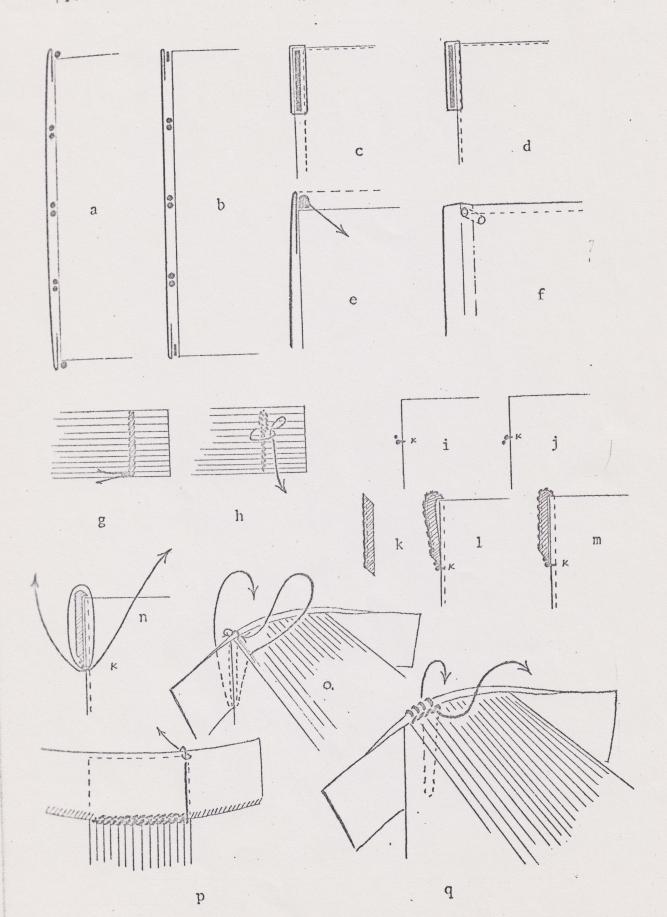
The "end of spine band" was an idea which developed out of studying several 14th and 15th century bindings, where long stitching at either end of spine served the dual purpose of sewing gatherings together and retaining a limp cover around them. (Plate 63864). Sometimes wood, hide or a band of other material is placed between these long stitches (formed similarly to endband tie-downs) and the covering material or between cover and spine folds of text-block (Figure 23,c&d). Such non adhesive spine techniques were very common particularly in archive binding and quite successful when used in binding a slender text-block directly to a limp vellum cover and without the use of semi or inflexible materials at spine. My main objection to it as a conservation rebinding method is the great difficulty one has in obtaining a smooth flow of the leaves from spine and the necessity of a tight sewing and after much handling, the separate gathering movement. Any way, studying of these types of bindings and experimenting myself gradually led me to the idea of filling-up the whole area between the kettle-stitch and the extremities of the spine with a wide whittawed band. (In the 15th and 16th centuries the distance between kettle stitch and head or tail edges is usually quite narrow.) I first called such bands "spine bands" but because this led to confusion I now use the rather unsatisfactory term "end of spine bands". I seem to remember there being three main reasons for wishing to experiment with this idea:

- 1. On some weightier volumes a desire to add more support, unobtrusively and a wish to obtain this without additional piercing of text-block spine folds.
- In theory and often in practice the silhouette of the spine area, seen from the side of book, curves³; this is because the thickness of the spine bands cause the cover to stand away from text-block spine folds. (Figure 23,a)⁴ But at the extremities of the spine the endband core lacings (if correctly angled) pull the cover close against the text-block. Therefore one has this gently curving silhouette down the length of spine (Figure 23,f) which occasionally creates a certain amount of distortion to the spine (sometimes audible as a "click" at spine fold and joint when flexing the sides) but as the cover relaxes around the spine of book, this effect usually disappears.

FIGURE 23



- The angle of lacing through endband cores from text-block edge, does not seem to me to be ideal, for often the action rather tends to curl the head and tail of the cover at the spine in towards the center and not simply closer to text-block. (See 2 above and (Figure 23e). A more shallow angle of lacing will not form such a good tacketting of cover near to spine so important for non-adhesive ends (See chapter on Covering).
- "squares" on limp and semi-limp vellums but this was not possible with the Medieval primary type sewing standing so firmly on the edge of the text-block, without weakening cover by having the spine lacing holes too close to head and tail edges (Figure 23f), note these holes are already close to a fold causing an added danger of weakness; (see Covering), a fault often showing in 16th and 17th century limp vellums by the vellum being broken between spine hole and edge.

So experiments with dummies followed, firstly by dropping endband cores onto the spine of text-block; as the thickness of these corresponded to the spine-bands, the spine silhouette of cover from sides would be left straight (Figure 23,b). I could not fathom a method of sewing these end of spine bands without making extra holes in spine folds of text-block; except by filling the whole area from the kettle to the ends of the spine (usually quite a short distance in Medieval bindings). The sewing can be incorporated with the sewing of sections on a frame in a single operation (Plate 65) or as a separate sewing similar in technique to normal endband sewing. Either way there are a variety of possible single sewings incorporating decorative thread work without *acrificing the basic structural purpose (Plate 64, 66-8) and of course the decorative possibilities become wider still if one incorporates a second sewing, say with colored silks; but I consider this to be out of the terms of this report and possibly out of the range of book conservation in general, being more in the realm of historical study or facsimile making.

As an example of spine endband construction I describe here a type sewn after the spine sewing, rounding and lining of the book, in fact at the time endbands would normally now be sewn. The book is finished with a built-up kettle hitch⁵ which creates a platform support to the long that and the whittawed band is cut out with bevel()s as shown in section Figure 23k and placed against text-block spine so that it tucks into built up kettle and protrudes

Tittle more than the distance of the bevel past ends pine (Figure 23,1). This latter distance can be udged only through experience of the qualities of the distance materials used at the time, in sewing some will bow out (Figure 23,1) another will simply fold over the edges of text-block (Figure 23,m), and yet a third will simply crumple up (if too soft).

Although the former makes a fine thick shape to the end of a covered spine (Plate 68c) and its bowing section have help in retaining a convex shape to the text-block is possible that these points contribute to a section of the book opening (although because of differences in skin it seems impossible to test this point).

Following is a description of a simple technique which I have used:

I start with a length of thread with blunted needles at either end, piercing under the kettle in second to end gathering, I pull thread through till I have equal lengths on either side then I bring the same needle right over and insert in the center of the end gathering (under the kettle); this creates a loop of thread into which I insert the "spine end band" in its place, then I pull tight (Figure 23,n). As, on this example, I wish to form a front bead, I must now take the other needle and pierce through the band on the inside of the thread and back through to front of band on other side of this thread (Figure 23, o & p& Plate 66) ready to form a lead. I then tie-down at each gathering (always under the kettle) with the first thread a desired number of times (Usually once or twice) then form a bead by bringing the second thread over and into the center of the gathering beyond; this is then wound around the desired number of gatherings and a bead formed by first thread and so on, across the text-block (Figure 23, q & Plate 67). If desired decorative hitch stitches can be formed in many ways, 5. 6 shows my use of a common Medieval decorative Pattern. The shaping of the spine endband onto the edge text-block adds a certain protection to it from the thread as well as a measure of protection to this area from general buffeting when volume is in service. There are, of course, a great variety of possibilities the shaping and prominance of such "end of spine bands", would like to see a series of carefully thought out comparison tests carried out.