

Devere's Close-Fitting Wrapper

We will begin our journey to constructing an Enlisted Frock Coat by first drafting a close-fitting wrapper, out of muslin. This is simply a generic frock body, containing the front, side, and back pieces, and is used to work out major fitting issues before you cut out your expensive materials. This close-fitting wrapper is drafted without any fashion features, and is strictly for testing the fit of your coat.

The drafting techniques and wrapper you construct this week will be applicable to not only the Enlisted frock, but to nearly any Civilian frock coat of the period. I advise you save your original pattern after the corrections have been made, as you will find it very useful if you wish to create other coats in the future.

Preparing your Workspace

You will find pattern drafting much more enjoyable if you have a comfortable space to work in. The most important issue is having enough space. You don't want to have the edges of your pattern crammed up against a counter, or falling off a table, for example. Assuming you do not have a proper drafting table (even I don't have one), a dining room table makes a perfect drafting surface. Just be careful of the cracks where the table leaves are, as the pencil is prone to poke holes in the paper at those points.

Also try to find a good chair. You'll be sitting in one place for at least an hour, and you do not want to get a sore back. A computer chair can be quite comfortable, and you can swivel to get the best angle for drawing lines.

Lighting is also very important. If you can draft in an

area with good sunlight, all the better. The worst situation for drafting is when shadows start forming on the draft, obscuring parts of your draft. Dining room lights are usually fairly bright, making this another good reason to draft at the dining room table.

Devere's System of Drafting

Louis Devere created a wonderful drafting system, in that it's fairly simple and accurate to use. In his drafting book, *The Handbook of Practical Cutting on the Centre Point System*, he laid out a system

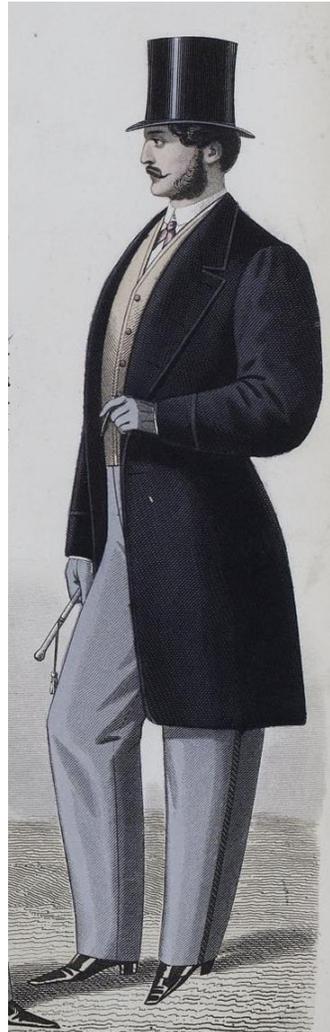
based on the size of your chest. And as you saw, many measurements started from the centre point on the waist, hence the name Centre Point System.

In the manual, you are instructed to create a proportionate draft, using a system of graduated rulers. For every person, the drafted numbers remain the same, you just change the size of the ruler. A larger person uses a larger ruler, a smaller person uses a smaller ruler.

There is just one problem with this, however. Very few people fit that 'proportionate' description. Here is how Devere describes the proportionate man.

“The Well Proportioned Man has his body of medium length, neither long nor short; he is neither thin nor stout at waist; his attitude is upright, neither stooping nor standing extra erect; his shoulders are of moderate size, and are neither high nor low.”

In actual terms of measurement, Devere's proportionate figure had a 37.5 inch chest, a 31.5 inch waist, and although not actually stated, probably around a height of 5 feet 8 inches. Think of a young man in his early 20s, with an athletic build, at the pinnacle of physical fitness. This is what Devere's proportionate man would have looked like.



Let's assume we are drafting a coat for a large figure, with a 52 inch chest. If we were to use Devere's proportionate draft, we would end up drafting a coat for someone that's over 6 1/2 feet tall. It's very rare to find someone that tall with a 52 inch chest. As you can see, drafting by proportions alone is prone to issues.

What is the solution? We use a combination of proportionate measurements, and direct measurements. For example, you'll find the depth of the armhole with a proportion of the breast, while drafting the side measurement with your direct measurement. This will be made more clear when following the draft.

Some Mathematics

One of the more difficult concepts to understand is how Devere varied the size of a pattern. He used a size 18 3/4 breast as the basis for all of his patterns (half of your chest measurement equals the breast measurement), which is equivalent to a 37 1/2 chest. This is called the proportionate model. If you are lucky enough to have a 37 1/2 chest (and the other corresponding measurements are the same), you can draft the patterns as they are straight from the book, with a normal ruler. Unfortunately, very few people fit these measurements, so adjustments have to be made.

Let us suppose we have a gentleman with a 42 inch chest, and want to find the correct balance. On a 37 1/2 inch proportionate



model, the balance is 2 1/2. But a 42 inch chest would make that larger. First, you need to find the correct ratio between the 42 inch chest, and the proportionate chest. That would look like this:

$$42 / 37.5 = 1.12$$

This number is called the scale factor. After getting this number, 1.12, we multiply that by the balance measurement (or whichever measurement we need to get):

$$1.12 * 2.5 = 2.8$$

Then, it's a matter of converting that 2.8 decimal into inches. This comes out to somewhere between 2 3/4 and 2 7/8. A combined formula for finding these measurements is as follows:

x = the proportionate measure for which you wish to find the scaled measure.

M = Your whole chest measurement.

$$x * (M / 37.5) = \text{scaled measurement}$$

While possible to work out these calculations for each measurement in the draft, it is extremely time consuming and prone to error. One tool to making this easier, is a spreadsheet, which you saw when you wrote down your measurements.

On it, you'll find a chart that's automatically filled out with numbers as you type in your measurements. What is happening behind the scenes is that the spreadsheet program is calculating all of those measures to your breast size, automatically. To use this spreadsheet for drafting, simply plug in the numbers for each step as called for.

For example, if you are a chest size 40, when asked to draw the line from A to D, you would find that in the spreadsheet, and measure out 25 inches.

As you can see, all of the calculations are done for you and updated

as you type in the measurements. If you wish to use the spreadsheet, I advise printing it out after you fill it in, so as not to accidentally change numbers while using it.

Graduated Rulers

Devere realized this was a tedious way of drafting. Remember, they didn't have computers or spreadsheets back then. Instead, Devere devised a set of rulers, called Graduated Rulers. The graduated rulers are, "a series of measures, which are successively graduated larger and smaller than the common inch measure, and are used to draft patterns for larger or smaller sizes than the 18 3/4 breast." What does this mean? Instead of doing those calculations above, you simply choose a correct sized ruler and then draft the pattern as it is in the book.

For example, you are measuring someone and they have a 48 inch chest. You would then go to your set of rulers and choose the one marked size 48 (for a 24 inch breast). If you compared this to a normal inch ruler, you would see that it is a lot larger, yet it still has 12 inches to it.

Where can you get these rulers? In Devere's time, Devere sold these rulers, for which you can find advertisements in his manual. They came on paper, tapes, or on wooden rulers. Devere has sadly long gone out of business, but luckily, the rulers are not too difficult to make yourself. I've saved you that trouble, though.

I have created a set of graduated rulers, sized 34 through 50, for your convenience. You will find them included in the zip file you just downloaded. They are on 11 x 17 inch paper, so you'll need to find a print shop to print these. I was able to get mine printed for \$3, on a nice heavy weight card stock, so it's not going to hurt your wallet. They are in Adobe pdf format. When printing from Adobe Acrobat, be absolutely sure to set Page Scaling to None. If this is not done, your whole set of rulers will be off. After they are

printed, I would take a normal inch ruler and compare it to the size 37 1/2 graduated ruler. They should be exactly the same. If they are off, it was printed wrong, and you need to check your settings and try again.

The nice thing about these rulers is that you perform absolutely no mathematical calculations, unlike the spreadsheet option. Just pick the ruler that corresponds to your chest size, and use that when drafting.

Since these will be printed on relatively flimsy paper, you should use a regular ruler or tailor's square to draw your straight lines, and then measure off the distance with the graduated ruler.

Be mindful that not every step calls for a graduated ruler. If you used a graduated ruler for everything, you'll simply end up with that proportionate draft that we want to avoid. Instead, when a Common Inch is called for, use a normal ruler. When the graduated inch is called for, use the graduated ruler in the size corresponding to your chest.

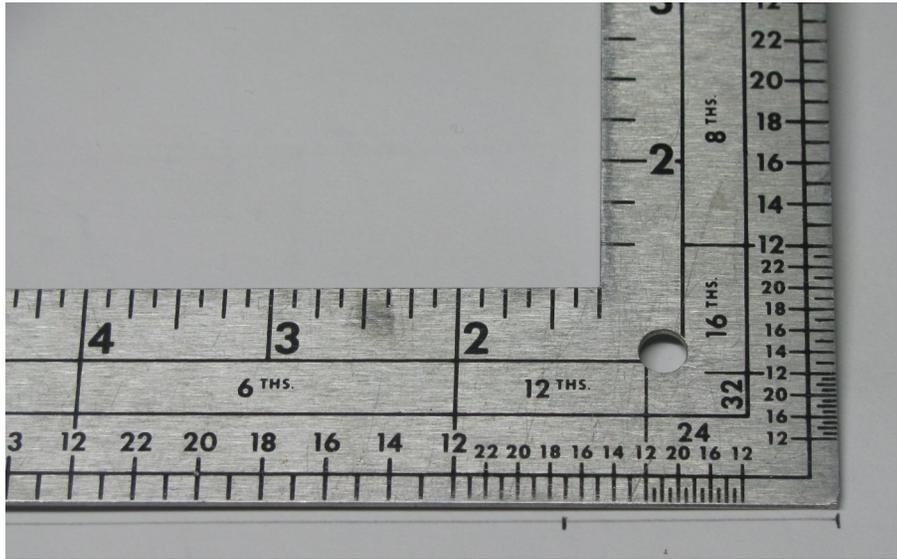
If you don't find your sized ruler included, please let me know and I will make one up for you. If you are between sizes, round up to the nearest inch.

The Tailor's Square

Before we get on to drafting, I want to give a little instruction on using the Tailor's Square. A tailor's square is very useful in drafting, though not entirely necessary. You can always go back to a calculator or spreadsheet if necessary. For instance, say you need to find one-twelfth of the Breast, which we'll say is 17. Dividing 17 by 12 gives you 1.416666667. Not exactly a round number for drafting with. While you could round to 1 3/8, there is a simpler way.

Take your tailors square and turn it to the side with the graduations and strange looking numbers on it. Way down at near

the corner you will find a section that says 12ths. Line this up on the line you are measuring out, and simply find 17 on the ruler. Mark that, and you have your one-twelfth of 17. Simple, no? With practice you will find this easy and intuitive.



The Draft

Now is the time to spread out your drafting paper, weigh it down with some rulers to prevent movement and actually start drafting. On the following pages we will go step-by-step through drafting the close-fitting wrapper. At the end, you will find a diagram with all steps combined in order to give you a consolidated diagram for drafting.

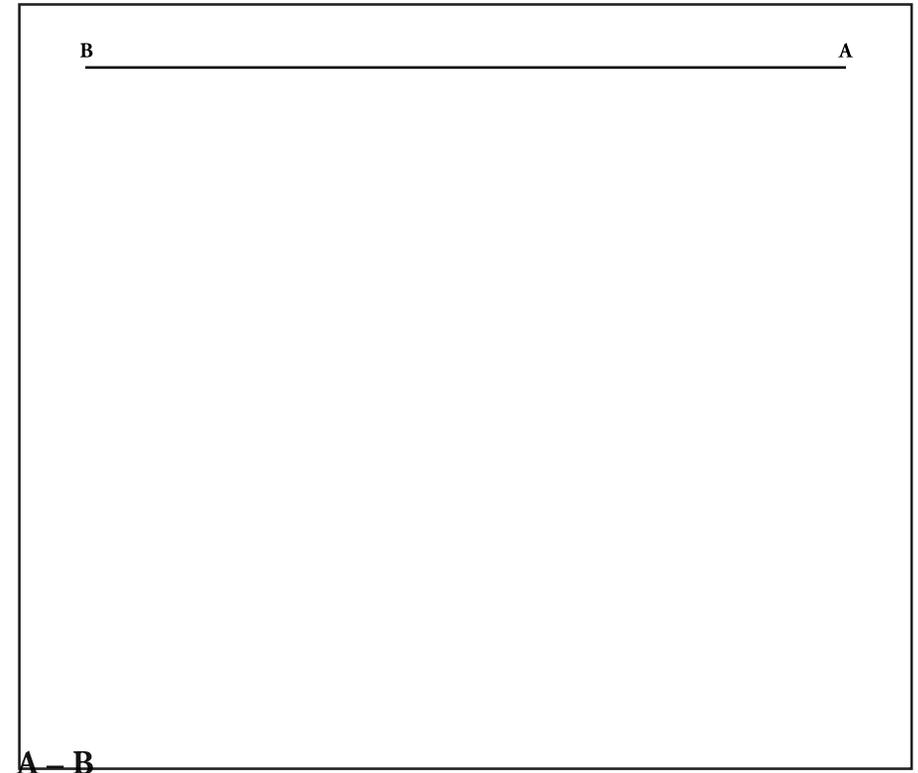
As you draft, always use a sharp pencil. Remember that neatness and accuracy count. If you're off by an eighth of an inch in the draft, it can set the balance of the garment off. Take your time and make sure you understand each step before you draw it. Please post any questions on the forum.

Feel free to use the spread sheet in place of these instructions. Use

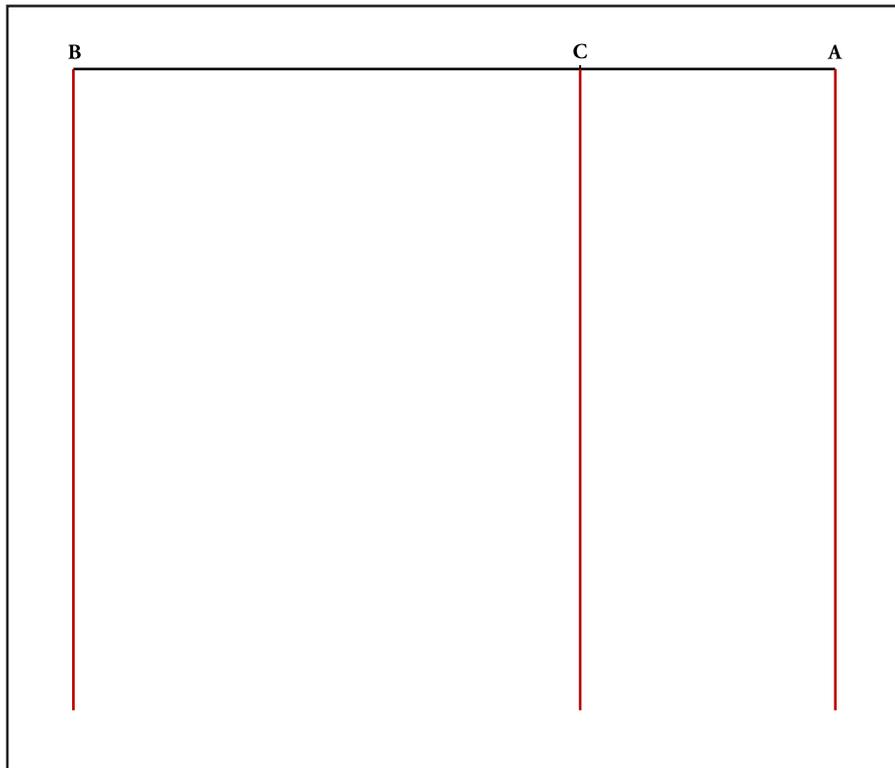
the instructions for clarification in that case.

Formation of Squares

Coat drafts are always drafted in what's called The Square. It's basically a rectangular box from which the various points are drafted.



Start out by drawing a horizontal line on the upper half of the paper, from A – B. This should be equal to one-fourth more than the Breast measure (remember, Breast is half of the Chest), or in graduated measures, $23 \frac{1}{2}$.



A – C

A – C is one-third of A – B, or 7 7/8 graduated inches.

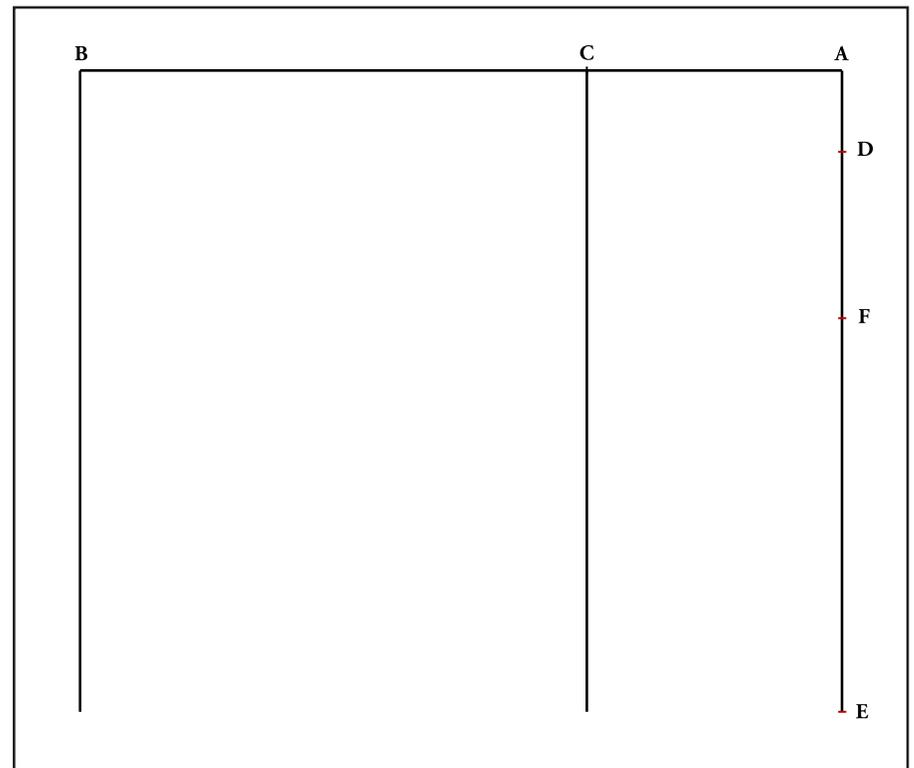
After drafting these points, square down (at right angles) the outside lines of the square, and the construction line of forepart, as shown.

The Back

A – D

A – D is known as the Balance, or difference between the Bust and Curved measures. This is actually the difference between the lengths and forepart.

The balance is very important, as it affects the hang and drape of the finished coat. If you are stooped, this measurement will be



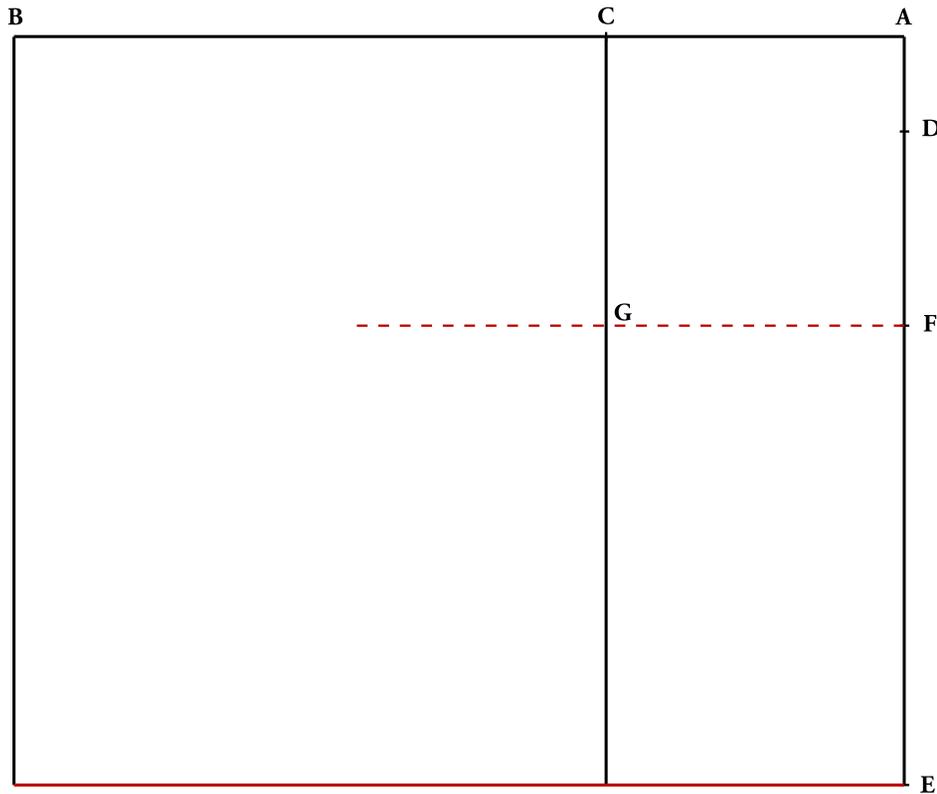
smaller, therefore making the back longer. If you are erect, the opposite is true – the balance measurement will be larger, and the back shorter.

The balance is one of the most important measures in a coat draft. If your Bust and Curve measures seem off (and they can be difficult to take), I suggest using the graduated measurement of 2 1/2 inches, and adjusting at the first fitting of the wrapper.

D – E

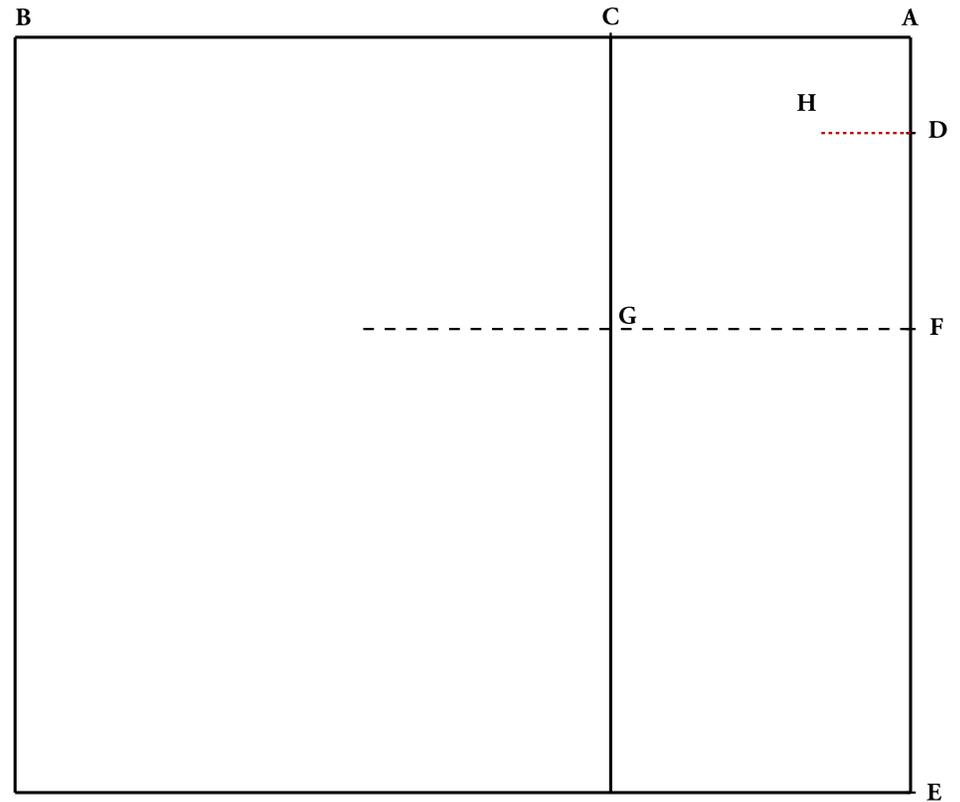
D – E is the length of the back, make it 1 1/2 graduated inches less than the curve. If using a graduated measure, it is equal to 17 1/4, but that may change depending on whether the person is short or long-bodied.

D – F



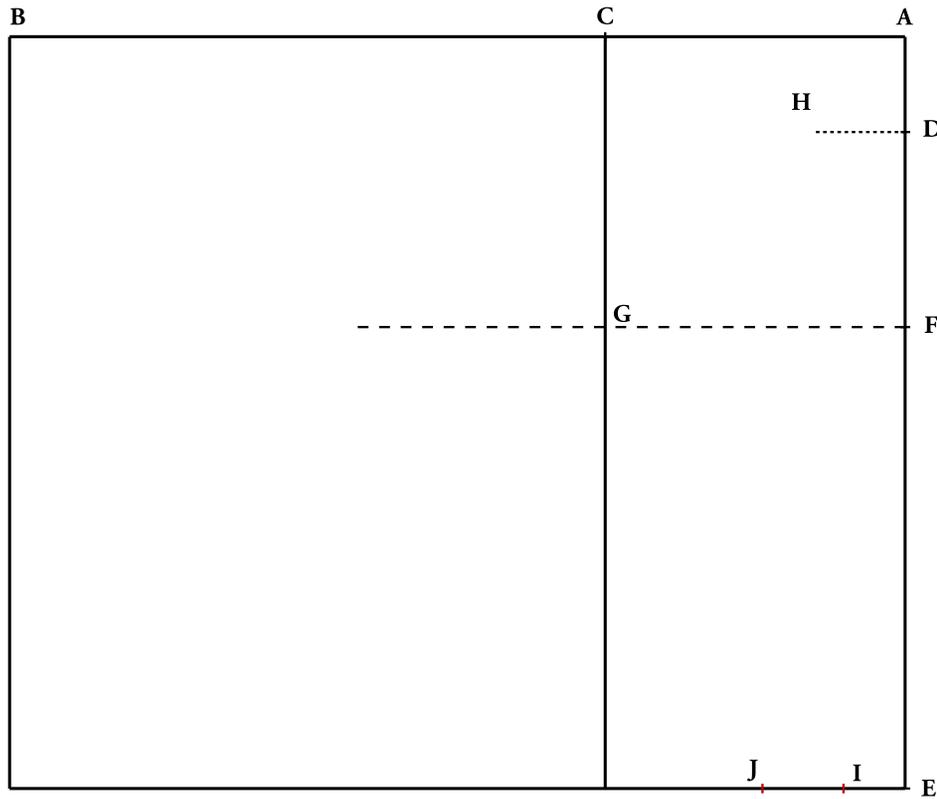
Square Lines

Now square lines across from F and E. The line at F crosses the construction line of the forepart at point G, giving the height of the side point. The line at E touches the construction line of the forepart at S, and gives us the completion of the square.



D – H

D – H equals one-eighth of the Breast, or $2 \frac{3}{8}$ graduated inches.

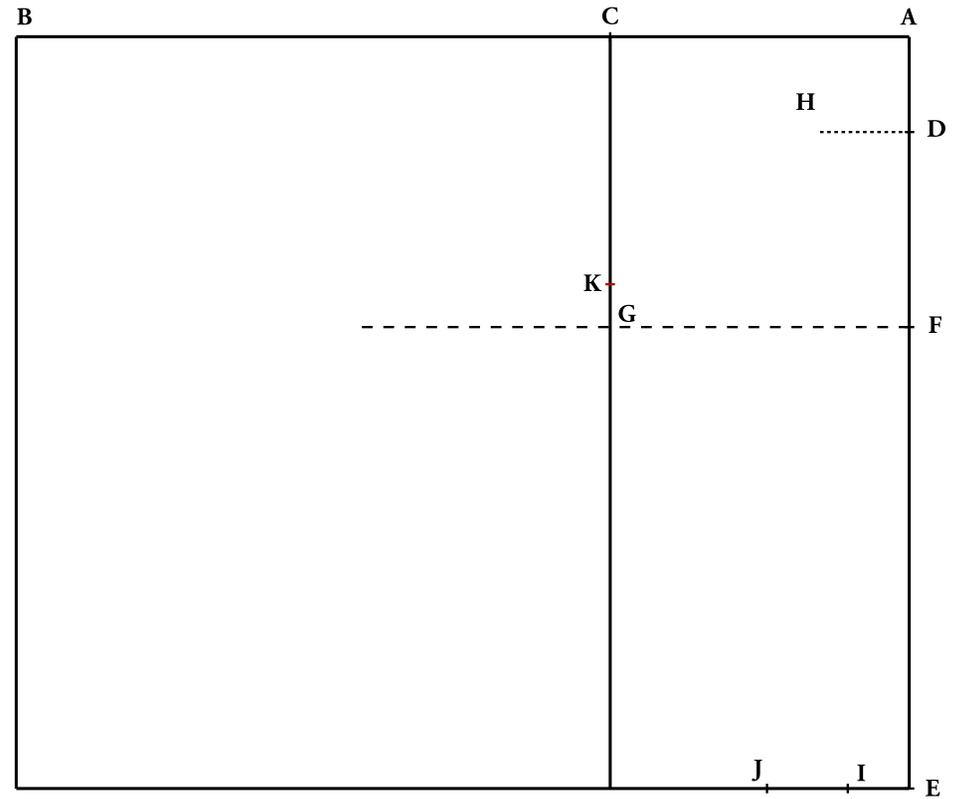


E – I

E – I equals one-twelfth of the breast, or $1 \frac{5}{8}$ graduated inches.

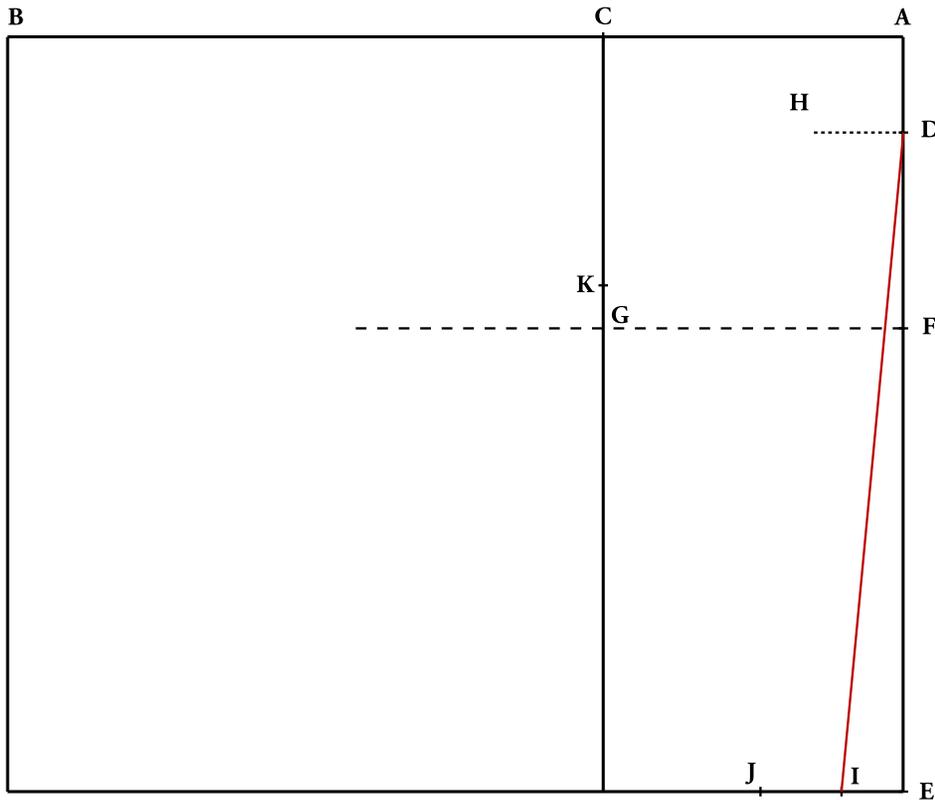
I - J

I – J is the width of the bottom of back according to fashion. Remember that in the period, the backs were quite narrow, never more than a hand's width. Devere recommends this to be $2 \frac{1}{2}$ graduated inches. Unless you have a specific reason, leave it at that.



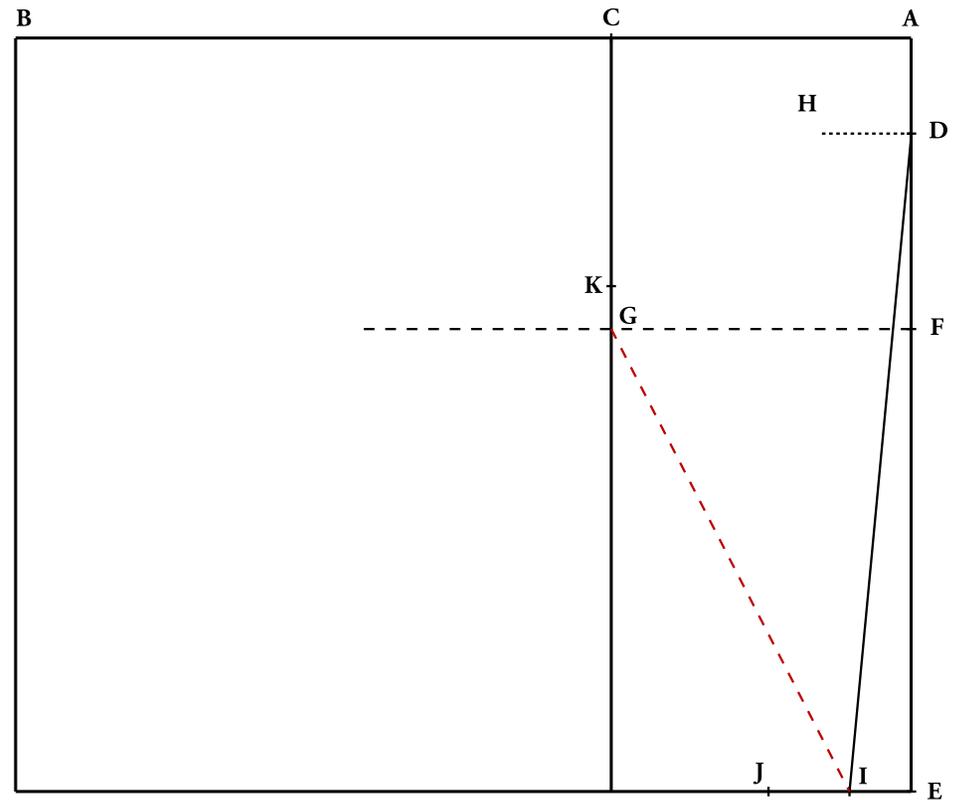
G – K

G – K is one-sixteenth of the breast, or $1 \frac{1}{8}$ graduated inches.



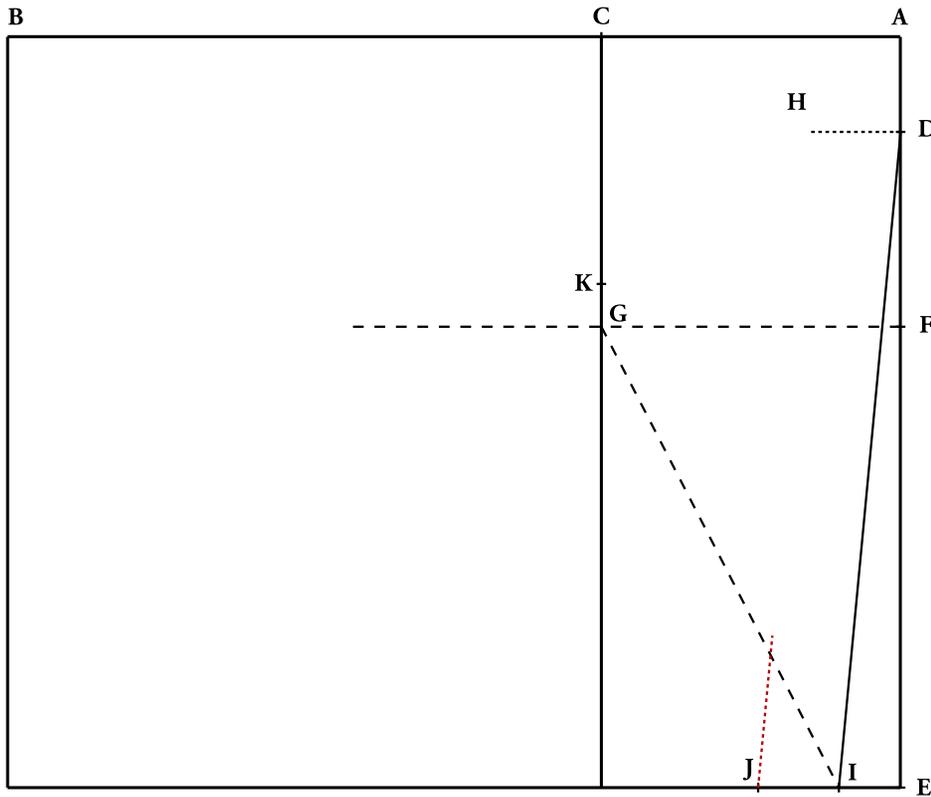
Center Back

At this point, we will draw the center back line by connecting D and I. Just like that game, connect the dots.



Construction Line

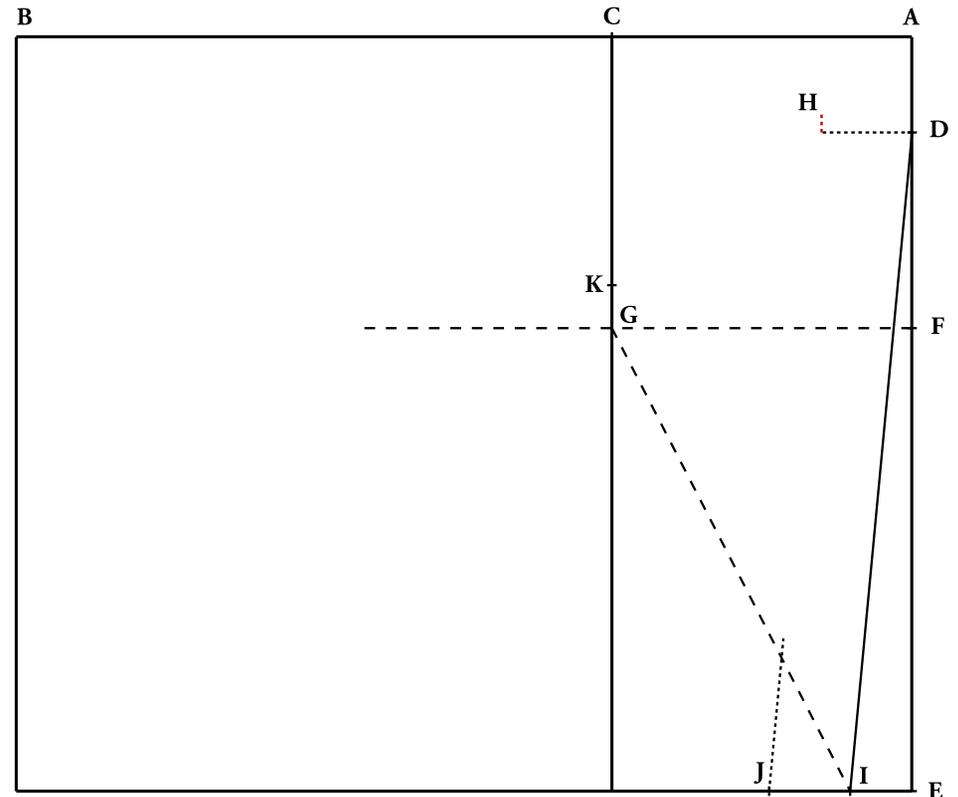
This oblique construction line, drawn from G to I, will aid in drawing the curve of the back piece later on.



Construction Line

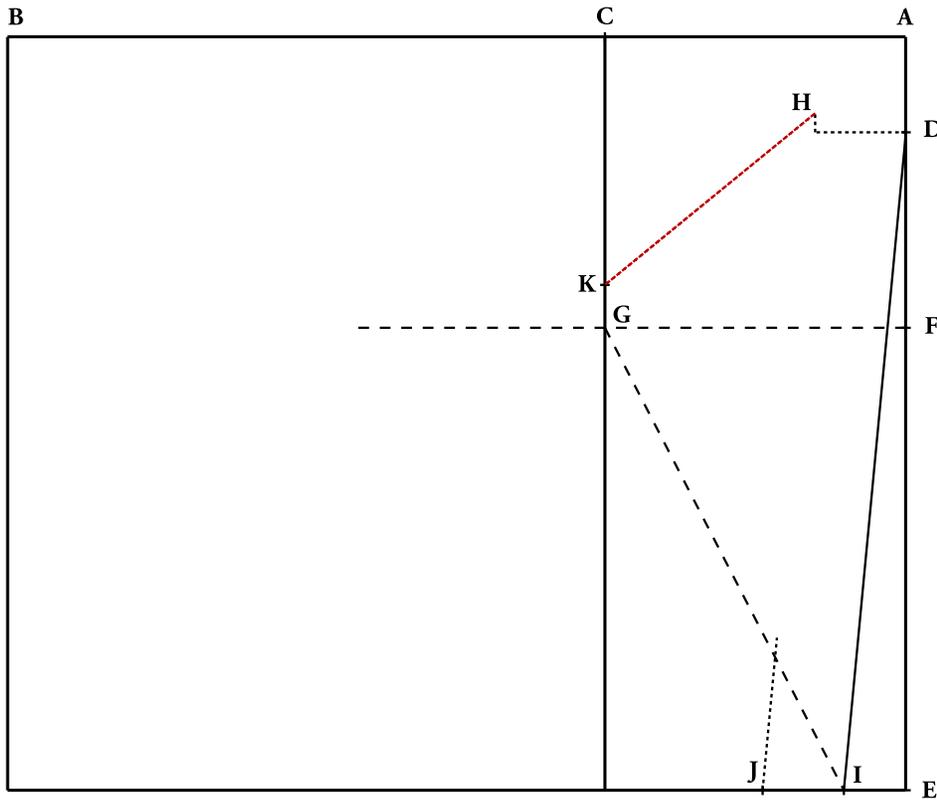
This construction line is drawn from point J, to a point just above where intersects the oblique line from G to I. Make sure it is parallel to the Center Back line.

This line is also used to aid in construction of the back curve.



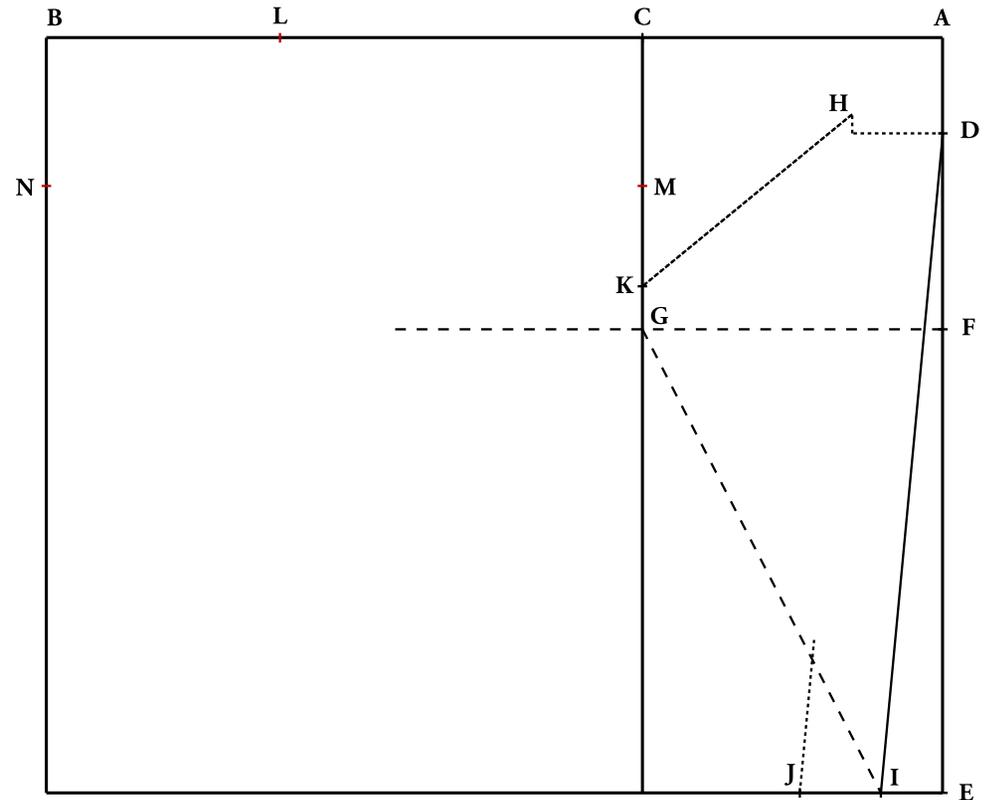
Height of Back Neck

At point H of line H - D, draw a line square with H - D, rising up one-half a graduated inch.



Back Shoulder Line

Draw a line connecting points K and H.



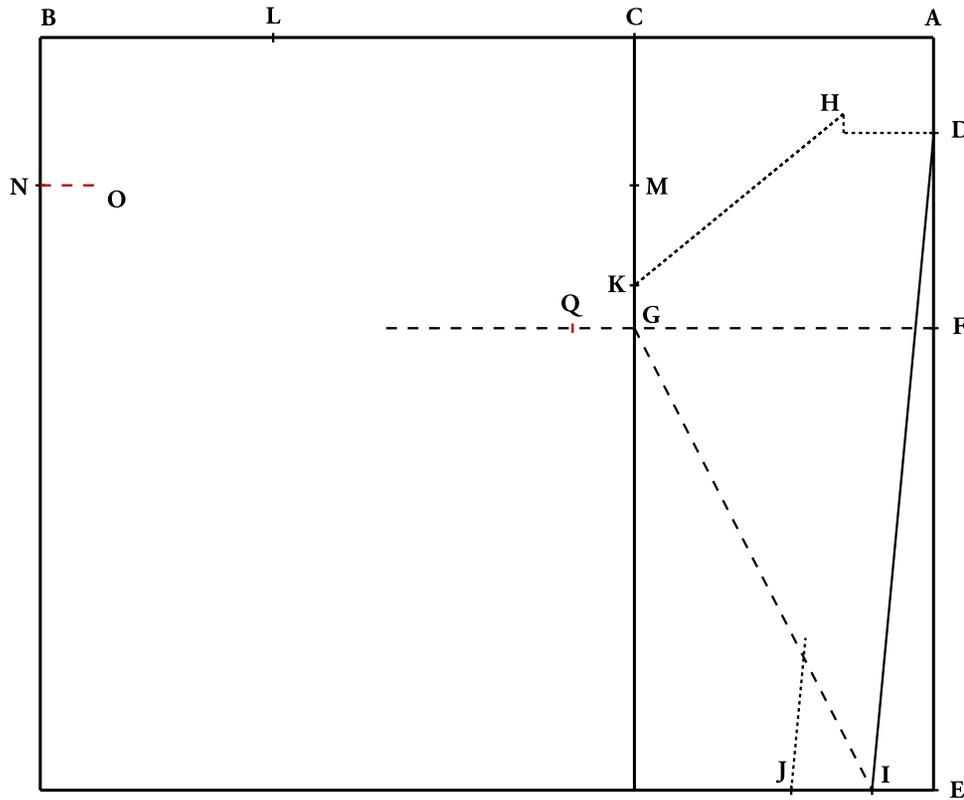
The Forepart

C – L

C – L is one-eighth inch more than half the Breast, or $9 \frac{1}{2}$ graduated inches.

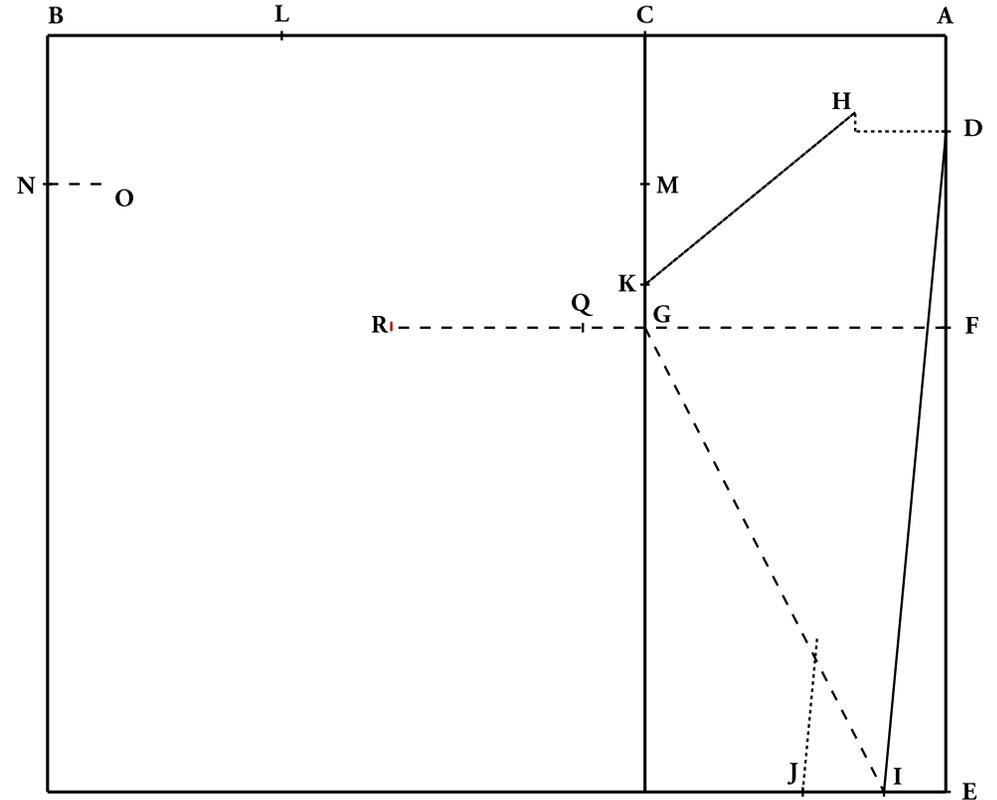
C – M, and B – N

Each are equal to half A – C, or $3 \frac{7}{8}$ graduated inches.



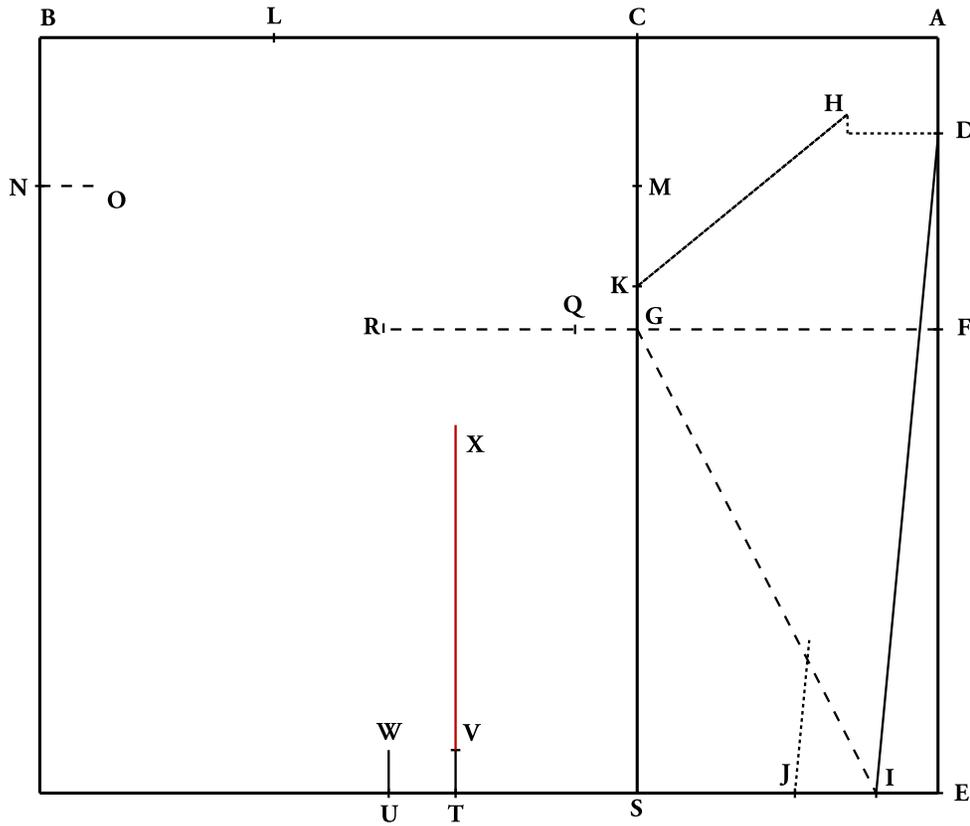
N – O and G – Q

Each is $\frac{1}{12}$ the Breast, or $1 \frac{5}{8}$ graduated inches.



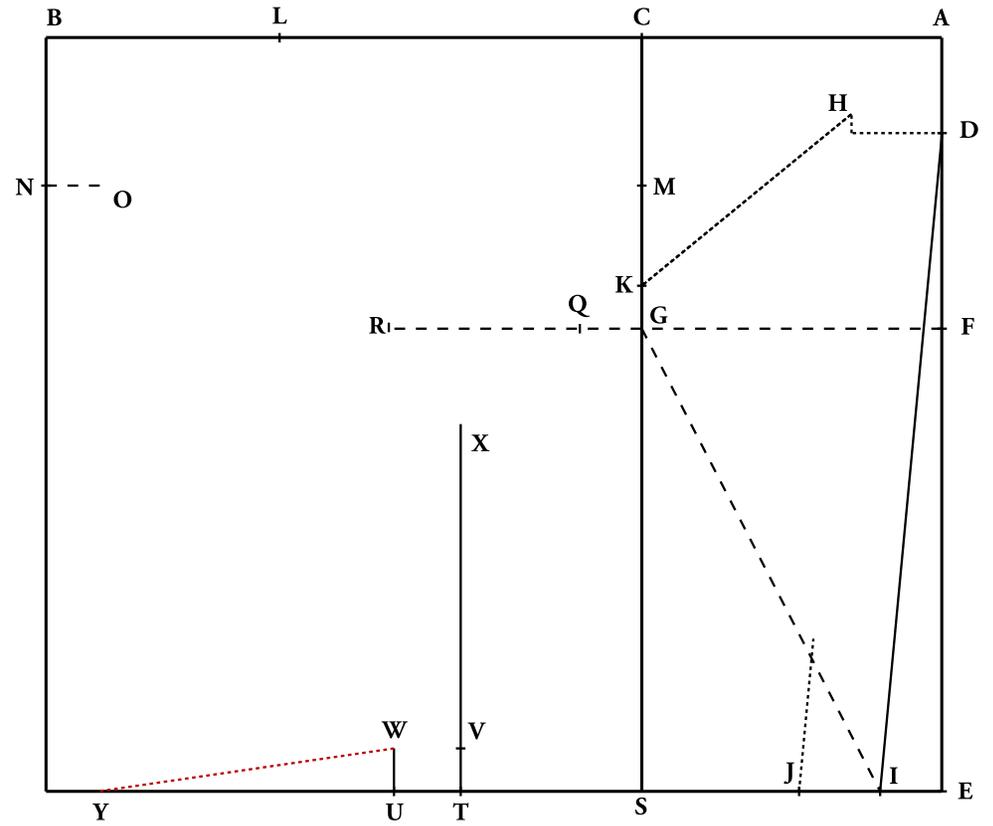
Q – R

One-fourth Breast plus one-half graduated inch, or $5 \frac{1}{4}$ graduated inches.



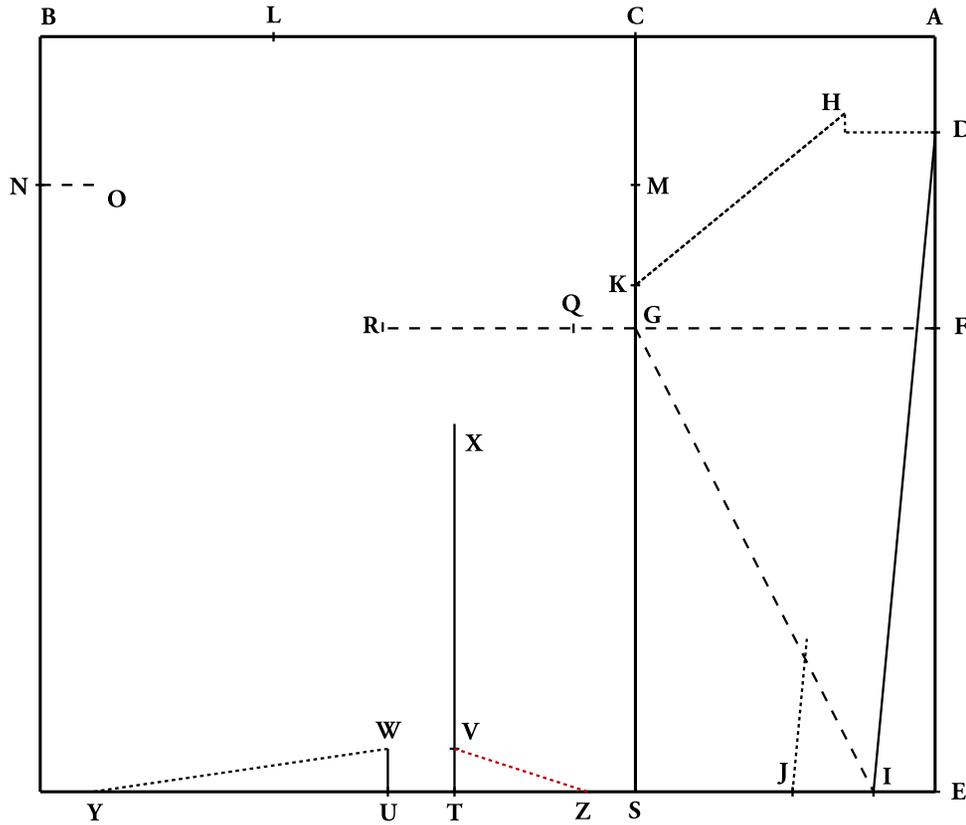
V - X

Length of Side to measure.



W - Y

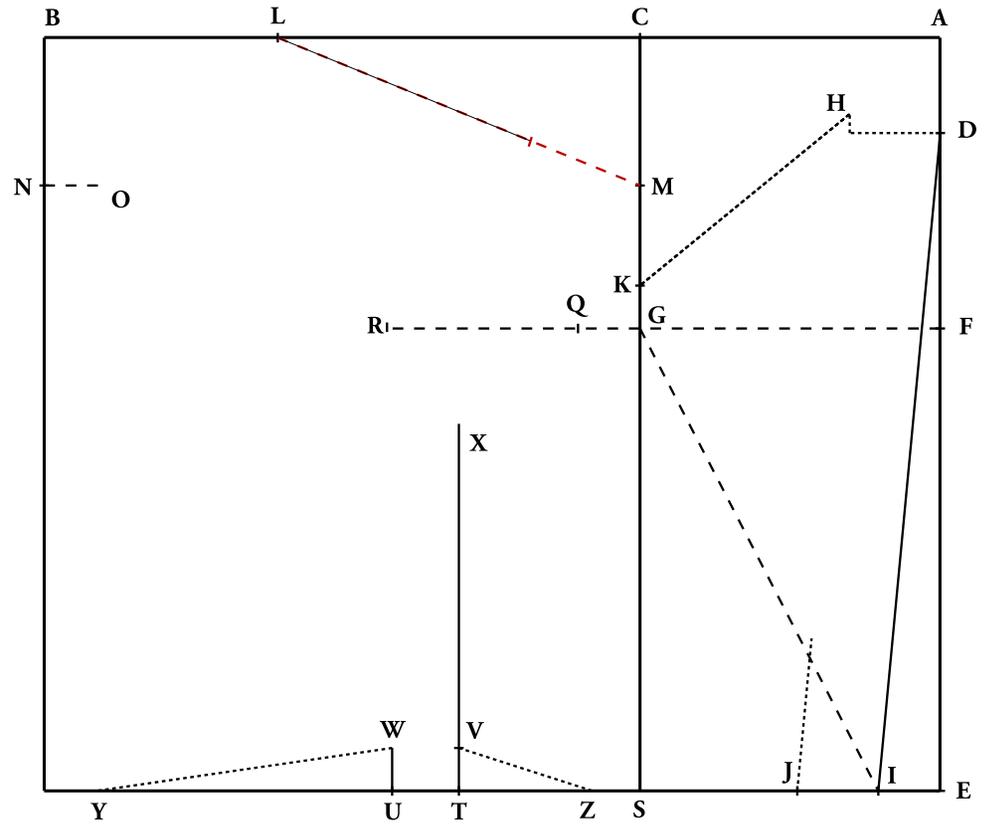
One half waist measure (one quarter of the full waist).



W – Z

Half the waist measure less the width of back at waist.

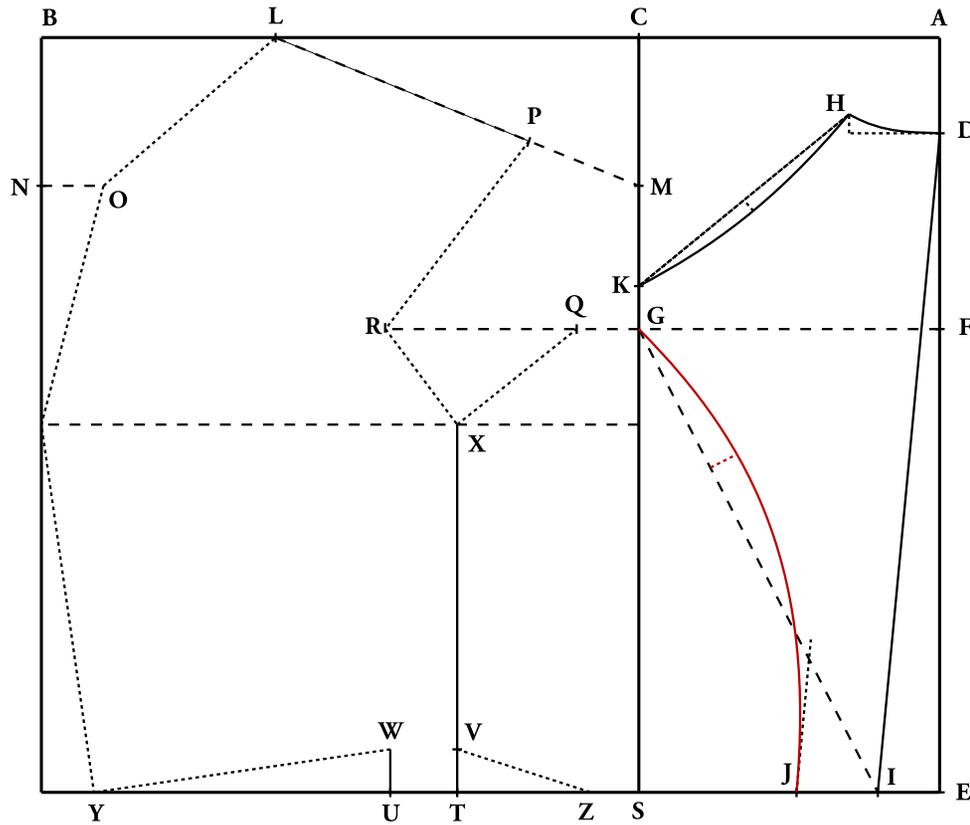
Be sure to measure from W to Z, not V to Z. After you mark the point at Z, then draw the line from V to Z.



Line L – M

Draw a line from L – M, and make L – P the same length as H – K.

This ensures the shoulder lines are equal in length to each other.

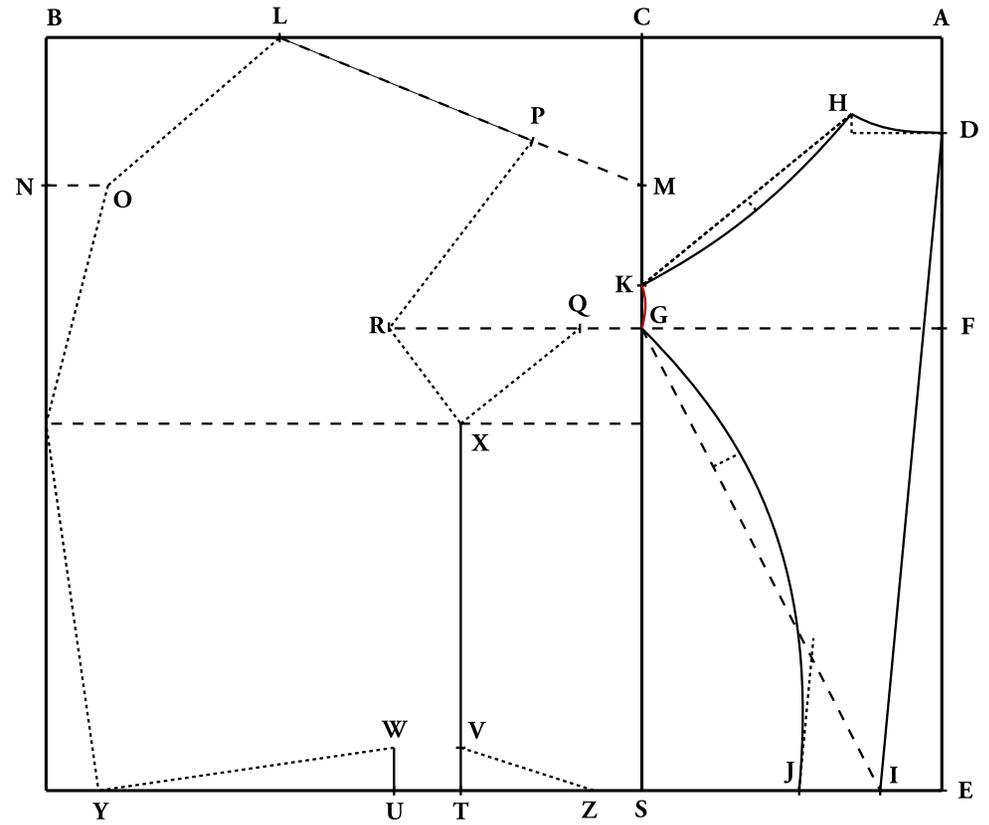


Side Seam Hollowing

To find this curve, we must first measure 4 graduated inches on the oblique line from point G. At this point, square up $\frac{3}{4}$ graduated inch. This is where the curve will have the greatest hollow.

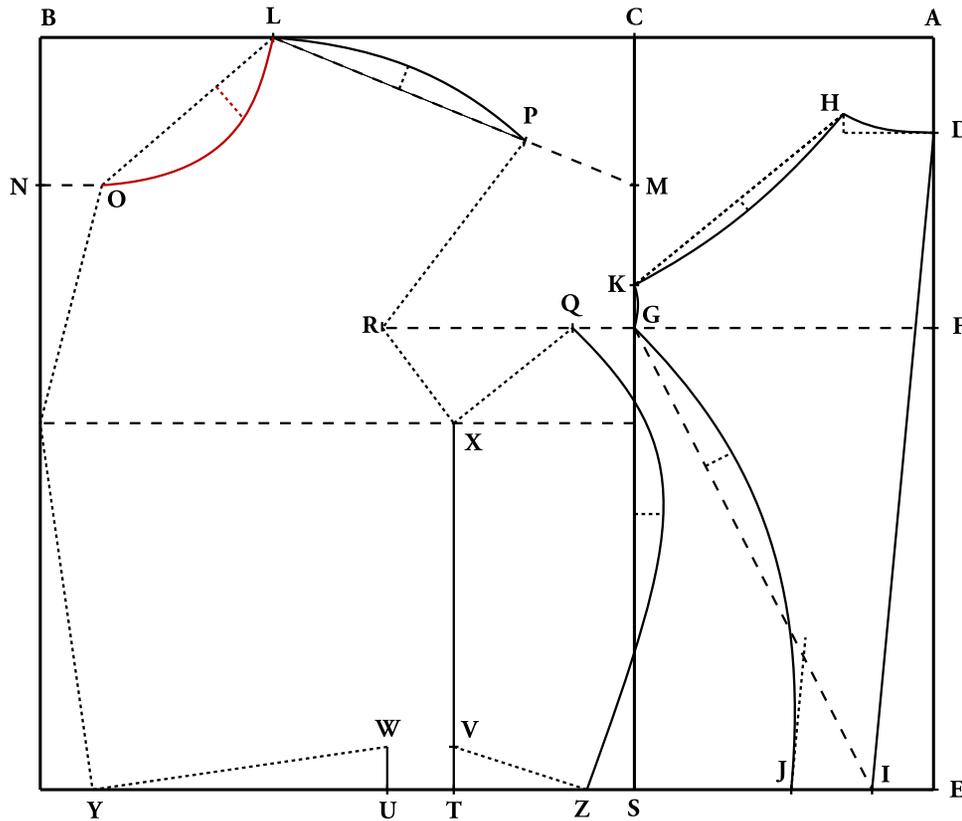
Draw a curve from point G, through the point you just found, to point J.

The short construction line you made will aid in drawing the bottom half of the curve. The curved line should stay to the left of this line.



Back Armscye

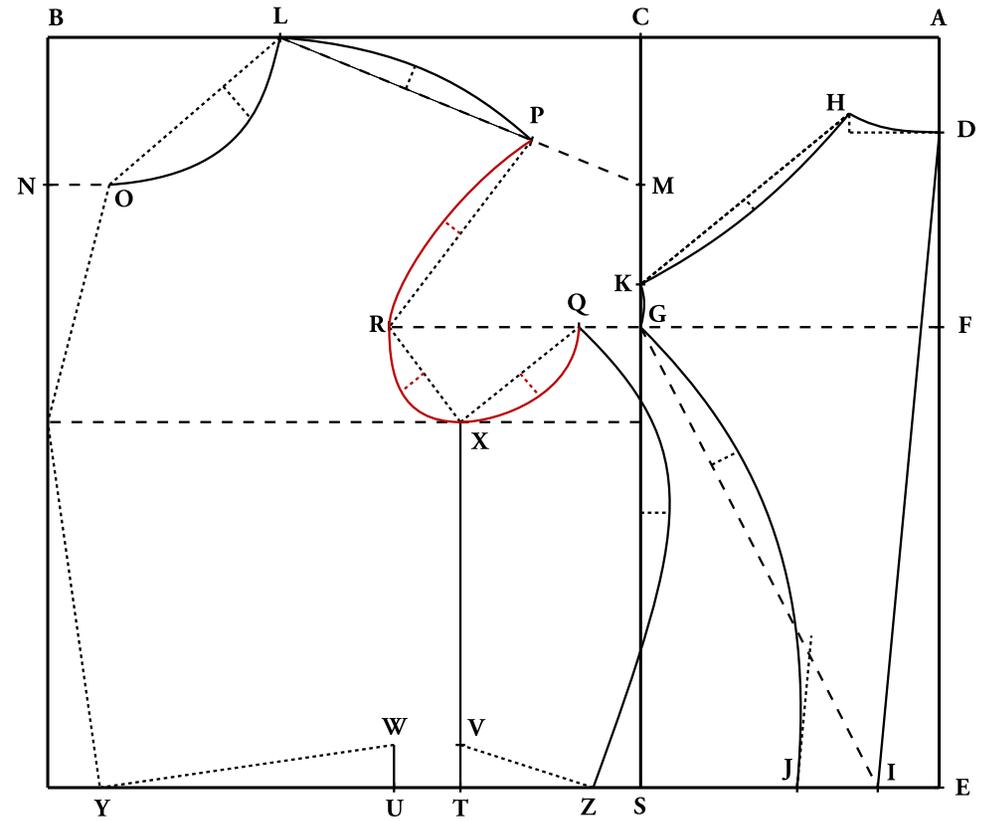
From G to K, draw a slight curve. There are no straight lines on the human body, so adding the curve here makes this seam a little more harmonious.



Neck Seam

For the neck seam, divide the line from L to O into three parts (here is where the tailor's square comes in handy). Starting from the shoulder, mark one third in, and square a line off from this point measuring 1 1/8 graduated inches in length.

Draw the curve from point L, through this point, ending at point O.



Armscye

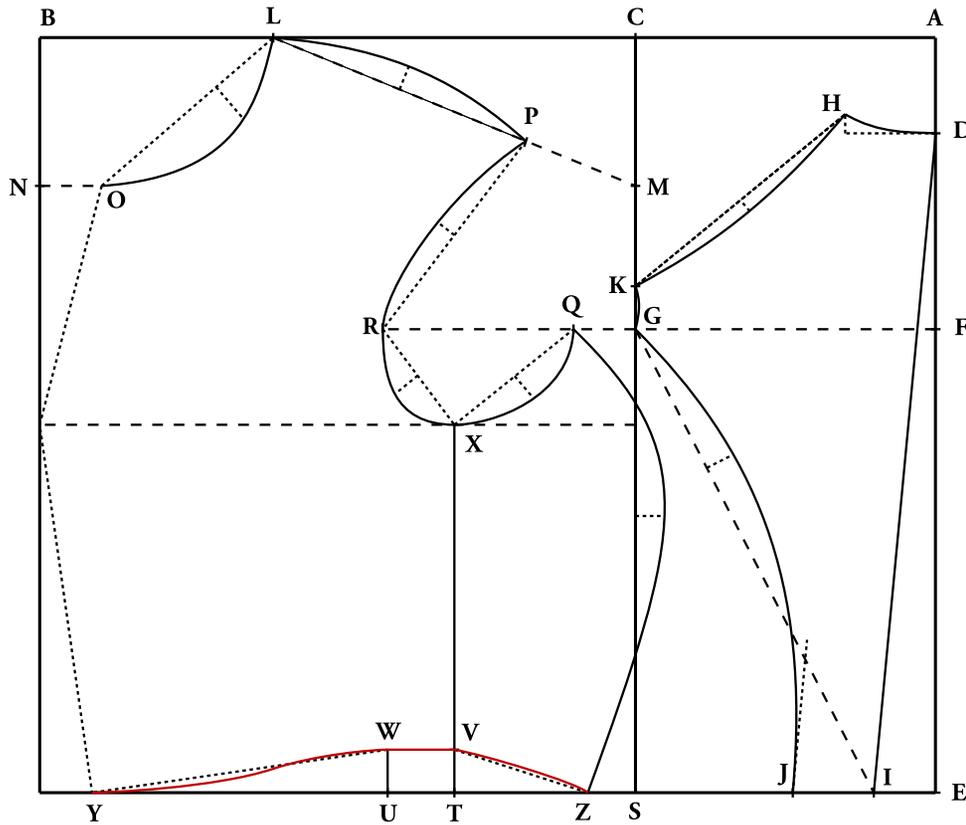
We'll combine the following three steps into one since you are hopefully catching on by now.

At the Center of P - R, hollow in 1/2 graduated inch for the front of scye.

At the center of line R - X, hollow in 7/8 graduated inch for the bottom of scye.

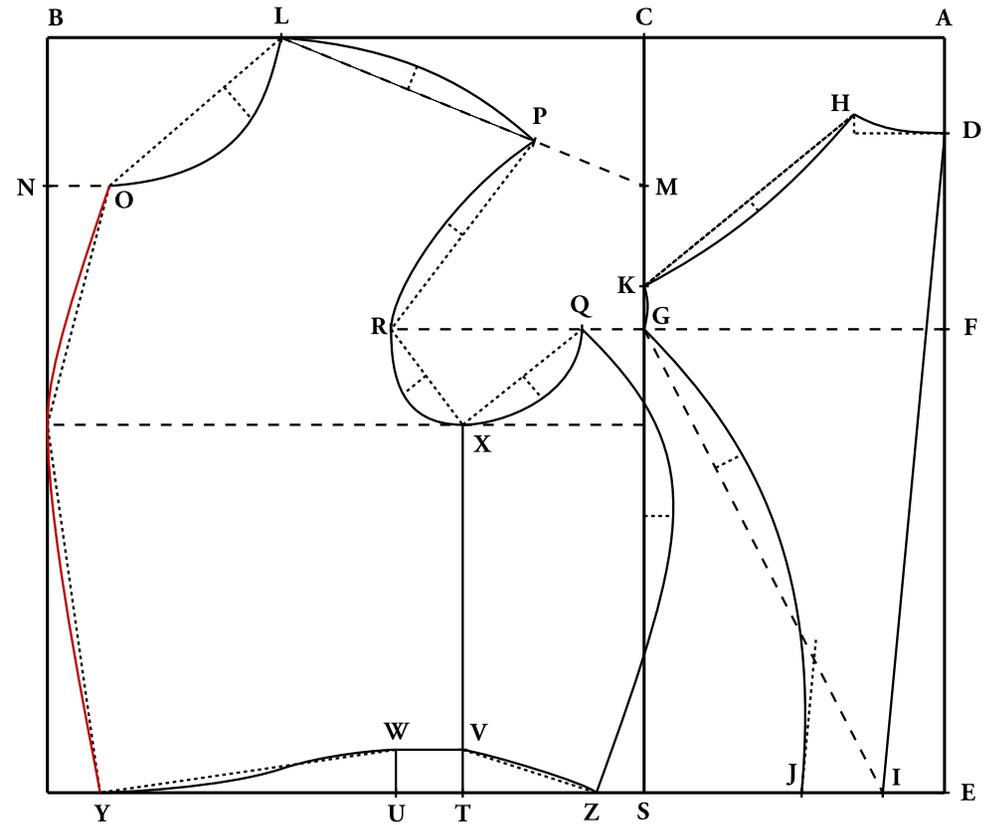
At the center of line X - Q, hollow in 3/4 graduated inch for the rear bottom of scye.

These curves should all flow harmoniously into each other, with nice smooth intersections.



Waist Seam

At the bottom of the waist seam, connect points Y, W, V, and Z in a nice curve as shown. Study the larger size draft at the end for a clearer view. Note the hollowing of the waist at the side piece.



Center Front

Finally, draw a single curve connecting point O to the chest line from X, to Y at the waist line. A hip curve is very useful for this.

Congratulations, you have completed the draft for a close-fitting wrapper.

At this time, please post your draft on the forum, so we can discuss and figure out any problems you may be having.

Next, we will begin constructing the muslin wrapper, and discussing the many fitting issues that can occur.

The Completed Draft

