When all the sheets of the book are folded they should be placed in consecutive order, and "knocked up" between the hands on the table, first loosely then tightly, so as to bring the backs and heels perfectly even.

[to be continued]

**Hand-Wrought Leather for Recreation Classes.**

We have received from Miss L. M. Forster, of West Hackhurst, Abinger, Dorking, a few examples of bookbinding, pocket-books, blotting-books, &c., made of thick leather (plain basil), and decorated in a bold and effective way by hand-pressure.

In her own village Miss Forster has evening classes, and teaches her young pupils, the boys of the neighbourhood, the use of the simple tools that are requisite, and, in the hope of inducing other ladies to follow her example, has written the following description of the process employed:

The work in question may be described as drawing on wet leather. The lines are first drawn with an agate or bone style, and then deepened with a variety of tools. The effect obtained is that of a design in smooth leather, more or less raised by the background being punched down.

Leather decorated in this way is suitable for pocket-books, purses, blotting-books, card-cases, chair-covers, or for binding books.

**Materials.**—Strained basil, of French manufacture, is the leather of which I have had most experience, and about which I propose to write, but calf may be treated in much the same way. The other materials recommended are, transparent butter paper; a bone style or knitting-needle; two steel or brass wheels, one the twelfth of an inch wide, and another half that width; two shoemaker's bent awls, to match the wheels exactly in width, the points to be ground off square; a screw-driver, ground down so that by using the tip a fine line is
made, whilst by using the side a line to match the broadest wheel is obtained. If the screw-driver is carefully rounded every gradation of line can be got, between the narrow tip and the broad side, according to the angle at which it is held. Two or three flat awls of different widths, rounded like the screw-driver, are very useful for small circles and curves. An ivory paper-knife ground at one end to a point, a brass ruler, a piece of smooth marble, one or more punches, a pair of compasses, a piece of waterproof sheeting, and a small sponge.

**Process of Work.**—Trace the design intended for the leather on butter paper in pencil. Wet the leather with a sponge from the back, using soft water if possible, and ceasing as soon as the side to be worked on begins to look damp. Place the leather on a piece of marble, dip the butter paper on which the pattern has been traced in water, and lay it smoothly on the leather, wetting also the surface of the leather, and avoiding air bubbles. By wetting both paper and leather they will adhere firmly to each other, especially if you begin by ruling in the straight lines round the pattern, to keep it in its place. If the piece of work is large, a slate or sheet of glass may be used at this stage, as less expensive than a large slab of marble, and a wet sponge should be kept at hand to damp the paper and leather in case any part gets dry during the tracing. Go over the pencil marks with a style or bone knitting-needle, firmly enough to mark the wet leather, but not hard enough to cut the paper pattern. Hold the style very upright whether ruling or drawing. The whole design should be drawn out at one sitting if possible, as the leather and paper stretch in different degrees when wet, and this makes it very difficult to get the pattern out truly, if it is once removed from the leather. After the tracing, the leather will be too wet to work on for twenty-four hours. It should be left to dry for eight or ten hours, and be wrapped in waterproof sheeting for the rest of the time.

On the second day the pattern should be looked over carefully, and any lines that are not clear should be deepened with a style, and then the real work begins.

Teachers work on different plans, but I find it desirable to have all the broad lines put in first. The wheel should be held so that it works quite evenly and flatly for straight lines, and though in turning curves one edge will mark more sharply than the others, this evil is greatly decreased by holding the handle nearly upright over the wheel. After going over the broad lines once, the pupil should do the same by the narrow lines, with the narrow wheel, and then he should go over any part of the design too small for the use of a wheel with a straight awl or screw-driver. The pressure all this time should be slight, and when the whole pattern has been worked in, the general effect can be judged and all errors should be corrected. To do this a little water should be dropped on the surface of the leather, and the faulty line should be gently smoothed out with the ivory paper-cutter, and then a correct line can be put in. A correction can be made without much damage at this stage, but good clear work should be aimed at from the first, and corrections can always be detected by an experienced eye.

The next stage is the most difficult one, because all lines must be deepened without being widened, and it is only experienced workers who can go over a long straight line a second time so exactly that it is nowhere broadened. Each line now should be worked up to its highest point of relief before it is left. There is no rule for how often to go over a line;
different degrees of relief are sometimes wanted, and strong hands may get as much effect by going over a line twice as weaker ones can produce with repeated pressure. All lines on which the wheel is used should be gone over at least twice, reversing the way of working the second time, otherwise the leather gets pushed one way.

Corners and angles cannot be perfectly finished by the wheel; they should be worked down with a bent awl, ground square at the tip, and matching the wheel in width. A screwdriver, also matching the wheel in width, may be used for deepening the lines a second time, and some pupils find it easier to keep a true line with this than with the wheel. A brass ruler should be freely used for straight lines. Where the pattern has been worked out with a narrow wheel, much effect is gained by bevelling the leather with a screw-driver on the part that will be punched, so that the groundwork slopes down to the pattern, and makes it look more raised. Where the design has been deepened as much as is desired, or as the leather allows, the ground should be punched. On basil this is frequently done with a honeycombed punch; but on calf, or on basil which dyeing has made tougher and harder, a small circle or single star is used. Good punching requires much care, especially on soft basil. The pupil should try the punch on waste leather at first, to make sure he holds it upright, and to learn to correct any bias he has to bear more on one side than the other. He should practise hitting the punch with a very light mallet and with exactly the same force each time, and he should learn to hold the punch very firmly, as well as very evenly, on the leather before he strikes it, or the punch will jump with the blow, and the impression will be blurred. It is a proof of good punching on basil if the shape of the honeycombed punch used cannot be discovered. These punches vary in size and shape, small ones being necessary in narrow places, but, as a rule, the larger the punch the easier it is to get clear punching. The punch should be constantly turned, to prevent the exact repetition of the irregular holes in it. Before the punching is begun the exact state of the leather should be tested by trying the punches on a waste piece at the edge. It should be soft, but nearly dry, having been damped at least the day before, and kept in waterproof sheeting twenty-four hours. If then too dry, a moderately wet sponge may be drawn across the back of the leather, to renew the elasticity without wetting the surface of the leather.

[To be continued.

** Miss Forster sells the pocket-books, &c., at such a price as enables her to pay her scholars a little profit, and has now in hand more orders than she can get executed before Christmas.

Specimens of the work may be seen at Mr. Zachsndorf's, 14, York Street, Covent Garden.

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The Glasgow International Exhibition.

Since the memorable year 1851 nearly every country in the world has had a craze for exhibitions. In England especially has this been the case. Not only have there been as many as three or four exhibitions open in London at one time, but our Scotch and Irish
Hand-Wrought Leather for Recreation Classes.

(Continued.)

GENERAL REMARKS.

Basils may be got of various thicknesses; the heavier they are the more expensive they will be, and the higher the relief that can be obtained on them. It requires practice to know the exact state in which to use them. Basil is at its best for beginners when it has been exposed to the air for two or three months. It is then firm, but not hard. New basil is spongy to work on, but experienced hands may prefer it, as it requires less pressure to get an effect, though it needs more dexterity to prevent one line from effacing another. This is avoided partly by letting the basil get very nearly dry after it has been soaked, and partly by using direct pressure, instead of pushing the tools. Leather which has been tanned and not dyed deepens very much in colour when exposed to light and air. By putting it in the sun this process goes on very rapidly, but it is not so good for the leather as when the colouring is more gradual. All basil, whether dyed or not, toughens and hardens with exposure, and if unwrought leather has to be kept many months it should be wrapped in American cloth to keep out the air; but the harder and tougher leather can be made after it is worked, and before it is used, the better it will wear. Dyed basils are usually tougher than those which are only tanned. What is called "tempering" leather makes it very pleasant to work on. This process consists of piling one piece of wet leather over the other, and leaving the pile wrapped in waterproof sheeting several days.

One difficulty in dealing with wet leather is to have it as bright and free from spots when it is worked up as it was before it was begun. If damp leather is kept in a damp room it soon loses its gloss, even if it does not get mildewed, which is the next stage. If leather is kept in too hot a place it dries and hardens, so that it cannot be worked. My leather has kept very well in a south room with no fire during the winter, and in summer it is wrapped in American cloth and kept in a dry loft.

Leather, when worked from day to day, should never be allowed to dry completely. It keeps a good deal of the necessary softness, which is the object of wetting it, if it is wrapped in waterproof between the workings, but it should always be left damp enough to be ready for the next day’s work, without further wetting at the time of working. If the work is done in a warm room and for long together, it may become necessary to use a damp sponge in the course of working; in that case the sponge should be drawn lightly over the wrong side of the leather, to renew the elasticity, without altering the surface of the leather. Beginners should remember that the object of damping the leather is not that it may be wet, but that it may be soft and impressionable. The sharpest and clearest work is to be got on leather which has been tempered for some days and is nearly dry again. In this state the risk of inking lines is avoided. Ink is made of steel shavings and tannin; therefore to have the tools highly polished and the leather nearly dry is very important. Any roughness on the tool rubs off on the leather, and turns to ink. Salts of lemon will make the work fairly clean again, but it is better not to need it. Awls and screwdrivers may be rubbed down to the shape required on a brick, if a grindstone is not available, and then on sand-
paper; but they should always be polished finally on a knifeboard, or piece of leather, till they are perfectly bright, or the dull surface will ink the work. Brass wheels may be bought at the same price as steel, but so many steel implements may be converted easily and cheaply into tools for leather, that it is desirable all pupils should learn to use steel.

Leather which is only worked once a week, cannot safely be kept wet all the time: it should be dried after each lesson in single pieces, and damped and piled in waterproof the day before the class meets. If waterproof sheeting is not used, a sheet of glass about 18 inches by 15 is the cheapest substitute for a slab of marble on which to pile wet leather, as any plumber will supply it for about a shilling. Small pieces of marble can be bought of any stonemason, costing from fourpence to a shilling, on which to punch leather. I generally use slates without frames for my class for any work except punching, but care must be taken not to put the right side of the leather on the slate, until the slate gets old and polished, or the surface may rub off on the leather.

When the work is finished and quite dry, the surface of the leather should be brightened by being well brushed with a clean clothes-brush.

ADVANCED WORK.

Our work as yet has been very elementary, and a fair command of our tools is our chief success. Whilst learning that, it is very important to train the pupil's eye at the same time. In bold simple patterns, careful tracing will give fairly true lines for the pupil to work by. But as wet leather is spongy, one line drawn close to another effaces the first, so that as soon as delicate work and fine details are aimed at, the pupil must be content with enough outline to place his pattern truly, and must work out the fine curves and details by eye when the leather is nearly dry. Consequently I make my pupils from the first keep a drawing of the work they are doing before them, and make them rectify any failure in tracing from the drawing rather than by retracing.

Any decorations with cut nails are done by eye, and whilst guiding them as carefully as I can, I put up with less accurate work at first than would be attained by the use of compasses, because I find this is the most satisfactory way of training the eyes. Teaching them to see curves, and neither to omit nor exaggerate undulations, is the next thing to be aimed at, but it is far more difficult. In working fine patterns myself, suitable for book-binding, I find it best to trace only the general position of the design, or to mark with dots the points for its distribution, and then, when the leather is nearly dry, to work it out from the copy before me. Drawing on wet leather pulls the surface without giving a clear line, but the intervention of tracing-paper makes tracing comparatively distinct. Consequently, when the paper is removed, corrections and details must be put in by pressure rather than movement, but it is by combining the two judiciously that successful execution is attained.

LAURA MARY FORSTER.

WEST HACKHURST, ABINGER, DORKING.
May, 1888.

Small samples of leather, showing easy work in different stages, will be supplied to anyone who sends a shilling for that purpose to Miss E. Majendie, Castle Hedingham, Halstead.
NECESSARY TOOLS.

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Desirable Additions.

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<td>Pair of compasses</td>
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* Messrs. Buck and Co., 242, Tottenham Court Road.
† Messrs. Booth Bros., Upper Stephen Street, Dublin.
‡ Messrs. King Bros., Abinger Hammer, Dorking.

The following punches can be had from Messrs. King Bros.:

No. 1 at 8d.; Nos. 2, 3, 4 and 5, at 6d.; and Nos. 6 and 7, at 1s. 3d. each.

![Punches](image)

Correspondence.

To the Editor of The Bookbinder.

Sir,—In the event of the notice you have kindly taken of our leather-work, leading other people to form classes, I think it may be well to mention that my pupils vary in age from sixteen to forty. I do not find it answer to take them below the age of sixteen for leather work. In this my experience differs as regards carving classes, boys of twelve frequently doing fair work, and turning out better carvers than those who begin later. The strength and firmness of hand required for pressing leather cannot be supplemented, as in carving, by the use of a mallet; and the skill, which partly makes up for want of strength, is so slow in coming as to be discouraging to lads who begin too young. It is far better to hold a drawing-class as a preliminary to leather-work for lads under sixteen, than to put the tools into their hands too soon. I need not say that a drawing-class in connection with such work is invaluable in itself, but it has not so much attraction to village lads as carving or leather-work, and they would value it chiefly as leading to one or the other.

I remain, yours truly,

L. M. FORSTER.

West Hackhurst,
September 10, 1888.