

CHAPTER 4 – SLEEVE PATTERNS

Analysis for Need of Control

In previous chapters you have learned the value of the use of basic control in shaping the bodice patterns. In the study of sleeves in which you are now engaged, you will learn that this same principle is utilized to provide as close a fit as possible with no lack of freedom.



Fig. 1

Fig. 1 shows the natural shape of the human arm. In addition to being cylindrical in shape, it is also naturally bent at the elbow and tapers at the wrist. This means that the back of the arm will require additional fabric because it is *longer* than the front. So we provide that extra length in that area with the aid of the dart from the elbow position to the outer edge of the pattern.

Fig. 2 shows another important point in shaping a pattern for the sleeve. Where the arm joins the body (see point A), there is a rounded curve for which some control must of course be provided. As this curve is not intense, and extends from the front over the shoulder to the back, it is best handled with gathers, or "ease" through that area. In some style sleeves, this curve is accented, and additional fullness is provided, but for the time being, we are merely interested in the simple, basic set-in sleeve. Various sleeve designs follow later.

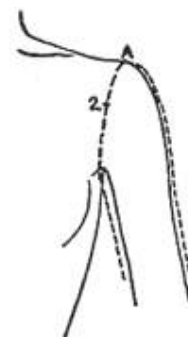


Fig. 2

Fig. 3 shows how the flat pattern should look to provide proper length where needed. The fabric must enclose the curved arm and it must also permit movement at the elbow and shoulder. Intersecting lines A-B and F-E are grain lines. Notches are placed at A and B so one automatically records the position of this grain line when tracing around the sloper. The horizontal grain line F-E intersects at right angles and rests at base of sleeve cap.

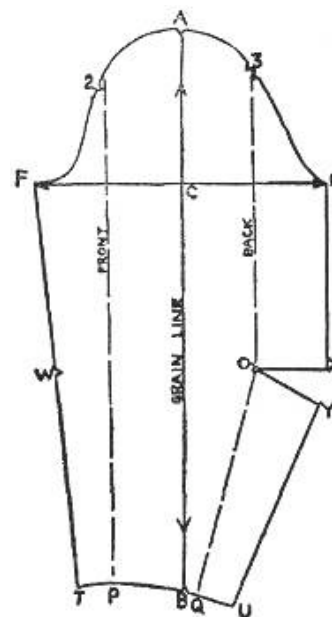


Fig. 3

The front folding line (broken line) indicates where the fabric will rest at the front of the arm when sleeve is being worn. Point P, at the lower point of this dotted line falls at the base of thumb as shown in Fig. 1.

The back folding line (broken line) represents the back of the sleeve, when it is on the arm. Point O, which is the point of the dart, indicates the elbow position. Point Q falls at little finger position as shown in Fig. 1. The lines E-X and Y-U must equal the opposite side, F-T because, when the dart has been folded in, they must meet in a seam.

Point A at the top of sleeve cap joins the normal shoulder seam of the bodice and serves as a dividing point for distribution of ease in sleeve cap. In standard sizes the average amount of ease is 1 1/2 inches. Usually it is equally divided on each side of A. As individuals vary at this point, seam allowance should be generous to permit alterations. When an individual sloper is being fitted, the curved lines 2-A and 3-A are established in the final pattern *after* a trial fitting in muslin. Points 2 and 3 are usually located 6 inches from side seam in the bodice. They are then established in the sleeve pattern by measuring 6 inches *upward* from points F and E on the sleeve cap. When the sleeve is set—that portion is fitted smoothly to the bodice armscye. The excess from 2 to A and A to 3 is then adjusted in gathers to control the smooth fitting of the arm curve. The seam of this simple sleeve falls in direct line with the underarm seam of the bodice. In our grandmother's day, most sleeves were so shaped as to place the seam to the front, permitting a closer fit through the biceps. However, modern women want more freedom and this sleeve is simpler to use in factory production, so is preferred today.

Drafting the Sleeve Sloper

Turn back to your bodice measurement chart to find the sleeve measurements given for standard size 16. These may be used to study the method of procedure used for making a sleeve draft. It is advisable to read

over the directions first, mentally completing each step before drawing any lines. Check over the following measurement points and the description given for each so that you may visualize the use of each when making a draft.

Measurement Points

The measurements given for sleeve drafts are based upon the ideally proportioned arm. They are the result of research work done by pattern makers in the manufacturing industry. The same method would be used to measure an individual.

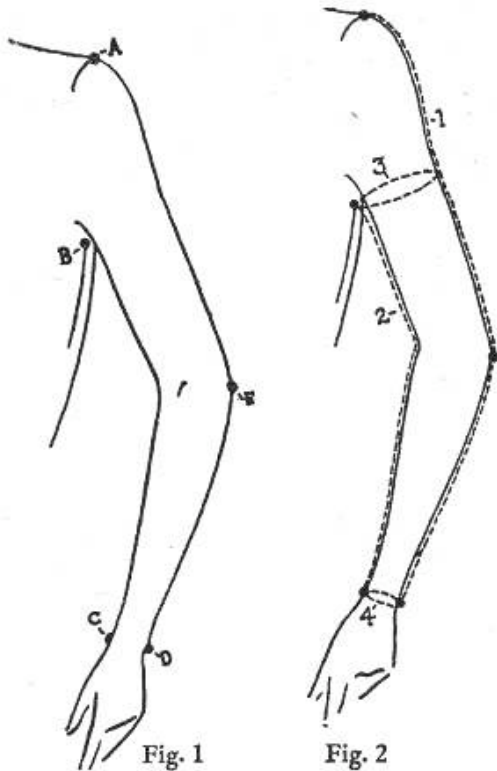


Fig. 1 shows the basic points from which measurements are taken. These would be established by marking with chalk. They are, namely:

- A—Shoulder Tip Point
- B—Armpit
- C—Inside Wrist
- D—Back of Wrist, or Little Finger Position.
- E—Elbow Point (Used particularly when measuring individuals.)

Where Measurements are Taken

Fig. 2 shows just where measurements are taken. Notice that you have two vertical and two horizontal measurements. These are all that are needed to produce the draft for a standard size sleeve sloper.

1. *Overarm Measurement*: Taken from the Shoulder Tip Point, over the Elbow Point and down to the back of the wrist or Little Finger position. Arm should be bent as illustrated.
2. *Underarm Measurement*: This measurement is taken from the armpit to the wrist, with the arm hanging naturally.
3. *Biceps Measurement*: Taken in a position in line with the armpit. In standard sizes two inches have been added to provide some ease. When measuring individuals the arm may be measured exactly and then two inches added to the literal biceps measurement.

4. *Wrist Measurement*: Taken around the wrist exactly over the wrist joint. On inch is usually added to the exact wrist measurement to provide normal ease.

5.

Select a piece of pattern paper 28 X 24 inches.

Have your square, tapeline, ruler, sharpened pencil and curve at hand.

Jot down the four basic measurements given for size 16 sleeve.

A-B—Start one inch below top edge of your pattern paper and draw the vertical line A-B down the center of the sheet. Make this line equal to the *Overarm Length*. Label points A and B.

B-C—From point B, measure upward a distance on this line equal to the *Underarm Length* and mark this point C.

D—Divide the line C-B equally and place a dot. Locate point D one-half inch above that dot.

C-E—From point C, square a line right which is equal to *one-half Biceps Measurement*. Label E.

C-F—From point C, square a line left which is equal to *one-half Biceps Measurement*. Label F.

F-C—plus C-E equals entire *Biceps Measurement*.

F-G—From point F, measure off a distance equal to one-fourth of line F-C and label point G.

E-H—From point E, measure off a distance equal to *one-half* line F-G. Label point H.

A-I—From point A on line A-C, square a line right equal to combined lengths of F-G and E-H. Label point I. Connect points I and H.

A-J—From point A, square a line left equal to twice length of line F-G. Mark point J. Connect points J and G.

D-K—From point D, square line right which is equal to C-E less 1/2 inch. Label point K.

D-L—From point D, square a line left which is equal to C-F less 1/2 inch. Label point L.

NOTE: The combined amounts deducted in the last two steps reduces the elbow one inch as compared to the biceps. This reduction is for the normal arm and might vary with individuals.

F-L—Connect points F and L.

E-K—Connect points E and K.

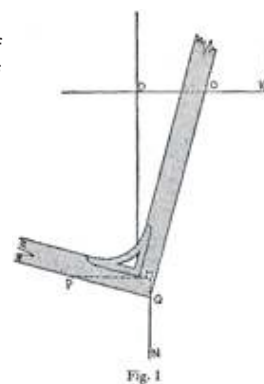
M—From point B, square a line to the right 1/2 inch long and mark this point M.

M-N—From point M, square a guide line downward which is 4 inches long. Label point N.

O—Divide the line D-K equally in halves and label point O.

M-P—From point M, extend the line M-B to the left a distance equal to *one half* the *Wrist Measurement* and mark that point P.

Q—Place your square on the points O and P as illustrated in Fig. 1. The corner of the square must rest somewhere on the line M-N. Place a dot at the exact corner of the square and label that dot Q.



Q-P—Connect points Q and P.

Q-O—Connect points Q and O.

R—Divide the line Q-P equally in half and mark the point R.

R-S is a guide line. Make it seven inches long, and make it parallel to line M-P.

P-T—From point P, measure a line equal to P-R to fall somewhere on the guide line.

R-S. Mark point T.

L-T—Connect points L and T.

Q-U—Extend the line P-Q to the right, an amount equal to the distance from Q to R. Label point U.

K-U—Connect points K and U.

V—Subtract the length of the line F-L-T from the length of the line E-K-U. The difference represents the dart appearing at the elbow for control. Starting from K, measure off this distance and label point V.

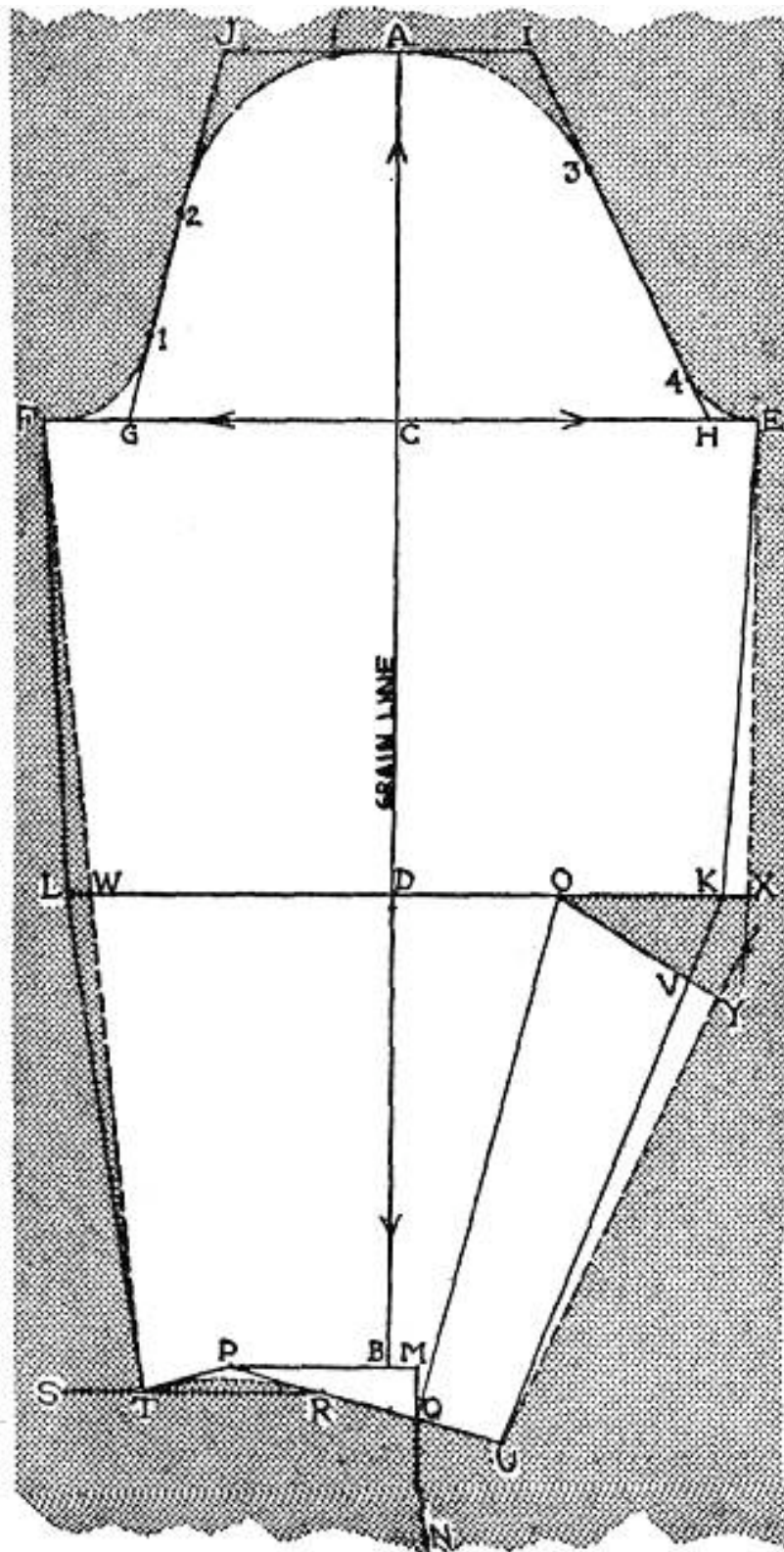
O-V—Connect points O and V.

NOTE: When making sleeve drafts for various sizes from standard measurements, the difference in the biceps and wrist measurements may cause F-L-T to have an outward curve. It makes a more shapely sleeve if this seam is straight. This may be easily accomplished by straightening the line and then adding the amount which was lost to the back of the sleeve where the dart is located. The dotted lines in the diagram on the previous page illustrate the steps which follow.

W—Connect points F and T with a straight line. Label point W at the new intersection point.

X—Extend the elbow line W-O-K an amount equal to the distance between L and W. Label point X. Connect points E and X.

Y—Extend the line O-V until it is equal to the line O-X. Label point Y. Connect points Y and U. The intersection of lines between X and Y represents the center of the dart.



Shaping the Sleeve Cap

You are now ready to shape the sleeve cap. In placing point J a greater distance from point A than point I was located from A, it results in a rounder curve at the front of the sleeve cap than that at the back of the sleeve. Some pattern makers make the two curves—front and back—identical. However, making an equal distribution requires more alterations when fitting sleeves to individuals. It is recommended that the proportion illustrated be used when making basic draft in standard sizes.

Points 1, 2, 3 and 4 which appear on the sleeve draft are merely guide points for establishing a shapely, proportionate sleeve cap for standard size garments.

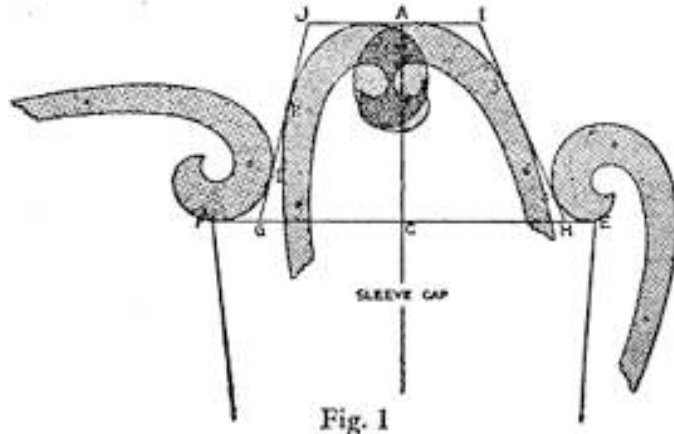
G-1—From point G, measure off a distance on the line G-J which is equal to the length of the line F-G. Label point 1.

J-2—From point J, on the line J-G, measure downward a distance which is equal to the length of the line J-A. Mark that point 2.

I-3—From point I, on the line I-H, measure downward a distance equal to the distance between A-I. Mark that point 3.

H-4—From point H, on the line H-I, measure upward a distance equal to the line H-E. Mark that point 4.

With the aid of your curve, placed in the positions illustrated in Fig. 1, establish clear, clean, curved lines between F and 1; 2 and the line J-A; E and 4; 3 and the line A-I. The top of the cap can follow the line J-I in the area of point A. It is not a good plan to make the top center of the cap too curved as the shoulder joint is a round shape and the width is needed around the top of the cap. Soften wrist with curve from T to R.



With blue pencil, trace around draft:

A-3-4-E-X-0-Y-U-Q-R-T-W-F-1-2-A.

Check your draft over carefully before allowing seams as given on next page.

Seam allowances for standard size sleeves are usually 3/4 inch on the sides and cap and 1/4 inch at wrist edge.

Some garment manufacturers allow extra seam allowance from 2 to A to 3 to provide for adjusting the length of the sleeve caps when alterations are necessary in stores. This is usually done in suits and better grade dresses.

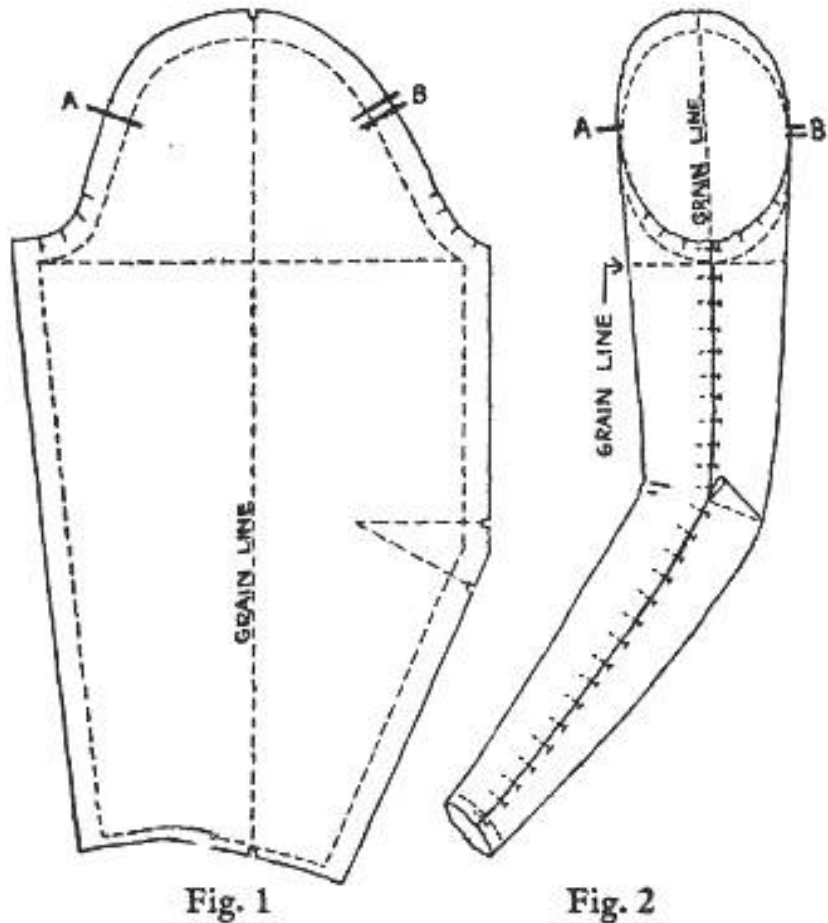
Make certain that the biceps and elbow lines are at right angles to the grain line and that each is labeled properly.

Personal Sleeve Slopers

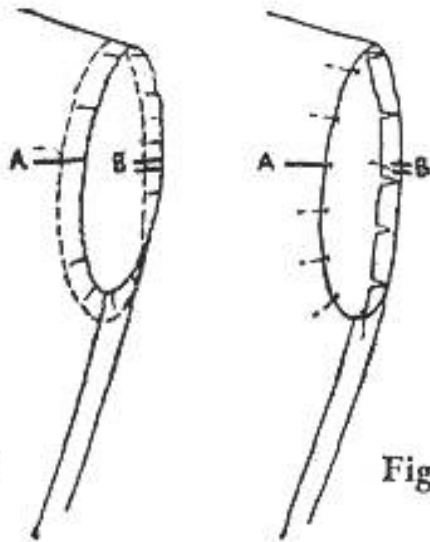
When making a sleeve sloper for an individual, in most cases you will find, by checking the four measurements, that she will closely resemble some standard size which will conform to the size dress she would buy. By a few simple alterations, her sleeve sloper can be made. Unless the woman has an arm which is abnormal in shape because of certain flesh deposits, most alterations will be simple. When customers have abnormal bone structure, such as an extra long upper arm and a normal lower arm, or just the opposite, then the full set of measurements should be taken and a special draft made to those personal measurements. Usually, she will tell you her troubles with ready-to-wear garments and that will help you to decide the proper steps to take.

As in the case of making a bodice sloper, the muslin should be properly prepared before fitting is started. A blue vertical line should plainly mark the vertical grain line and another blue line should mark the horizontal grain line. See Fig. 1. Allow a full inch or more for seams and possible adjustments which may be necessary. The sleeve should be pinned together as shown in Fig. 2. In most cases, the designer is fitting the customer to a bodice at the same time as the sleeve. When the bodice has been properly fitted, the sleeve should be tested. Obviously, it would be impractical to attempt to fit a sleeve without the bodice muslin.

Points A and B are marked on the muslin proof with a single blue straight line in front and two lines in the back at a point 6 inches upward from the side seam of the bodice and a like position on the sleeve. (The area below A and B should be without ease.) In some cases, you will find that as much as 7 inches can be smooth, depending upon the amount of flesh deposit around the shoulder joint. It is best to make these points as high as possible and still maintain a good fit. It results in a smarter looking sleeve.



Figures 1 & 2 show the sleeve muslin prepared for fitting. Figures 3 & 4 show how the bodice armscye should be prepared to receive the sleeve. To make the curved edge of the armscye fold back smoothly, short slashes should be snipped at about one inch intervals. Points A and B should be marked with a straight blue line.



There are two special points of fitting a sleeve:

1. The sleeve cap, to permit freedom of the shoulder joint.
2. The elbow control, to permit freedom to bend the arm regardless of the shoulder.

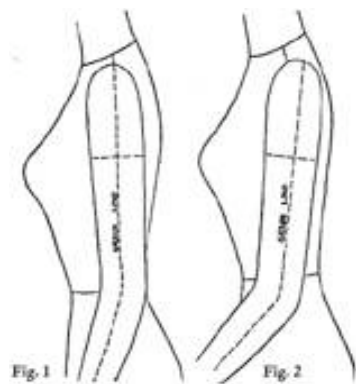
The sleeve cap must be long enough to provide a smooth fit without excess fabric, but it must not be droopy. It must also be wide enough to actually enclose the entire arm, because if it is too narrow, it will stretch the bodice and not permit the entire garment to be comfortable.

More discomfort can result from improperly fitted sleeves than any other portion of a garment. Few dressmakers thoroughly understand just what constitutes a truly well fitting sleeve. Each of the above factors is considered individually and one has little to do with the other.

Fitting Sleeve Muslin

Your customer's arm should hang relaxed throughout this procedure, as far as possible.

Slip the sleeve muslin over the arm as shown in Fig. 1. Note that horizontal grain line is on a true horizontal. Likewise, the vertical grain line will be in a truly vertical position. Fig. 2 shows a common error found in hanging sleeves. This tips the sleeve too much to the back and will result in droopiness at the back of the cap when the arm hangs relaxed.



With the sleeve in the position shown in Fig. 1, pin it into that position temporarily *regardless* of the position of the shoulder seam of the bodice with relation to the blue vertical grain line of the sleeve.

Have customer raise her straight arm directly upward from the side and place a pin to attach the sleeve under the arm. Try and keep an equal portion of the biceps ease to the front and back when placing this pin.

Starting at the armpit, slip the raw edge of the sleeve cap under the folded edge of the armscye, removing the first pins as you insert the new ones. Fit the sleeve into the armscye smoothly up to, or beyond points A and B until the curve of the arm shows the need of ease.

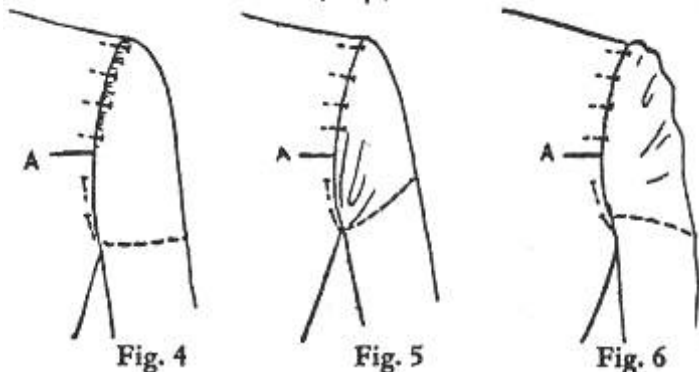
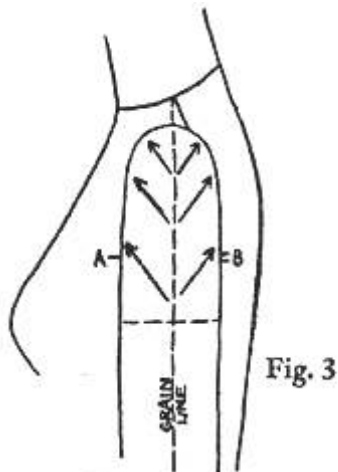
Gently smooth the upper cap into the armscye, working in the direction shown by the arrows in Fig. 3. *Keep customer's arm relaxed at side!*

You may note that, due to bone structure, or distribution of the flesh in upper arm, more fullness is needed to front than at back half of sleeve cap. Use some of the seam allowance of sleeve, if necessary, to provide a smooth, shapely cap. As you proceed, your muslin should look like that shown in Fig. 4.

Fig. 5 shows how it will look if you have pushed the cap in too much.

Fig. 6 shows how it looks if sleeve cap is too long. Such errors result in complete loss of style in the garment.

So far, you have been fitting only the *sleeve cap* and the arm has been in the relaxed position. To test the width of the cap for muscular activity such as reaching, car driving, et cetera, place your hand on the other side of the bodice armscye in line with shoulder blades and ask your customer to keep her arm *straight*, but lift it forward. If you feel too tight a strain across the shoulders, widen the sleeve cap in the vicinity of point B. A very small amount, such as 1/8 inch may prove sufficient to provide the necessary ease with no loss in the smartness in fit.



Your next step is to check for sufficient elbow control to permit freedom of the arm itself. This is an entirely separate procedure from fitting the cap and checking the reaching width mentioned above.

With upper arm close to her side, have customer bend her elbow as seen in Fig. 7. Watch shoulder area as she does this. If it draws, as shown by arrows, either the elbow dart is not exactly over the elbow, or there is not a large enough dart to provide sufficient control. If the sleeve just binds at the elbow, just release the seam in elbow area and test once more.