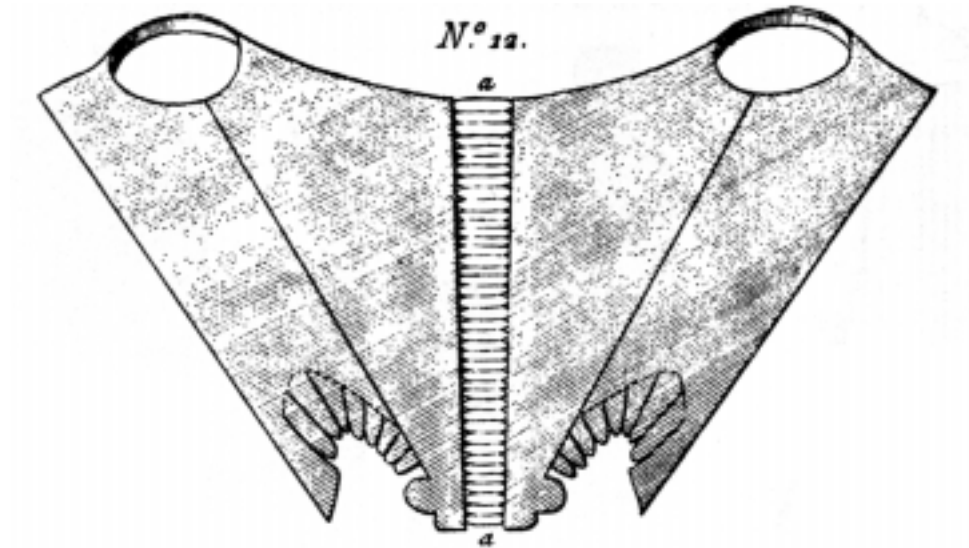


# Stays

Step By Step Instructions for  
the Easily Intimidated



by Mara Riley

*Dedicated to Drea Leed for getting me started with costume drafting, and to Kass McGann, who shares the obsession.*

## *Introduction*

Stays are one of the most basic components of period costume, yet many people find them quite intimidating to make and to wear -- the former because they seem complicated at first glance, the latter because many ready-made stays are uncomfortable, unless they happen by sheer luck to fit your body type.

A well-fitted set of middle-class 18th century stays should be snug, but should not be uncomfortable or greatly limit your movement. After all, most women in the 18th century had to do housework and farmwork, and did so wearing stays. Comparisons between upper-class stays and those of middle-class women show this difference -- the stays of women who lived a more active life have wider armscyes and are less likely to have widely-spaced straps to hold the shoulders back in an extreme posture. Stays should provide good back support, much like the modern back-braces worn by people whose jobs involve lifting. When you're lifting an iron pot off the fire, you may appreciate the additional support!

Another common misconception is that stays were 'underwear'. Well, not quite -- the best modern equivalent would be a sports bra. You might wear your sports bra around the house, doing laundry, mowing the lawn, and so on, but wouldn't dream of going to the grocery store or church without putting something over it. Women in the 18th century wore their stays in similar situations -- picking apples, doing laundry or other chores.

There were professional staymakers in the 18th century, and their work is more likely to have survived the centuries, because fancier clothing is often saved where the plain is used up and thrown out. However, some women apparently made their own stays at home, judging from a few surviving examples.

Given how few professional staymakers there are today, knowing how to design and fit your own stays is a good skill to have. You may even wind up making them for friends. In addition, you'll

learn the relationship between body measurements and the drafted pattern, and can use these skills to go further in learning to draft and drape period costumes.

Good luck, and happy sewing!

### *Materials Needed:*

Two sheets of regular posterboard

Linen or hemp canvas for interior of stays (7 oz. or heavier, tight weave)

Lightweight outer fabric -- linen or lightweight wool

Lightweight linen lining fabric

10 feet 1" wide linen tape (ribbon) or 1 sheet automotive chamois leather, cut into 1" strips

Boning: 3/16" or 1/4" half-oval basket caning, German plastic boning (mimics whalebone, can be obtained from suppliers listed in back), or steel boning (should be ordered after you have your pattern drawn up)

Carpenter's awl (available at hardware stores)

Architect's square (available at office supply stores)

Architect's ruler (available at office supply stores)

Cotton quilter's thread and/or linen thread

Beeswax, for waxing linen thread for handsewing

Pencil, needles, pins

Corset busk (a 12" wooden ruler or paint stick from the hardware store can work in a pinch)

## *Drafting the Basic Shape*

This portion of the stays instructions are borrowed with permission from Drea Leed's Elizabethan Corsetry web site (<http://www.dnaco.net/~aleed/corsets/corsetpage/index.html>), with modifications made for 18th c. corsets.

If you want to skip most of the calculations below done for you via computer, go here:

<http://www.dnaco.net/~aleed/corsets/custompat/index.html>

### Measurements:

Waist = \_\_\_\_\_ divided by 2 = \_\_\_\_\_

Bust = \_\_\_\_\_ minus 2 inches, divided by 2 = \_\_\_\_\_

Waist-to-underarm = \_\_\_\_\_

Front length of stays = \_\_\_\_\_

Bra cup size = \_\_\_\_\_

### Drafting the Top Line:

Using a piece of posterboard, mark as follows:

On the right edge of the cardboard, mark the front length measurement.

Along the top of the posterboard, mark the bust measurement (minus two inches, then divided in half). The reason for subtracting two inches is so that you will have a two inch gap when you lace the stays. If the edges of your stays meet, they won't be snug enough to give you a good fit.

Find the middle of the bust line. Measure two inches to the left, and measure down:

1 inch if you are a size A or B cup

2 inches if you are a size C cup

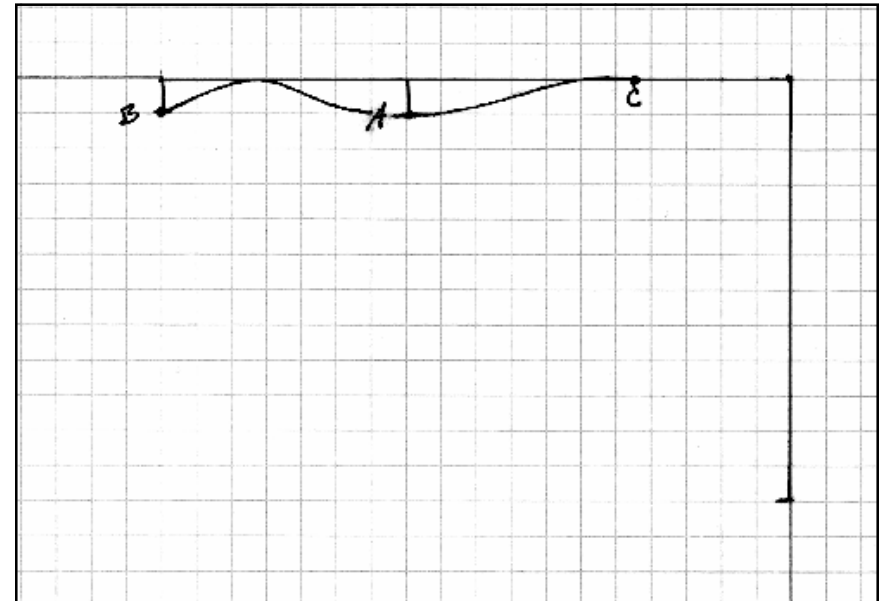
3 inches if you are a size D cup or larger

Mark this as Point A.

Take this same measurement of one, two or three inches, go to the left end of your horizontal bust line, and measure down from there the same number of inches. Label this Point B.

Measure from the center front 1/4 the length of the bust line, and mark this Point C.

Draw a gently curving line to connect points A, B and C. This is the top profile of your stays.



### Drafting the Waistline:

From Point A, measure down the length of your underarm-to-waist measurement. From this point, draw a horizontal line all the way across the paper.

Subtract two inches from your waist measurement, and divide it in half. This will give you the waistline length for your stays. Measure out this far to the left along the waistline, mark, and measure down one inch. Label this as Point D. Connect D and B to form the back center of your corset.

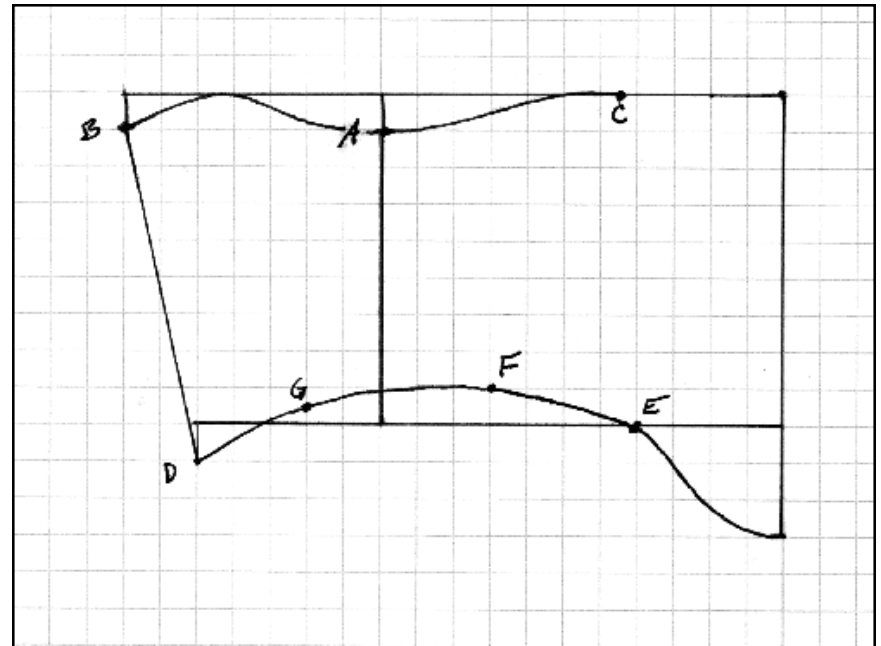
Divide the waistline in fourths. Measure over one fourth on the waistline, and mark this Point E. Measure over another fourth and up one inch; mark this as Point F. Measure over another fourth and up half an inch; mark this Point G.

Draw a curving line from the bottom front center of the corset to point G. Make sure the curve at the bottom is wide enough to fit the point of the busk.

Measure up from Point E one inch, and mark it. Draw a gentle curve from Points G, to this mark, back down to point F, and then from F to D. This finishes the body of the corset.

### Straps:

If you want a corset with straps, Measure in three inches from the back center, mark it, measure in one more inch, and draw a set of 10 inch long parallel lines perpendicular to the top curve.



### Fitting the Pattern:

Using this half-pattern, cut another matching piece of posterboard, tape it (using strong tape like duct tape or medical tape) together at the center front, and 'try it on' for fit. If you don't have a helper to tape it at the back, tape it at the center back with a 2" gap, then put it on, taping the center front together. Your stays should not close completely in the back; there should be a one to two inch gap, some of which will disappear when you lace the actual corset on.

Make sure that the underarm curves and hip curves are large enough so that they won't rub against your arms and hips. You may have to move the underarm/hip curve slightly to the front or back to get a perfect fit.

Fit your straps at this stage; most 18th c. stays with straps appear to have the straps tied at the front.

### Dividing the Pattern and Adding Tabs:

Most 18th c. stays had tabs at the bottom, which serve to keep the bottom edge of the stays from digging into your waist. If you wear your petticoats over your stays, the tabs also help keep the ties of your petticoats' waistbands from digging in. A good length for tabs is 2-1/2 inches. If you are boning your stays with half-oval basket caning, you need to fully bone the corset and plan on at least three but usually four or five boning channels per tab, which allows the boning to reinforce itself for strength. If you are boning your stays with steel or plastic boning, tab width is less critical and the tabs can be narrower.

It helps to have an architect's scale ruler (a three-sided ruler available at most office supply stores) to draw in the boning channel lines. One of the edges of the ruler has a scale marked for lines every 3/8" inch. This is the scale you use for drawing your boning channels for 3/16" or 1/4" half-oval basket caning or for 1/4" steel boning.

To draw the boning channels, start at the center back line, and, using an architect's square, draw two lines perpendicular to it. Along these lines, mark off four channels (five lines) at intervals of 3/8". The first channel will have boning in it; if you are using basket caning, you may want to insert a piece of steel boning in between the caning to reinforce the center back line. The second channel will have no boning; this is where your lacing eyelets go. The third and fourth channels will be boned.



Continue drawing in boning channels to match the style of corset appropriate for your period; you will need to figure out how to divide up the pattern into the appropriate pieces (see illustrations), up to four or five pieces per side. This keeps the fabric on the straight of the grain, and (in later styles) allows some curved shaping of the seams.

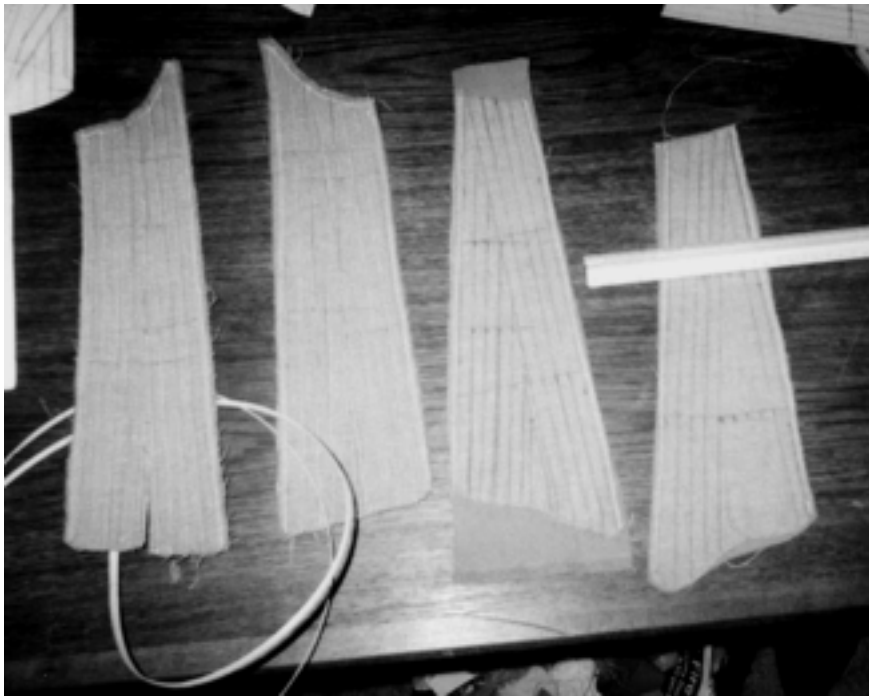
Once the boning channels are sketched in, divide the stays pattern up into the appropriate number of pieces, cut the pattern apart, re-trace the pieces onto another piece of posterboard, and add seam allowances at the edge of each piece where they'll be sewn together. You don't need to add seam allowances at the top and bottom of the pieces.

If you want stays that lace over a stomacher, you can leave the center front of the stays separate from the rest of the stays; add about one channel's width to the stomacher so that the edges of the stays and stomacher overlap when they're laced up.

## *Cutting Out, Sewing and Assembly*

Lay the pattern pieces on your heavyweight linen interior fabric (two layers) on the straight grain of the material. Trace around the posterboard with a pencil, marking the linen. Pin the two linen layers together, and cut out the individual pieces. Mark the boning channels onto the fabric, as you have them marked on your pattern.

Pin the interior linen pieces onto your outer fabric, on the straight grain of the material. Sew the pieces onto the outer fabric, including all the boning channels, using cotton quilter's thread. Sew the bottom of each piece closed; do not sew the top, or whichever end of the channel you will be inserting the boning into. You may need to adjust the tension of your sewing machine to accommodate all the layers; try this out on a scrap of fabric before starting sewing the stays.

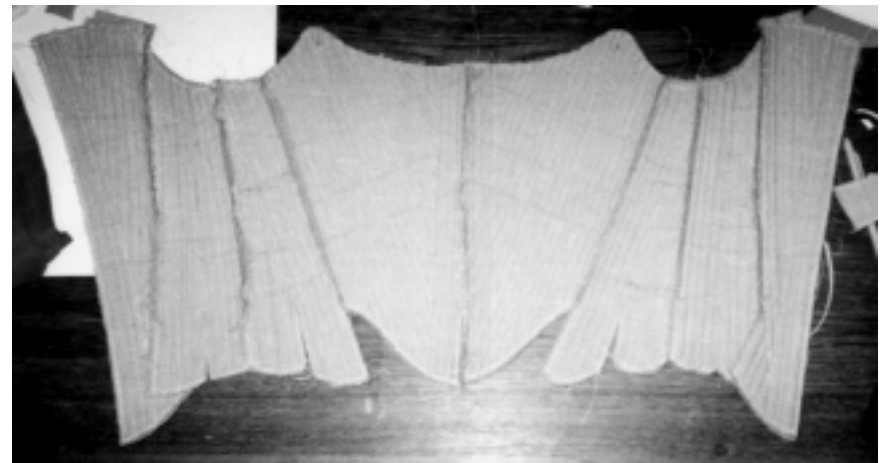


When the boning channels are all sewn, cut the pieces apart, then assemble the pieces of the corset and sew them together. Iron the seam allowances down. After you insert the boning, tack the seam allowances down with a whip-stitch.

*Alternate method:* some 18th c. stays may have had the boning sewn in channel by channel; if you want to do this, sew the first seam in each piece, insert a piece of boning, then sew next to the boning using a zipper foot. You can use either method if you are sewing by hand, using backstitch.

### Inserting the Boning:

If you are using steel boning, measure each boning channel and allow 1/4" at each end for 'wiggle room', then order your boning. If you are using half-oval basket caning, insert a piece of boning in the channel, mark the end of the channel with a pencil, pull the boning out of the channel a little bit and cut the boning about 1/4" short of the pencil line and push it back into the channel. Do the same with a second piece of caning, inserted flat-sides-together with the first piece. Move on to the next channel until you have all the boning inserted.



You can either sew the lining fabric (cut using the same pattern pieces) on at this point, or sew it on after you apply the binding. Lining fabric was often sewn on after the binding, so that it could be replaced as it wore out.

#### Applying the Binding:

This is possibly the most tedious and annoying part of making stays. To sew on the binding, pin it to the edge of the stays as shown in the picture -- edges lining up -- and sew. A zipper foot may help. Fold the binding over the edge and whip-stitch to the back of the stays.

Period method: Sewing the binding on by hand, use a running stitch to sew the binding to the front of the stays (i.e., to the front of each boning channel, not through all the layers) then fold the binding over the edge of the stay to the back, and whip-stitch. The leather binding becomes the 'cap' for the boning channel, holding the boning in. The tabs can be bound separately with wider strips of leather, so that the entire back of the tab is backed with leather.



If you are using strips of linen from the stays fabric, cut them on the straight of the grain, not the bias (bias strips date from the 19th century). You can also use the linen bookbinder's tape (ribbon) available from various 18th century sutlers (merchants).

Many 18th c. stays were bound in kidskin leather. This is hard to find today, but some sutlers carry it. An easily obtainable alternative is chamois leather, of the type carried in automotive stores for washing cars; cut this into 1" strips and use for binding. Dampen the leather before sewing it; this makes it easier for the needle to pass through. Also, you can use a leather needle (available at fabric stores), though you should be careful not to cut your fabric as you sew. A thimble or sailmaker's palm will be very helpful, as will a small strip of leather for grasping the needle and pulling it through.

It may be easier to sew the binding onto the bottom tabs by hand, if you can't get the sewing machine into the tight angles.



## *Recommended Reading*

Waugh, Norah, *Corsets and Crinolines*, Routledge/Theatre Arts Books, 1954

*Also see:*

Baumgarten, Linda, *Eighteenth Century Clothing at Williamsburg*

Baumgarten, Linda and John Watson with Florine Carr, *Costume*

*Close-Up: Clothing Construction and Pattern 1750-1790*

Burnston, Sharon Ann, *Fitting & Proper: 18th cCentury Clothing*

*from the Collection of the Chester County Historical Society*

Cunnington, C. Willett and Phillis, *The History of Underclothes*

Waugh, N., *The Cut of Women's Clothes*

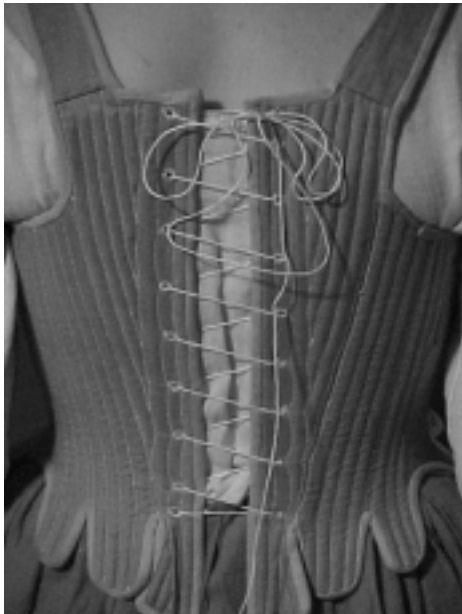
### Making the Eyelets:

To make the eyelets for lacing your stays, mark the holes so that the stays can be laced in a spiral pattern (see picture below). Space the holes about an inch and a half apart.

Take the carpenter's awl, or other similar object (some people use knitting needles) and poke it through all the layers of fabric. You want to push the fibers apart as much as possible, though some threads will break. Sew the resulting hole open using whip stitches -- about 15 to 20 stitches per eyelet should be fine. The hole should be big enough to get your lacing cord through.

Once your eyelets are in, take your lacing cord, seal the end (if you have a metal point of the right size, use that, but otherwise I use either wax, or fingernail polish), tie it off to the bottom of your stays, and lace them up. Allow enough extra cord to tie off at the top, trim, and seal the other end.

That's it!



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*The front of the stays on the opposite page, which lace over a stomacher, mid-18th century style*



## *Resources*

These are just a few of the sutlers, or merchants, who sell supplies for making stays:

*Burnley & Trowbridge Co.* ([www.burnleyandtrowbridge.com](http://www.burnleyandtrowbridge.com))  
108 Druid Drive  
Williamsburg, VA 23185  
757-253-1644  
Books, patterns, fabric, shoes, and more

*Farthingales* (<http://www.farthingales.on.ca/>)  
309 Lorne Avenue East  
RR #3, Stratford, Ontario  
CANADA N5A 6S4  
Toll Free FAX: 1-888-508-7337  
Phone: 1-519-275-2374

*Grann'd Garb* (<http://granndgarb.com/>)  
PMB #236  
555 Route 18 South  
East Brunswick, NJ 08816  
Fax: (732) 390-1694  
Boning, lacing cord, linen

*The Silly Sisters* ([www.sillysisters.com](http://www.sillysisters.com))  
1108 Charles Street  
Fredericksburg, VA 22401  
540-368-8055  
Make and sell women's stays to order

*Wooded Hamlet* ([www.woodedhamlet.com](http://www.woodedhamlet.com))  
4044 Coseytown Rd.  
Greencastle, PA 17225-9677  
717-597-1782  
Boning, linen lacing cord, linen tape

Lightweight linen, suitable for lining and outer fabric, can be also obtained from:

[www.fabrics-store.com](http://www.fabrics-store.com)  
<http://www.srfabrics.com/>