TECHNIQUES

THE ASSIGNMENT

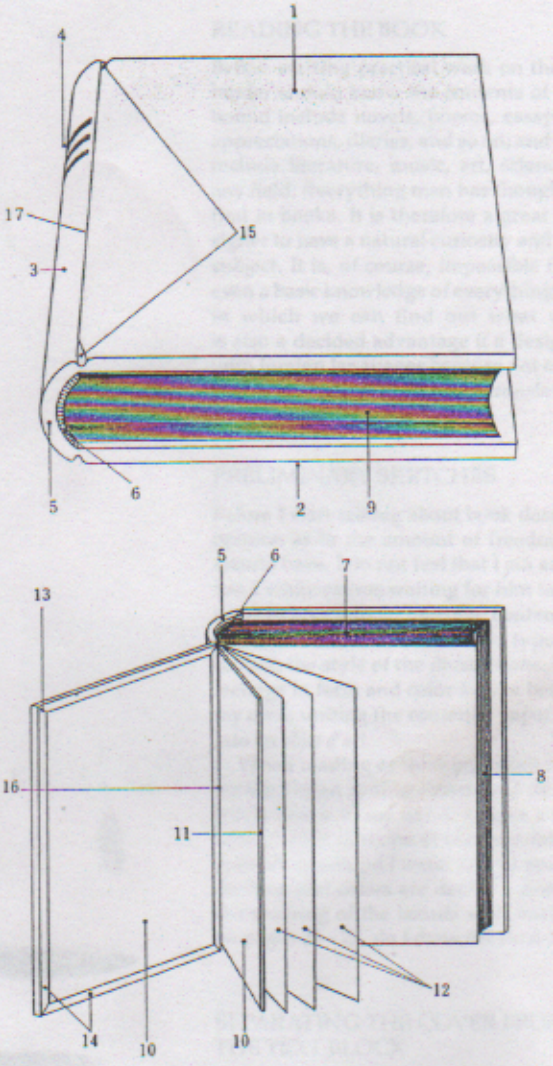
Everything begins with receiving the book from the book collector. We will have a discussion on the type of bookbinding, usually full leather but sometimes a half-leather binding. The price is a very important factor, and as much as I dislike discussing money, it is critical to the continuation of the work and the relationship between the collector and the designer-binder to clarify the financial situation at an early stage of the discussions. I think that the cost of binding should also be in relation to the cost of the book itself.

There are many (design) alternatives to choose from. My leather bindings always have gilt, colored, gauffered, or tooled edges and silk, handsewn, three-color headbands, and the joints are always of leather. In half-leather bindings, corners or front edges are covered with leather, depending on the style of binding. And, apart from "pastiche" bindings, I always use my own decorated paper, specially made for one specific book. Pastiche bindings are replicas of a certain era, such as monastic, gothic, renaissance, baroque, rococo, and so on. "Pastiche" comes from the French and means "replica."

The most exclusive type of binding is done in full leather, with "doublure," and following the doublure is a decorated flyleaf which in my bindings is often made of leather too. The term *doublure* is also French and refers to the paste-down endpaper (on the boards) if it is done in leather. The leather from the cover is doubled, so to speak. These doublures can also be decorated so that you have, in fact, the value of three decorated leather bindings (see pp. 000–000). The precious leather bindings I am doing usually have a "chemise" as well. Chemise, again from the French, literally means a "shirt," to protect the book body. It is a kind of jacket, made with a leather back and turned-in leather-covered edges at the front of the book to protect the fore-edges. The front and back are covered with paper, and the inside is lined with suede leather. This protects the book from damage through friction, for example, and from light that might change the color of the leather.

The book and chemise are usually housed in a slipcase. Depending on the climate where the book is going to be kept, I make, if necessary, another case, this time a cloth-covered protective slipcase and sometimes a further wooden case, so that neither insects nor climate can destroy the work. The execution of the design is also important in determining the price. Simpler, less costly bindings have just paper endpapers and only a slipcase.

A new client sometimes desires a certain leather color, but my older customers leave everything to me. In choosing me, they are really saying that they like my choice of design and color; if not, they would go to another binder whose taste is different and who would suit them or their book better. I believe strongly that we designer-binders must never forget that the book the client entrusts to us is already very dear to him and might have taken a long time for him to acquire. It has become a part of his collection, and now he is willing to make another payment to enhance his pleasure in owning this particular book.



1. front cover
2. back cover
3. spine (back)
4. back title
5. headcap
6. headband
7. edges { head (or top) / fore-edges / tail
8.
9.
10. endpaper(s)
    paste-down endpaper (on board)
    paste-down flyleaf endpaper
    doublure
11. first flyleaf
12. flyleaf (flyleaves)
13. corner mitre (or miter)
14. square or turn-in
15. back-cornering
16. inner joint
17. outer joint

READING THE BOOK

Before starting practical work on the binding, a designer-binder should know the contents of the book. Books to be bound include novels, poems, essays, travelogues, theses, appreciations, diaries, and so on; and the subjects they cover include literature, music, art, science, sociology—in fact, any field. Everything man has thought, felt, or done we can find in books. It is therefore a great benefit for a book designer to have a natural curiosity and to be interested in any subject. It is, of course, impossible for one person to have even a basic knowledge of everything, but there are libraries in which we can find out what we need to know. It is also a decided advantage if a designer-binder is familiar with foreign languages because not every book is written in the artist's native language or translated into it.

PRELIMINARY SKETCHES

Before I start talking about book design, let me express my opinion as to the amount of freedom the designer-binder should have. I do not feel that I am as free as a painter, who has a white canvas waiting for him to cover with his ideas. I want to take into account the contents, year of publishing, size and thickness of the book, typeface, layout and, if included, the style of the illustrations. But when I express my feelings in form and color for the book cover, this design is my own, uniting the contents, paper, printing, and binding into an *objet d'art*.

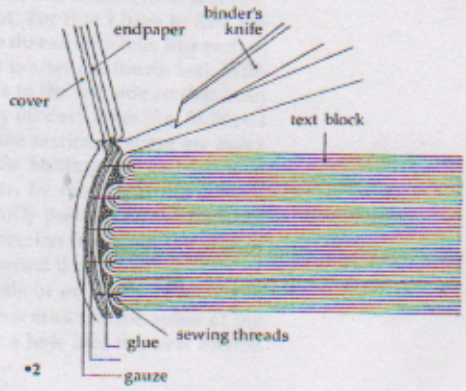
When reading or thinking about the book, I feel the idea for the design getting clearer and clearer, until I can see the whole image in my mind. I make a rough idea sketch and notes for the selection of the materials and decide the colors to create the mood I want. At this point, only the basic composition and colors are decided, and only after completing the covering of the boards with leather, which is described on pages 25–27, do I draw the final design in its actual size.

binder's knives

•1

SEPARATING THE COVER FROM THE TEXT BLOCK

The next step is to separate the text block from its cover. If my book is paperbound with the binding glued only to the spine, which is sometimes called a "brochure" or French binding, I remove the wrappers carefully, which means I slowly pull the wrappers back from the spine, which is nowadays often glued with bond to the textblock. The cover is part of the original book, and I try to preserve all three parts of it, front, spine, and back, so that later it can be bound into the new binding.



•2

HARDCOVER BINDING

When rebinding an already bound book, the dustcover (jacket), hardcover, and maybe also the endpapers, if they have a special design or a valuable inscription, must be included in the new binding. To separate the hardcover from the textbook, I use my binder's knife (fig. 1) with my right hand on the text block, and I pull the cover and flyleaves to the left, until I can see the gauze (the crash) that was used in the binding process to strengthen the connection between text block and cover, or the cords on which the book had been sewn. Using my knife, I have to cut either gauze or cord at the beginning and end of the book, between flyleaves and boards and the text block (fig. 2). After this cutting, the hardcover is loose and I can now take the text

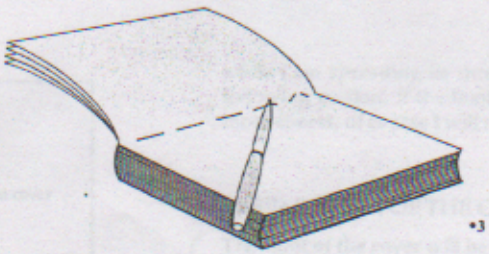
block out. The hardcover then has to be soaked in a dish with warm water (fig. 5) until the cover material can be peeled off the thick millboard. Sometimes it is necessary to line this material with paper matching the color of the original cover, using paste. If the endpapers are special, they will be treated in the same way so that they can also be included in the new binding. To avoid waving of the lined cover, I moisten it with a wet sponge, put paste on the paper for lining, and let both soak the same number of seconds, so that they can stretch equally, before laying one on the other.

The fibers of paper and boards must always be parallel to the spine, and throughout the whole binding process we must always think of paper and millboard as materials sensitive to humidity. By using either paste or glue for the lining processes and therefore treating these materials properly, we can counteract their tendency to wave and stretch. Paste, which is cold and dries slowly on the material on which it is applied, contains a lot of water and makes the paper stretch more than a hot glue, which sticks and dries quickly. Each serves its special purpose, as you will find out later. And remember, never let a wet paper or millboard dry openly. Always put them between a blotting or any soft paper that can absorb the moisture and then a piece of millboard and pressing board (fig. 6) under a weight or in the standing press (fig. 7). Otherwise you will find that your formerly flat piece of paper or millboard has warped. Pressing boards are made of wood or of binder's boards glued together. They come in various sizes, always some centimeters larger than the standard size for books.

If an old book has to be rebound, if there are several layers of paper glued onto the spine, or if the paper is weak and the glue is sticking very hard, the pages of the sections may tear during the process of separation. To prevent this damage, the text block is placed between layers of paper at the spine and pressed hard between pressing boards in the French press. Then hot water or very thin paste can be applied with a sponge or brush onto the spine. This treatment is repeated until the glue or paper has sufficiently soaked and softened. The pressure of the press prevents the moisture from entering into the text block and leaving dark stains on the old paper. The glue or paper can now be scraped off with the bone folder or the dull side of the knife blade. Then the text block is taken out of the press, and the sections can easily be separated from one another.

SEPARATION OF THE SECTIONS

The whole text block has to be separated into its component sections. A certain number of pages that lie folded together form a section. A section usually has sixteen pages, the result of a single printed sheet that has been folded thrice and then trimmed to form the sixteen printed pages. Other variations can be four, eight, thirty-two, and sometimes even sixty-four pages. To separate one section from another, the sewing thread has to be cut. For that I have to find the middle of the section where the thread is visible. In a section with sixteen pages, the middle is after the fourth leaf. With my left hand I hold these leaves to the left side so that I can see the thread and cut it with my binder's knife (fig. 3). Next I take in my left hand the complete section (leaving my index finger in the middle of it) while holding the text block in place with my right hand; then by moving my left hand slowly away to the left side, gently pulling the section's top and tail, I pull the back of the section free from the glue of the spine, the same way I loosened the paperbound cover (fig. 4). With the wooden handle of my knife I flatten the glue from the former section that sticks to the spine of the text block so that I will not tear a hole into the next section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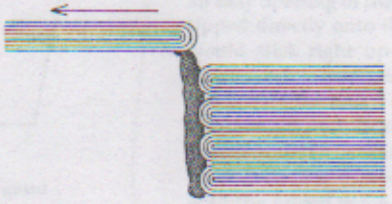
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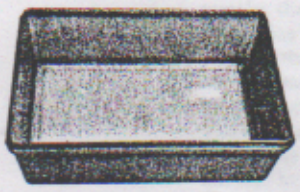
dish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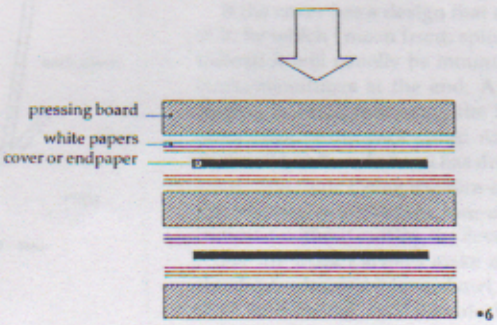

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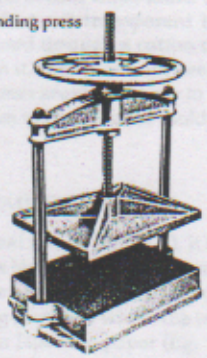
standing press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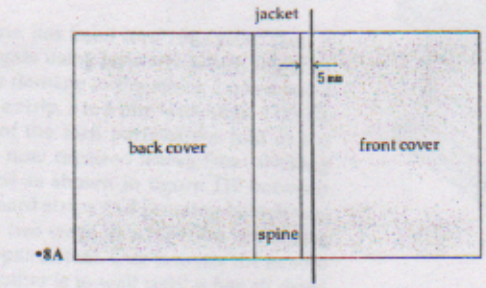

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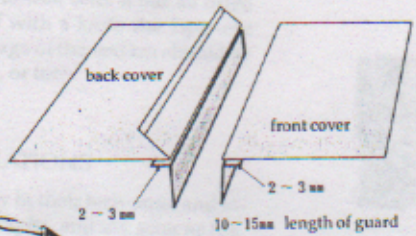

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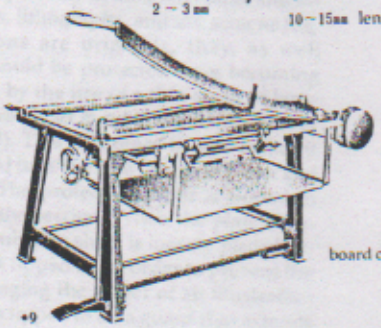

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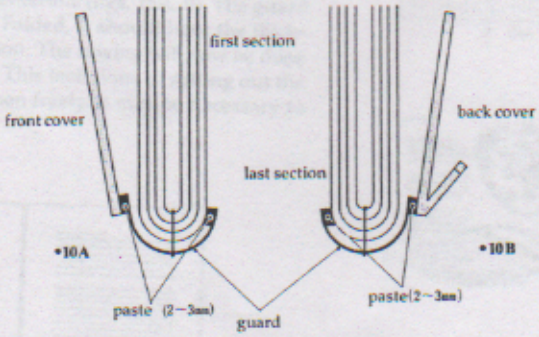



•11A

•11B

•11C

while I am spreading its thread and separating it from the following section. If the book is a special limited edition in loose sheets, of course I will not have to do all this.

PREPARATION OF THE COVER

The front of the cover will be cut in the board cutters (fig. 9) about 5 mm from the spine (fig. 8A). It will be placed in front of the text (and original flyleaves, if they are worth preserving). The cover back and spine are folded right side on right side. Usually the cover is of a thick paper that would make an easy opening of the bound book impossible. The cover, if tipped directly onto the first and last section at the joints, would stick right up when you tried to turn the pages. Therefore it is necessary to give it a flexible hinge. For this I use batiste shirting. I use a strip as long as the section and between 10 and 15 mm wide. These shirting strips are pasted onto the cover to a width of about 2 to 3 mm. On the front cover it is pasted onto the inside; on the back cover, with the folded spine in the same way so that the shirting will be facing the text both at the first and last sections (fig. 8B).

When everything has dried between boards and under a weight, the cover will be pasted to the first and last sections. There has to be room between the beginning of the thick paper of the cover and the spine. Therefore an allowance of a few millimeters of shirting is made before pasting it onto the back of the first section, also about 2 to 3 mm wide (fig. 10A). The cover at the back is pasted onto the front of the last section in the same way (fig. 10B). The margin of the shirting allowed between cover and spine must be a little more than the thickness of the millboard that will be used for the boards so that after the backing of the spine the cover can be turned easily on its flexible hinge.

If the cover has a design that extends over all three parts of it, by which I mean front, spine, and back, I do not cut it. Instead it will usually be mounted at the beginning of the book, sometimes at the end. A shirting hinge is used by pasting it 2 to 3 mm along the length of the inside of the outer edge of the back cover. After pasting it as shown in figure 10A or B, and after it has dried, the cover will be folded anew. The folds facing the fore-edges must be shorter than the sections to enable the fore-edge of the text block to be trimmed without cutting the cover.

For my work I always make my own paste. I use wheat starch powder, put it into a bowl, add a little cold water, and stir it with a whisk until the solution is smooth. Then boiling water is added during constant stirring, until the whisk moves easily in the paste. Initially, the pastepowder dissolved in cold water looks white and opaque, but now it has a little more transparent look. After cooling, the paste is strained through a cotton cloth to make sure that no lumps are in it. Paste does not keep long, and especially during the summer season we have to be careful not to use it once it has begun to turn sour or moldy.

REPAIR OF LEAVES

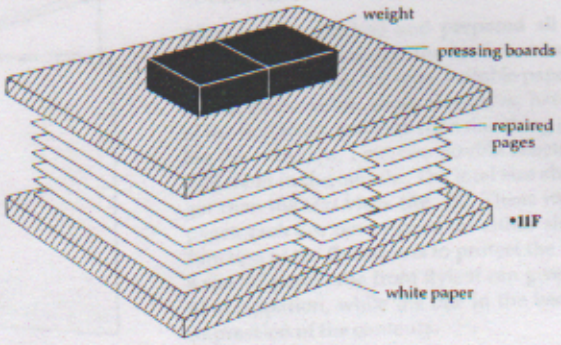
If a leaf is torn (fig. 11A), it has to be repaired by using paste and a Japanese paper that matches the color of the leaf. With a fine brush (fig. 11B), I lay down paste about 1 to 2 mm wide along each side where the tear has occurred and cover it with a thin Japanese paper (fig. 11C). After letting it dry under a weight for a moment and when the Japanese paper is still wet, I use the point of a needle to separate the fine fibers at the edge where they are still moist, from the dry ones. Thus, the torn fibers of the Japanese paper mix with the leaf fibers,

and the repaired tear is hardly visible. To prevent the back of the repaired leaf from sticking to the following page, more Japanese paper is placed under the tear on the backside of the repaired leaf.

If the back of a section has been torn (fig. 11D), then it must also be repaired, again using Japanese paper. Depending on the nature of the damage to the sheet, I use a small piece of paper or I paste a strip, 5 to 6 mm wide (figs. 11D, E), over the whole length of the torn parts of the fold of the section. To prevent the now repaired leaves from sticking together, they are placed as shown in figure 11F between white paper or Bristol board strips and pressing boards under a weight. There are two ways to scrape the remaining Japanese paper off the repaired tear. One is to use the needle on the moist paper; the other is to wait until it has all dried and then to carefully scrape off with a knife the Japanese paper that does not stick. Each page of the section should be checked to see if it is bent, soiled, or torn.

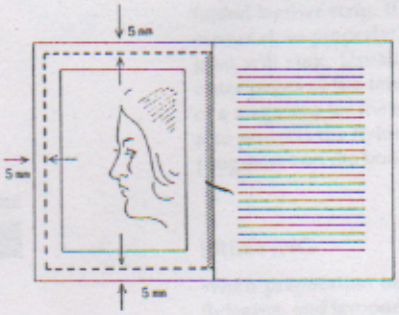
PROTECTING THE ILLUSTRATIONS

Book illustrations can vary widely in their technique and include etchings, woodcuts, lithographs, and silk screens (fig. 12). If these illustrations are originals, they, as well as the opposite page, should be protected from becoming soiled with color and ink by the use of a thin sheet of Japanese paper. The protective paper is cut about 5 mm shorter at the three sides (fig. 13). This difference in size makes it easier for the reader to fold back the thin Japanese paper and look at the illustration. The protective paper is tipped in along the folding line of the section. When the plate occupies two pages (fig. 14), only one sheet is loosely placed between it and is usually not tipped in. In order to prevent the sewing and backing damaging the gutter of an illustration that covers two pages, it is tipped in on a guard that extends about 2 to 5 mm from the centerline (figs. 15A, B). The guard may be paper or shirting. Folded, it should have the thickness of the folded illustration. The sewing will now be done through the folded guard. This technique of setting out the illustration enables it to open freely. It may be necessary to trim its front edge.



•11F


•12



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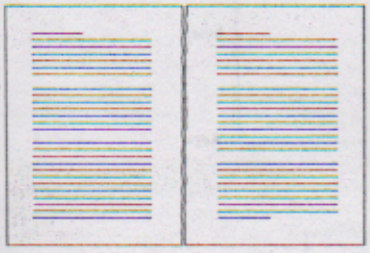
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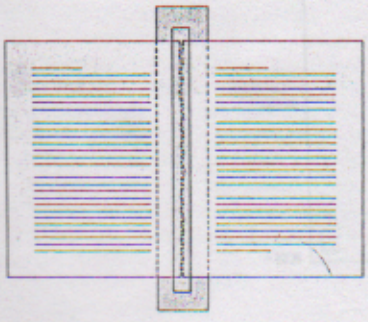
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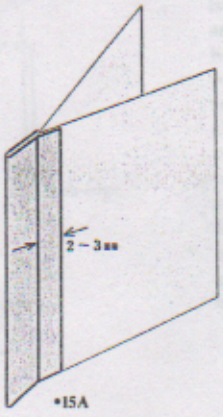

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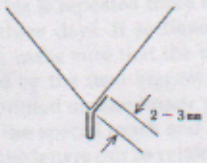
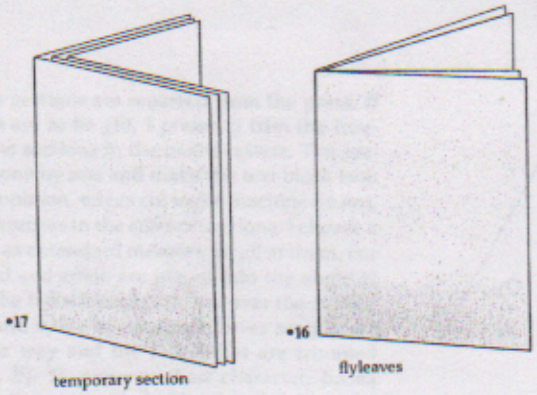


•15B

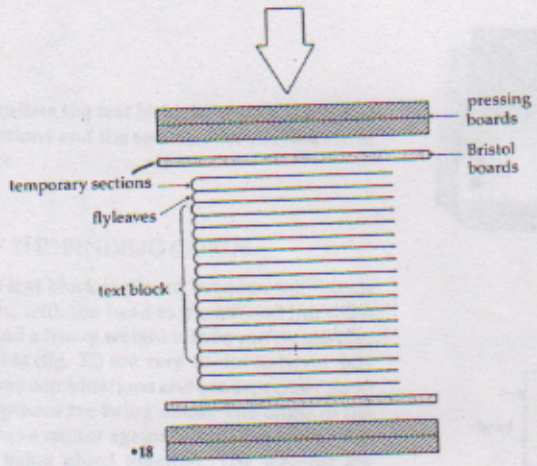


SELECTION OF THE FLYLEAF

After having checked and prepared all the pages as described before, I arrange the sections neatly in their correct sequence. To select the most suitable paper for the flyleaves, I think of the color, gloss, thickness, hardness, and weight of the text block and look for a matching quality. After making the selection, I cut two double sheets of this paper and fold them in the middle. The total size should be a little bigger than the text block (fig. 16). These two sections of eight pages each are now placed on either side of the text. The function of the flyleaves is to protect the text. But if I choose a special paper, the front flyleaf can give the reader a sense of anticipation, while the one in the back gives a lingering impression of the contents.

PREPARING THE TEMPORARY SECTION

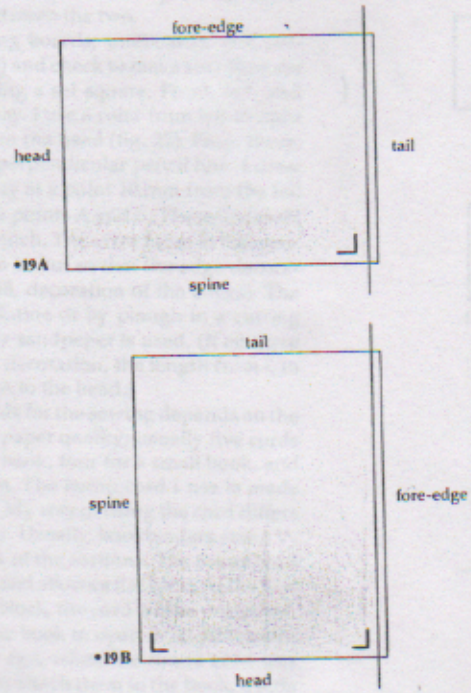
Later in the binding process a leather joint will be pasted into the hinge of the book to strengthen the joint between the text block and the cover. To make room for this thin strip, two temporary sections have to be prepared. (This section is called temporary because it will be removed later on.) The temporary sections will be placed on either side of the text block on top of the flyleaves. The thickness of each temporary section should be the same as the thickness of the folded leather strip. If the leather joint is thicker, the book cannot close properly; if it is too thin, the leather cover in the joint will sink. Usually, I take a folded craft paper for the outer pages of the temporary section and two folded pages of a magazine for the inside (fig. 17). This temporary section also protects the flyleaves from becoming soiled while work progresses on the book.



PRESSING

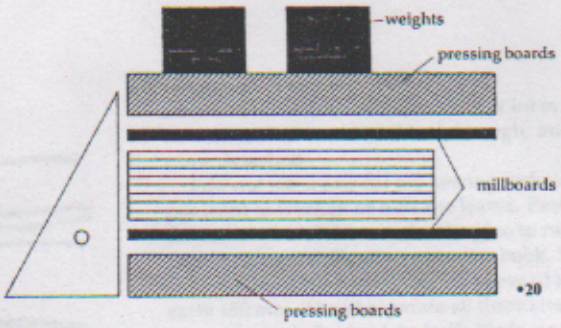
When preparation on the text block is complete, the text, flyleaves, and temporary sections are placed in order, ready for pressing. Pressing is necessary to remove any air between the pages. The text block now becomes hard and feels solid, and the pages will not easily move out of their sections during sewing. Later, when the binding is complete, the book will have a compact feel and will keep its shape, and the solidity will help to resist dust penetration. Although, like many other aspects of the binding process, pressing has a sound practical reason, it also enhances the tactile quality. (If a book feels spongy, it has a slightly unpleasant feel to it.)

Pressing is done in the following manner: Place the text block between the pressing boards (fig. 18) and make sure the sections are properly aligned. Then center everything in the standing press, and press it as tightly as possible. If the book is thick, divide it into appropriate groups of sections and insert them between the pressing boards. The sections have to lie alternately—spine, front, spine, front—between pressing boards, exactly on top of the position of the former section. After the first twenty-four hours the pressure should be increased by tightening the wheel of the standing press. This is repeated three to four times over a period of two to three days. If sections of several books have to be pressed, make sure that the biggest book is at the bottom, followed by the next biggest, until the smallest is on top. Books printed on handmade paper are not pressed as hard so that the special touch and feel of the paper and impression of the letters can be retained.



TRIMMING

After pressing, the sections are removed from the press. If only the top edges are to be gilt, I prefer to trim the fore-edges and tail of the sections in the board cutters. The sections are trimmed one by one and make the text block look alive, while, in my opinion, edges cut in the machine do not. If there are big differences in the sizes of sections, I choose a medium-sized one as a standard measure for all of them. For the trimming, head and spine are placed into the angle of the cutters, while the tail sticks slightly out over the cutting edge. Then head and spine of the turned over section are placed in the same way and the fore-edges are trimmed slightly (figs. 19A, B). To preserve their character, books printed on handmade paper with deckle edge should not be cut. If in rare cases some of the pages should extend beyond the covers, however, these would need trimming.



•20

COLLATING

The next step is to collate the text block by making sure that the pages in the sections and the sections themselves are in the correct sequence.

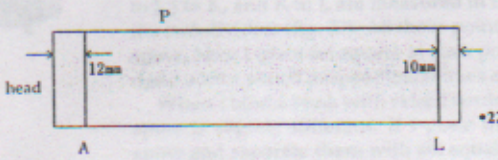

L-shaped weights

•21

PLACEMENT OF THE BINDING CORDS

After collating, the text block is placed between millboards and pressing boards, with the head to the left and the spine facing the binder, and a heavy weight is then put on top (fig. 20). L-shaped weights (fig. 21) are very useful to have; they can be used in various combinations and are especially good when boxes and slipcases are being made. The angle of the weight can be used as a corner against which the box can be held steady while being glued together. The weights are made of heavy metal, such as lead or cast iron, and are coated with chrome. A weight should never be put directly onto the book; a piece of millboard or a pressing board should always be placed between the two.

Now I stack the pressing boards, millboards, and sections, flush at the left (head) and check to make sure they are all properly aligned by using a set square. Front, tail, and spine are checked in this way. I use a ruler from left to right and mark about 12 mm from the head (fig. 22). From there, with a set square I draw a perpendicular pencil line. I draw another line in the same way at a point 10 mm from the tail on the right side. I name the points A and L. These lines will be the guides for the chainstitch. The extra 2 mm in the measure at the head allows it to be cut so that the edge decoration can be done (pp. 16–18, decoration of the edges). The cutting is done in the guillotine or by plough in a cutting press, or in some cases only sandpaper is used. (If all three edges are to be cut for edge decoration, the length from L to the tail is the same as from A to the head.)



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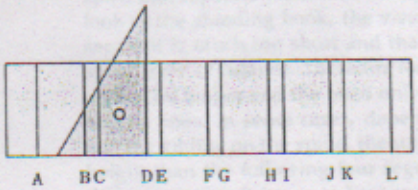

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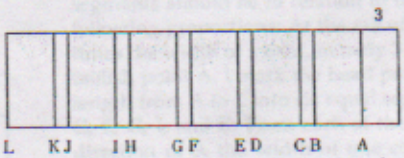
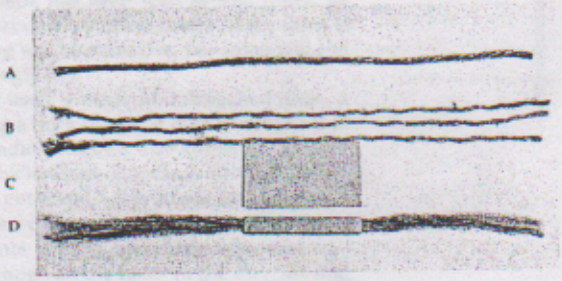


•24

The number of hemp cords for the sewing depends on the height of the book and the paper quality; usually five cords are used in a normal-sized book, four for a small book, and six or seven for bigger ones. The hemp cord I use is made from three strands (fig. 25). My way of using the cord differs from most other techniques. Usually, bookbinders saw a V-shaped groove into the back of the sections. The round cord disappears into this groove and allows a flat back. At the first and last sections of the text block, the cord will be untwined. The flat cord then allows the book to open in its joint without obstruction. Centuries ago, when the round cord was pulled through the boards to attach them to the book, a little bulge would appear on the outer joint when the book was opened. This resulted in friction every time the volume was


hemp cord

•25



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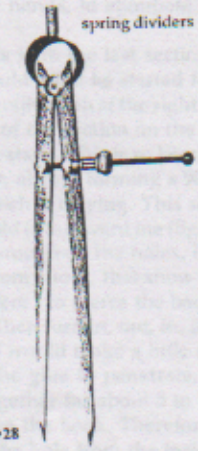

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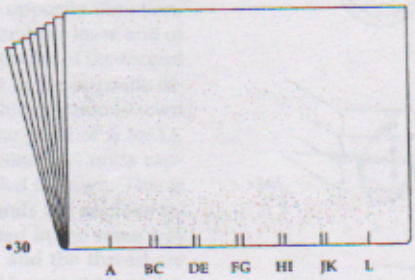
sewing threads

•29



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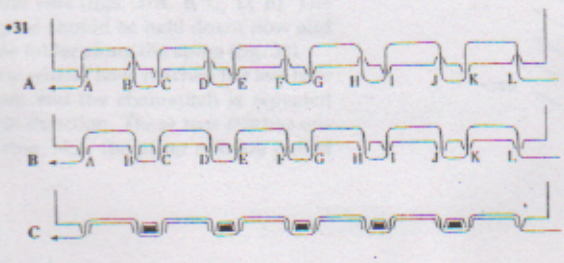


•31

used and turned out to be the weak point in the binding. The leather and cord were rubbed through, and the boards became detached.

I do not use a saw for my sewing technique because I do not want to weaken or hurt the leaves. Besides, the grooves for the cords make it easy for the glue to run into the pages, thus making it difficult to open the book. Instead, I cut the cord to a length equal to the thickness of the spine plus an extra 150 mm. Then I separate all three strands, flatten each one with the dull side of my knife blade, and place them on a sheet of paper about 40 by 50 mm(figs. 26A, B, C, D). Depending on the size and weight of the book, I wrap two or three strands of cord, paste the end of the paper, and make a roll like a handmade cigarette. Now the division of the spine for the placement of the cords has to be done. The width of the packed cord should be decided according to the size, thickness, or weight of the book. If the width is 6 mm and the number of cords five, 5 times 6 mm should be measured from point A, which then gives me point P (fig. 22). Then the distance between P and L should be divided into six equal parts. These six divisions will govern the length between the cords. I use spring dividers to retain these two measures (fig. 28). I mark point B by using the dividers with the measure of one length between the cords. Point C is given by using the dividers with the measure of the cord width, in this case 6 mm. C to D, D to E, E to F, F to G, G to H, H to I, I to J, J to K, and K to L are measured in the same way, using the two dividers (fig. 23). All these points are marked on the spine. Now I use a set square at each point from A to L and draw with a pencil perpendicular lines across the spine.

When I bind a book with raised cords, the division of the spine is slightly different. If I place the five cords on the spine and separate them with six equal segments and then look at the standing book, the visual effect is that the tail segment is much too short and that the proportion of the spine is out of balance. Therefore the tail segment has to be quite a bit longer and the head only a little longer than the middle ones. In some cases, depending on personal taste and the gilding on the spine, the upper segment is of lesser height than the following four segments. There are slight differences in opinion as to how much longer head and tail segments should be in relation to the inner four. I like the following proportions: At the tail of the spine I mark three times the width of a cord, namely 3 times 6 mm, and so establish point A. I mark the head point L. Then I divide the length from A to L into six equal segments and name them C, E, G, I, and K. From each of these points I mark in the direction of A the width of one cord and name the new points B, D, F, H, and J. When all these perpendicular lines are drawn with the help of a set square and pencil (fig. 24), I use a penknife and score the lines. The cut should only be deep enough that I can just see the nick in the middle of the text block section when I open it. This makes it easy for me to find the right hole for my needle when I am sewing. For this method the untwined cord lies flat on the spine, and the back section is not grooved.

THE SEWING

Before sewing the sections, I have to decide the thickness of the linen thread I will use. There are various kinds of thread for use on all kinds of paper. A soft paper needs a thicker thread because it easily sinks into the paper; a hard paper needs a thinner thread. An important consideration is the number of sections. A thin book needs thicker thread than does a thick one. If the choice of thickness of the thread is wrong, the binding will never be satisfactory. The spine needs to be somewhat thicker than the text block to make

the process of rounding and backing possible. This extra thickness is provided by the sewing thread. If the spine is not thick enough, the rounding will return to its former flat shape. After such a book has been read several times, its fore-edges might protrude beyond the covers. If the spine is too thick, the rounding will be excessive, the spine will feel loose, and it will look ugly too.

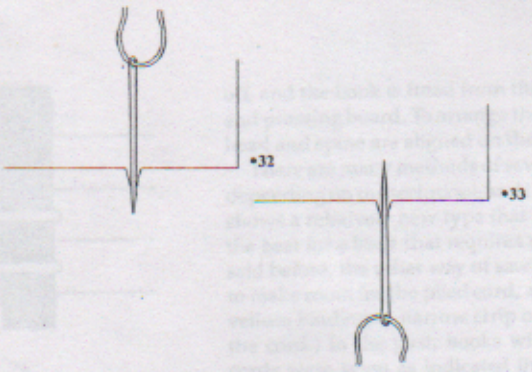
The sewing thread itself is made of unbleached linen, a low number indicating a thick thread, a high number a thin one (fig. 27). Bookbinding needles also come in different sizes with different thicknesses, lengths, and eyes. Before starting the sewing, I cut about 1.5 to 2 m of thread, pass it through the eye of the needle, and pull it across a chunk of beeswax. This prevents it from becoming untwined and frayed as it passes through all the holes in the sections (fig. 29). Then I pass the waxed thread through a cloth, which I hold tightly between my hands, to eliminate small lumps of wax.

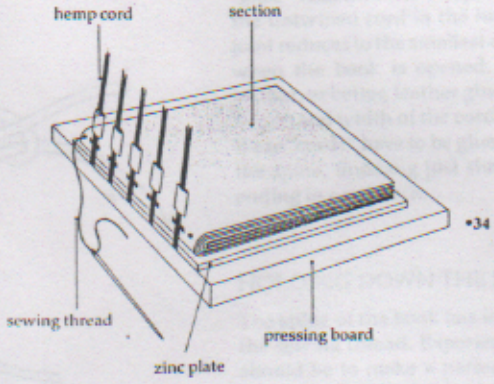
The sewing itself starts with the last section of the text block. (Books in Asia would often be started from the first section because they generally open at the right side.) This is done by laying the head of the section on the left side, regardless of where the text starts. This is so because the head should always be straight, always forming a 90° angle with the table or board on which it is lying. This way I can get precision. The spine should face toward me (fig. 30). Before I start to pull the thread through all the holes, I pierce them through the small cuts, from L to A, that show in the fold of each section (fig. 31B). Were I to pierce the back of the section from the outside in, then turn in, out, in, out (fig. 31A), holes L, J, H, F, D, and B would make a little opening into each section and allow the glue to penetrate, resulting in pages that could stick together for about 5 to 10 mm, thus making it difficult to open the book. Therefore the needle must first pass through the hole from the inside (fig. 32). I pull the needle back out again and then pass it through the hole from the outside (fig. 33). I sew in, out, in, out . . . from L to A and pull the thread through to leave about 30 to 40 mm at point L.

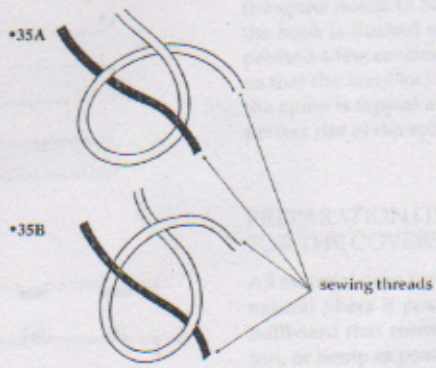
Now the cords in their paper rolls, called a "mustache," are inserted between the spine and thread at B-C, D-E, F-G, H-I, and J-K. I can now tighten the thread (fig. 31C). After sewing the first section from right to left, the lower parts of the mustaches that stick out of the paper roll are squeezed between a zinc plate and a pressing board (fig. 34). This way the section does not move as work continues, and the paper roll keeps the cord erect and makes the sewing easier. With every subsequent sewn section, the paper roll is moved up a bit so that the linen thread keeps the cord in place.

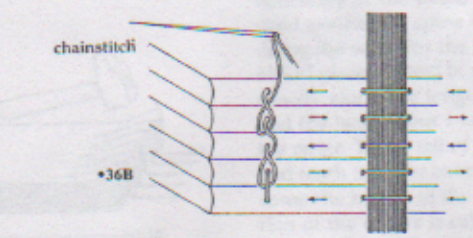
The second section is sewn from the opposite direction, from left to right, the thread tightened, and the loose end of the thread of the first section knotted with that of the second section (fig. 35A). I make the same knot in the opposite direction (fig. 35B) and pull it tight. The third section is sewn as in the first and second sections. At the point of A (or L), the thread that unites the first and second section is captured by the needle in its loop and pulled through. This is called "chainstitch" (figs. 36A, B) and binds the sections together. The following sections are treated in the same way (fig. 36B). It is important that the cord and the thread are always erect and tight. When the thread becomes too short, another length is cut and a weaver's knot made to join them, and it is pulled across the wax (figs. 37A, B, C, D, E). The growing height of the spine should be held down now and then by stroking the bone folder along the spine (fig. 38).

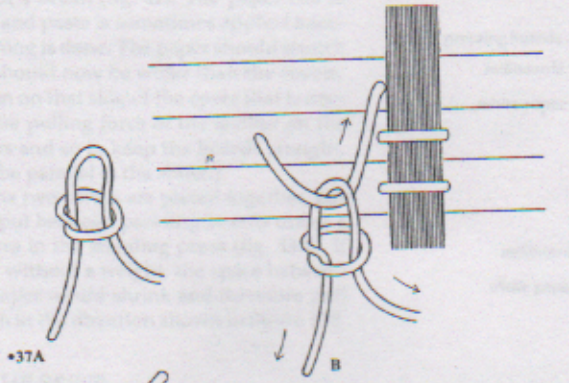
The sewing is complete when I have reached the last hole in the temporary section, and the chainstitch is repeated twice, once in the reverse direction. These two stitches ensure that it will not untwine. Now the paper rolls are pulled











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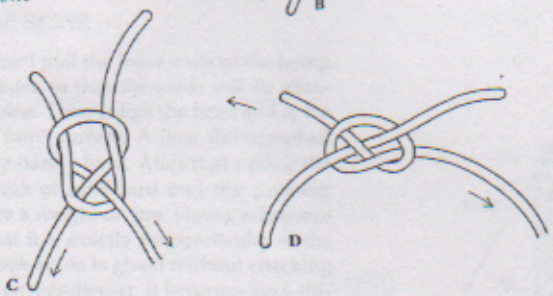

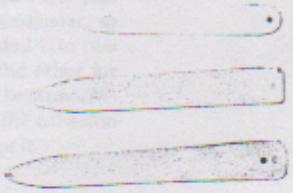

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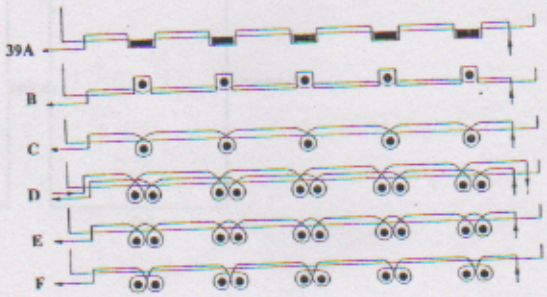
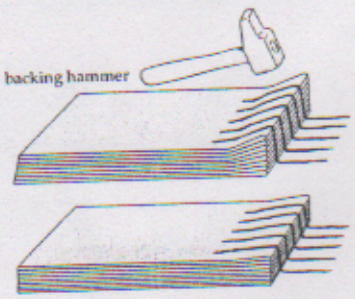
bone folders





off, and the book is freed from the squeeze of the zinc plate and pressing board. To arrange the sewn sections neatly, the head and spine are aligned on the lime (lithographic) stone.

There are many methods of sewing the sections of a book, depending on the technique and type of binding. Figure 39A shows a relatively new type that I use because I believe it is the best for a book that requires a fine binding. I reject, as I said before, the other way of sawing a groove into the spine to make room for the plied cord, as shown in figure 39B. (For vellum bindings a narrow strip of vellum is used instead of the cord.) In the past, books with single or double raised cords were sewn as indicated in figures 39C, D, E, and F. Nowadays, these techniques are only used for restoration work. Pastiche bindings with hollow backs mostly have "false" raised cords. They are sewn on flat spines because the untwined cord in the hinge of the spine and the outer joint reduces to the smallest degree the friction of the leather when the book is opened. The false cords are strips of leather, or better, leather glued on parchment, in the desired height and width of the cords. For books with hollow backs, these "cords" have to be glued onto the Bristol board inlay of the spine, finishing just short of the sides of the inlay and ending in a soft arch.

HOLDING DOWN THE SPINE

The spine of the book has increased in thickness because of the sewing thread. Experience will tell exactly how much it should be to make a perfect binding. If you are unsure of which thickness of thread to choose, I can say that it is always better to have a thread too thick than too thin. Often the spine needs to be held down after the sewing. For this the book is flushed at head and spine and then the front is pressed a few centimeters under the clamp of the guillotine so that the text block cannot move; with a backing hammer the spine is tapped as lightly or strongly as is required for a perfect rise of the spine (figs. 40A, B).

PREPARATION OF THE MILLBOARD FOR THE COVERS

All material used for bibliophile bindings should be made of natural fibers if possible. It is therefore advisable to use a millboard that contains as high a percentage of linen, cotton, or hemp as possible. This millboard is heavy, hard, and long lasting. Unfortunately, it has become more and more difficult to obtain a high quality because it is not very much in demand as it being too expensive for most bindings. Millboard also comes in various thicknesses, and I have to choose one that fits my sense of proportion in relation to the size, width, and thickness of the book I have to bind.

I start the preparation for the boards by cutting two pieces for the covers, leaving them 20 to 30 mm larger than necessary at the head, front, and tail. Then I cut the side used against the spine and head at a 90° angle and mark it, doing the same for the second cover as shown in figure 41. Next I place my text block onto the cover, the spine aligned exactly along the length of the cut and marked millboard and the head about 1 to 2 mm away from the upper side of the cover. To the tail of the text block I add about 3 to 4 mm and mark it on the cover and cut. These millimeters will become the height of the squares of the binding. The projection of the covers is called squares. As the head of the text block will be trimmed later 1 to 2 millimeters in the binding process, the top square of the cover will have the same height as at the tail. At the front, the cover is left 20 to 30 mm

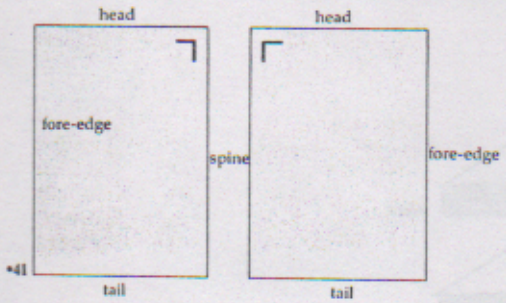
larger. Then two sheets of a good quality paper of the same size as the covers are cut. These sheets are pasted on the covers with the help of a brush (fig. 42). The paper has to stretch a few seconds, and paste is sometimes applied a second time, before the lining is done. The paper should stretch about 2 to 4 mm and should now be wider than the covers. This results in a tension on that side of the cover that is necessary to counteract the pulling force of the leather on the other side of the covers and so to keep the boards straight. (Fibers should always be parallel to the spine.)

After being lined, the two covers are placed together, paper facing paper, and put between pressing boards under a weight or light pressure in the standing press (fig. 43A). If the paper is left to dry without a weight, the space between the fibers of the wet paper would shrink and therefore pull the millboard too much in the direction shown in figure 43B.

THE GLUING OF THE SPINE

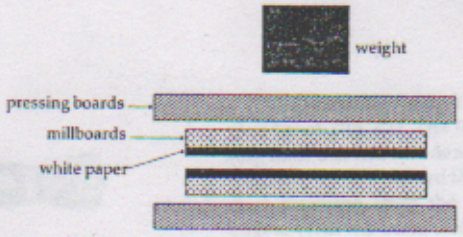
For the gluing of the spine I pull the loose ends of the hemp cords strongly to both sides so that the cords will lie absolutely flat on the sewn spine. Then I align the head and spine by standing them on a hard surface. A lime (lithographic) stone also comes in very handy here. After that I place the text block between pieces of millboard and the pressing boards (fig. 44) and place a weight on top. Now a set square is put at the head so that it is exactly perpendicular to the bench or stone. If the book spine is glued without checking that the head is exactly perpendicular, it becomes very difficult to correct any mistake later.

The glue I use is organic, made from hide and bone. The dry glue pearls or flakes (fig. 45) have to be soaked and occasionally stirred in cold water for some hours before they are ready to melt in the electric glue pots (fig. 46). Never let the glue boil because that weakens its cohesive powers. Just keep it hot. Most modern glue pots have a thermostat, so there should be no problem. If the pot is divided into two halves, one should be used for thicker glue, the other for thinner (which means it contains more water) because different jobs need different kinds of glue. When the cohesion of the glue lessens, it will be necessary to change it.



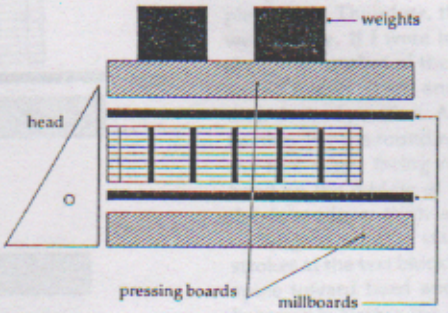
•41


•42
paste brush



•43A

•43B



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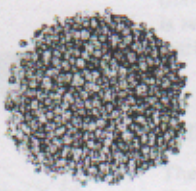
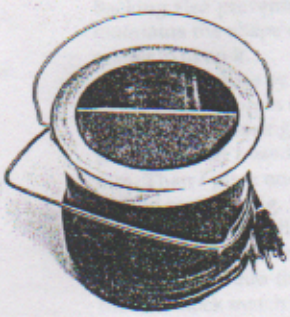

dry glue pearls
•45


glue pot
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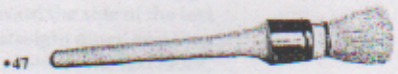
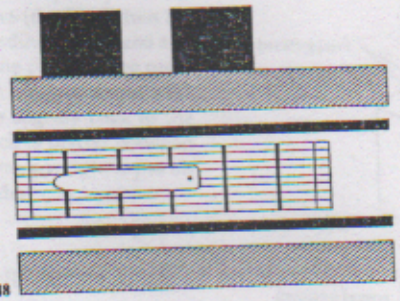


•47 glue brush



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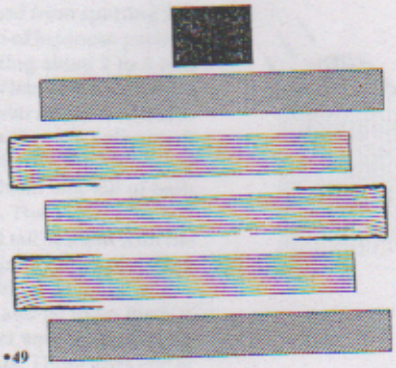

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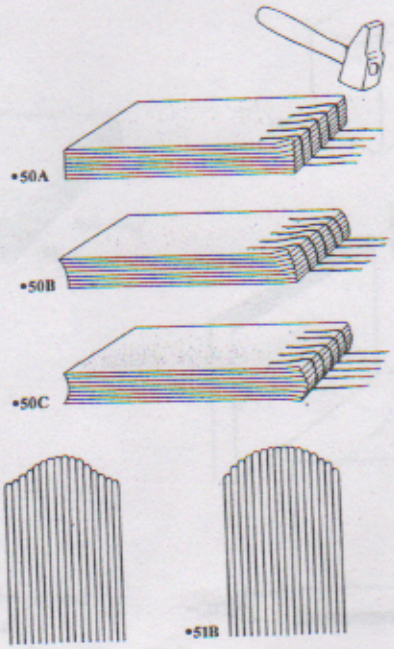


The glue being ready for use, I apply it to the spine with a glue brush (fig. 47). The hair, like that of the paste brush, is hog hair, but the wooden handle has a metal collar. I brush from the middle toward the head and tail of the spine. Never start brushing from the end or you will get glue on the edges. With my bone folder (fig. 48) I strongly rub the glue into the spine between the sections, taking special care at head and tail. I wipe off any surplus glue with a piece of cloth, after which I apply another coat of glue. Then I take the text block out, put it between pressing boards placed about one centimeter away from the spine with a weight on top, and let the spine dry (fig. 49).

ROUNDING OF THE SPINE

The glued spine must be rounded when the glue is not completely dry. Therefore, the spine is moistened a little with a wet sponge. If I were to try to force a dry spine to move under the strokes of the backing hammer (fig. 52), the glue would simply crack and the sections would shoot out of their desired position. A little moisture makes the glue more flexible. For the rounding I put the text block in front of me, the fore-edges facing me (fig. 50A). Then I place my left hand on the middle of the text block, my thumb touching the fore-edges. With a pulling movement of my French backing hammer, I start the rounding of the spine with strokes at the text block's middle section and work along the spine toward head and tail. At the same time, while the hammer is forcing the sections into the rounding, the four fingers of my left hand which lie on the temporary section of the text block, will support this tendency of rounding, by pulling the upper half of the text block toward me, while the thumb is holding the middle section in place. This tapping (hammer) and pulling (fingers) is starting the rounding and is repeated alternately with the other side of the text block until the rounding is as desired (figs. 50C and 51A, B).

THE BACKING

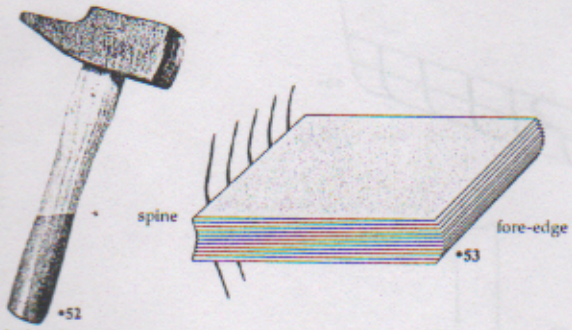
The main purpose of the backing is to keep the spine and therefore the sections in a fixed position so that they remain under the covers and do not become soiled or damaged. If the fore-edges become convex, this will happen (fig. 53). If you do not carry out the rounding and backing, the spine will become concave after the book is read several times. Backing also prevents the covers or sections from moving, maintains the shape of the book, and makes it easy for the reader to open it.

Backing is done by simultaneously pressing the text block in the backing press (fig. 54) and using the hammer. First I measure with spring dividers (fig. 55) the thickness of the millboard that I used for the covers and add another 1 to 2 mm. Then I place one leg of the dividers along the first and second sections (fig. 56) and the other leg on the temporary section. I mark the distance and draw a pencil line. The back of the text block is treated in the same manner. Then I put the text block into the backing press. The pencil marks on the text block match the top of the backing-jaws, which are shaped at about a 35° angle (fig. 57). Now I tighten the pressing beams by turning the wheel as hard as possible. I pull the cords to either side of the spine and, using a little paste about 20 to 30 mm along their ends, twist them in my palms, which makes them become pointed. I let them dry until they are hard.

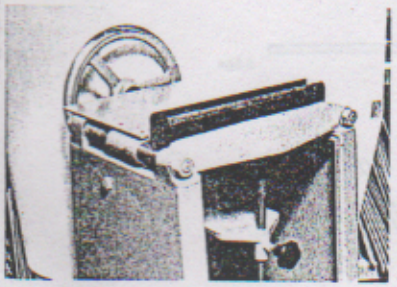
The glue on the spine has also dried again and is hard, which makes the backing difficult. It might even crack the sections. To prevent this and to make the backing easier, a thin layer of paste is applied with a brush onto the rounded spine. The tapping is done with controlled strokes using a wrist action that pulls the sections toward the side of the text block (fig. 58C). Do not just hammer straight down and thus jolt the sections (fig. 58A) toward the center of the text block, but back it beginning at the middle of the spine. The middle section should remain straight (fig. 58B) down along the spine, but the other sections, beginning with the section next to the middle section and then alternating from one side to the other, should be tapped with the pulling motion. This is repeated until each of the two last temporary sections fully touch the angle of the backing-jaws (fig. 59). When the spine is evenly backed, I check the rounding at the head and tail and then take the text block out of the press. In the press the section last backed has reached an angle of about 145°. Out of the press, the paper will move slightly back to the desired angle of 90°. Now the text block is placed between pressing boards that touch the shoulders, a weight is put on top, and the backed text block is left to dry.

ATTACHING THE COVERS TO THE TEXT BLOCK

The covers will be attached under high tension of the cords to the text block. To prevent the millboard from splitting under this tension in the joint, a thin strip of Japanese paper is pasted around the cutting line, extending about 2 to 3 mm onto each side of the covers (fig. 60). When this has dried, I draw a parallel line with my spring divider on the millboard, about 15 to 20 mm from the inner edge (fig. 61). I also mark the height of the square on the cover (the height depending on the proportion of the book) at the head and tail of both the inside and the outside of the covers. Then I place the text block between its two covers. Head and tail lie flush with the marked lines for the squares on their inner sides. On their outside the position of each cord is marked on them. When this is completed, I remove the covers and lie them flush at the spine. Then with the help of a set square, horizontal lines are drawn across the marked points. These lines end at



•52
backing hammer
•53


backing press
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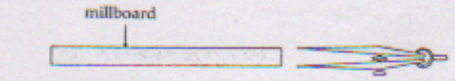

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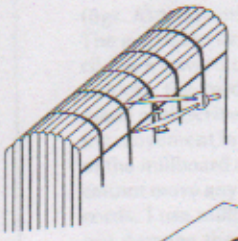
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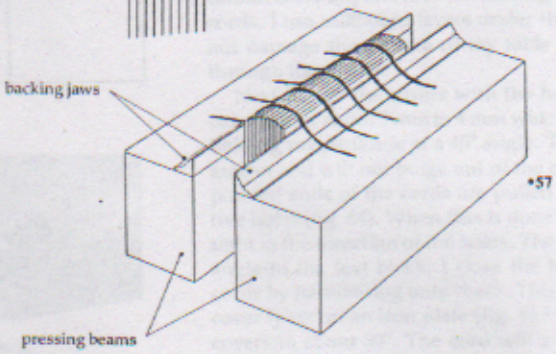

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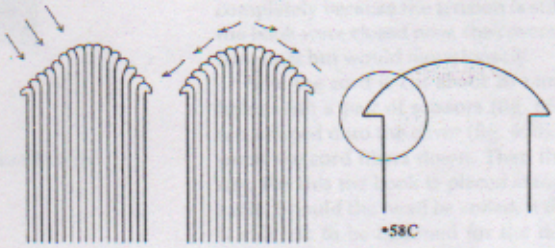
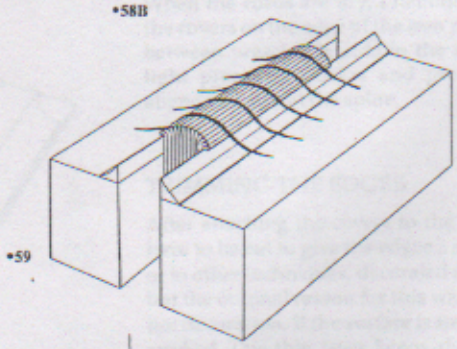

•58A
•58B
•58C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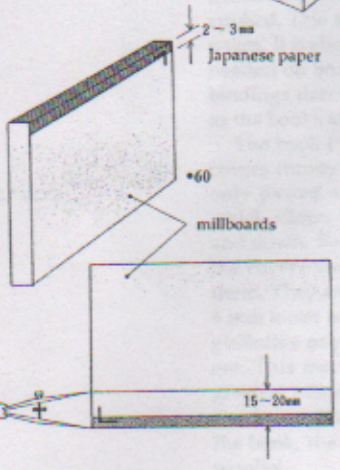

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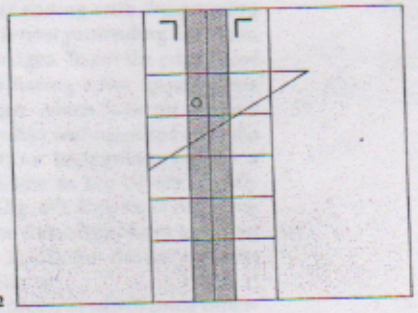

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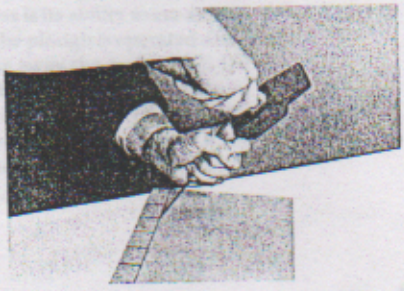
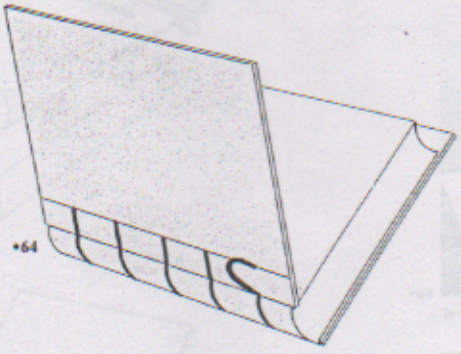
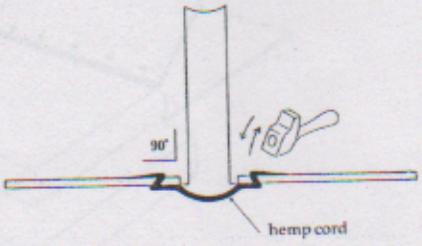


•63A

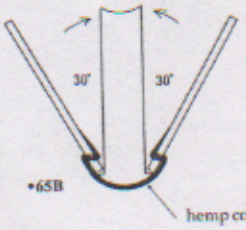
•63B bodkin or awl



•64



•65A hemp cord



•65B hemp cord

the vertical line (fig. 62). At this intersection I make a hole (figs. 63A, B) with a bodkin or awl (fig. 63B) and a hammer. The awl has to be held at a 45° angle, pointing from the pencil mark toward the inner side of the cover. If the hole were vertical, the cord would slip out easily. But if the hole is made as described it is longer, the cord forms a slight curving movement in it, and when I later consolidate it, the fibers of the millboard close the hole, squeezing the cord so that it cannot move anymore. When making the entry holes for the cords, I use millboard layers under the covers so that I will not damage the surface of my table when the awl passes through the covers.

Next I place the covers with the holes toward me, and I cut a groove about 2 mm to 4 mm wide along the pencil lines, holding my penknife at a 45° angle. The cord will lie in this groove and will not bulge out of the covers. Then the hard, pointed ends of the cords are pulled through their respective holes (fig. 64). When this is done I have to pull the cord tight in the direction of the holes. The cover has to be at a 90° angle to the text block. I close the holes and squeeze the cords by hammering onto them. This work is done with the cover lying on an iron plate (fig. 65A). Now I half close the covers to about 30°. The cord will give a little, and I must hammer the holes again (fig. 65B). Do not close the book completely because the tension is still needed in the cord. If the book were closed now, the covers would not fit tightly in the joints but would move loosely.

Now the cord is cut about 20 mm away from the closed holes with a pair of scissors (fig. 66A). The cord is pasted fan-shaped onto the cover (fig. 66B). With my bone folder I press the cord fibers down. Then the pasted cords have to dry. For this the book is placed standing on its head on the table. Should the head be soiled, it does not matter because it still has to be trimmed for the decoration to the edges. When the cords are dry, I hammer them flat, after placing the covers on the edge of the iron plate. I now place the book between pressing boards in the standing press and apply light pressure. Covers and pressing boards should be aligned for this at the spine.

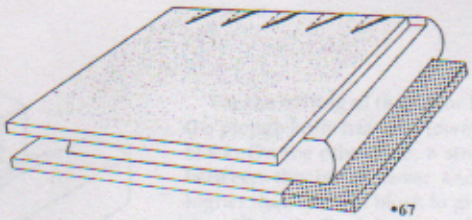
TRIMMING THE EDGES

After attaching the covers to the text block, the top edges have to be cut to give the edges a smooth surface. In gilding or in other techniques, decorated edges can look very pretty, but the original reason for this was protection for the paper, not decoration. If the surface is smooth and a gold or color is applied, this thin layer keeps the dust from entering the pages. It is also easy to dust such a surface. This treatment is needed on books that have no protective boxes, but in my bindings decorated edges are purely a decorative element, as the books are always housed in slipcases.

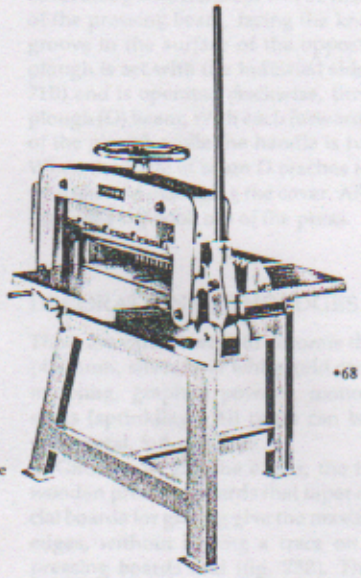
The book I have been working on is now attached to the covers through the cords in the spine. The cords are still only pasted around the holes on the inside of the cover, which allows the covers to be moved a few millimeters up and down. For the cutting of the top edges, I have to move the covers toward the tail of the text block so as not to cut them. They are now lying parallel with the top edges but 2 to 4 mm lower on the text block. The cutting is done either by guillotine or plough, exactly along the top edge of the covers. This method of cutting along this line allows for the greatest precision. When the cover is moved upward again the few millimeters that will make up for the squares of the book, the top edge and the cover's edges are absolutely parallel.

After moving the boards down, I check that the covers have moved an equal distance, using a set square placed to the tail. After this check, I put the book into the guillotine (fig. 68), head toward me, covers ending with the pressing beam, and press. The text block is now protruding 2 to 4 mm and hangs free over the board's edges. To cut the edges now in this position would result in having a few upper pages cut, but the rest of the top edges, which have no support beneath them, would only be pulled and squeezed over the lower cover. To prevent this from happening, I place a millboard strip, the same thickness as the covers, tightly against the lower cover and cut (fig. 67). If all three edges are to be cut for edge treatment, the fore-edges have to be cut after the gluing of the back (pp. 11-12). But the tail and then the head are cut as described here.

The French lying and cutting press, in which three different work applications can be executed—pressing, backing, and cutting, can be used instead of the guillotine (fig. 69). The advantage of this French press is its ability to cut as little as 0.5 mm off the edges because the plough is operated manually (fig. 70) and the knife trims away the pages from the side, millimeter by millimeter. The knife is not pulled down from above with force, which would make a cut of at least 1.5 mm necessary if it is to slice through every section. (If the fore-edges are to be cut with the plough this must also be done after the gluing of the back, pp. 11–12).

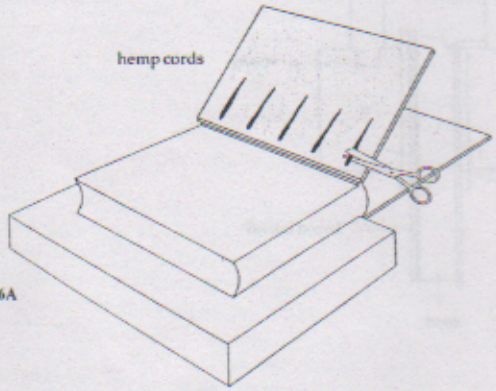


•67

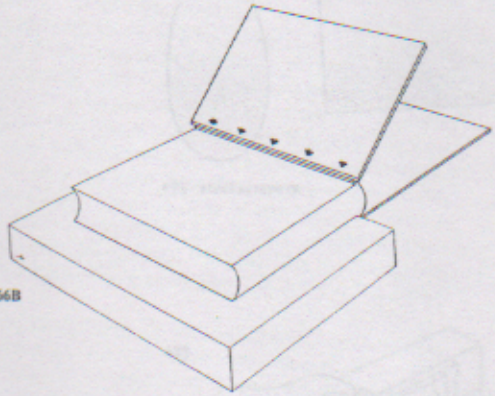


•68

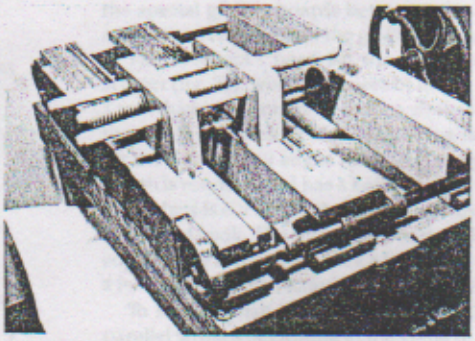
guillotine



•66A

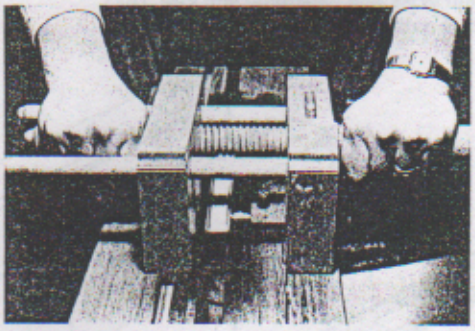


•66B



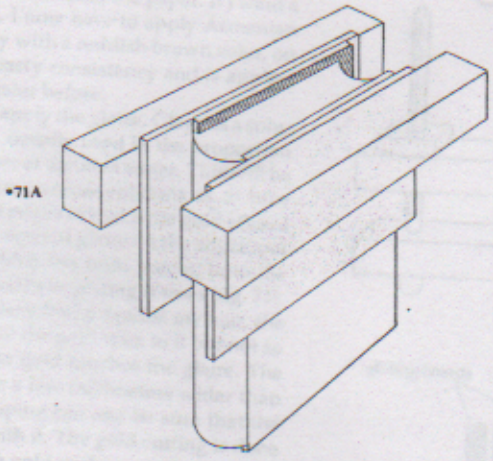
•69

lying and cutting press

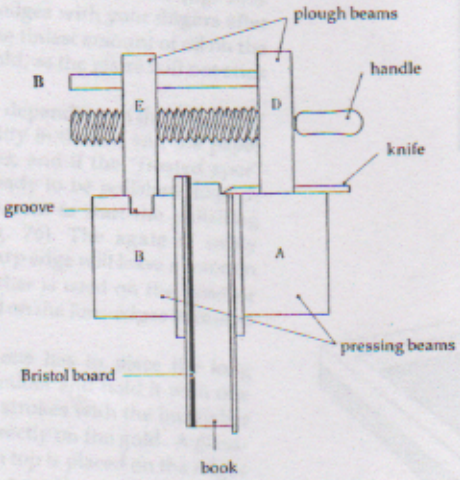


•70

plough



•71A



For the cutting of the tail or head, the cover that is facing the plough knife has to be lowered to the position of the text block. On the other side, a strong Bristol board is inserted between the raised cover and text block. They must be higher than the text block to give it stability during the cutting. Then the book is put in the press, and the edge of the cover along which the cut will be made is aligned at the level of the pressing beam, facing the knife (fig. 71A). There is a groove in the surface of the opposite pressing beam. The plough is set with the indicated side (E) in this groove (fig. 71B) and is operated clockwise, turning the handle on the plough (D) beam. With each forward and backward pushing of the plough while the handle is turned, each page is cut. When the knife of beam D reaches the Bristol board, I must stop to avoid damaging the cover. All pages are now cut, and I can take my book out of the press.

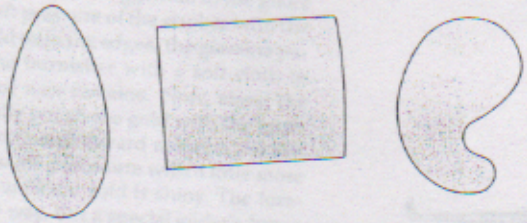
DECORATION OF THE EDGES

There are various ways to decorate the edges. In metal, gold, platinum, silver, and white gold can be used; and by color, marbling, graphite powder, monochrome, staining with spots (sprinkling). All types can be goffered, or stamped with metal, foil, or color.

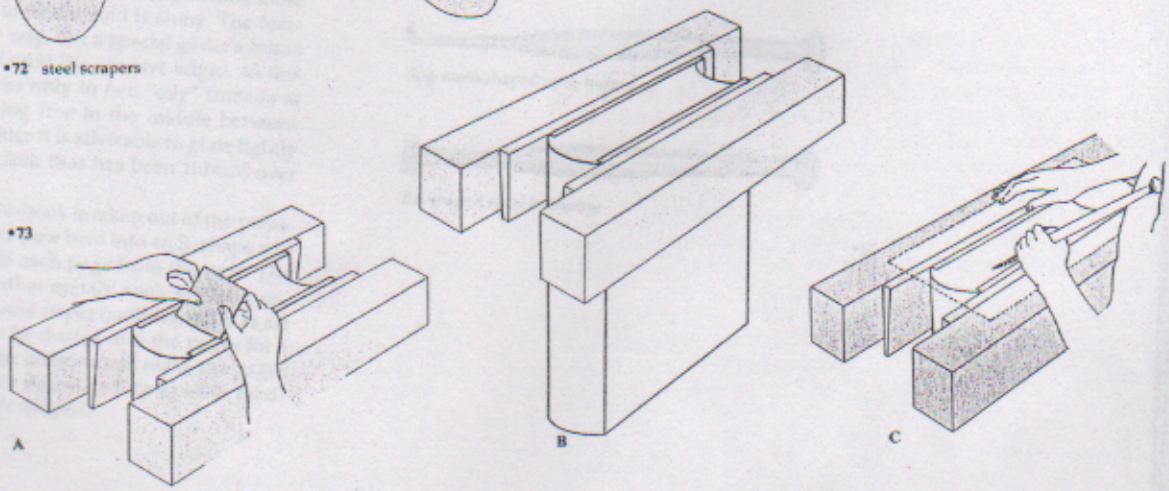
Gilding: To gild the edges, the book is placed between wooden pressing boards that taper off (fig. 74B). These special boards for gilding give the maximum pressure to the top edges, without leaving a trace on the covers, where the pressing boards end (fig. 73B). The cover and the edges should be aligned at the same level. Next I set the book with the special gilding boards between regular pressing boards and press everything in the gilding press (fig. 74A).

The first tool I need for the gilding of the edges is the scraper (fig. 72), which is a piece of metal, usually steel, about 1 mm thick, and comes in various sizes to match the width of the edges of the particular book being decorated. A scraper for the top and tail edges has three straight sides, while the fourth is rounded and has a knife edge. A scraper used for the fore-edges is curved so that it fits all shapes for fore-edges on a rounded book. The scraper is whetted like a knife. Its sharp-edged blade can be bent back a little with a whet steel to form a *burr* and make the scraping of the edge easier.

To start, I push the scraper toward the fore-edges with parallel strokes beginning at the spine of the book, stroke by stroke, until I get a smooth surface resembling ivory (fig. 73A). Very fine sandpaper may serve the same purpose. After that, I dip a soft brush into water, into which a little paste



•72 steel scrapers



•73

A

B

C

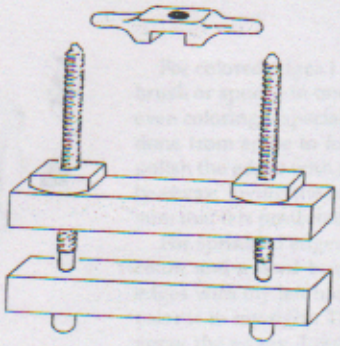
has been mixed, and wet the whole edge. Then, with a little ball of crumbled Japanese paper, I rub the edges dry until they are glossy. This closes the pores of the paper. If I want a "red fire" for the gilt edges, I now have to apply Armenian bole, a very fine mineral clay with a reddish brown color, on the edges. This clay has a pasty consistency and is applied and rubbed like the paste-water before.

When the edges are dry I apply the glaire. Glaire is a solution of water and eggwhite, usually used in the proportion of one eggwhite to 0.5 to 1 liter of distilled water. This will be mixed and filtered. There are various opinions as to how much glaire is needed on the edges to make the gold stick. I use a soft brush to apply one layer of glaire on the edges and immediately lay the gold, which has been precut, onto the glaire with the help of the gilder's or gilding frames (fig. 75). I touch the silk net of my gilder's frame against my hair, the oil of which is enough to make the gold stick to it but not so strong as to let it go when the gold touches the glaire. The gold has to be cut so that it is a few millimeters wider than the edges, as only by overlapping can one be sure that the whole edge will be covered with it. The gold cutting is done with a gold-cutting knife on a gold cushion neither too soft nor too hard that is covered with suede leather (fig. 133). Make sure never to touch the edges with your fingers after the scraping is done because the tiniest amount of oil on the paper will leave a hole in the gold, as the glaire will not stick on grease.

After a few minutes or more, depending on the amount of glaire on the edges, the humidity in the air, and the paper quality, I exhale onto the edges, and if the "frosted spot" vanishes quickly, the gold is ready to be polished. Experience will tell you the right moment to start the polishing with the agate burnisher (fig. 76). The agate is softly rounded at the tip so that no sharp edge will leave a trace on the book edges. The flat burnisher is used on the head or tail, while the "dog tooth" is used on the fore-edges becauses of its rounded shape.

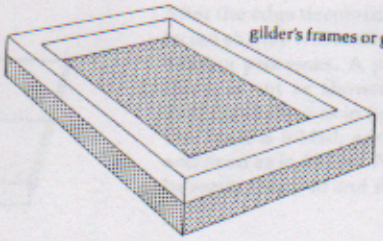
When using the burnisher, one has to place the long wooden handle on the right shoulder and hold it with one hand to keep it steady. The first strokes with the burnisher across the edges are not done directly on the gold. A glassine paper with a little beeswax on top is placed on the edges (fig 73C). The wax guarantees a smooth stroking over the paper, which has to be held in place with the left hand. If it moves, the gold will crack. When the eggwhite in the glaire in combination with the soft pressure of the strokes with the burnisher has fixed the gold onto the edges, the glassine paper is removed. I clean the burnisher with a soft cloth to make sure that no trace of wax remains. Now, along the edges of the book, I carefully polish the gold with the agate burnisher, moving away from and toward me with parallel strokes. Then I repeat the same procedure with a little more pressure across the edges until the gold is shiny. The fore-edges are done in the same way. But a special gilder's frame is needed to place the gold onto the concave edges. In this type of frame the gold sticks only to two "oily" threads at each side, while it is hanging free in the middle between those. For some paper qualities it is advisable to glide lightly over the gilt edges with a cloth that has been rubbed over beeswax.

When this is completed the book is taken out of the press. The pages of the text block are now bent into an S-shape and reversed, which will separate each page from the next. The same procedure is used for other metals, such as platinum, white gold, and silver. For some paper qualities, such as art paper, talcum powder has to be dusted into the pages for a few millimeters, otherwise the glaire would make the pages stick together so that when the pages are turned while reading, the gilt edges would be destroyed.

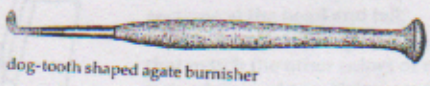


gilding press
•74A

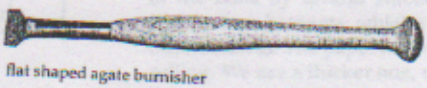
B



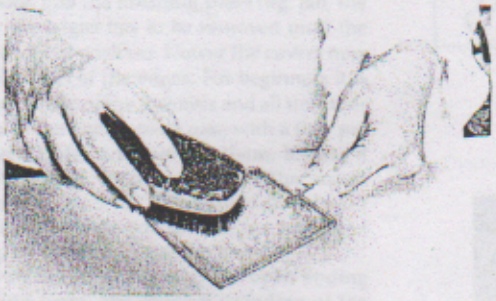
gilder's frames or gilding frames
•75



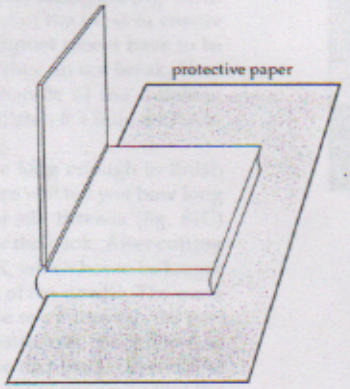
dog-tooth shaped agate burnisher



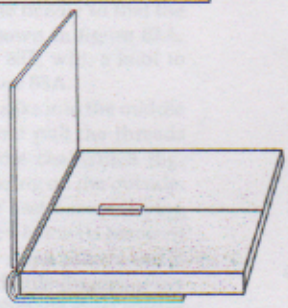
flat shaped agate burnisher
•76



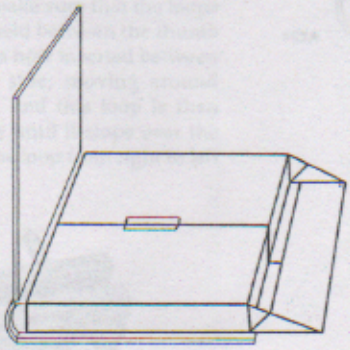
•77
hard brush and metal gauze frames



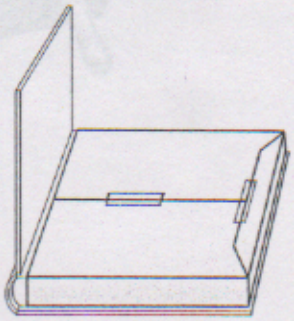
•78A



•78B



•78C



•78D

For colored edges I use opaque colors that I apply with a brush or sponge in one stroke. Several strokes result in uneven coloring, especially with lighter colors. The stroking is done from spine to fore-edge. When the color has dried I polish the edges with a soft cloth that has been rubbed over beeswax, giving the surface of color a film of wax to make sure that it is protected and will not rub off.

For sprinkled edges I need a metal gauze frame (fig. 77), color, and a hard brush. I hold the gauze frame over the edges with my left hand, while the brush now soaked with color is in my right. Then I run the brush across the net to spray the edges. I repeat this until a satisfying pattern of drops has formed on the edges. To make sure that the spots of color are about equal in size, I try it out first on a piece of paper. When the spots are in the desired shape, I move to the edges and spray.

To marble the edges I dip them onto the surface of the marbling size where the colors are floating, starting at the spine. I make sure I stop exactly at the corners of the fore-edges. Otherwise the marbling will overlap onto the fore-edges and show a darker shade where the overlapping has occurred if all three edges are marbled.

For graphite edges, the book is prepared in the same way as it is for gilding. But, instead of the gold leaf, a paste of graphite powder mixed with glaire is applied to the edges with a brush. Here I also use the agate burnisher for polishing. To further decorate the edges, a combination of gilding, marbling, sprinkling, and stamping can be used.

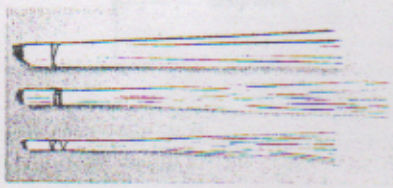
CAPPING

After the edge decorations are applied, they have to be protected so they will not become soiled during the subsequent binding processes. A piece of paper, fibers parallel to the spine, is cut as shown in figure 78A. Then the paper is folded and fixed as in figure 78B with tape or a spot of glue. The front is folded, and the upper, overlapping part is cut and fixed as in figures 78C and D. This protective paper can be easily removed and slipped back onto the edges.

SEWING THE HEADBANDS

The headband that finishes the text block at the top and tail of the spine is not merely there for the sake of appearance. Like the smooth surface of the gilt edges that make dusting easy and prevent dust from infiltrating the pages, the function of the headbands is to prevent a separation of the book sections at the head and tail.

The French technique I use allows for three colors of silk that match the other colors of my book. The silk threads are twined around two "batonets," or *cores*, which are attached to the book by several stitches to the sections. Figure 79 shows these batonets, which are thin silk-paper rolls of various thickness. The paper has been covered with paste before rolling. We use a thicker one, which lies on the edges, and a thinner one, which is put on top of it. The height of both batonets together has to be a fraction less than the height of the squares. The batonets are cut longer than the rounding



batonets
•79

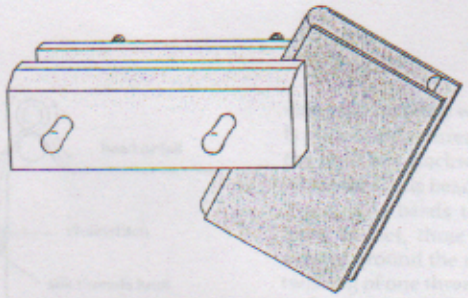
of the spine to allow the thumb and index finger of the left hand to hold them in the right position. The upper, thinner batonet should also be a little shorter (fig. 81B) to make it easier to slip the thread between the two of them.

Before I put my book into the finishing press (fig. 80), the protective paper for the edges has to be removed until the covers are fixed in their final position. I lower the covers now for the last time to the level of the edges. For beginners it is advisable to mark the middle of the flyleaves and all the other sections through which the needle must pass with a thin paper strip that has been folded and put into them, leaving it sticking out of the sections about one centimeter. This makes it easier for the needle to find the section middle without scratching the gilt edges because you can use the middle of the folded paperstrip as a guide to enter the pages.

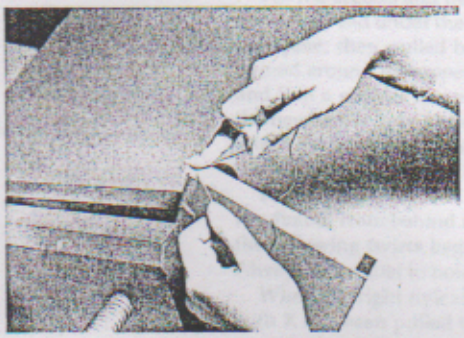
I press the spine of the book between the open ending beams of the finishing press, the concave rounding of the fore-edges a little lower than the spine, facing me (fig. 81A). Then I put a weight on the other end of the press to ensure that it is stable. Now the two cut batonet pieces have to be rounded to fit the spine. Make sure they do not break. Usually I form them over the round handle of the finishing press. If a batonet is very thick, I moisten it a little with water, which prevents it from breaking.

The three silk threads have to be long enough to finish one headband. Here, also, experience will tell you how long they have to be. A great variety of silk threads (fig. 81C) helps in choosing the right colors for the book. After cutting the silk threads I pass one of them, X, which has to be longer than the other two, through the eye of the needle. The extra length of X is needed so that it can be sewn through the sections, protruding under the chainstitch at the spine and thus attaching the headbands to the text block. The end of thread X is knotted around the end of the needle so that the silk does not slip out of the eye, as shown in figure 82A. Then I tie Y and Z, as shown in figure 82B, with a knot to thread X and pull tight, as shown in figure 83A.

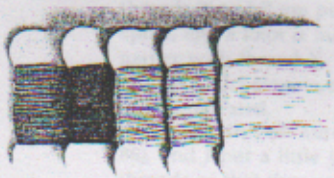
Now I insert the needle with all three silks into the middle of the left flyleaf section of my book and pull the threads through the spine protruding under the chainstitch (fig. 83B), with the knot of all three silks showing on the outside. Now X runs free out of the spine, while Y and Z are still lying on the gilt edges. Then I take the rounded batonets between my left thumb and index finger. At the same time Y and Z are pressed between palm and ring and little fingers of my left hand. During sewing, all three silk threads must always be held under the same tension to make sure that the loops are of the same texture. Thread X, held between the thumb and index finger of the right hand, is now inserted between the two batonets from the right side, moving around the upper batonet to form a loop, and this loop is then pushed to the left side of the spine until it stops over the flyleaf section. I do this moving of the loop from right to left



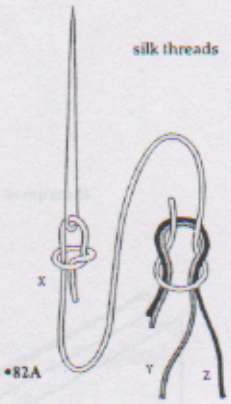
•81A



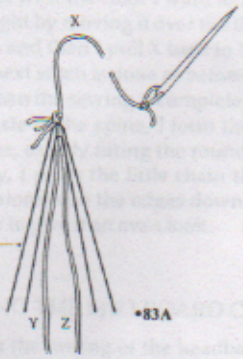
•81B



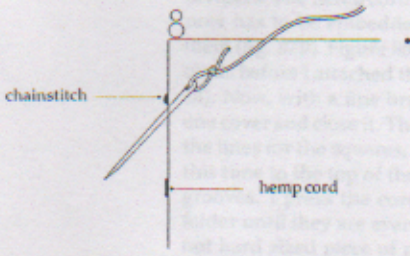
•81C



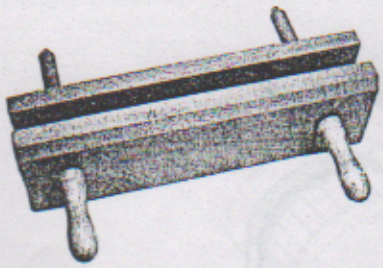
•82A



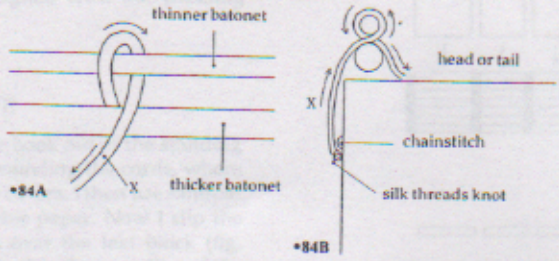
•83A

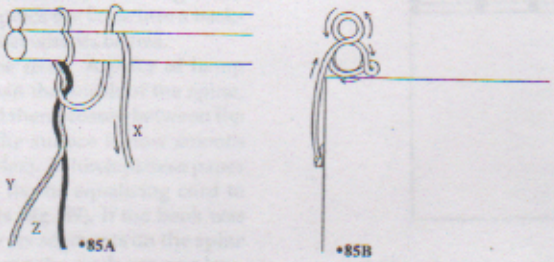


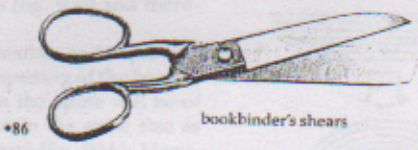
•83B

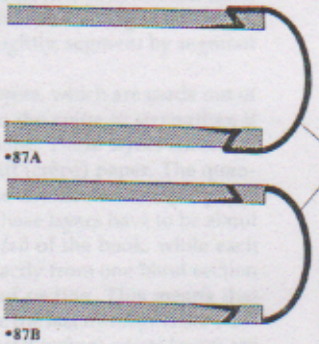


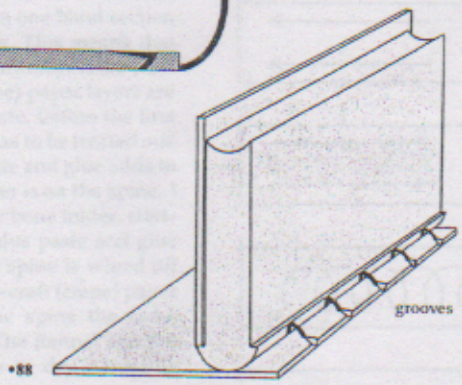
•80 finishing press

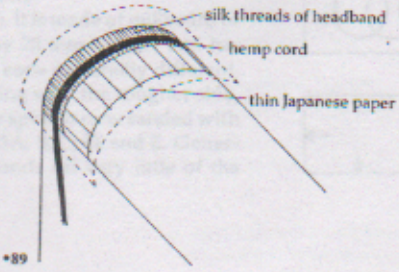












along the batonets with my thumb nail (figs. 84A, B). Next X is pulled under threads Y and Z to the left, then over them to the right in a clockwise movement (figs. 85A, B). This twist will form a little bead beneath the two batonets on the edges. These little beads together will form a chain, so that we have, in fact, three of them. Two are formed by the silk twisted around the two batonets; the third is created by the twisting of one thread around the other two.

For the second and most of the following twistings, I insert the thread under the lower, thicker batonet, first toward the spine, then pulled back between them facing me, and twined around the upper one. Again X is twisted around Y and Z in a circular movement. After four or five twistings, the needle has to be pulled through a middle of a section to attach the batonets to the text block. This is done right after the twisting of X around the other two silk threads.

For the next twist, X starts as at the beginning of the headband, from behind and between the two batonets; but the following twists begin under the lower batonet again. Always remember to hold all threads at the same tension.

When the right flyleaf section is reached and the needle with X has been pulled through the middle of the section, threads Y and Z are pulled under the lower batonet to the spine, and a knot is made, right under the chainstitch, together with thread X. Pull tight. Once again X is twisted around both batonets, starting between them, and then the knot is repeated.

Now the threads are cut with my bookbinder's shears (fig. 86), and I put a little paste on the knots and ends of the threads so that they are fixed to the spine. A little paste is also put on the first and last three to four twistings at the backside of the sewn headbands, to prevent them from slipping off the batonets, just before they are cut with the shears to the width of the rounded spine.

When I want to change to another color during my sewing, I have to do this right after the twisting of X around Y and Z. While still holding X in my right hand, I take the silk thread with the color I want to add out of my left hand into the right by moving it over the little bead on the edges to the right, and then I pull X back to the left to join thread Y or Z. The next stitch is done as before.

When the sewing is complete and the threads are secured by paste to the spine, I form the paper rolls again with my fingers, exactly fitting the rounding of the spine. If it is necessary, I press the little chain that has been formed under the batonets on the edges down onto them with a fine bone folder to give it an even look.

FIXING THE MILLBOARD COVERS

When the sewing of the headbands is complete, the covers have to be fixed to the text block so that they no longer move. I have already marked the height of the squares with spring dividers. The hemp cord that is lying on the covers (fig. 87A) now has to be embedded in the grooves on the surface of them (fig. 87B). Figure 88 shows the grooves I made to fit the cords before I attached the boards to the text block (pp. 13–14). Now, with a fine brush I put paste into the grooves of one cover and close it. The text block is lying exactly between the lines for the squares, and once more I apply some paste, this time to the top of the cords, which are now lying in the grooves. I press the cords down into them with my bone folder until they are even with the covers. Then I put a soft, not hard sized piece of paper over the wet cords along the spine. When both sides are fixed in this way, I make sure with the help of a set square that the covers at the head and tail are the same height, and I also check the position of the

fore-edges on the cover. Only by doing so can I make sure that the rounding is even. After this checking, the book is pressed between zinc plates and pressing boards overnight in the standing press, spine aligned with the pressing boards.

PREPARATION OF THE SPINE

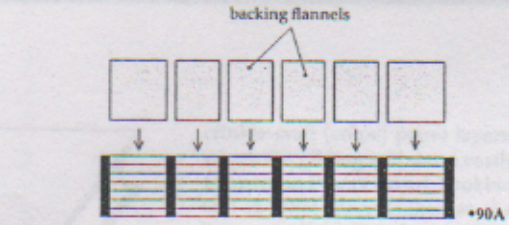
When the cords are dry I take the book out of the standing press and peel off the paper surrounding the cords, where they had not been pasted onto the covers. I then use sandpaper to smooth off the edges of this paper. Now I slip the capping (protective paper) back over the text block (fig. 78D). The next step is to check whether the rounding of the headbands is still perfect. Then I press the book into a backing or finishing press, spine parallel with its beams.

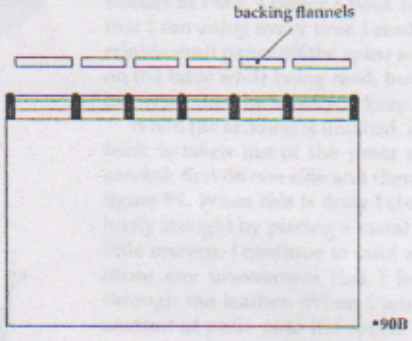
First the headbands have to be fixed. A piece of hemp cord is cut 30 to 40 mm longer than the width of the spine, untwined, soaked with paste, and then pressed between the grooves of the batonets so that the surface is now smooth (and not looking like two half-circles). A thin Japanese paper is pasted over the headbands to fix the equalizing cord to them and also to secure the knots (fig. 89). If the book was sewn on five cords, there are now six segments on the spine altogether. These segments between the cords are on a lower level than the cords and headbands (fig. 90B) and therefore have to be equalized.

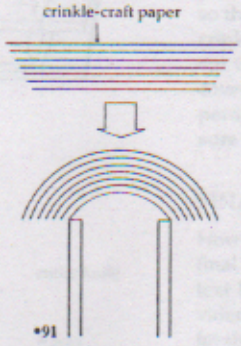
To strengthen the spine, to keep it flexible, and to prevent the sections from separating after the opening of the book in case the glue cracks, the first layer on the spine will be of backing flannel. Flannel pieces are cut to the same size as each segment and are soaked with paste (fig. 90A). Meanwhile glue is spread onto the whole spine, and the soaked flannel is put quickly onto the segments between the cords and headbands. With the bone folder, starting at the center of the spine, I press the flannel tightly, segment by segment onto the spine.

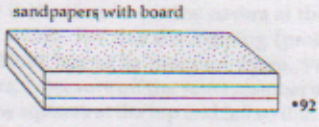
Next I have to cut the other layers, which are made out of paper, that will also be put onto the spine to strengthen it and to help the back keep its shape. These layers consist of three to six pieces of crinkle-craft (crêpe) paper. The quantity depends on the quality of the crinkle-craft (crêpe) paper itself and the size of the book. These layers have to be about 20 mm longer at the head and tail of the book, while each layer must measure in width exactly from one blind section over the spine to the other blind section. This means that number 1 is the narrowest, while the last number is the widest (fig. 91). When the crinkle-craft (crêpe) paper layers are cut I soak them from both sides with paste. Before the first layer is pasted onto the spine, the latter has to be treated one more time with glue. This mixture of paste and glue adds to the flexibility of the spine. When the layer is on the spine, I rub along it swiftly and strongly with my bone folder, starting at the center of the spine. The surplus paste and glue that will accumulate at each side of the spine is wiped off with a cloth. All the other soaked crinkle-craft (crêpe) paper layers are placed and rubbed onto the spine the same way with no additional paste needed. The flannel and the crinkle-craft (crêpe) paper layers have to dry naturally, which takes about twenty-four hours.

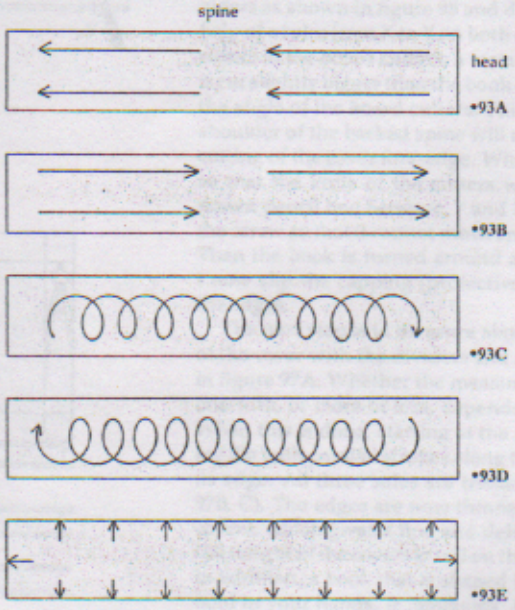
The next tool I use is file (fig. 92). It is made of millboard or a light wood, about 100 by 200 by 20 mm in size, and has sandpaper glued onto each side, each preferably different, one coarser, the other finer. Starting with the rougher side, then changing to the finer one, the spine is now sanded with movements as shown in figures 93A, B, C, D, and E. Generally the French art-bookbinder sands off very little of the

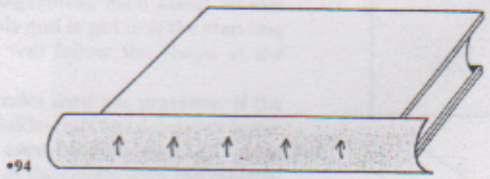




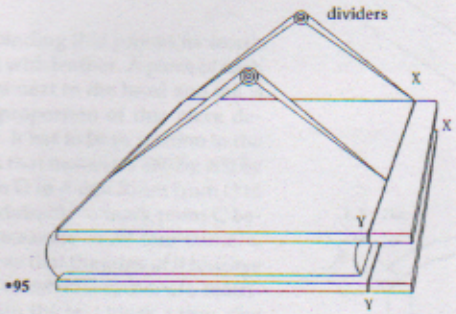








•94



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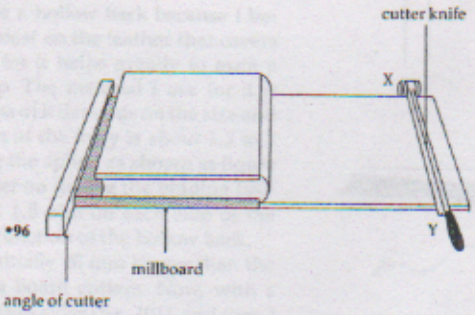
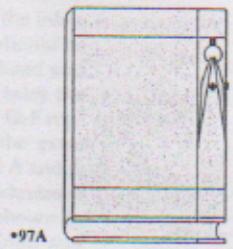
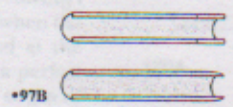


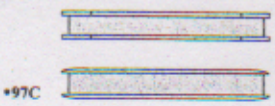
•96



•97A



•97B



•97C

crinkle-craft (crêpe) paper layers to ensure a hard back on which the gilding will stand easily. But those books are hard to open. In France an art-bookbinding is called an *objet d'art* and is often more looked at than read. Often a collector keeps another copy for reading, as I was told during my studies in Paris. I prefer a book to be a practical work of art that I can enjoy every time I read it. Therefore I sand more crinkle-craft paper off the spine so that the book can lie open on the table while being read, but I still leave enough paper to ensure that the spine will keep its shape.

When the sanding is finished, as shown in figure 93E, the book is taken out of the press and laid on the table and sanded, first on one side and then on the other, as shown in figure 94. When this is done I check that the spine is absolutely straight by placing a metal ruler alongside it. If it is a little uneven, I continue to sand with my sandpaper file because any unevenness that I leave now will later show through the leather. When I am satisfied I brush a small amount of paste onto the spine. When it is almost dried, I press the paper fibers down with strokes of my bone folder so that the spine now feels hard and smooth. After that, the crinkle-craft paper that sticks out over the head and tail is cut with my shears to the same height as that of the book covers. Then I open the cover to a 180° angle, clean the paperdust away, and check the backed blind sections to make sure that they are not stuck to the edge of the cover.

FINAL TREATMENT OF THE MILLBOARD COVERS

Now is the time to cut the covers at the fore-edges to their final width. For this the capping (protective paper) of the text block has to be removed again. With small spring dividers, I measure off the same number of millimeters I chose for the squares at the top and tail so that the squares are even on all sides. If they were 3 mm, I now mark 3 mm from the fore-edge of the text block onto the cover, which gives me points X and Y. To ensure that the measurement is exact and that the cover will have the same width, I use the big dividers as shown in figure 95 and draw a pencil line with the help of a ruler from X to Y on both covers. Before cutting the covers in the board cutters, a rectangular sheet of millboard is cut slightly bigger than the book cover, and it is placed into the angle of the board cutters. This is necessary so that the shoulder of the backed spine will not be severed during the cutting of the cover fore-edge. When the book is positioned so that the knife of the cutters will cut exactly along the drawn pencil line between Y and Z, the angle is fixed with the screw so that it cannot move and the cover is cut (fig. 96). Then the book is turned around and the other side is cut. I now slip the capping (protective paper) back again over the edges.

The next step is to measure about one-fifth of the height of the cover with the dividers and mark the cover as shown in figure 97A. Whether the measurement should be exactly one-fifth, or more or less, depends on one's personal taste. When this is done, starting at the marked line, I sand with my file with parallel strokes along the cover, moving toward its edge. All three sides are treated in the same way (figs. 97B, C). The edges are now thinner than the middle of the covers, which gives a fine and delicate impression, but the full weight of the covers is still on the center of the text block. In addition, a book that is shaped in this way is pleasing to hold in your hands. It "snuggles" into your palm and feels good (not like a brick).

With dividers I next check that all six edges of the cover edges measure the same width. The corners are now also rounded a little with the help of the file. When this is done, a

Bristol board is cut, fibers parallel to the spine and the exact size of the covers, glued onto them, and affixed tightly with the bone folder. The book is now promptly put between piles of soft paper (I use magazines), each about 20 mm high, and two pressing boards and is put into the standing press. The soft paper piles will follow the shape of the rounded covers.

Now I let the book dry under medium pressure. If the pressure is too heavy, the crinkle-craft (crêpe) paper layers on the spine may crease or even become detached. After drying, I sand just the edges of the covers with the sandpaper file to give an absolutely even edge.

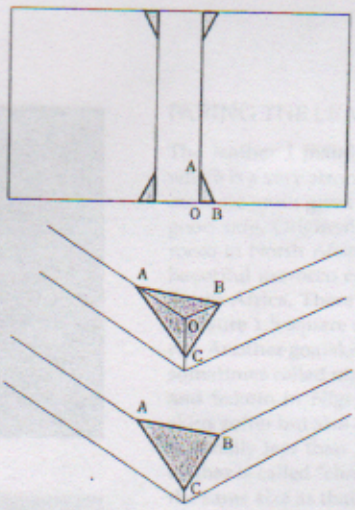
BACK-CORNERING

Back-cornering is a process in binding that proves its worth after the book has been covered with leather. A piece of each of the four corners of the covers next to the head and tail is cut out with a penknife. The proportion of this piece depends on the taste of the binder. It has to be in relation to the size of the book. If I have a book that measures 280 by 200 by 20 mm, I like to take 10 mm from O to A and 3 mm from O to B (fig. 98). For a beginner it is advisable to mark point C before cutting to have the same measure at all four corners. When I cut, I place my penknife so that the edge of it touches points A and B, and then I cut a tetrahedal corner off, reaching point C. To prevent a cut into the text block a thin zinc plate which protrudes into the spine is inserted between text block and cover.

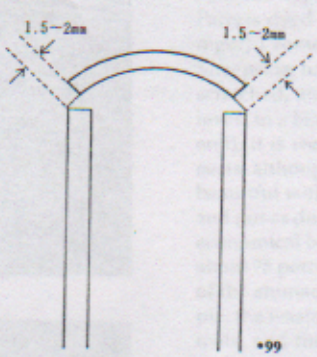
THE BRISTOL BOARD INLAY FOR THE SPINE

All my modern bindings have a hollow back because I believe that this technique is easiest on the leather that covers the spine. The inlay I make for it helps greatly to form a beautiful and strong headcap. The material I use for it is Bristol board, and the thickness of it depends on the size and width of the book. The width of the inlay is about 1.5 to 2 mm shorter at each side along the spine, as shown in figure 99. This allows the leather later on during the binding process to be attached for about 1.5 mm on each side of the spine without disturbing the function of the hollow back.

The Bristol board I cut is initially 40 mm longer than the book. The inlay is cut on the board cutters. Now, with a point (fig. 100) I plane off the long sides (fig. 101), and then I use fine sandpaper to erase any sharp edges (fig. 102A). As I move my finger from the sides toward the center of the inlay, I should not feel any edges. When I am satisfied, I place the book on the inlay in such a way that the sides of the covers at the spine finish exactly with the sides of the inlay. Only the 20 mm extra length at the head and tail should be visible. Then, with my point, I score the inlay at head and tail at the edge of the book cover, which gives the inlay the same height as the covers. In figure 102B, B-C and G-F represent those lines. Then I cut with my shears the extra height at A to H and at D to E. This height between A and B, C and D, E and F, and G and H is the same as the thickness of the edges of the covers. Following this, as also shown in figure 102B, I cut out V-shaped triangles from the inlay and also a halfmoon shape from B to G and from C to F, leaving I to J and K to L at their previously cut height. Later, when the spine is covered with leather, the inlay will bend at the scored lines toward the book edge, thus forming a perfect headcap that is at its thickest point as thick as the edges of the covers. The V-shaped cuts allow the Bristol board to follow the rounding of the spine without overlapping.



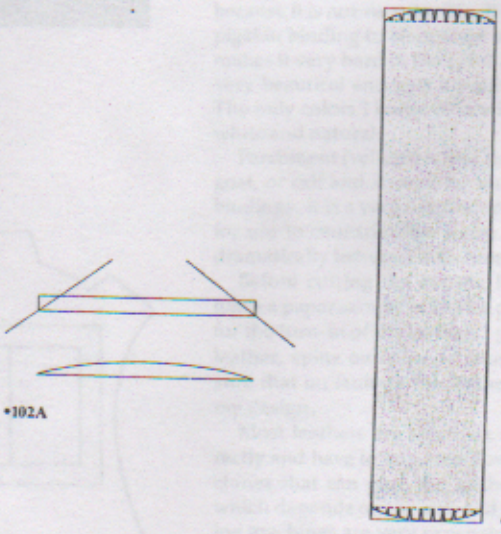
back cornerings
•98

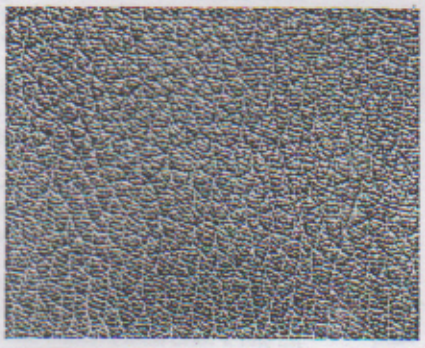


•99


points
•100

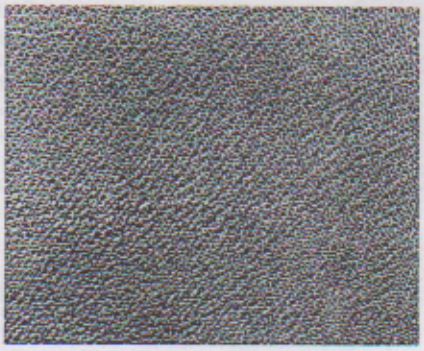

•101


•102A
•102B

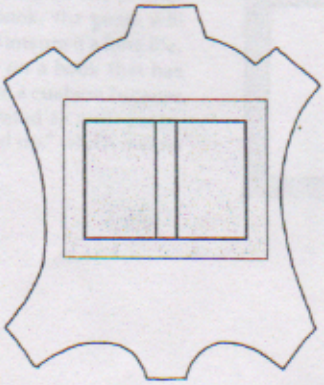


morocco

oasis



chagrin



•103

PARING THE LEATHER

The leather I mainly use for covering books is morocco, which is a very strong goat leather and most expensive. The morocco grain gives a round impression in its texture on the good side. Originally it was imported to Europe from Morocco in North Africa, thereby gaining its name. The most beautiful morocco comes from the Cape of Good Hope in South Africa. There the goats are very big, and a skin can measure 1.5 square meters. The French term is *maroquin du cap*. Another goatskin with a different looking grain is oasis, sometimes called niger. The best raw skins come from Kano and Sakoto in Nigeria. These goats are smaller and their skins softer but also strong, having a longish grain. The size is usually less than 1 square meter. The third kind of goat leather is called "chagrin." This leather is also strong, about the same size as that of the oasis leather. It has a very small, rounddish grain, suitable for small books. Also India and Pakistan export their tanned skins. The morocco I buy in Paris is dyed in France as is the chagrin I use. The oasis (or niger) I sometimes work with has been dyed in England. Sheepskin has a smoother surface than goatskin, is easily scratched, and is not as durable. When I think of the time I invest in a binding (which the customer has to pay for in the end), it is worthwhile spending the extra money that goat costs, although sheep leather is a lot cheaper. Calfskin looks beautiful with its glossy surface, but it is also very delicate and not as durable as goatskin. It is quite large and therefore economical because even in a perfect skin, we can only use about 75 percent for binding. Neck, claws, tail, and the sides of the stomach cannot be used. So, in a morocco, for example, the waste is quite expensive. Further, goats are wild animals, and their skins have traces from insect bites, fights, and so on.

For a fine binding it is advisable to make a paper sample of the required size for the book and then choose a leather that is perfect within this size. For my bindings I often use sheepskin or calfskin as doublures because they will not be exposed to much tension and friction, which they would be on the outside of a book. These skins are available in many beautiful colors.

Another leather is pigskin, which was extensively used in the sixteenth and seventeenth centuries. It is extremely strong and durable but not recommended for small books because it is not very flexible. It would be difficult for a small pigskin binding to be opened easily because its inflexibility makes it very hard in the spine. White tanned pigskin looks very beautiful and gets a patina like ivory with the years. The only colors I know of in which pigskin is produced are white and natural.

Parchment (vellum) is also made from the hides of sheep, goat, or calf and is used for illuminations, calligraphy, and bindings. It is a very hygroscopic material and is unsuitable for use in countries like Japan, where the climate changes dramatically between high humidity and dryness.

Before cutting the chosen leather to cover my book, I make a paper sample of its size plus 20 to 30 mm on each side for the turn-in of the leather. I place my paper model on the leather, spine on spine as shown in figure 103, and make sure that no fault on the leather surface will interfere with my design.

Most leathers are too thick to be used for the cover directly and have to be pared down. Of course, there are machines that can pare the leather to the desired thickness, which depends on the size and weight of the book. But paring machines are very expensive and, in any case, the sides and parts for the spine and headcap have to be pared by hand with a paring knife to give the leather its final shape.

"Spokeshaves" or the "SCHÄRF-FIX" I use are handy instruments to thin the leather out and they are nowhere near as expensive as a paring machine. There are various forms of paring knives, and the ones I use are made in France. One has an almost straight edge, the other one is a little more rounded (fig. 104), and they are really planing knives. I have covered the ends of my knives with bands of suede leather to make them easier to hold.

Paring leather is hard physical work, and shoulder, arm, and finger muscles have to be strong. Figure 105 shows how to hold the leather flat on the stone while the knife is pushed away from you. Always make sure that leather parings do not get under your piece of leather, and keep them away from your working area, otherwise, a piece of waste under the leather could result in a hole while paring.

Before the paring starts, I place the front, spine, and back of my book on the good side of the leather, leaving equal margins at all four sides, and mark the edges of the covers along their sides with my bone folder. I then draw a line on both sides of the spine (fig. 106A). All these lines can be seen faintly on the surface of the leather grain and later, when the book is being covered, will give me the exact position where the turn-in has to start. As the leather will stretch with the moisture of the paste, I know exactly how much I have to work the leather in from the sides to the center of the covers so that the millboard covers keep relatively straight after the leather dries. After having drawn these lines, I fold the leather on them, good side on good side as shown in figure 106B, and I pat it lightly with a hammer. I can see the bulges of the patted line on the flesh side of the leather.

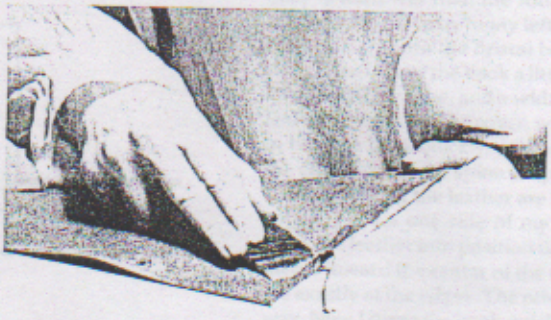
When the leather has been pared to the desired thickness, I sometimes sand coarse sandpaper over the whole pared surface to make sure that there are no uneven parts left. When everything is smooth, the leather for the turn-ins has to be pared down, falling away from the bulging lines to the edges, where the leather has to be as thin as possible. The shaded part in Figure 106C shows the parts that have to be pared down. The little part at the head and tail of the spine, which must have the height of the turn-in for the headcap, must be made so thin that when it is turned in, the two layers of leather will have the same thickness as one layer on the other part of the spine between the two headcaps. I check this particular part often during my paring. To do that I turn the leather in on its fold and run my fingers over it to make sure that it is even and thin enough.

COVERING THE BOOK WITH LEATHER

Before I start my work, I put a clean piece of paper on a hard surface, preferably the limestone. Then I lay my pared leather on it, good side up, and soak it with water, using a sponge. The water darkens the leather, and I can therefore easily see if the water has been absorbed evenly. Then I turn my leather over and spread paste freely with a brush onto the flesh side. This I repeat several times after intervals of a few minutes to make sure that the paste, with the help of the water from the good side, has penetrated all the leather completely. After it has dried on the book, the paste will make the leather strong and hard and so ensure it a long life. Gilding will also be easier. The leather on a book that has been covered with glue or PVA reacts like a cushion because the leather fibers have not been penetrated as with paste, and the gold embossing may even "stand up," which means it may come off.

paring knives

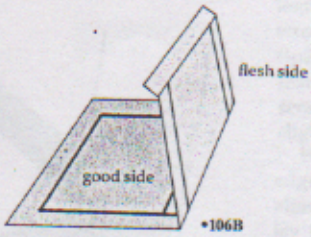
•104



•105

good side

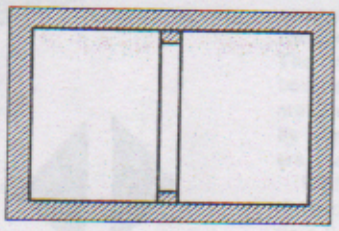
•106A



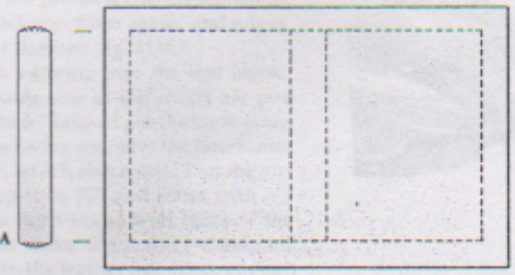
flesh side

good side

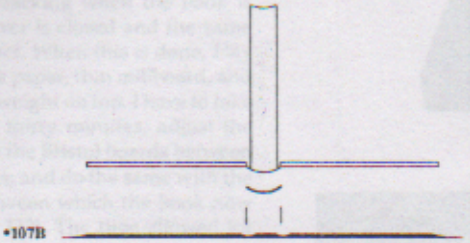
•106B



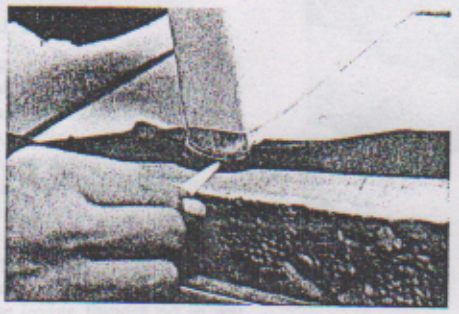
•106C



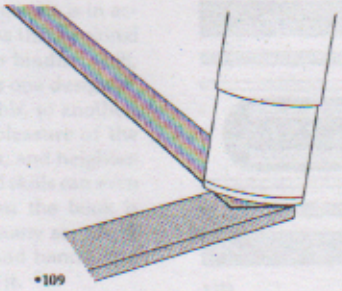
•107A



•107B



•108



•109

•110

When I am sure that the paste has fully penetrated the leather, I cover it one more time to moisten the now thick layers of paste and then scrape everything off with a piece of millboard. I must be careful not to stretch the leather too much while doing this. Then I brush new paste thinly over the leather for the covering. This is the moment to place the Bristol board inlay between the lines of the spine, the scratched and rubbed side of the Bristol board inlay on the leather, taking special care that the parts for the headcaps are in their right positions (figs. 107A, B). At this time I also apply a little paste along both sides on the spine, where the inlay is narrower than the rounded back. Then, taking the leather with the inlay in my left hand I place the spine of the book quickly onto the Bristol board inlay in its correct position. Then I move the book a little to the right and then to the left side of the spine, and a width of about 10 to 15 mm of the leather will stick to the cover, which makes it possible for me to turn the book quickly, without the leather falling off onto the stone so that the spine is uppermost.

Both sides of the leather are now hanging down over the covers. I place one side of my book on the limestone and work the leather into position using both hands, with movements toward the center of the cover, until the marked lines are exactly at the edges. The other side is treated in the same way. Now I press the book quickly between some white, soft paper and the pressing boards in a standing press to make sure that the leather does not move from its position during the subsequent work.

Immediately after the pressing, the leather at the edges has to be turned in. I hold the book with the spine facing me and turn the leather in along the fore-edge of both sides of the cover. Then, with my bone folder I press the turned-in leather firmly onto the inner surface of the cover, which is lying on the stone. The turn-in has to be flat and even.

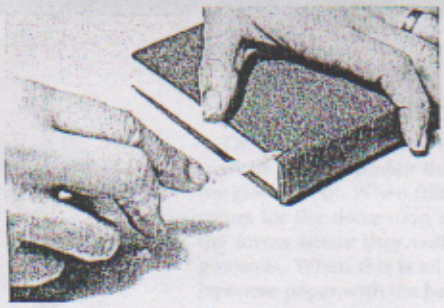
When both fore-edges are turned in, I place the covers and spine of the book, text block erect on the limestone. Then I turn the turn-in of the top edge leather inward, first with my fingers along the edges of the covers; and then with a fine bone folder I push the turn-in at the head between the Bristol board inlay and the spine (fig. 108). The tail is, of course, done in the same way. I have to make sure that the leather over all of the edges is absolutely tight. I therefore strongly press it down one more time with my bone folder. Special care has to be taken at the "half-moon" of the now leather-covered inlay at the head and tail. There, the scratched line on the Bristol board inlay has now turned slightly inward with the leather.

When this is done, I close my book and stand it on its fore-edges on the stone. Then I press the leather with my fingers along the spine so that it is absolutely tight and fast. Next I lay the book down again, leaving one cover lying on the stone, but lifting the text block and the upper cover high enough to cut the overlapping leather from the turn-in at the corners with my paring knife, as shown in figure 109. The cut triangles (fig. 110) I paste onto a piece of millboard because I will need them later. The cut corners of the leather are now joined, first by manipulation with my fingers, then by using a bone folder. After having done this on both covers, the book is closed.

With my finest bone folder, I now press the leather into the back-cornerings of the covers as shown in figure 111A. I tie a thread around the spine and position it in the back-cornerings (fig. 111B). This helps to keep the leather over the spine in position when I check the turn-ins on the inside of the covers.

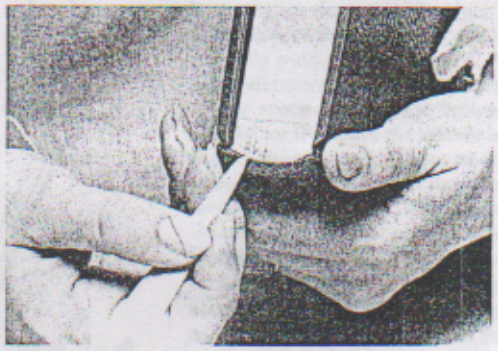
The book is now put standing, head down on the limestone, where I can check to see that the spine is absolutely straight and that the headcap finishes at the same level as the edges of the covers. The same process is carried out on the tail. When I am satisfied, the thread is cut, the leather in the back-cornerings is pressed into them again, and edges and headcaps are shaped and checked (fig. 111C).

To prevent moisture from entering into the text block, pieces of Bristol board the same size as the covers are put between them and the text block. Before I put the book away to let it dry, I place it, its spine facing me, onto the limestone, open the upper cover to 180°, which also means that the angle at the hinge along the spine is 90°, and press with my thumbs and bone folder the turn-ins at both sides of the headcaps into the hinge, to make the leather absolutely stick. This ensures, that when the leather has dried, enough of it has been allowed at the turn-ins over the hinges onto the covers to prevent it from cracking when the book is opened. With this done, the cover is closed and the same step repeated with the other cover. When this is done, I lay the book between sheets of white paper, thin millboard, and the pressing boards and place a weight on top. I have to take the book out again after about thirty minutes, adjust the headcaps if necessary, exchange the Bristol boards between covers and text block for dry ones, and do the same with the white paper and millboards between which the book now has to dry under a weight (fig. 112). The time allowed for drying is at least twenty-four hours.



•111A

•111B



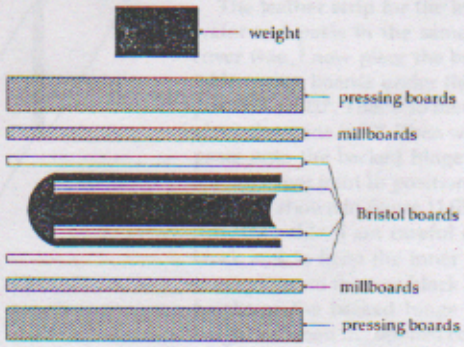
•111C

THE COVER DESIGN IN FULL SCALE

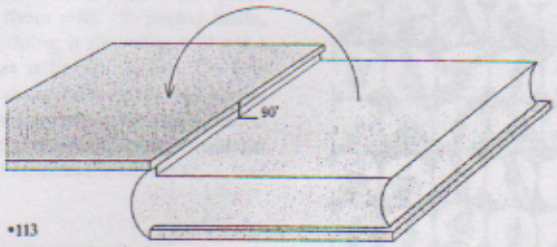
The time has come to begin work on a full-scale cover design because only now, after the book has been covered with leather, do I have the exact measurements. Before starting, however, I need to gather the following: white paper (in some cases cross-section paper), medium-thick Japanese paper, pencils, rulers, dividers, gilding tools—in short, everything that I need to execute my design both on paper and on the book.

The choice of colors on my rough sketch was an intuitive one. In colors and forms I can express the feelings I had while I read the book, and as the image lingers on in my mind, it is not difficult now to choose the colors from among the variety available. The message that the colors give off communicates to the reader, and he can sense what to expect from the text. The bibliophile will also have an intuitive feeling and understanding for the book design if it is in accord with the contents. The ability to express this personal experience of feelings, in combination with binding skill, makes up the reason a book collector prefers one designer-binder, whose feelings are compatible with his, to another. The cover design can increase the visual pleasure of the book, produce a positive psychological effect, and heighten the desire to read it; and the binder's technical skills can even provide a degree of sensual pleasure when the book is touched. A bibliophile binding can please many senses. It gives something to the heart, mind, eyes, and hands, and even its smell can enhance the joy of owning it.

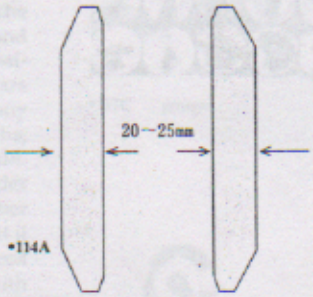
When all the equipment I need to execute the design is on my table, I start with marking the exact size of the front cover, spine, and back cover on a sheet of white paper. If my design will be a pastiche or a geometrical one, I prefer to use cross-section paper, where I can easily determine the exact positions for pallets, gouges, and decorative tools. But the outline of a free design will also be tooled in most of my books, either in gold or in blind, and in cases with many lines tooled tightly, cross-section paper is useful.



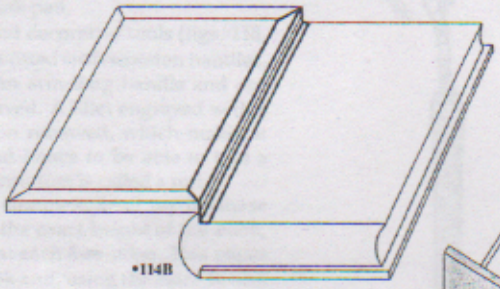
•112



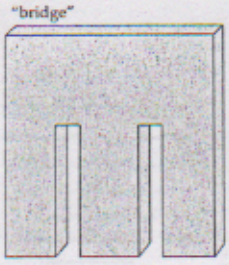
•113



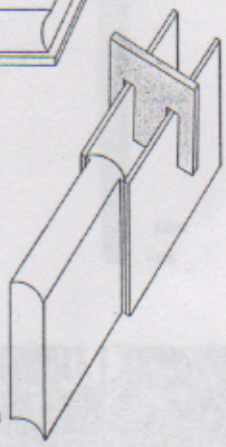
•114A



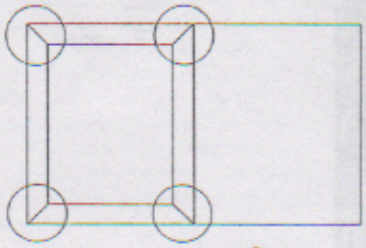
•114B



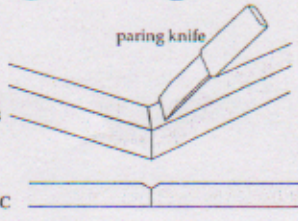
•115A



•115B



•116A



•116B

•116C

On my pencil drawing for the design, each line has to be marked with a number that corresponds to the number of my gilding tool. When this is finished I number the leather colors for the decoration and write the same number into the forms where they will be pasted on later as the work proceeds. When this is all done, I transfer the design onto Japanese paper with the help of a light table.

REMOVING THE TEMPORARY SECTIONS

When the leather has dried I take the book out from under the weight. With a fine brush I apply water to all four back-cornerings to soften the leather and make it flexible. Then I open the book slowly. When it is half open, I moisten the four corners on the inside of the covers near the headcaps. Now I can open the book freely to a 180° angle, as shown in figure 113.

The next step is to move the capping over the fore-edges just enough to let the blind sections be pulled out. They now lie freely on the capping, which can be slipped back. The temporary sections are removed by cutting their thread and carefully pulling them upward. With my binder's knife I remove all traces of paste and paper in the joint of the spine.

The space now created between text block and cover is needed for the space the leather inner joint will require. The leather inner joint functions as an extra supporting link between the text block and the cover, to help the cords carry the weight of the book. The width of the leather strip for the inner joint depends on the size and weight of the book, as well as on the binder's personal taste. I often use decorated or leather endpapers, and I like to cut the leather joints about 20 to 25 mm wide. Their length is obviously the same as the height of the book. This exact length is first cut after the inner joint has been pared. The folded leather strip has to have the same thickness as the blind section. Then I cut the ends as shown in figure 114A. With a paring knife I must then pare all eight sides so that they gradually reduce to nothing at their perimeters.

The leather strip for the inner joint is then treated with water and paste in the same way that the leather for the cover was. I now place the book, open on one side, on the table, using boards under the opened cover to support its position at 180°. That also means that the angle of the hinge along the spine is 90°. Then with a fine brush, I apply a little paste onto the backed hinge of the text block. I place the leather inner joint in position and work it in with my bone folder as shown in figure 114B. When I turn the book over to the other side, I am careful not to move the cover or text block and to keep the inner joint in its place. Therefore I must put onto the text block a piece of millboard the same height as the backed hinge to equalize the difference in height between the opened cover and the text block.

I put a piece of millboard that stretches over both text and cover at their full width onto them and turn the book over so that I can open the other side of the book. When I open this cover, I must support its position of 180° by placing enough boards between both covers, which are now open. This way I have a steady cover and text block to work on, enabling me to paste the second leather inner joint in its position without moving the first one. When this is done, a piece of millboard is cut (fig. 115A) and put over the covers of the now standing book so that they can dry in the right position as shown in figure 115B.

After drying, the four corner mitres of the turn-in have to be done nicely so that they also will show a 45° angle where they meet (fig. 116A). To do this, with my paring knife I cut a narrow V-shaped groove out of the turn-in leather, as shown in figures 116B, C. After that I cut a similar leather

groove, just a fraction wider, out of the leather triangles that I had previously pasted on the millboard, as shown in figure 110. I now apply a little water to the groove in the turn-in and some paste on the little leather pieces that I have cut from the triangles and place them over the grooves. I press them into the space made for them with my paring knife, using my bone folder, and by doing it this way, will get a beautiful, flat corner mitre that is hardly visible. On this type of corner, gilding can be easily accommodated. If the leather turn-ins at the corners of the covers were only folded inward, wrinkles would appear, and a gold tooling could not cover the whole surface of the leather at the corners.

THE EXECUTION OF THE COVER DESIGN

Before starting the execution of my cover design on the book, I have to prepare all the necessary instruments and tools and make them readily accessible. I will need the pallets (figs. 117A, B) and the gouges (figs. 117C, D). These are brass tools fitted into wooden handles that can follow any drawn line. The lines of the pallets have different lengths; the gouges are sections from circles with different radii. Each is engraved with a number to make it easy for the gilder to quickly identify the tool that corresponds to the number on the original design. To see if a tool is appropriate, I put it over the particular part of my design; when I am convinced that it is right, I make an impression over my pencil line with the tool after pressing it on an ink pad.

Fillets, decorative pallets, and decorative tools (figs. 118, 119A, B, 120) are also brass tools fitted with wooden handles. The fillet is a wheel that has an arm-long handle and can have one or several lines engraved. A fillet engraved with a line or lines often has a section removed, which makes it easy to stop at the corners and hence to be able to tool a perfect mitre. A wheel with decoration is called a roll.

When the preparations are complete, I cut my Japanese paper with the design on it to the exact height of the book, leaving it about 50 mm longer at each fore-edge. This paper will then be placed over the book and, using the extra 50 mm width, fixed with tape on the inside of the cover where the paper has been turned in.

•117A

pallets

•117B

•117C gouges

•117D

fillet

•118

decorative pallet

•119A

•119B decorative pallets

•120 decorative tools