are held. The popularity of the subject may be gauged from the large numbers who join the classes and enter for the examination. "In 1894, 982 candidates entered "and 532 passed, whilst the returns show that the "numbers who entered represent less than one-fourth "of those who attended the classes. In 1895, 897 "candidates entered and 648 passed. In 1896 there "were 1068 candidates from 240 registered classes; "738 passed and 109 raised their certificates to a "higher grade than they had gained in a previous ex- "amination. The number of pupils registered in the "240 classes was 5514."—[Extract from Mrs. Pillow's Special Report to the Education Department 1897, on "*Domestic Economy Teaching in England.*"]

The teachers who instruct these pupils and those in County Council classes have generally received some systematic training in some of the various schools for training teachers in the domestic arts, of which there are several well known in various parts of the country.

An often-expressed lament of many of these teachers is that of the absence of a really good text-book on dressmaking, written by a practical teacher from an *educational* as well as a *technical* point of view.

The present work on "Practical Dressmaking," which I have been asked to preface by a few remarks, seems to me to be just the text-book which has been so long wanted.

The nervous teacher, who yet may possess a capital knowledge of dressmaking, will find within its pages some excellent hints of how best to place before the class the information which she desires to teach. These hints are given in the form of "Notes of Lessons" and "Headings for Lessons," systematically and carefully drawn up, yet leaving room for the exercise of originality and individuality on the part of the teacher.

Teachers of classes for the City and Guilds of London examinations in dressmaking, teachers of County Council classes, as well as teachers of classes in Secondary Schools for Girls, so many of which have within recent date added dressmaking to their curriculum, will find this book a valuable aid to successful teaching.

MARGARET ELEANOR PILLOW.

4th October 1897.

CONTENTS

ILLUSTRATIONS

CHAPTER I

INTRODUCTION

In preparing the following chapters one end was kept steadily in view, namely, that of providing for students in training, and teachers of limited experience, a simple and reliable book of reference.

For this reason only, such easy methods as come within the scope of technical class teaching have been dealt with; other methods have been referred to, but not explained; neither have they been made the subject of "Notes of Lessons," "Headings," and "Syllabus." No doubt, in course of time, it will be necessary to do so; but at present the advanced branches of the work are being very little taught. Courses of "tailor cutting" do not necessarily mean advanced teaching. As a rule, the bodice-patterns are produced by a system introduced or adopted by tailors, but the garments are nearly always made up in the ordinary manner, therefore the term is somewhat misleading. There is no reason why the advanced branches of the subject (of which coat and skirt making may be considered the most important), should not be successfully taught under certain conditions, namely:

(*a*) The teacher should possess a fair knowledge of the processes of cutting, padding, shrinking, pressing, etc., by

which form is introduced into garments; for, no matter by what system the garments are produced, they bear the stamp of amateur work, unless they receive the manipulation, which can only be given by those possessing this knowledge.

(*b*) The pupils should previously have attended *at least* two complete courses of dressmaking; they should also be required to pass a *practical* examination which should be arranged to test their capacity for work of this description; for, notwithstanding the ability and experience of the teacher, it is impossible to teach the difficult branches of the subject to pupils who are not fairly intelligent and clever with their fingers.

When the elementary and advanced branches of the work are undertaken by the same teacher the examination might be dispensed with, and the pupils admitted to the advanced course at the discretion of the teacher; but, under no circumstances should teachers be expected to receive pupils whose capacity has not been tested by a preliminary examination or otherwise.

A great evil might arise from teaching the advanced branches of the work under contrary conditions. If incapable pupils are allowed to begin making coats and other difficult garments, of course they must be finished; the result is, the teacher does the great part of the work, and the pupils obtain a pecuniary, instead of an educational advantage.

(*c*) Proper appliances must be provided, in order that the details of the work may be fully demonstrated.

Strong objections have been urged against teaching the advanced branches of the work by those who regard the dressmaking taught in technical classes as a domestic subject. Considered in this light, good, plain dressmaking alone is necessary; for, the class of people for whom

technical instruction is primarily intended do not, as a rule, wear evening dresses and tailor-made coats and skirts. If, on the other hand, it is treated as a trade subject—as it must be when the object of the teaching is to enable girls to earn their living—then the objections raised against the incompetency of the present teaching are well founded. In the latter case, every branch of the subject should be thoroughly taught. The alternative would be to arrange separate courses for dressmakers' apprentices, in order that the practical teaching they receive in the workroom may be supplemented by instruction in drafting, cutting, fitting, draping, etc.

Objections, too, have been raised against teaching mothers to make knickerbocker suits for their boys, on the ground that it would be an encroachment on the trade. In answer to this it may be stated that juvenile clothing is rarely made by tailors. In some of the northern towns of England large factories may be seen in which thousands of girls are employed in every branch of the work, save that of cutting out; this is done by machinery, under the direction of men. Here knickerbockers and other suits are made by tens of thousands; therefore, if, say, a hundred suits a week were made in technical classes, what difference would it make in the annual returns of these firms?

The advantage to the mothers would be considerable, for it is more than probable that the small garments would be cut out of half-worn larger ones, belonging to some other member of the family.

In writing the following pages mention of any particular method of "dress-cutting" has been purposely avoided, and the diagrams in the chapter on "Drafting and Fitting" have been arranged so that they may be easily adapted to any "dress-cutting" system.

Changes of fashion continually necessitate changes of method. It is a somewhat difficult task to provide for this without introducing what may appear to be irrelevant matter. This has been condensed as much as possible, and confined to the end of each chapter.

CHAPTER II

NOTES OF LESSONS

THE following notes of lessons are intended to serve as types only :—

The headings and general arrangement of the paper may be copied, but the subject-matter of every Notes of Lessons should be written in the teacher's own words, adapted to the age and experience of the class.

All lessons should be carefully planned. The most experienced teachers find an immediate and careful preparation a great aid even when demonstrating simple, familiar subjects ; therefore, in the case of inexperienced teachers, a carefully-prepared lesson may be regarded as a positive necessity. Notes of lessons on dress-cutting and kindred subjects are usually written in two columns, one of which is headed "Matter," and the other "Method."

The "Matter" column should contain all the subject-matter or facts to be taught during the lesson, or, in other words, show as briefly as possible that part of the teacher's knowledge of the subject which she intends to teach during the lesson.

The matter should be divided into sections, and each section arranged in separate paragraphs under a heading.

The "Method" should show how the information given in the "Matter" is taught.

The method of teaching is determined by the knowledge of the pupils. In the first lesson of a first course—as in "Notes of a Lesson on Drafting the Back of a Bodice"—it must necessarily be by statement of facts and illustrations, for questions put to a class by the teacher assume more or less knowledge of the subject with which they deal; and in the lesson above mentioned there would be no previous knowledge upon which the questions could be based.

In the "Notes of a Lesson on a Dress Patch," given in a second course, a different method of teaching should be adopted. The new facts taught should be based as much as possible upon information given in previous lessons: this is done by means of well-directed questions. Every teacher should endeavour to acquire the art of questioning, for the accuracy or otherwise of the answers given to questions shows how far the lesson has been understood, and an opportunity is given to supplement incomplete answers and correct mistakes. A common fault, in writing notes of lessons, is that of giving facts in the "Matter," and neglecting to show in the "Method" how the said facts should be taught, and *vice versâ*.

It is not necessary to write the subject-matter or the questions in detail. It is sufficient if the substance of both be briefly indicated, but the terms "explain," "educe," "elicit," should never be used without showing how the explanation is to be given, or the fact elicited.

The language of a question should be as simple as possible; pupils cannot be expected to answer readily, if there be any doubt in their minds as to the meaning of the terms used.

Aim.—Both the educational and practical aims should be stated. The higher aim in teaching is to train the

senses and inculcate good habits. The senses of sight and touch are cultivated almost unconsciously in all kinds of needlework. Habits of obedience, punctuality, economy, and neatness may be developed in this, as in teaching other subjects.

Time.—The time allowed for a lesson depends chiefly upon the subject to be taught, and in a lesser degree upon the teacher and class, but unless the teacher is rather slow, and the class stupid, an hour will be found sufficient to allow for any demonstration connected with dressmaking.

Class.—Pupils of any age (except when the age is given in the question) may be chosen when writing notes of a lesson in a theoretical examination. Before beginning the lesson the age should be decided, and the "Matter" and the "Method" of teaching adapted to the class.

Previous Knowledge.—The previous knowledge, as well as the age, must always be decided before writing a Notes of Lesson. The lesson should be arranged strictly in accordance with the age and experience of the class. Neglect on this point is probably the most fruitful source of failure. It is just as much an evidence of incapacity on the part of the teacher to tell pupils in a second course what they ought to know, as it is to question them, in a first lesson of a first course, as to facts of which they cannot have the slightest knowledge. A well-known writer on the subject says: "Before preparing a lesson every teacher should ask herself (or himself) three questions: What do I desire to teach? How much can I educe? What ought I to tell?"

Requirements.—The requirements for both teacher and pupils should be shown. The blackboard and accessories are nearly always required. Other requirements vary with the lesson.

Blackboard Sketch, Summary, or Scheme.—The

preparation of a notes of lesson should not be considered complete unless it provides a carefully-planned summary by which the teacher shows on the board the result of her teaching. This should always be planned when preparing the notes. As each paragraph of matter is settled, the chief points to be taught should be written down and afterwards arranged as a summary under a heading, "Points to be noted or remembered." These "points" should be obtained from the class at the conclusion of the lesson by simple questions of revision. The blackboard sketch should also include the requirements, measurements, and diagrams. As many diagrams as possible should be introduced. They convey information in the most effective manner.

NOTES OF A LESSON ON DRAFTING THE BACK OF A BODICE

Aim.[1]—Educational.
Practical.

Time.—1 hour.

Class.—Technical. *Average Age.*—20.

Previous Knowledge.[2]—1st Lesson, 1st Course.

Requirements. *For Teachers*—Blackboard and accessories, inch-tape.
For Pupils—Paper, pencils, ruler.

I. INTRODUCTION

Matter	Method
Advantages of a good dress-cutting system: 1. Less fitting required. 2. Less material wasted.	Refer to old-fashioned unsatisfactory methods. Explain the advantages of cutting by measurements.

[1] The educational and practical aims should be stated.
[2] Previous knowledge must be shown.

II. Explanation of Measurements

Matter	Method
A *loose* bust measure. A *tight* waist measure. *Width* measures, only half noted. *Length* measures, the whole noted.	Measure one of the pupils and explain the measurements carefully. State why the bust measure is taken loosely, the waist tightly, only half the width measures noted, and the whole of the length measures.

III. Measurements

1. Bust.
2. Waist.
3. Hips.
4. Back.
5. Chest.
6. Nape to back waist.
7. ,, ,, back hip.
8. ,, ,, front hip.
9. ,, ,, front dart.
10. ,, ,, front waist.
11. Throat to waist.
12. Length of under-arm.
13. Armhole.

Write these on the blackboard and allow the pupils to copy them into their note-books; point out how easily the measurements are remembered when taken in this particular order.

IV. Construction Lines

Five lines drawn in red—

1. Vertical, determined by the nape to back waist measure.
2. Horizontal, decided by the rules of the system.
3. Horizontal, decided by the rules of the system.
4. Horizontal, decided by the rules of the system.
5. Horizontal, decided by the rules of the system.

Draw these lines on the board and explain that they form a framework upon which the pattern will be drafted.

Revise the preceding paragraphs in order to impress firmly upon the minds of the class the relation one line bears to the other.

Examine and correct the pupils' draftings.

V. Pattern Lines

Drawn in blue, to distinguish them from the construction lines.

A full-sized diagram should be exhibited at this stage and the various parts explained.

Draw the pattern lines in coloured chalk.

Sidepiece ¼-inch wider than the side-body.

Explain that the sidepiece is made larger than the side-body to provide for alterations in fitting. Examine and correct the patterns.

Ask a few simple questions of revision, and explain any points not thoroughly understood.

BLACKBOARD SCHEME

Lesson on Drafting the Back of a Bodice

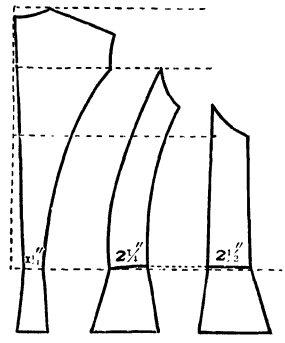
Requirements

1. Pencils (red and blue).
2. Ruler.
3. Paper.

Measurements

1. Bust.
2. Waist.
3. Hips.
4. Back.
5. Chest.
6. Nape to back waist.
7. ,, ,, back hip.
8. ,, ,, front hip.
9. ,, ,, front dart.
10. ,, ,, front waist.
11. Throat to waist.
12. Length of under-arm.
13. Armhole.

Diagram



Points to be noted

1. Bust measure taken loosely.
2. Waist measure taken tightly.
3. Only half the width measures noted.
4. The whole of the length measures noted.
5. Five construction lines in red.
6. Pattern lines in blue.
7. Sidepiece ¼-inch wider than side-body.

NOTES OF A LESSON ON DRAFTING THE FRONT OF A BODICE

Aim.—Educational.
Practical.

Time.—1 hour.

Class.—Technical. *Average Age.*—20.

Previous Knowledge.—2nd Lesson, 1st Course.

Requirements.—*For Teacher*—Blackboard and accessories, diagrams, inch-tape.

For Pupils—Paper, rulers, pencils, inch-tapes.

I. INTRODUCTION

Matter	Method
Advantages of a good dress-cutting system.	Elicit these from the class by a few simple, well-directed questions, based upon the facts taught in the previous lesson.

II. MEASUREMENTS

1. Bust. 2. Waist. 3. Hips. 4. Back. 5. Chest. 6. Nape to back waist. 7. ,, ,, back hip. 8. ,, ,, front hip. 9. ,, ,, dart. 10. ,, ,, front waist. 11. Throat to waist. 12. Length of under-arm. 13. Armhole.	Elicit the measurements taken in the previous lesson and write them on the blackboard.

III. Reference Measures

Matter	Method
1. Amount in back neck. 2. ,, ,, ,, bust. 3. ,, ,, ,, waist. 4. ,, ,, ,, hips. 5. ,, ,, ,, shoulder. 6. ,, ,, ,, armhole.	Explain the reference measurements by means of a full-sized diagram. Let the pupils measure the diagrams drafted in the previous lesson. Examine and correct the measurements.

IV. Construction Lines

Seven required viz.— 1. Vertical, determined by the "nape to back waist measure." 2. 3. Bear the same relation to each other as the horizontal lines in the back of the bodice. 4. 5. 6. Decided by the "chest measure." 7. To correspond with line 3.	Elicit the use of the construction lines. Explain that line 1 is drawn on the opposite edge of the paper, in order that the corresponding parts of the pattern may be brought together. Illustrate by means of full-sized diagrams. Examine and correct the work.

V. Pattern Lines

To distinguish these from the construction lines they should be drawn in another colour.	Draw pattern lines in coloured chalk.
Front shoulder ¼-inch shorter than back shoulder.	Explain that in tacking the seam the front shoulder is stretched until its length equals that of the back shoulder. Give reasons.
Second dart *at least* ½-inch larger than the first dart.	Explain that this is necessary because the curve of the figure is more decided at that point.
	Ask a few simple questions of revision; supplement the answers, if necessary, and write them on the blackboard as "points to be noted."

BLACKBOARD SUMMARY

Requirements

1. Rulers.
2. Pencils.
3. Paper.

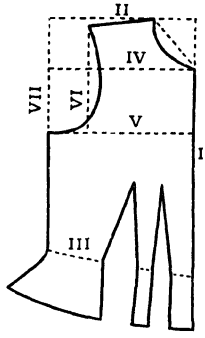
Measurements

1. Bust.
2. Waist.
3. Hips.
4. Back.
5. Chest.
6. Nape to back waist.
7. ,, ,, back hip.
8. ,, ,, front hip.
9. ,, ,, dart.
10. ,, ,, front waist.
11. Throat to waist.
12. Length of under-arm.
13. Armhole.

Reference Measurements

1. Amount in back neck.
2. ,, ,, ,, bust.
3. ,, ,, ,, waist.
4. ,, ,, ,, hips.
5. ,, ,, ,, shoulder.
6. ,, ,, ,, armhole.

Diagram



Points to be noted

1. Six reference measurements required.
2. Seven construction lines in red.
3. Pattern lines in blue.
4. Front shoulder ¼-inch shorter than back shoulder.
5. Second dart, at least, ½-inch larger than first dart.

Notes of a Lesson on Drafting a Gored Skirt

Aim.—Educational.
Practical.

Time.—1 hour.

Class.—Technical. *Average Age.*—20.

Previous Knowledge.—3rd Lesson, 2nd Course.

Requirements.—*For Teachers*—Blackboard and accessories.
For Pupils—Paper, pencils, rulers.

I. Introduction

Matter	Method
Advantages of cutting skirts by measurements are at least threefold, viz.: 1. Less fitting required. 2. Less material wasted. 3. May be drafted to fit any figure.	Point out the advantages, and refer to old-fashioned methods.

II. Measurements

Four required, viz.: 1. Width of waist. 2. Front length. 3. Side length. 4. Back length.	Measure one of the pupils; write the measurements on the blackboard, and let the pupils copy them into their note-books. Endeavour to elicit why the "side length" is the longest, and the "back length" the shortest, by referring to the flatness of the back and the rounded hip bone; explain why the measurements are taken to the ground.

III. Construction Lines

Four required for the front and side gores, viz.: 1. Vertical, determined by the length measures. 2. } Horizontal, to represent 3. } the waist and hip lines and 4. } the bottom of the skirt.	Draw the construction lines on the blackboard, and let the pupils either draft full-sized diagrams on paper, or diagrams reduced to ¼ inch scale in their note-books.

IV. Darts

Matter	Method
Length, 2½ inches to 3 inches.	Explain why the darts should not exceed the length given.
Width, 1½ inches for slim figures. 2 inches for medium figures. 2½ inches for stout figures.	Elicit the effect produced by short wide darts in a bodice, and point out why similar darts produce corresponding effects in the skirt. Illustrate this on the blackboard, and elicit the fact that several small darts will more evenly distribute the fulness than fewer larger ones.

V. Division of Waist-Line

Back equals ⅛th of waist measure. *Side gore*, 1 inch larger than the half front.	Explain this carefully; make a calculation on the blackboard, and let the pupils copy it into their note-books for future reference.

VI. Division of Hip-Line

Back, 4 inches are deducted from the half hip measure for slim figures, and 5 inches for stout ones. *Side gore*, 2 inches larger than the half front.	Elicit why more width is required for stout figures, and why the front and side-gore should be divided unequally. Calculate and note as when dividing the waist measure.

VII. Pattern Lines

To be drawn in a different colour to distinguish them from the construction lines.	Explain that the back of the skirt is gathered or pleated into the amount deducted.
A to B, C to D.—Waist measure, less the amount deducted for the back, plus the amount required for darts.	
E to F, G to H.—Hip measure, less the amount deducted for the back.	Explain that the back of the skirt is not confined within these limits; that the division is made to ensure the proper position of the side seam.
I to J, K to L.—Required width of skirt, less the amount allowed for the back of the skirt.	Give the average width, and explain why the length of these lines is mainly dependent on individual taste and the fashion of the hour.

VIII. Back of Skirt

Matter	Method
May consist of: (*a*) 2, 3, or 4 gores. (*b*) 3 or 5 wedge-shaped pieces. (*c*) 1 breadth of wide material, gored at the sides. Line 1. Waist-line. ,, 2. Width of material. ,, 3. Length of skirt.	Draw the lines on the blackboard, and elicit why lines 1 and 2 are subject to variations. Revise the lesson; supplement the answers, if necessary, and write them on the blackboard as "points to be remembered.

BLACKBOARD SUMMARY

Lesson on a Gored Skirt

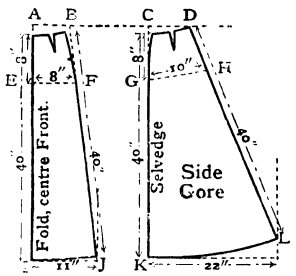
Requirements

1. Paper.
2. Pencils.
3. Rulers.
4. Inch-tape.

Measurements

1. Width of waist.
2. Length of front.
3. ,, ,, side.
4. ,, ,, back.

Diagram



Points to be remembered

1. Measurements to be taken to the ground.
2. Darts not to exceed 3 inches in length, 2 inches in width.
3. Three small darts better than two large ones.
4. One-third of width allowed for darts to be taken off each side of the side seam.
5. Half the front drafted.

NOTES OF A LESSON ON A DRESS PATCH

Aim.—Educational.
Practical.

Time.—40 minutes.

Class.—Technical. *Average Age.*—20.

Previous Knowledge.—10th Lesson, 2nd Course.

Requirements.—*For Teachers*—Blackboard and accessories, garment, cotton, scissors, needle, pins.

For Pupils—Garments, material, cotton, scissors, needles, pins.

I. INTRODUCTION

Matter	Method
Advantages— 1. Economy. 2. Neatness.	Point out the advantages and endeavour to obtain illustrations from the class.

II. PATCH AND GARMENT

Must agree as to— 1. Colour. 2. Right and wrong. 3. Warp and weft.	Elicit from the class, by simple well-directed questions, why these rules should be carefully followed when patching dress bodices.

III. SHAPE OF PATCHES

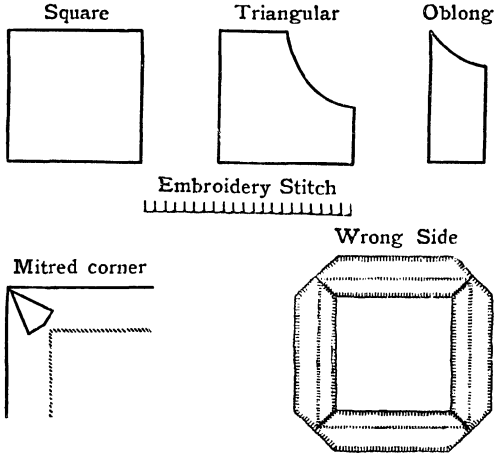
1. Square. 2. Oblong. 3. Triangular.	Draw diagrams on the board, to show how the oblong and triangular patches are curved to fit the armhole.

IV. SIZE OF PATCH

Large enough to cover the hole and surrounding worn parts, plus half-inch turnings.	Question class as to probable results if this rule were not followed.

V. METHOD OF WORK

Matter	Method
1. Seams of garment unpicked.	Teach the method of work as much as possible by means of the blackboard.
2. Space measured.	
3. Patch cut to correspond.	
4. Corners mitred.	Draw bold diagrams of a mitred corner, the embroidery stitch, and the patch as it should appear when finished.
5. Patch tacked and seamed to garment.	
6. Worn parts cut away.	
7. Seams opened and pressed.	Examine the pupils' work at short intervals, and correct mistakes.
8. Edges oversewn.	Revise the lesson, supplement the pupils' answers if necessary, and write them on the blackboard as "points to be remembered." The "points" and diagrams should be copied by the pupils into their note-books.
9. Seams replaced.	



BLACKBOARD SKETCH

LESSON ON A DRESS PATCH

Requirements

1. Garment and material. 2. Needle, cotton, scissors.

Points to be remembered

1. Patch and garment must agree as to—
   (*a*) Colour.
   (*b*) Right and wrong side.
   (*c*) Warp and weft.
2. Patch large enough to cover worn parts.
3. Corners mitred.
4. Seamed on right side, oversewn on the wrong.
5. Seams well pressed.
6. Strands of material may be substituted for silk.

Notes of a Lesson on Buttonholes

Aim.—Educational.
Practical.

Time.—40 minutes.

Class.—Technical. *Average Age.*—20.

Previous Knowledge.—6th Lesson, 1st Course.

Requirements.—*For Teacher*—Blackboard and accessories, strip of material, inch-tape, cotton, scissors, stiletto.

For Pupils—Strips of material, inch-tape, cotton, scissors, stiletto.

I. Introduction

Matter	Method
Dressmaking buttonholes differ from those made in under-garments in two ways— 1. They are worked from right to left. 2. They are never made with two barred ends.	Question class as to shape and general appearance of buttonholes, with which they are familiar. Explain that the round end enables the buttonhole to fit easily over the shank; that buttonhole stitches, worked from right to left, are always more upright than those worked in an opposite direction; give reasons.

II. Position of Buttonholes

Matter	Method
Right hand front of the bodice, not less than ¼-inch from the edge.	Elicit, by a few simple questions, the fact that the position is more or less a matter of custom, in proof of which refer to men's garments fastening in an opposite direction. Explain why ¼-inch space is necessary between the buttonholes and edge of bodice, and why the space is increased when using large buttons.

III. Shape of Buttonholes

One end round, the other barred. Round end pierced with a stiletto and oversewn.	Draw large diagram on the board representing front of bodice. Show how the hole should be bored and oversewn. Questions based upon the information given in the introduction should elicit the advantage of this method.

IV. Size of Buttonholes

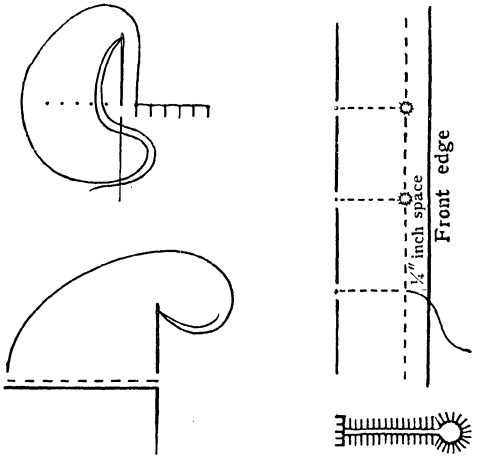
Determined by the size and shape of the buttons. Flat buttons — diameter plus ⅛-inch. Round buttons—one and a half times the diameter. Slit cut by a thread.	Endeavour to obtain from the class by a few simple, well-directed questions, the reasons why buttonholes must be larger than the buttons; why round buttons require larger holes than flat ones. Point out the necessity of cutting the slits by a thread. Examine and correct the work.

V. Buttonhole Stitch

Worked from right to left over four threads. One thread left between each stitch to allow room for knot.	Draw diagrams on the board showing how the thread should be passed round the needle, the buttonhole stitch, the round end, and the buttonhole completed. Examine and correct the work.

VI. Barred End

Matter	Method
Consists of— Two strands of silk. Five knotted stitches.	Draw diagrams and explain that the bar must never extend beyond the stitches at the sides of the buttonhole; that each of the five knotted stitches must take up a thread of the material, and not pass simply round the strands of silk. Examine and correct the work. Revise the lesson, supplement the answers, if necessary, and write them on the blackboard as "points to be remembered." The "points" and diagrams should be copied by the pupils into their note-books.



BLACKBOARD SKETCH

Lesson on Buttonholes

Requirements

1. Material.
2. Silk or cotton.
3. Scissors and stiletto.
4. Inch-tape.

Points to be remembered

1. Buttonholes not less than ¼-inch from edge of bodice.
2. One end round, the other barred.
3. Round end oversewn.
4. Buttonholes ⅛-inch larger than buttons.
5. Cut by a thread.
6. Worked from right to left.
7. Worked over four threads.
8. One thread between each stitch to accommodate the knot.
9. Bar consists of two strands and five stitches.

Headings for Lessons.—The advantages arising from lessons being carefully planned have already been shown, but teachers, who have both day and evening classes, cannot always spare the time necessary for their preparation, consequently the more quickly prepared "headings" are often substituted. These consist of the "headings" of the paragraphs of subject matter arranged in the order in which the lesson will be given.

Experienced teachers no doubt find this method of arranging the facts to be taught, in logical order under headings, of great service, but those of doubtful capacity and limited experience should not only prepare the subject-matter to be taught, but also the method of teaching it.

When dealing with the subject theoretically, only the headings under which the paragraphs of subject-matter are arranged *need be given*, but it is advisable that the facts to be taught under each heading should be briefly stated, somewhat after the manner indicated in the "Headings for Lessons" on the following pages. The task of teaching notes of lessons is simplified if the headings are taught first, in order that the pupil may learn how to arrange the matter in logical order. The headings afterwards form a basis upon which notes of lessons may be written; examples of this are shown in "Notes" and "Headings" for lessons on "Buttonholes" and "Dress-patch" respectively.

Headings for a Lesson on Drafting a Skirt

Requirements—

Blackboard and accessories.

Measurements—

1. Length	40	inches
2. Width of hips	44	,,
3. Width of waist	24	,,

Division of Waist Measure—

Half back	2	inches
Half front	$4\frac{1}{2}$	,,
Side gore	$5\frac{1}{2}$	,,

Division of Hip Measure—

Half back	4	inches
Half front	8	,,
Side gore	10	,,

Hip-line—

Eight inches below waist-line.

Darts—

Slim figures	$1\frac{1}{2}$	inch
Medium figures	2	inches
Stout figures	$2\frac{1}{2}$	,,

Half Front—

Vertical line, length measure, plus 2 inches.
Horizontal lines, at right angles, length 11 inches.

Side Gore—

Vertical line, length measure, plus 1 inch.
Horizontal lines at right angles length 22 inches.

Back of Skirt—

May consist of one, two, or three pieces, according to required width.

Points to be noted—

1. Half the front drafted.
2. Darts must not exceed 3 inches in length.
3. Three small darts better than two large ones.
4. One-third of width allowed for darts taken off each side of the side seam.

Headings for a Lesson on Fitting a Bodice

Requirements—

Bodice lining, model, scissors, pins.

Fitting Seams—

Shoulder and under-arm pinned on right side of bodice.

Position of Pins—

Right hand front, left hand back, points downward.

Fitting—

Pinned securely on waist-line, centre front lines pinned from neck downwards.

Unpinning Seams—

Only one at a time.

Shoulder Wrinkles—

Front shoulder lowered and repinned.

Wide across Chest—

Front shoulder lowered and repinned.

Waist too long—

Bodice raised and shoulder seam taken in.

Waist too short—

Bodice lowered from shoulder.

Too tight or too loose—

Fitting seams taken in or let out.

Fulness in Front Armhole—

Size of second dart increased.

Points to be noted—

1. Waist-line must be pinned securely.
2. Only one seam at a time to be unpinned.
3. Waist-line must never be altered.

Headings for a Lesson on Cutting out a Bodice

Requirements—

1. Paper pattern.
2. Material and lining.
3. Scissors and pins.

Pattern—

Reduce basque to required length.

Turnings—

Front of bodice . . .	2 inches
Fitting seams	$1\frac{1}{2}$ inch
Neck and armhole . . .	$\frac{1}{2}$ "
All other seams . . .	$\frac{3}{4}$ "

Lining—

Kept folded.

Material—

Kept folded; single-width material folded end to end.

Cutting out back—

Waist-line parallel with weft threads.

Cutting out front—

Front edge parallel with warp threads.

Flat Chest—

Allow extra turnings at neck point of shoulder seams.

Points to be noted—

1. Basque cut and folded to required length.
2. Turnings allowed on all sides.
3. Lining kept folded.
4. Single-width material folded end to end.
5. Waist-line running straight across from selvedge to selvedge.
6. Front line running down the selvedge.
7. Extra turnings at neck point for flat-chested figures.

Headings for a Lesson on Choice of Materials

Requirements—

1. Blackboard and accessories.
2. Specimens of material.

Points to be considered—

1. Circumstances, complexion, and figure of the wearer.
2. Capacity of the worker.

Advantages of Woollen Materials—

1. Wear well.
2. Bad conductors of heat.

Disadvantages of Woollen Materials—

1. More expensive than cotton.
2. Shrink with frequent washing.

Twilled Materials—

More closely woven, therefore stronger.

Alpacas—

1. Light, cool; good qualities wear well.
2. Difficult to make and drape.

Checks—

Matched with difficulty; unsuitable for short, stout figures.

Stripes—

Matched with difficulty; add length or width according to the direction in which they run.

Skirt Linings—

1. Should have a smooth surface to facilitate free movement.
2. Should be firm enough to support thin materials.
3. Should match the material in colour.
4. More economical if reversible.

Bodice Linings—

1. Should be thin, soft, firm yet flexible.
2. Should match the colour of semi-transparent materials.

Interlinings—

1. Strong, coarse linen for skirts.
2. French canvas for revers, etc.
3. Tailor's buckram or French canvas for collars.
4. Highly stiffened materials with little substance, such as Victoria lawn, should be avoided.

Points to be noted—

1. Circumstances, complexion, and figure of the wearer should be considered.
2. Plain materials for inexperienced workers.
3. Twilled materials wear better than plain ones.
4. Alpacas somewhat difficult to make.
5. Checks unsuitable for short, stout figures.
6. Vertical stripes add length, horizontal stripes width.
7. Skirt linings should have a smooth surface.
8. Bodice linings should be firm, soft, and thin.
9. Unduly stiffened interlinings should be avoided.

Headings for a Lesson on a Dress Patch

Requirements—

1. Two pieces of material, one representing the garment, and the other the patch.
2. Silk or cotton to match.
3. Tacking cotton.
4. Needles, pins, scissors, inch-tape.

Patch and Garment—

Must agree in three ways, viz.—

1. Colour.
2. Right and wrong side.
3. Warp and weft.

Shape of Patches—

1. Square.
2. Oblong.
3. Triangular.

Size of Patch—

Large enough to cover the hole and surrounding worn parts, plus half-inch turnings.

Method of Work—

1. Space measured.
2. Patch cut to correspond.
3. Corners mitred.
4. Patch tacked and seamed to garment.
5. Worn parts cut away.
6. Seams opened and pressed.
7. Edges oversewn.

Points to be remembered—

1. Patch and garment must agree as to—
   (*a*) Colour.
   (*b*) Right and wrong side.
   (*c*) Warp and weft.
2. Patch must be large enough to cover worn parts.
3. Corners mitred.
4. Seamed on the right side, oversewn on the wrong.
5. Seams well pressed.
6. Strands of material may be substituted for sewing silk.

Headings for a Lesson on Buttonholes

Requirements—

1. Strips of material.
2. Cotton.
3. Inch-tape.
4. Needles, scissors, pins.

Position of Buttonholes—

Right-hand front of the bodice, not less than $\frac{1}{4}$-inch from the edge.

Shape of Buttonholes—

One end round or triangular, the other barred.

Size of Buttonholes—

Flat buttons—diameter plus $\frac{1}{8}$-inch.
Round buttons—$1\frac{1}{2}$ times the diameter of the button.

Buttonhole Stitch—

Worked from right to left over four threads; one thread left between each stitch to allow room for knot.

Barred End—

Two strands of silk.
Five knotted stitches.

Points to be remembered—

1. Buttonholes not less than $\frac{1}{4}$-inch from edge of bodice.
2. One end round or triangular, the other barred.
3. Round end oversewn.
4. Buttonholes $\frac{1}{8}$-inch larger than the buttons.
5. Cut by a thread.
6. Worked from right to left.
7. Worked over four threads.
8. One thread between each stitch to accommodate the knot.
9. Bar consists of two strands and five stitches.

CHAPTER III

TECHNICAL CLASSES

Fittings Required. — Students trained in well-appointed schools, are not always prepared to find the rooms in which technical classes are held furnished only with the barest necessaries.

Instead of the cutting-out tables, cupboards, pressing-boards, sewing-machines, iron-heaters, and dummies to which they are accustomed—and without which they are inclined to think they cannot work—they find the room provided with nothing but a few chairs or forms, and one or two tables.

An Ideal Room would of course contain all the above-mentioned appliances; it would also be spacious, well-ventilated, lighted and warmed.

Space.—Ten or twelve square feet of floor space in a room measuring from 12 to 14 feet in height, should be allowed per head. If we take the lowest computation and multiply the 10 square feet of floor space by the height of the rooms (12 feet), we find that 120 cubic feet of space should be allowed each person.

There is no objection to a room being higher than 14 feet, but anything above this height does not compensate for limited floor space; the floor area should equal, at least, one-twelfth of the total cubic space.

Formerly the minimum allowance in schools was 80 cubic feet per head—8 square feet in a room 10 feet high. When we consider that 9 square feet equal 1 square yard, it will be unhesitatingly agreed that the amount is altogether too small. In many of the schools recently erected 15 or 16 square feet per head are allowed.

Ventilators.—To ensure efficient ventilation both inlet and outlet openings must be provided—the former, as near the floor as possible, without producing a draught; the latter, close to the ceiling. The cold air enters by the inlet opening, becomes warmed and charged with impurities, and owing to the fact that warm air is lighter than cold, it rises and passes out by the opening near the ceiling. As the warm air escapes it is replaced by cold fresh air.

Outlets.—These may be iron gratings, perforated bricks, windows, opened at the top, valves, opened into the chimney.

Inlets.—The lower part of the windows may be used as an inlet, when the room is not in use. Openings in the wall should be provided with a Sherringham, or some other valve, constructed to direct the air upwards, in order to prevent a draught. The best inlets are those which open at the floor level; the outside is covered with an iron grating, and on the inside a vertical tube rises to a height of four or five feet; the top of the tube is fitted with a valve, to control the amount of air coming in. This ventilator is known as Tobin's tube.

Lighting.—The window area should not be less than one-tenth of the floor area; it may with advantage be more. All windows should rise as near to the ceiling as possible, since the best light is that which comes from the highest point. Each window should be made to open, in order that additional ventilation may be obtained. Light

coming directly from the front, or from a sky-light should be avoided; both are trying to the sight.

The best possible light, when drawing or drafting, is from the left; if it comes from the right, the shadow of the hand is thrown over the work. Opinions are divided as to the best position for the windows. The east and south aspects admit more light; but the light from the north is more steady and searching. For this reason, the windows of the rooms set apart in textile manufactories for minutely examining the fabrics always face north.

Artificial Lighting.—Artificial lighting is chiefly required for those classes which are held in the evening. Electric lighting is to be preferred above all other artificial means, on account of its sanitary advantages. The light, which is contained within a sealed globe, has no contact with the air, consequently no impurities can be added to the atmosphere of the room. The globes should be provided with shades, constructed to throw the light down upon the tables.

Heating. Open fires will always be preferred as the most pleasant and healthy method of warming a small room, but for large ones they are very unsatisfactory, on account of the unequal heating of different parts of the room. Waste of heat, trouble of replenishing, the dust and smoke they occasion, may also be raised as objections to their use; over eighty per cent of the total heat capable of being yielded by the coal escapes up the chimney.

Closed Stoves.—Compared with open fires, closed stoves are more economical and cleanly, but by no means so healthy, because their ventilating power is so much less.

The advantages of stoves are—

1. More economical.
2. All the heat produced is utilised in the room.
3. The heat is evenly distributed.

The disadvantages are —

1. Less healthy.
2. Less cheerful.

Closed stoves are often objectionable, owing to their making the air hot and dry; this, however, may be prevented by placing a vessel of water upon or beneath the stove; the evaporation of the water adds moisture to the air.

Gas Stoves.—Only the ventilating gas stoves, with pipes communicating directly with the external air—one admitting the pure air, the other carrying off the products of combustion—should be allowed in schoolrooms; for stoves which are not provided with means of ventilation are most unhealthy. Gas stoves have the advantage of being convenient and cleanly, the heat being perfectly under control; but the continued use of gas for warming purposes is expensive, except in a few places where coal is very cheap.

Hot Water, Hot Air, Steam.—Hot water is produced more cheaply than hot air and steam, and is therefore in more general use. The ease with which all parts of a building can be heated by pipes containing hot water or steam explains why this method of heating schools and other large buildings has nearly supplanted all others. The circulation of the water is due to the fact that, water, like air, on being heated, becomes lighter. The hot water, rising in the pipes, passes through and heats the rooms, and then descends by another pipe, to be again heated in the boiler.

Hot pipes, like closed stoves, make the air too dry. When it becomes unpleasantly so, a piece of coarse flannel, or any other other woollen material, should be saturated

with water and spread upon the pipes; the evaporation will moisten the air.

The walls of a needlework room should be coloured pale green or grey, preferably the latter.

It falls to the lot of very few to teach in ideal rooms, but every teacher of dressmaking should endeavour to secure sufficient light and table space.

In making arrangements with the Committee, it will be found a good plan either to ask for the same amount of table space as allowed in drawing classes, or measure the paper used for drafting and multiply the width by the number of pupils. This is the least amount that should be allowed; it might be increased with advantage.

The machining and pressing are nearly always—of necessity—done at home; but one iron, and a small gas or spirit stove should be provided, in order that the pupils may be taught how to press. When the room is not provided with a blackboard, or it is too small or otherwise unsuitable, a piece of dull black American cloth, securely tacked to the wall, will be found a good substitute.

Pupils provide their own cotton, needles, pins, scissors, rulers, pencils, and inch-tapes. The teacher should be prepared on the first night to supply paper, pencils, rulers, and note-books at the lowest possible price; the pupils nearly always forget to provide these things.

The teacher should also provide strips of material and lining upon which to practise oversewing, etc.

Syllabus.—The syllabus should be arranged with reference to the number of lessons to be given, and the probable age and capacity of the pupils. It is unwise to attempt more than time will allow, or their intelligence grasp. It should always be borne in mind that, a little well taught will lay a good foundation for more advanced work. In

arranging a series of lessons for young girls—the object being to give them a thorough training—the first course should include nothing but drafting bodice and sleeve patterns, and the stitches used in dressmaking.

The following syllabus of ten lessons, each of two hours' duration, would be suitable :—

SYLLABUS FOR A COURSE OF TEN LESSONS IN DRESS-CUTTING

I. Explanation of measurements.
Pupils' measurements taken.
Practice in oversewing.
II. Construction lines for back of bodice.
Buttonhole practice.
III. Back of bodice completed.
IV. Explanation of "reference measures."
Construction lines for back of bodice.
Practice in sewing on hooks and eyes.
V. Front of bodice completed.
Practice in making eyelit-holes.
VI. Construction and pattern lines for sleeve.
Buttonhole practice.
VII. Pupils' bodice patterns drafted and corrected.
VIII. Pupils' sleeve patterns drafted and corrected.
IX. Demonstration on dress-patch.
Practise dress-patch.
X. Examination of work and note-books.
Recapitulation.

All the above stitches should be worked in white or light-coloured cotton upon strips of material, which, as a rule, are supplied by the teacher.

The bodice linings might be cut out and fitted instead of teaching the dress-patch, etc. ; but, unless the pupils are of average intelligence, no more than the above should be attempted. In many technical classes the patterns are drafted, and the dresses made in twelve lessons. On the

surface this may appear satisfactory, but, the teacher with a higher aim than that of making so many dresses in a given time, has often good cause to be dissatisfied with the result of her teaching.

The following syllabus is arranged for twelve lessons in drafting and dressmaking. The work in these short courses must be carefully planned. It will be found a good rule to begin the bodices as soon as the skirts are cut out, as this enables the pupils to work at both skirt and bodice between the lessons, which is always an advantage in a short course.

In all cases the skirts should be cut out first, in order that the pieces may be used when cutting the bodice.

SYLLABUS FOR A COURSE OF TWELVE LESSONS IN DRESS-CUTTING AND DRESSMAKING

I. Explanation of measurements.
Pupils' measurements taken.
Demonstration on the back of the bodice.
II. Demonstration on the front of the bodice.
Buttonhole practice.
III. Skirts cut out and tacked together.
Instructions for stitching, pressing, and oversewing.
IV. Skirts continued.
Pocket, placket, mounting, fitting.
V. Skirts continued, facing, braid.
VI. Bodices cut out.
Tacking-out.
VII. Bodices fitted.
Instructions for stitching and pressing.
VIII. Bodices continued.
Fastenings, bone-casings.
IX. Demonstration on sleeve and collar.
Bodices continued.
X. Sleeves and collar cut out and tacked.
XI. Putting in sleeves, putting on collar.
XII. General finish.

The above shows the work in detail, and need only be adopted when giving evidence (as in a theoretical examination) of one's capacity for organising a course of lessons upon practical lines.

When arranging a syllabus to be issued by a Committee, the greater part would be omitted and something like the following given :—

SYLLABUS FOR A COURSE OF TWELVE LESSONS IN DRESS-CUTTING AND DRESSMAKING

I. Explanation of measurements.
Demonstration on the back of the bodice.
II. Demonstration on the front of the bodice.
III. Skirt-cutting.
IV. Skirts continued, pocket, placket, mounting.
V. Skirts continued, facing, braid.
VI. Bodice-cutting.
VII. Bodice-fitting.
VIII. Bodices continued, fastenings, bone-casings.
IX. Demonstration on sleeve and collar.
Bodices continued.
X. Making sleeves and collar.
XI. Putting in sleeve and collar.
XII. General finish.

In a short course of lessons the demonstration on "skirt-cutting" is nearly always omitted and the skirts cut from patterns supplied by the teacher.

Mistakes are less likely to occur if the patterns are cut in paper of different colours ; say, light-brown, dark-brown, white, and striped.

As a rule, no more than four patterns can be used at one time, owing to the limited table space.

The skirt patterns should be of average size, with inch-wide turnings allowed on both sides of the seam. Some slight alterations will be necessary, in order to adapt them

to figures of varying size; but this will be found less troublesome than having patterns drafted to different measurements.

For figures of rather more than average size, an additional inch should be allowed on the front seams; for fairly stout figures, additional inch-wide turnings should be allowed on all seams; for very stout figures, it is sometimes necessary to introduce an extra side gore. The patterns may be easily adapted to small figures by reducing the width of the front and side-gores. An inch taken off both sides of the side seam, will, as a rule, be found sufficient; the edge of the pattern should be folded over the entire length, in order to reduce the width without altering the shape.

About forty inches may be considered an average length for a skirt pattern; in adapting it, the extra width and length must be chalked round the pattern before cutting out the lining and material. Diagrams, showing the right and wrong way of placing the pattern upon the material, should be studied by the pupils, previous to cutting out the skirt.

Diagrams 13 and 14 on page 68 clearly demonstrate the necessity of dove-tailing, also of cutting out the skirt before the bodice.

In order to teach both dress-cutting and dressmaking satisfactorily, not less than twenty or twenty-four lessons should be given, either as one long course, in which a complete dress may be made, or two short ones.

One very great objection to a course extending over ten or twelve weeks is, that the dresses are kept on hand a long time; if, on the other hand, two classes a week are held, in order that twenty-four lessons may be given in twelve weeks, the busy pupils may not have time, between the lessons, to do the necessary sewing at home.

A common mistake made in long courses is that of devoting the first eight or ten lessons entirely to drafting.

A great deal has been written about interesting children in their work, and the same applies to adults; they attend more regularly, and appear more interested when the practical work is begun; there should therefore be no unnecessary delay; the skirts should be cut out not later than the third lesson in a short course, and the fourth in a long one.

Three advantages arise from a long course—

1. More time may be devoted to teaching the principles upon which the "system" is based.

2. The pupils have more time for home work.

3. The teacher has more time to correct the patterns, consequently fewer mistakes occur.

Granted pupils of average intelligence, a complete dress, and a blouse or child's frock, would not be too much to attempt in a course of twenty or twenty-four lessons. Although a second garment is introduced, it does not follow that all the pupils would be required to make it; the slow ones, or those who had attended irregularly, would probably make the dress only. The extra time provided by the long course to meet these cases, is another advantage not to be overlooked.

Syllabus for a Course of twenty-four Lessons in Dress-cutting and Dressmaking

I. Explanation of measurements.
Demonstration on the back of the bodice.
Choice and quantity of material.

II. Demonstration on the front of the bodice.
Pupils' measurements taken.

III. Demonstration on skirt.
Practice in oversewing.

IV. Skirt-cutting and tacking.
Instructions for stitching and pressing.
V. Skirts continued.
Pocket, placket, fitting, mounting.
VI. Lesson on buttonholes.
Skirts continued.
VII. Skirts continued.
Facing, braid.
VIII. Bodice cutting.
Tacking out.
IX. Bodice fitting.
Practise buttonholes.
X. Bodices continued.
Bone-casings, fastenings.
XI. Bodices continued.
XII. Demonstration, sleeve and collar.
XIII. Making sleeves and collar.
XIV. Putting in sleeves and collar.
XV. Demonstration on dress-patch.
Practise dress-patch.
XVI. Demonstration on blouse lining.
Practise print patch.
XVII. Demonstration on a cross-cut front (for blouse).
Practise smocking.
XVIII. Blouses cut out and tacked.
XIX. Lesson on draping.
Blouses draped.
XX. Blouses fitted.
XXI. Blouses continued.
XXII. Blouses continued.
XXIII. Practise smocking.
XXIV. General finish.

In the following syllabus, the twenty-four lessons are divided into two courses; but they cannot be considered separate ones. All who attended the first course would make a skirt and prepare a bodice pattern to be used in the second, or in a subsequent course of lessons; but no one could take the second course who had not prepared the bodice pattern in the first, unless the teacher would allow

the pattern to be drafted by some one else, and only in exceptional circumstances would this be advisable.

Occasionally, pupils, who have not sufficient intelligence to learn the drafting, have to be dealt with. When they are no longer young, and not likely to make dresses for any one but themselves, instead of wasting time in trying to teach them a "system" they could never use, it is better for the teacher to draft the patterns and allow the pupils to devote all the time to dressmaking.

It is not for a moment contended that this is an educational method of teaching, but, under the circumstances, it is certainly the most practical.

Syllabus for the First Course of Twelve Lessons in Dress-cutting and Dressmaking

I. Explanation of measurements.
Demonstration on the back of the bodice.
Choice and quantity of materials.
II. Demonstration on the front of the bodice.
Practise oversewing.
III. Pupils' bodice and skirt measurements taken.
Demonstration on drafting a skirt.
Skirt patterns corrected.
IV. Lesson on skirt cutting.
Skirt tacking.
Instructions for stitching and pressing.
V. Skirts continued.
Pocket, placket.
VI. Skirts continued.
Fitting, mounting.
VII. Skirts continued.
Facing, braid.
VIII. Lesson on buttonholes.
Practise buttonholes.
IX. Demonstration on sleeve and collar.
Practise buttonholes.

X. Lesson on smocking.
XI. Demonstration on a print patch.
Practise print patch.
XII. Pupils' bodice patterns corrected.
Practise smocking.

SYLLABUS FOR THE SECOND COURSE OF TWELVE LESSONS IN DRESS-CUTTING AND DRESSMAKING

I. Bodice cutting.
Tacking out.
II. Bodices continued.
Stitching, pressing, oversewing.
III. Bodices continued.
Finishing front, fasteners.
IV. Lesson on fitting.
Bodices continued.
Bone-casings.
V. Bodices fitted.
VI. Bodices continued.
Basque, etc.
VII. Cutting out sleeves and collar.
Bodices continued.
VIII. Making sleeves and collar.
IX. Putting in sleeves and collar.
X. Lesson on a dress-patch.
Practise dress-patch.
XI. Lesson on honey-combing.
Practice in honey-combing.
XII. Examination of note-books.
General finish.

The syllabus for a course of twelve lessons, in which a complete dress is made, is given simply to show the order in which the work should be taught, when it is absolutely necessary to make a dress in the number of lessons stated.

Those who have a free choice in the matter should never attempt this, for it is much better to teach either the skirt or bodice, and do it thoroughly. The following syllabus,

or the first course of the twenty-four lessons on page 41, would be more suitable :—

SYLLABUS FOR A COURSE OF TWELVE LESSONS IN DRESS-CUTTING AND DRESSMAKING

I. Explanation of measurements.
Demonstration on the back of the bodice.
Choice and quantity of materials.
II. Demonstration on the front of the bodice.
Pupils' measurements taken.
III. Lesson on buttonholes.
IV. Demonstration on blouse lining.
Practise oversewing.
V. Demonstration on sleeve and collar.
Bodice patterns corrected.
VI. Blouses cut out (bodices if preferred).
Tacking out.
VII. Lesson on draping.
Blouses or bodices continued.
VIII. Blouses or bodices fitted.
Bone-casings.
IX. Sleeves and collar cut out.
Blouses or bodices continued.
X. Sleeves and collar made.
XI. Sleeves and collar put in.
XII. General finish.

A syllabus of lessons should be arranged, so that each lesson is related to what has gone before, and is a preparation for what is to follow. The syllabus of twenty-four lessons on page 40 will make this clear; the lesson on the lining required for the back of the blouse was followed by the lesson on the cross-cut for the front, and lesson on "draping" when making the blouse.

SUBJECTS FOR DEMONSTRATIONS

1. Back of the bodice.
2. Front of the bodice.

3. Sleeve and collar.
4. Cross-cut front.
5. Blouse lining.
6. Bodice with three sidepieces.
7. Bodice with one sidepiece.
8. Relative measurements.
9. Bodice with abnormal measurements.
10. Girl's frock.
11. Full sleeve, cut from the sleeve lining.
12. Skirt for wide materials.
13. Skirt for narrow materials.
14. Dress-patch.
15. Print-patch.
16. Buttonholes.
17. Fitting.

1, 2, 3, 5, 10, 12, 13, 14, 15, 16, 17 may be demonstrated to elementary pupils, the remainder in more advanced work.

The following details of the work:—(*a*) boning a bodice; (*b*) different ways of finishing seams; (*c*) slip-stitching; (*d*) slip-hemming; are sometimes taught collectively, but they cannot be considered suitable subjects for demonstrations. They are more easily and quickly taught individually, particularly when the class comprises—as technical classes often do—pupils of different age, making garments of varying size and shape. Under these circumstances it is quite impossible to keep all the pupils' work at the same stage; consequently the garments would not be ready for the respective lessons at the same time.

A teacher of dressmaking should be able to demonstrate clearly and simply. Advantage should be taken of the fact, that the eye carries impressions to the brain very quickly, and all the difficult points in a lesson, admitting of illustration, taught by means of the blackboard.

Mechanical teaching should be guarded against. It is

not sufficient to merely give directions for drafting, cutting, and making, as the work proceeds; there is a reason for each step, and it should be explained to the pupils in a simple, lucid manner. By these means their interest may be roused and their reasoning faculties cultivated.

When demonstrating the bodice, it is a good plan to have a full-sized diagram, drawn in two colours, one representing the construction, and the other the pattern lines. The diagram should be placed near the blackboard, and where it can be seen distinctly by the class.

When demonstrating the various stitches and patches, large, bold diagrams should be drawn upon the board, and finished specimens of the subject of the lesson exhibited to the class.

Finished specimens of the following should form part of the plant of every teacher:—

1. Buttonholes.
2. Hooks and eyes, sewn on with embroidery stitch.
3. Eyelet holes.
4. Oversewing.
5. Tacking out.
6. A seam pressed, notched, and oversewn.
7. A seam with bone-casing eased on.
8. A seam showing the bone in the casing and a "fan of stitches."
9. Dress-patch.
10. Print patch.
11. Diagrams showing how to dove-tail the parts of a skirt.

When teaching a large class, it must, to a great extent, be done collectively. Irregular attendance is the teacher's greatest difficulty. It will be found a good plan to announce at the first lesson the dates upon which the most important demonstrations will be given, and explain why they cannot be repeated, pointing out, at the same time,

how necessary it is they should attend them; this will nearly always secure a good attendance on the nights in question.

The number of pupils forming a class depends upon the age and capacity of the pupils, the ability of the teacher, and the size and accommodation of the room. As a rule, the numbers should not exceed sixteen or eighteen in a long course, and twelve in a short one.

Time-Tables.—In the time-tables A, B, C, twelve lessons per week are arranged to be given in four different schools. A is particularly simple and clear and may be recommended in preference to B and C. It is scarcely necessary to point out that, although arranged for dressmaking classes, they may be easily adapted to any other subject.

When the attendances are registered, it should be done as soon as the class is assembled, before beginning work. Sometimes the letters A and P are used to denote absence and presence, but it is better to follow the rule laid down by the "Code" and mark presence \ and absence O. Demonstrations may be represented by black strokes and rings, and practice by red ones.

When the attendances are registered, five minutes should be allowed in the time-table for the purpose. The one marked C on page 50 is arranged in this manner.

In the time-table D, for a Domestic Economy School, in addition to the needlework and dressmaking classes on four afternoons, the teacher would probably take the laundry or cookery classes during the day, and two or three evening classes. The students would be divided into two sections in the morning: Section A would take cookery on Monday, Wednesday, and Friday, and laundry on Tuesday and Thursday. Section B would take these subjects on the alternate days.

E includes the same subjects as D, but more suitably arranged for a small school where the numbers are too small to be divided into sections.

In residential schools of Domestic Economy the work begins about 6.30, and it will be found a good plan, when the numbers admit of it, to divide the students into three sections, to work during the morning respectively at housework, laundry-work, and cookery. The afternoons would be devoted to dressmaking, needlework, and lectures on Domestic Economy.

A

TIME-TABLE

Name of School.	Monday.		Tuesday.		Wednesday.		Thursday.		Friday.	
	Demonstration.	Practice.	Demonstration.	Practice.	Demonstration.	Practice.	Demonstration.	Practice.	Demonstration.	Practice.
A	2-3	3-4		...	...	11-1 2-4	...	...	...	7-9
B	7-8	8-9	...	...	...	7-9	...	...	...	...
C	...	..	2-3	3-4	...	...	...	2-4	...	...
D	...	...	7-8	8-9	...	...	...	7-9	...	11-1 2-4

B

TIME-TABLE

	Morning.			Afternoon.			Evening.		
	Place.	Time.	Subject.	Place.	Time.	Subject.	Place.	Time.	Subject.
Monday	...	...	...	A	2-3 3-4	Dressmaking demonstration Dressmaking practice	B	7-8 8-9	Dressmaking demonstration Dressmaking practice
Tuesday	...	...	...	C	2-3 3-4	Dressmaking demonstration Dressmaking practice	D	7-8 8-9	Dressmaking demonstration Dressmaking practice
Wednesday	A	11-1	Dressmaking practice	A	2-4	Dressmaking practice	B	7-9	Dressmaking practice
Thursday	...	...	...	C	2-4	Dressmaking practice	D	7-9	Dressmaking practice
Friday	D	11-1	Dressmaking practice	D	2-4	Dressmaking practice	A	7-9	Dressmaking practice

C

TIME-TABLE

Day.	Hour.	Place.	Subject.	Register.	Demonstration.	Practice.
Monday . .	3-5	School A	Dressmaking	3-3.5	...	3.5-5.0
,, . .	7-9	,, A	,,	7-7.5	...	7.5-9.0
Tuesday . .	11-1	,, B	,,	11-11.5	11.5-12.	12.0-1.0
,, . .	3-5	,, B	,,	3-3.5	...	3.5-5.0
,, . .	7-9	,, A	,,	7-7.5	...	7.5-9.0
Wednesday .	3-5	,, C	,,	3-3.5	3.5-4.	4.0-5.0
,, . .	7-9	,, C	,,	7-7.5	...	7.5-9.0
Thursday . .	3-5	,, D	,,	3-3.5	...	3.5-5.0
,, . .	7-9	,, D	,,	7-7.5	...	7.5-9.0
Friday . .	11-1	,, B	,,	11-11.5	11.5-12.	12.0-1.0
,, . .	3-5	,, B	,,	3-3.5	...	3.5-5.0
,, . .	7-9	,, A	,,	7-7.5	...	7.5-9.0

D

TIME-TABLE FOR A SCHOOL OF DOMESTIC ECONOMY

	Morning.	Subject.	Afternoon.	Subject.
Monday	9.30-10.30	Housework.	2-3.30	Needlework.
,,	10.30-12.30	Cookery.	3.30-4.30	Lecture on Hygiene.
,,	12.30-2	Dinner and Rest.	4.30-5	Tea.
Tuesday	9.30-10.30	Housework.	2-4	Dressmaking.
,,	10.30-12.30	Laundry.	4-4.30	Lecture on Nursing.
,,	12.30-2	Dinner and Rest.	4.30-5	Tea.
Wednesday	9.30-10.30	Housework.	2-3.30	Needlework.
,,	10.30-12.30	Cookery.	3.30-4.30	Lecture on Physiology.
,,	12.30-2	Dinner and Rest.	4.30-5	Tea.
Thursday	9.30-10.30	Housework.	2-4	Dressmaking.
,,	10.30-12.30	Laundry.	4-4.30	Lecture on Household Management.
,,	12.30-2	Dinner and Rest.	4.30-5	Tea.
Friday	9.30-10.30	Housework.	2-3	Lecture on Chemistry of Food.
,,	10.30-12.30	Cookery.	3-4.30	Marketing.
,,	12.30-2	Dinner and Rest.	4.30-5	Tea.

E

TIME-TABLE FOR A SCHOOL OF DOMESTIC ECONOMY

	Morning.	Subject.	Afternoon.	Subject.
Monday	9.30-10.30	Housework.	2.30-4.30	Dressmaking.
,,	10.30-11.15	Lecture on Hygiene.	4.30-5	Tea.
,,	11.15-1.15	Cookery.		
,,	1.15-2.30	Dinner and Rest.		
Tuesday	9.30-10.30	Housework.	2.30-4.30	Laundry.
,,	10.30-11.15	Lecture on Nursing.	4.30-5	Tea.
,,	11.15-1.15	Cookery.		
,,	1.15-2.30	Dinner and Rest.		
Wednesday	9.30-10.30	Housework.	2.30-4.30	Needlework.
,,	10.30-11.15	Lecture on Physiology.	4.30-5	Tea.
,,	11.15-1.15	Cookery.		
,,	1.15-2.30	Dinner and Rest.		
Thursday	9.30-10.30	Housework.	2.30-4.30	Laundry.
,,	10.30-11.15	Lecture on Household Management.	4.30-5	Tea.
,,	11.15-1.15	Cookery.		
,,	1.15-2.30	Dinner and Rest.		
Friday	9.30-10.30	Marketing.	2.30-4.30	Dressmaking.
,,	10.30-11.15	Lecture on Chemistry of Food.	4.30-5	Tea.
,,	11.15-1.15	Cookery.		
,,	1.15-2.30	Dinner and Rest.		

CHAPTER IV

SKIRT-CUTTING AND SKIRT-MAKING

SKIRTS vary so much in shape and style that only general rules for cutting and making can be given, but any one, understanding the principle upon which such rules are based, will have no difficulty in modifying the following diagrams —illustrating what may be termed standard methods—to meet the demands of existing fashions, or adapting them to materials of different widths.

Five measurements are necessary when drafting a skirt—

1. Half waist.
2. Half hips.
3. Front length.
4. Side „
5. Back „

The waist measure should be an easy one, for a tight band nearly always causes the skirt to fit badly over the hips.

The hip measure is taken loosely, 8 inches below the waist, and the length measurements from the waist-line to the ground; paying no attention whatever to the length of the wearer's skirt.

This will allow half an inch turning at the top of the skirt, and one and a half inch at the bottom. Usually the side measure is found to be the longest, and the back

measure the shortest. Surprise is often expressed at this; but a little study of the human figure soon convinces one that the hips have the largest and most prominent curve, and the back, the least.

Diagrams 1, 2, 3, illustrate three different types of skirts, all equally easy to teach by demonstration; but that shown

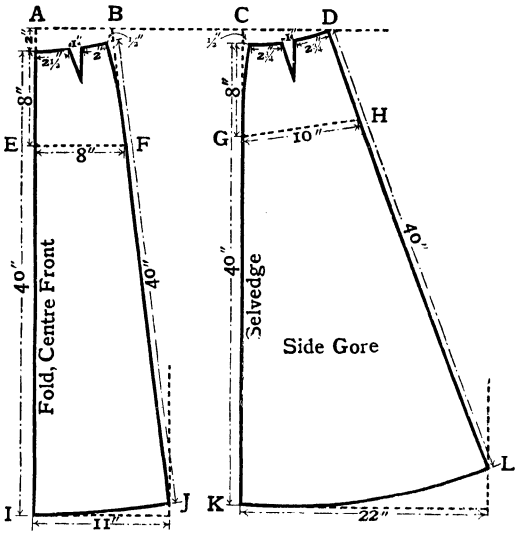


DIAGRAM 1.—SKIRT FOR NARROW MATERIALS ($\frac{1}{16}$-inch scale).

in Diagram 1 explains more clearly the principle upon which skirt-cutting is based.

To simplify the diagrams as much as possible, all the length measures are given as 40 inches.

The front of the skirt in Diagram 1 consists of three pieces—the front and two side gores. Either of the "backs" shown in Diagrams 4, 5, 6, 7, may be used to complete the skirt.

The back of the skirt is either gathered or pleated into about $\frac{1}{6}$ of the waist measure. The width best suited to the wearer should be carefully noted when fitting. Narrow backs are usually preferred to wide ones, as the latter tend to increase the apparent width of the figure.

Half the skirt pattern is drafted, therefore only half the waist and hip measurements are required. Those used in Diagram 1 are—

Half waist measure	12 inches
Half hip „	22 „
Front length	40 „
Side „	40 „
Back „	40 „

When drafting this pattern, two inches from the "waist measure" and four inches from the "hip measure" are deducted for the back of the skirt.

The remaining 10 inches of the half waist measure are divided into two parts, giving 1 inch more to the side gore than to the half front. The remainder of the "half hip measure" (18 inches) is also divided unequally, allowing 2 inches more to the side gore than to the half front.

In this particular pattern the side gore is always 1 inch wider on the waist-line, and 2 inches wider on the hip-line, than the "half front."

This rule is applicable to waists of any size.

The following table shows the amount to be deducted for the back, and the division of the front:—

Half waist measure.	Deducted for Half back waist.	Half front.	Side gore.
10 inches.	$1\frac{1}{2}$ inches.	$3\frac{3}{4}$ es.	$4\frac{3}{4}$ inches.
11 „	2 „	4	5 „
12 „	2 „	$4\frac{1}{2}$	$5\frac{1}{2}$ „
13 „	$2\frac{1}{2}$ „	$4\frac{3}{4}$	$5\frac{3}{4}$ „
14 „	3 „	5	6 „
15 „	$3\frac{1}{2}$ „	$5\frac{1}{4}$	$6\frac{1}{4}$ „

Half hip measure.	Deducted for Half back.	Half front.	Side gore.
18 inches.	3 inches.	$6\frac{1}{2}$ inches.	$8\frac{1}{2}$ inches.
20 ,,	$3\frac{1}{2}$,,	$7\frac{1}{4}$,,	$9\frac{1}{4}$,,
22 ,,	4 ,,	8 ,,	10 ,,
23 ,,	$4\frac{1}{2}$,,	$8\frac{1}{4}$,,	$10\frac{1}{4}$,,
24 ,,	5 ,,	$8\frac{1}{2}$,,	$10\frac{1}{2}$,,
25 ,,	$5\frac{1}{2}$,,	$8\frac{3}{4}$,,	$10\frac{3}{4}$,,

The width and length of the darts is decided by the shape of the figure. For waists with relatively small hips, an allowance of 3 inches for three darts (one in the side gore, one in the half front, and one taken out of the seam) will be found sufficient; whereas waists with relatively large hips require from 5 to 6 inches. In all cases the spaces between the darts for a waist, of a given size, remain the same; for whatever extra length is allowed, the same is taken out as darts, reducing the waist measure to its original size.

In the diagram, the waist measure is taken as 24 inches; and the following table shows the amount to be allowed for darts for slim, medium, and stout figures:—

Half Front

For slim figures add $1\frac{1}{2}$ in. for darts, making line A B 6 in. long.
,, medium ,, 2 ,, ,, ,, ,, $6\frac{1}{2}$,,
,, stout ,, $2\frac{1}{2}$,, ,, ,, ,, 7 ,,

Side Gore

For slim figures add $1\frac{1}{2}$ in. for darts, making line C D 7 in. long.
,, medium ,, 2 ,, ,, ,, ,, $7\frac{1}{2}$,,
,, stout ,, $2\frac{1}{2}$,, ,, ,, ,, 8 ,,

It should be observed that half an inch is taken off the side of the side gore and half front to form a dart in the seam. Darts should never be more than 3 inches in length and 2 in width; when the width exceeds this

amount, an extra one should be introduced into the side gore; for six small darts will produce a better fitting skirt than four large ones. The skirt shown in Diagram 1 is suitable for both wide and narrow materials, but particularly so for the latter.

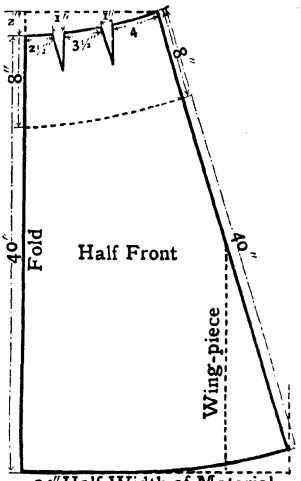


DIAGRAM 2.—FRONT.

Measurements

Half waist .	12	inches.
Half hips .	22	,,
Length .	40	,,

From the half waist measure deduct 2 inches for back gathers.

To the 10 inches left for front, add—

2	inches for darts	for slim figures.
3	,, ,,	medium figures.
4	,, ,,	stout figures.

The dotted line must measure about 4 inches less than half the hip measure. It is often made more, but must never be less.

Diagram 2 illustrates a skirt for double-width materials. The width is given as 48 inches. A dotted line, called the "wing piece," shows where materials measuring 42 or 44 inches may be joined.

When drafting the back of the skirt, one end of the inch-tape should be placed at the three points, called "pivots," and the other end of the tape swept round,

from A to B, B to C, and C to D, chalking or otherwise marking the outline. Pivot 1 would be used between A and B; pivot 2 between B and C; and pivot 3 between C and D.

The skirt is in three pieces—the front, and two back pieces. It is particularly suitable for wide, heavy materials, lined or unlined. The centre back seam, being gored on

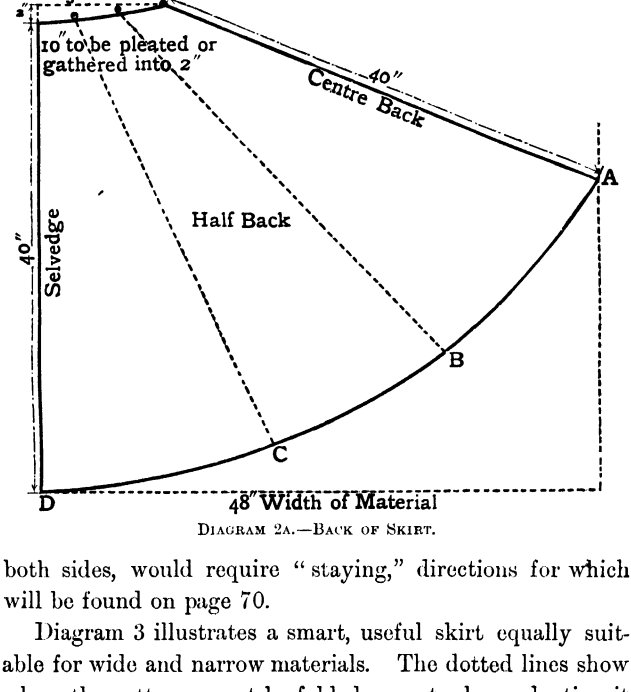


DIAGRAM 2A.—BACK OF SKIRT.

both sides, would require "staying," directions for which will be found on page 70.

Diagram 3 illustrates a smart, useful skirt equally suitable for wide and narrow materials. The dotted lines show where the patterns must be folded, or cut when adapting it to narrow materials.

In wide materials, one dart is taken out of the side

gore; but when the side gore is divided for narrow materials, the dart should be taken out of the seam.

When the material measures less than 24 inches in width, the front must be narrowed at the bottom.

Any of the "backs," shown in diagrams 4, 5, 6, 7, may be used to complete the skirt. Diagrams 4 and 5, or the back of the skirt in Diagram 2A, should be selected when a full-gored back is desired.

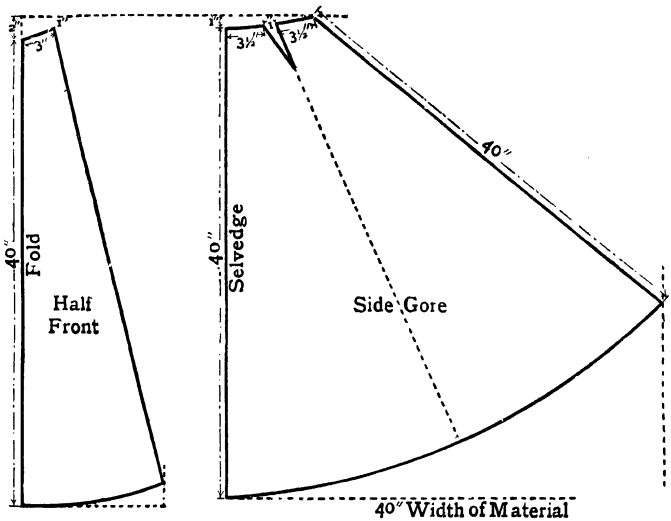
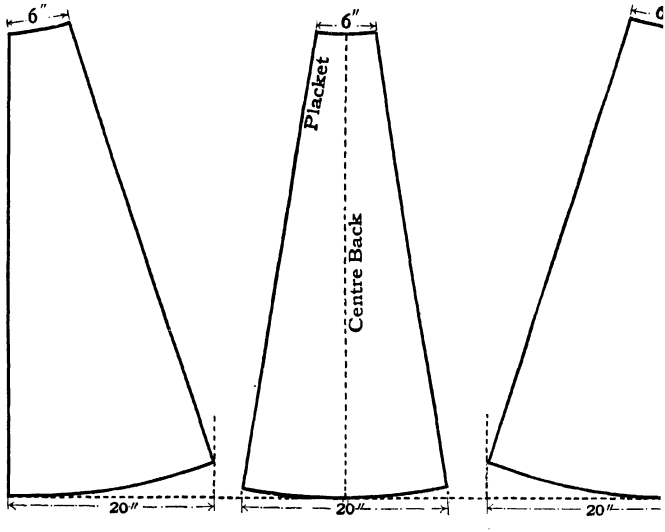
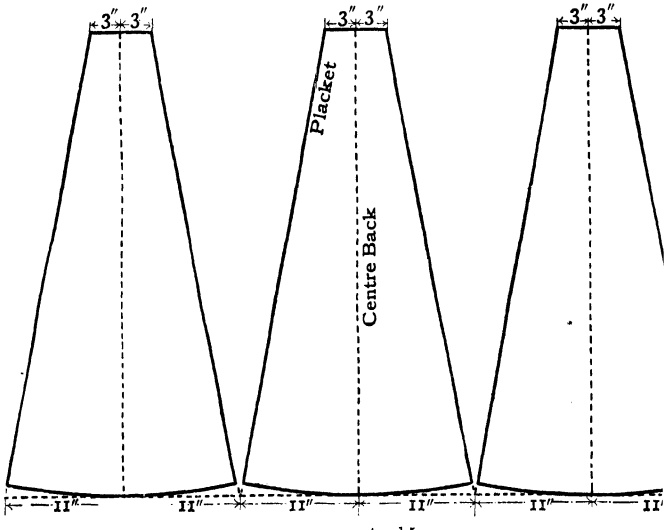


DIAGRAM 3.—SKIRT FOR WIDE AND NARROW MATERIALS.

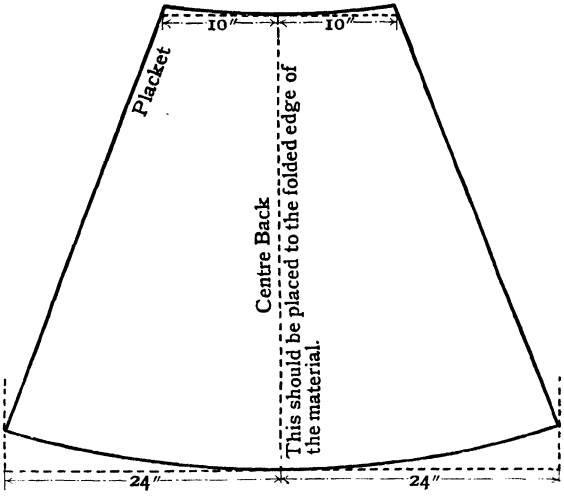
Diagrams 6 and 7, together with the front and side gore in Diagram 1, produce the most economical skirt pattern. A skirt 40 inches in length, and 3 yards 6 inches in width, can be cut out of 3 yards of material 48 inches wide.

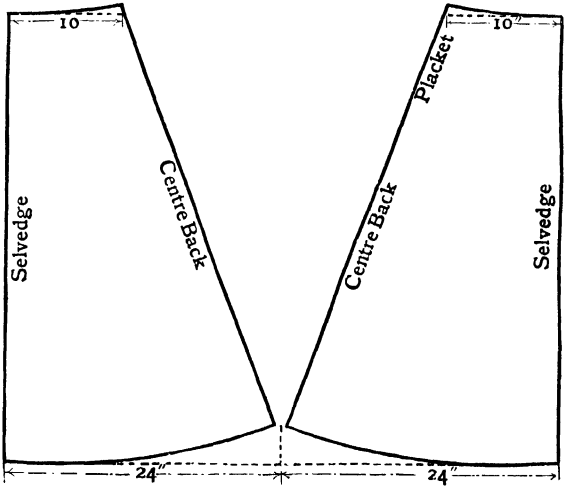
When drafting the back shown in Diagram 5, a centre line should first be dotted, and the required width at the





DIAGRAMS 4 and 5.





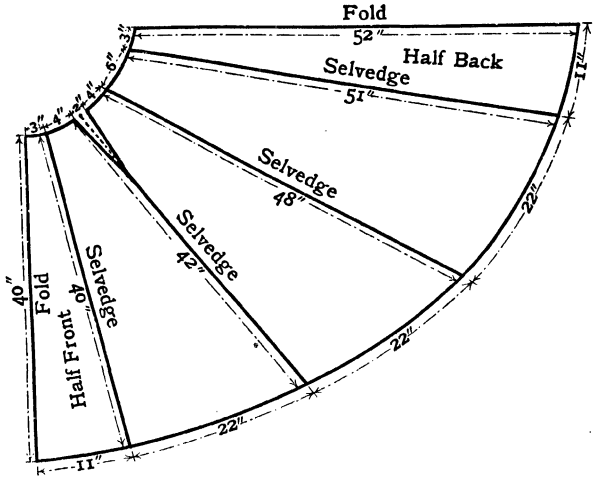
Diagrams 6 and 7.

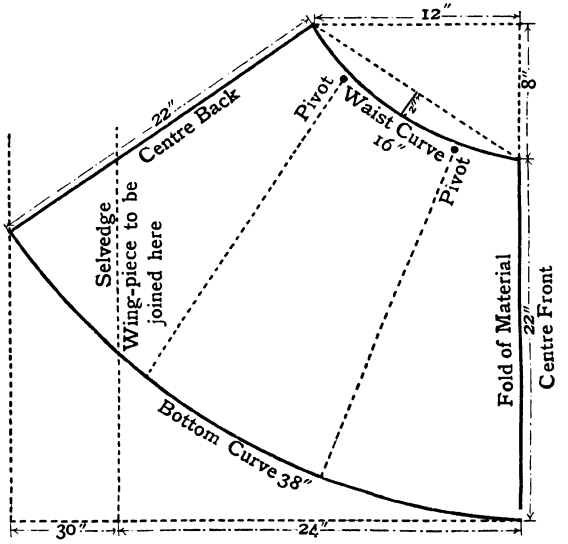
top and bottom marked to the right and left of it. In cutting out, this line must be parallel with the warp threads ; both sides of the wedge (this name is always given to a gore with two shaped sides) being slightly on the cross.

Housemaids' Skirts of the present day differ somewhat from those worn formerly. They have a shaped front breadth with two gores on either side of it, and a straight breadth forming the back. Until recently, they were made of four breadths of material, three perfectly straight ones forming the back and sides of the skirt, and one shaped breadth the front. In cutting out, 4 inches extra length should be allowed for a hem.

To shape the front, the material should be folded and about 4 inches cut away, beginning at the top and tapering off to nothing about 4 inches from the bottom. The hem is more easily turned, if the slanting line is not continued below this. A housemaid's skirt is nearly always unlined, and the top edge turned in, gathered or pleated, and seamed to a banded bodice. The waistband which connects the bodice and skirt should be made 5 or 6 inches longer than the waist measure, in order that it may wrap over and fasten on the left side. The placket opening is always made in the left-hand seam (wearer's left hand) of the front breadth ; one-half of the front breadth is not sewn to the bodice, but to the extra 5 or 6 inches of waistband, and the under part of the bodice, covered by the extra length of band, has no skirt attached to it.

Diagram 8 illustrates a skirt with a short train. It is intended for materials about 22 inches wide. When using narrower materials, such as cheap silks, 18 to 20 inches wide, small "wing pieces" may be joined to the bottom of each gore when the skirt is to be trimmed ; otherwise it is better to narrow each gore, and introduce an extra one into the back.





Diagrams 8 and 9.

An easy method of drafting a skirt for a girl of ten or twelve years is shown in Diagram 9. It is arranged for 48-inch materials. When using narrower materials the "wing pieces" would be made larger. The curve round the bottom should be measured from the "pivot points," as already explained in reference to Diagram 2. Either pleats or gathers may be employed, to reduce the top of

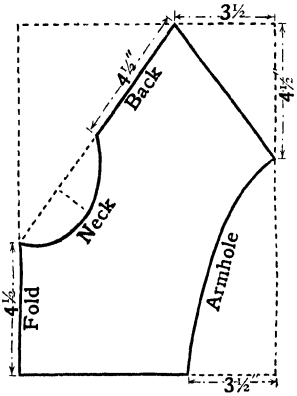


DIAGRAM 10.

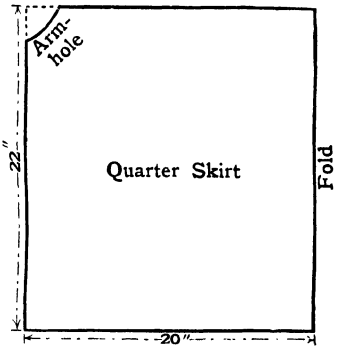


DIAGRAM 11.

the skirt to the width of the waist, but they must be confined to the back of the skirt. A bodice of corresponding size will be found on page 91.

Frocks made with yokes are more suitable for younger girls. Diagram 10 shows a seamless one; Diagram 11 gives the length and width of the skirt.

Diagram 12 illustrates a baby's bodice which may be easily modified to fit babies of varying age and size.

The bottom of the bodice should be turned under, faced with a strip of material, and afterwards seamed to the top of the skirt.

The skirt of a baby's first short frock should measure not less than 18 inches in length.

Measurements

Length	6½ inches
Quarter-width	6 „

Two inches to the right of O is found the neck point.

Three-quarters of an inch below O, and 1 inch to the right gives the shoulder point.

One inch below P gives the back length.

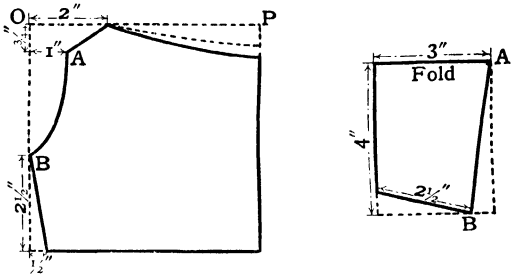


Diagram 12.—Baby's Bodice and Sleeve (¼-inch scale).

For children who can walk, it should be made just to clear the shoes. The front of the bodice is cut in one piece.

The sleeve pattern is for the lining only, the material being cut both longer and wider and pleated or gathered to form a puff.

A and B show where the sleeve is fixed.

Foundation Skirt.—Diagram 1 answers admirably for this purpose; but instead of taking half an inch off each side seam to form a dart, the whole amount allowed may be taken out as darts.

In foundation skirts, the darts are often carried down 8 inches for stout figures, and 10 inches for thin ones;

they may therefore be made larger, as the extra length permits the width to be gradually tapered off.

The back of an ordinary walking skirt would consist of a straight breadth of lining from 30 to 36 inches wide. The seams are usually French felled (for French fell or French double seam see page 129) and as this method is exceedingly neat and quickly executed, it is to be recommended for work of this description. Both the inside and outside of the bottom of the skirt should be faced with material, the inside to the depth of 6 inches; the outside facing is dependent on the skirt trimming or drapery.

The width of walking skirts varies from $2\frac{1}{2}$ to 4 yards; anything outside this may be considered ridiculously narrow or unnecessarily wide.

Cycling Skirts should be 3 or 4 inches shorter than an ordinary walking skirt, and about $2\frac{1}{2}$ yards wide. They are usually made of two breadths of material 44 or 46 inches wide, the centre back and centre front of the pattern being placed to the folded edge of the material in cutting out. The sides are slightly gored, and a dart (or darts) taken out on either side of the front.

A plain space, 2 or 3 inches wide, is left in the centre back, and the fulness arranged to form a double box pleat on each side of it.

The skirt may be made to fasten on both sides by means of buttons and buttonholes. The slits to form placket and pocket openings should be cut about 7 or 8 inches long, and 5 inches to the right and left of the centre front of the skirt.

The skirt should be lined from the waist, to a depth reaching below the knees, with satin or glissade; the latter is the striped material employed by tailors as a sleeve lining.

The bottom of the skirt may have a hem of the material or a facing of leather; the latter is undoubtedly the best.

Skirt-Making. — Before cutting out the skirt, the pattern should be made to correspond exactly with the measurements taken. Taking the length measurements as—

Front	40 inches
Side	41 „
Back	39 „

there would be 2 inches difference between side and back lengths, and 1 inch between side and front lengths.

After measuring these lengths off on the pattern, the spaces between the points should be divided and marked according to the rule given below. It is scarcely necessary to remark—if the reader has studied the "pivot points" in the preceding skirt diagram—that the top of the skirt pattern must be similarly divided, in order to find the point from which to measure when marking the length between side measure and back, and side measure and front, at the bottom of the pattern.

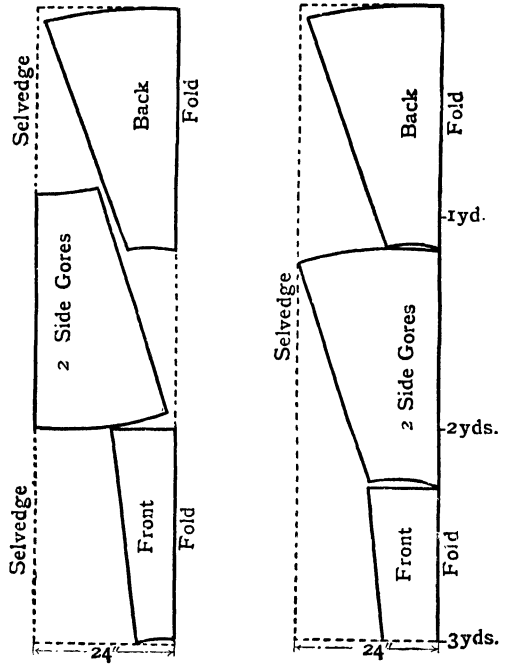
Starting from the centre front, the pattern should measure—

Front	40 inches.
Half-way between front and side measure	40½ „
Side measure (over the hip curve) .	41 „
Half-way between side measure and back	40 „
Back	39 „

Whatever the relative lengths, the difference between them is always divided half-way between side and front, side and back.

When skirts are worn rather narrow, and the length of the "side measure," exceeds that of the "back measure" by more than 1 inch, one-half the amount must be taken

off the bottom, and the remainder off the top of the back piece or pieces, in order to secure a uniform curve at the edge of the skirt. When the pattern has been drafted to fit the wearer, 1-inch turnings should be allowed at every seam.



DIAGRAMS 13 and 14.

Opinions are divided as to whether lining or material should be cut first. Either course may be followed; providing always the material is cut from the paper patterns. Linenette is the most suitable skirt lining for class teaching; for it is reversible, and consequently fewer

mistakes are made. When cutting out silcot, sateen, or any single-width materials not having both sides alike, the two ends of the material should be placed face to face, in order to avoid cutting two pieces for one side of the garment. The centre front of the skirt should always be placed to the folded edge of the material, and the remaining parts dove-tailed (wedged together), to avoid waste.

On page 59 reference was made to a skirt of average size being cut out of 3 yards of double-width material. Diagram 13 shows the pattern arranged on the material, ready for cutting out. It can only be cut out of the length given when the parts are dove-tailed and arranged as economically as possible.

Diagram 14 illustrates a mistake commonly made by inexperienced workers.

It should be observed that the side gore and back are not wedged together as in Diagram 13. Consequently, only half the front could be cut out of the remaining length.

Pattern and material are reduced to $\frac{1}{32}$-inch scale.

Materials, linings and interlinings and facings, should always be used lengthwise; that is, the warp or selvedge must run from waist to hem. The greatest weight is thus thrown upon the strongest part of the material.

Strips of linen or linen canvas (black or drab), are used to strengthen and support the bottom of the skirt. Victoria lawn, horse-hair, and wirette are sometimes substituted; but the first possesses very little substance, and soon loses its stiffness, while the two latter quickly cut through the material at the edge of the skirt. Granting these defects, we may say that, strong, coarse linen is undoubtedly the best for the purpose.

The strips of interlining, measuring in width some 6 or 8 inches, are cut to fit each piece of lining, and tacked and stitched to the wrong side of it, before tacking lining and material together.

The lining, with the interlining uppermost, should be spread out upon the table, and the corresponding pieces of material firmly basted to them.

Inexperienced workers find considerable difficulty in putting the parts of a skirt together. Generally speaking, gored pieces have a straight side and a shaped one, and the straight edge of every gore is placed towards the front of the skirt.

The front of the skirt should be placed wrong side uppermost upon the table, and the straight edges of each side gore tacked to the sides of it. When the skirt has four side gores, the straight edges of the second gore would be tacked to the shaped edge of the first.

When the back comprises three or four pieces, they should always be tacked together, before joining the back and the front of the skirt together. Excepting a housemaid's skirt, the edge of the side gore where it joins the back is shaped, and when the edge of the back is also shaped—as it would be if either Diagrams 5 or 6 were used—both sides of the seam would be partially on the cross, and must therefore be "Stayed," by having either a strip of linen, lining, or tape sewn in with the seam. This strip should always be cut selvedge way, in order that the strong warp threads may prevent the bias edges stretching. The bridle is sometimes placed between the material and lining, but this is unnecessary, for when the seam is opened and pressed it is invisible.

In tacking the seams together, the edges at the top of the skirt should be parallel where the stitching

commences, and *not at the edge of the turning*, for this would cause one side of the seam to be nearly half an inch below the other, altering and probably spoiling the shape of the skirt.

Two lines of tacking are better than one for beginners, one, $\frac{1}{2}$-inch from the edge of the turning, and the other $1\frac{1}{4}$ inch. The stitching is done between the two rows of tacking, making the seam not less than an inch wide. This extra tacking serves not only to keep the stitching straight, but it also prevents the material and lining being dragged, and the tacking thread being caught in the stitching.

All the seams should be stitched, either from the top or bottom, not some up and the others down. Neglect in this matter often causes the skirt to hang badly. The tacking threads are seen more distinctly by the worker when the stitching is done from the bottom. It should be done very carefully, taking care not to stretch the gored sides.

The tacking threads are removed, and the seams pressed before oversewing. Oversewing is described in the chapter on "Stitches," and pressing is dealt with fully on pages 114 and 133.

Pockets.—There are two kinds in general use: the "bag" and the "flat" pocket.

The "bag" pocket is generally used for skirts having a seam into which it may conveniently be sewn.

When the material has to be cut in order to admit the pocket, the flat one is preferable; for it lies flatter.

The pocket shown in Diagram 15 is about 14 inches long, the opening measures 6 inches, and the space between the opening and the top of the pocket 2 inches.

The short, dark lines indicate where it is sewn to the skirt.

In order that it may fit well and be almost invisible, it is sewn at least half an inch from the edge of the turning, and half an inch within the line of stitching forming the seam.

Between A and B the pocket is not sewn to the skirt. The edges of the seam are oversewn separately at this point; attention should be given to this detail, for the hang of the pocket depends greatly upon its being properly executed.

The "flat" pocket is about 16 inches long, the under

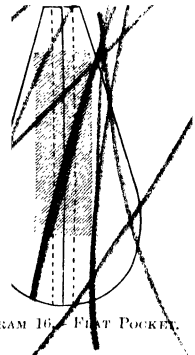


Diagram 15.—Bag Pocket. Diagram 16.—Flat Pocket.

side is cut in one piece, and the top side with an inch-wide seam down the centre, indicated by the dotted line.

The shaded part represents the facing, which is about 3 inches wide, and extends 2 inches above and below the opening on both upper and under sides of the pocket. The short, dark lines show where the edges of the pocket are sewn to the skirt.

Bag pockets are usually sewn into the right-hand seam which joins the front and back parts of the skirt together. When the material has to be cut to admit the pocket, the opening must be strengthened with strips of linen.

When seamless skirts are in vogue, the pocket may be either hidden amongst the folds in the back of the skirt or sewn into the placket opening. The latter method is altogether unsatisfactory, and should only be adopted when all others are impossible.

Plackets.—The placket opening, the average length of which is 10 inches, may be made in the opposite seam to that in which the pocket is fixed, or in the centre back seam, when the skirt possesses one. It should, when possible, be made in a seam, for it is stronger and less visible than when cut in the material. The exception to this rule is the skirt of a child's frock.

The under part of the placket has a "wrap," which is made of a strip of material, cut selvedge way, 10 inches long and 4 inches wide, plus turnings.

The upper part is faced with a strip of cross-way material, 10 inches long and 2 inches wide, plus turnings.

Both pieces of material should be sewn at least half an inch within the seam; that is, half an inch from the edge of the turning, and half an inch within the line of stitching forming the seam. In this way the wrap and facing are invisible when the skirt is fastened. Pockets and plackets, in many cases, completely spoil an otherwise well-made skirt, and this may be easily obviated by following the above rule with reference to the seams.

The strips of material are firmly stitched on the right side of the skirt, then turned under, and hemmed neatly down on the inside. The cross-way piece on the right-hand side forms a facing, while the straight piece on the left is folded over on itself, forming a wrap of double material, 2 inches wide. The wrap is sewn securely across the bottom edge to the lining only; taking the stitches through the outer material must be carefully avoided.

The bottom of the opening should be strengthened by a bar of buttonhole stitches worked in silk twist, matching the material.

When making up thick materials, instead of turning the edges of the facing and wrap under inside the skirt, they may be covered with Prussian binding; this makes a neat flat finish.

Fitting the Skirt.—The darts should be pinned on the outside, and the bottom of the skirt trimmed, turned up 2 inches, and roughly tacked before fitting.

When fitting the skirt, see that the darts nearest the back slant slightly towards it; that the front darts are as straight as possible; note the amount into which the back must be pleated or gathered; and if the front, side, and back lengths are exactly right.

The darts should be thread-marked (see chapter on "Stitches"), tacked, stitched, pressed, and oversewn.

Waistband.—The back of the skirt should be pleated or gathered into the space decided upon when fitting the skirt, and the remaining fulness eased into the front and sides of the waistband.

1½ inch to the right and left of the centre front the skirt is stitched tightly into the band, and between these points and the back pleats or gathers 1 inch must be eased in for slight figures, and nearly 2 inches for stout ones. Any surplus width may be made into a small pleat on either side of the back.

When cutting the waistband, 2 inches should be allowed for the placket wrap, and turnings for a hem at both ends. Single belting may be hemmed before sewing to the skirt, but double belting must be hemmed afterwards. The extra 2 inches should be sewn to the placket wrap before marking off the band.

If the skirt fastens on the left side, the whole of the amount allowed for the back should be measured off the opposite end of the band, but when the skirt fastens in the centre back half the amount is taken off each end, that on the left-hand side being measured to the left of the 2 inches allowed for the placket wrap. If the pins marking these points are brought together, and the belt folded, the centre front is easily obtained, and should be pinned to the centre front of the skirt. Either belting or Prussian binding may be used for waistbands; the former is more suitable for belted skirts to be worn with blouses, but the latter allows the skirt to fit more easily over the hips, and should therefore be employed with basque bodices.

Belting may be bought straight or shaped, single or double; the shaped double belting fits very well and may be recommended. When single belting is used, the raw edge of the top of the skirt should be covered by Prussian binding, or, when making up coloured materials, it is a good plan to sew the belting inside the skirt, and cover the outer raw edge with narrow ribbon matching the material.

The usual way is to hem the belting to the outside of the skirt, and neaten the inside with binding. When the top of the skirt is enclosed within two lengths of Prussian binding, it is first hemmed on the right side of the skirt and then on the wrong. The turnings are then trimmed off, and the top edges seamed together.

Three hooks and eyes are sewn to the band, one eye at the end of the belting, and two where the placket wrap joins the skirt. The hooks are sewn to the opposite end of the band, to correspond with the eyes. When the skirt is fastened, hooks and eyes, placket wrap, and facing should be invisible. In order to combine strength with neatness, the hooks and eyes should first be sewn securely

with waxed thread, and afterwards oversewn with silk (see "Fastenings"). The fastenings and hangers (two strips of binding about 4 inches long, by which the skirt may be hung up) should be put on after sewing the band to the skirt.

When arranging the pleats in the back of a skirt, it should be spread out upon the table, in order that they may be made to fall nicely towards the hem of the skirt, and no attempt should be made to bring the top edges of the pleats parallel.

When the back is gathered, and the amount to be drawn up relatively large, the gathers must be proportionately so, for six large gathers can be sewn more easily into a narrow space than twelve small ones. Two or three rows of stitches should be run in, taking care to pick up the same threads each time.

Before finishing the hem, the skirt should, when convenient, be fitted a second time, for the waistband may have altered the length slightly.

All necessary alterations completed, the hem should be well pressed, and afterwards slip-hemmed to the lining.

Skirt facings should always be cut to fit the bottom of the skirt, not necessarily in one, or even two pieces. They may be cut most economically in four pieces, as explained below.

The skirt should be folded either down the centre front or centre back, and the hem placed to the weft edge of the lining with the remainder of the lining spread out underneath the skirt. The corners of lining projecting below the hem should be cut away to the shape of the bottom of the skirt, and the lining then drawn down about 6 inches, and again cut round. The exact shape of each part is easily obtained in this manner. The lining may be cut

double, or the pattern of one-half of the skirt taken and duplicated.

The pieces are not joined together until after the facing is sewn to the skirt. As each piece is cut it should be pinned to the skirt and trimmed, if necessary. The bottom of the facing is then turned in and neatly hemmed down; each join, as it is passed, being folded under, ready for felling. This part of the work completed, the skirt should be laid flat upon the table, and the facing tacked midway between the upper and lower edges. Two or three tackings may be employed with advantage, but one is absolutely necessary. The joinings should be trimmed and tacked, but not sewn until the rest of the facing is completed.

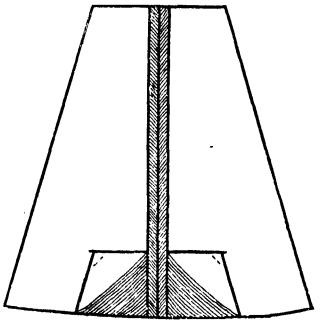


DIAGRAM 17

The top of the facing must be hemmed to the lining only. It should be done very carefully, and the lining pulled apart at short intervals, in order that any stitches taken through the material may be unpicked.

The following method of making a skirt, although less suitable for class teaching, is an exceedingly good one.

The interlining is stitched to the lining, as in the previous method, but the basting of the material and lining together must be done at least two inches from the edge of each side of the gore.

Before tacking the seams the lining should be cut (about 8 inches from the bottom) across each side, for about $1\frac{1}{4}$ inch, and pinned back (see Diagram 17).

The interlining is unpicked (or left unsewn) at each end about 1¼ inch, and either pinned or tacked to the material before fastening back the lining. The seams are then tacked, stitched, pressed open, and oversewn.

The material and interlining at the bottom are folded over, tacked, pressed, and slip-hemmed. The lining should then be neatly felled down each seam from where it was cut, and round the bottom of the skirt.

A third method, commonly called the tailor's method, is comparatively easy when large tables are available. The seams of the material and lining are stitched separately, with the exception of one seam, usually the back one. When the skirt has one or two rows of stitching a few inches from the bottom, the interlining may be tacked to the material; otherwise it must be stitched to the lining in the ordinary way. Before stitching the seams in the lining, the interlining should be unpicked about one and a half inch and pinned back. This is done in order that the interlining may be inside the material, when folded over to form the hem.

After stitching and pressing the seams, the material and lining should be basted together with the wrong sides facing each other. The centre back seam (material only) is then stitched and pressed open, and the lining neatly felled over, tacked, pressed, and slip-hemmed before hemming the lining round the bottom.

In this skirt there is sometimes a little difficulty with the pocket. It may be easily overcome by sewing the pocket into the material only, having previously strengthened the opening with strips of linen. A slit should be made in the lining, exactly underneath, and bound round with a strip of lining. The edge of the bind should afterwards be felled neatly over the pocket seam.

The seams of unlined skirts, when made of thick materials, may be either bound with Paris binding or oversewn. The seams of unlined thin materials are often French felled.

Washing dresses are more easily ironed when the seams in the material and lining are stitched separately. This does not prevent their being sewn into one waistband, although a better plan is to fit the lining into a shaped band, and mount the material in the ordinary way.

Braid and velvet are used to protect the edge of the skirt; when the latter is used, it should be run-stitched on before the facing. Braid should always be well shrunk, before being sewn on, or the wet will probably cause it to shrink afterwards, and may tighten it so much that the bottom of the skirt almost hangs in folds.

It may be ironed under a wet cloth to shrink it, or lightly sponged with water and ironed until dry.

Braid should never be hemmed on to a skirt, but always run-stitched, that is, a back-stitch should be taken between two or three ordinary running stitches. In this way the stitches are protected by the rough surface of the braid, whereas in hemming, the stitches sewn over the edge of the braid are quickly worn away by friction with other parts of the skirt, other garments, boots, etc.

The object of goring is to reduce the width of the skirt at the top, thereby improving the shape of the figure. Occasionally an old-fashioned method is revived, and the skirts are pleated or gathered into the waistband. The only advantage possessed by this latter method is, that the skirts may be turned top to bottom, or inside out, and this advantage is outweighed by the disadvantage of having ungraceful and unnecessary thicknesses of material round the waist.

Interlining is used to strengthen and support the bottom of the skirt. Strips of strong linen from 6 to 8 inches wide, shaped to the bottom of the skirt, give the necessary support. An interlining should never reach above the knee.

Methods of finishing the Top of a Skirt.—Sewing into a waistband is the one generally adopted, but it may be bound, faced, or piped with a piece of cross-way material.

Darts should be not more than 3 inches long and 2 wide. When skirts are made without darts, the front and side gores should be more deeply curved round the top.

Length of Skirts.—When finished, a house dress should measure 1 inch less than the measurements taken from the waist-line to the ground; a walking dress 2 inches; and a skirt for country wear 3 inches.

Skirts fitting too tightly over the Hips.—This may sometimes be remedied by increasing the space into which the back is pleated, thus allowing more fulness to be brought to the sides. When this cannot be done, the hem of the skirt should be let down as much as possible, and the top raised and shortened.

Folds across the Front and Hips appear when the darts are too small; the seams not sufficiently gored at the top; and the top of the skirt is too little curved.

Front of Skirt standing off at the Bottom.—This is not always considered a defect; in fact, wedge-shaped gores are sometimes introduced to produce the effect. It may also arise from the front of the skirt being too much curved at the top, or too much gored at the sides.

Stout figures, prominent below the waist, may require an extra dart in the centre front of the skirt. Tailors provide for figures of this description by cutting the front of the skirt a little longer than the side gores; and

easing the extra length into the seams over a space of about 8 inches.

Skirts drawn in round the Feet.—This defect may be due to the front width being insufficiently gored, or, if the front of the skirt is in one piece, it may probably arise from the top edge being too little curved. It should be observed that the centre front line in Diagram 2 is 2 inches lower than the side seam.

Side Gore Seams slanting towards the Back.—In a well-cut and well-balanced skirt the seams form a true straight line from the waist-line to hem of skirt. When the top of the seam, joining the front and side gores together, slants towards the back, the front of the skirt is insufficiently gored at the top.

CHAPTER V

DRAFTING AND FITTING

Primary Measurements

CERTAIN measurements are common to all systems; the three primary ones are—

1. Width of bust.
2. Width of waist.
3. Length of back.

When dealing with the subject theoretically, only two of these are required, for the waist measure is always taken as two-thirds of the bust, but so few figures are normal, that in practice the three above-mentioned measurements are found indispensable. From these a bodice can be drafted, so near the shape of the figure that all the seams, except the under-arm and shoulder seams, may be finished before fitting.

The Secondary Measurements are—

1. Width of neck.
2. „ hips.
3. „ back.
4. „ chest.
5. Nape of back neck to front waist.
6. „ „ front hip.
7. „ „ top of dart.

8. Throat to waist.
9. Length of under-arm.
10. Armhole.

In addition to these, the various systems have what may be termed "test measures"; they are very useful when the garment has to be made without fitting, otherwise they only serve to perplex the student. In order to draft a bodice from three measurements, some knowledge of the proportions of a normal figure is essential. The relative measurements of a normal figure, may be taken as—

Waist	$= \frac{2}{5}$ of the bust.
Width of back	$= \frac{1}{6}$ „ „
„ chest	$= \frac{1}{6}$ „ „ $+ 1\frac{1}{2}$ inches.
Height of back-shoulder line	$= \frac{7}{8}$ of the back length.
„ front „ „	$= \frac{15}{16}$ „ „
Under arm	$= \frac{1}{2}$ „ „
Nape to front waist	= back length + 4 inches.
Throat to waist	= „ $- 1\frac{1}{2}$ inches.
Height of darts	$= \frac{2}{3}$ of the under-arm measured up from waist-line.

No general rules can be given for drafting, for each system has its own; but it will be found a good plan always to divide the waist measure unequally, giving about half an inch more to the half back than to the half front, in order to bring the under-arm seam well forward. This improves the shape of the bodice, and makes the seam invisible from the back.

The sidepiece should be from a quarter to half an inch wider than the side body, to provide for the under-arm seam being taken in, if necessary, when fitting, without spoiling the shape of the back.

By whatever method the bodice is drafted, a certain amount of the waist measure is put into the back, and the remainder into the front.

The following table shows the divisions, and may be found useful:—

TABLE FOR DIVIDING THE WAIST MEASURE

Half Waist.	Middle Back.	Side Body.	Sidepiece.	Front.
10 inches	1 inch	2 inches	$2\frac{1}{4}$ inches	$4\frac{3}{4}$ inches
$10\frac{1}{2}$,,	$1\frac{1}{4}$,,	2 ,,	$2\frac{1}{4}$,,	5 ,,
11 ,,	$1\frac{1}{4}$,,	$2\frac{1}{8}$,,	$2\frac{3}{8}$,,	$5\frac{1}{4}$,,
$11\frac{1}{2}$,,	$1\frac{1}{4}$,,	$2\frac{1}{4}$,,	$2\frac{1}{2}$,,	$5\frac{1}{2}$,,
12 ,,	$1\frac{1}{4}$,,	$2\frac{3}{8}$,,	$2\frac{5}{8}$,,	$5\frac{3}{4}$,,
$12\frac{1}{2}$,,	$1\frac{1}{4}$,,	$2\frac{1}{2}$,,	$2\frac{3}{4}$,,	6 ,,
13 ,,	$1\frac{1}{4}$,,	$2\frac{1}{2}$,,	3 ,,	$6\frac{1}{4}$,,

When the waist measure exceeds 26 inches, an extra sidepiece should be introduced (see p. 88).

When the half waist measure is 11 or 12 inches, the sidepiece may be made half an inch larger than the side body, instead of dividing into eighths.

The front **bust**-line (except in deformed figures) should be at least 1 inch wider than that of the back. In most of the "systems" the back of the bodice is drafted first, and the parts measured on the bust-line to ascertain how much of the bust measure has been put into them. If more than one-half has been used the back is too wide, and the top of the side body and sidepiece must be narrowed, until the back measures 1 inch less than half of the half bust measure for figures with flat busts, and $1\frac{1}{2}$ inch for figures with full ones. No alteration should be made on the waist-line.

Darts.—When the width of the back has been decided, the remainder of the "bust measure" is put into the front of the bodice, and reduced to the size of the waist by means of darts. To ascertain how much must be suppressed, the length of the bust-line should be noted, and the amount allowed for front waist subtracted from it.

Say the bust-line measures . . .	9 inches
The amount allowed for front waist is .	$5\frac{1}{2}$ „
The balance would be	$3\frac{1}{2}$ „

The first dart should be half an inch smaller than the second, because the curve of the body is less decided at this point; therefore $1\frac{1}{2}$ inch would be put into the first dart, and 2 inches into the second one.

The tailor's argument in favour of a straight front edge is, that the bust leans slightly towards the side of the body; and, as there is only a given width in the front of a bodice, if some of that width is allowed where it is not required, the bust must necessarily be compressed at some point. However, it is an established fact that a large second dart improves the shape of the figure. The French or cross-cut front gives a roundness and beauty to the figure which the straight front fails to produce; but only an experienced worker should attempt it when the bust is 17 or 18 inches larger than the waist.

The following table gives the division of the darts, and may be used with almost any system of dress-cutting :—

Amount to be suppressed.	*First Dart.*	*Second Dart.*
$1\frac{1}{2}$ inches.	$\frac{3}{4}$ inches.	$\frac{3}{4}$ inches.
$1\frac{3}{4}$ „	$\frac{3}{4}$ „	1 „
2 „	$\frac{3}{4}$ „	$1\frac{1}{4}$ „
$2\frac{1}{4}$ „	1 „	$1\frac{1}{4}$ „
$2\frac{1}{2}$ „	1 „	$1\frac{1}{2}$ „
$2\frac{3}{4}$ „	$1\frac{1}{4}$ „	$1\frac{1}{2}$ „
3 „	$1\frac{1}{4}$ „	$1\frac{3}{4}$ „
$3\frac{1}{4}$ „	$1\frac{1}{2}$ „	$1\frac{3}{4}$ „
$3\frac{1}{2}$ „	$1\frac{1}{2}$ „	2 „
$3\frac{3}{4}$ „	$1\frac{3}{4}$ „	2 „
4 „	$1\frac{3}{4}$ „	$2\frac{1}{4}$ „
$4\frac{1}{4}$ „	2 „	$2\frac{1}{4}$ „

Amount to be suppressed.	*First Dart.*	*Second Dart.*
$4\frac{1}{2}$ inches.	2 inches.	$2\frac{1}{2}$ inches.
$4\frac{3}{4}$ "	$2\frac{1}{4}$ "	$2\frac{1}{2}$ "
5 "	$2\frac{1}{4}$ "	$2\frac{3}{4}$ "
$5\frac{1}{4}$ "	$2\frac{1}{2}$ "	$2\frac{3}{4}$ "
$5\frac{1}{2}$ "	$2\frac{1}{2}$ "	3 "

When the front waist is only 1 inch less than the bust-line, it is better to have one dart (see girl's frock on p. 91).

The first dart should never be more than $2\frac{1}{2}$ inches. So when the "balance" exceeds $5\frac{1}{2}$ inches, the extra fulness should either be taken out of the second dart on the side nearest the under-arm seam, or passed to the under-arm seam in fitting. Stout figures with a relatively small waist and short under-arm, and of course a correspondingly short length between waist-line and head of darts, are the most difficult ones to fit. The darts are large, and so short that instead of gradually tapering from the width on the waist-line off to nothing at the head of the darts, they are brought to a point so suddenly that a fulness is formed which shrinking will hardly remove. As it is not always convenient to shrink, and only certain materials will allow of its being done, it is as well to prevent the fulness appearing.

This is one of the many abnormal figures to which ordinary rules do not apply.

Tailors meet the difficulty by introducing a third dart, but many would object to this as being unusual.

This type of figure is often very full under the arms, and can conveniently do with an extra width at the top of side body and sidepiece, and as every extra inch added to the back bust-line reduces the darts by the same amount, the back width should be increased as much as possible.

By lengthening the back bust-line, that of the front is

shortened, and the *balance* between the "bust-line measure" and "amount allowed for front waist" reduced, consequently the darts will be smaller.

The first dart should be made not more than 2½ inches wide, and the second left to be fitted. In this way the surplus width may be either cut away, at the side of the dart nearest the back, or at the under-arm seam. It should be borne in mind that insufficient room for the bust will produce a fulness round the front armhole. When this appears, the fitter will know that too much width has been carried to the side, and must remedy by increasing the size of the second dart. Although most systems produce straight under-arm seams, there is no reason why they may not be altered to suit individual figures. The alteration suggested above would slope the under-arm seam considerably, but, for a full, all-round figure this would be a decided advantage.

Bodice with three Sidepieces.—When waists measure over 26 inches a second sidepiece should be introduced, for two narrow sidepieces on each side of the back make the figure appear smaller than one wide one. When the figure is short, as well as stout, the appearance may be still further improved by carrying the curved side body seam nearly to the shoulder seam.

For waists measuring over 26 and under 30 inches the "half waist measure" should be divided unequally, making the "half back" one inch larger than the "half front." For waists measuring 30 inches and over, the "half back" should be 1½ inch larger than the "half front." This is done to reduce the space between the side seam and second dart. In Diagram 18 the waist measure is given as 28 inches, 7½ of which are put into the back, and the remaining 6½ inches into the front. 1¼ inch should be deducted for

the middle-back, and the balance divided into three parts —one side body and two sidepieces. The second sidepiece should be, at least, a quarter of an inch larger than the first.

Points A and A_2 are carried half an inch higher than when the bodice is drafted with one sidepiece.

Lines B, B_2, and B_3 are 1 inch longer than the under-arm measure, and the dotted line is the length of the under-arm.

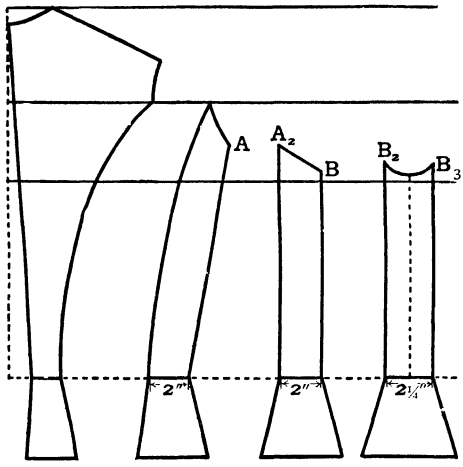


DIAGRAM 18.—BODICE WITH THREE SIDEPIECES ($\frac{1}{8}$-inch Scale).

Measurements

Half bust	21 inches.
Half waist	14 ,,
Half back	6 ,,
Length of back	15½ ,,

Bodice with one Sidepiece.—There are two methods of drafting these. In the first, shown in Diagram 19, the middle back and side body are joined together. A should

be marked 4 inches below the shoulder point X, and three-quarters of an inch to the right.

B is placed half-way between A and the waist-line, and the curve is carried three-quarters of an inch to the left of dot B. C is marked half an inch to the right of the vertical line, previously dotted up from the waist-line.

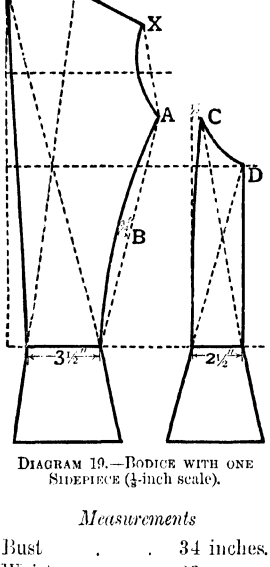


DIAGRAM 19.—BODICE WITH ONE SIDEPIECE (½-inch scale).

Measurements

Bust . .	34 inches.
Waist . .	23 ,,
Back length .	16 ,,
Back width .	6 ,,
Under-arm .	8 ,,

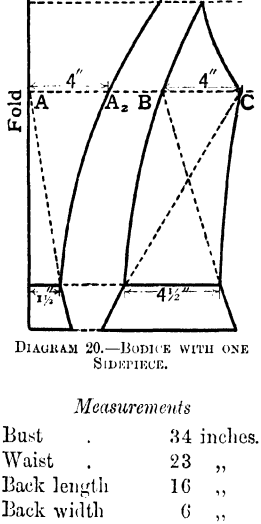


DIAGRAM 20.—BODICE WITH ONE SIDEPIECE.

Measurements

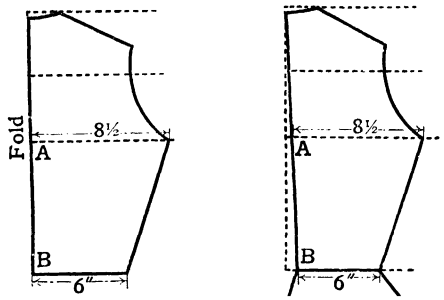
Bust .	34 inches.
Waist .	23 ,,
Back length	16 ,,
Back width	6 ,,
Under-arm	8 ,,

D is the length of the under-arm measure.

The short lines indicate the position of the ruler when drafting the basque.

The second method shown in Diagram 20 has no centre back seam; and the side body and sidepiece are joined together instead of the back and

sidepiece, as in the first method. The middle back and the first line of the side body should be drafted in the usual way and the space between A and A_2 measured, to ascertain how much of the bust measure allowed for the back has been used. In the Diagram, the back bust is given as 8 inches, 4 of which are used between A and A_2; the remaining 4 inches should be measured to the right of B on the bust-line, and C marked.



DIAGRAMS 21 and 22.

Blouse Linings.—Smart tight-fitting blouses should have the usual back seams in the lining. To save the time spent in overcasting, the seams may be turned towards the material, except semi-transparent materials such as net lace, chiffon, etc.

Linings for washing blouses may be made with seamless backs, or with one seam down the centre back. The one shown in Diagram 21 terminates at the waist-line; this is unavoidable, for a seamless back cannot be made to fit into the waist curve. Diagram 22, which has a centre back seam, can be carried about 2 inches below the waist.

The construction, neck and shoulder lines, are drafted in the usual way.

Half the bust measure, minus 1 inch ($8\frac{1}{2}$ inches in diagram) is then measured from A to the right.

From B, half the waist measure plus half an inch (6 inches) is measured to the right. The front of the blouse is drafted like the front of a bodice. Both these patterns answer admirably for petticoat bodices; a seamless circular basque should be added to Diagram 21.

Girl's Bodice (10 to 12 years).

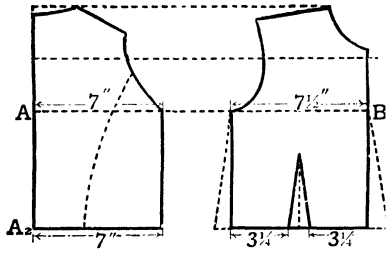


DIAGRAM 23.—GIRLS' BODICE.

Measurements

Bust . .	29 inches
Waist . .	27 ,,
Back . .	5 ,,
Chest . .	$5\frac{1}{4}$,,
Back length .	$11\frac{1}{2}$,,
Under Arm .	6 ,,
Throat to Waist	10 ,,
Armhole . .	$13\frac{1}{2}$,,
Neck . .	12 ,,

The horizontal construction lines should be about 3 inches longer than half the bust measure. From A should be measured to the right, quarter of the bust measure,

minus a quarter of an inch. From A_2 should be measured to the right, a quarter of the waist measure, plus a quarter of an inch.

From B, the remainder of the bust measure ($7\frac{1}{2}$ inches in diagram) should be measured to the left; and from this point a vertical line ruled down to the waist-line.

Half-way between the under-arm line and the centre front line, a dot should be made, and to the right and left of it, half the amount allowed for a dart should be marked (see Diagram 23).

The waist of a young girl is sometimes larger than the bust; the dotted lines to the right of the front and the left of the under arm, show how the extra width should be added. It may be introduced at either point; it is not often required at both.

DIAGRAM 24. NORFOLK BODICE.

It is said, by some authorities, that when a garment has only one dart, it should be no further from the front edge than the space between the centre fitting line and the first dart, plus half the space there would be between two darts upon the waist-line. This, as a rule, would be $1\frac{3}{4}$ or 2 inches. Many good workers follow this rule, but the dart has nearly always to be carried nearer the side seam when fitting.

Bodices for young girls usually fasten down the back, and have a straight edge, instead of being slanted about three-quarters of an inch upon the waist-line, like the bodice of an adult. The back may be seamless, or drafted with one side-piece, indicated by the dotted line.

Norfolk Bodice.—Instead of having the usual darts and a curved side body, the back and front of a Norfolk bodice have seams carried into the shoulders. The seams

are usually about half-way down the shoulder seam, and the straps should be arranged to cover them. When the bodice is drafted without turnings, the seams are easily altered, but it is a little more difficult when there is a space of some inches between the parts. In the latter case, it is a good plan to cut a pattern of the middle back and side body without turnings, and take the piece indicated by the dotted line off the back and join it to the side body (see Diagram 24).

The front of the bodice should be drafted with one dart, and then cut from the head of the dart to the shoulder. In cutting out, turnings must be allowed on both sides of the seams.

Bodices fastening at the Side.—Two half fronts should be cut in lining for the side upon which the bodice fastens—usually the left side. One lining, after being tacked to the material in the usual way, is sewn to the opposite side of the bodice by the centre fitting line. This seam down the front of the bodice should be well pressed before sewing on the hooks, which should be rather small, and not more than an inch apart. They should be sewn on with the curved end which fits into the eyes, just touching the centre line. The seam is afterwards faced with ribbon or binding to hide the hooks. Only one side of the seam is covered by the facing, the other should be neatly oversewn. The second lining should be faced with material about 5 inches wide, on the shoulder and under

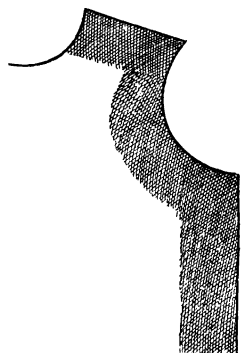


DIAGRAM 25.

seams, and round the armhole. This is represented by the shaded part in the diagram. The lining is afterwards sewn to the back of the bodice, and the loops or other fastenings placed about an eighth of an inch to the right of the shoulder and under-arm seams. Eyes, corresponding with the hooks on the opposite side of the bodice, are sewn to the centre fitting line. The darts should be pressed and oversewn, but not boned, for it is better to bone the outer part, which wraps

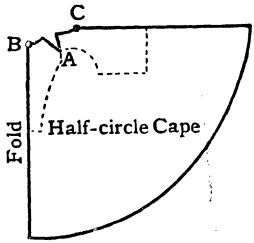


DIAGRAM 26.

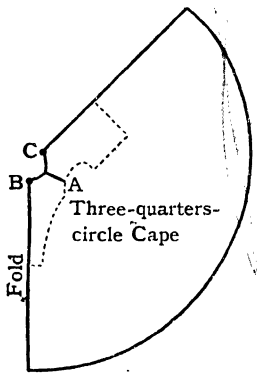


DIAGRAM 27.

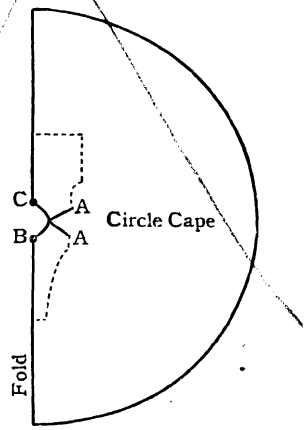


DIAGRAM 28.

over this under-lining and buttons or hooks upon the shoulder and down the under-arm seam.

Capes.—The capes illustrated in Diagrams 26, 27, and

28 may be cut from an ordinary bodice pattern. The dotted lines indicate the position of the pattern. The side length, which is about 1 inch less than the front, and 2 inches less than the back length, should be measured

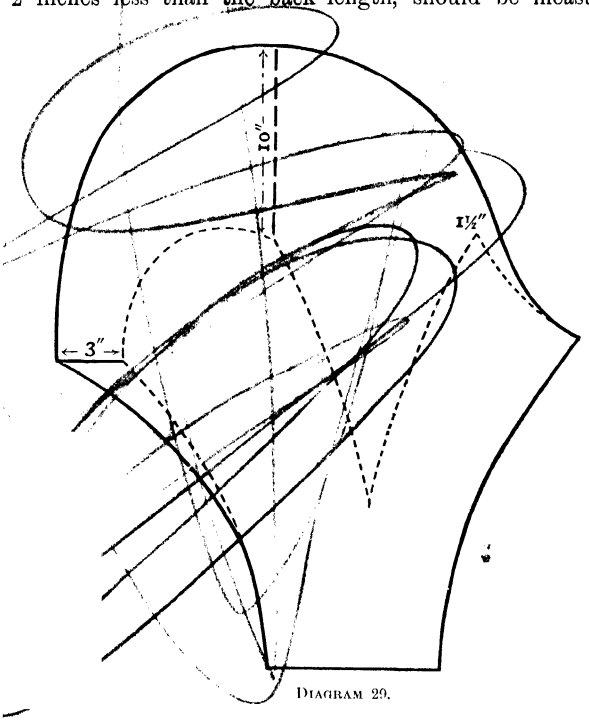


DIAGRAM 29.

from A, and not from the shoulder-line. A, B, C form pivots, from which to measure and sweep round the bottom. The three-quarter circle cape will be found most useful; 2¼ yards of cloth, 54 inches wide, will cut a cape and hood of average size.

The bodice pattern employed should be drafted without turnings, otherwise the capes will be too wide round the neck.

Diagrams 29, 30, and 31 illustrate three methods of drafting full sleeves from a tight-fitting lining. The dotted lines indicate the position of the lining upon the material.

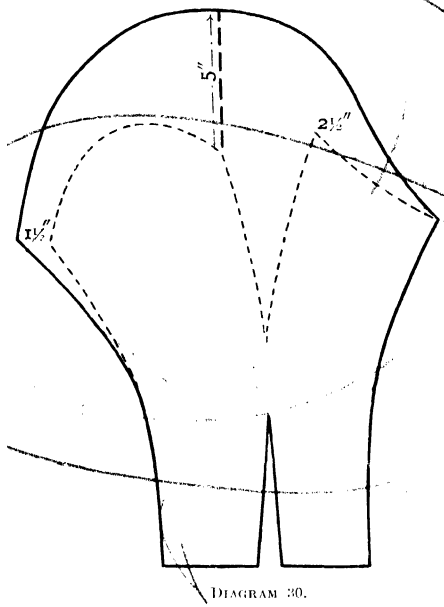


DIAGRAM 30.

In Diagram 29, the outer seam is in the lining only.

In Diagram 30, the material is sewn into the outer seam, from the wrist to the elbow.

In Diagram 31, the distance between A and the elbow, and B and the elbow, should be equal, because point A on the material is tacked to point B on the lining when putting

the sleeve together. The lining and material of the under part of the sleeve are cut exactly alike.

When demonstrating these sleeves, a pattern of the lining should be cut out in cardboard. When using a small blackboard it will be necessary to reduce the pattern to ½-inch scale. After outlining the cardboard pattern

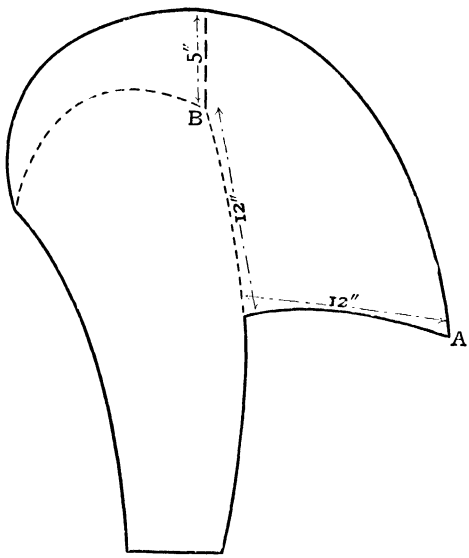


Diagram 31.

representing the lining, upon the blackboard, the points indicating the width and height of the outer sleeve should be marked, and the curves drawn through them.

Shaped collars and yokes may be cut from the bodice pattern. For a seamless yoke or collar, the *fitting lines* of the front and back shoulder seams should be placed together, and the upper part of the pattern wheeled on to paper; the

bottom edge of which may afterwards be cut to any shape.

When cutting a yoke or collar with shoulder seams, the upper part of the front and back of the bodice pattern should be cut separately. The close-fitting turned-over

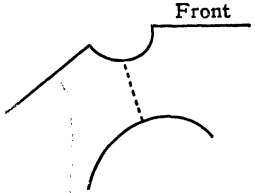


DIAGRAM 32.

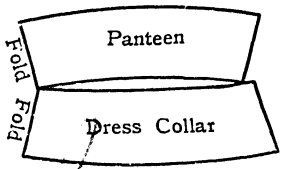


DIAGRAM 33.

collar known as the "Panteen" may be cut from the dress collar pattern.

Diagram 34 illustrates the largest and smallest curves

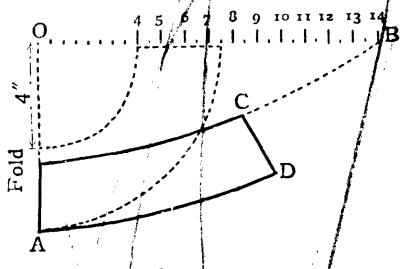


DIAGRAM 34.

it is possible to introduce into a seamless collar. The relative width of the bottom edge may be decreased by reducing the curve; therefore when a collar less curved than the semicircular one shown by the dotted line is required, about 8 inches should be measured to the right of O, instead of 4 inches. The space between O and A remains

the same. Four inches should be measured down upon the folded edge of the paper from O towards A, and a line dotted from point to point.

From the folded edge of the paper half the width of the neck should be measured upon the dotted line, and C marked.

The depth of the collar should then be measured below C, and the curve drawn from D to A.

Fitting.—Granted a good system, it is rarely necessary to fit a bodice until all the seams, except the shoulder and under-arm seam, are finished.

The fitting seams should be pinned on the outside, beginning at the neck for the shoulder seams, and the arm-hole for the under-arm seams. The pins should be put in on the right-hand front and left-hand back of the bodice.

When fitting, if the front does not fasten easily, the top of both under-arm seams should be let out a little and repinned.

The bodice should first be pinned securely on the waist-line at the back; if this cannot be done without straining, the shoulders should be lowered and repinned. Both shoulders may be lowered, and both side seams let out when drawing the front edges together, but only one side of the bodice should be fitted, unless the figure be deformed, then it may be necessary to fit both sides.

Short-waisted.—The waist-line should never be altered; if short-waisted the shoulder seams should be unpinned, the bodice pulled down until the waist-line fits into the hollow of the waist, and the shoulder seams repinned.

Long-waisted.—To remedy this defect, the bodice must be raised and the shoulder seams repinned.

Creases and folds are produced by two opposite causes —the former by deficient length between the points of the

crease, and the latter by excessive length between the points of the fold.

Wrinkles on the shoulders are often caused by the front shoulder not being sufficiently stretched. The seam should be unpinned and the front shoulder well stretched. If this does not remedy the defect the seam should be again unpinned and the front shoulder lowered on the back shoulder until the wrinkles disappear.

Folds across the back are caused by excessive length; the back should be shortened by taking up the shoulder seams.

Folds across the front arise from the same cause, and may be remedied in the same way.

Fulness round the front armhole may be caused by the darts being too small, or being placed too far away from the front. This may be remedied by increasing the size of the second dart, or when due to the second cause, by placing them nearer the front; this of course can only be done when the darts have not been cut.

Fulness round the back armhole is caused by too much suppression between the middle back and side body. To remedy; if the seam has not been notched the side body should be let out as much as possible on the side nearest the middle back, and the same amount taken off the side next the sidepiece. In all but elementary teaching, the suppression should be regulated to suit individual figures.

Dress-cutting systems allow from half an inch to an inch between the centre back and side body. A flat, straight back requires about three-quarters of an inch, and one with prominent shoulder blades as much as $1\frac{1}{4}$ to $1\frac{1}{2}$ inch; from this it will be seen that the most perfect "system" will require some slight modification to adapt it to abnormal figures.

Tight armhole.—This is often caused by the shoulder or under-arm seams being taken in too much, or the armhole being cut too small. Letting out the top of the under-arm seam will, as a rule, remedy the defect; when it fails to do so, the front armhole curve may be slightly enlarged. In doing this, it should be remembered that cutting the armhole larger will reduce the width across the chest.

The under-arm seams should always be fitted rather loosely at the top, in order to give a little extra width to the bust and armhole.

Waist.—If too large round the waist, the under-arm seam should be unpinned, and the front part *only* of the seam taken in, in order that the sidepiece may not be made narrower than the side body.

If diagonal wrinkles are formed, the front must be raised or lowered on the sidepiece, until they disappear.

Wrinkles on the waist-line above the front hip may be prevented by tacking the edge of the lining about half an inch above the edge of the material, from the under-arm seam to the second dart, before turning up the bottom of the bodice.

Creases across the hips are due to insufficient spring, and may be easily remedied by letting out the seams nearest the creases.

Straining across the bust is due to insufficient width, and may be remedied by letting out the under-arm seams.

Fulness at top of darts is usually caused by the darts being too large. To remedy; the second dart should be made smaller, and the fulness passed to the under-arm seam, and cut away.

A tight or badly-shaped collar should never be used, for a perfect-fitting and otherwise comfortable bodice may

be made exactly the reverse by means of this. The top edge of a collar should measure at least half an inch more than the neck measure, taken inside the collar just under the chin.

Wrinkles round the neck curve will appear when the collar has not been eased on sufficiently over the shoulder seams, or when the dress is too wide for the collar; in the latter case the shoulder seams should be taken in. Before sewing on the collar, it is a good plan to tack the edge of the lining round the front neck curve, about a quarter or half an inch below the edge of the material; this stretches the material upon the lining and prevents wrinkles forming.

Uncomfortable Collar.—When the collar presses against the throat, and the back of the bodice feels short-waisted, the fault is often due to the back neck curve being cut too low. This may often be remedied by substituting a deeply-curved collar for the ordinary one; sometimes it is necessary to add a yoke, or cut new centre back pieces.

Bodice seams twisting.—This is due to bad workmanship. In putting the parts together some were raised and others lowered, instead of meeting and forming a true line round the waist curve. Re-making the bodice is the only remedy.

Sleeves twisting.—This also arises from bad workmanship. It is caused by one part of the sleeve being passed up and shortened at the top, and the other passed down and shortened at the bottom.

CHAPTER VI

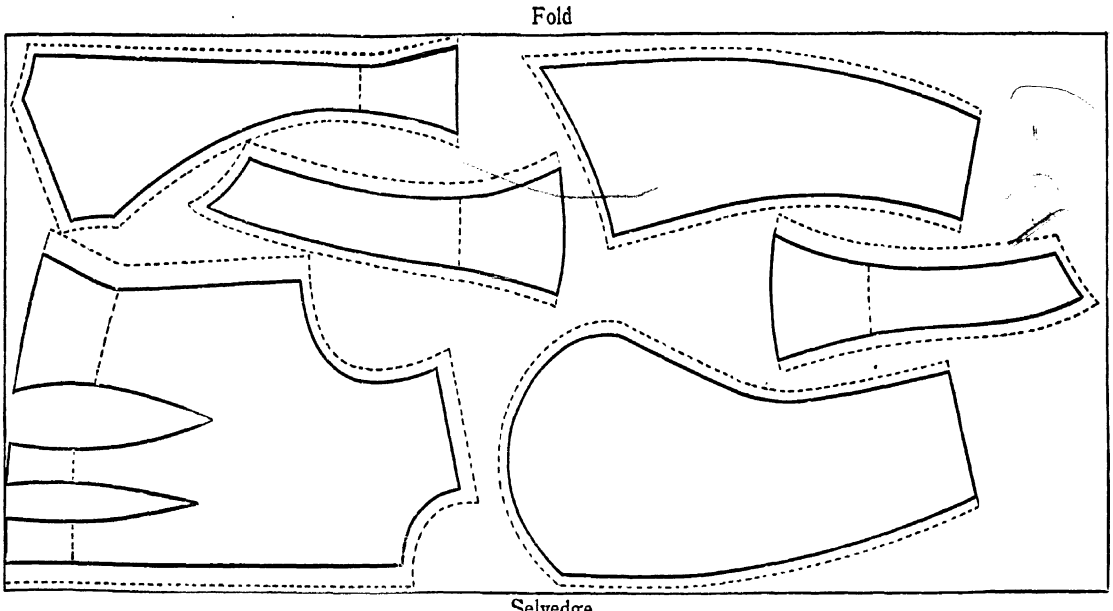
BODICE-MAKING

By whatever method the bodice pattern is produced, it consists of a certain number of pieces, namely, the back, front, side body, and sidepiece. It may be drafted with or without turnings, according to the method employed.

A system which gives sufficient space between the back and side body, and side body and sidepiece, for turnings to be pricked or wheeled on the paper outside the pattern lines; and which also allows the basque to be cut without joining the paper, is more easily taught to elementary classes. The overlapping basque seams, which are inevitable in patterns drafted without turnings, are somewhat perplexing to beginners, though easily understood and dealt with by more advanced pupils.

When the system does not provide turnings, or provides only $\frac{1}{4}$-inch turnings, which are insufficient for inexperienced workers, mistakes are less likely to occur if, before cutting out the lining, each piece of the bodice be cut out in paper with the necessary turnings added. 2 inches should be allowed on the centre front, $1\frac{1}{4}$ inch on the shoulder and under-arm seams (fitting seams), half an inch round the neck and armhole curves, and three-quarters of an inch on all other seams.

In cutting out, the lining should be kept folded, except


Fold
Selvedge

when using sateen and other single-width linings which have a right and wrong side. These should be folded end to end, in order to avoid cutting two pieces for one side.

The front of the bodice should be pinned, either to the selvedge or the folded edge of the lining, and the rest of the pattern with the waist-line running straight across the weft threads. The weft or woof threads, run at right angles to the warp threads or selvedge.

The subjoined diagram shows the pattern pinned to the lining ready for cutting out.

After cutting out the various parts, the pattern lines should be carefully wheeled. A short backward and forward movement gives the best result. The wheel should be raised every two or three inches to prevent the pattern dragging.

Ordinary double-width materials may be kept folded, but single-width plain materials should be folded end to end. When cutting out patterned goods, or those having a nap or ply, such as satin, habit cloth, velvet and velveteen, each piece must be cut separately, with the nap running downwards in satin and habit cloth, and the ply running upwards in velvet and velveteen.

The pieces of lining are placed upon the material in the same order as the pattern was laid upon the lining, the front to the selvedge or fold, and the waist-line of the other parts parallel with the weft threads.

The cutting-out completed, the pieces of material should be placed upon the table, right side down, and the corresponding pieces of lining pinned to them, right side uppermost, and afterwards tacked together.

"Tacking out" is explained in the chapter on "Stitches." It consists of spaces and stitches of equal length. It is carried up each seam, round the neck and armhole curves,

and across the waist-line. The tacking should be done on the wheeled outline. The lining must be kept rather loose or full on the material whilst doing this, to ensure the latter being slightly stretched. This process, and that of tacking the parts together should, when possible, be done under the teacher's supervision, for the fit and general appearance of the bodice depends greatly upon this part of the work being properly executed.

When putting the bodice together it will be found a good plan to join the parts in the order in which they were drafted. The tacking together of all the seams in the back of the bodice should commence on the waist-line, working up to the neck or armhole, and down from the waist-line to the bottom of the basque. Before tacking the side body to the back, it should be pinned so that the tacking thread round the armhole curve of the back, and that of the armhole curve of the side body, meet and form a true line. This seam requires the greatest care. Opinions are divided as to whether the side body should be held towards or away from the worker, when joining the seam, but reason suggests the latter course; for, if the back be held uppermost it may be slightly eased on to the side body at the top, thus giving a little extra space where it is most needed, namely, over the more or less prominent blade bones. When a bodice has been correctly tacked together, the tacking threads defining the waist-line, and the neck and armhole curves, will meet and form an unbroken line.

In tacking the darts, less attention is paid to the waist-line. They are nearly always begun at the top and tacked down to the bottom of the basque. They are more easily tacked if previously cut, and there is no reason why this should not be done before fitting, when the bodice has been drafted by a reliable "system," excepting, of course, the

abnormal figures referred to in the chapter on "Drafting and Fitting."

When dealing with deformed figures, or an unsatisfactory "system," it is advisable to fit the bodice at this stage, otherwise the "fitting" should be delayed until the front edges are completely finished, and all the seams, except the fitting seams (under-arm and shoulder) are stitched and pressed. Many workers go a step further and oversew the seams, and put on the bone casings. After tacking the back seams and darts, the shoulder and under-arm seams should be pinned on the outside. When fitting the bodice the front edges should be drawn gently together and pinned down the centre front line (see chapter on "Fitting").

There are many different ways of finishing the front edges of the bodice. The one generally adopted in class-teaching is as follows:—The edge of the right-hand front is trimmed off, leaving rather more than half an inch beyond the fitting-line. A strip of canvas, linen, or muslin, cut selvedgeway, about $1\frac{1}{2}$ inch wide, is tacked to the extreme edge of the front, on the inside. The edge is then folded over, leaving a quarter of an inch outside the centre fitting-line, and tacked, pressed, and slip-hemmed, or machine-stitched. The latter is the stronger, and should be employed when making up thick materials. Silk or thin material should be slip-hemmed (see "Stitches"). The machining should be done $\frac{1}{8}$-inch or $\frac{3}{16}$-inch from the edge, with silk matching the material.

When hooks are used as fasteners they are sewn very securely to all the thicknesses of lining and material, except the outer one, and great care must be taken to prevent the stitches from showing on the right side. They are sewn on before the facing, and nothing of them is visible, except the short curved part which fits into the eyes.

The facing consists of sarcenet ribbon about $1\frac{1}{4}$ inch wide, or a strip of silk cut parallel with the weft threads, in order that buttonholes may be cut the way of the selvedge; the straight comparatively unyielding warp threads tend to preserve the shape of the buttonholes. In inferior work a strip of silesia or linenette is substituted for the silk.

The facing is first tacked, and afterwards hemmed neatly to the bodice, the stitches being taken firmly into the lining and canvas, but not through the outside material.

Before marking the points for the buttonholes, a tacking thread should be run down the front edge of the bodice, to the left of the fitting-line. The distance between this thread and the one marking the centre fitting-line, is determined by the size and shape of the buttons. For flat ones the space would be the diameter of the button, plus an eighth of an inch, and for those with rounded surfaces the diameter plus a quarter of an inch. If the buttonholes are cut from the centre front line to the outer tacking, they must necessarily be all one size.

An inch-tape should be used when marking the spaces between the buttonholes. They should be measured off from the waist-line up to the neck, and from the waist-line to the bottom of the basque. In this way the first pin would be placed exactly on the waist-line.

For ordinary small dress buttons, the buttonholes are placed three-quarters or one inch apart. Buttons with a round surface are placed more closely together than those with a flat surface. Buttonholes which have a space between them measuring one and a half the diameter of the button, are rather close together, while those with twice the diameter of the button between them, are considered by many too wide apart.

Either short tacking threads or pins may be used to

mark the spaces, preferably the former, for pins shake out easily, and are apt to catch the cotton when working. As the pin or cotton is gradually withdrawn, the hole should be carefully cut by a thread. In the subjoined diagram it should be observed that the knotted end of the cotton is on the second tacking line, and a short end of cotton is left hanging at the front edge, fastening off being unnecessary.

In another method, the spaces are marked before deciding the length of the buttonhole. Afterwards, pins indicating the required length, are placed at right angles to those already marking the spaces. A tacking thread is then run in as in the previous method, but instead of using an ordinary tacking stitch, a long stitch (three-quarters, or one inch in length, according to the space between the pins) is taken, and a tiny space left at every pin; thus marking the point the end of the buttonhole must touch. The pins are removed before cutting the holes. This is a quicker method, and may be safely adopted by any one with a little experience, but beginners find it somewhat difficult to cut the slit with so little to guide them.

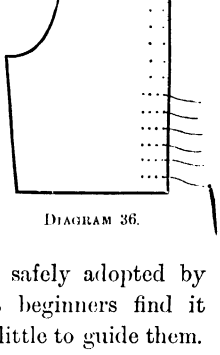


DIAGRAM 36.

The left-hand front is trimmed, leaving about 1½ inch outside the fitting-line. When eyes, eyelets, or loops are employed as fasteners, it should have an interlining of canvas, linen, or muslin, corresponding with the right front. When buttons are used, a length of Prussian binding should be tacked to the lining, exactly on the fitting-line. This forms a support for the buttons, just as the canvas does for other fastenings. The edge is folded under, tacked,

stitched, or slip-hemmed. The margin outside the fitting-line is called the button-stand. It should always be notched at the waist-line, and the corners nicely rounded and oversewn.

When hooks and eyes are used as fasteners, only a quarter of an inch turning outside the fitting-line is required; this should be folded under, pressed, etc., and the eyes sewn on securely, with that part into which the hook fits just touching the extreme edge of the bodice. In good work, this outer ring is oversewn with silk twist, the stitch employed being that known as "embroidery" or "loop-stitch." A piece of material, about an inch wide when folded, replaces the button-stand, and is called a "wrap." It usually ends at the waist-line. It is sewn over the little rings by which the eyes are sewn to the bodice, and the whole is made neat by means of the facing; some workers prefer sewing on the "wrap" after the facing. In both methods, the *folded edge* is sewn to the bodice, the turned-in edges forming the outer edge of the "wrap."

An inch-tape should be used when marking the points for the buttons, *and not the buttonholes.* They should be measured from the waist-line. Pins may be employed, but it is better to tack over, and remove them, before sewing on the buttons, for the same reason as already explained with reference to the buttonholes. The long stitch and small space may be used, or a long stitch underneath, and a small one on the outside marking the point for the button.

When practicable, the buttons should be sewn on before the facing; when sewn on afterwards, the knot and the finishing off must be hidden under the shank of the button.

A second method of finishing the fronts of a bodice is equally simple and satisfactory. The right-hand front is

trimmed to half an inch outside the fitting-line, and that on the left-hand is reduced to 1½ inch. They are then tacked from the neck to the bottom of the bodice, about 3 inches from the centre fitting-line. If this line has been tacked, the tacking is removed, and a strip of linen or canvas, about 3 inches wide, is inserted between the material and lining. The fitting line is then retacked, taking the stitches through the material and interlining only. Afterwards the edges are folded under a quarter of an inch, tacked, pressed, and stretched, or slip-hemmed. No facing is required; after sewing on the fastenings the lining is felled neatly down.

In good workrooms the seams of silk, satin, and velvet bodices are often sewn by hand. Machine-stitching may cause the two former to wear badly at the seams, or leave undesirable marks upon the latter. A tailor's objection to machine-sewing for curved seams, or seams requiring a little manipulation is well known; but, excepting the above-mentioned materials, and seams where one side is very much eased on to the other, machine-stitching is decidedly the best. The seams must always be stitched in one direction; working some up and others down will often cause the bodice to twist. Beginners should stitch round the curve very slowly, and avoid, as far as possible, stretching the seams.

The machining completed, the tacking threads should be removed. The one objection to "tacking out" exactly on the outline, is the difficulty in removing the tackings. An experienced worker may overcome this difficulty by "tacking out" just inside or outside the wheeled outline, preferably the latter. When joining the seams together, if the "tacking out" were outside the outline, the tacking of the parts together would be done slightly

inside, thus leaving the wheeled outline upon which the machining would be done altogether free from tackings. This method would be too difficult for elementary teaching. The pupils find it quite easy to tack round the outline, but very difficult to leave a narrow margin, measuring exactly the same on all sides. The tacking threads are more easily withdrawn, if previously cut every 2 or 3 inches.

The tacking threads removed, the back seams and the darts should be notched at the waist-line, and pressed open with a rather cool iron. At this stage the bodice may be fitted. The shoulder and under-arm seams should be pinned on the outside (see chapter on "Fitting").

After fitting the bodice, before tacking the alterations, the front and back shoulder must be cut down to the same level at the neck point. The front shoulder is often lowered in fitting, and if the back shoulder is not cut down to correspond, when the shoulders are tacked together after being separated—as they must be in order to correct the left side—the front shoulder is placed on the back shoulder in its original position, thus partially undoing the work of fitting. So, if the front shoulder be lowered, say, half an inch, the back shoulder must be cut down the same amount before removing any of the pins. The same rule applies to the under-arm; when the front has been lowered on the back, the sidepiece must be cut down at the arm-hole curve to correspond. If the front were raised, instead of lowered; then the alteration would be made on the front shoulder and front under-arm seams.

Having made the necessary corrections in the manner indicated, the right shoulder and under-arm seams should be "thread-marked" (see "Stitches"), the pins removed, the stitches cut, and the parts separated. The "ordinary

tacking-out" is then done over the cut threads, which are afterwards removed together with the original tacking on the outline.

The left-hand front, previously unpinned, should be placed right side down upon the table, and the right-hand front placed on the top of it, right side uppermost, thus bringing the two wrong sides together.

The shoulder seams and side seams should be pinned together, beginning at the waist-line and lower point of the shoulder seam, and the armhole, neck, and basque of the left front cut to correspond with the right. The shoulder and under-arm seams should be thread-marked over the new outline on the right front. The thread-markings should be cut, the parts separated, and the left front shoulder and under-arm seams tacked out as already described.

The back is treated in the same manner, and the same care exercised to bring the shoulder-points and waist-lines together. It may be necessary to point out why great stress is laid upon bringing the shoulder-points and waist-lines together: The lower part of the shoulder seam and the waist-line are rarely altered in fitting; therefore, if the fitting seams of the opposite side of the bodice are pinned together, starting from points which are rarely altered, there is little or no difficulty in making the parts requiring alteration exactly alike. When this method of correcting the seams is adopted, it is advisable not to trim the seams when fitting, for it is so much easier, when correcting the left front, to pin the edges of the side seams together than the centre front lines.

When joining the front and the back of the bodice together, the waist-line is disregarded. The under-arm seams are tacked from the armhole to the bottom of the basque, and the shoulder seams from the neck downwards.

The front shoulder should be well stretched, and the back slightly eased on to it, to prevent wrinkles forming in the hollow part of the front shoulder.

Before oversewing the seams, they should be trimmed and notched, leaving them fairly wide, but not sufficiently so to overlap. Excepting the darts, all the seams should be the same width. They should be evenly and carefully notched to within a quarter of an inch of the seam.

Four notches will be found sufficient for ordinary bodices; in fact, some of the seams do not require this amount, but others do, and the inside appearance of the bodice is greatly improved by the seams being made as nearly alike as possible. Some workers scallop the seams. The diagrams show both methods. It should be noticed that one slit is made exactly on the waist-line.

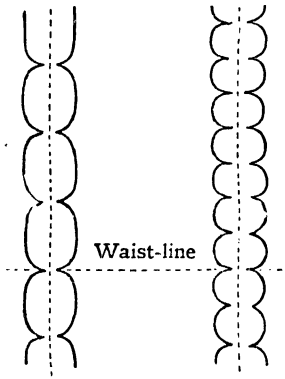


DIAGRAM 37. DIAGRAM 38.

The silk or cotton used in oversewing should be rather fine, and, if possible, should match the material in colour. The stitches should be left rather loose to avoid forming a ridge. The oversewing completed, the bodice should be well pressed. When the material is very harsh, or a ridge has been formed by an inexperienced worker, the oversewn edges should be well pressed at the back. The seam must be closed whilst doing this, and afterwards opened and well pressed.

The bodice is less likely to be creased if, instead of pressing the whole length of the seam, all the seams are pressed from the top down to the waist-line, and from the

bottom of the basque up to the waist-line. The waist-curve should be well pressed with the tip of the iron.

The darts require great care; when pressing the points, the iron should be kept quite still, moving it from side to side stretches the material at the head of the darts and consequently spoils the shape of the bodice.

When pressing thick or harsh materials, the fingers should be dipped into water and run over the seams before applying the iron. This method is recommended in preference to that of using a damp cloth; the cloth damps the surrounding parts (sometimes causing the material to shrink) instead of only the thicknesses of material forming the seam. A common fault in pressing is that of applying too much heat and too little pressure; pressing to be done well must be done slowly.

Tailors always press on a bare board, and, when making up thick goods, it is undoubtedly the better plan; but, when pressing thin materials, it is advisable to use a pad of some kind.

Velvet, silks, and some crepons should be held in the hands whilst being pressed. The seams are drawn gently over the face of an iron, the iron being placed upright on an iron-stand, or held face upwards by some one.

When the seams have been heavily pressed on a bare board they are sometimes glazed on the right side. By the time the bodice is completed, the greater part of this will have disappeared. What remains may be easily removed by placing a *slightly* damp cloth on the right side of the bodice, and holding a fairly hot iron so close to it that the water is converted into steam. The bodice should then be spread out carefully until quite dry; damp material is easily creased and pulled out of shape.

Before sewing on the bone-casings, the length of the

bones or steels must be decided. In ordinary shaped bodices all the seams, excepting the darts, may be boned to the same height. The bones in the darts usually terminate about 1 inch below the extreme end of the point. The remaining seams should never be boned higher than the bust-line. Two-thirds of the under-arm seam, measured up from the waist-line (that would be 5 inches if the seam measured $7\frac{1}{2}$), will be found a good height. The required length of the bone below the waist-line must, of course, be added to this. This is decided by the shape of the bodice; in short basques, the casings should end, at least, half an inch above the *turned-in edge* of the bodice; in long ones, it is not necessary to carry them more than 3 inches below the waist-line. The casings should be cased on $1\frac{1}{2}$ inch above and below the waist-line. The amount cased on depends upon the shape of the figure; a thin, comparatively straight figure requires much less spring than one with a small waist, and large bust and hips. The maximum may be taken as $1\frac{1}{2}$ inch, and the minimum, as three-quarters of an inch. No more than the spring of the bodice demands should be allowed; for, when the casings are unnecessarily full they wear badly, especially when sarcenet ribbon is used; and they also slightly increase the size of the waist.

Easing-on has already been described as a process by which a long length is worked into a shorter one. The longest length is always held towards the worker. The work, while in progress, should be curved round the end of the left forefinger, and the fulness gradually pressed down under the needle with the left thumb; in this manner it is evenly distributed.

The casings may be hemmed or run-stitched on, preferably the latter. The sewing must be done as near the edge of the casing as possible, and one stitch at a time taken

when easing-on. About 2 inches of the upper end of the bones should be left free; this prevents them showing on the outside of the bodice, and lessens the probability of their cutting through the material. Four inches of binding are left at the end of each casing to form a pocket into which the loose end of the bone fits. Many good workers follow the same rule at the bottom of the seam, and leave half an inch to an inch of bone free; this certainly prevents it pressing against the edge of the bodice, but the following method gives an equally satisfactory result, and is a little less difficult to teach.

The distance below the waist-line being decided by the length of the basque, the end of the casing is turned under and sewn across the seam, thus securing the bone at the bottom. From this point to 1½ inch below the waist-line it is sewn on plainly, and then eased on for 3 inches; above this it is sewn on, without any fulness, to a height measuring 2 inches less than length of bone. Before turning the bodice round to sew down the other side of the casing, the binding should be cut, leaving the 4 inches of binding which are afterwards folded over and sewn round the end of the bone. By this it will be seen that the casings are 2 inches longer than the bone, plus the amount used up in easing-on.

Prussian binding is made in black, white, fawn, grey, and several other colours. The thin fine qualities are the best; the thicker ones are made chiefly of cotton, and are stiff and somewhat difficult to ease on. Sarcenet ribbon may be employed instead of binding, but it is less durable. White binding should be used for light-coloured dresses, and black binding for dark ones.

Prussian binding is used to neaten the seams of unlined coats and ulsters, and should, when possible, match the material in colour.

Binding, belting, and facing should correspond; black being the most suitable for everything but the lightest shades.

Steels encased in white should be used for light-coloured materials.

The whalebone (steels, or other substitutes) used to stiffen and support the seams, should be strong, thin, and flexible; strong, that it may not break easily; thin, that it may not take up much room; flexible, in order that it may readily adapt itself to the curves of the figure. Whalebone possesses all these good qualities, but unfortunately its price, to a great extent, precludes its use. The best substitutes are steels and coraline. Steels are both cheap and durable; the chief objection raised against their use is that they quickly cut through the material; but this can be prevented by encasing them in Prussian binding, and leaving the upper ends free as already described.

Steels are less elastic than whalebone, and the double casing is thought by many to take up too much room; but they are cheap, durable, and strong, and should be used in preference to the imitation whalebone sold in bundles. Bones encased in binding should also be avoided. Coraline, which is sold by the yard, consists of two strips of imitation whalebone encased in, and united by, a woven tubular network. It wears exceedingly well, but unless the ends are carefully trimmed it quickly cuts through the casing.

When buying steels, the binding which encases them should be carefully examined, the finer kinds usually cover the best steels. The "Tricolour" may be specially recommended; the boxes containing them are labelled with the flag.

After cutting the whalebone into suitable lengths, each strip is pared, the ends rounded, made thin and smooth,

and a hole bored at one end with a hot skewer or knitting needle. When the whalebone is not very pliable, the strips should be prepared and afterwards soaked in hot water to soften them. While in this pliable condition they should be gently bent to the shape of the figure.

Every seam of a close-fitting bodice should be boned. When buttons and buttonholes are used as fastenings, a bone should be placed just under the buttons. When bodices are laced, or fastened by means of hooks and eyes, the edges of both fronts are boned, to prevent any drawing apart between the fastenings. A strong narrow piece of whalebone should always be used for this purpose, irrespective of the stiffening used for the seams.

All bone-casings should be sewn on before turning up the bottom of the basque, but the bones are not put into the casings until every other part of the bodice, excepting the waistband, is completed.

When shaping the basque the two sides of the bodice should be pinned together on the waist-line, and the bottom edges brought together. In a pointed bodice some little care is required to make the two points meet exactly on the centre front line. To ensure this the button-stand should be cut sharply away, well within the edge of the right front.

Strips of Victoria lawn, or French canvas, 1½ inch wide, cut on the cross, should be tacked round the edge before turning it up, to give firmness to it. After cutting away all unnecessary turnings, the bottom should be folded over, tacked, pressed, and slip-hemmed.

Shaped or cross-way facings are more easily fitted than straight ones, but the latter "stay" the bottom and prevent it stretching. They are therefore more suitable for short basques fitting tightly over the hips.

When cross-way facings are preferred, and the material is likely to stretch very much, the strip of Victoria lawn used as an interlining should be of the thinnest description, and, in addition to it, a length of tailor's stay-bind or narrow tape should be tacked inside the extreme edge of the bodice. Prussian binding sewn on rather tightly over the turned-up edge is a suitable facing for an ordinary gown.

Collars lined with hard, stiff, easily-cracked upholsterers' buckram are not very comfortable, therefore it is better to substitute the thin smooth dark yellow tailors' buckram, or three or four thicknesses of French canvas, machine-stitched together with several rows of zigzag lines; or each strip may be rubbed with soap and the whole ironed until dry. The strips should be cut rather large and trimmed to the right size after joining them together. Material, lining, and canvas should be cut with the vertical line in the centre back of the collar, parallel with the warp threads, in order that both sides of the front may be equally on the cross. The buckram is cut without turnings, and the sharp corners are rounded to prevent them cutting through the material. The smooth glossy side of the buckram, previously slightly wetted, should be placed face to face with the wrong side of the material and ironed until dry. During this process the buckram should be curved slightly to the shape of the neck. The material should be trimmed, leaving half an inch turning, folded over, tacked, pressed, and either slip-hemmed to the buckram, or the upper and lower edges sewn together with long herring-bone stitches.

When making up very thin fabrics the buckram should be damped and pressed in the same manner on to an interlining of muslin, and the material tacked on afterwards. By the above method, equally applicable to upholsterers'

and tailors' canvas, the firm, smooth effect which is characteristic of good work is obtained.

When a stiffening of French canvas is employed, the strips—after being stitched and trimmed to the shape of the collar—should be tacked to the material, and the edge folded over and slip-hemmed as in the previous method.

Collars for washing dresses should be made in the same manner, substituting three thicknesses of previously washed calico for the canvas.

Striped materials should be joined in the centre back of the collar, in order to have corresponding stripes on either side of the front.

Three hooks should be sewn to the right-hand end of the collar and three eyes to correspond with the hooks on the left-hand end. The hooks should be sewn very securely about an eighth of an inch from the end of the collar, the eyes should just touch the edge, but not project beyond it. The ends of the collar must meet but not overlap.

In sewing on the collar, the inside of the bodice must be held towards the worker and the collar away from her. The bodice should be stretched over the collar as tightly as possible at the shoulder seams, and any fulness there may be evenly distributed between the front and back curves. If there is more fulness than can be easily worked in by curving the bodice over the collar, the neck has been cut too low, or the shoulder seams have not been taken in sufficiently.

The collar lining may consist of a strip of silk, sarcenet, or bodice lining; it should be cut to the shape of the collar.

Sleeves vary so much in size and shape, that no definite rules for complete making up can be given. As a rule it will be found more convenient to stitch and press the outer seams before joining the inner ones. When joining the

outer seam it should be pinned from the top down to the elbow, and from the bottom up to the elbow, and the surplus fulness in the upper part of the sleeve gathered into the under side. The inner seam should be tacked from the top of the sleeve to the bottom, and if possible fitted before being stitched, notched, and pressed. This inner seam should be pressed over a towel-roller, or a rolling-pin *kept for the purpose*. When the seams of a sleeve are carelessly put together, say, a little length taken off the *top* of one side of the seam, and a little length off the *bottom* of the opposite side, twisting invariably follows.

A common fault is that of lowering the under part of the sleeve on the upper part when joining the outer seam. The outline round the head of the sleeve should form an unbroken line.

The bottom of the sleeve should be turned up over a strip of canvas or lawn, when the material is very thin, and tacked, pressed, and slip-hemmed before sewing on the facing. A wide facing should always be cut on the cross, a narrow one may be of ribbon or Prussian binding. The edge of the facing nearest the bottom of the sleeve should be slightly stretched; if not, when the sleeve is turned right side out, it will have the appearance of being eased on.

Many of the "systems" give rules for "pitching" the sleeves, and it is well to follow them, for no general rules can be given that would apply to all.

The "back pitch," indicating the point where the outer seam of the sleeve joins the bodice, should never be above the seam joining the centre back and side body together, or below the seam connecting the side body with the side-piece. The more stooping the figure, the higher the pitch, and *vice versâ*. For ordinary figures, neither stooping nor

very erect, the pitch should be marked midway between the two seams.

The "front pitch" is easily found under the following conditions:—Half the back of the bodice must measure about half an inch more than the half front, and the under part of the sleeve must be about 2 inches narrower than the upper part. Granting this; the inner seam of the sleeve should be fixed from 2 to $2\frac{1}{2}$ inches above the under-arm seam. 2 inches usually give a good "front pitch."

The outer seam of the sleeve should be pinned to the "back pitch," and from there pinned round the under side of the sleeve to *2 inches* above the front pitch, and the fulness pleated or gathered into the upper part of the sleeve. When tight-fitting sleeves are worn the space between the two "pitches" should be measured, and the under part of the sleeve cut of corresponding size. 1 or $1\frac{1}{2}$ inch may always be eased in between the "pitches" without spoiling the "hang" of the sleeve. The sleeve should be sewn tightly into the side body curve; at all other parts it may be eased; they are best sewn in by hand.

The sleeve should be held towards the worker, and the bodice away from her.

Waxed thread should be used, and firm back-stitching. The armhole seam should be trimmed and neatly oversewn, or bound with silk or Prussian binding.

The sleeves and collar completed, the prepared bones or steels should be put into the casings. They should be pressed well down, until they curve slightly for a thin figure, and until the bone takes a more decided curve for stout ones. The bone should be kept well pressed down whilst the binding is being sewn round the end of it.

A fan, consisting of five or seven stitches in bright

coloured silk, is worked at the end of each bone, partly as ornamentation and partly to secure the bone.

The belt should fit rather tightly round the waist and just meet, not overlap. The hooks and eyes fastening it should be sewn on with embroidery stitch (see chapter on "Fastenings"). The belt may be fastened to either three or five of the back seams. It will be found a good plan to securely backstitch it to each seam, before cross-stitching with silk.

Cuffs, Collars, Revers (excepting the straight dress collars) should have an interlining of French canvas or Victoria lawn, preferably the former. The canvas and material should be tacked together and the edges folded under, pressed, and slip-hemmed to the interlining only. The lining, which usually consists of some thin material, such as silk, sarcenet, or sateen, should be felled or slip-stitched to the material about a quarter of an inch within the edge. Edges and points of collars and revers should curl slightly under; to produce this effect the material must be tacked rather loosely to the interlining, and the lining stretched rather tightly, thus making the under surface smaller than the outer. This rule applies to any curved or turned-back portion of a garment. On the other hand, when we have an inner convex and an outer concave curve, like the waist curve, fitting into the hollow of the figure, we proceed on exactly opposite lines, and ease the lining on to the material, and casings and facings on to the lining, to make the under surface longer than the outer. By the same rule; all vertical trimmings should be slightly eased on over the bust, and stretched slightly from bust to waist.

Materials, linings and interlinings used for cuffs, collars, and revers, are nearly always cut on the cross.

The lining of a turned-back cuff should be more tightly stretched than those of collars and revers.

Kiltings.—Nearly all materials may be cut lengthwise (selvedge way) for kiltings, thus avoiding unnecessary joins. The exceptions are silk, satin, horizontally corded materials, striped, and patterned goods.

The bottom edge of the strips should be folded under about a quarter of an inch, and pressed before turning the second fold. Experienced workers turn the second fold and stitch the hem at the same time, but beginners should tack and press it before machining. Nearly all sewing machines have adjustable hemmers, but their use is not recommended for such materials as serge and alpaca.

When kiltings are put under a cross-band or trimming the upper edges are left raw, otherwise they are turned in and pressed before kilting. The top edge should always be kilted first, in order to secure uniform pleats, where any defect would be apparent. The lower edges, being free and full, will easily hide any little irregularities there may be in pleating. When the top edge is covered by a band or trimming, the bottom edge would be kilted first.

The number of rows of tacking required depends upon the material. In kilting unyielding fabrics like serge, the tackings should be about an inch apart; whereas, in easily folded materials, they may be separated by a space of 2 or 3 inches. Silk, satin, and thin goods should be lightly pressed on the back; harsh materials must be well pressed under a damp cloth and then ironed until dry.

The length allowed for each kilting is three times the required length when finished. A skirt measuring 3 yards round the bottom would require a strip of material 9 yards long for each kilting.

Single box-pleatings require three times the width of the skirt.

Double box-pleatings five times the width of the skirt.

This amount would allow the box-pleats to meet. Sometimes they are preferred with spaces and pleats of equal length; then one half the skirt should be reckoned as plain, and the other half multiplied by three for single box-pleats, and by five for double ones.

Strips for kiltings and frills should always be joined into a round before hemming, and marked off into quarters

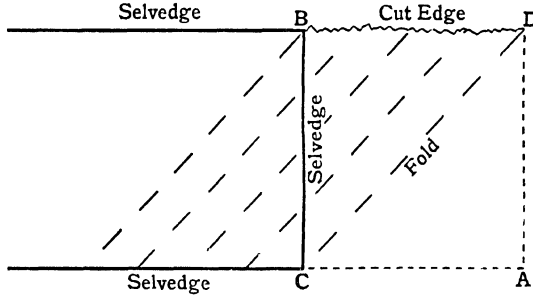


DIAGRAM 39.

before kilting. Each quarter should be kilted or pleated to fit a quarter of the skirt.

Kiltings and pleatings about 4 inches wide are not confined in any way. When they exceed this width by 2 or 3 inches, a tape is sewn tightly to each fold about half-way from the bottom. Wide kiltings are taped three or four times; the tapes should be sewn on loosely to allow the kilting a little spring.

Frills.—These are usually cut on the cross; an exact cross is the diagonal of a square. To obtain this, the material should be laid upon the table and A folded over to

B, and the folded edge cut from C to D. The triangular piece B, D, C is also on the cross. The short lines show how the strips should be cut for the frills. The selvedge edges of the strips are stitched and pressed open, and the bottom hemmed as already described in connection with kiltings. About twice the width of the bottom of the skirt is required for each frill. Both skirt and frill should be divided into quarters, and when the frills are gathered, fresh cotton should be taken at each division. When cutting twilled material on the cross, care should be taken to fold C to D across the twill, not with it.

Cordings, Puffings, Folds.—These are always cut on the cross. For cording or piping, the strips should be about an inch wide; the cording may be made separately, or made and sewn into the garment at the same time. The strip of material should be folded in two with the cord just within the folded edge, and run lightly, as close as possible to the cord. The piping should be sewn very firmly to the garment. Folds are nearly always lined with Victoria lawn; the greatest care is needed in cutting and making them, for if they are not cut exactly on the cross, it is almost impossible to make them set properly.

Tacking and Stitching Velvet.—The small pins known as "Lillikins" should be used for pinning velvet, or failing these, fine needles; for large pins injure the pile. The tacking should be done as much as possible on the turnings, using fine needles and cotton, or better still, fine sewing silk. When removing the tackings, the stitches should be cut and withdrawn from the right side of the velvet, to prevent the pile being flattened or otherwise injured. Velvet, velveteen, and other pile fabrics should always be stitched against the pile, and the pile afterwards gently raised with a fine needle.

Wadding should only be employed to hide a deformity, or fill up the hollow in the front shoulder, and round and under the armhole, when they are so pronounced that it would otherwise be impossible to make the dress fit properly. The wadding should be tacked to the lining with the skin side outwards, next to the material, and the edges gradually thinned down to the skin.

Thin Materials.—On page 106 the reader is directed to ease the lining slightly in order to throw the strain upon the material, but there are a few exceptions to this rule. Thin fabrics, such as gauze, lace, net, muslin, delaine, soft silks, and chiffons, could not support the strain; therefore the order is reversed, and the material slightly eased on to the lining. Materials with a raised twill or pattern, such as crêpe and crepon, should only be stretched slightly. Thin silks and velvets wear better when interlined with soft mull-muslin; the appearance of the seams of these materials, even in the best qualities, is improved by the addition of a crosswise strip of muslin between the material and lining.

Machining.—Silk should be used when possible for stitching bodices, it is more elastic and less likely to break. The stitch should be made smaller for thin materials, and enlarged for thick ones; the latter use up more cotton between the folds, consequently the stitches appear smaller on the surface.

Buttonholes.—When the material is very loosely woven, two rows of back-stitching, leaving not more than two threads between them, should be worked round the tacking before cutting the hole. This is not often necessary; as a rule, when working material with slightly fraying tendencies, the edges are lightly oversewn with fine sewing silk.

The margin between the fitting line and the extreme

Striped Materials.—The stripes are somewhat difficult to match in the back seams of the bodice, therefore as few seams as possible should be introduced. A method which finds much favour is the one known as the "striped V." The lining has the usual seams, the material the centre back seam only, where the stripes meet and form a V. The stripes in the front of the bodice should be arranged to correspond with those in the back. When dealing with wide stripes care should be taken to have a V about an inch below the waist-line; if allowed to come slightly above, the figure appears short-waisted.

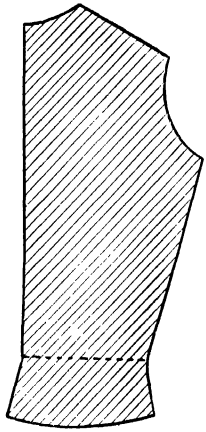


DIAGRAM 41.

CHAPTER VII

STITCHES

Hemming.—A hem is a double fold of material; therefore hemming, in the true sense of the word, is only used in dressmaking when frills and kiltings are worn. The hemming-stitch is used in sewing the edges of facings and linings to the garment, but as the stitches are not taken through the outside material it is more convenient to speak of it as "hemming to lining only."

When hemming the edges of kiltings and frills made of woollen material, the first fold should be pressed with a hot iron before turning down the second one, and the second

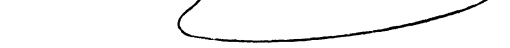


Diagram 42.—Slip-Hemming.

fold pressed and tacked before machining. Hemming by hand is always worked from right to left.

Slip-hemming.—This stitch is used in millinery and dressmaking to sew unlined velvet and silk. The edge of the material is folded over, one stitch taken into the fold, and one just below it (see Diagram). The lower stitch is

taken through a single thread of the material, and should be invisible on the right side.

Slip-hemming is also employed in dressmaking to fasten down the edges of interlined material, such as the bottom of skirts, cuffs, revers, and collars which are afterwards faced. The stitches are taken through the interlining but not through the outer material.

Slip-stitching is chiefly used in sewing together the outer and inner edges of collars, cuffs, revers, etc. The edges to be slip-stitched are tacked closely together; the needle is then inserted about an eighth of an inch within the edge and a stitch taken alternately in the upper and under

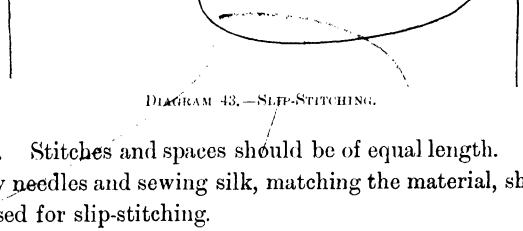


DIAGRAM 43.—SLIP-STITCHING.

folds. Stitches and spaces should be of equal length. Fine straw needles and sewing silk, matching the material, should be used for slip-stitching.

Back-stitching is employed in dressmaking where great strength is required, as in putting in sleeves. The under stitch should be twice the length of the upper one; it is usually described as two threads backwards and four forwards.

Seaming is used principally for sewing the skirt to the belt and putting in dress patches.

Overcasting.—This stitch is similar to seaming; but it is worked from left to right instead of from right to left, and nearly always over raw edges. The stitches should

lie loosely over the edge of the seam, or a hard ridge will be formed which will spoil the inside appearance of the seam and probably show through upon the right side.

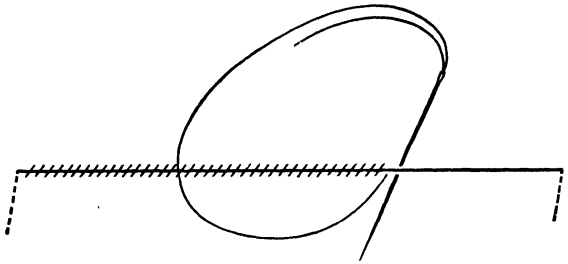


DIAGRAM 44. —OVERCASTING.

Basting is principally used for skirts, and consists of a long slanting stitch and a short vertical one.

The same stitch, on a smaller scale, is used in tacking

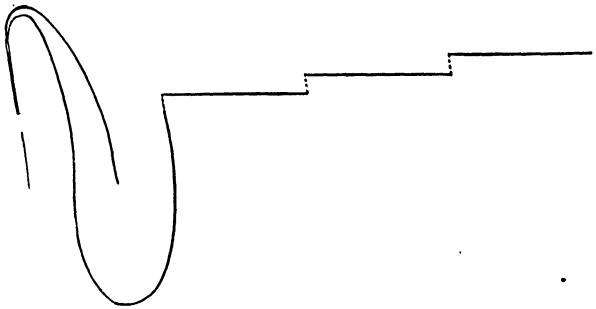


DIAGRAM 45.—BASTING.

The stitches should run straight across the material and not down to the left, as represented in diagram.

velvet instead of the ordinary "tacking out" stitch. One end of the stitch touches the outline, the rest of the tacking is on the turnings.

Tacking consists of stitches and spaces of equal length; it is employed in "tacking out," or outlining the various parts of the bodice, also in tacking the parts together.

Thread-marking is a stitch employed by tailors and good dressmakers to mark the alterations on the fitting seams. The stitches are about an eighth of an inch long, and the spaces nearly half an inch. Double cotton should be used and loops left between the stitches.

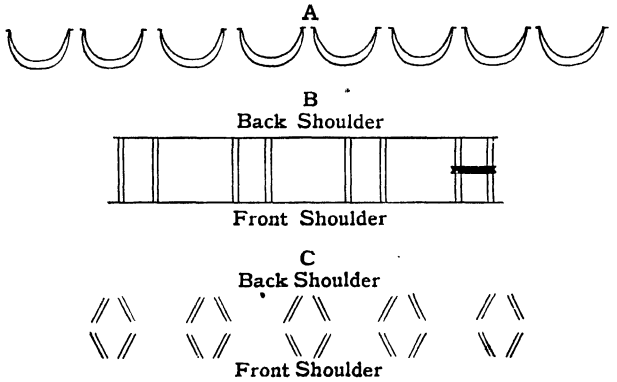


DIAGRAM 46.—THREAD-MARKING. Two seams together.

After tacking the shoulder and under arm together with the above stitch (Diagram A) the two parts should be drawn gently apart and the threads cut at the short dark line shown in Diagram B, leaving one-half in each seam as shown in Diagram C.

Running.—The stitches and spaces are of equal length. It is worked from right to left, and should have an occasional back-stitch introduced to strengthen the seam.

Gathering.—The true gathering stitch, which consists of spaces and stitches of unequal length, is rarely used in

dressmaking. When gathering frills and other trimmings, the ordinary running-stitch is used. When it is necessary to sew a length of material into a much smaller space—like the back of a skirt—the true gathering stitch should be employed, and the spaces between the stitches made at least twice the length of the stitch.

Whipping may be described as a variety of oversewing. The stitch is always worked from right to left over the edge of the material to be drawn up.

When whipping cambric and other washing materials, the edge of the strip should be finely rolled, and each stitch taken separately; but when whipping lace or raw edges of material, a long needle should be used and a number of stitches taken up at once.

This stitch is greatly used in dressmaking when puffings and puffed frills are worn. The whipping is done on the back of the work, over a very narrow fold of the material; it is done more quickly, and an equally good, if not better, effect is produced than by the ordinary running-stitch.

False Hems.—The shaped pieces of material used to face the bottom of a skirt, the basque of a bodice, etc., are called false hems.

French Hem is chiefly used for cross-cut frills. After sewing the strips together, about one inch of the wrong side is turned over on the right side, and machined about an eighth of an inch from the edge of the fold. The inch of material is then turned back and hemmed down on the wrong side, thus forming a rolled edge.

Buttonhole Stitch may be worked from right to left or left to right; the stitch is exactly the same in either case, if the silk from the eye of the needle be passed under the point *in the same direction as the work is proceeding.* Experience teaches us, however, that the stitches in a button-

hole worked from right to left are more upright than those worked in a contrary direction. The tendency to lean to the right, shown by buttonhole stitches worked from left to

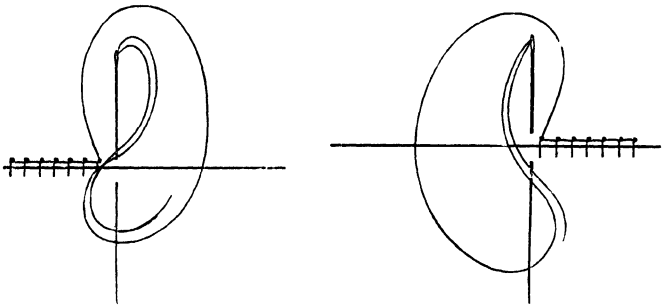


DIAGRAM 47 AND 48.—BUTTONHOLE STITCH.

right, may be prevented by pulling the cotton slightly towards the left shoulder. For application of this stitch, see chapter on "Fastenings."

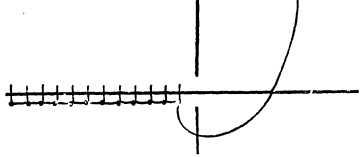


DIAGRAM 49.—EMBROIDERY STITCH.

Embroidery Stitch.—This stitch is known as "loop stitch." It differs from buttonhole stitch in having the knot below, instead of above, the stitch. It is used for

eyelet holes intended for lacing, oversewing hooks and eyes, also overcasting the edges of print and dress patches.

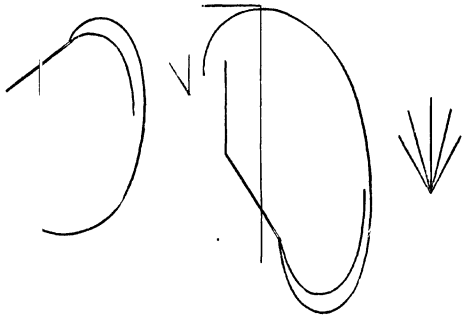


DIAGRAM 50.—FAN OF STITCHES.

Fans of Stitches serve two purposes—they secure the bones to the casings, and ornament the inside of the bodice.

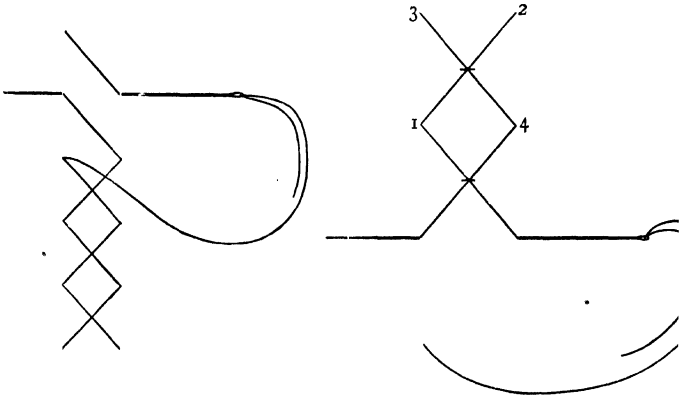
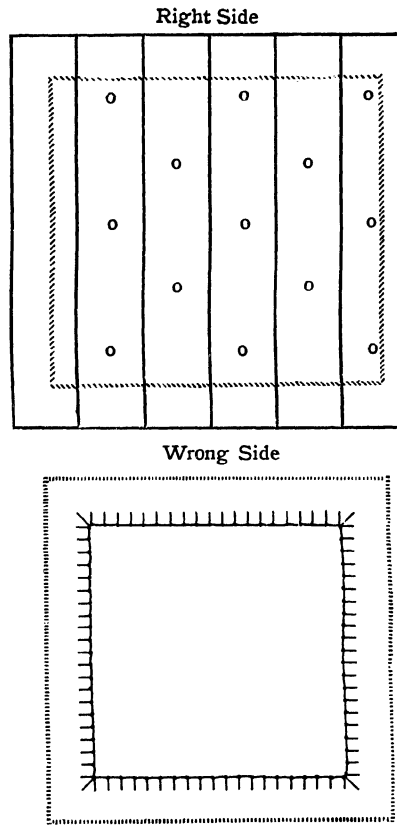


DIAGRAM 51.—CROSS STITCH.

Thick silk of a contrasting colour should be used. The silk should be secured at the back of the bone, and then

passed through the hole made previous to insertion by means of a red-hot knitting needle. The centre stitch should be worked first, and the side stitches made as nearly alike as possible. The stitches should be taken through the casing in the manner indicated. When using steels, the fan has sometimes to be reversed, owing to the hole being near the top of the steel.



DIAGRAMS 52 AND 53.—PRINT PATCH.

Cross Stitches are chiefly used to fasten the waist-belt to the back seams of the bodice. They should be worked in silk to match the "fan of stitches." The larger cross stitches give the better effect; they should be worked singly and each one securely fastened.

Print Patch.—When patching a bodice under the arms,

the under part of the armhole and the upper part of the under-arm seam should be unpicked, in order that the patch may be sewn into the seams.

The hole and the surrounding worn parts should be measured, and the patch cut with half-inch turnings.

Patterned materials should be matched previous to cuttings.

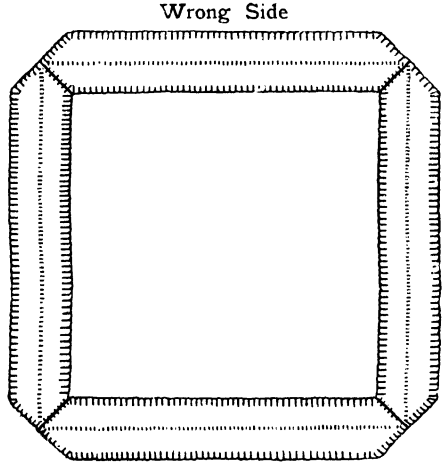


DIAGRAM 54.—DRESS PATCH.

Dress patches, either print or woollen, should first be neatly seamed on the right side of the garment, and afterwards oversewn on the wrong side.

When the lining as well as the material is worn, they should be patched separately; patching them together would make too bulky a seam.

Patch and garment must agree as to colour, right and wrong side, way of selvedge.

Dress Patch.—A woollen patch and garment are treated

in the same way as the print ones,—except that, instead of oversewing the two raw edges together, they are pressed open with a hot iron and oversewn separately (see Diagram).

Fine sewing-silk matching the material should be used for sewing the patch to the garment, or, failing this, some of the warp threads of the material.

Smocking and Honeycombing.—The material to be ornamented by either of these stitches should have horizontal and vertical lines ruled upon the wrong side; the former 1 inch apart, and the latter half an inch (see Diagram). Coloured pencil should be used for light materials, and chalk for dark ones.

After marking the lines, the material should be gathered and the thread drawn up tightly and wrapped round a pin. The stitch should be taken just where the lines intersect each other.

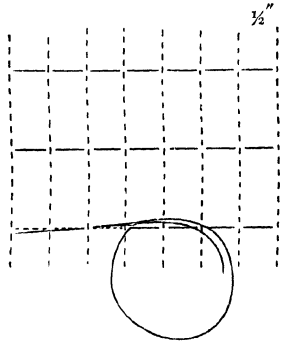


DIAGRAM 55.
SMOCKING AND HONEYCOMBING.

After stroking the gathers into place, the thread should be loosened until the strip of material measures about twice the length it measured when drawn up tightly. The gathering and stroking should be done on the wrong side of the material. The gathering-thread should be withdrawn after working the pattern.

When dealing with delicate fabrics, small dots may be substituted for the lines. They should be placed one inch apart horizontally, and half an inch vertically. The material

should be laid upon the table, and a ruler or inch-tape used, to mark the spaces and keep the lines straight.

Fine drawing is a method employed by tailors to draw together the edges of a cut or tear.

When possible, it should be worked on the wrong side of the garment with sewing-silk or strands of the material; the latter are to be preferred when darning materials with a dull surface.

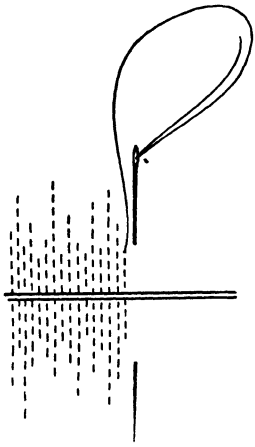


DIAGRAM 56.—FINE DRAWING.

When the material is fairly thick, the needle may be darned backwards and forwards without its appearing on either the upper or under surfaces except when drawn out at each end of the darn to be reversed. Unlike ordinary darning, the stitches on both sides of the darn should end as irregularly as possible in order to avoid forming a ridge.

Except when the material is very thin, the stitches after the darn has been damped or pressed, are nearly invisible on both sides.

A single stitch taken alternately on either side of the slit—after the manner of lacing—is sometimes called "fine drawing"; it is practically useless for the purpose.

CHAPTER VIII

FASTENINGS

THE fastenings in common use are—

1. Buttons and buttonholes.
2. Hooks and eyes.
3. Hooks and eyelets.
4. Hooks and loops.
5. Lacing.

Buttonholes.—The buttonhole illustrated in Diagram 57 is easily taught to elementary classes.

The spaces should be marked in the usual manner, but before cutting the buttonholes, small eyelets should be made at the end of each pin or tacking thread-marking the space. They should be made with a stiletto at the end nearest the edge of the bodice, and oversewn with fine sewing-silk matching the material.

When cutting the buttonholes, the point of the scissors should be inserted into the eyelet-holes and the slit cut by a thread. Another method, adopted by many good workers, produces a buttonhole which fits easily over the button shank. The slit A, previously cut by a thread, should be cut at right angles about an eighth of an inch on either side, at the end nearest the front edge of the bodice (this is represented by B in diagram) and the small triangular piece (C) afterwards cut carefully away.

The shaped end is not oversewn as in the previous method. Care should be taken not to make the triangular opening too large.

A punch, to cut out a small round piece like an eyelet-hole can be procured for a few pence, and might be used with advantage in workrooms; but when teaching technical classes, only absolutely necessary appliances should be introduced.

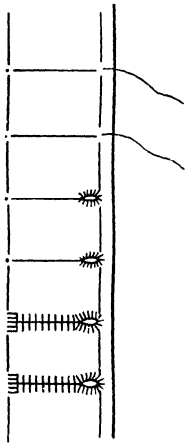


DIAGRAM 57.

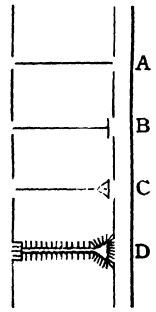


DIAGRAM 58.

The first method is to be recommended for this purpose, because a stiletto and a pair of ordinary scissors are all that is required.

When the material is likely to fray, the buttonholes should first be oversewn with very fine silk, or better still, though more troublesome, back-stitched round before cutting.

Buttonholes always have one barred end. The bar

consists of two strands of silk and five buttonhole stitches. The strands should never extend beyond the line of stitches forming the buttonhole, and each stitch forming the barred end, should take up a thread of the material and not pass simply round the strands of silk.

The five stitches in Diagram 59 are considerably elongated in order that the two strands may be distinctly seen.

Tailors strand the sides as well as the ends with waxed thread, but this is only necessary when making up heavy

DIAGRAM 59.

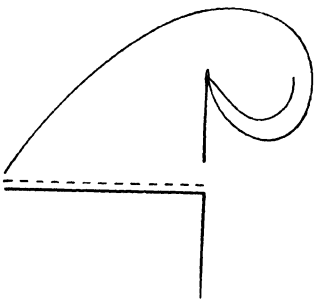


DIAGRAM 60.

materials, or working buttonholes cut on the cross. There are two methods of doing this. In the first, the thread is secured at the end farthest away from the edge of the bodice, and carried to the opposite end, where an upward stitch is taken (see Diagram). It is then passed back to where it started from and a small downward stitch taken. This is repeated, forming two strands along each edge.

The second method is to be preferred when working buttonholes with rounded ends. The end of the waxed thread is secured by a knot—made about half an inch to the right of the buttonhole—and then passed between the

material and lining to the end of the slit, where it is held by the left hand—rather tightly at the side, more loosely at the end—whilst working the buttonhole. After working the buttonhole the knot securing the thread should be cut away. The other end of the thread should be darned in and out of the interlining, and passed between the material and lining, at least an inch away from the hole before being cut off; this is done to avoid unsightly knots and ends near the buttonholes; good workers dispose of the ends of twist in the same manner.

Buttons should always be sewn on with waxed thread; those without shanks must be sewn on loosely and the thread wrapped round and round to form shanks. They should either be sewn on before facing the front of the bodice, or sewn on entirely from the outside. The former is the easier method for beginners; when adopting the latter course, care should be taken to hide the knot and end of the cotton in the shank of the button.

Hooks and Eyes.—When hooks and eyes are employed as fastenings, they should be sewn firmly to the lining and interlining before facing the bodice. The "Hump" or similar patent hooks should be selected in preference to ordinary ones; they are less likely to become unfastened. When using the latter it will be found a good plan to either reverse two or three hooks and eyes, or introduce two or three patent ones.

When hooks and eyes are not covered by a facing—like those fastening the skirt-band—they should first be sewn on securely with waxed thread, and afterwards oversewn with silk (see embroidery stitch in chapter on "Stitches." Both hooks and eyes should be sewn across from ring to ring like Diagram A, and not over the edges as shown in Diagram B. In good work, the outer ring of the eye,

which is not covered by the facing down the front of the bodice, is oversewn with silk twist matching the material.

Hooks and Eyelets.—The facing is always sewn to the bodice before making the eyelet-holes.

The holes should be bored with a stiletto and oversewn, they are worked from left to right. The stitches — placed as close together as possible—should be drawn up tightly, in order to produce the ridge, which in ordinary oversewing is avoided.

DIAGRAM 61.

The stitch employed is the ordinary oversewing stitch, except when making eyelets to be laced; these should be oversewn with the embroidery stitch.

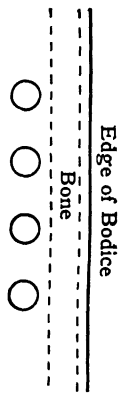


DIAGRAM 62.

Hooks and Loops.—Loops are not used when strong fastenings are necessary. They consist of three or four strands of silk, about a quarter of an inch in length, over which embroidery stitch is closely worked. The needle should be reversed, and the eye passed under the strands, because the point is likely to catch in the material.

Lacing.—This method of fastening bodices is never quite out of fashion. Except when invisible fastenings are the order of the day, it is generally adopted as a means of fastening evening dresses.

The edges of the bodice to be laced should be turned in about three quarters of an inch, and machined an eighth of an inch from the edge, and again at half an inch; this forms a casing for the bone. The bone may be carried to the neck when the back of the bodice is laced; when laced in front it must terminate on the bust-line.

In addition to the above standard fastenings others are introduced according to the fashion of the hour, such as braid-frogging and barrel buttons, buttons and loops, made either of braid or cord; but these may be regarded as purely ornamental, as the garment is nearly always provided with additional invisible fastenings.

CHAPTER IX

SOURCES AND MATERIALS OF CLOTHING

THE chief materials used for clothing are derived from animals and vegetables; steels, fasteners, jet and other trimmings, which may be regarded as accessories to dress, are supplied by the mineral kingdom.

From the animal kingdom are obtained—

1. Wool, from the sheep, goat, llama, merino, thibet.
2. Hair ,, horse, camel.
3. Fur ,, skins of animals with the fur left on.
4. Leather ,, skins of animals with the fur removed.
5. Silk ,, silkworm.

Whalebone, bone, horn.

From the vegetable kingdom are derived—

1. Cotton, from the lining of the cotton plant pod.
2. Flax ,, fibrous stem of the flax plant.
3. Jute ,, ,, ,,
4. India-rubber, from the juice of certain plants.
5. Guttapercha ,, ,,

Wool.—It is a matter of common knowledge that woollen and worsted yarns are manufactured from the fleece of sheep and other animals.

For the ordinary purposes of manufacture, the British wools are unrivalled, but they are inferior in fineness to many of those imported. The finest carding wools, that is,

wools suitable for woollen yarns, were formerly exclusively obtained from Spain, the native country of the merino sheep; but now immense flocks of merinoes are reared in Australia and South America, and from these quarters our chief supply of wool is obtained.

Both woollen and worsted yarn are made from the fleece of ordinary sheep; the former from the short stapled wool, and the latter from the long. These distinctions exist in the wool produced by a single animal, the fleece being sometimes sorted into as many as ten or twelve varieties.

The specialities in the structure of each individual fibre of wool have made the sheep the most valuable of all animals to man. When the fibres of the fleece are examined under a microscope, they are seen to have on their surface fine overlapping scales. These scales possess to a high degree the property of interlocking, and the various carding operations which follow sorting and scouring, when the fleece is being manufactured into *woollen yarn*, all tend to facilitate this property. In the early carding processes, some of the fibres, with their imbricated scales—pointing upwards from the base to the tip—are reversed, placing the base of some to the tip of others, so that they interlock like the teeth of a cog-wheel. In the subsequent processes they cross and re-cross, the object being to prevent too great a parallelism.

The longer fibres are chosen for worsted yarns, and the processes to which they are subjected are exactly the reverse of those employed in the manufacture of woollen yarns; instead of crossing and re-crossing the fibres are kept as smooth and straight as possible. Woollen yarns are rougher and softer than worsted yarns, but less twisted and less strong, owing to the different methods of treating the fleece. These characteristics are reproduced in the materials

manufactured from the respective yarns. Compact woollen goods, such as meltons and habit cloths, after being woven, are passed through a milling machine, where the web is saturated with soap and water and afterwards submitted to hot pressure. By these means the fibres of the wool are brought into such close contact that the scales still further interlock, and the web is often so closely milled as to be free from all appearance of having been woven. The over-pressed look which follows this process is removed, and the nap raised by means of teazles, which are cut in two and arranged in a frame, over which the cloth is passed. The little prickly projecting points (called spines) catch the surface, and teaze out some of the woolly fibre, giving the material a soft velvety appearance.

The use of wool as an article of clothing dates from the earliest times; it was probably made into cloth earlier than either flax or cotton. Among the ancient Jews, wool was the staple material of clothing; and the woollen fabrics of ancient Greece and Rome attained special excellence.

In England, the manufacture of woollen cloth seems to have been introduced by the Romans, although sheep existed in Britain long antecedent to their invasion. The first factory for spinning and weaving the fleece into cloth was established by them in Winchester. Before the art of weaving was known, the wool was probably felted or milled by some such primitive method as that in use in Russia at the present day. A layer of wool is wetted and beaten with a flat piece of wood until the fibres interlock, forming a compact thin layer. By this rude process the peasants in Northern Russia make materials for coats, hats, boots, etc.

Worsted takes its name from a village in Norfolk, where the yarn was originally made and brought to per-

fection. Yorkshire is the principal seat of the manufacture of worsted goods; while Yorkshire, Stroud, Frome, and Trowbridge in the west of England; Galashiels, Selkirk, and Hawick in Scotland, are all equally noted for their woollen goods.

Goat.—Mohair is made from the hair of the Angora goat. The hair from this and other goats enters largely into the manufacture of plushes and velvets.

Llama.—Alpaca is made from the fleece of the alpaca or llama sheep. In shape these animals somewhat resemble a camel, and have long, soft, woolly fleece.

Merino.—Fine soft wool is obtained from the Spanish and Saxony merino. A fine soft woollen material of this name was formerly much used for dresses.

Thibet.—The beautifully fine, soft wool of the Thibet goat is woven into cashmere shawls. The material known as cashmere is made from the fleece of the merino and other sheep.

Some of the finest wool is obtained from the Silesian and Persian sheep.

Black astrakan is the skin of young Persian and astrakan lambs with the wool left on, and grey astrakan is the skin of the unyeaned lamb.

Hair.—The hair of horses, camels, goats and other animals is used to strengthen materials. When the fabric contains more hair than wool (like mohair) it is springy and difficult to manipulate, and liable to split after being worn some little time.

Fur is principally supplied to us from the animals which inhabit the cold countries. The chief are—bear, seal, Russian sable, Arctic fox, chinchilla, and ermine. The skins of hares, rabbits, cats, and squirrels also supply furs; but they are chiefly used for linings, and are not of much

value. The fur of rabbits is also much used in the manufacture of felt hats.

Leather is the tanned hides of horses, cows, sheep, goats, and other animals; from these, gloves, boots, etc., are made.

Silk is obtained from the cocoon of a small caterpillar, called the silkworm. The silk is formed in two glands situated in the under part of the body, and consists of two fine filaments, one from each gland, laid side by side and glued together into a single thread or fibre. As the silk is ejected it winds round and round, forming the cocoon. An average cocoon yields some 500 yards of workable silk, which, in its manufactured form, is either reeled or spun silk.

Before the raw silk reaches the loom it passes through several processes of reeling, boiling, and bleaching. When the chrysalis has finished its work, it is destroyed by means of dry heat or a hot bath. The gummy substance surrounding the silk has to be dissolved before the cocoon can be reeled. This is effected by allowing them to remain for some time in hot water. Here great care and judgment is necessary, for the success of the first reeling operation depends entirely on the cocoons being removed from the water at the right moment. As the cocoons are unwound the silk is reeled into hanks, which are afterwards placed on long sticks and immersed in a boiling liquor of soap, carbonate of soda, and water. After boiling about twenty minutes, they are rinsed in cold water to free them from gum and soap, and then bleached and dyed.

The use of silk dates back to periods of remote antiquity. It is said to have been manufactured by the Chinese about 3500 years ago. It was not made in India until about A.D. 400.

French silks, now in such extensive use, were not much cared for until the end of the sixteenth century in France itself, and seldom heard of abroad. The manufacture of silks in England dates from 1585, and is said to have been introduced by Flemish refugees. It is manufactured chiefly in Spitalfield, Manchester, Macclesfield, Coventry, and Norwich. Ribbons are made in Coventry and Derby, and stockings in Leicester.

Silk is imported from China, India, Italy, and France.

Only the best materials are made of pure silk; jute, flax, and cotton are used to adulterate it. Jute is more brittle, therefore does not wear so well.

Whalebone is a well-known elastic substance obtained from the whale.

The whalebone hangs down from the upper jaw of the whale in thin parallel plates. These plates vary in size from a few inches to 12 feet in length. The breadth of the largest at the thick end—where they are attached to the jaw—is about a foot, and the average thickness is from four-tenths to five-tenths of an inch.

Cotton.—Our chief supply is from America, Egypt, and India, and the principal places of its manufacture into calico are Manchester, Oldham, and Stockport.

Calico, made entirely of cotton, is a manufacture of comparatively recent times.

Cotton fabrics were introduced into England at the close of the sixteenth century by the Protestant refugees from the Netherlands. About 200 years later the cotton-weaving trade migrated from London to Lancashire, where labour was cheaper.

For many years cotton fabrics were made with a linen warp, but about 1770 the machinery was so improved that cotton warp came more or less into general use.

As early as the twelfth century, church vestments made of fustian, with a linen warp and cotton weft, were in use; but they were probably imported from Italy, for, at a very early date, the Italians excelled in the manufacture of this material.

The downy substance from which cotton yarn is manufactured is collected from inside the pod of the cotton plant. There are many varieties of the plant; the common distinctions are—

1. *The cotton shrub*, which somewhat resembles currant bushes.

2. *The cotton herb*, a small plant about 2 feet high.

They only grow in hot climates, for sunshine and dry weather are absolutely necessary to their cultivation.

The plant has dark-green leaves and reddish-purple flowers; or sometimes yellow flowers with purple spots.

The pods, which succeed the flowers, are about the size of a large walnut or small apple. As the seeds ripen, the cotton, which surrounds them, swells, and finally bursts the pod. The cotton and seeds are then removed from the pod and dried in the sun.

The raw cotton, which is received in bales, passes through various processes of sorting, cleansing, carding, and spinning, before being woven into cotton fabrics.

Flax-fibre is obtained from the stalks of a plant grown in some parts of England and Ireland; it is also largely imported from Russia, Germany, and Belgium.

The principal places of its manufacture into linen are—Belfast, Forfar, Dundee, Leeds, and Barnsley.

The flax plant grows to a height of about 2 feet, it has a slender green stem and beautifully shaped blue flowers, the seeds of which are the familiar linseed. The stalks are pulled up when the leaves fall off, and soaked in

water for about ten days; the object of soaking the plant is to dissolve, by means of fermentation, the gummy matter which holds the fibrous portion of the stems together. Pure soft water is necessary, because that containing mineral matter is injurious to the flax. The fibres are afterwards dried, beaten, and combed to separate the fine fibres from the coarser ones.

Jute is a vegetable fibre largely imported from India; it is made into a kind of linen, also used to adulterate silk. The chief place of its manufacture into linen is Dundee. It is also employed in making cheap curtains, table-cloths, and carpets.

India-rubber is the juice of several plants growing in Asia, Africa, and South America; it enters largely into the manufacture of macintosh cloth. The materials are woven in the ordinary way, and then made impermeable by coating them with a solution or paste of india-rubber.

Guttapercha is also the juice of certain plants, but these grow only in the Malay peninsula; except as goloshes and boot-soles it is rarely used in clothing.

Dress materials may be roughly divided into three classes:—

1. Woollens.
2. Silks.
3. Cottons.

Woollens would include all fabrics made from wool or worsted, wool and worsted mixed, wool and cotton mixed, wool or worsted mixed with hair.

Subjoined is a list of what may be termed standard materials:—

1. Habit cloths made from wool.
2. Meltons ,, wool.
3. Covert coatings ,, worsted.

4. Vicunas,	made from	wool.
5. Serges	,,	wool and worsted.
6. Tweeds	,,	wool.
7. Cashmere	,,	worsted (fine).
8. Delaine	,,	wool.
9. Alpaca 10. Mohair 11. Lustre	,,	wool and hair.
12. Flannel	,,	wool.

Beige, merino, and llama are old-fashioned woollen materials now rarely used.

Habit cloths are firm, closely woven materials with a fine twill, rendered almost indistinct by the processes of milling (shrinking) and pressing to which they are subjected, to give them the compactness and durability for which they are noted. The right side is glossy, with a nap running down; therefore, in cutting-out, care should be taken to make the garment with the nap running in one direction. Some habit cloths have the disadvantage of being spotted by rain.

Meltons.—Only the lighter makes of this cloth can be used for dresses; the heavier ones require the tailor's skill to manipulate them. The better qualities are beautifully firm, close, and smooth, stronger than habit cloth, and less glossy on the right side. They are milled and pressed so much that the twill and nap are almost invisible.

Inferior meltons are said to be more adulterated than any other woollen material; they are generally supposed to be made of shoddy, a yarn manufactured from woollen rags torn into shreds. The chemical processes to which the rags are subjected to remove the original dye, probably tend to still further rot the partially worn fibres; notwithstanding this, fine well-wearing fabrics are made from good shoddy yarn, and the cheap, badly-dyed meltons owe their

bad qualities to the introduction of "mungo," or some waste substance, far inferior to shoddy.

Mungo is an inferior yarn made from rags and waste substances collected in the mills. It originated in Pudsey, a small place in Yorkshire. A well-known wool-stapler introduced it one market day, and had some difficulty in finding a customer, for Yorkshire men of that class are conservative and averse to anything new. "It mun (must) go at some price," he repeatedly said, and it did, but from that day he and the "waste" he sold, were called "Mungo."

In cheap meltons, both warp and weft threads are distinctly seen.

Covert Coatings.—These are sometimes made of unbleached and undyed wool; they have a bright finished surface, and like habit cloth, a distinct nap, which should always run down the garment.

Vicunas are soft finely-twilled materials, with a slight nap and a comparatively dull surface. They wear well, drape well, and are obtainable in almost every shade of colour.

Serges may be divided into two classes—woollen and worsted. The former are comparatively soft to the touch, whilst the latter are more or less springy and difficult to make up. Hopsack belongs to the second order; it is not easy to manipulate, and wears badly, owing to the canvas-like arrangement of the threads.

Twilled materials can be woven closer and firmer than plain ones, and consequently wear better.

Some of the soft close woollen serges are milled, but to a less extent than meltons and habit cloths.

For rough hard wear serges are to be preferred to any other material.

Tweeds.—Nearly all the cloths outside the varieties already described would come under this heading, the name

being equally applicable to light and heavy, rough and smooth, plain and twilled goods. Formerly, it was given only to the cloths manufactured in towns in the basin of the river Tweed.

Homespun is a rough tweed made by a hand-loom, often of unbleached and undyed wool. When dyed, the natural colour of the wool is deepened, or some neutral tint selected. Homespun is always rough and fairly thick, but tweeds are sometimes comparatively thin and smooth.

Cashmere.—There are two or three varieties of this fabric; one of them, said to emanate from India, has both sides twilled, and a slightly less finished or more woolly appearance than other kinds of cashmere. A second variety has the right side twilled and the back plain, whilst a third, which is only made in the very best qualities, has a plain back, and the face so well finished and satiny that the twill is invisible.

Nun's veiling is a rather loosely-woven, thin, fine woollen fabric, altogether unsuitable for hard wear. The surface has a dull, irregularly woven appearance, which might arise from the yarn being crimped before weaving, but is more probably due to some process of damping and pressing to which the material is subjected.

Mousseline-delaine is a very thin woollen material, with a smooth, plain, dull surface, upon which floral or other designs are printed. The dye is laid on the right side of the material only, leaving the under side plain, and much lighter in colour. Notwithstanding its being so thin and fine, this material will be found very durable for light wear.

Alpaca is made from the hair of the llama sheep or alpaca, mixed with wool or cotton. It is a plain, glossy, springy fabric, not easily crushed or soiled; for this reason it is specially suitable for light travelling dresses.

Mohair and Lustre are made from the hair of the Angora goat, mixed with wool or cotton; they are springy and glossy materials like alpaca. The inferior kinds of lustre and alpaca wear badly, and should never be used for skirt linings.

Flannel.—The finer kinds are now much used for blouses, boating, and tennis dresses. Some of the dress flannels are mixed with a little cotton, which is a decided advantage, for they wear better, and shrink less, than when made entirely of wool.

A list giving the width and price of the above-mentioned materials will be found on page 166.

Beige is a thin twilled woollen material made only in neutral tints. It varies in width from 30 to 40 inches, and in price from 1s. to 3s.

Merino is a rather thin double-width woollen material, twilled on both sides, somewhat resembling cashmere. It is (or was) made in all colours. The width varies from 40 to 44 inches, and the price from 1s. 11d. to 3s. 6d.

Llama.—This is a thin, plain, single-width woollen material, formerly made in all colours, and chiefly used for children's frocks. The average width was 28 or 30 inches, and the price varied from 1s. to 2s.

Silks, Satins, Velvets.—The best known and most generally used are—

1. Gros grain	} corded silks.
2. Ottoman	
3. Bengaline	
4. Chené	
5. Glacé	
6. Pongee	} plain silks.
7. China	
8. Indian Tussore	
9. Sarcenet	

10. Moire antique
11. Brocade
12. Broché
} patterned silks.
13. Surah, twilled.
14. Satin, plain.
15. Satin merveilleux, twilled.
16. Irish poplin, corded.
17. Velvet
18. Plush
} pile fabrics.
19. Grenadine
20. Gauze
} transparent fabrics.

Gros Grain.—The silk known by this name has a somewhat dull appearance, and a fine cord running across from selvedge to selvedge. Other varieties, with thicker cords and a somewhat more glossy surface, are known as "corded silk"; gros grain is alike on both sides.

Ottoman Silks are much thicker than gros grain and ordinary corded silk, and have a much bolder cord, therefore are more suitable for mantles and jackets than dresses. They are bright and glossy, and are sometimes woven with two or three fine cords between each thick one. Both sides are not always alike.

Bengaline has a worsted or cotton weft, forming a rather thick flat cord which runs across from selvedge to selvedge. It somewhat resembles fine ottoman or thick corded silk.

Chené is a plain (untwilled), thin, rustling silk, with a somewhat indistinct design upon it; the soft, clouded appearance is due to the design being printed on the warp before weaving in the weft threads. This silk is alike on both sides.

Glacé is a thin, bright, papery silk, not to be recommended for its wearing qualities. It is made both plain and patterned.

Pongee.—This silk is thin, not very bright, and has both sides alike, either plain or with a printed design.

China silks are softer and brighter than Pongee.

Tussore.—The whitey-brown colour of this fabric is due to the raw unbleached silk of which it is made. It wears and washes well, and answers admirably for summer dresses.

Sarcenet is a thin, plain silk made in nearly all colours; it is used chiefly for lining purposes.

Moire antique, or watered silk, is ordinary gros grain, or silk with a corded face and plain back. After weaving, the silk is subjected to a process of moistening and hot pressure by which the pattern is produced. The silks of recent years include striped, spotted, and patterned varieties.

Brocade is a thick silk or satin fabric, with a floral design woven in with an extra thread. The silk may be either plain or corded. The design is usually slightly raised above the surface owing to the double thread.

Broché somewhat resembles brocade, but is a less thick and expensive material, with smaller designs woven only on the surface, therefore less durable.

Surah has a fine diagonal twill showing on both sides. It is bright, thin and soft. It wears fairly well when draped loosely over a lining.

Satin has a bright, glossy, smooth surface, with a dull wrong side.

Satin merveilleux is softer than satin and less glossy. It is twilled, and curls up when cut.

Irish poplin.—This material is a mixture of silk and woollen—the warp being silk, and the weft fine worsted. It is corded across from selvedge to selvedge.

Velvet.—Only the best qualities are made entirely of silk. Many of the so-called velvets are made of silk

mixed with hair, from the Angora and other goats. Patent velvet has a cotton back.

Plush is similar to velvet, but has a much longer pile.

Gauze and Grenadine are thin semi-transparent materials made of silk, wool, or cotton. Gauze is a plain fabric, but grenadine is made both striped and patterned.

The Cotton and Linen Materials principally used in dressmaking include the following:—

1. Velveteen.
2. Sateen.
3. Linen.
4. Linenette.
5. Silcot.
6. Silesia.
7. Cambric and Lawn.
8. Print.
9. Muslin.
10. Cotton Crepon.
11. Gingham and Zephyr.
12. Flannelette.
13. Holland.
14. Victoria Lawn.
15. Leno.

Velveteen is made entirely of cotton; for dresses and dress trimmings the fine qualities answer admirably, but for millinery purposes velveteen is too soft and heavy. In cutting out, care must be taken to make the garment with the ply running up and not down as in habit cloth, etc.

Sateen has a bright glossy face and dull back; the plain colours are used chiefly for linings, and the patterned and striped sateens for dresses. It is soft and pliable, and fits more closely to the figure than silesia, but is less strong. It is made in all colours.

Linen is now made in all colours; it wears well, washes

well, and is alike on both sides. Black coarse linen is used to strengthen the bottom of skirts, and the finer kind to interline cuffs, collars, etc.

Linenette may be considered the most generally used skirt lining of the present day; it has the advantage of being thin, strong, reversible, and comparatively cheap. It is made in nearly all colours.

Silcot (*or Silkette*) is an imitation of a good substitute for silk, it is thin, bright and rustling. Its disadvantages are—it is more expensive than linenette, it is not reversible, and it is only made in black and one or two dark colours.

Silesia.—Sateen-faced, black-backed twilled silesia may be recommended as the most suitable lining for ordinary dresses. The thin, soft, pliable makes fit and wear well. A lining with a small distinct pattern on a plain ground, will show the wheel marks better than one with a pattern covering the entire surface. Slate-coloured silesia is sometimes used for inferior work, but it is stiff and hard, and consequently more difficult to fit. White silesia is used occasionally for washing dresses instead of calico.

Cambric and Lawn are fine fabrics made of either linen or cotton; they are used for blouses and dresses.

Print is easily distinguished from sateen by the back, which is always left undyed. The colour is laid on the right side only and the design printed on afterwards.

Muslin is a thin cotton fabric of which there are several varieties; of these, Indian muslin ranks first—it is fine, soft and silky, also less transparent than other kinds.

Mull-muslin is soft and fine like Indian muslin, but less silky; it is made in black and white. In dressmaking it is used as an interlining for silks and velvets, also as an interlining for crêpe.

Book-muslin. — The muslin used for dresses is made plain, striped, and patterned; it is semi-transparent, and has rather a hard finish. Another variety called "Hard Book" is checked, very stiff, and used chiefly for interlining.

Cotton Crepons are made in imitation of silk and woollen crepons; the puckering between the stripes is formed by some peculiar method of weaving.

Gingham and Zephyr may be classed together, for the latter is simply a finer make of the former. These materials have both sides alike, and wash and wear exceedingly well. Plain zephyr has a streaky appearance, which is due to the weft being of a lighter shade than the warp.

Flannelette is made entirely of cotton. It washes and wears well; but it should never be substituted for flannel under-garments because it possesses none of their absorbent properties. Flannelette is much warmer than ordinary cotton fabrics, owing to its rough downy surface.

Holland.—This is a well-known linen fabric formerly much used for dresses; it is thin, cool, and wears well, but has the disadvantage of shrinking very much when washed.

Victoria Lawn is a variety of book-muslin. It is made in black and white, and is chiefly used for interlining.

Leno, like Victoria lawn, is made in black and white. It is more open and much stiffer than book-muslin. It is sometimes used in dressmaking, but more often in millinery.

Glissade (meaning to slide). This material is a mixture of wool and cotton. It is employed by tailors for lining sleeves. It is less expensive and more durable than silk.

Polonaise is a mixture of silk and cotton. Being twilled diagonally it somewhat resembles surah. It is less rustling than silk, but more durable as a skirt lining.

Italian Cloth is a mixture of wool and cotton. The fine

qualities make excellent bodice linings. It is less expensive and more durable than silk, stronger, but more expensive than sateen. It resembles satin and sateen in appearance, having a glossy right and a dull wrong side.

Width and Price of Standard Dress Materials and Linings

Woollens

	Width.	Price.
Habit cloths	about 54 inches	3s. 6d. to 6s.
Meltons	,, 54 ,,	,, ,,
Covert coatings	,, 54 ,,	,, ,,
Vicunas	,, 47 ,,	2s. 6d. to 5s.
Serges	44 to 54 ,,	2s. to 6s.
Tweeds	44 to 54 ,,	2s. 6d. to 6s.
Cashmere	about 47 ,,	2s. to 3s. 6d.
Nun's veiling	42 to 47 ,,	1s. 3d. to 2s. 6d.
Delaine	about 31 ,,	1s. to 1s. 4d.
Alpaca	,, 47 ,,	2s. to 4s.
Mohair	,, 47 ,,	,, ,,
Lustre	,, 47 ,,	,, ,,
Flannel	28 to 54 ,,	6½d. to 3s. 11d.

Silks

Gros grain	about 22 inches	2s. to 7s.
Ottoman	,, 22 ,,	3s. to 6s.
Bengaline	,, 22 ,,	2s. 6d. to 6s.
Chené	,, 22 ,,	3s. to 7s. 6d.
Glacé	,, 22 ,,	2s. 6d. to 4s. 6d.
Pongee	22 to 30 ,,	1s. 3d. to 3s.
China	22 to 30 ,,	1s. 3d. to 3s. 6d.
Tussore	24 to 36 ,,	2s. to 3s. 6d.
Sarcenet	about 20 ,,	1s. 3d. to 2s.
Moire antique	22 to 26 ,,	4s. to 7s. 6d.
Brocade	about 22 ,,	3s. 6d. to 8s. 6d.
Broché	,, 22 ,,	,, ,,
Surah	,, 22 ,,	2s. to 3s. 6d.

	Width.	Price.
Satin	about 22 inches	2s. to 8s. 6d.
Satin merveilleux	,, 22 ,,	2s. to 5s.
Irish poplin	,, 24 ,,	5s. to 7s. 6d.
Velvet	18 to 20 ,,	5s. to 12s. 6d.
Plush	18 to 24 ,,	3s. to 8s. 6d.
Gauze	22 to 46 ,,	1s. 6d. to 5s.
Grenadine	22 to 46 ,,	,, ,,

Cottons

Velveteen	about 24 inches	2s. to 4s. 6d.
Sateen	,, 31 ,,	6d. to 9d.
Linen	,, 36 ,,	1s. to 3s. 6d.
Linenette	34 to 45 ,,	4d. to 6d.
Silcot	about 31 ,,	about 7d.
Silesia	,, 36 ,,	3½d. to 8½d.
Cambric	36 to 40 ,,	5½d. to 1s. 3½d.
Lawn (printed)	about 31 ,,	7d. to 8d.
Print	,, 31 ,,	4d. to 7d.
Muslin	36 to 40 ,,	4d. to 2s.
Cotton crepon	about 27 ,,	6d. to 1s.
Gingham	,, 31 ,,	6d. to 8d.
Zephyrs	,, 31 ,,	6d. to 10d.
Flannelette	27 to 36 ,,	2½d. to 7½d.
Holland	33 to 54 ,,	4½d. to 1s. 4½d.
Victoria lawn	about 42 ,,	3½d. to 6½d.
Leno	,, 36 ,,	3d. to 6d.

Lining Mixtures

Glissade	about 36 inches	1s.8d. to 1s.11d.
Polonaise	22 to 24 ,,	1s. 3d. to 2s. 6d.
Italian cloth	about 54 ,,	1s. 6d. to 2s. 6d.
Moirette or marshalette	,, 22 ,,	1s. 4d. to 2s. 6d.

Suitable Skirt Linings for Various Materials

Habit cloths	Silcot.	Linenette.
Meltons	,,	,,
Covert coating	,,	,,
Vicunas	,,	,,

Serges	Silcot.	Linenette.
Tweeds	,,	,,
Cashmere	,,	,,
Nun's veiling	,,	Sateen.
Delaine	,,	,,
Alpaca	,,	Linenette.
Mohair	,,	,,

The skirts of heavy materials and thick tweeds are often unlined.

Silk, moirette, or polonaise may be substituted for silcot or linenette.

Bodice Linings

Habit cloths	Silesia.	Italian cloth
Meltons	,,	,,
Covert coatings	,,	,,
Tweeds	,,	,,
Vicunas	,,	,,
Serges	,,	,,
Cashmere	,,	Sateen.
Nun's veiling		,,
Delaine		,,
Alpaca	Silesia.	,,
Mohair	,,	,,

When bodices are likely to have hard wear silesia should be used in preference to sateen, for it is much stronger.

Linenette is too stiff for bodice linings.

Skirt Linings suitable for Silken Materials

Gros grain	Silk.	Polonaise.	Silcot.	—
Ottoman	,,	,,	,,	—
Bengaline	,,	,,	,,	—
Chené	,,	,,	,,	Sateen.
Glacé	,,	,,	,,	,,
Pongee	,,	,,	,,	,,
China	,,	—	—	,,
Tussore	,,	—	—	,,

Moire antique	Silk.	Polonaise.	Silcot.
Brocade	,,	,,	,,
Broché	,,	,,	,,
Surah	,,	,,	,,
Satin	,,	,,	,,
Satin merveilleux	,,	,,	,,
Irish poplin	,,	,,	,,
Velvet	,,	,,	,,
Plush	,,	,,	,,
Gauze	,,	—	— Sateen.
Grenadine	,,	—	— ,,

The softer kinds of silcot could be used for the dark-coloured materials; as already explained, it is not made in light shades.

For skirt linings sateen has the disadvantage of being rather limp.

Linenette is sometimes used for silken materials. The thin, soft, fine kinds should be selected for this purpose.

Linings for skirts should have a smooth, finished surface; anything of a rough, clinging nature impedes free movement.

Bodice Linings

Gros grain	Silk.	Sateen.	Silesia.	Italian cloth.
Ottoman	,,	,,	,,	,,
Bengaline	,,	,,	,,	,,
Chené	,,	,,	,,	,,
Glacé	,,	,,	,,	,,
Pongee	,,	,,	,,	,,
China	,,	,,	—	—
Tussore	,,	,,		—
Moire antique	,,	,,	Silesia.	Italian cloth.
Brocade	,,	,,	,,	,,
Broché	,,	,,	,,	,,
Surah	,,	,,	,,	,,
Satin	,,	,,	,,	,,
Satin merveilleux	,,	,,	,,	,,
Irish poplin	,,	,,	,,	,,

Velvet . .	Silk.	Sateen.	Silesia.	Italian cloth.
Plush . .	,,	,,	,,	,,
Gauze . .	,,	,,	—	—
Grenadine .	,,	,,	—	—

Gauze and grenadine are semi-transparent, and should, when possible, have a silk lining.

When a thin silk or sarcenet is employed, a thin bodice-lining of some description should be used in addition. Sateen answers very well. It should be made slightly tighter than the outside material and thin silk interlining, as it is firmer and stronger, and better able to bear the strain.

An entire bodice is seldom made of mourning crêpe. Revers, collars, and other trimmings should have an interlining of mull-muslin.

Skirt Linings for Cotton Materials

Velveteen .	Silk.	Polonaise.	Silcot.	Linenette.
Sateen . .	,,	Linenette.	Calico.	
Linen . .	—	Sateen.	,,	
Cambric and lawn	—	,,	,,	
Print . .	—	—	,,	
Muslin . .	—	Sateen.	,,	
Cotton crepon .	—	,,	,,	
Gingham .	—	,,	,,	
Zephyr . .	—	,,	,,	
Flannelette .	—	,,	,,	
Holland . .	—	,,	,,	

Dark sateens should be lined with linenette, and lighter ones with calico.

For skirt linings sateen is less firm and strong than calico, but it shrinks less when washed. Calico should be washed once or twice before being used as a lining.

Bodice Linings

Velveteen	Silk.	Silesia. Sateen.	Italian cloth
Sateen	Silesia.	Sateen.	Calico.
Linen	—	,,	,,
Cambric and lawn	—	,,	,,
Print	—	—	,,
Muslin	—	Sateen.	,,
Cotton crepon	Silesia.	,,	,,
Gingham	—	,,	,,
Zephyr	—	,,	,,
Flannelette	—	,,	,,
Holland	—	,,	,,

White-backed silesias are always chosen for lining the bodices of washing dresses. Sometimes the white silesia is used, but calico or sateen is to be preferred; for when washing has removed the dressing in white silesia, it becomes very thin and poor.

Bodice linings should be carefully selected, because the fit and wear of the bodice depend greatly on the linings used. They should be thin and firm, in order to support the figure as much as is necessary without increasing its size; soft and pliable, so that they will fit readily into the curves of the figure. Linings too thick and firm should always be avoided. It is better to err on the side of fineness and softness, for now the bones placed on every seam help to support the figure, instead of throwing the greater part of the strain upon the lining, as was formerly the case when bodices were insufficiently boned.

Thin, soft materials should never be made up plainly over a thick stiff lining, or the material will look strained and poor. A thin soft lining should be used, and undue stretching avoided by placing a strip of fine linen between lining and material just round the waist where the strain is greatest. When the material is so thin that the edge of

the strip of linen would probably show on the right side, stretching can be prevented in a great measure by making the bodice fit closely, but not too tightly; in fact, thin materials always appear to advantage when made so.

Calculation of Materials.—The average amount required for an ordinary dress may be taken as 6 or 6½ yards of material 44 to 48 inches wide; 12 yards of single-width material about 30 inches wide; and from 15 to 16 yards of silk and other materials of similar width. This depends in a great measure on the height of the intended wearer, the fashion obtaining at the time, and the material being plain and without nap or ply.

In order to ascertain approximately the amount required the skirt and bodice patterns should be reduced to either $\frac{1}{8}$ or $\frac{1}{16}$-inch scale, and outlined on paper, representing the material reduced, on a corresponding scale.

This may be done quite easily by any one having no knowledge of drawing; 6 yards of material 48 inches wide, reduced to $\frac{1}{16}$-inch scale, would be represented by a piece of paper $13\frac{1}{2} \times 3$ inches. This should be folded down the length (making the width $1\frac{1}{2}$ inch) and the reduced patterns outlined upon it. When cutting out wide gores, (see Diagram 2) it would be necessary to open the paper and cut across the whole width.

The measurements may be reduced by the ordinary rules of arithmetic, or without any calculation. When adopting the latter course, an ordinary ruler can be used, and the eighths of inches reckoned as one, two, or four inches.

The following table will probably make this clear:—

Length of full-sized Skirt Pattern 40 inches.

$\frac{1}{2}$ in.	scale—reckon	$\frac{1}{2}$	ins. as inches and the length is reduced to					20 ins.
$\frac{1}{4}$	,,	,,	$\frac{1}{4}$	,,	,,	,,	,,	10 ,,
$\frac{1}{8}$	,,	,,	$\frac{1}{8}$	,,	,,	,,	,,	5 ,,
$\frac{1}{16}$	,,	,,	$\frac{1}{8}$	,, 2	,,	,,	,,	$2\frac{1}{2}$,,
$\frac{1}{32}$	,,	,,	$\frac{1}{8}$	,, 4	,,	,,	,,	$1\frac{1}{4}$,,

It is rarely necessary to reduce dress patterns less than $\frac{1}{32}$-inch scale. The advantages arising from reducing the patterns are at least twofold. The teacher is able to easily calculate how much material is required; any inaccuracies in relative length and width are more easily detected; and the reduced diagrams and patterns occupy less space; which is a decided advantage to teachers when travelling.

Drafting the bodice pattern to $\frac{1}{16}$-inch scale is a somewhat tedious task; but if the pattern be cut out in thin cardboard, or thick cartridge paper, it will serve as a block pattern for a long time. Scales reduced to a quarter of an inch, price about 2s., may be obtained at the "Tailors' Academy," Drury Lane. Teachers will find them useful when correcting reduced diagrams.

Skirt Lining.—6 yards of silcot, sateen, or linenette 31 inches wide, or 4 yards of linenette 45 inches wide, will line a skirt measuring 4 yards round the bottom, and also allow a shaped facing; the same skirt would require about 10 yards of silk or polonaise.

Bodice Lining.—2 yards of silesia, sateen, or calico, $1\frac{1}{2}$ yard of Italian cloth, or $3\frac{1}{2}$ yards of silk, will be found sufficient when short basques are worn, long ones require $\frac{1}{2}$ to $\frac{3}{4}$ yard more.

Interlining.—1 yard of double-width, or $1\frac{1}{2}$ yard of single-width, coarse linen will cut an interlining from 6 to 8 inches wide, for a skirt measuring about 4 yards round the bottom.

The approximate cost of an ordinary dress may be taken as follows:—

	s.	*d.*
6 yds. of material, 46 inches to 48 inches, at 2s. 6d.	15	0
6 yds. of linenette, 30 inches, at 6d.	3	0
1½ yd. of coarse linen, 30 inches, at 6d.	0	9
2 yds. of bodice lining, 36 inches, at 8d.	1	4
4 yds. of braid at 1d.	0	4
6 yds. of Prussian binding at 1d.	0	6
1½ yd. of belting, at 1d.	0	1½
1½ yd. of sarcenet ribbon at 2d.	0	3
½ yd. of Victoria lawn, at 3d.	0	1½
1½ dozen buttons at 6d.	0	9
1 dozen steels	0	6½
Hooks and eyes	0	0½
Collar canvas	0	0½
Twist, sewing silk, and cotton	0	4½
	£1	3	2

CHAPTER X

COLOUR AND FORM

Colour as applied to Clothing.—In order to understand this clearly some little knowledge of the composition of colour is desirable.

A ray of light, when transmitted through a prism, is shown to consist of a number of coloured lights, which, meeting the eye together, produce the sensation of white light. The colours thus shown are usually said to be seven —red, orange, yellow, green, blue, indigo, violet—although in reality numerous other shades are formed by the overlapping of these seven prismatic colours. The colours shown by the spectrum are reproduced in the form of pigments, and with the composition of these we are more directly concerned. The three "primary" colours, red, blue, and yellow are not resolvable into any simpler form. All the colours corresponding with the remaining prismatic colours are produced by mixing the three primary ones in varying proportions. These combinations of colours are known as "secondary" and "tertiary," the former being comprised of two of the primaries, the latter of the three primaries in varying proportion.

Secondaries.—Green, purple, orange. Their composition is as follows:—

Green { Blue, Yellow.

Purple { Blue, Red.

Orange { Red, Yellow.

Tertiaries.—Olive, citrine, russet. The following, together with the diagram copied from the well-known work of Mons. Chevreul, will explain their composition :—

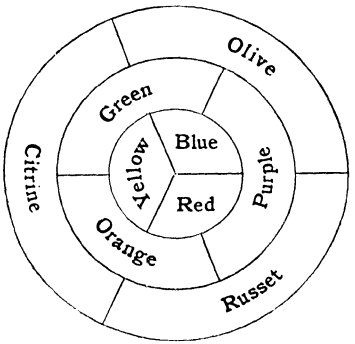


DIAGRAM 63.

Olive { Green . . . { Blue, Yellow. } Blue preponderates.
Purple . . . { Blue, Red. }

Citrine { Green . . . { Blue, Yellow. } Yellow preponderates.
Orange . { Red, Yellow. }

Russet { Orange . { Red, Yellow. } Red preponderates.
Purple . { Red, Blue. }

Each colour has its complementary, and this colour always enhances its brightness and depth. The complementary colours are composed of the remaining portion of the primaries not contained in the first. Thus red taken by itself would leave blue and yellow, and these together would form green.

Complementary Colours—

Red and Green	Blue, Yellow.
Blue and Orange	Red, Yellow.
Yellow and Purple	Red, Blue.

Harmony of Contrast.—This arrangement of complementary colours is known as "harmony of contrast"; and although it is not always desirable to have clothing in the above-mentioned colours, yet the same principle applies to all shades in which materials are made.

Some artistic effects are produced by the combination of secondaries and tertiaries. The following may be given as examples:—

Green and Russet.
Purple and Citrine.
Orange and Olive.

In order to contrast colours harmoniously, one important point should be observed, namely, that no two colours should be used together unless they each contain at least one similar colour in their composition. For example, take green, which is composed of blue and yellow, mixed in varying proportions according to the tone of green required.

Pale yellow and pale blue contrast very favourably

with dark shades of green, while pale shades of blue-green or yellow-green may be used with deep shades of blue. An infinite variety of combinations may be obtained with the exercise of a little care and judgment. It would be impossible in a limited space to enter into all the shades of contrasting colours; but the examples given above, together with the tables showing the composition of colours, will no doubt enable the reader to analyze the respective colours, and ascertain which may be harmoniously blended.

Harmony of Analogy.—Equally good results are obtained by combining two shades of the same colour; this is called the "harmony of analogy." Colours vary in shade according to the proportion of white added to the original shade produced. Take, for example, heliotrope or mauve. This colour is made by mixing certain shades of blue and crimson with a varying quantity of white, according to the shade required. If the proportion of blue is greater than the red, a "blue" mauve is produced; if the reverse is the case, a "pink" mauve is produced. Any shade of either pink mauve or blue mauve may be combined, but blue and pink mauves could never be used together. Great care must be taken, when blending shades of any colour, that the shades are of exactly the same tone. Colours may be the same in name, but the variety of tone is very great. In blending shades of red, for example, if a crimson red and a brick red or terra cotta shade of red were combined, there would be no harmony, and the combination would be most painful. Red is one of the primary colours, and therefore it might be argued that it would be impossible to combine shades of red inharmoniously. Granted that such is the case it is quite possible to alter the entire character of the shade of red by adding a touch of yellow; broadly speaking, the colour produced would still be red, but

instead of being the primary red, it would be a secondary red, inclining very slightly to orange. Again, a touch of brown might be added to the original red, and a dull brick red would be the result. From this it will easily be seen how a colour can vary in tone, and also that great care is necessary to harmonise shades of the same colour.

Black and white are not, strictly speaking, colours, although the word is applied to them. They are obtained by mixing all the other colours in different proportions; for this reason any shade of any colour may be used with black and white, although some colours look better than others.

White has the effect of brightening every colour with which it is combined, whereas black has a contrary effect; for this reason the lighter shades of colour look better with black than the darker ones.

Grey, which is a mixture of black and white, brightens or deadens other colours, as it approaches black or white in tone.

In order to choose colours to suit individuals, certain characteristics must first be considered—colour of hair, eyes, and complexion. These characteristics must be considered all together, because colour may contrast favourably with the hair and yet produce a disagreeable effect with the complexion. Speaking broadly, there are but two distinct types—

1. Fair hair and blue eyes.
2. Dark hair and dark eyes.

There are many degrees between these two types, but every one may be roughly classed as either dark or fair. The colour of fair hair is the result of a mixture of red, yellow, and brown, either tone being more or less pronounced.

It must therefore be considered as a pale, subdued orange brown; the colour of the skin, although of a lower tone, is analogous to it, except in the red parts. Blue eyes are really the only parts in a fair type which form a contrast of colour; the skin, hair, and eyebrows usually form only a harmony of analogy. In this type the harmonies of analogy predominate; the dark-haired type shows the harmonies of contrast.

Dark eyes, eyebrows, and hair contrast in tone and colour with the skin, not only in the white but also in the red parts. As a rule the dark type is less red than the fair.

The colours which suit both light and dark hair are those which produce great contrasts.

Blue, which usually suits blondes, is the complementary of orange, which colour is the basis of their hair and complexion.

The colours most suitable to the dark-haired type are yellow and red, or colours in which red and yellow predominate, such as the tertiaries, citrine, and russet.

In giving a table of colours, suitable to various complexions, it is impossible in a limited space to give more than the type of each colour; it may, however, be taken for granted that—given a colour which suits a certain type, almost any shade of that same colour will be equally suitable, always excepting shades of green.

Green.—Delicate shades of green are favourable to all fair complexions, but not to complexions which are more or less red than rosy, nor to those which have a tint of orange or brown. Dark green will be better for this type of complexion.

Rose-red.—This colour cannot be contrasted even with the rosiest complexion without causing it to lose some of its redness. Rose-red, dark red, and light crimson render

the complexion more or less green; any tone of these colours should, when possible, be separated from contact with the skin.

Yellow imparts a violet tint to a fair skin. It suits brunettes because, as a rule, they have more orange than yellow in the complexion, therefore the orange neutralises the yellow and thus makes the complexion rosy.

Violet is the complementary of yellow and produces opposite effects; it imparts a greenish yellow hue to fair complexions. This is one of the least becoming colours to the skin, unless it is sufficiently deep to whiten it by contrast of tone.

Blue imparts orange; this combines favourably with white and the light flesh tints of blondes, as they have a more or less determined tint of this colour. It will not do for brunettes, as they already have too much orange.

White suits a fresh complexion, as it relieves some of the rose colour, but it is not at all suitable for complexions with a disagreeable tint, as it heightens all colours by raising their tone.

Black lowers the tone of colours, therefore it whitens the skin; it lowers yellow more in proportion than red.

Form.—Form has been defined as, the essence of the thing from which result not only its figures and shape, but all its other qualities.

The manipulation by which form is introduced into garments by tailors scarcely comes within the scope of ordinary dressmaking; instead of which, the shape and general appearance of the garment depends entirely upon skilful cutting and fitting; draperies and trimmings being arranged to emphasise the good, and hide the weak points of the figure, the material employed being suitable to the figure of the intended wearer.

It has already been explained that materials and trimmings should harmonise with the hair and complexion; but other factors quite as important as colour have to be considered, namely, the texture and surface of the material, and the relative width of the various parts of the garment; therefore, some knowledge of the effect produced upon the figure by rough and smooth, dull and bright surfaced materials is desirable.

In the first place, it should be clearly understood that white reflects the light and black absorbs it; grey, which is a mixture of black and white, reflects or absorbs it as it approaches either of these colours. All materials which reflect the light make the figure appear larger, while those which absorb it have a contrary effect.

Materials with rough surfaces make the figure appear larger than those with smooth ones; they should therefore be avoided by short stout people, and adopted by thin people to whom apparent additional width would be an advantage.

Not only the texture, but the surface of the material influences its absorbent properties. Bright-surfaced materials such as satin—even in dark shades—reflect the light, consequently give the appearance of increased size.

Stout Figures.—Dark, dull, smooth-surfaced materials should be selected, and all light-coloured, bright-surfaced materials especially avoided.

Very thin Figures.—Light materials with either a rough, or bright glossy surface should be chosen. Materials with a bright surface reflect the light to a higher degree than those with rough or dull surfaces, therefore produce the best possible effects. Dark, dull, smooth-surfaced materials should be avoided.

Striped Materials. — Striped materials add apparent

length to the direction in which the stripes run. For this reason they should never run down a tall, thin figure, or round a short, stout one. When they run vertically, they make the figure appear taller; when arranged horizontally, they give the appearance of greater width. Additional seams make various parts narrower, and so introduce length. Vertical lines may also be introduced by means of braid, rows of stitching, etc.

By arranging vertical and horizontal lines by some method of ornamentation, emphasis is given to those parts; and other parts made to appear relatively larger or smaller. When dealing with perfectly plain, untrimmed garments the effect of increased or decreased width or length depends entirely upon the position of the seams. The appearance of increased length and decreased width is brought about by the seams being placed fairly close together, and the curved side-seam being carried as high as possible.

A bodice with a seamless back may be used with advantage for a very thin figure, but for a stout one as many seams as possible should be introduced. A dark dress with light bands outlining the neck, waist, and the bottom of the skirt, adds apparent height to the wearer. Dark bands on a light skirt have a contrary effect, and should only be used for tall thin figures. Loose-fitting garments give the figure a shorter appearance than close-fitting ones.

The Uses of Clothing.—The chief use of clothing is to assist in keeping the body at a uniform temperature. This purpose is served, not by preventing the cold from coming in, but by preventing the heat of the body from passing out.

In cold weather, when the temperature of the air is

below that of the body, clothing prevents heat being lost by conduction and radiation; in hot weather, the body is protected from external heat, and is consequently cooler. As warmth and coolness, or the power of maintaining the heat of the body at its normal height, is obviously the most important property of all clothing, the choice of materials should depend greatly upon this feature.

All materials used for clothing may be roughly divided into two classes:

1. Bad conductors of heat.
2. Good conductors of heat.

Wool and Silk pass heat either to or from the body very slowly, and are consequently bad conductors.

Linen and Cotton allow heat to pass readily to and from the body, therefore are good conductors.

The heat-conducting properties of any material are mainly dependent upon the texture.

Woollen material is not warmer because the material itself is warmer, but because it holds more atmospheric air in its fibres and meshes than closely-woven linen or cotton can hold.

Soft fleecy fabrics—no matter whether of wool or cotton—always feel warmer than smooth-surfaced ones.

Woollen cloth compressed until it is quite firm and impermeable, will be found no warmer than calico of the same weight.

Except in the case of outer garments, the heat-absorbent property of any material is not influenced by its colour. Contrary to popular belief, red flannel, when worn as an under garment, has no superiority over white flannel of the same thickness; in fact, white flannel is preferable to red, because the dyes in coloured flannels often prove injurious to the skin.

The influence of colour is dependent upon the heat-absorbing property of that colour.

The relative absorbent properties may be taken as—

White (taken as a standard) . .	100° F.
Yellow	150° ,,
Red	170° ,,
Blue	200° ,,
Black	210° ,,

From the above it will be seen that black fabrics absorb more heat from the surrounding air than light-coloured ones, therefore soft, fleecy dark materials are warmer than light-coloured materials of the same texture and substance, and light-coloured soft, fleecy materials are warmer than light-coloured smooth ones.

Linen, by reason of its smooth glossy surface, is cooler than cotton.

The porosity of materials affects their warmth in allowing air to enter and escape; for this reason flannel is less warm than many other closely-woven woollen materials.

The coarsely-woven garments, even with meshes like a fishing-net, afford warmth by raising the next garment from contact with the body; the result is a warm stratum of air circulating beneath. Cellular clothing is dependent on the same principle: air lodges in the interstices.

Two thin garments afford more warmth than one thick one because of the air retained between them.

A loose-fitting garment is warmer than a tight-fitting one, because the layer of air between the garment and the body is equal to an additional garment.

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THE END

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