

## Sewn styles

*At long last, and following much procrastination, the Sewn styles section is now finished. Enjoy!*

This section covers a number of very different styles:

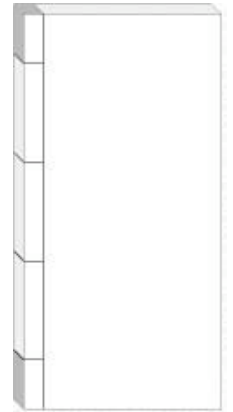
- pouchbooks,
- ledgers and
- multi-section

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### Yotsume toji

Pouch books are so called because their pages, folded at the fore edge and sewn at the back edge, form pouches, but their Japanese name translates simply as 'four hole'. Most Japanese pouch books are four hole (Chinese style) or five hole (Korean style) bindings, each nation traditionally holding even or odd numbers respectively to be especially propitious.

The two styles existed side by side in Japan during the Edo period, and were commonly used for cheap novels and romances. The first style to be examined is the basic four-hole pouch book; several variations of the stitching procedure will be examined in subsequent sections, but the basic construction of the book is the same for all the variants.



Since it comprises quite a large group of books, and it is more complex than the previous books discussed, the structure of the *yotsume toji* will be described in some detail.

#### Structure

The sheets of paper to be bound are folded in half text side out, and knocked-up at the fore edge.

The *nakatoji* (inner binding) is then applied - this is a technique unique to Japanese binding which is used to hold the book together while subsequent operations take place, and will support the book if the binding proper should fail. Western papers, because of their rigidity and hardness, are not ideally suited to this purpose; wherever possible, softer Japanese papers, with their great strength, should be used.



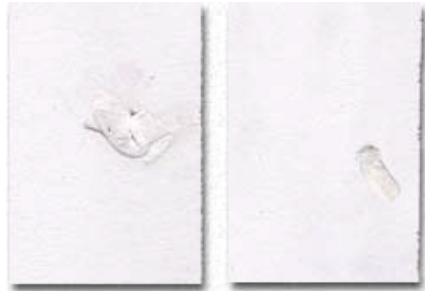
Inner binding of knotted paper

The inner binding is effected by punching or drilling two pairs of holes at such a distance from the back edge that they will not interfere with the binding proper; a 'string' of twisted paper is

then passed through each pair of holes, tied in a square knot then hammered firmly with a mallet. This non-adhesive binding is surprisingly secure, and will keep the pages safely aligned during the later stages of binding.

A variant of the inner binding is known as the monk's binding. In this method only two inner binding holes are punched; a much shorter paper 'string' is passed through each hole, unravelled each side and hammered flat with a mallet.

The monk's binding is much less conspicuous than the usual inner binding; however, it is a little less secure so sometimes a smear of glue is applied to the flattened 'string'.



**Monk's binding -**  
photos above show the binding from both sides

When the pages are secured by the inner binding, the corner-pieces (kadogire) are applied. Each corner-piece consists of a scrap of paper or paper-backed cloth glued around the spine and across the top and bottom of the book in the area which will not open due to the sewing.



*Kadogire*

While it is attractive and lends authority to a book, the corner piece appears to be a mainly decorative device. Rather than contributing to the structure of the book it can render it more liable to damage by preventing the circulation of air between the pages and, if vegetable-based glues have been used, encourages attack by insects. It does, however, serve to prevent the back corners of the book becoming dog-eared.

The next stage is the attachment of the covers. These are of paper and are initially fixed lightly to the book by two sparing dabs of glue on the outer pages; the edges are then scored and folded down to the same size as the book. It is important that the back edge fold is sufficiently narrow so as not to interfere with the stitching, and that the folds are made in the correct order: back edge first, followed by the head and foot edges, and the fore edge last of all. Failure to follow this folding order may cause problems when the excess paper at the corners is trimmed away with scissors. The fore edge flaps are glued and attached to the outer pages at the front and back of the book.

Finally, the book can be punched and sewn. The sewing is a simple process, and the order of sewing can be clearly seen by reference to the diagram. The thread enters

the book not directly through one of the sewing holes but from the back of the book, between the pages at the spine; it then exits through the sewing hole (usually the second from bottom) and passes round the back of the book, through the sewing hole again and on to the next hole. When the thread finally arrives back at the starting hole it is tied off to itself then passed back through the hole exiting, as it entered, between the pages at the spine. The threads are then trimmed and the ends glued between the pages through which they pass, thus concealing and securing them. Although the thread is firmly anchored to itself at the exit point, at the entry point it is only lightly glued to the book.

A more secure solution is the Westernised one I was shown when I first bound a pouch book: the sewing is treated basically in the same way as a pamphlet binding, the two ends of the thread being knotted together as they leave the book. If the trimmed ends are then passed back through the sewing hole and out between the pages at the spine, this method is virtually indistinguishable from the traditional, less secure method. Or, if desired, the threads may be left long and treated as a decorative element.

This modified fastening of the sewing thread was used with the following of the books shown: four-hole with Chinese-style cover; four-hole with pouch cover; four-hole with single-thickness pages; a variant of this method was used for the tortoiseshell binding, since the threads could not be arranged to start and end conveniently for the basic modified method described above.

The final step in a traditional binding is to glue the titlestrip (*daisen*) in place. The titlestrip is usually 30-33mm wide (depending on the size of the book) and at least two-thirds the height of the book. It is usually attached about 3mm from the head- and fore-edges, although for some styles (eg *Yamato toji*) the traditional position is 3mm from the head but centrally between the spine and fore-edge. Since the sample books accompanying this dissertation are blank, the only indication of front or back is the titlestrip. All the sample books have been bound to suit Western readers: the front of the book is such that in reading the pages would be turned from right to left, rather than in the Japanese manner. However, it is possible to simulate the Japanese *Ôreversed* style of layout, even including the vertical-running text, without compromising legibility. The author is currently in process of producing a book in this format.



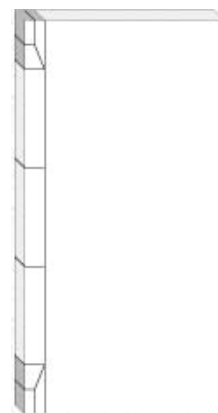
Central title-strip applied to an



Offset title-strip applied to a

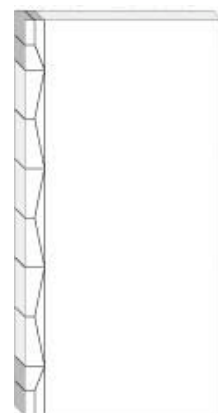
## Kangxi

This variant of the basic *yotsume toji* was reputedly invented by the Qing dynasty emperor Kangxi, after whom it is named. It is also known as *koki toji*, the noble binding. It is constructed in exactly the same way as the basic four-hole pouchbook except for two extra holes near the corners. Apart from their decorative value, these extra stitching points give increased support at the corners, so this binding is frequently used for larger or fancier books.



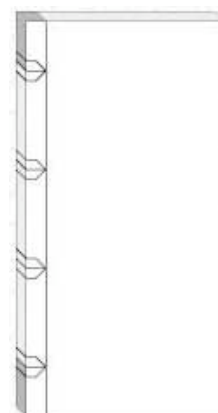
## Asa-no-ha toji

This style, hempleaf, is a development of the *Kangxi*. The basic structure is exactly the same, but the stitching pattern is much more elaborate which, apart from giving a more decorative effect, also offers a stronger binding due to the greater number of sewing points.



## Kikko toji

This style, tortoiseshell, is a variant of the basic *yotsume toji*. It offers similar advantages as the *asa-no-ha toji* but without the extra corner stitching.



## Chinese style

This is yet another variant of the basic *yotsume toji*, although it differs in a number of important respects. The stitching pattern is the basic four-hole method, but the two centre holes are positioned closer together than in the Japanese style, thus offering greater reinforcement to Chinese-style books which tend to be longer

and narrower than Japanese books.

It is unusual for corner-pieces to be applied to Chinese-style four-hole books, but in later years (Meiji era) Kangxi-style stitching was sometimes applied to the corners.

The cover structure differs from its Japanese counterpart in that the cover is trimmed flush at all except the fore-edge. This gives an easier opening action. It is not usual for Chinese books to bear title-strips.

### **Summary**

The exposed stitching offers many decorative possibilities. It appears that the variations in sewing styles are mostly cosmetic, although some styles do provide more support to the pages than others.

The Japanese cover does not open as nicely as the Chinese or the pouch covers, the folded-in flaps at the head and foot preventing the cover curving smoothly. As an experiment, samples of four-hole books have been produced with modified covers; for example, a pouch-style cover has been used on a basic *yotsume toji* structure - the cover has exactly the same structure as the pages but is of a different paper. These sample variants are supplied to accompany this dissertation.

### **Applications**

As with many of the bookforms described previously, the four-hole book sits comfortably in the hand but will not lie open on a flat surface. Instead of being seen as a disadvantage, this might perhaps be thought of as an organic quality, joining the book to the reader's body during the reading experience.

Access to the gutter is very limited, so this book form is of little use where the printed matter runs across or into this area. Four-hole books with single (ie non-pouch) pages are very useful as notebooks; the form may be used as a binding for, for example, theses and reports, making a pleasant change from slip-in binding bars and plastic comb bindings.

A very common use of the four-hole style is as a photograph album. Instead of soft covers a hard cover, hinged on or near the stitching line, is used. The pages (single thickness, not pouch-form) are usually guarded by folding over the spine-edges to give a double thickness of paper within the sewn area only, allowing the book to accommodate the extra thickness of the photographs. Any of the sewing styles described here may be used, although the differences are mainly cosmetic. Frequently a thick, decorative cord with tasselled ends is used for this application.

Children's rag books, with their fabric pouch pages, are clearly a form of pouch book. Although usually sewn with a single or multiple lines of machine stitching, their structure and appearance is closely based on the four-hole binding, (see figure 14).

Printed pouch-books may easily be produced using a home computer. Once again, there will be no imposition problems, subject to the small modification of the basic method which is explained in **Appendix II: Imposition**. The pouch structure of the pages is sometimes useful to the book artist - **RSKM No 9**, by the author, utilises the pouch form to contain and conceal the text. The book of application forms for the University of Brighton 1996 Book Art Competition was produced with pouch

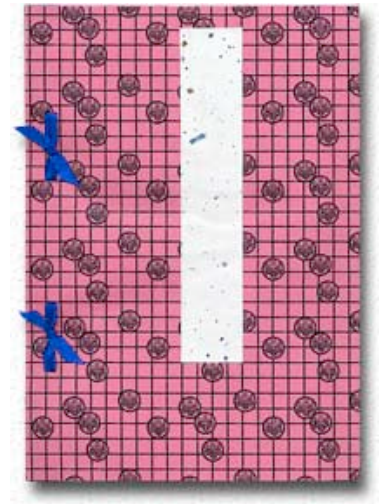
pages, printed both on the outside and inside surfaces to increase the density of information.

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## Yamato toji

The structure of the pages of the *Yamato toji* are in many respects similar to the basic *yotsume toji* - pouch pages, corner pieces (longer than usual, to give strength to the otherwise unsupported corners), inner binding - but the method of stitching is different.

The pages are stitched through the side at two points, using flat cord or sometimes paper folded into a narrow strip, and tied in a square knot. Western papers, due to their hardness, are generally unsuitable for this; if a Japanese paper is not available, a fabric cord should probably be used. If a cord is used for binding, the sewing holes may be circular instead of the traditional slits, allowing a punch or paper drill to be used, but if paper strips are used the sewing holes really should be slits. If the book is not too thick, a woodworking chisel can be used, but for thicker books producing neat slits presents more of a problem. The slits cannot be punched in thin sections of the book since the inner binding is already in place. It might be possible to punch the slits in sections of the books before the inner binding is made; the sections could then be carefully aligned (perhaps by passing rigid strips through the slits) and secured while the inner binding holes are drilled.



*Yamato toji* binding

The cover is usually brightly-patterned paper, which may be folded-in on all four sides, or trimmed flush at all but the fore-edge, Chinese style.

### Applications

The *Yamato toji* is still in use in Japan as a guest register at weddings and other celebrations. This style of binding is so simple that it could easily be accomplished by very young children for use as a scrapbook, note- or sketch-book. Ledgers, accountbooks and receiptbooks Japanese ledgers, account books, receipt books etc. are traditionally bound not by bookbinders but by professional ledger binders.

Unusually for Japanese books, not all Japanese ledgers have double-thickness pages, thus making them more suitable for Western use without adaptation.

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## Flat cord bound

The flat cord bound ledger is basically a single-section pamphlet book except that flat, decorative cord is used in place of bookbinders' thread, and the knot is tied



on the outside of the spine. A colourful, decorative paper is usually used for the covers.



Flat cord bound binding

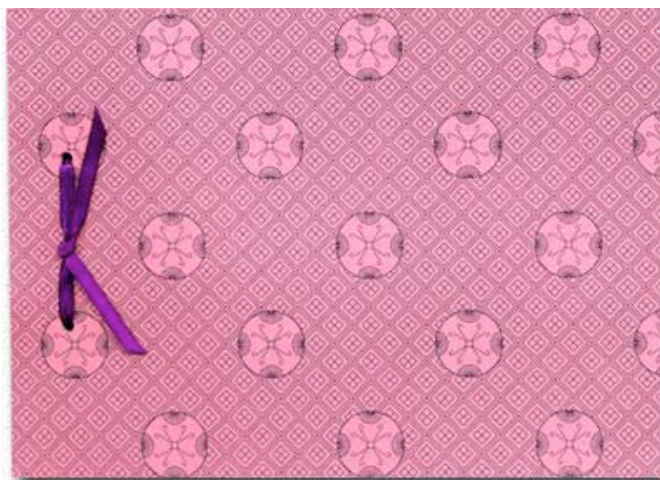
### Applications

The flat cord bound ledger is an extremely easy style to bind - even young children could produce attractive books in this form. Such books would be useful as memo pads, sketchbooks, scrapbooks etc.

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## Yamato

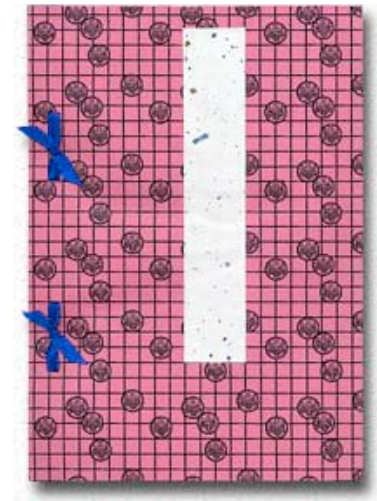
Like the flat cord bound ledger described above, the *Yamato* binding is composed of single-thickness pages, although in the case of the *Yamato* the pages are completely separate, not folded at the spine. Once again, the sewing material is flat, decorative cord, although strips of paper are also sometimes used. An inner binding is applied to support the book during subsequent binding operations.



*Yamato ledger* binding

The decorative cord is threaded through sewing holes pierced 12mm from the spine and at one and two thirds the height of the book, tied in a square knot and beaten with a mallet to make it secure.

In a variant of the this binding, *Yamato toji*, the book is sewn at two points. In this case, the pages are of pouch form, similar to the *yotsume toji* bindings and variants described above. The flat, decorative cords are threaded through sewing holes pierced 12mm from the spine, each tied in a square knot and beaten with a mallet to make secure. In this form it is popular in Japan as a guest register at weddings and other celebrations.



*Yamato toji* binding

### Applications

The *Yamato* binding is a very easy style to bind, and would make a simple but decorative notebook or diary. Its failure to open flat might limit its use as a sketchbook.

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## Three hole

This small ledger is sewn exactly the same as the *yotsume toji* bindings described above, but with three sewing holes instead of four. An inner binding is applied, but corner pieces, probably because of the book's small size, are not used. Unusually for a Japanese book, the pages are of single thickness, not double.

### Applications

The three-hole ledger is more difficult to make than the flat cord and *Yamato* styles described above, although its more elaborate stitching results in a more secure structure. It would make a simple but decorative notebook or diary, but again its failure to open flat might limit its use as a sketchbook.

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## Daifuko cho

The *Daifuko cho* ledger is rarely seen in modern Japan. In the Edo period it was very popular as a travel diary and as a guest register at inns, but most commonly as a merchants' account book. *Daifuko* means Ôgreat fortuneÕ, the characters for which merchants would often inscribe on the cover in the hope of encouraging the same in their business.







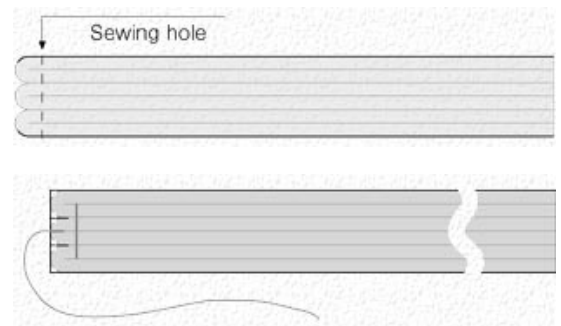
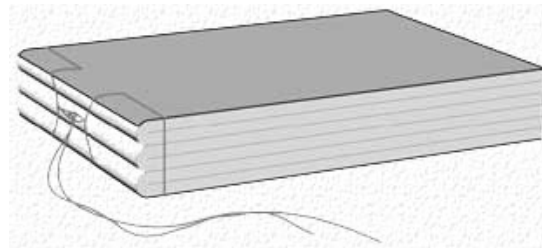
*Daifuko cho* ledger spine showing the structure



*Daifuko cho* ledger

### Structure

The construction of this book is very straightforward. The paper from which the pages are to be constructed is folded in half lengthwise, then in half again in the opposite direction. The folded pages are then stacked inside each other like the sections of a Western book, to make three sections, each of about 15 sheets.



Two sheets of laminated paper or thin pasteboard are cut to the same size as the folded pages to form the covers. Two holes are punched through the stacked pages and covers, at equal thirds of the height of the book and some 15 or 20mm from the spine. A length of hemp cord is threaded through the upper hole, passed round the head then threaded back through the hole and tied to itself around the spine; this procedure is repeated with another length of hemp through the lower hole. The four tails of hemp are then tied together along the spine, then separated into individual fibres to make a tassel or twisted together to make a single cord - traditionally, all of a merchant's account books would be tied together for security using these cords.

### Applications

The *daifuko cho* ledger is extremely useful as a notebook, sketchbook or diary - the author has used one for several years as a dream diary. Because of the side-stitching method, *daifuko cho* ledgers will not open flat; this might limit its usefulness as a sketchbook although it is traditionally often used as such.

The pages of this book are of double thickness, formed by folding the paper in half

then in half again in the opposite direction. This means that one of these folds must be made against the natural grain of the paper. Traditional Japanese paper, like all hand-made papers, has no grain direction, so this would not have been a problem in the past; most modern papers, however, being machine-made, exhibit a greater flexibility and foldability in one direction (with the grain) than the other (against the grain).

Given a choice, books are always bound with the grain direction parallel to the spine, so that the pages turn easily and the structure is as durable as possible. If the *daifuko cho* is bound in this way, however, the pages will not turn easily because they will exhibit a resistance to curl because of the crease running along the foot of each double page (the folds are always placed at the foot of the book to facilitate page-turning from the bottom edge of the page).

To minimise this problem, the sample book accompanying this dissertation was bound using a paper which does not exhibit a very pronounced grain direction. The grain direction in the sample book is parallel to the spine - this gave a marginally easier turning action than a grain direction parallel to the foot of the page.

If a book was being produced for use in the West, it would probably be made with single-thickness pages; not only would the pages turn more easily, twice the usable number of pages would be available for a given thickness of book. In Japan, *daifuko cho* are not unknown in this format, being bound in the double-page manner then trimmed at head, foot and fore edges. Trimming of the foot of course removes the folds of the doubled pages. A *daifuko cho* modified in this way is supplied to accompany this dissertation.

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## Hantori cho

The *hantori cho* receipt book is sometimes known as the 'Shokusanjin receipt book' after Ota Shokusanjin, a late-18th century comedian who is known to have used a book of this type.

### Structure

In appearance, the *hantori cho* is very similar to the *daifuko cho*, although its construction is rather more complex. The paper from which the pages are to be made is folded in half crosswise and stacked in three sections as before, about 10 sheets to each section.





*Hantori cho* ledger spine showing the structure



*Hantori cho* ledger

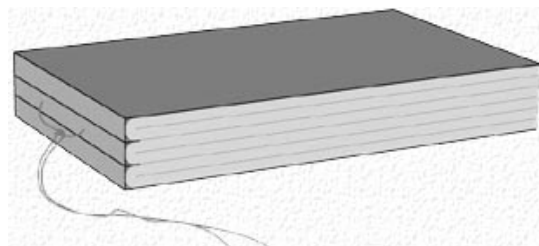
A strip of the cover material (thin pasteboard or laminated paper) with a width of 30mm + the thickness of the section and the same length as the height of the book, is glued over the spine of the centre section. The spine is then pierced with two sewing holes spaced rather more widely than equal thirds of the height of the book.



A length of hemp cord is threaded into one hole and back out through the other, so that the tails are on the outside of the section. The cover material is attached to the outer sections: the covers should be the height of the book, and the length the same as the width of the book + the thickness of the section + 15mm. The excess length of the covers should be folded round the section, and attached to it with a little paste.

The middle section is then closed, the two outer sections opened up, and all three sections - the open front section, the closed middle section and the open back section - are all stacked as shown:

Two pairs of holes are punched through all three sections, about 3mm to the left of the spine, and all three sections are sewn together using short lengths of hemp cord tied in a square knot and trimmed. The outer sections are then closed and the two tails of the cord passing through the centre section tied together and twisted into a rope or separated into a tassel.



## Applications

Due to its unusual compound structure, the *hantori cho* ledger book handles somewhat awkwardly in that the outer sections, being effectively pamphlet-sewn, can be fully opened while the inner section, being side-stitched, offers more restricted opening. While useful as a notebook or diary, its usefulness as a sketchbook is somewhat limited by the fact that not all of the sections can be fully opened.

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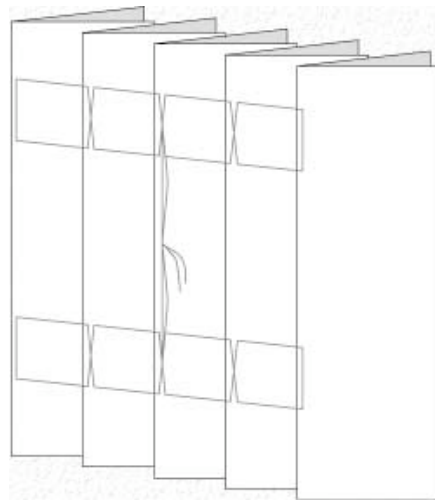
## Retchoso

Most Japanese bookforms have Chinese counterparts, but the *retchoso* multisection book is uniquely Japanese. Its basic structure is similar in some respects to a Western multisection book, although the sewing method is very different, and unlike Western books the spine is unenclosed. Unusually for a Japanese binding, the pages are single thickness.

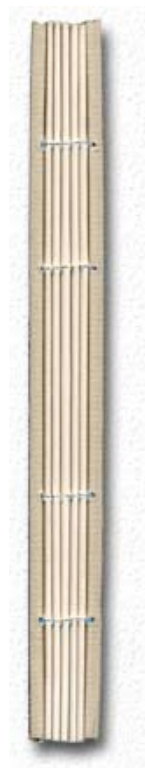
The *retchoso* was developed during the Heian period, and was generally used for Japanese writing: Noh chants, poetry and stories. It does not appear to have been used for Chinese or Buddhist texts.

### Structure

Pages are folded into sections and perforated for sewing. Unlike a Western multisection book, the *retchoso* is stitched not through holes in the sections but through small, lateral slits; this has the effect of allowing the book to open even more easily than its Western counterpart, and the *retchoso* will easily lie flat when open.



*Retchoso* sewing scheme



*Retchoso* spine showing the structure

The stitching procedure is too complex to describe here in detail, but examination of the diagram above should clarify the process. Sewing takes place through four pairs of slits, two near the head, two near the foot, but in two separate trails - one through the upper pair of slots, the other through the lower pair. Sewing commences at the centre section and the thread passes through intermediate sections to the back section. The thread then crosses its previous trail as it proceeds back to the centre section and thence to the front section, finally returning to the centre section where it is tied off. This is repeated with the lower pairs of slits. All four threads are finally tied together at the centre section.

In the completed book, the exposed stitching is similar in appearance to the archaic coptic binding style. The two threads each pass right through the book, without being tied-off between sections, for which reason it is quite difficult to maintain tension in the thread; the judicious use of masking tape can be quite helpful. When the threads are tied together at the centre, first each thread is tied to itself; then both pairs of ends are tied together; finally the original pairs of threads are tied together once again. Even when quite thin thread has been used, this process of repeated knotting, although very secure, does result in a somewhat unwieldy bundle of thread at the centre of the middle section.

The cover is traditionally soft, and it is in this form that the accompanying sample has been bound, but the structure lends itself well to hard covers, which is form the author usually uses.

### **Applications**

The *retchoso* is unusual among Japanese bindings in that it will lie open on a flat surface. It offers good access to the gutters, and is useful as a diary, notebook or sketchbook; however, since the pages are single thickness and are assembled in sections, producing printed *retchoso* books using a home computer presents exactly the same difficulties as producing a Western section-based book. The author has discovered no intrinsic advantages of the *retchoso* binding. However, it would be possible for any Western section-bound book to be re-bound in a traditional Japanese style, which might be an appropriate way of rebinding, say, a translation of a Japanese novel. The author is working on such a project at present.

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