to see that the stitches are made through the wrong side of the stuff. Next baste the bottom to the other edge of the side piece with a length of seaming lace between. These two seams can now be machined, and the front edge will be finished. The opposite side is done in the same way, keeping the case turned inside out. One end only must be seamed up before the case is

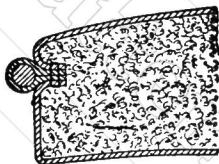


Fig. 49.—Cushion with Piped Seaming.

turned, and the other end must be stitched by hand. Before doing this, however, the part of the cushion nearest the seamed end can be stuffed. Push in the stuffing from the open end, and work well into the corners and edges with the stuffing-stick. Set the work by beating with the hands, and work out any hollow places with the stick. When half the length of the cushion is filled and levelled, this part can be tufted. With a piece of chalk mark the positions of the buttons, which can be in even rows or in the shape of a diamond. Then proceed to fix the buttons, following the instructions given in the previous chapter. Care should be taken to tie all the buttons in the same way. The other half of the cushion can now be stuffed and seamed together at the open end. When completed, the cushion should

## MAKING SEAT CUSHIONS AND SQUABS. 49

be of even thickness and the edges quite square and firm.

The case of a plain-edged cushion for a sofa is of two pieces of material, namely the top and bottom, as the ends do not show. For a couch cushion it is usual to make one or both ends square, in which case the parts will consist of top, bottom, and two ends. The edge of this cushion is a thick seam of the double thickness of the material (see Fig. 50). One seam is made about 1 in. from the edge of the stuff, and the other at a distance from the first of about 3 in., or whatever thickness the cushion is required. This forms the front of the cushion for a sofa, and the underlining is seamed to the top, which

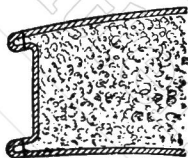


Fig. 50.—Cushion with Plain, or Mocked Edging.

should be turned inside out. Some cushions are made with square edges all round, in which case they can be reversed when one edge is worn. Another method for small chair cushions is to seam the top and the bottom pieces wrong side out, then turn and over-seam the edge on the outside through the double thickness.

Squabs are thin cushions, and are secured permanently by tacking at the edges. They are extensively used in the carriage-trimming trade for carriage backs, and also in tramcars and railway carriages. In the furnishing trade, squabs are made for seat backs, Persian bed-upholstery, and other purposes. In making a squab, it is important that the part to be covered should be measured carefully to the exact shape and size. In cases where

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the squab cannot be finished on the place it is to occupy, it can be made on the bench. First cover the part loosely with hessian and secure this with a few tacks. Then cut to size, take off, lay on the bench, and fix at the corners with marking awls. Now measure for the top cover and make an allowance for pleats and tufts, which vary with the amount of fulness required.

If lap tufts are wanted, set out the positions with a tape measure and chalk, fold at the lines to form the pleats, and iron with a hot carpet goose-iron, if cloth is used. For roans and moroccos the pleats are set in by hammering on a flat surface, as the iron would scorch the leather. If the surface is large, the joints of the skins should be made to come in the pleats.

Different methods are employed in stuffing squabs. One way is to pick on a good layer of stuffing. The top cover is tacked to the top of this, the button strings are inserted, and each tuft is set to its proper height with the stick, and tied. Another method is to begin in the centre and form each tuft separately, and gradually work to the sides. Whichever method is employed it is important to keep the tufts as even as possible in size and height and to allow sufficient margin all round the edges for tacking. The tacking is usually hidden with gimps or banding.

## CHAPTER V.

### UPHOLSTERING AN EASY-CHAIR.

INSTRUCTIONS will be given in this chapter on upholstering a stuff-over easy-chair in what is known as "best work."

Fig. 51 shows a stuff-over easy-chair which is similar, although not identical, to the one here described. When the frame is made, with a coarse rasp rub off the top edges of the stuffing rails to a bevel sufficient to hold a tack. Turn the frame upside down and web the bottom with six cross strands of best English webbing. Then web the back, placing the webbing inside, as shown in Fig. 52, p. 53; the arms require webbing both inside and outside.

The chair is now ready for springing, for which purpose nine 8-in. springs for the seat, five 6-in. springs for the back swell, and six 4-in. springs for the arm bolsters, will be required. Sew the seat springs to the webs with double twine in three parallel rows of three. The back swell springs are placed in two rows, three in the bottom row and two in the top row (see Fig. 52). The bolster arm springs are placed on the top of the arm rail (see Fig. 53) and must be secured with spring staples.

Another method is to lap small pieces of webbing or leather round the bottom coil of the spring and tack to the rail, as shown in Fig. 54. An alternative method is to sew the springs into position from above with the curved needle in the same way as they were sewn upon the webs, fastening each spring separately. The former system is favoured in all first-class work.

The seat springs are lashed on the top with cord. Procure some four-strand laid cord, and tack one end to the back rail, in a line with the centre of the middle row of springs. Lap the cord once round the top coil of the first spring on the off side, then once round the same coil on the inner side, and then in the

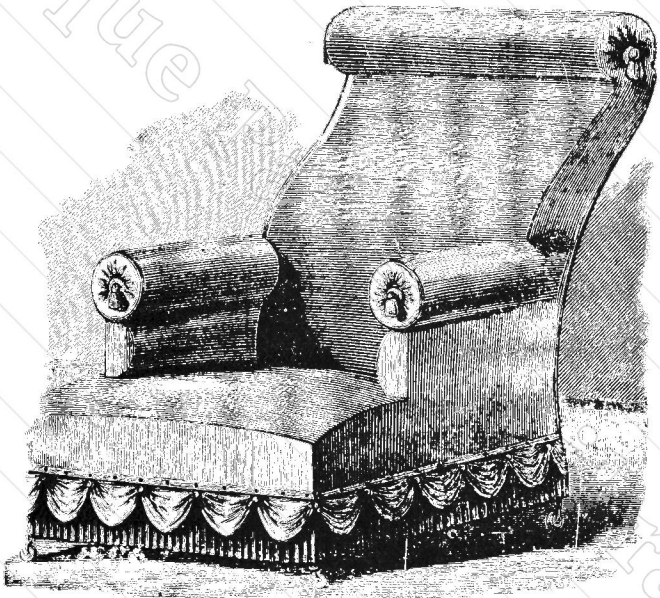


Fig. 51.—Upholstered Easy-Chair.

same manner with the centre and the front springs ; Fig. 55 clearly shows this operation. Now pull the free end of the cord until the springs are compressed about one-third their length, and tack the cord to the front rail in a direct line with the tack at the back. The springs should lean slightly towards the back, as the pressure on the seat is from the front,



and the springs will take a proper vertical position when sat upon. Next cover the arms with hessian, tacking it on the inside of the arm rail, bringing it

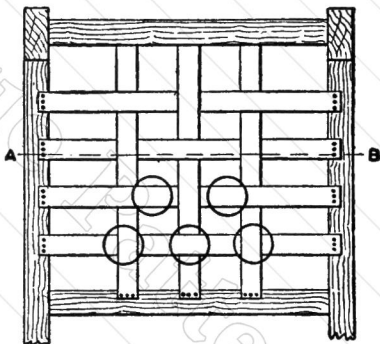


Fig. 52.—Webbed Chair Back showing Positions of Springs.

over to the other side, and pulling down until the springs are compressed. Then stitch the springs with the curved needle and tie off.

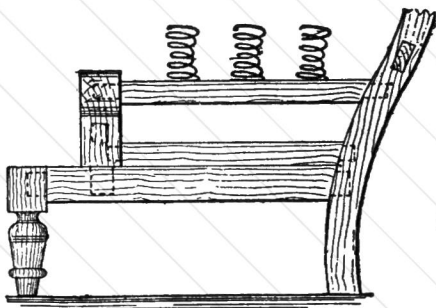


Fig. 53.—Springs on Chair Bolster Arm.



Fig. 54.—Spring secured with Pieces of Leather.

The back can next be dealt with. Cut a piece of hessian, tack it straight and tight to the head rail, and sew it to the back webs just above the top row

of springs on the line A B (Fig. 52). Pull the hessian at the bottom until the springs are compressed, tack fast underneath the rail, and tie off. Fig. 56 is an

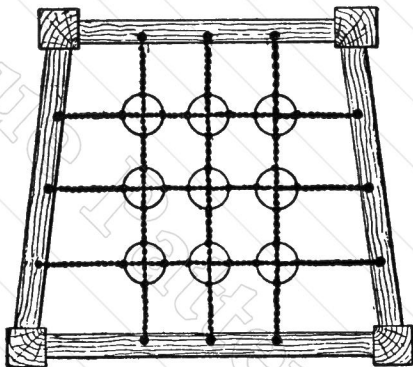


Fig. 55.—Chair Seat Springs Lashed with Cord.

illustration of a chair seat showing the springs covered with hessian.

The springing is now completed, and the first

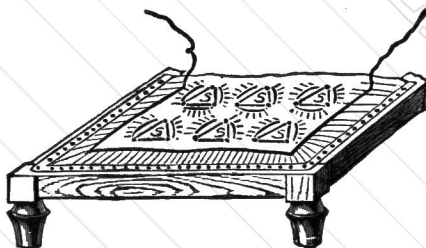


Fig. 56.—Seat Springs Covered with Hessian.

stuffing can be done. For this, use "seconds" curled horsehair. Alva may be used if preferred, in which case care should be taken to remove all lumps. Beginning with the seat, loop the edges

## UPHOLSTERING AN EASY-CHAIR.

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with twine and fill these moderately firm and even with stuffing. Cover this with scrym, which must be tacked on the rasped edge, and work in more stuffing, so as to make a thick roll all round. Make

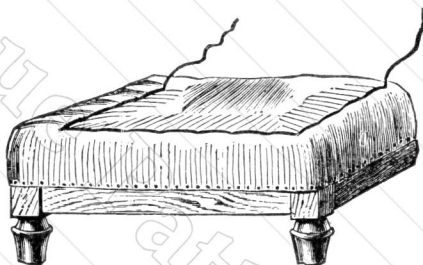


Fig. 57.—First Stuffing.

the blind stitch and follow with two rows of stitches, the last row only being done on the front and up the sides to the arms. Fig. 57 shows the first stuffing, and in Fig. 58 a piece of the scrym is removed to show the blind stitching. The second row of stitching is shown in Fig. 59.

The arm bolsters can now be stuffed. First loop

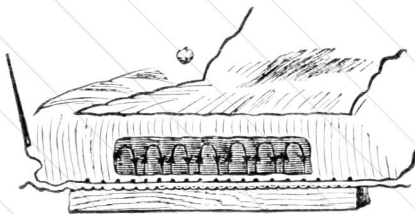


Fig. 58.—Blind Stitch in Chair Seat.

with twine with a break at each edge, but do not draw up tight, as the bolsters require plenty of stuffing. Then cover with scrym, using the regulator to work the stuffing round, so as to get a firm, smooth bolster. Care should be taken to have the

bolsters of the same size. Their front ends are blind stitched and secured with two rows of stitches, keeping them square to the edge. The backs of the bolsters are not stitched up, but are grafted well into the back.

To stuff the bolster head, make loops of twine with tacks knocked into the rail, and fill with stuffing. Tack a piece of scrym on the under side of the rail, and fill in with stuffing, keeping it well to the front. Work the regulator freely to get the bolster to a good shape, and tack the scrym at the back. The ends of the bolster head are closed with two rows of blind stitching. The back of the chair must be strung with looped twine and well filled with stuffing, especially the swell at the bottom, as this

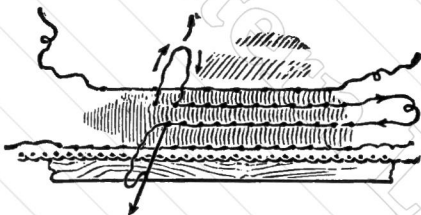


Fig. 59.—Second Row of Stitching.

should support the hollow of the back of the person sitting. Then cover with scrym, and the first stuffing is complete. The scrym covering the under portion of arm and bolster should be in one piece. For the second stuffing string the seat from front to back, and pick on evenly under these about  $1\frac{1}{2}$  lb. of hair, making a gentle rise to the centre of the seat. Do not let the stuffing overhang the stitching, but let it come to the edge. Over this put a layer of sheet wadding. A portion of the chair stuffed up is illustrated by Fig. 60. The seat must now be covered with unbleached calico well stretched on and free from wrinkles and puckers. It is not

## UPHOLSTERING AN EASY-CHAIR.

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necessary to have this on, but the job is more satisfactory with it. Fig. 61 shows a portion of the chair covered with calico. Then test the seat by sitting on it, and if it gets slack and baggy the calico is not strained sufficiently, and requires more stuffing. The back head bolster and arm bolsters are second-stuffed with a layer of hair, followed by sheet wadding and covered with calico. The back bolster is shown stitched up by Fig. 62.

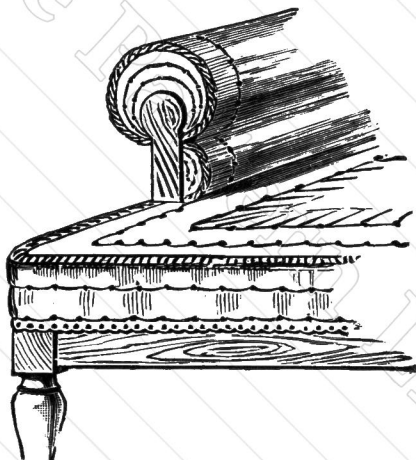


Fig. 60.—Part of Chair Stuffed up.

The chair is now ready for the cover. A common covering for stuff-overs which harmonises well with this style of upholstery is known as saddlebags or bags by the trade. These are squares of heavy Wilton pile, and are made to look like a panel by sewing on velvet or plushette surrounds. The saddles proper are sold in two sizes, 18 in. sq. and 22 in. sq. (see p. 11). A stuff-over easy-chair requires one for the seat and one for the back, each 22 in., and one for each bolster arm 18 in. sq. In addition, 4 yd.

of velvet will be required for the surrounds. With a tape, measure the distance over the seat from the bottom edge of the stuffing rail on one side to the other. If this is 36 in., add 1 in. for seaming. This will make the surrounds  $7\frac{1}{2}$  in. wide for each side. To get the breadth of the surrounds, measure from the front to the back in the same manner, and halve the distance over and above the width of the saddle. Skill in cutting out is acquired by constant practice, the main object being to avoid waste, especially with

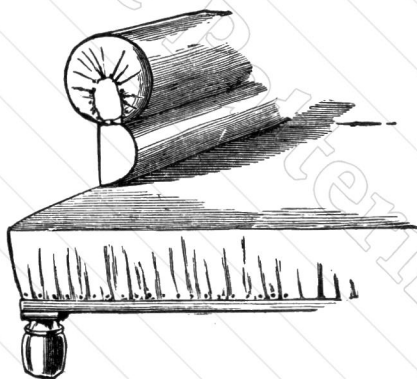


Fig. 61.—Part of Chair covered with Calico.

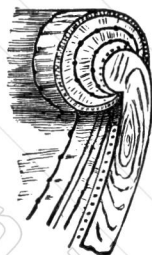


Fig. 62.—Back Bolster Stitched up.

expensive covers. In cutting surrounds of plain velvets, always cut across the piece if the length of the surrounds allows it. With figured goods it is more difficult to avoid waste, as the pattern must be matched, and may vary from 4 in. to 1 yd. before the pattern is repeated. Lay the saddle on a table or other flat surface, and place the surrounds in their proper positions, marking them when correct; then sew them together the wrong side up. Place them on the seat, and get the saddle equidistant from all four sides before tacking. This must be begun from the centre and worked to the corners.

## *UPHOLSTERING AN EASY-CHAIR.*

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stuffing being put in or taken out as is necessary while tacking down, and the hands being used freely in smoothing out all kinks and wrinkles. If the hands are occasionally rubbed with a sponge slightly damped (not wet) with clean water a firm bite will be obtained. Proceed in the same manner for the back and the bolster arms, letting the creases of the arms be evenly pleated all round. Never let the covers get twisted in any way, but allow mesh or threads to run straight across.

The head is not usually made with a saddle, but is covered with plain velvet. The ends of the bolsters of the head and the arms are finished with a heavy pom-pom or tassel and cord. The edges of the chair are finished with a heavy fringe, about 6 in. wide, of a colour to match the covering. A piece of Forfar or black linen should be fastened on the bottom of the chair to cover the webs. The outside back can be covered with velveteen or plushette of the same colour as the surrounds. Clean off the whole surface with a furniture brush, which has bevelled ends for getting into the joints, and is bristled specially for the purpose. 24 in. outside measurement is a very suitable width for stuff-over frames for upholstering, it being neat and economical, as one width of velvet covers it without a seam. The most suitable width must be left for each worker to decide for himself.

## CHAPTER VI.

## UPHOLSTERING COUCHES AND SOFAS.

THE upholstering of couches and sofas, which are modifications of early benches and settles, will now be dealt with. A flat bench raised to nearly the same level as a chair, with turned or square legs, and having a raised stuffed head or arm, is known as an ottoman. The addition of a half or three-quarter back forms a couch. A stuffed arm added at the opposite end, and the back continued to it, forms a sofa. Various special shapes are given by manu-

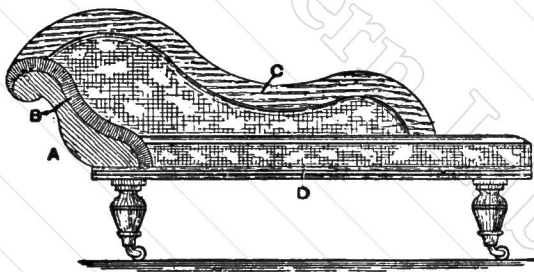


Fig. 63.—Serpentine-back Couch with German Arm.

facturers to the different parts, but the principle is the same.

Fig. 63 shows a serpentine-back couch with German arms, the legs being dowelled into the bottom frame. The different parts are A, scroll; B, head or arm; C, back moulding; and D, couch seat.

Fig. 64 shows a bolster-arm couch with German arm and back consisting of a long narrow stuffed bolster raised about 1 ft. from the seat by a spindle



## UPHOLSTERING COUCHES AND SOFAS. 61

rail. The legs of this couch are framed with the seat rails by means of dovetail mortise joints, which make a much stronger frame than dowelling.

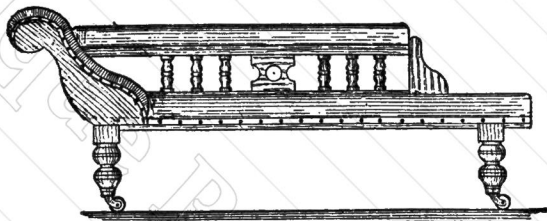


Fig. 64.—Couch with German Bolster-arm.

Couches are usually made left-handed—that is, the head is to the left from the front. Fig. 65 shows a very common pattern of sofa with English arms, which require a pillow to fill up the hollow in the inside of the heads. This shape of arm is fast going out of fashion in favour of the German style of arm, shown in Figs. 63 and 64. The English and

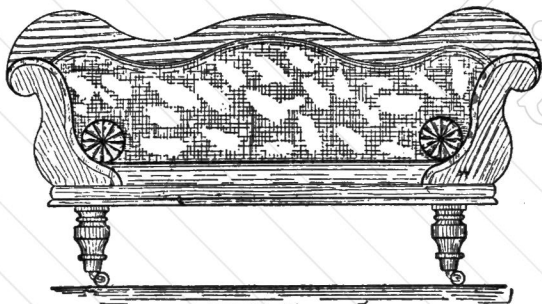


Fig. 65.—Sofa with English Arms.

German sofa arms are shown diagrammatically by A and B, Fig. 66. The German arm is curved in the opposite way at the bottom of the scrolls, and is

stuffed over to a height of 3 in., thus doing away with the pillow. The head is generally buttoned on the inside. Couches and sofas are made with either spring or loose cushion seats.

To upholster a serpentine-back spring-seat couch (Fig. 63), begin by removing the back, which is secured by screws or nails to the back seat rail and the head. Take the seat in hand first. In this couch the springs are placed on wood cross rails instead of webbings, as shown in Fig. 67, the positions of the springs being indicated by circles. Ten springs, in five rows of two each, will be required, and these are secured to the rails by upholsterers' staples, four to each spring. After the springs are

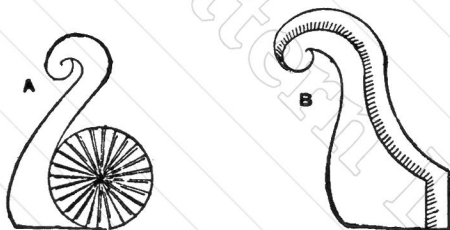


Fig. 66.—English and German Sofa Arms.

fastened, tack a cover of hessian on the front edge of the stuffing rail, keeping the stuff straight and tight. Now pull the hessian cover down at the centre of the back rail until the springs are compressed for about one-third of their length, and tack fast. Do the same along the back to each end, keeping the surface as even as possible so as to have a good-shaped seat when finished. Thread the curved spring needle with twine from underneath the seat, place the springs in a vertical position, and stitch them fast to the cover by the top coil, or make three or four separate ties to each spring. Now make long loops of twine along the front edge, the end,

## UPHOLSTERING COUCHES AND SOFAS. 63

and up the back seat rail to which the couch back is fixed.

Take some Algerian fibre or rag flock (the ordinary bed or stuffing flocks are of no use for stitching-up purposes), pull out the stuffing with the hands, and pack under the loops of twine so as to have a roll of stuffing all round the edges about 3 in. thick. Then tack another cover of hessian or scrym to the front rail and, before bringing the cover over to the back, fill up the top of the seat with cotton or woollen flock, letting it rise well in the centre. Throw the scrym over to the back and get the fibres of the cloth perfectly straight before tacking, which must be begun in the centre and worked to each end. Care must be taken not

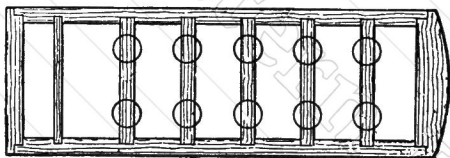


Fig. 67.—Couch Bottom Frame, showing Position of Springs.

to pull the cover too tight, as the stitching-up process will do this; and if the surface is uneven, take out or insert more flock, as may be required. The front, end, and back edge, up to where it meets the couch back, can now be blind-stitched and closed with not less than three rows of stitches well drawn and regulated.

The couch head should next be treated. Have four webs on the head, and cover with hessian, which must be tacked to the stuffing scrolls. Loop the edges with twine, and tack a cover of hessian to the bottom of the inside of the head and up the sides of the stuffing scrolls. Leave the material rather slack, so that when filled with stuffing it will make a good swell at the bottom. Fill the loops, proceed-

ing upwards, and use a stuffing stick to get the flock or fibre well into the corners. Set the stuffing by beating smartly with the hands, and keep the hessian cover straight.

Having stuffed the head, stitch the front edge with four rows of stitching; it is not usual to stitch the back of the head of a serpentine back. To stuff the back, lay it flat on the bench or trestles, and web it across the rails, which are mostly upright. Cover the webs with hessian, loop the top edge with twine, fill with well-picked fibre, and the centre with flock, making an even rise in the middle. Then cover with hessian, using the stuffing stick freely when tacking down to get a good-shaped firm edge. Then blind-stitch and close the curved edge only.

The upholstering proper is now completed, and the next process is the covering, although it is usual to do the staining and polishing at this stage, leaving the final spiriting-off until the covers are on. If the cover is American cloth, get it 27 in. wide, which is stocked by most dealers. Measure the length of the seat, and allow 2 in. for stretching and cut-off. Warm the leather cloth in front of a fire as evenly as possible, taking care not to scorch it, especially in cold weather, when the enamelled surface is liable to crack and peel off. Heating the material allows it to expand, and when tacked it contracts and makes a tight job. Lay the cover on the seat, and tack it in the centre of the front rail close to the moulding. The cover should lie square, and the grain straight across. Stroke it with the hands, then grip the back edge with the upholsterers' pincers, and gently but firmly pull until the requisite tightness is obtained; then tack. This operation requires care, as too much pressure is liable to burst the leather, which, if not stretched sufficiently, will form puckers and wrinkles when the seat has been used a few times. Work from the centre to within 1 ft. of the seat corners, stretch the

## UPHOLSTERING COUCHES AND SOFAS. 65

leather in the other direction—that is, from end to end—and commence tacking in the centre. Now work up to the extreme corners on the front and back, and then do the same with the ends. When this is finished, there will be a lap of 2 in. or 3 in. of double stuff. This must be neatly and tightly folded over and tacked, and the edges cleaned off with the hand knife.

To cover the couch head, measure from underneath the swell, over the top, and round the bolster to the scroll rail. Cut the length and warm it; get the grain straight across, and insert a tack in the centre of the rebate on the edge of the front scroll. Stretch across from the back and tack at the back; then tack the cover, commencing at the bot-

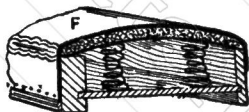


Fig. 68.—Section of Couch Spring Seat.

tom under the swell, and afterwards the front scroll. This part, on account of the curves, must be pleated or creased so that the stuff lies flat on the head. The pleats should graduate to the top of the sharp curve of the bolster, which should form a centre; the pleats should fall on the opposite curve and form a shape similar to an outspread fan. The tacks should be inserted through the double thickness of stuff at the pleats. Now stretch the cover with the pincers to the back scroll and tack, following with the bolster head, which must be tacked under the cross rail.

The head can now be buttoned; about eleven buttons in three rows will be sufficient. These should be leather-covered to match the couch. As has been mentioned, a good method of securing the buttons is to leave the strings long enough to reach

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to the centre rail, tying them round a nail fixed in the edge of the rail.

In covering the back, fasten the curved edges

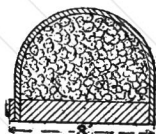


Fig. 69.—Section of Upholstered Back Rail.

first, then stretch from the bottom and tack. Pass the hand knife round the edges and dress off all spare stuff. Next fasten some leather banding on the edges with brass or enamelled studs, fixed about  $1\frac{1}{2}$  in. apart. The couch back should then be fixed in position and the outside covered with black linen, which is generally fixed with thin glue or paste. A piece should also be tacked to the edges of the stuffing scrolls underneath the head.

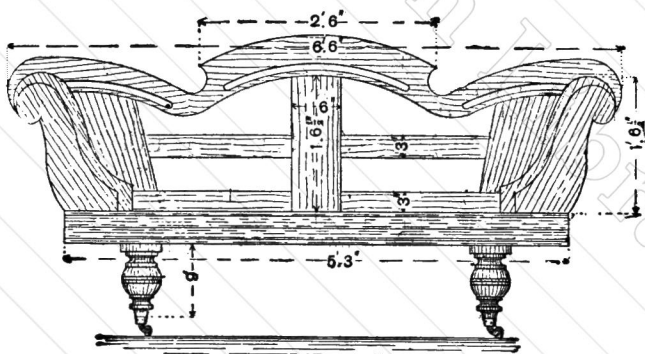


Fig. 70.—Frame of Cushion-seat Sofa.

If the surface of the American leather is dull, due to heating, it should be rubbed with skim milk.

Fig. 68 is a section of an upholstered couch seat,

## UPHOLSTERING COUCHES AND SOFAS. 67

the top F being a covering of hessian. Fig. 69 is a section of an upholstered back rail.

To upholster in hair seating a cushion seat sofa similar to that whose frame is shown by Fig. 70,



Fig. 71.—Flocks secured with Twine.

the materials required will be 5 yd. of hair-cloth, 26 in. wide, 20 lb. of cotton flocks, 3 yd. of hessian, 20 in. double width,  $2\frac{1}{2}$  yd. of black linen for underneath the seat cushion and heads, 2 yd. of black book muslin for the back, 4 yd. of black glazed gimp, and a roll of German web if the sofa is to have a webbed bottom.

Begin by taking off the back; tack three strips of web over the inside of each head, and tack the hessian double width and thickness on the front of the inside scrolls. Throw over the top piece, and

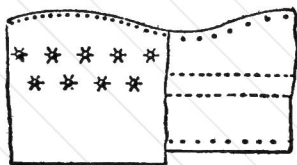


Fig. 72.—Stuffing Sofa Back.

tack the other side over the back scroll, pulling it as tight as possible; repeat this operation on the opposite head. Tack flocks on the scroll edges with loops of twine, as shown at A, Fig. 71. If this precaution is not taken the flocks will slip away from

the edge when the cover is pulled tight. Fasten the hessian double thickness underneath the ends, fill the space tight and even with flocks, then tack the top piece over at the back. Now stitch up the edge with needle and twine along the front of both heads, B, Fig. 71; this is for the purpose of making a firm, square edge. Cover the back frame with hessian, cutting out to shape at the top, and drawing tight and tacking (see Fig. 72). The staining, bodying up, etc., is now done, but the final spiriting off should be left until the stuffing is finished.

Now take the hair-seating and cut the whole length of the selvedge off one side; tack this side to the front of the right-hand head, putting it as close up to the outside scroll as it is possible to get



Fig. 73.—Tying Button.



Fig. 74.—Section of Sofa Seat Cushion.

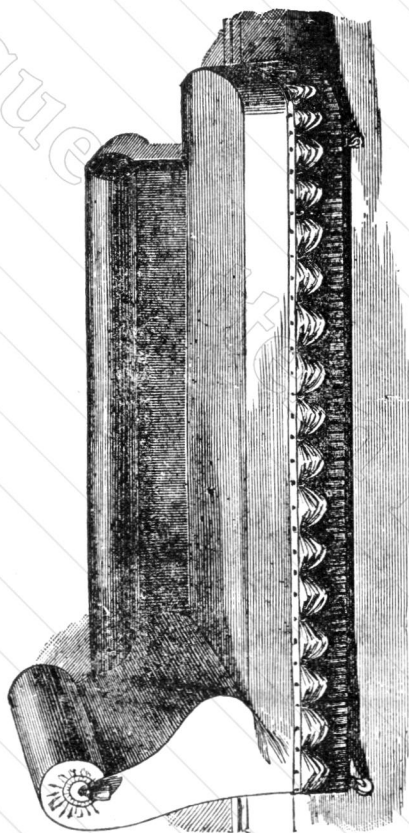
it, creasing evenly and cutting out to accommodate the curves. Cut off the correct length at the bottom, and tack over at the back as tight as possible. The inside of the head will naturally bag a little, but it will come all right when the buttons are drawn in. Cover the left head in the same way.

The insides of the heads can now be buttoned. The proper buttons to be used are covered with hair-seating to match the cover. If these cannot be procured, ordinary black covered ones will do; two rows will be sufficient. Thread the needle with twine and push through the tag of the button, then pass the needle right through the cover and stuffing, drawing out underneath the head; put the other end of the twine through in the same way, pull both strings tight, place a leather tufting washer between the two ends of string and tie with a double knot



**UPHOLSTERING COUCHES AND SOFAS. 69**

(see Fig. 73). After all the buttons have been drawn in, tack a piece of black linen underneath the heads from the end moulding to the top.



**Fig. 75.—Upholstered Couch with Bolster Arm.**

Stuffing the back is a simple matter. The section of a cushion seat shown by Fig. 74 shows how this is done. Put two alternate rows of buttons

across, about 5 in. apart. To make the seat cushion, draw a seam out  $\frac{3}{8}$  in. from the edge; this should be stitched with black twist. It will look much better

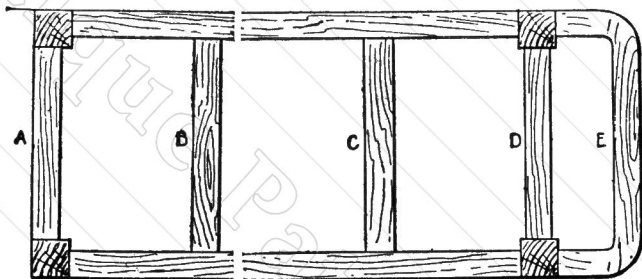


Fig. 76.—Couch Stuffing Rails in Seat.

if piped with piping cord. Draw another seam out at a distance of 3 in. from the first; this is for the

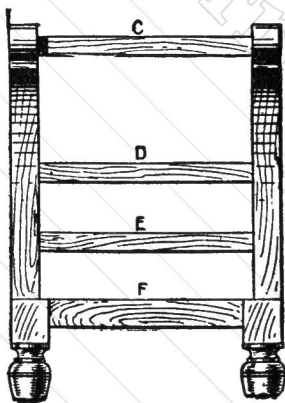


Fig. 77.—Couch Stuffing Rails in Head.

front. Cover the under-side with a piece of black linen; let the seams be inside; double the corners in neatly, and seam wrong side out, leaving a space

## UPHOLSTERING COUCHES AND SOFAS. 71

at the corner to put the flocks in ; then button with three rows of buttons alternately spaced. The seat cushion should be a full fit all round.

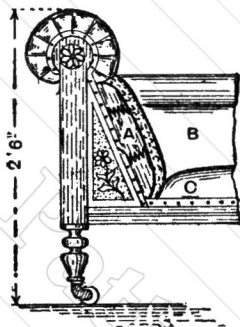


Fig. 78.—Stuffing Drumhead Couch.

The back is fastened with screws into the back frame and ends and, when fixed, must have a piece of black book muslin fastened with thin glue, and cut out to the shape of the back. The polished work

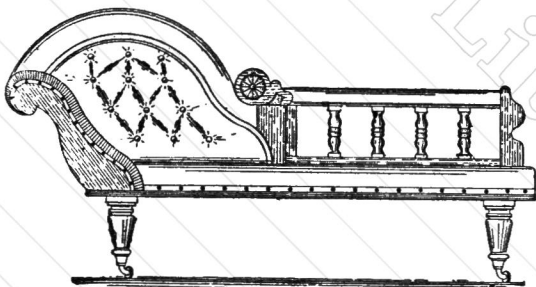


Fig. 79.—Cromwell Couch.

can now be spirited off ; the legs can have the final coat of varnish, and the black gimp can be put on the ends and top of back to hide the tack heads.

The spring seat couch shown by Fig. 75, of which Fig. 76 is the plan of stuffing rails in the seat, and Fig. 77 the stuffing rails in the head, differs from the one first described in this chapter by being webbed.

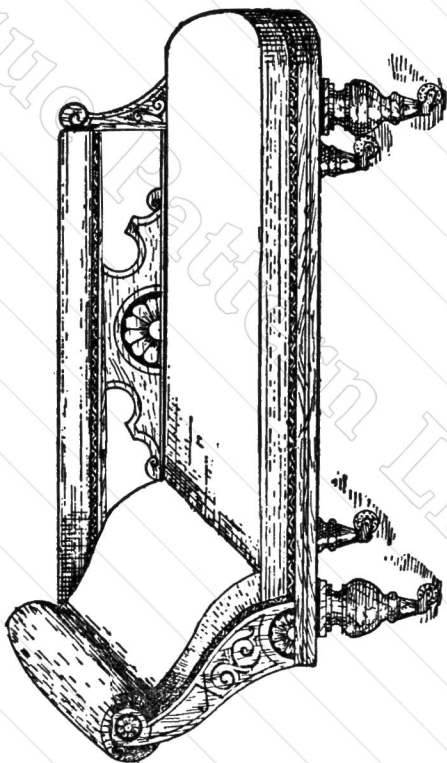
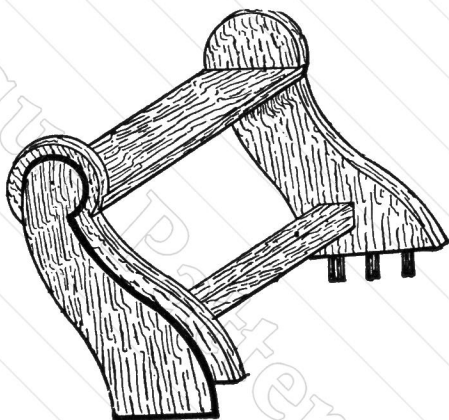


Fig. 80.—Spring-seat Parlour Couch.

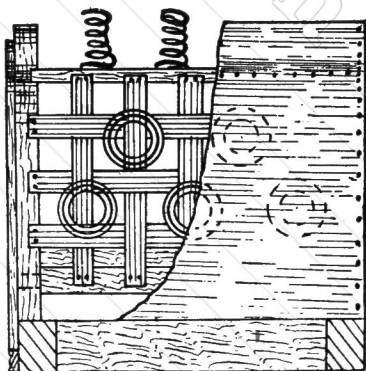
In webbing the seat, tack the webs on to the rail A (Fig. 76), stretch them and tack on to rail B ; then, without cutting off, continue on to C and D, finishing off at E. In webbing the head of couch, begin at rail E (Fig. 77), tack to rail D, and on to C,

**UPHOLSTERING COUCHES AND SOFAS. 73**

finishing off and then cross-webbing. The long arm can be webbed in the same manner as the bolster



**Fig. 81.—Couch Head Frame.**



**Fig. 82.—Springing Couch Head.**

arms in an easy-chair. In springing, use twenty-four 8-in. springs for the seat, putting them in three rows of eight in each, twelve 4-in. springs for the

long arm, and five 6-in. springs for the head, placing them in the same positions as those in the back of the easy chair.

The couch and sofa designs given previously in this chapter are, of course, subject to modifications, of which the following illustrations are examples. Fig. 78 shows a drum-head couch, and illustrates the method employed in stuffing it. Two rows of 6-in. springs are put in the head A. The back is indicated at B, and the seat at C. In the Cromwell couch (Fig. 79) a distinctive feature is the back, the higher part against the head being stuffed, and terminating in a spindle rail at the foot. Cromwell furniture is usually of bold design, and inclined to be massive.

The parlour couch shown by Fig. 80 should prove an easy subject for upholstering, after having mastered the directions already given. It has a spring seat, spring swell, and spring bolster-head. The construction of the couch head frame is shown in Fig. 81. In Fig. 82 is shown a part view of a swell and bolster head before beginning the first stuffing. Five springs are required for the swell, and four for the bolster head, each being fastened to the rail with wire staples.

## CHAPTER VII.

## UPHOLSTERING FOOTSTOOLS, HASSOCKS, ETC.

BIRCH is a very suitable wood for making the footstool shown in the front elevation Fig. 83, being very clean to work, and allowing a good finish to be got in the turned portions. Of course, the stool may also be constructed of oak, walnut, or mahogany, as may be most in harmony with the surrounding furniture. The stool measures round the frame 1 ft. square. The corner pillars are 1 in. thick when finished and 6 in. long; of these, four will be re-

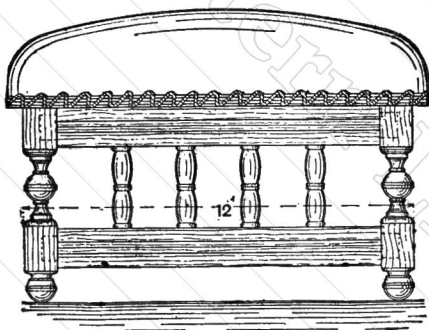


Fig. 83.—Upholstered Footstool.

quired. The eight spindle rails are  $1\frac{3}{8}$  in. by  $\frac{7}{8}$  in., and have a double bead run through the centre of the face side only. These rails are stump-tenoned into the corner pillars to the depth of  $\frac{1}{2}$  in. at each end. Sixteen spindles, each  $2\frac{1}{2}$  in. long, are secured to the rails with tenons at each end  $\frac{3}{8}$  in. diameter, turned in the lathe, fitting into holes bored in the insides of the rails at equal distances apart. The

top board, which forms a foundation for the seat, is of pine 1 ft. 1 in. square by  $\frac{3}{4}$  in. thick ; this will give  $\frac{1}{2}$  in. of a lap all round the frame. It is secured to the frame by screws passing into the top of each corner pillar.

The velvet covering for the top must not be less than 16 in. square. Begin stuffing the top by picking balls of flocks on all round the edge with loops of twine tacked fast, about 3 in. apart (see Fig. 84) ; tack the velvet cover fast on two sides, and fill up all the space with flocks, letting the centre rise well up. Then tack the other two sides. The top should now have a square appearance all round the edges ; cut off straight, then run a narrow scroll gimp round the edges, securing this with black gimp pins.



Fig. 84.—Stuffed Top of Stool.

Fender stools or fenderettes are almost entirely unknown in some parts of the country. Placed in front of the curb, or fender, they become resting-places for the feet in place of the tops of polished curbs or fenders. Fig. 85 is a typical design. The material for it should preferably be some hard wood, such as oak, walnut, mahogany, etc., or the design would look exceedingly effective in brown oak with copper corner-plates, and a crimson leather upholstered top. The length depends on the length of the existing curb or fender, and the dimension given in Fig. 86 is merely a common length of parlour-suite curbs. Fig. 87 is a cross section. The top consists of a board 9 in. wide and  $\frac{3}{4}$  in. thick, and should overhang the box portion  $\frac{3}{4}$  in. all round ; it is secured by  $1\frac{1}{2}$ -in. screws to the body, stouter and larger screws being used at the corners. The metal corner brackets can each be cut to pattern from pieces 6 in. square ; they should be of No.



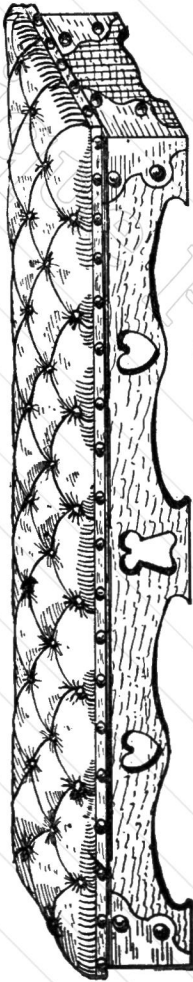


Fig. 85.—Upholstered Fenderette.

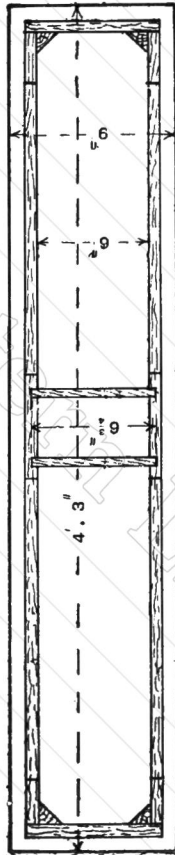


Fig. 86.—Horizontal Section of Fenderette.

14 B.W.G. copper, and are fixed by ornamental snap-headed brass screws. Before they are finally placed in position the show-wood portions should be polished, or at least bodied up, and the copper plates lacquered.

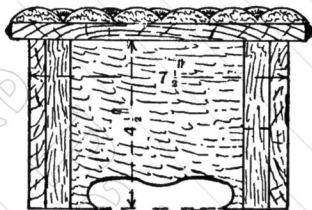


Fig. 87.—Cross Section of Fenderette.

The top is stuffed up plain, no springs being required. The stuffing is first finished right out in scrym or hessian, and should rise about 2 in. thick with a good roll round the edges. On this should be set out the diamonds, which should measure 6 in. by 4 in. In marking them out, add  $1\frac{1}{2}$  in. to each dimension, thus making each diamond  $7\frac{1}{2}$  in. by  $5\frac{1}{2}$  in. Snip out the joints of the diamonds where the tufts sink, and work away the stuffing with the re-

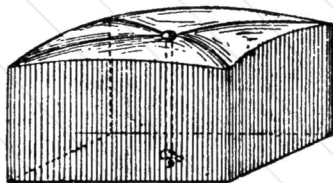


Fig. 88.—Hassock.

gulator. Care should be exercised in the choice of the outside covering, for American leather cloths and other enamelled surfaced materials are apt to become soft with the heat of the fibre, while pile

## UPHOLSTERING FOOTSTOOLS, HASSOCKS, ETC. 79

fabrics are very inflammable, and are unsuitable for the purpose. The best material is morocco, or, failing this, roan skin. The joins must then come in at the plaits, and the tufts are formed with leather-

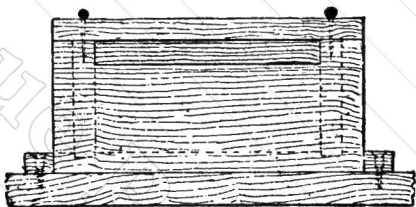


Fig. 89.—Front of Hassock Stuffing Box.

covered button nails, which must be knocked well down. The plaits at the edges should stand straight up, and the borders should be finished with leather banding fixed with copper-headed studs.

To stuff a hassock, Fig. 88, first make a stuffing box of  $1\frac{1}{4}$ -in. deal, as shown at Figs. 89 and 90, which are front and end elevations. The bottom, front, and back are trenched for the ends, as shown by dotted lines; the ends of the bottom project about 3 in., and four holes are bored in these for screws to

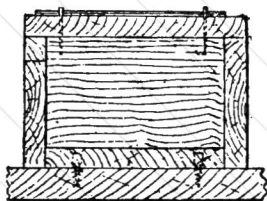


Fig. 90.—End of Hassock Stuffing Box.

secure the box to the bench during the process of stuffing. The front, back, and lid also run beyond the box ends  $1\frac{1}{4}$  in. The lid is not trenched, but has four slot holes for the screw eyes which stand up

sufficient to admit a  $\frac{1}{4}$ -in. iron skewer (Fig. 91) when the box is closed. Two screw eyes are threaded into the top edges of each of the ends. The front of the box is  $1\frac{1}{2}$  in. lower than the back for finishing off the stuffing when the lid is placed on.

The hassock cover is made inside out, of course, the top and the four sides being usually of felt carpet and the bottom of stiff holland. An opening about 6 in. long is left in the centre of one of the long sides of the bottom. The process of stuffing is as follows: The stuffing box should be screwed down



Fig. 91.—Iron Skewer.

to the bench and, the lid being removed, the hassock is placed upside down in the box, with the opening mentioned in the front. Shavings or pieces of straw are then rammed in through this opening by means of the stuffing stick until nearing the top, when the lid is placed on and the stuffing completed. The lid may then be removed and the hassock taken out, when, if it has been worked properly, it will have a compact appearance. The mouth should be sewn up and a string, well knotted underneath, passed through the centre, with a button on the top, as in Fig. 88.

## CHAPTER VIII.

### MISCELLANEOUS UPHOLSTERY.

A SETTEE is shown in elevation by Figs. 92 and 93. The cover and banding are fixed to and should lie flush with the rails when the upholstering is finished. Assuming that the framing is ready for upholstering, cross-web the bottom of the settle with 2-in. German web, as shown in Fig. 94, and tack some coarse canvas about 15 in. wide from side to side and from end to end on top of the web. Now take a strip of canvas 1 ft. 6 in. wide, and nail it along the front of the inside rail. Fill the space inside with flocks to a height of 3 in., and when this has been levelled, stay-tack the other side of the under-lining along the back as evenly as possible. Fold the ends over, stuffing with flocks to form a square edge before finally tacking down. Let the creases at the ends come to the corners, and fold over and tack the double thickness. The edges of the front and ends of the seat can now be drawn and stitched.

The edges of the stuffing on the front can next be stitched up, as shown in Fig. 95, and to prevent the sharp edge of the stuffing rail being felt through, and cutting, the cover, put in a row of blind stitches and three rows of through stitches. Fig. 96 shows a section of the seat after the front edge is stitched. It is not usual to stitch the back edge.

The back-rest will not require webbing, a piece of canvas tacked all round being sufficient for the foundation. An under-lining of canvas can also be dispensed with, the flocks lying between the canvas foundation and the outside cover. After the stuffing has been completed the staining and varnishing of

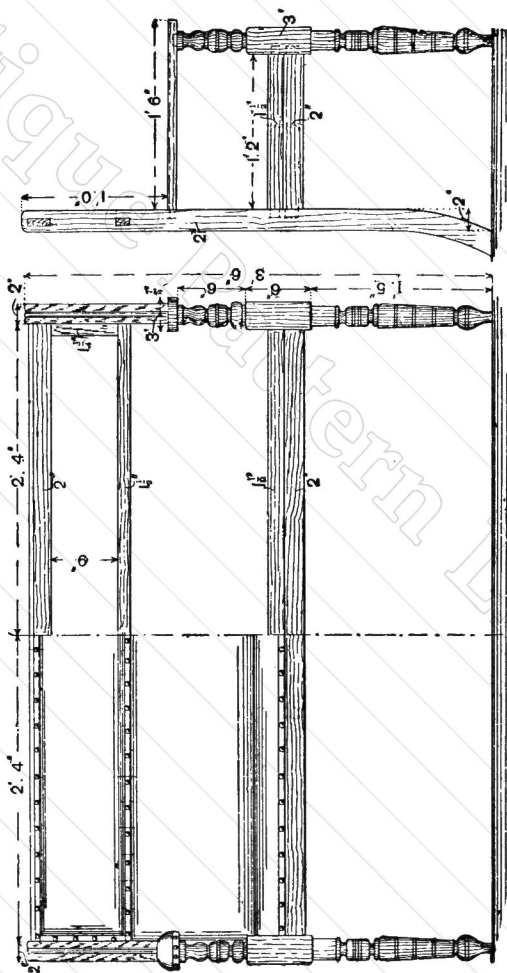


Fig. 93.

Fig. 92.

Figs. 92 and 93.—Half Front Elevation and Section, and End Elevation of Settee.

the woodwork can be done, when the settee will be ready for the outside cover. This can be of any material, according to taste. If hair-seating is used, narrow black gimp must be run round the seat

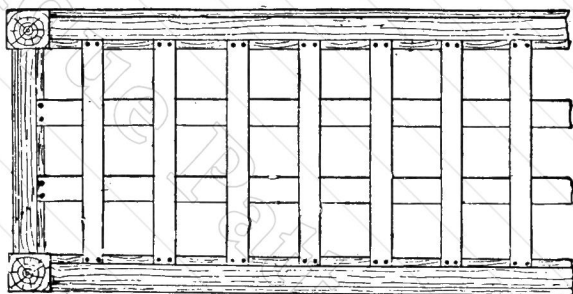


Fig. 94.—Webbing Bottom of Settee.

to hide the tacks used for fastening down the outside cover, and also to give the settle a neat appearance. The gimp is secured with black enamelled gimp pins. If leather or American cloth is used as a covering, narrow leather banding of the same colour as the cover can be used instead of the gimp, and can be fastened down with brass or enamelled studs driven in at regular distances apart.

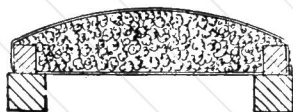


Fig. 95.—Section of Settee Seat before Stitching.



Fig. 96.—Section of Settee Seat after Stitching.

With regard to the upholstering of a divan settee of the section shown by Fig. 97, eighteen 8-in. springs, placed in six rows of three each, will be required for the seat, and twelve 6-in. springs put

in zigzag form for the back. If spring bolster arms are placed on, put three 4-in. springs to each arm. For the covering will be required four 22-in. bags, two for the seat and two for the back; and two 18-in. bags for the bolster arms. About 6 yd. of Utrecht velvet will be wanted for the surrounds, and 4 yd. of 6-in. fringe for the trimming. Fig. 97 makes the mode of working quite clear, after all that has been said.

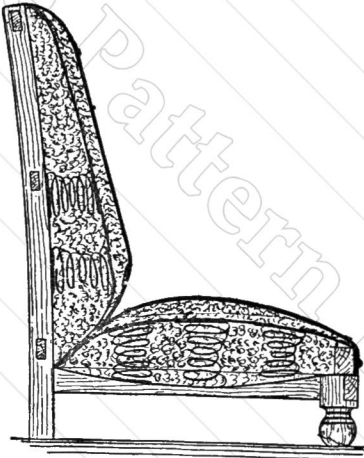


Fig. 97.—Section of Divan Settee.

The upholstering of a rectangular music stool seat is a simple matter. English webbing should be stretched as tight as possible, and tacked on the upper side, as shown in Fig. 98. A good quality canvas is then tightly stretched and tacked over the webbing, and a rib of 1-in. square wood screwed on all round for the padding. This is done by tacking a strip of canvas, 4 in. wide, round the outside of the frame, putting flocks on the rib, and covering with the canvas. This should be tacked



to the inside of the rib, and stitched round with special twine, using a 6-in. double-pointed needle. Fig. 99 shows the method of stitching. Hair should be used for stuffing. It should be first well teased

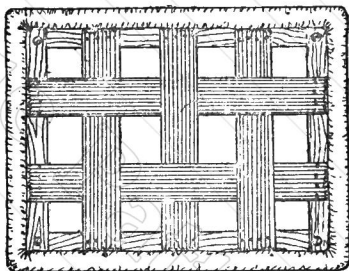


Fig. 98.—Underside of Music Stool Seat.

out, as it will then retain its spring, and keep the cushion soft, and it will not get flat as when flocks are used. The hair is covered with strong calico or canvas, tacked to the edges of the frame, and then a sheet of wadding must be laid over, and the final covering put on. Crimson silk plush or Utrecht velvet is suitable for the music stool. The tack heads



Fig. 99.—Stitching Music Stool Seat.

are covered with a gimp to match, small-headed gimp pins being used for securing the gimp. The underside of the seat should be covered with a twill lining material of suitable colour, which is stretched

tightly and tacked on. A strip of mahogany 5 ft. long by  $1\frac{1}{2}$  in. wide by  $\frac{1}{2}$  in. thick, with one edge rounded, should be worked on round the under-side of the seat. It is mitred at the corners, and screwed on, but should first be polished, as this is not conveniently done when fixed, and the stool is handier for polishing with the seat off.

To convert a chair with perforated seat, into a cushion seat chair, first remove the perforated bottom, web the open space with four lines of chair webbing, crossways, then cover this with hessian. Tack this tightly round the rebate, and cut off surplus stuff. Take another piece of canvas rather larger than the first piece, and tack it fast halfway round, leaving about 3 in. of gather at the top. Stuff this space with flocks, then tack a few inches at a time of the remaining half until complete. Place the leather on the top of the seat, and make even creases until the leather lies flat in the rebate, then button right through with leather-covered buttons; draw these down tight underneath, so as to make the seat look well puffed on the top. Now tack the leather round the rebate, and to hide the tack heads run a narrow gilt-edged leather banding round the seat, securing the banding with brass-headed nails or enamelled studs at equal distances apart.

A spring seat can be put into an arm-chair at present supplied with the usual wooden seat. To do so, remove the wooden seat, and fix three battens across, 3 in. wide by  $\frac{7}{8}$  in. thick, to act as spring rails. If the seat rails are 2 in. deep, nail on the top all round pieces of stuff.  $1\frac{1}{2}$  in. thick, for stuffing rails (see Fig. 100). These rails should form a rebate, as shown. Six 8-in. upholstery springs will be required. These are secured to the spring rails with  $\frac{3}{4}$ -in. staples placed round the bottom coil and driven into the wood. A cover of coarse canvas is put on the top, and tacked fast at the front; then

pull the cover down at the back until the springs are compressed by about one-third of their length, and tack them fast in this position. The springs are securely stitched by the top coil to the cover with strong twine. Loop the edges with twine and fill them hard with well-pulled fibre or rag-flock, cover with scrym, and blind-stitch, and fasten with not less than three rows of stitching. Fill up with flock or hair, well picked on, and cover with sheet wadding, cased in with unbleached calico. Any staining, polishing, etc., should be done before the outer covering is put on. Should the covering be of leather or leather-cloth, finish the edges with leather banding secured with brass or leather-headed studs ;

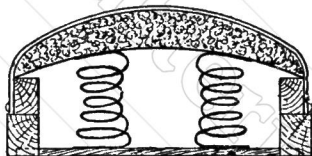


Fig. 100.—Section of Arm-chair Spring Seat.

if covered with soft material, such as velvet, repps, etc., run a narrow scroll gimp round it.

Upholstered seating such as is used in restaurants, billiard rooms, public-house bars, etc., is generally stuffed solid—that is, without springs ; cotton flocks may be used for stuffing, but hair is far better. The chief objection to flocks is that after about a month's wear the whole thing would look like two bags of loose stuffing, and in the back it would all slip away from the top edge down to the bottom. The seat should have an underlining of canvas A, Fig. 101, between the outside cover B and flocks C. The section, Fig. 101, shows the method of working. Tack the leather for the back rest on the bottom edge first. fill up the space with flocks, stroke upwards till tight, and nail at the top. Be-

gin from the front for the seat and work over to the back ; when finished, run a narrow leather banding round to hide the tack heads ; this can be secured with brass-headed nails or enamelled studs at equal distances apart. Crockett's American leather will be a suitable material for the outside cover.

More detailed instructions on doing such work, supposing, however, that a spring seat with hair stuffing is desired, may now be given. Web the frame closely on the underside of the seat, and then turn over and sew in 7-in. springs, or 8-in. if a deep seat is required. For an ordinary-sized seat, three rows of springs are sufficient, the front row to be about 2 in. from inside of front rail. Tie down even with laid cord, and cover with best spring canvas. (If a firm seat is required, web on the top of seat frame, and cover with the canvas, but leave out the springs.) It should now be first stuffed with hair, and stitched up to a sharp edge with not less than four rows of stitching. When first stuffed, pick on a good layer of hair, and cover with a good unbleached calico. Proceed with the back before covering the seat. First put a few webs both in the length and width, and then cover with canvas—of course, on the front side of the back. Cut a piece of scrym about 15 in. wide and 1 ft. longer than the back, and sew on 8 in. or 9 in. above the stuffing rail ; stuff it with either fibre or alva to make a good swell, and then push the free edge of scrym under the stuffing rail, and tack to the back of same, and not to the seat rail. Sew a narrower piece to the top of the back 3 in. from the top edge, and fill as at the bottom, making a smaller roll. A strip of scrym must now be sewn on each end, and stuffed and stitched up to a sharp edge to about the shape shown in Fig. 101. Make some stitches or loops of twine all along the back, and pick on the hair to fill up the hollow which the rolls have left in the back. Pick the hair on as near to the shape as possible,

taking care not to use too much or else it will be hard, and then cover with the calico.

The seat is now ready for covering in any desired material, and for the purpose required the best Crockett's American cloth is probably most suitable, as has been advised already. Cover the back first, tacking it down round the outside back and the bottom edge up to the stuffing rail of back.

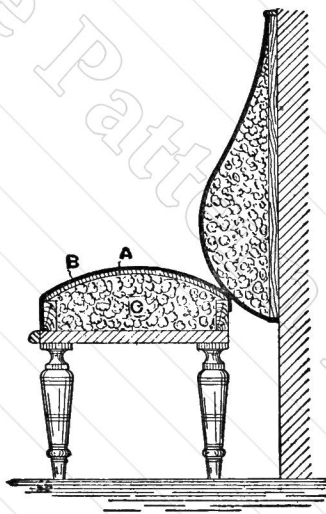


Fig. 101.—Upholstered Bar Seating.

Now cover the seat in the same way, tacking to the extreme bottom front edge of seat frame and to the stuffing rail of back—not to the seat rail; this prevents, to a great extent, dust and articles getting down between the seat and back. Then line up the outside back, either with a piece of black linen or cheap American cloth. Stud and band round the seat, and also the back if desired; the settee is then finished. The back could be buttoned accord-

ing to the instructions already given, but in this case the work would require considerable skill.

To convert a cushion seat couch to a spring seat couch, first take off the couch back, which generally is nailed or screwed to the body along the bottom and into the head. If the bottom is boarded, remove the boards, and put a stuffing rail on the front 2 in. high; this will leave a rebate for tacking, banding, etc. If a very soft seat is desired, cross-web the bottom with best spring webbing. If spring rails are required, let in five at equal dis-

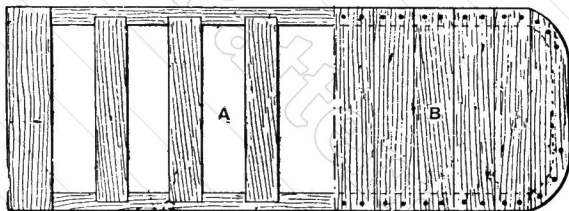


Fig. 102.—Laths and Matchboarding to Support Cushion Seat.

tances apart in the front and back rails. Ten 8-in. spiral springs will be wanted; secure two to each spring rail with wire staples, or, if a webbed bottom, tie fast with strong twine through the web. Cover the bottom over the springs with coarse canvas, tack on the front side securely, and pull down the other till the springs are compressed about a quarter their length; then tack the other side. The worker should put his arm under the ends and place the springs in an upright position; then stitch fast to the cover with needle and twine. Put on a layer of flocks about 2 in. thick, cover the top with another piece of canvas, and tack fast all round; stitch up the front edge to a fine point with four rows of stitches. The couch will now be ready for outside covering.

To convert a spring seat couch to a cushion seat couch, the first job, as in the above, is to take off the back; rip up the linen backing and the screw heads will be seen. Cut the webs and under-linings and clear out all the old stuffing, knocking out as many of the old tacks as possible. There are two methods of preparing the bottom frame for a cushion seat. One method is to place on the bottom pine laths 2 in. wide by  $\frac{7}{8}$  in. thick (see A, Fig. 102); these laths are let in flush with the top of the side rails, and webbed on the top lengthways of the seat only. The second method (see B, Fig. 102) is to board the whole of the top with  $\frac{3}{8}$ -in. matchboarding; this makes a very serviceable but rather hard seat. Whichever of the two methods is adopted, it will be necessary to cover the edges with a moulding the full depth of the rails, which may be 3 in.



Fig. 103.—Moulding for Edges of Cushion Seat.

A suitable design for the moulding is shown in Fig. 103. The curved end will either have to be worked from the solid or saw kerfed to allow of its being bent to the sweep. Instructions on making a squab for a cushion seat are given in Chapter III.

In upholstering the back-rests of a pony trap, it is advisable to finish right out in canvas before putting on the outside covering, and to begin stuffing in the middle and work to each end alternately, well stretching the scrym and working in the stuffing with the fork stick. Corduroys and other stout materials need stretching well to avoid wrinkles. The back-rest can be tufted with button nails, when the wrinkles will form part of the tuft settings and will not be noticed.

Instructions on making a pleated back squab or cushion for a carriage may here be given. To get the size of the squab, the part that has to be

filled should be loosely fitted with canvas ; carefully mark round it to get the exact shape and size. This canvas is then laid on the bench, and the positions of the tufts and pleats are set out. To get the fulness for the pleating and stuffing, make elevations of the finished squab. From this drawing measure with the tape the amount of fulness required, and cut the material accordingly. If cloth is used, the pleats, after being marked out from the canvas, are ironed to give them form ; if morocco is employed, the pleats are folded with the faces together and hammered on the lap or flat iron. When all the pleats are formed, the holes for the tufts are punched through the two thicknesses. Various methods are employed in making up the squabs. They are sometimes made on a frame ; at others they are made on stout canvas and fixed to the bench ; and sometimes the front is tacked to the back, and partly stuffed before the tufts are put in. Whichever method is adopted, be careful to keep a uniform fulness between the pleats and to get them to line flat and true.



## CHAPTER IX.

### MATTRESS MAKING AND REPAIRING.

THE manufacture of bedding is looked upon as the work of an upholsterer, though, as a matter of fact, it is quite a separate trade. A mattress or a bedding hand but seldom knows anything of upholstery; but most upholsterers can make bedding, though not so well as a manufacturer of bedding.

The greatest care is necessary to ensure absolute purity and cleanliness of the materials used in bedding manufacture. Some manufacturers are not at all particular about the filling of a bed or mattress, and will use any old stuffing; this may be full of moths, in which case it is advisable to send the article to be stoved immediately, or, better still, to destroy it altogether. Moths go only into animal matter such as hair wool, or feathers, and never take up their abode or lay their eggs in alva, fibre, grasses, or cotton flocks. Other manufacturers who are not particular put in the fillings in a wet or damp condition.

With regard to the various fillings used in the manufacture of bedding, horsehair is the best material for mattresses; it does not retain the heat of the body, as wool does, and is therefore more healthy. The quality of hair is determined by its length, colour, and life or elasticity. Pig hair is often mistaken for horsehair. One of the most common fillings used is shoddy, or woollen flock. This is manufactured from old and new cloth cuttings, but more especially from old clothes, which are torn into shreds in a carding machine. Fibres are used a great deal in the manufacture of bedding.

The coir, or cocoanut fibre, is not to be recommended, as it soon becomes hard and gets matted together. Grasses also make capital fillings for bedding, the Algerian and prairie varieties being specially suited for the purpose. Then there are the various mill puffs and cotton flocks, and the fly flock.

The feathers used for the filling of beds are shipped to England in their raw state, and come chiefly from China. They are thoroughly washed or steamed in what is known as a feather kettle, and afterwards blown and sorted. Kapok, or vegetable down, is a very light and soft-filling material, and is used chiefly for sofa and couch pillows, for which it is particularly adapted. This vegetable down is in reality thistle-down. White wool, or sheep's wool, is the best wool for filling purposes, although blanket and other manufactured so-called wools are used for cheapness. Alva, or seaweed, although used in small quantities for bedding, is chiefly used for upholstering furniture. Wood wool, or shavings, is also used. These fillings have their nature and properties described in Chapter I.

Ten pounds per foot of the common wools should give a good full mattress, and 9 lb. per foot of good wool or medium hair, whilst 8 lb. per foot of the best hair will be found ample. The foot is taken across the width of the mattress, not the length. It is essential that the mattress should be tied down tightly, to prevent the filling from shifting. Some mattresses, especially French ones, are cased—that is, they have a layer of wool at the top, bottom, sides, and ends, with horsehair in the centre. The object of casing with wool is to ease the harshness of the hair.

A mattress is a thick stuffed squab or cushion used in modern bed upholstery as an overlay on the bed-laths or on spring and woven-wire mattresses. As has been said, many fillings are used, a

few of them being wheat straw, cotton flocks, woolen flocks, various vegetable fibres, curled horse-hair, etc. ; but, whatever the material, it must be thoroughly cleaned and purified, and teased and dressed at least once every two years. Mattresses stuffed with straw are known as palliasses, and stuffed wool or hair mattresses are often called overlays when used with a woven-wire mattress as a foundation. In some parts of the country wool and feather beds are used in addition to an overlay mattress.

Mattresses are divided into three patterns: (1) stuffed mattresses; (2) upholstered mattresses, which generally consist of two wood frames with spiral springs between them and upholstered on the top, or they may be in the form of a shallow box, with the springs between strong webbing; (3) woven-wire mattresses, which consist of a stout wire netting stretched on a wood frame, and capable of contraction or expansion by the aid of turnscrews.

The coverings or cases of mattresses are made from ticking, a stout material of 58-in. standard width. It can be obtained in cotton or in union, the latter being a mixture; jute-cloth and linen are also used for hair mattresses and feather beds. Ticking is in a variety of colours and weaves, the most common being plain weave; drill, which is plain on one side and twill on the other; and satin, or sateen, which has a fine lustrous surface, due to the warp-threads being well flushed to the face of the cloth to permit a special method of finishing. The price of ticking may vary from 9d. per yard for the cotton or jute variety to 5s. 6d. per yard for a first-class linen ticking.

Mattress ribbons and stuffings are fully dealt with on pp. 19 and 20.

Mattresses are made up to fit bedsteads in standard sizes as follows:—3 ft., 3 ft. 6 in., 4 ft., and 4 ft. 6 in. wide, and either 6 ft. or 6 ft. 6 in. long.

Cot mattresses are 4 ft. 6 in. by 2 ft. 6 in., and a full-sized mattress is 4 ft. 6 in. wide by 6 ft. 6 in. long. The thicknesses of stuffed mattresses vary from 4 in. to 6 in.

A description will now be given of the manufacture of a stuffed wool mattress 6 ft. 6 in. long by 4 ft. 6 in. wide and 5 in. thick ; it is to be made all in one piece to roll up, with fancy borders, tufted sides and edges, and must be reversible.

The cutting out should be done first, and for the top and bottom two pieces of Leeds stripe ticking, each 6 ft. 10 in. long by 4 ft. 10 in. wide, will be wanted ; for a mattress not requiring to be made



Fig. 101.—Top of Mattress Case.

reversible the bottom cover would be made of plain cotton or jute cloth. For the borders, have two side pieces each 6 in. by 6 ft. 10 in. and two end pieces each 6 in. wide by 4 ft. 10 in. long ; these border pieces are cut from ticking known as fancy Belgian, and must be cut across the piece so as to throw the stripe in the opposite direction to the top and bottom stripes. To get the length for the side, two pieces must be seamed together and the pattern matched. For the seams about 16 yd. of mattress ribbon will be required.

In cutting a mattress case, 1 in. extra should be allowed for each 1 ft. length, and  $\frac{3}{4}$  in. in the width.

## MATTRESS MAKING AND REPAIRING. 97

For example, suppose a 4-ft. 6-in. by 6-ft. mattress is required, it should be cut 4 ft. 8 $\frac{3}{4}$  in. by 6 ft. 6 in. When a mattress is to be filled with wool, a trifle less may be allowed, as there is not so much taken up in the tying down of a wool mattress as in the case of hair.

To make the case, machine the ticking cut for the top with all four borders on the edge with right side up (see Fig. 104), allowing about  $\frac{1}{4}$  in. from the edge to the seam; this will throw the raw edges and selvages on the outside of the case. These are now strapped by the mattress ribbons being folded over the seam and machined through the double thickness; some persons baste the ribbons on before machining.



Fig. 105.—Section of Strapped Seam.

One continuous length of ribbon is used for all four edges, and the corners are slightly rounded. Fig. 105 shows a section of the strapped seams. The bottom piece is next seamed to the free edges of the borders, with the exception of a space about 2 ft. wide at one end for filling purposes; these edge seams are strapped in a similar manner, and the corners of the borders are seamed inside with a needle and thread. The case is now ready for the fillings, which should be a soft, well-teased wool flock. No definite rule can be laid down as to the quantity required, for this may vary from 40 lb. to 60 lb. for a mattress of this size.

To stuff the mattress case, place it, say, on a flat table top. and to prevent curling fasten the end

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which is stitched with a bradawl or a tack at each corner. Put about 10 lb. of flocks in the open end, and work these well into the corners and against the bottom border with a stout stuffing stick (Fig. 19, p. 27). Set up the mattress by beating smartly with the hands, and be careful to have the extreme corners well filled but not hard. Fill with more flocks, using the stuffing stick freely to lay them even, and set up the borders so that they are square with the top and bottom; the correct shape of the mattress depends on this being done properly. Continue the stuffing and setting until rather more

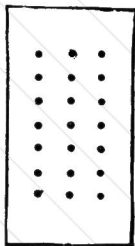


Fig. 106.

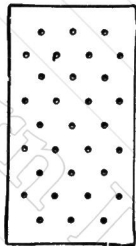


Fig. 107.

Figs. 106 and 107.—Arrangements of Mattress Tufts.

than half the case is filled, when this portion will be ready for tufting.

For tufting, a packet of stamped tufts will be wanted; these are sold in leather, leather cloth, and various colours and qualities of woollen cloths; in addition, a mattress needle and a  $\frac{1}{2}$ -lb. ball of best upholsterers' twine will be needed. The mattress needle is from 8 in. to 10 in. long and pointed at each end. The tufts can be set out in straight rows (Fig. 106) or diamonds (Fig. 107); the first method will allow of the mattress being rolled better, although by the second method it will have an improved appearance. Take out the awls or

**MATTRESS MAKING AND REPAIRING. 99**

tacks which hold the corners, and see that the case is straight and free from creases. Thread up the needle with twine and pass it through the mattress 6 in. from the bottom edge and at the same distance from the side. Draw out the needle on the opposite side and pass it back again 1 in. nearer the centre, and take hold of both ends of the twine and pull it up. Then place a leather or cloth tuft with the slits between the twine, make a slip knot at the free end, and draw it tight until the tufts sink about  $1\frac{1}{2}$  in. into the stuffing; then tie off securely and cut the thread. The remainder of the tufts are put on in exactly the same way; allow a space of 6 in. between the rows and the same distance between each tuft. Tie all the tufts as nearly alike as possible, or an uneven appearance will result.

The other half of the mattress can be stuffed and tufted in the same manner and the open portion sewn up. The mattress, when completed, should be firm but not hard, and the borders should stand square with the top and bottom.

As a vermin preventive, it is a good plan to add with the stuffing material a small quantity of lump camphor, sewn up in linen bags. Sprinkling the fillings with a few drops of oil of lavender is another preventive.

Another method of tufting a mattress is indicated in Fig. 108. Use a piece of chalk, sharpened to a point, and a rule, and with these mark off 4 in. from each corner; draw a chalk line from each point marked off, and divide into equal parts of about 12 in., as the length may come in; draw cross-lines as shown in Fig. 108, and where the dotted lines cross will be the position of the tufts. At the points where the tufts are to be, make a small hole by pushing a regulator through, as the chalk marks will mostly rub out in working.

Having done this, put in temporary tufts by drawing the twine loosely through the diamond on

either side of the centre one. This is done to prevent the hair from shifting. Next take a regulator, and, by pushing it partly through the ticking, draw the hair well into the corners and border. Now take the stitching twine, and cut off about 2 yd., tie a knot or two, one on top of the other, at one end. Put the needle through the border from above, bringing it out on the border about 1 in. from the binding; draw through the twine, leaving the knot inside the border.

Put the needle in again about  $\frac{1}{2}$  in. from point of

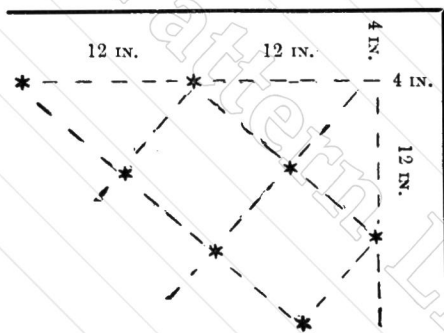


Fig. 108.—Setting out Tufting.

drawing through, working the needle well into the hair and drawing it half-way through the top of tick. Push it back to border, keeping well to top of tick. This gives the twine a nice grip of the hair, and draws it well into the "edge." Draw the needle right through border, about 2 in. to  $2\frac{1}{2}$  in. to right of point of entering. Now catch the projecting ends of the twine, give them a pull at the same time, intending to draw the hair to the edge, then pull the twine right through and proceed. Having finished top side of stitching, turn the mattress upside down, and continue as before.



**MATTRESS MAKING AND REPAIRING. 101**

Hair mattresses, on account of the springy nature of the stuffing, require a much stronger ticking than flock mattresses, and the ordinary cotton or union ticking will be penetrated unless the inner surface is covered with melted beeswax. The ticking for hair mattresses should be a pure linen cloth, and the commonest patterns are a light blue and white stripe; this material is obtainable 63 in. wide, and by a method of joining known as mock-edging, a case can be made for a bedstead measuring 6 ft. by 4 ft. 6 in. wide from two widths. For a hair mattress 6 ft. long by 4 ft. 6 in. wide, 13 ft. of ticking, 63 in. wide, will be required; this is cut in two lengths of 6 ft. 6 in. machined together inside out; then over-seam the edge through the double thickness of the

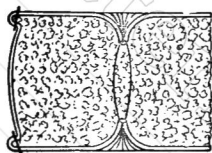


Fig. 109.—Section of Hair Mattress.

stuff, and  $\frac{1}{4}$  in. from the joining seam (see Fig. 109). Measure 6 in. from this seam on a long side, and make a mock seam through the double thickness to show a border 6 in. wide the full length of the case. The opposite side is done in the same manner, except that the joining seam will be on the opposite side of the border. The ends of the case can be either plain seamed or square edged at the borders, and the length given for stuff will allow of square ends, a space by which the stuffing can be added being left open at one end. From 65 lb. to 75 lb. of curled horse-hair will be required for a mattress of the size given, and the hair must be well pulled and picked when taken from the bale and inserted in the open end of the tick. Work it well into the

corners with the stuffing stick, and stuff evenly and free from lumps, letting the surface rise to a good swell, and keeping the borders firm and square. The tick should be occasionally turned in order to

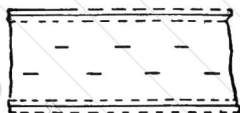


Fig. 110.—Blind-stitching.

stuff fairly on both sides. When half the case is stuffed it can be tufted. (Some workers finish filling and sew the mouth before tufting.) Use only the best twine for tufting. Note that the tufts must be tied in as near the same depth as possible. Stuff and tuft the other half of the case and seam the open end, when the mattress will be ready for blind-stitching (see Fig. 110), which gives the borders a permanent square edge.

The principle of the blind stitch is shown in Fig. 111, and has already been described in Chapter III. There is more than one kind of blind stitch, and Figs. 111 and 112 are given for purposes of comparison. The process may be briefly recapitulated. Thread the mattress needle with good twine, place the point 2 in. from the top edge on the border side, and pass the needle through the mattress, letting



Fig. 111.—Blind-stitching in Section.

the point come out about 4 in. from the edge on the top of the mattress; do not withdraw the needle entirely, but back it out on the border at a distance of 4 in. from where it was first inserted (see Figs. 113

## MATTRESS MAKING AND REPAIRING. 103

and 114). The needle is double-pointed for this purpose. Inside the mattress a large loop of twine is thus left which, when drawn tight, pulls all the hair contained in the stitch against the border. The



Fig. 112.—Another Kind of Blind-stitching.

stitching is continued all round the mattress, two rows being quite sufficient, and if this is properly done, the mattress will have a firm square edge which, with reasonable treatment, will keep for some time. The mattress is now set up by beating smartly with the hands, and is then complete.

For a cot mattress, the width of the ticking (4 ft. 10 in.) can be used for the length. In cutting, allow  $\frac{3}{4}$  in. to the foot both ways. The borders, which should be 4 in. deep, should be cut on the cross from fancy Belgian ticking. The cases are seamed right side out, the seams being strapped afterwards with mattress ribbon—20 lb. of wool flock, or 10 lb. of wool and 8 lb. of hair, will be sufficient, providing



F.g. 113.



Fig. 114.

Figs. 113 and 114.—Making the Blind-stitch.

the materials are of fair quality. Tuft with 9-in. diamonds, using crimson felt. To set the borders, they will require blind-stitching with two rows.

A case for a good feather bed should be bordered

and welted. The soaping or waxing of ticks, to prevent the feathers working through, which they are bound to do after some years' wear, is strongly recommended. On the average, 8 lb. of feathers to 1 ft. will make a good bed. After being filled and sewn up, the bed should be well shaken and beaten.

To cut a pillow, 1 in. each way is allowed. The weight of an ordinary sized pillow (18 in. by 27 in.) is about 3 lb.; but with all bedding the weights should be determined by the filling properties of the material used, which differ a great deal. It will be seen by the following that the weights for the same sized pillow differ with the use of feathers of different quality: Poultry feathers, 3 lb.; mixed greys,  $2\frac{3}{4}$  lb.; grey goose,  $2\frac{1}{2}$  lb.; white goose,  $2\frac{1}{4}$  lb. If white down is used for filling,  $1\frac{1}{2}$  lb. will be ample. When filled with down or good feathers, the pillows should have a covering of cantoon, fustian, or swans-down. Pillows of other sizes are filled in proportion. Wool pillows are not recommended.

For a bolster, cut 1 yd. of tick, and allow  $1\frac{1}{2}$  in. on the size required. The crowns should be cut 10 in. by 6 in.; these will finish 9 in. by 5 in. Should welting be required, a piece of tick should be cut its own width and folded from corner to corner. Cut on the cross about 1 in. wide. This method of cutting for welting applies also to cross borders for springs, only that they are cut wider— $4\frac{1}{4}$  in. instead of 1 in. The average weight for a feather bolster is  $1\frac{1}{2}$  lb. to 1 ft.; but, as already stated, everything will depend upon the filling properties of the materials used.

A wedge bolster is one with a slanting crown, made up in the shape of a wedge, and top-stitched all round. The following directions will enable anyone to cut a wedge bolster without much difficulty. Cut one piece of tick 18 in. long, another 17 in., and another 9 in., the smaller piece being used for the back border. Cut the two other pieces the width

required, which will, of course, be the width of the mattress to be fitted. For the two crowns, cut a piece of tick 18 in. by 9 in., fold, and cut from corner to corner on the slant. The crowns are put into the bolster in the same manner as a round bolster, except that they are not pleated. The ties in a wedge bolster should correspond with those in the mattress.

When cutting chair-bedstead cushions allow  $1\frac{1}{2}$  in. all round. Two of the cushions are made square; the other requires a rounded head. The pads should be made 10 in. or 12 in. long by  $2\frac{1}{4}$  in. wide. In most bordered bedding it is usual to cut the borders  $4\frac{1}{4}$  in. deep.

The box-spring mattress, or upholstered spring mattress, consists of a wooden frame the size of the bedstead, with six laths at the bottom; some have web bottoms. Six 10-in. spiral springs are fastened to each lath by means of wire staples—these directions are for a full-size spring—and after being firmly lashed are fastened to the sides and held down by staples. A piece of hessian is next tacked over the top, and an 8-in. roll made all round the side, ending at the top. The rolls should be filled with alva, wood wool, or fibre, and great care should be taken to keep it firm and level when quilting. The stitching of the roll is absolutely necessary to ensure a firm side. In cutting the top, 2 in. is allowed in the length, and  $1\frac{1}{2}$  in. in the width. This is generally bound all round the top. Some upholsterers prefer the ordinary pull-over top, which has no binding, but is simply a plain piece of ticking sufficient to cover the tops of the springs. After the rolls have been made firm and straight, place the stuffing all over the tops of the springs, pull over the top, pull it down tightly, tack in position, and tie down. Next cut four pieces of webbing, No 10 English preferably, about 15 in. long, fold in half, and tack at about 18 in. from each end of the sides.

These are for the handles used to carry the spring. Having finished this, tack a piece of hessian or white flax over the whole of the bottom.

The best make of box-spring mattress is that known as the "German," or spring edge, which has cane sewn all round the edges on top of the springs, and has a fine hair roll. Care should be taken not to make the centre of box springs too round or too high, as is often done; a perfectly flat top is a great deal better and far more satisfactory. Where a wire-woven spring is used on a bedstead, palliasses are not needed. To prevent the wire from wearing through the mattress cover, it is necessary that a platform or mattress cover should be placed be-

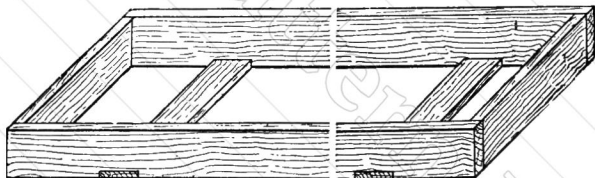


Fig. 115.—Box-spring Mattress Frame.

tween the spring and the mattress. A platform is a piece of felt, pocketing, or tarpaulin, cut to the required size and bound round with bed lace, with six or eight tapes sewn on for tying to the spring. In making bedding it is well to remember that an over-filled article is quite as bad as one under-filled, if not worse.

A box-spring mattress webbed top and bottom, and not made with bottom laths, may have a shallow wood frame with spiral-wire springs between the webbing, the top being upholstered with a picking of hair, fibre, or flock. First make a wood frame of sound pine or red deal 1 in. thick by 6 in. wide; plain lap joints with glued angle blocks may be used, but dovetails are preferable. See that the frame is

## MATTRESS MAKING AND REPAIRING. 107

free from twist; and for large sizes, on the bottom side of the frame fix a couple of stretchers to brace the sides, as shown in Fig. 115. Cross-web the bottom with best white chair-webbing, allowing 3 in. between the webs, which should be tacked down double thickness at each end with  $\frac{5}{8}$ -in. blued cut tacks. Next get some  $\frac{8}{10}$  furniture springs—that is, springs 8 in. long by No. 10 s.w.g.; allow, say, twelve of these to the square yard. The springs are placed on the webs on the inside of the frame, and are stitched fast by the bottom coil with a curved needle and twine (see Fig. 116).

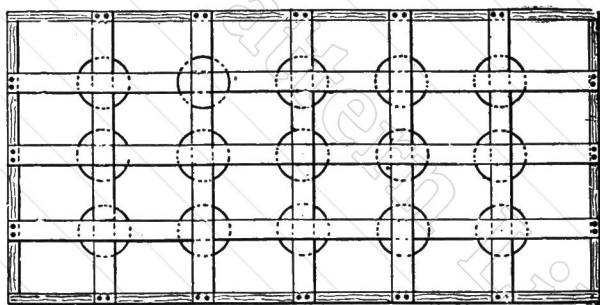


Fig. 116.—Mattress Webs and Springs.

The top side is cross-webbed in the same manner, the webs being pulled tight, as the springs require compressing. Then the top coils of the springs must be stitched fast, each spring standing vertical before being secured. Another method of fixing the springs is to screw on the bottom side of the frame a number of battens, 12 in. centre to centre across the width of the proposed mattress. On these fix 8 in. or 9-in. springs. These are fastened together at the top with ordinary chair and sofa webbing, which is placed across the spring each way, sewn to each spring, and nailed down at each

end to the top of the frame. On this is placed the canvas, on which the hair stuffing is fixed in the usual way, and covered with the ticking.

Returning to the original method, to do the stuffing, first cover the top with hessian, tacking this fast on the top edges of the frame. Next cut off two pieces of hessian of the length of the frame and two of the width, each piece being 6 in. wide. These are sewn fast to the top cover, 4 in. from the edge, which allows 2 in. for overlap all round (see Fig. 117). Take up the free edge at one end and tack it fast to the outside edge of the wood frame, thus forming a hollow space, which must be stuffed firm with fibre or

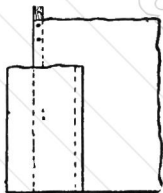


Fig. 117.—Seaming Mattress Edge.



Fig. 118.—Mattress Roll Edge.

flock to form a thick roll. The stuffing is worked in with a stick, and another length tacked and stuffed, and so on all round the mattress (see Fig. 118). Now, on the whole surface, with the exception of the rolls, pick a layer, 3 in. thick, of stuffing, which can be hair, flock, or other suitable fibre. Cover this with hessian, and tack it fast all round just under the edges of the roll. A slip-on cover is next made of Leeds stripe sateen ticking; it consists of five separate pieces, namely, top and four borders. The latter can be made from Belgian ticking, or other fancy striped material, being machined to the top with the seam outside, and strapped with mattress ribbons. The cover is slipped over the mattress, and the borders are tacked fast underneath the



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frame. The tufting does not require as much set as a wool mattress, the twine ends being passed through the squab and down through the webs and tied off. When all the tufts are set up, the bottom of the mattress is covered with grey duck cloth to keep out the dust; then clean off with a brush, and the mattress is finished.

A spring-framed mattress finds favour with some people, and consists of two rectangular wood frames, which can be made in two separate portions for convenience in handling. Between these frames wire

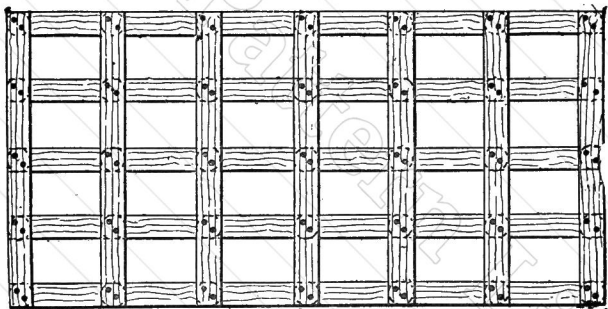


Fig. 119.—Spring-Framed Mattress Top.

mattress springs are interposed, arrangement being made for the parallel movement of the frames, and the whole surface being covered with ticking. These mattresses are used with an overlay mattress on the top. First measure the width and length of the bedstead, and make two frames of clean, sound pine laths,  $\frac{3}{4}$  in. thick by 3 in. wide when finished; in ordering, allow  $\frac{1}{8}$  in. each way for planing. The spaces between the stretcher laths for a bedstead 4 ft. 6 in. wide should be 1 ft. 2 in., the spaces between the cross laths being 4 in. The laths should be secured by screws in preference to nails (see Fig. 119).

Obtain some turned conical blocks (Fig. 120), 4 in. long and 4 in. in diameter at the base, tapering to 2 in. at the top. The number required will correspond with the number of cross laths in the two frames. Each block is secured by two  $1\frac{1}{2}$ -in. screws, the positions of the blocks being shown in Fig. 121. Next get some 8-in. chair or mattress springs of hard-drawn wire and a packet of  $\frac{5}{8}$ -in. spring staples. Place one of the frames across a large table top or on a level floor, and put the springs in position to stand quite square.

Each spring is fastened to the frame by four staples, well driven over each bottom coil. In fitting the springs, take care that the guide block does not bind against the coils, as this would greatly interfere with their proper working. The other frame is then put on, and the whole turned over, the



Fig. 120.—Guide Block.

opposite ends of the springs being fastened in the manner just described. The springs should all ride without chafing, and the frames work parallel. The whole surface and borders can be then covered with Leeds stripe ticking, made like a wool-mattress case, and slipped over the frame or tacked at the sides, these being hidden by narrow mattress ribbon secured with gimp pins. Some people prefer the sides and ends left open, so that they may be swept out better.

Of palliasses (for definition, see p. 95) not much can be said. They are, like the box-spring mattress, going out of the market. Usually, they are in two equal parts, and are made up in a Forfar case (sometimes flax is used), with a tick border, and are bound all round. They are filled with straw and shavings,

## MATTRESS MAKING AND REPAIRING. 111

have ties in them, and are stitched all round. A frame or box is not necessary if only a few palliasses are to be made. Cut the top and bottom of hessian canvas, according to size required, and sufficient ticking for the border, 4 in. wide. Sew the border strongly to the top and bottom with good doubled, waxed, linen thread, using a binding at the seam. A portion must, of course, be left open for insertion of the stuffing, for which wheat straw is the best material, although almost anything will do. The straw should be well twisted and broken (although this is not always done), and well stuffed into the cases. When full, the opening left for filling is to be sewn up, after which it must be compressed, or flattened, by well beating it with a heavy stick.

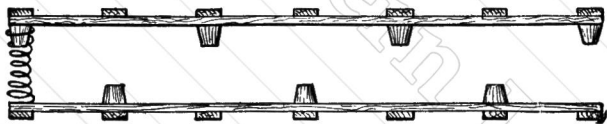


Fig. 121.—Spring Mattress Guide Blocks in Position.

When the edges are firm and square, the palliasse should be sewn through with twine at about 9 in. intervals, to keep the stuffing in place, and a row of blind stitches run round the top and bottom edges. The palliasse is now complete.

When a frame or box is made, the procedure of making a palliasse is as follows:—Cut the tick the proper size for front, back, and sides, allowing just a little for turning in; sew it strongly, but it does not matter how roughly. Put it in the frame (described on p. 112), which it should exactly fit, fastening the top to the top of frame with a few tacks. Fill with straw, ramming it tightly down. Take a proper needle, filled with twine, push through the palliasse. turn it at the back, and, just

before the twine draws tight, slip under it a leather tuft; draw a slipping noose at the front, using another tuft, and tie securely. The eight are done in the same way. When finished, remove the front, and take out the palliasse, closing the top. The fancy braid is then sewn all round the seams with a machine.

A frame or box for making a palliasse is a narrow oblong box, open at the top, and having a movable front. The back and front should be made first, large enough to take a full-sized palliasse,

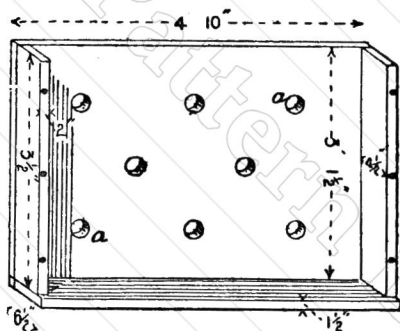


Fig. 122.—Palliasse Frame with Front Removed.

which would be 3 ft. 1½ in. by 4 ft. 6 in. inside measurement; the front and back of the frame, therefore, must be 3 ft. 1½ in. high and 4 ft. 10 in. wide (the extra 4 in. being to allow for lapping over the ends, which ends are made of 2 in. boards). The wood used should be at least 1¼ in. thick, so that it may be a little more than 1 in. when planed up. Perhaps it would be better to use four 11 in. boards, and cut them to the proper size after marking out where the tuft holes are to come, so as not to get them in the joints. Shoot the edges true, and glue up, using cramps;

## MATTRESS MAKING AND REPAIRING. 113

or they can be tongued together. When dry, cut them to sizes named. Now plan where the tuft holes are to come, and cut out. These must be an even distance from each other and from the bottom and top, and exactly opposite in front and back. They are to allow of the palliasse being sewn through when in the frame, and ought to be made large enough for the knots to be fastened over the tufts. The back is now ready to fasten to the sides and bottom. The sides are  $4\frac{1}{2}$  in. wide, 3 ft.  $1\frac{1}{2}$  in. long, and cut out of  $2\frac{1}{4}$  in. stuff, so as to be 2 in. when planed up. Screw the back

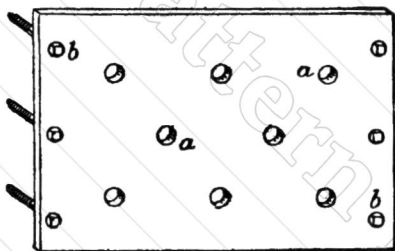


Fig 123.—Front of Palliasse Frame.

to these, and then screw on the bottom board, which is  $1\frac{1}{2}$  in. thick. The frame is now finished, except that the front must have some means of being readily put on and taken off, to allow the palliasse to be removed, and yet it must be strong and firmly held. This can be done by using six bed-screws, such as are used in the old-fashioned wooden bedsteads, three on each side. Embed the nut in the sides at the back, and use screws long enough to go through. Fig. 122 is a view of a palliasse frame with front removed, the front being shown separately by Fig. 123, in which *a* indicates the tuft holes, and *b* the bed screws by which the front is fastened on.

H

The cleansing and purification of bedding, etc., may be touched upon in conclusion.

Lump camphor is very useful as a vermin preventive, but when bedding is already infected, the only effectual remedy is fumigation; this is best done in a spare room or chamber, closing by pasted pieces of paper every opening and crevice that is capable of admitting air. An old iron pan placed in the room should contain a few live coals; over them put 4 oz. of crushed rock brimstone, and close the door and stuff up the keyhole. In twelve hours all the insects will be dead, but eggs sometimes remain, and the process may need repetition, or the mattress may be emptied and the contents purified.

To purify mattress fillings, cut the twine which holds down the tufts, slit one of the seams at the end, and place the flocks in a large tub or cistern containing 10 gal. of cold water, 2 lb. of powdered alum, and 2 lb. of cream of tartar. Stir the solution well and place in it the flocks, which shrink to half their bulk on becoming wet; after two days remove them, wash in two changes of clean cold water, and dry by spreading on cord netting stretched on a frame. A coil of steam pipes placed under the netting will hasten matters. See that the flock is thoroughly dry before use, and it will be necessary to put the flock once or twice through the dressing machine after this treatment.

Raw feathers are cleaned and purified by the use of lime water; mix 1 lb. of quicklime to each gallon of water used, allow this to settle, and pour off the clean portion; steep the feathers in this solution for three or four days, wash in clean water and dry on the net.

To remove moths from a mattress, unpick the seams of the tick, and send the hair to be wil-  
lowed; or unpick the matted balls by hand, wash the tick, and dry it in the open air.

## CHAPTER X.

### RENOVATING AND REPAIRING UPHOLSTERED FURNITURE.

A LARGE share of the work done in small upholsterers' shops is re-covering and renovating. Re-upholstering is practically springing and stuffing again, the instructions for new work applying in many cases to repairs as well.

To re-cover a sofa, first take off the back. For this, strip off the old linen that covers the back and under the arms; this is sometimes tacked, but is more often secured by thin glue. The nail heads that secure the back to the carcass can then be seen along the bottom and up the ends. To remove them, with a heavy hammer drive a chisel between the back and side rail in the centre of the back, then drive in another chisel about 1 ft. nearer the end, and so on until the nails are started. With careful levering along the length, the back should come off whole, but too much pressure at the top ends will break the stuffing scrolls.

If the back has a loose top moulding, probably it is secured by pieces of webbing tacked fast; cut these with a knife or chisel, when the back mould will lift out, it being kept in position on the edge by three or four dowels. Next strip the gimp along the edges of the carcass. Backs with loose moulding are not gimped, the cover being concealed by the moulding. Loosen one end of the gimp and give a smart pull outwards; this will generally strip the whole length. Place a screwdriver under the tack heads that secure the covers and knock them out. Cut the button strings and remove the buttons.

When the tacks have been knocked out the old

covers should lift off. The sheets of grey wadding on the stuffing under the seat cover should be destroyed, as they are generally full of dust, and wadding is cheap. See that the springs are upright, and if necessary replace them by new ones put in from underneath. The new springs must be tied to the spring rail at the bottom, and stitched fast through the stuffing at the top with a long needle. After the covers have been removed, brush out all dust from the rebates with a stiff brush and measure the width and length of the stuffed portion for the new covers, allowing for tacking on.

Begin re-covering the seat first. Tack the cover in the centre of the seat; get the pattern straight across and secure it at the back, working from the centre to the ends. Cover the arms next, and in tacking the stuff up the edges of the scrolls begin creasing and lapping over about 6 in. from the top; this is important for neatness. Use the hands freely in bringing the stuff over to the back, so as to get it as even and tight as possible before securing it at the back. For the inside of the arms use buttons to match the cover.

The polishing and varnishing can now be done, and afterwards the gimping or banding and studing. Cover the sofa back and underneath the arms with new linen secured to the framing with thin glue and cut to the curved outlines with a sharp knife.

A cheap and easy method of re-covering caned rocking-chair backs is as follows:—After pulling off all the old cane, cut with a chisel a rebate  $\frac{1}{4}$  in. deep all round the inside edge, as shown at A, Fig. 124. Into this is fitted a strong piece of carpet cut to a pattern made from cardboard. The carpet is then tacked on to the chair and, to hide the tacks, coloured gimp is fixed round the edge with brass nails. The back can be covered with black sateen, gimp being used to hide the holes for the cane.



When the webbing of spring-bottomed chairs has given way, and it is thought desirable to effect a repair by some other method than webbing, first turn the chair upside down, and remove the sack-cloth underneath it by carefully removing the tacks; put this by, as it will serve for a pattern for the new piece of sacking required when the job is finished. Remove the old broken webbing, carefully extracting all tacks; now turn the chair over, and shake out as much as possible of the dust that has collected; then turn the chair bottom upwards

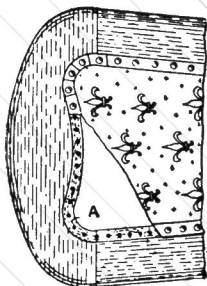


Fig. 124.—Re-covering Chair Back.

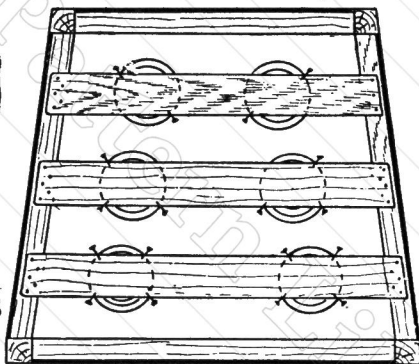


Fig. 125.—Repairing Spring-bottomed Chair.

again, and measure the size of the battens required to take the place of the webbing (see Fig. 125). The battens should be made of about  $\frac{5}{8}$ -in. wood by about  $2\frac{1}{4}$  in. wide, and their ends are bevelled off; these battens are nailed to the bottom of the chair so as to be under the centre of the springs. The springs are pushed under the battens, and held in position by wire passed through a hole bored in the batten, and twisted round the spring. Take the old piece of sack-cloth, or hessian, and cut a new piece, leaving a margin for turning in; tack this on to the bottom of the chair, and the job is finished.

Fig. 125 shows bottom of the chair when finished before putting on hessian.

The continual failure and giving way of webbing can also be avoided by "parcelling" the upper and lower ring of each spring with strips of canvas, which prevents the injury by rust. By seizing the springs together at the top and bottom, the weight is distributed over the whole set, and the comfort of the seat is increased. It has been suggested that the springs and webbing would be better uncovered, and without the usual piece of sacking, as this collects dust, which is only stirred up when the chair is beaten; whereas when open underneath, the dust

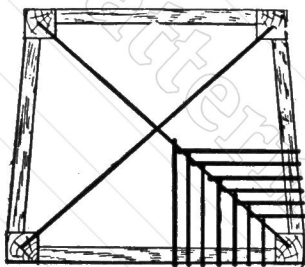


Fig. 126.—Re-seating Chair with Cord.

is beaten out altogether, and not merely into the former collection on the sacking.

In re-seating some chairs with cord bottoms, begin by putting two strong cords across as tightly as possible from each corner. Now lash the cord over the rails and strings herringbone fashion, doing two sides at once, each string being lapped over alternately, as in Fig. 126. Before beginning operations, the cord should be soaked in water; it will then contract on drying, and make a tight job. The seat can be stained and varnished if desired.

The following method is preferable, however. Carefully remove the four thin battens which are

nailed on the edges of the seat, and pull off the old rush, dust, etc. The sides of the seat frame are slightly sunk below the corners, so that the work will be flush with the latter when finished. No diagonal cords are required, and the corners will be polished and not disfigured as they are in Fig. 126. The work is quite simple, and proceeds from one corner regularly round to others in succession, terminating in the centre, so that all four sides are worked together, as explained in Fig. 127, A, B, C, D being the sides of the seat frame. Have a good

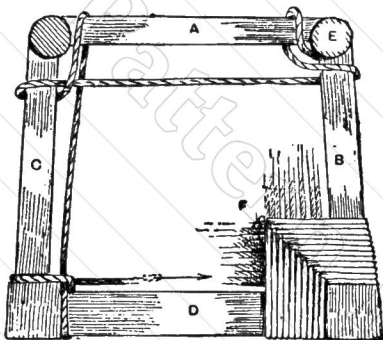


Fig. 127.—Re-seating Chair with Cord.

coil of cord on a stick, and make the end fast to the leg E (right-hand back corner), pass the coil up and out over A, then up and out over B, over C and up and out over A, then over D and up and out over C, etc. This will be quite clear from the cord shown loose in Fig. 127. When pulled up snug and tight and as the work proceeds it will have the appearance at each corner of that at the corner F.

Any joining of the cord or rushes must, of course, be done after a back turn, so that it will come underneath. Stuffing can be pushed in between the upper and lower layers of cord as the work proceeds, and the end first hitched to the leg can be knotted and

cut off. A chair seat made this way in manilla looks very well, but takes a large quantity of material.

The process of re-covering furniture without removing the existing leather covering is largely practised in cheap shops. Say that it is desired to put a velvet cover over leather upholstery. Strip off the narrow feather banding all round the rebates, cut off the buttons holding the tufts, and place the velvet direct on the leather, tacking fast close up to the show framing. Any hollow places can be raised up with a little well-picked stuffing, or, to give the squabs a fuller appearance, lay on sheet wadding, before the velvet is put on, but on no account let the wadding come over the edges. Finish the edges with a suitable coloured scroll gimp to match the covering, securing this with gimp pins or velvet-covered studs. Line the chair backs with sateen or Roman satin to match.

For renovating leather seats that have a bare, chalky appearance, make a dressing by dissolving 2 oz. of shellac and 1 oz. of powdered borax in 1 pt. of hot water. To do this properly a water bath will be necessary. Whilst hot, add  $\frac{1}{4}$  oz. of good aniline dye of the colour required and  $\frac{1}{2}$  oz. of glycerine and mix well together. Apply with a swab of cloth or a sponge. Previous to this the leather should be cleaned with washing soda and warm water, or ammonia and water. If the surface requires more gloss, make a glaze of equal parts of white of egg and good gum, and apply after the dressing is thoroughly dry.

American-covered leather can be cleaned easily by washing with soap and water and re-glazing with a leather reviver. Furniture covered in roanskins and real moroccos can be cleaned by rubbing the surface briskly with benzine; when dry, rub with sweet oil until a soft and glossy appearance is produced.

For renovating leather-covered furniture that

has got out of shape and dull-looking, cut the strings that hold the buttons from underneath the seats; these strings can be drawn out on the top. The stuffing will now be loose and the bulged edges can be knocked up square. Get the seat surface as even as possible; then re-button with covered buttons, beginning near the edges. Tie these up as tight as possible so as to make deep tufts. Now sponge on two thin, even coats of bleached shellac varnish.

By another method of treating the bare parts of moroccos and roans first cover them with good starch paste, and clean the leather with equal parts of ammonia and milk; this will also act as a mordant. Boil 1 oz. of cochineal in a pint of water, adding a little alum, and apply with a sponge; this will give a dark maroon colour. Black can be made with a strong solution of red acetate of iron, or a good shoe-maker's ink will answer the same purpose. A strong decoction of saffron over the original colour of the chairs will produce a warm brown. For green, wash with a solution of green vitriol, followed by a strong decoction of barberry root. After dyeing, the leather should be coated with the borax-shellac dressing already noted.

Leather chair-seat covers sometimes become sticky; if they are morocco or roan skins, the stickiness is probably due to condensation, dust, etc., and can generally be removed by washing the leather with warm water and washing soda. Allow to dry, then lightly sponge the surface with well-beaten white of eggs, afterwards polishing off with a soft chamois leather. American leather cloth will require different treatment, as stickiness in this material is generally due to some of the constituents of the enamel perishing. Wash the surface free from dust and grease with warm water and washing soda; when thoroughly dry, sponge over with the following dressing very evenly and thinly applied: gum sandarach 4 oz., gum mastic 1 oz.,

dissolved in 1 pt. of methylated spirit ; well strain before using. It would be an advantage to stain the above to the shade required with aniline dye.

The dyeing of faded leathers is a special process, but grease spots in woollen and mixed covers can be removed by wetting with the following preparation and rubbing with a sponge or rag: Shake together in a bottle  $\frac{1}{2}$  pt. benzine,  $\frac{1}{2}$  pt. water, 4 oz. of ammonia, and 4 oz. of a saturated solution of sal-soda. After this has stood for a few hours it will be ready for use. Keep tightly corked or the contents will evaporate, and shake well before using.

Hair-seating can be cleaned with soap and warm water in which a piece of washing soda has been dissolved, and to which a few drops of liquid ammonia have been added ; sometimes it is cleaned by wiping over with paraffin oil ; if any obstinate stains remain, rub with black ink. The addition of a little gum to the ink is an improvement. The smell of paraffin will disappear if the articles are left in the open air for a short time.

The method adopted in the cleaning mills for freeing old horsehair (not coverings) from dirt, moth, etc., is to place the hair in a large wire cage, and put this into a steam jacketed boiler. Water is then pumped into the boiler, the boiling lasting about half an hour. The cage is then removed to a hydro-extractor, also known as a "whizz," the hair being dried by high speed centrifugal action. The hair is passed once or twice through the teasing machine and is then ready for use. Doubtless a modification of the above process will meet ordinary requirements. New horsehair in the natural state goes through exactly the same process before being placed on the market for stuffing purposes, but it has to be dried afterwards in an oven to make it curl up, which is desirable. It may be said that old stuffing which has been curled should not be

boiled, unless there are appliances at hand for re-curling it. Instead, the amateur's better plan will be to beat out the dust thoroughly with a cane, shake the hair in a sieve or riddle, to remove short fragments, foreign matters etc.; sprinkle it from a watering-can with dilute Condyl's Fluid (this, if done with care, will not destroy the curl); and then to dry it in an oven as hot as is possible without singeing the hair; such a heating will destroy any germs of disease or insect life which may have escaped the disinfectant.

To raise the pile of velvets, plushes, etc., remove the material, and fill a clean tin can holding 2 gal. or 3 gal. with boiling water; cork it tightly and place it on its side. Pass the material slowly over this backwards and forwards, and then brush up the nap with a soft clothes-brush. Another method is to cover the face of a hot flat-iron with several folds of wet cotton cloth. Fasten the iron by the handle to a vice or other suitable convenience, and as the steam rises from the iron pass the plush smartly backwards and forwards over the face of the wet cloth. The wrong side of the material must be towards the iron. The nap or pile is then raised by brushing with a soft bristle brush.

To clean heavy woollen velvet covers, well beat them to get rid of the dust, and then wipe over with cold water and ox-gall—one ox-gall to a pail of water.

For silk pile plushes, benzine is the best cleaner when sponged lightly on with a swab of soft cloth, replacing this when dirty with a clean one. For woollen plushes, also known as moquettes, use equal parts of liquor ammonia and methylated spirit in the same manner as before. New gimping makes a considerable improvement in appearance when renovating suite covers.

## CHAPTER XI.

### CARPET PLANNING AND LAYING.

ASSUMING that the carpet has been selected, the room has to be measured and the quantity that will be required estimated.

Obtain a plan-book of stout paper about 1 ft. 6 in. long by 1 ft. wide; also a 2-ft. rule, a 66-ft. tape measure, and a chalk line, one of the self-chalking variety being the most convenient.

Remove as much of the furniture as possible

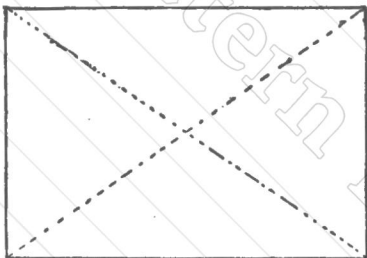


Fig. 128.—Carpet-planner's Room Plan.

before taking measurements. First take the square plan of the room without taking into account any recesses, windows, etc., and mark down in the plan-book a rectangle, as in Fig. 128, carefully checking each measurement to prevent mistakes. Next take tape measurements from corner to corner; if these are not equal, the room is not square at all the corners. This should, of course, be shown as the result of the first measurements; if not, then they are wrong, and should be corrected. Then fill in the details in the plan-book.



For the fireplace have the curb placed in position, unless the hearth is tiled, when measurements should be made close up to the tiled border. Fig. 129 shows the method for a bay window. Spring a chalk line across the opening indicated by the dotted line A B, then plan the line C D, and strike off E F, when the angle can be drawn in. The length of A B can be checked by adding up the distances between the offsets.

In planning for circular windows, recesses, etc., it is necessary to take offsets at every foot (see Fig. 130), unless the curve is very quick, when measure at each 6 in. The length and position of each offset should be clearly marked in the plan-book,

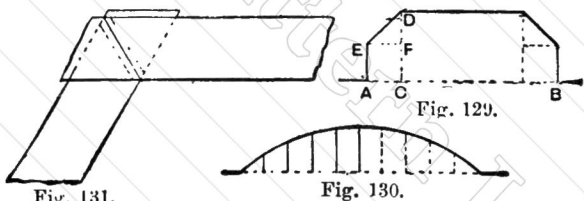


Fig. 129.—Plan of Bay Window. Fig. 130.—Plan of Circular Window, Recess, etc. Fig. 131.—Mitring Carpet Border.

and the segment then drawn. Other irregular shapes are planned in a similar manner.

The lighting of the room should also be noted, because if a well defined floral pattern is selected, the flowers on the carpet should face the light.

It is necessary to know the length of the pattern, which, of course, has to be matched. This frequently entails waste; if so, the pieces may be used to fill in recesses or to cover footstools. It is also necessary to know if the pattern is a "set" or "drop." The former has the complementary part of the pattern quite opposite on the other side of the same breadth; but the finish to the latter's

figures occurs half the pattern length down the opposite side. Consequently, to match a "set" pattern it must be cut through a similar figure to that at the starting point, whereas a "drop" pattern must be cut half-way between similar figures to that with which it begins. To the novice this is difficult to grasp, but must be considered and allowed for in planning in order to avoid waste.

As a simple example, a room 15 ft. long and "set" pattern of 3 ft. length will not entail waste, as it matches exactly when cut at any multiple of 3 ft. The "drop" pattern would waste 1 ft. 6 in., as after the first piece is cut the required length it would be necessary to cut that quantity off to match with the starting point.

In a room where several breadths of carpet are required this wasting is an expensive matter. In "drop" patterns waste may sometimes be avoided by observing the following rule: Cut the odd number breadths first, at the corresponding figure to the one the piece commences with, then cut the even number breadths. It will then be seen that the only waste occasioned is on the first even number breadth.

As an illustration, take the foregoing example with a 3-ft. "drop" pattern and, say, six breadths of carpet. If each breadth is cut in succession, five pieces, each 1 ft. 6 in. long, will be wasted; but by cutting Nos. 1, 3, and 5, and then cutting off 1 ft. 6 in. from the piece that is left, there will not be any more waste.

All piece carpets for covering rooms are made 2 ft. 3 in. wide, except that known as Kidderminster, which is 3 ft. wide.

When roll carpeting, 27 in. wide, is used, it is laid on a clean floor and the pattern properly matched before cutting off. An allowance of 1 in. is made for each seam, and the ends must also be

cut square with the sides; the joints are then seamed and felled with carpet twist, either by thimble-work or by machine. The borders are then seamed to the centre, each corner being cut to a mitre and the pattern matched. There are special needles and thread for sewing carpets.

It is necessary to sew the selvages together quite close, stitching through and back, not over the edge. Push the wool down between the selvages with the needle as the sewing proceeds; no wool must be taken up in the seaming. The stitches should be about  $\frac{1}{2}$  in. apart. Take great care to keep the pattern matched when sewing. The ends of the carpet must be overstitched to prevent fraying. A stronger way is to sew a strip of carpet webbing along the back edge and then stitch the edge as buttonholes are done, these stitches to be about  $\frac{1}{2}$  in. apart.

The whole art of fitting and laying carpets may be described as follows. In fitting carpets the block plan of the carpet should first be laid in chalk lines on the floor, details of fireplaces, recesses, windows, etc., being filled in afterwards. Add all the measurements and check them, as there is no chance of rectifying mistakes without wasting material after the cutting is begun. First cut the borders, the centre carpet being filled in afterwards. The borders are mitred at each corner, the method of marking the mitres being explained in Fig. 131; the centre line will be the join, and the dotted lines are the cutting lines, the overlay being required for seaming. Hold down the strips, as cut, with a few drugget pins.

Carpet borders are usually 1 ft. and 1 ft. 6 in. wide, and the cutting is done with a pair of stout 14-in. shears, a light wood T square and a pointed piece of chalk being required for marking off square. The carpet is now laid in the centre, and particular care must be taken to match the pat-

tern accurately. If the carpet has a decided floral pattern, have the heads facing the light, or at least in the opposite direction to the doorway. In cutting off allow 1 in. each way for seaming, unless the carpet has a plain woven selvedge, when 1 in. should be allowed at each end only.



Fig. 132.—Carpet Stretcher.

Mark each length of carpet and borders with consecutive numbers, and mark the same on the floor so as to facilitate each portion being sewn in its proper position; this work is generally done by female labour, the carpet-seaming machines on the market being expensive. The carpet is seamed by lap joints with strong carpet twist, and the edges and seams are bound with grey linen webbing.

If the carpet has to be secured to the floor with rings which hook on brass-headed drugget pins driven into the floor, the rings are sewn to the webbing at intervals of 8 in. all round the carpet square. When the seaming, etc., is done, the carpet is ready for stretching and pressing. To do this a carpet stretcher (Fig. 132) and a heavy goose iron is required. Place the carpet face down



Fig. 133.—Carpet Selvedges Turned in.

on the marked cutting floor, and it will be found that through puckers and wrinkles the carpet is a bad fit to the chalk lines. Therefore stand on the carpet, and with the stretcher held in front, work one line square and straight to the chalk line,

then pin it fast to the floor with drugget pins, and stretch in the opposite direction, always commencing in the centre and working to the ends. Follow out the pinning down until the carpet lies square and straight with the chalk lines.

Should any part be baggy or slack edged, it can be shrunk to shape by wringing out a cloth in cold water, placing this on the slack part, and ironing with the hot goose iron. All the seams should also be well pressed, and the carpet left overnight to set, when it must be well swept and the pins removed.

Before the carpet is laid, examine the floor for projecting nail heads or knots in the wood; the



Fig. 134.

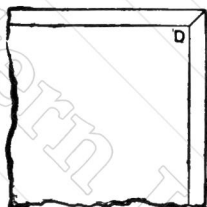


Fig. 135.

Figs. 134 and 135.—Carpets Prepared for Sewing.

former must be punched in, and the latter planed off, a round iron being used in the plane to prevent digging at the corners. Felt underlays and surrounds are sewn together and cut to shape afterwards, any slack parts that may occur being damped out. Seams across the widths of the carpet are scratched out with a steel comb, and sewn together one on the other, the pattern being matched as accurately as possible. They are always avoided in first-class work.

In joining together a number of pieces of carpet, the selvages of the carpet need not be cut off, as they can be utilised for the turning in, as at A (Fig. 133), where the dark portions show the selv-

edges. Turn in also a small portion along the sides, and, to prevent the corners overlapping, cut off a small piece as at B (Fig. 134). The dotted lines c show the turning-in lines; and at D (Fig. 135) is shown the bottom side of one piece of carpet with the sides and end folded in, the cut-off corner forming a mitred joint. Be careful to get all the pieces turned in to exactly the right size, or the carpet will not lie level when finished.

Improved carpet-weaving machinery has recently done away with a lot of the carpet-planner's work, as seamless, bordered carpets all in one piece are produced up to 12 ft. by 21 ft.

The proper way of treating a carpet that has been sewn together is to turn it wrong side up and fasten one end to the floor with a few carpet pins. The carpet stretcher (to be described later) is then used in all four directions and the carpet pinned all round. The seams and binding are laid with a heavy hot goose iron and the carpet left some time to set; the pins are then removed and the carpet well swept on both sides. If it has to be laid with rings, one ring each yard is sufficient.

For large rooms the carpets are sometimes worked into simple geometrical figures by using different patterns and colours.

Carpets made of all wool may be laid quite smoothly by pulling with the hands only, but those that have jute and other material for the back require to be stretched with a special implement.

The usual form of carpet stretcher is illustrated by Fig. 132, and this gives good results in the hands of a competent man. A device with spikes is shown by Fig. 136; to make it, procure a piece of hard wood, 9 in. by  $4\frac{1}{2}$  in. by  $1\frac{1}{4}$  in. (A and D); lay out eight rows of holes 1 in. apart, and bore with a bradawl nine holes in each row (see Fig. 137). Into these holes drive  $\frac{3}{4}$  in. Durran's patent nails.

In one side of this body, between the fourth and fifth row of nails, insert a stout screw-eye. The lever, c, is 22 in. long (a piece of broom-handle will do very well) and it has a ferrule on the end. Cut the head off a large wire nail, and drive the nail into the ferrule end of the handle, so that about 1 in. will project. File this projecting end to a point. The other end of the handle is to be rounded off nicely. Bore a  $\frac{1}{8}$  in. hole for a rivet through the handle, 2 in. above the ferrule, and fit a rivet with two washers, long enough to project

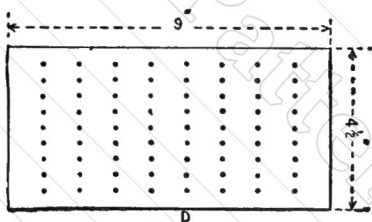


Fig. 137.



Fig. 136.

Figs. 136 and 137.—Carpet Stretcher with Spikes.

$\frac{1}{8}$  in. on each side. Take a piece of strong wire, B (say, 12-gauge), 20 in. long, pass it through the screw-eye, and double it to form a loop; then with each end of this wire take a turn round the rivet in the handle (one end of wire on each side of handle).

In use, the stretcher is placed on the carpet, and the carpet layer's foot is placed upon it to hold it down; the spiked end of the lever is placed on the floor close to the skirting-board, and the handle of the lever is pressed forward till the carpet is stretched sufficiently. Then the carpet

is tacked down or otherwise secured, and the stretcher is moved along about 1 ft. further. Careful use is claimed not to injure the carpet.

A simple tool which will answer the purpose of a carpet stretcher where no great strain is necessary can be made from a large bradawl sharpened to a round tapering point, just fine enough to pierce the carpet easily. Push the point into the carpet and use as a lever to draw it smooth.

In laying stair carpets, the stair-rod eyes are the first consideration; these should be fixed  $\frac{1}{2}$  in. farther apart than the width of the carpet, not more, or the carpet will not keep straight but will zig-zag. Fix the eyes at equal distances from wall-string and balusters so that the carpet is exactly in the centre. A great mistake is frequently made by measuring from the extreme ends of the riser. Large stair-eyes must be fixed with the holes of each pair perfectly parallel, otherwise it is difficult to insert the rods, owing to one stair-eye inclining the rod to a slightly different angle from that at which its fellow is fixed. The holes of the stair-eyes need only be slightly larger than the diameter of the stair-rods, but it is necessary to have the flange as wide as the depth of pile of the carpet; this will permit of the rods being put in or taken out easily. Stair carpets are usually made 18 in., 22 $\frac{1}{2}$  in., 27 in., and 36 in. wide, and stair-rods are made in lengths suitable for these widths.

Padding is put under stair carpets to reduce the friction and thus help it to wear much longer; it usually takes the form of separate pieces or pads for each tread. Various kinds are used; those made of wadding afford the softest tread. Others are of cork, sponge, or thick felt underlay. All these can be procured in suitable sizes for the various widths of carpet, and the felt underlay may be obtained in the piece and cut to required sizes.



Pieces of old carpet, providing they are free from seams, can be used as padding. It should be cut the width of the stair tread and about 2 in. shorter in length than the width of carpet. In placing, keep them in the centre and about 2 in. away from the riser, so that the extra thickness does not interfere with the free movement of the rods, and permits the pad to be turned over the nosing, as it is there most friction is set up.

Stair carpets get all the wear on the nosing and about 3 in. of the tread, and are soon worn out at that part while the remainder is good. This may be obviated by having the carpet the length of a tread and riser (say 1 ft. 6 in.) longer than is actually required, and periodically moving the portion which receives the wear down to the risers below, thus bringing those portions which are not trodden upon to take its place. Move only about 3 in. or 4 in. at a time, and change it before any marks of wear appear; the whole length of the carpet will thus share the treading instead of just those portions nearest the nosing.

Another important point, especially applicable to pile carpets, is that to prolong the life of stair carpet it should not be changed ends—that is, turned top end to bottom. Owing to the pressure being heavier when descending the stairs, the pile of the carpet gets pushed or “laid” in the direction of the bottom; if, then, the carpet be turned, the direction of the pile has to undergo a reversal, considerable friction takes place, with the result that deep pile carpets look very rough, and all with a nap or pile surface wear out much quicker through having the wool chafed away in the process.

Stair carpets whose patterns are of floral design, and those with figures appearing to incline in one direction, should be laid with the pattern running up the stairs. In other cases take the “lay” of

the pile as a guide, for the reason already given, and also because the colours in deep pile carpets appear richer when looked at against the pile. The direction of the pile may be easily ascertained by passing the hand over the surface.

Straight stairs present no difficulties; with the aid of a few tacks top and bottom, or slipped under a rod, the carpet can easily be kept smoothly in place by the rods. But winding stairs are more difficult; in regard to these the aim should be so to manipulate the carpet that it presents an unbroken appearance for its entire length. This end can be attained best by cutting the carpet at each riser, but as this neutralises the advantage gained by the extra length, it is not advisable except where economy can be sacrificed to a first-class job. The apex of each triangle made in turning the carpet should be at the same radius from the baluster. This can be done on spiral staircases where the treads are all at the same angle, but is sometimes impossible where the flight has straight stairs at top or bottom, or both, and the return made in a few winders. To fix the stair-eyes for the former class of stairs, allow  $1\frac{1}{2}$  in. wider than the breadth of carpet, as it will be found that in turning the carpet more space is required between the eyes; this extra width should be on the wall-string side. For the latter kind of stairs it is best to fix the eyes in the straight stairs first, and at the side of the winders nearest to, and at the same distance from, the balusters as those in the straight stairs. Lay the carpet temporarily in place, and the turn made will show where the remainder are to be fixed—that is,  $\frac{1}{2}$  in. clear of extreme edge of carpet on the wall-string side. The rods for these stairs will vary in length, but must project beyond each stair-eye the same distance as those in the straight stairs.

Padding for the winders should be the shape of

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the stair-treads, the same rule being observed as for straight stairs. To lay, place the carpet in position on the stairs and put in the rods. Pull the edge of the carpet quite tight on the wall side, and smooth each tread quite flat; there will then be a ruck at each riser, which must be neatly folded under. The outer edge of the doubled part must be folded exactly at a line drawn from the points at the sides where the edges intersect; all the stripes in the borders will then meet.

In spiral staircases but little carpet has to be pleated; consequently the whole of it can be placed against the riser, where it should be put in every case where practicable. Flatten the folds as much as possible by beating with a hammer, and put a few tacks along the doubled edge to keep the fold in place. Should it be impossible to place all the turned-in carpet against the riser, owing to the angle of the stair making a large ruck, put the fold under the carpet on the tread, and pad up the hollow space by cutting pieces of the material, used as padding, to the shape required. This may necessitate wider flanges to the stair-eyes, or blocking out with pieces of wood placed behind them to allow the rods to move freely.

On no account fold the carpet so that the extra thicknesses are on the nosing; put sufficient padding where necessary to make the carpet level, as any unevenness results in a worn mark. If it is decided to cut the carpet, proceed as shown, but instead of pleating the ruck, mark lines between the intersecting points at the edges of the carpet, and cut out the resulting V piece; the edges thus cut may be stitched to prevent fraying and joined closely together with tacks, or, better still, the two cut edges may be seamed. As a rule, large set patterns, and those which have patches of colour, are ill adapted for stairs, as rarely do distances between similar figures in a pattern and similar

points in the stairs coincide ; consequently the eye is annoyed by the pattern appearing irregularly.

Ox-gall soap for cleaning carpets may be made in the following manner. Fifty pounds of soap is cut up into shavings and put into a pan together with 1 gal. of water ; this is gently heated, stirring all the while, until a paste is obtained, and to this is added, constantly stirring,  $2\frac{1}{2}$  lb. of ox-gall and 2 lb. of mirbane, the last being intended to mask the odour of the ox-gall.

Stains of a rusty colour can be removed from a Wilton carpet in the following way. Place a large dinner plate or tray underneath the stained portion. Mix equal parts of cream of tartar and citric acid (this can be bought ready mixed under the name of salts of lemon), saturate the stained portion with hot water, and rub on the salts with a smooth piece of wood or bone until the stains disappear ; then well rinse in clean cold water and hang the carpet up to dry. Or, instead of salts of lemon, oxalic acid, followed by a very weak solution of chloride of lime (bleaching powder), may be used ; this is suitable for very light-coloured carpets.

One of the best methods of reviving all-wool carpets is to wipe the surface with a large swab of soft cloths or with a very soft bristle brush well charged with a solution made by dissolving an ox-gall in a pail of water. The ox-gall can be procured from a butcher's. Before using the solution the carpets should be well brushed or beaten.

To remove paraffin from a carpet place a quantity of blotting paper on the soaked part and run a warm iron over it ; continue this treatment until the paraffin is removed. For removing a stain left by the evaporation of paraffin, wet well with petroleum spirit and treat with the blotting paper as above.

## CHAPTER XII.

### LINOLEUM LAYING.

THE tools required for laying linoleum are few and inexpensive. A hook-point knife, as used by carriers, an emery-stone or piece of No. 1 emery-paper glued on a round stick (to sharpen the knife on), a hammer, and a few fine  $\frac{1}{2}$ -in. brads are all that are necessary.

Have the linoleum about 1 in. larger than the room. Place it on the floor with the extra piece turned up against the skirting. Drive in a few brads to hold the cloth in place, and make slits at all projections. Now bend the surplus inch until it is at a right angle close to the skirting.

Sharpen the knife (the round stick is to preserve its shape), and begin to cut at any extremity. Insert the knife in the cloth with the blade close to the skirting and parallel to it, the point touching the floor, then drag it towards the body. Cut all around in this way, and the result will be a close fit, however much the skirting winds. The hook-point is useful here, as it will not slip out of the cut so readily as a straight point.

If at first the cloth is not sufficiently cut away to allow the edge to rest on the floor, but is slightly turned up against the skirting, do not force it down, or the piece will blister. Take off a little more in the same way until it fits.

Linoleum is usually sold 6 ft. wide, consequently two or more breadths are required to cover a room, and in the jointing of these care must be exercised to make it so close that water cannot percolate through. The effect of damp on the back of the cloth is to shrink it and eventually to rot it.

Put the second piece against the first and match the pattern. If the edges are out of truth, overlap one as little as is necessary, and mark the other by running the point of the knife along close to the edge of the overlapped piece. Cut exactly through this mark, keeping the back of the knife slightly inclined towards the edge of the cloth. This will make a bevelled edge, and the joint will fit closer. It is also a good plan to cut the edge furthest from the light; this will help to hide the joint, as the great aim is to make it invisible.

The joint is now ready for bradding. Drive the brads as close to the edge as possible without breaking the cloth, putting them in exactly opposite each other; the edges will then dent together. Let them be as thick as necessary to keep the edges even.

If the floor is damp, as frequently happens in basements, owing to the proximity of the earth, it is necessary to use cement to stick the linoleum to the floor to prevent shrinkage. Coat the back for about 4 in. in from the edge.

On stone or very damp wood floors a water-proof lining is necessary. Tarred paper is sold for the purpose, and should be laid in the same way as linoleum, except that it is not absolutely necessary to cement it on wood. Cement all the edges of paper and linoleum when laying on stone, and place weights to keep it down until set—a process of many hours' duration. Inlaid linoleum may be cemented all over the back or made to adhere with a stiff flour-paste. This is rendered necessary owing to its tendency to blister or shrink away from the joints.

To lay linoleum on a stone floor give the floor two coats of hot tar with a little pitch in it, and when perfectly dry, lay two thicknesses of brown paper and then the linoleum.

**Furniture will make holes or impressions in soft**

## LINOLEUM LAYING.

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floorcloth or oilcloth, and these should be filled up with a mixture of equal parts of boiled oil and varnish thickened by adding a quantity of powdered whiting, which may be tinted to match the floorcloth by the addition of a little dry colour. When this is thoroughly dry, two coats of hard church oak varnish should be given; this will harden the surface of the cloth. The varnish should be allowed to dry for about fourteen days before anything heavy is placed on it. If floorcloth is varnished once a year, it will be found to be as durable as the finest linoleum.

For a cheap oak varnish suitable for floorcloth, take 22 lb. of common Manila gum, 5 gal. of thick boiled or albumenised oil, 3 lb. of powdered litharge, 3 lb. of burnt copperas, 7 gal. of American turpentine, and 1 gal. of terebine. Fuse the gum in any suitable vessel until it is all dissolved. In another vessel heat the oil to about 280° F., add to the gum, and thoroughly stir, and raise the temperature to about 500° F.; then add the copperas and litharge, constantly stirring to prevent it settling to the bottom. It should be allowed to remain for about half an hour, well stirring to keep it from adhering to the bottom of the pan. Then take it well away from the fire and allow it to cool to about 280° F., when the turps may be slowly run in. Then place it in tanks to allow it to settle for about three weeks. If a still cheaper varnish is required, mix equal parts of the following with the oak varnish. Procure pale resin 56 lb., newly slaked lime 3½ lb., and American turps 5 gal. Melt the resin at a good heat, add the lime slowly, and constantly stir, then allow it to cool somewhat and add the turps.

To make cheap flour paste suitable for laying linoleum and oilcloth, mix rye flour with a little cold water, then add boiling water, well stirring the paste while the water is being poured. Melt

some glue size and add to the paste while both are hot. Stir well. The more size is added the greater the strength of the paste. As a rule, "inlaid" linoleums require very strong paste. A little alum dissolved in the paste is a preservative. If the paste is too thin, boil it, to evaporate some of the water.

When laying linoleum, etc., on rough floors, wood or stone, put down in the first place a liberal layer of ordinary sawdust, taking care that there are no chips of wood or any other rubbish among it. The sawdust may be spread roughly by means of a lath of wood. The linoleum is then put on the top and bradded at the edges in the usual way, and after a short time the sawdust will work its way into the hollows, and the result will be a perfectly level surface. This method gives a softer feeling than if laid direct on the floor.

In fixing linoleum it makes a better job to glue the edges than to use tacks. If good thick warm glue is used it will stick sufficiently well either on stone or wood, and the linoleum can be lifted when wanted without tearing it.

New linoleum may be treated so as to increase its wearing properties. Lay the linoleum bottom upwards on the floor, and then well stretch it and tack it down. Mix together equal parts of red oxide paint and red lead with a little patent driers, thin down with boiled oil and turps to the required consistency, then add a little varnish. Give the linoleum two coats of this paint, allowing the first coat to dry thoroughly before applying the second. Now turn the linoleum over, pattern side up, and tack it down as before, then give two coats of hard durable oak varnish. If there are any white or delicate colours in the design, use a pale or colourless copal varnish. Linoleum treated thus once every year will be found to wear several times as long as ordinary linoleum.



## CHAPTER XIII.

## FANCY UPHOLSTERY.

PRACTICAL fancy upholstery includes the art of cutting and fitting draperies and hangings in various textile fabrics for decorating windows, mantelboards, portières, pier glasses, pictures, etc., taste and originality being needed for the work.

One of the simplest examples of draping is the mantelboard shown in Fig. 138. The board itself is of 1-in. pine chamfered on the front and ends, and a strip of wood 1 in. by  $\frac{5}{8}$  in. is bradded underneath the front and sides as shown in Fig.

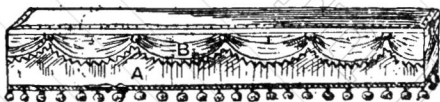


Fig. 138.—Draped Mantelboard.

139. The board is covered with cloth, baize, or felt, tacked underneath. The stuff must be laid tight and square, and to prevent puckers or wrinkles, get the fibres of the stuff straight across the board and begin tacking in the centre, gradually working to each end. Should any wrinkles show themselves after the cover is tacked on, they can be shrunk out by damping with a cloth and ironing with a hot goose-iron.

The board can now be studded on the chamfered edges, keeping these about  $1\frac{1}{2}$  in. apart. The valance A (Fig. 138) is intended to be of plush, and the festoons B should be of silk or satin. The buckram stiffening is first put on, and should come within 2 in. of the drop of the valance. Tack on

the strip under the board. The plush must be lined and fringed before fixing; then again commence tacking in the centre.



Fig. 139.—Section of Mantelboard.

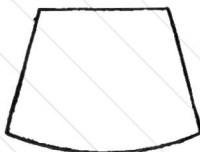


Fig. 140.—Pattern of Festoon.

Next get the festoons out, and in choosing the materials for these, reject all which have the slightest trace of stiffening, as it is impossible to get a proper shaped festoon with unyielding materials.

A cutting pattern for a festoon is shown at Fig. 140; it is 8 in. wide at the top, 1 ft. at the bottom, and the depth is 9 in. By diminishing or increasing the dimensions festoons of any size can be cut. The pattern is intended for a festoon with a drop of 6 in., and must be rounded on the bottom, the edge being pinked with a pinking tool; a draper usually has a set of these from  $\frac{3}{8}$  in. to  $1\frac{1}{4}$  in. Measure and space equally for the festoons, and tack lightly by the top edges, and hang them all before commencing to reef, which is done by

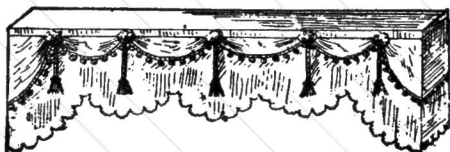


Fig. 141.—Mantelboard with Shouldered Valance.

neatly gathering and pleating the sides, and securing with one tack, which is afterwards hidden by a stamped rosette or coloured pom-pom. Do not

attempt to arrange the folds when reefing the festoons; rather let them "occur" than work them into stiff, unconventional lines. The tack heads are hidden by gimping or cord, and the mantelboard is finished.

Fig. 141 shows a mantelboard with a deep shouldered valance and festoons. The shoulders should have double the amount of drop of the centre pallets, and must be cut to the proportions shown. The valance has a pinked edge, and the

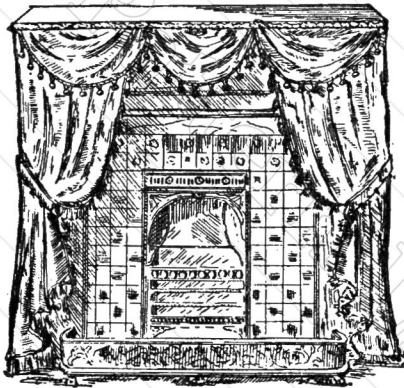


Fig. 142.—Fireplace Drapery.

festoons are fringed, and further decorated by a hanging cord and tassel, which must be fixed before the rosettes are put on; otherwise the cutting and hanging are the same as were described for Fig. 138. If the square ends of the shoulders in the valance have a tendency to curl, they can be weighted by sewing a lead button at the back corner.

A design for a fireplace drapery, without valance, is shown by Fig. 142. The festoons are lined and fringed, and sewn to the edge of the mantelboard

covering, the joint being hidden by slip-stitching a coloured cord on the edge. The curtains are hung on a 1-in. hardwood curtain rod fixed by a pair of small hanging brackets screwed in the mantelboard. In measuring for curtains, take the full drop from rod to floor, and allow for turnings at top and bottom. When slung by the bands, the curtains will stand clear.

A fireplace drapery is illustrated in Fig. 143, in which the wing *c* and the swag *D* are introduced; both are extensively used in all classes of drapery.

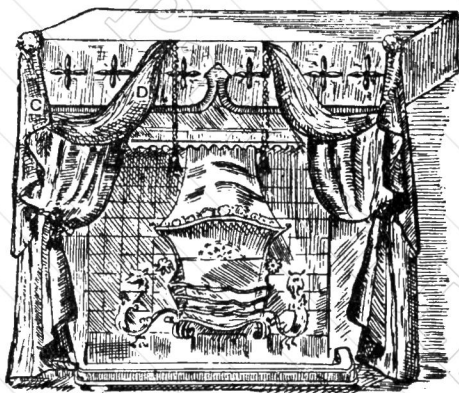


Fig. 143.—Fireplace Drapery.

A cutting pattern for a wing is shown in Fig. 144. The amount of drop required is first measured, and will be the long straight edge; then measure the width, which is usually two-thirds of the drop, and the short edge, which is one third of the drop. The bevel is then cut from the long edge to the short, the bevel edge alone requiring fringing. The top is hollowed out as shown, to prevent tightness, and the reefing is done from both top corners to the hanging marked *x*.

Fig. 145 shows the cutting pattern for a swag. The width should be two-thirds of the length, each side being cut curved to the neck, and hollowed



Fig. 144.—Pattern for Wing.



Fig. 145.—Pattern for Swag.

out. When hanging swags they should never be pulled tight. Both wings and swags if of light materials should be lined, and turnings allowed for when cutting out.

A method of making stamped rosettes is indicated in Fig. 146. These are small pieces of stuff

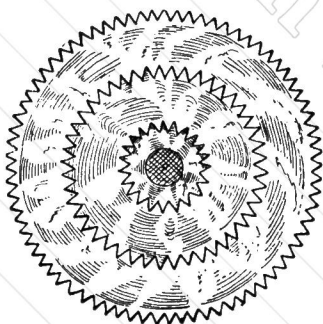


Fig. 146.—Stamped Rosette.

cut in circular pieces with the edges stamped with a pinking iron; the centre is finished with a covered button or a button nail, which can also be used to fix the rosette.

J

Another method of making rosettes is shown in Fig. 147. A piece of stiff material or buckram is cut to a circular form  $1\frac{1}{2}$  in. in diameter, and a

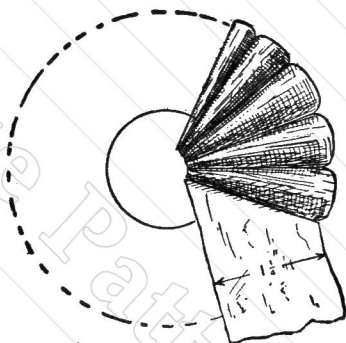


Fig. 147.—Sewn Rosette.

strip of serge or silk is cut  $1\frac{1}{2}$  in. wide by 2 ft. long; this strip is pleated in a circular shape and sewn to the base as illustrated. Coloured pom-poms are used for the same purpose, but it is best to buy them ready made.

Fig. 148 shows a cheap method of making curtain bands from a strip of material, hollowed out at each end and stretched through two  $1\frac{1}{2}$ -in. brass curtain rings. Ready-made tassels, cords, bobs, and fringes can be purchased from any upholsterer's warehouseman.

A design for a window drapery is shown at



Fig. 148.—Curtain Band.

Fig. 149. Here the valance is made up of triangular-shaped pallets, a suitable contrast being obtained by having each alternate pallet a different

colour. Each pallet is lined and face bordered with coloured silk or sateen cut on the cross. The curtains must be hung on a pole, and in measuring for these allow the full drop and 6 in. extra. The

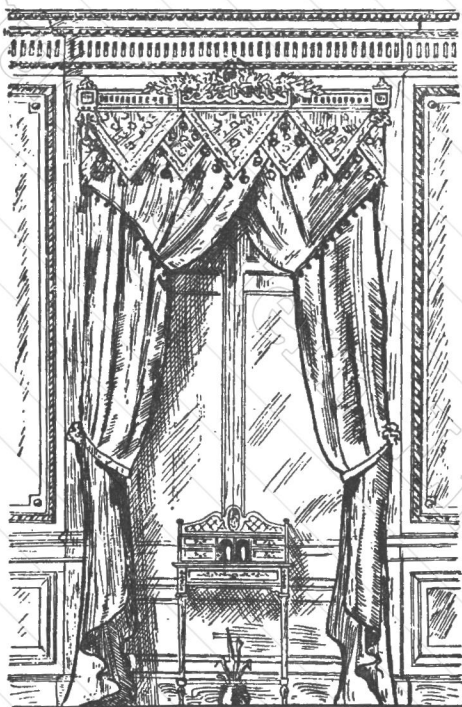
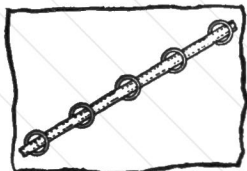


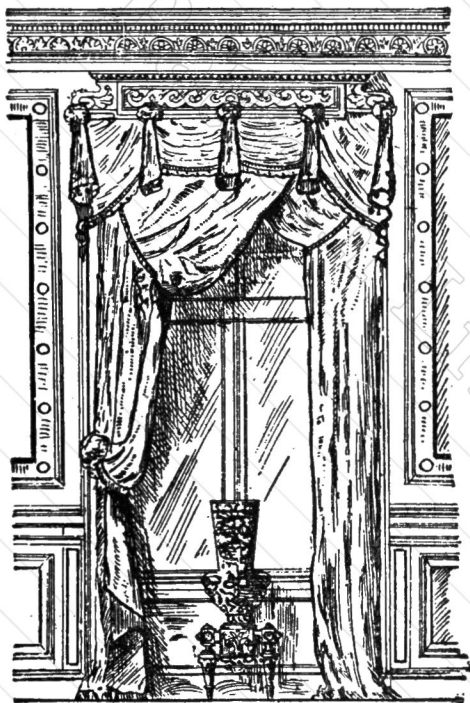
Fig. 149.—Window Drapery.

curtains are shown reefed at the top; this is done by stitching on the side of the curtain facing the room a narrow piece of tape, at a more or less acute angle as required. Then  $\frac{3}{4}$ -in rings are sewn to the tape at every 3 in. (see Fig. 150), and a soft

cotton band cord passes through these rings and over a small brass single pulley fixed in the corner



**Fig. 150.**—Method of Reefing Curtain.



**Fig. 151.**—Window Drapery,



of the window casing. By pulling the cord the curtain will be reefed. The end of the cord should be tasselled. The lower parts of the curtains are hung with ordinary bands or chains.

Fig. 151 is a design for window drapery with the pouffe introduced in the valance; this valance is made up of two centre festoons, two wings, one at each end, two deep shoulder festoons, and three pouffes. A cutting pattern for a pouffe is given in Fig. 152; it is 4 in. wide at the top, 8 in. at the bottom, and the length of the slant side is 1 ft. The base is of buckram, and is bent backward to form a hollow cone and covered with material. These pouffes are tacked to the cornice or to a strip of wood, and may be fringed or laced, and a



Fig. 152.—Pattern for Pouffe.

pretty effect is produced by hanging a cord and tassel from the inside of the pouffe.

A design for portière or door drapery is shown in Fig. 153. These hangings are generally cut from heavy textile materials, such as Utrecht velvets, jute tapestry, heavy printed crêpes, serges, etc. The hanging pelmet is panelled in velvet, say a 4-in. border and a 12-in. centre, with a heavy chenille fringe on the bottom. This pelmet is fixed to a wood lath screwed underneath the door casing. For single doors one curtain is sufficient, and is reefed up by a cord and pulley to clear the floor, the heavy portière rope and ornament taking no actual part in the reefing, but being

loosely hung for ornament alone. They can be purchased ready-made in different colours. For folding doors, fitment arches, and deep recesses it is necessary to fit a curtain at each side. As

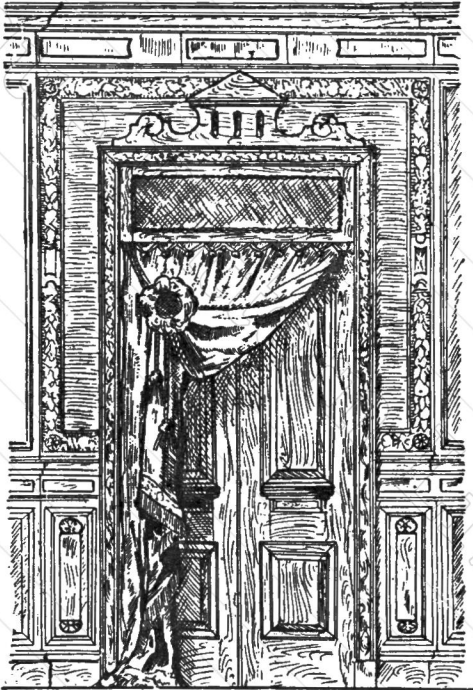


Fig. 153.—Portière Drapery.

with valances, pelmets can be shaped out and ornamented to taste.

Ready-made pelmets in crewel work, embroidery, etc., are often put into the drapers' hands to fix; they are generally out of square, and should be tacked down and well stretched on the stuffing

bench top or on a board, and left overnight, if possible, when they will be found to have set to shape.

Bed draperies and hangings form no small part of the upholsterers' work in some parts of the country, and Fig. 154 shows the head of a Parisian bedstead, the details of which will apply equally well to Italian and Persian bedsteads. The former are usually of hardwood, either carved or inlaid, and the latter vary a little in shape at the top, some being semicircular, etc. In most designs of Parisian bedsteads the head has an iron frame

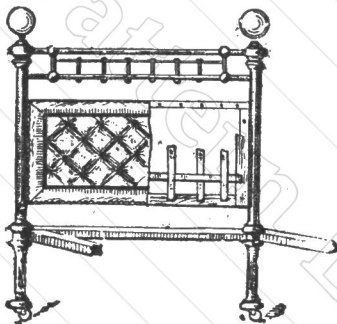


Fig. 154.—Head of Parisian Bedstead.

with holes bored at suitable distances for fixing the stuffing frame. For bedsteads not so provided a wood frame can be made rather larger than the space between the pillars. The sides can then be hollowed out to the same sweep as the pillars, and sprung between them when fitting up the stead. A few tabs fastened to the wood and tied round the pillars hold the frame secure.

To stuff up a bed head, first web the space with German webbing, and cover with a light hessian. Use a very soft wool flock for stuffing, well carding or picking as required. No inside covers are

required if soft material is used. The inside squab is tacked on the extreme edge of the inside frame, as shown by the section at Fig. 155, and no allowance for tufting is needed, as the soft stuffing



Fig. 155.—Section of Stuffed Bed Head.

will allow the buttons, which should match the covering, to sink. The roll edge should be of a different colour from the squab, and stuffed fairly firm to preserve the round shape. The joints of the covers are hidden by a coloured cord.

In measuring for the side curtains, take the full drop from the wings to the floor, and add turnings, and to prevent stiffness allow double the width of the wings for curtains and reef it in when hanging. The border and foot valances are box-pleated (Figs. 156 and 157) all in one piece, having, say, a 3-in. box-pleat and a 6-in. space. Double the length of material is required for box-pleating, and the valances are fixed on a light wood lath, which is lashed to the bed rails.

Two designs are given in Fig. 158 for bed-head panels. The panel on the left is quilted by sew-



Fig. 156.



Fig. 157.

Figs. 156 and 157.—Box Pleating.

ing down after stuffing, and a shoulder festoon is hung on the top, while that on the right is carried out in striped silk, left plain, and a decorated cardboard pocket is fixed on a suitable figured

surround. Any of the draperies previously mentioned can be hung on the top of panels or suspended from the top rails.

Tester bedsteads require a valance which is cut and fixed round the canopy. If this is of wood, the valance and draperies can be tacked direct to it, but if it is of iron, have a light wood frame made which must slightly overhang the iron frame, and which can be lashed down on the top. In some steads holes are provided for small bolts. If the valance is cut very deep it should be weighted with lead-cored tassel bobs.

When a piano is placed with its back facing

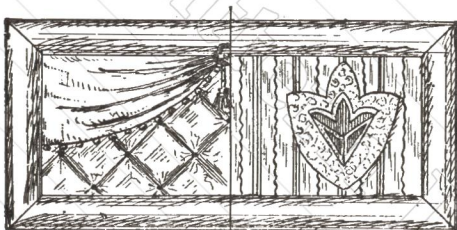


Fig. 158.—Bed Panel.

the room it is often desirable to drape it, and some hints on doing so may be given. The piano-back drapery, Fig. 159, is fixed on a light wood frame, which is screwed to the wood framing of the piano. The centre may be of a striped lappet leno, and the border should be of plain or self-coloured material, the festoons, wings, etc., being added after the drapery frame is placed in position. Fabrics for piano-back draperies should be of light, open texture, so as not to interfere with the sound of the instrument.

Festoon blinds (Fig. 160) have an effective appearance when of suitable materials and properly hung. They should be made of the softest

silk or Egyptian cotton sateen, and the appearance will be entirely spoiled with a material having the slightest stiffening. The festoons can have a width of from 10 in. to 12 in., any distance less making the blind pucker, and appearing stiff.

Figs. 161 and 162 show the plan and front view of the winding arrangement for a blind, with five festoons and two borders, which is suitable for a

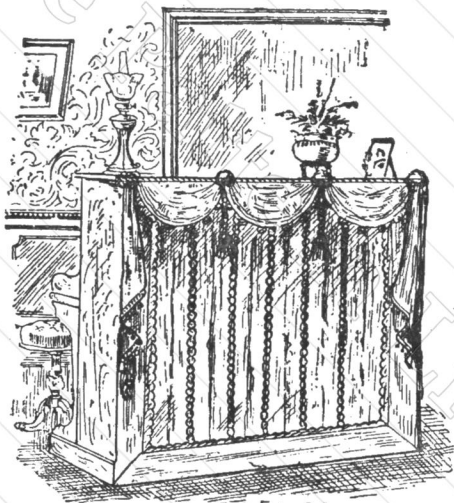


Fig. 159.—Draped Piano.

window 4 ft. 6 in. wide. The pulleys A are of hardwood, as used for venetian blinds, and the lines B are of No. 4 glacé linen averaging 1 lb. a gross yd. These lines are passed over the pulleys and tied round the weight bar C, which is a piece of  $\frac{1}{2}$ -in. round wrought-iron 4 ft. 6 in. long, the other ends of the lines passing over the pulley D, and being connected together at E.

The weight bar is covered with a piece of the same material as the blind, either lapped round or a slip-on cover. If possible, a trial should be made of the lines, etc., in position before the material is cut. The allowance for length must be double the net length required, and in the width allow 4 in. for a 10-in. festoon, and 5 in. for a 12-in. festoon, in addition to the borders, which are double. Now mark the festoon borders or tape

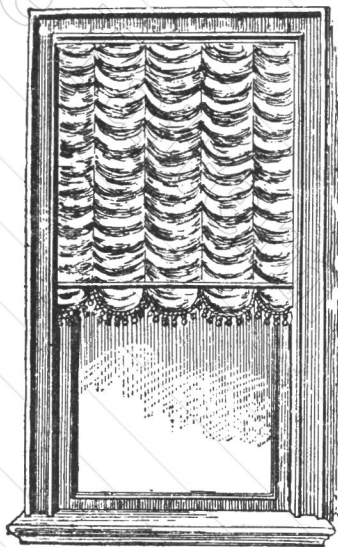


Fig. 160.—Festoon Blind.

lines and gather them up with a slip thread; on these sew some narrow blind tape of a colour to match the blind, and at distances of 3 in. slip on the tape 1-in. brass blind rings.

Leave the borders till the last, when the measurements can be checked, and the borders brought over to the side tapes at an even width at both

sides. By adopting this method the width can be easily regulated. The top of the blind is turned double and tacked to the under side of the pulley head with the tapes and rings facing the rooms. The lines are then laced through the rings and fastened to the weight bar, and are then bunched together when the bar hangs level and a tassel pull is fixed. When wound up the lines are held by a cord holdfast.

Festoon blinds are the only kind of blinds that



Fig. 161.—Pulley Head.

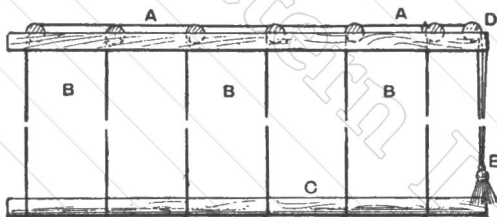


Fig. 162.—Lines and Weight Bar.

can be made to fit a curved window satisfactorily; for this purpose the pulley head is rounded to the same sweep as the sash, and the weight bar is curved in a similar manner. For a quick sweep it may be necessary to work some of the lines through screw eyes to prevent them slipping off the pulleys. The scallopings at the bottom of festoon blinds should be cut out after the blind is reefed up on the tape lines, as by this method they retain their shape, the fringe being sewn on afterwards.



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