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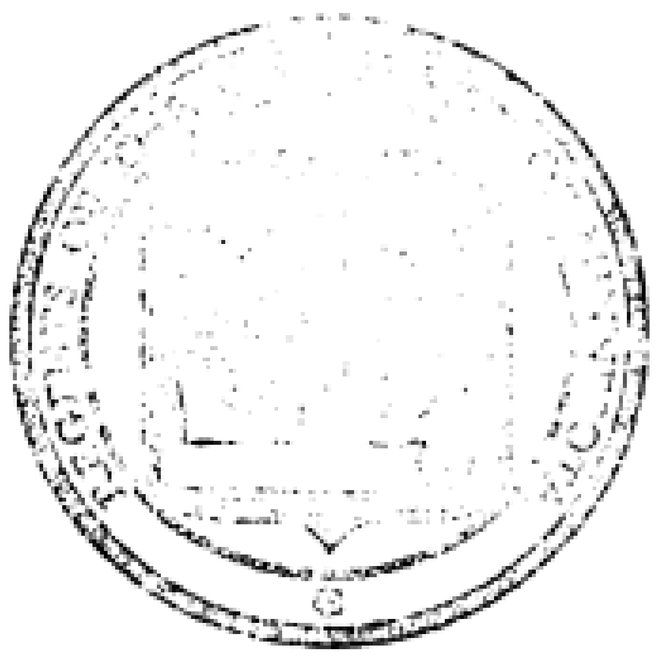

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INTRODUCTION.

This work has beeen prepared to aid the teacher of sewing in the Public and Industrial Schools.

The author has tried to meet the demand for practical methods, by a systematic arrangement of the subject, which will be of invaluable assistance to the teacher.

As a book of reference for the pupil, its arrangement is so simple that it will afford her much useful information, that will assist in fitting her for the duties of life.

The chapters devoted to the manufacture and weaves of materials, are intended to aid the teacher in giving talks to her pupils on kindred subjects, also to render the pupil so familiar with the different kinds of cloth, that she may become an intelligent judge of them.

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PART I

MODEL SEWING

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CLOTH.

Cloth is a fabric woven of cotton, wool, linen or silk.

The threads of the cloth are called the warp and the woof. Those running lengthwise are the warp, and the crosswise threads, the woof.

The warp is stronger than the woof.

Cloth is woven straight, but is sometimes drawn out of shape in pressing, but can be straightened by stretching it on the bias.

When the thread can be ravelled either lengthwise or crosswise of the cloth, it is straight or will become so after it has been laundered.

The selvedge of cloth is the finished, lengthwise edge, and can not be ravelled. The raw edge, is the edge that is cut or torn.

A fold is made by doubling one part of the cloth over another.

Nap is the shaggy substance on the surface of the cloth.

COTTON.

The cotton plant is now cultivated on plantations, all over the world, within the limits of 36° N. and S. of the equator.

All the species are perennial, and grow somewhat shrubby; but, in cultivation, they are usually treated as annuals, the seed being sown early in the spring, the plants beginning to bloom in June. The leaves grow alternate, and the flowers, which are large and yellow, become a clear pink on the second day. After the flower falls, the seed pod grows quite rapidly. When ripe, it bursts open, disclosing three or five cells, filled with numerous black seeds, covered with a beautiful, white fibrous substance. This is cotton, ready for picking, which is done either by hand or by a machine.

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The cotton of commerce is procured from the sea island and the upland cotton. So called, because the one grows on the islands near the coast of the southern United States, and the other, on the uplands of the Southern States. The sea-island cotton has a fine, soft, silky staple, or fiber, nearly two inches long; the upland cotton, because of its short fiber, is commonly called short staple cotton.

As the commercial value of the cotton depends upon the length and tenacity of the fiber, the sea-island cotton is the most valuable. As an article of commerce, it exceeds all other staples in importance.

Great Britain uses more of the raw material than any other country. The United States ranks second, and France, third.

The manufacture of cloth from cotton dates back to a very early period, and has always been the clothing material of a large portion of the human race.

Cotton cloth was originally obtained in Europe from India, a country always famous for the excellence and fineness of its cotton fabrics. In the early part of the eighteenth century, it was thought that the importation of cotton fabrics into England, interfered with the home manufacture of woolens and linens. Hence in 1721, not only was the importation of cotton cloths prohibited, but those who sold and wore it, were fined.

During the present century an immense industry in the manufacture of cotton into cloth, has been established in England and the United States.

The machinery used in the making of cotton fabrics is about the same as that used in the manufacture of woolen materials.

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AVERAGE WIDTH OF MUSLINS.

Long Cloth, 36 inches wide.
Lonsdale Cambric, 36 inches wide.
Berkeley Cambric, 36 inches wide.
Pride of the West Muslin, 36 to 45 inches wide.
Alpine Rose Muslin, 36 inches wide.

Heavy Muslins—
New York Mills
Wamsutta
Utica
} 36 inches wide.

Medium—
Masonville, 36 inches wide.

Fine—
Fern, 36 inches wide.

WOOL.

Wool is a variety of hair or fleece, which is shorn from the sheep, the angora, alpaca and cashmere goat, and which furnishes the most important material for clothing, in all cold and temperate climates.

Wool is always more or less wavy, and, under the microscope, is seen to be covered with scales, overlying each other. These conditions of the wool, are what causes the fibers to retain the twisted state, after being spun.

When wool is shorn from the sheep it is divided into two classes, short or carding wool, which seldom exceeds a length of 3 or 4 inches; and long or combing wool, varying in length from 4 to 8 inches. Each of these classes is sub-divided into a variety of sorts, according to the fineness and soundness of the staple or fiber. The finest wools are usually of a short fiber. By combing, some of the scales are removed from the wool and it is better adapted for the manufacture of light fabrics. Yarn made from this wool is called worsted, and the cloths, worsted goods.

The finest carding wools were formerly obtained from Spain, from the merino sheep; but, as they are

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now raised in Australia, North and South America and South Africa, it is more easily obtained, and less expensive.

Wool is the most important of all animal substances used in manufacture and ranks next to cotton as a raw material for textile fabrics.

The spinning and weaving of wool into cloth, dates back to very ancient times. At the time of the Macedonian conquest, 336 B. C., we read that the natives of India wore shawls of great beauty. The Greeks learned the manufacture of woolen fabrics from the Egyptians; the Romans from the Greeks; and from the Romans the Britons derived their knowledge of the art, soon after the Roman conquest. The English improved upon the methods previously known, until the knowledge has become general throughout the world.

It is difficult to tell which country produces the best fabrics, at the present day, so great is the competition.

The manufacture of the wool into cloth is a very interesting process. After the sheep are washed and sheared the wool is sorted, the carding wools being separated from the combing wools. When sorted, the wool is thoroughly beaten, not only to remove any dust or other impurities, but to open the fibers and render the material softer and more pliable.

The wool is then scoured, that is, dipped in an alkaline lye, which, with the natural grease of the fleece, forms a soap, and cleans the wool most thoroughly.

The more gently and uniformly the wool is then dried, the better the result. But when dried the wool is still found to contain matted locks, dust, sand and other impurities, which must be removed. This is done by passing the wool through a teasing or willowing machine.

After being sprinkled with olive oil, to make it soft and pliable, the wool is carded. Any remain-

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ing sticks or lumps are removed and the fibers separated, and then interlaced with each other, coming out in the form of a loose rope called sliver, This rope is passed through a gilling machine, several times, until the fibers are leveled and brought even with each other.

The wool is next drawn out into a soft, weak thread, preparatory to spinning. If the fabric is to be yarn-dyed, it is done at this time, and then the yarn is woven into cloth.

The process of cleansing, scouring, and pressing the fabric, is called "fulling," The cloth is soaked in hot, soapy water; then pressed and rubbed between the rollers of the milling machine, On being taken from the machine, the cloth is stretched uniformly in all directions, by hooks on a frame that it may dry without wrinkle or curl. The nap is then raised by passing the cloth before cylinders, on the face of which, teasel has been arranged. The pile is then trimmed to produce a uniform surface, and the cloth passed between steam rollers, to give it a smooth glossy finish. The cloth is then folded ready for the dealer.

WOOLEN DRESS MATERIALS.

Some of the woolen fabrics most commonly used, are Broadcloth, Boucle, Bengaline, Broche, Covert Suitings, Clay Worsted, Camel's Hair, Canvas Cloth, Crepons, Cravanette, Empress Cloth, English Meltons, Grenadine, Henrietta, Mohair Brilliantine, Momie, Mohair, Jaquard, Mohair Sicillian, Mohair Etamines, Poplin, Ottoman, Serge Scotch Tweeds, Scotch Cheviots, Tricot, etc

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LINEN.

Linen thread and cloth are made wholly from the fibers of flax or lint. The principal fabrics included in the term linens, are lawn, cambric, batiste, damask, etc. In France and The Netherlands, the manufacture of linen has reached its greatest perfection.

The stimulus to produce fine yarns for the lace-makers, has caused such care and attention to be given to the cultivation and preparation of flax, that in point of fineness of fiber, it is unequaled. The common flax is an annual, and grows two or three feet high, branching near the top, and having beautiful blue flowers. The plant is highly valuable, both for the fibers of its inner bark, and for its seeds. No plant not yielding food, is more useful to man.

The flax is a native of Egypt and has been cultivated from the earliest times. It is mentioned in the book of Exodus as one of the productions of Egypt in the time of the Pharaohs.

The wonderful durability of the linen made by the Egyptians, is proven by its existence on mummies, some finds showing it to have been woven over 1700 years. From the time of these ancient Egyptians to the present time, the use of linen for clothing and other purposes has been continuous.

Linen was first manufactured in England in 1253, but the manufacture in the American colonies was slow.

As late as 1870 there were only ten establishments for the manufacture of linen fabrics. Five more were established before 1880.

When the manufacture of cotton fabrics was introduced, the manufacture of linen fabrics was retarded; but it has increased so much within the past few years, that it has regained, if not exceeded its former proportions.

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Flax is cultivated in the United States more for the seed than the fiber.

The process of the manufacture of linen fabrics is similar to that of the cotton and wool.

AVERAGE WIDTHS OF LINEN FABRICS.

Linen Sheeting, 72 to 108 inches wide.
Pillow Case Linen, 36 to 54 inches wide.
Household Linen, 36 to 45 inches wide.
Art Linen, 36 to 45 inches wide.
Shirt Bosom Linen, 36 inches wide.
Surplice Linen, 36 and 45 inches wide.
Dress Linens, 27 to 36 inches wide.
Linen Cambric, Linen Lawn, Handkerchief Linen — 24 and 36 inches wide.
Table Linen, 54 to 108 inches wide.
Circular Table Cloths — $2\frac{1}{2}$ x $2\frac{1}{2}$ yards; 3 x 3 yards.
Napkins, 18 x 18 inches to 27 x 27 inches.

SILK.

Silk is a fine, soft thread spun by the silk worm.

The manufacture of silk appears not to have been well known to the ancients. Among the Greeks, Aristotle was the first to mention it in his writings. Evidence collected would tend to show that the manufacture of silk fabrics originated in China, in which country the cultivation of silk is of the highest antiquity. According to Chinese authorities, silk worms were raised by the wife of the Emperor 2600 years B. C.

The cultivation of silk has become one of the great industries of Italy, Turkey and Greece. Some efforts have been made to raise the silk worm in England, but with only partial success, for they require a warmer and less variable climate. And yet the quantity of silk raised in the world is enormous, for it takes 1600 worms to raise a pound of silk.

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Only a brief outline of the cultivation of the silk and its manufacture can be given here, but a further study of the subject will prove most interesting.

The moth, which is about an inch in length, is of a whitish color, with a broad pale brown bar across the upper wings.

The caterpillar, which, at first is not more than a quarter of an inch in length, rapidly increases in size, till, when full grown, it is nearly 3 inches long, and of a yellowish gray color, The eggs are numerous and about the size of a pin head.

In the tropical countries, the eggs hatch readily from the natural heat, but in temperate climates, artificial heat is used. At one time, cultivators resorted to the novel device of wearing a little bag containing the eggs, next their person.

The worm is usually raised in buildings especially prepared for them, and fed on leaves gathered from day to day. It is of the greatest importance in the production of silk, that one of the species of the mulberry should be cultivated, and that the foliage should be just right to feed the young worms when they first hatch. Great care is taken in feeding the worms, to have the leaves evenly distributed, so that the worms will not crowd together. To prevent the stronger insects from depriving the younger of their food, those of an age are kept together.

Different devices are used, upon which the worm spins his cocoon. When they are completed, they are carefully sorted; then placed in an oven to kill the inclosed chrysalis. The cocoons are then placed in warm water to soften and dissolve the glue, which causes the various coils of silk to adhere to each other. Several of the loosened ends are twisted together in the fingers, into one thread, and passed into the reeling machine. Each cocoon generally yields 300 yards of thread; so that it takes from 1200 to 1500 yards to make 300 yards of the "filament of raw silk," as the reeled silk is called.

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The silk is not yet ready for the weaver, but has to go through several processes, before it will be properly cleaned, twisted, or strong enough.

Of textile fabrics, silk is the strongest, most lustrous, and most valuable.

The first silk mill in the United States, was established at Mansfield, Conn., in 1810. Many other factories were started, most of them surviving. One of the best known was at Patterson, N. J., and that town became, and has since remained, the chief seat of silk manufacture in the United States.

SILK FABRICS.

China, Japanese, Kai Kai Wash Silk, Habutai Wash Silk, Twilled India, Surah, Taffeta, Bengaline, Foulard, Satin, Satin Rhadame, Armure, Gros Grain, Poplin and many others.

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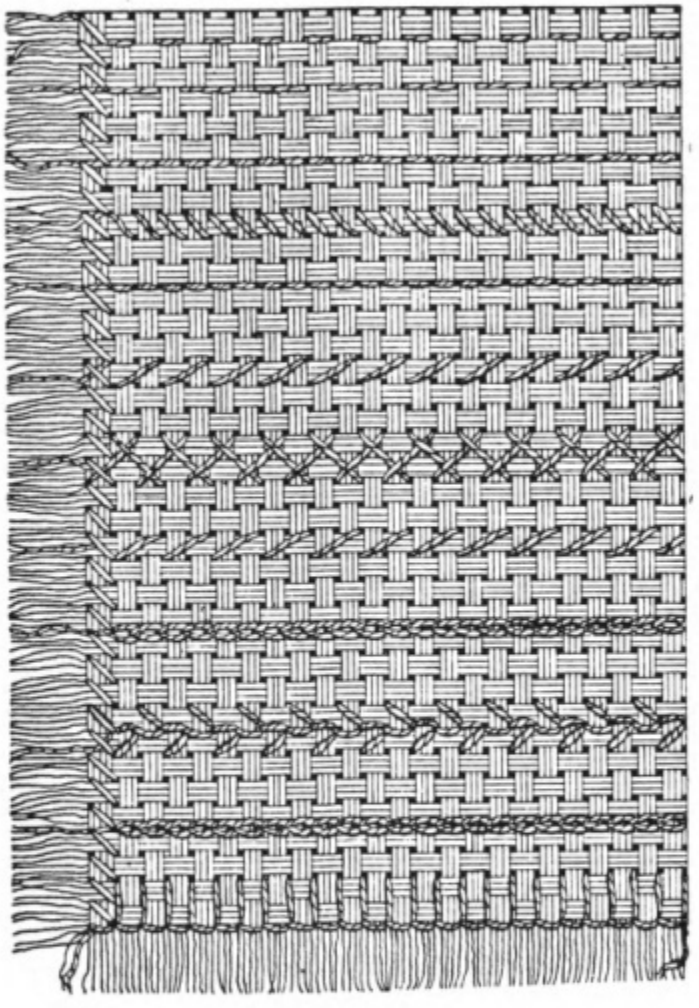

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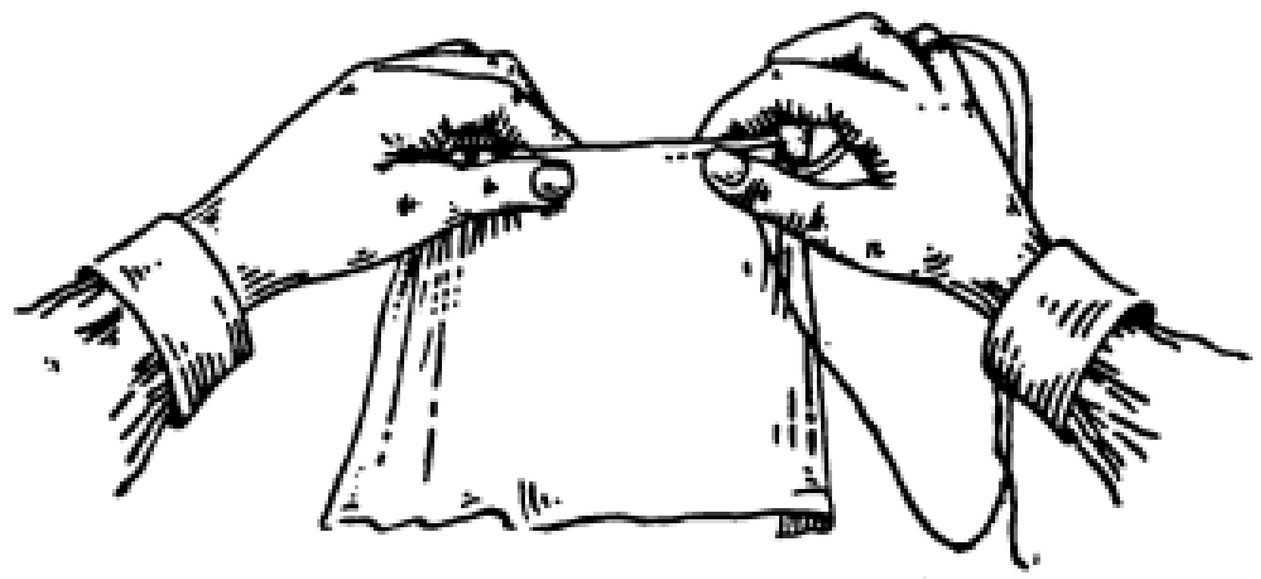
RUNNING.



Running is composed of small basting stitches of equal size.

Have the needle a little larger than the thread, and the thread the size of the thread in the material.

Running is used in plain seams that do not require great strength, as for joining light materials, gathering, making tucks and pleats, also in making cord. Several rows are used in darning, strengthening worn materials and for quilting.

In running, use as free wrist motion as possible, and take as many stitches on the needle at a time as you can.

BASTING.

Basting is light sewing and is used as a guide for

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sewing, and to keep two pieces of cloth in exact relation to each other. Never sew without basting.

Begin by having the knot on the right side of the work.

Fasten the thread by taking two stitches in the same place, over each other.

In basting for machine sewing, the stitches may be longer than for hand sewing. Uniformity in length of stitches and straightness of line in basting are of the utmost importance.

Bastings should always be cut out.

Never allow your sewing to run into or across the thread of basting stitches.

Regular basting stitch, one-eighth by one-eighth, should be used in basting seams that are subject to any strain, as in fitting a waist.

Regular basting stitch, one-eighth by one-fourth, is used in basting for overhanding and machine sewing.

For overhanding, baste one-eighth of an inch from the edge, whether selvedge or crease, as the edges need to be held firmly together.

In basting a hem, take one stitch at a time, and be sure both folds of the hem are held in place. Use one-eighth by one-half basting stitch.

A basting stitch one-eighth by three-fourths, is used for basting seams in skirts, and the crosswise basting is used in basting material on lining.

CAT-STITCH.

A cat-stitch is a cross stitch worked from you, holding the material over the left forefinger.

It is used in patching flannel and on raw edges of a hem to avoid the ridge formed by folding the edge; or in woolen seams, a row of cat-stitching may be put through the center.

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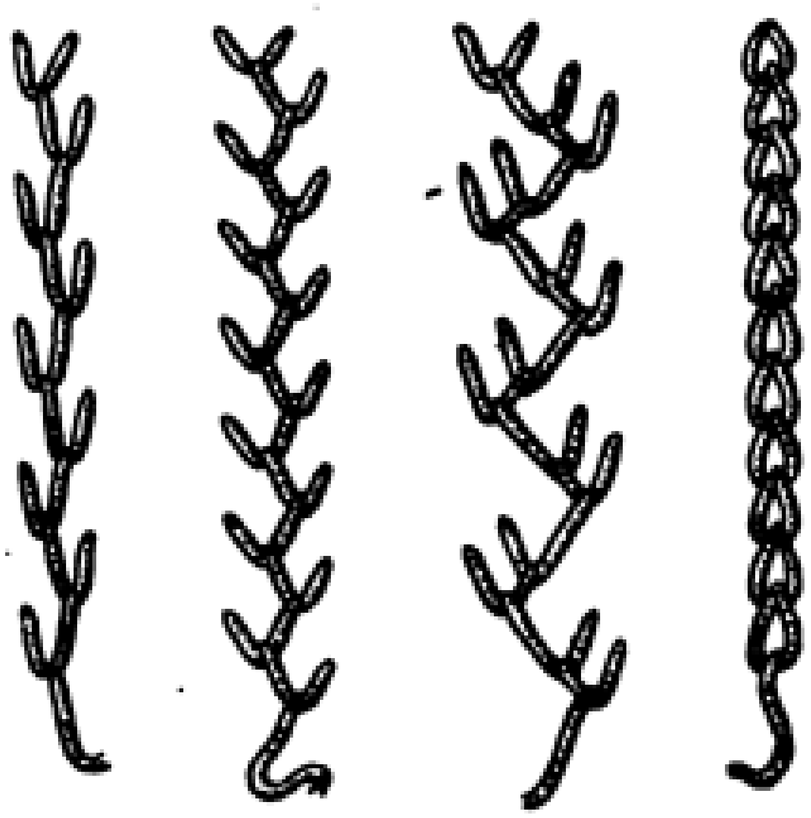
CHAIN STITCH.



Chain stitching is a method of embroidering often used for outlining patterns.

It is worked toward you, holding the material over the left forefinger, placing the thumb on the loop formed by the thread, when the needle is inserted.

Have your stitches uniform and not drawn too tightly.

FEATHER-STITCH.

Feather-stitch was so called because of its feather-like appearance. When making it, the material should be held over the left forefinger.

It may be worked in several designs. The beauty of featherstitching is to have the stitches uniform. It is used for ornamenting garments, principally hems.

LOOP STITCH.

Loop stitch is worked from left to right, holding the edge of the material toward you.

To begin, run two or three stitches along the edge to be worked so that the continuous line of stitches will cover them. Hold the thread with the

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thumb of the left hand; insert the needle an eighth of an inch from the edge of the material, draw down and over the thread, being careful that the thread lies loosely on the edge of the cloth.

Fasten the thread on the wrong side of the work.

To join the thread, put the needle in under the last stitch, as in the beginning and draw it out over the last stitch.

Loop stitch is used to secure and ornament the edges of woolen material. It is also used for working the scalloped edges of doilies, by making the stitches close together. Several rows are used in honey combing and fancy German stitches.

SEAMS.

A seam is the joining line formed by sewing or stitching together two different pieces of cloth.

FRENCH SEAM.

A French seam is one that is first stitched on the right side as near the edge as possible; then the material is turned, and the second stitching is made on the wrong side, far enough below the first stitching, so that the raw-edge will not show on the right side.

This seam is used in shirt waists, sleeves of underwear and in light materials.

BACK-STITCH SEAM.

Back-Stitching is a method of sewing, in which the stitches are taken backward; the needle entering the material adjoining the preceding stitch, and coming out so that the stitch on the under side is twice the length of the upper.

In fine needle work, it is used instead of machine sewing, in all places requiring strength.

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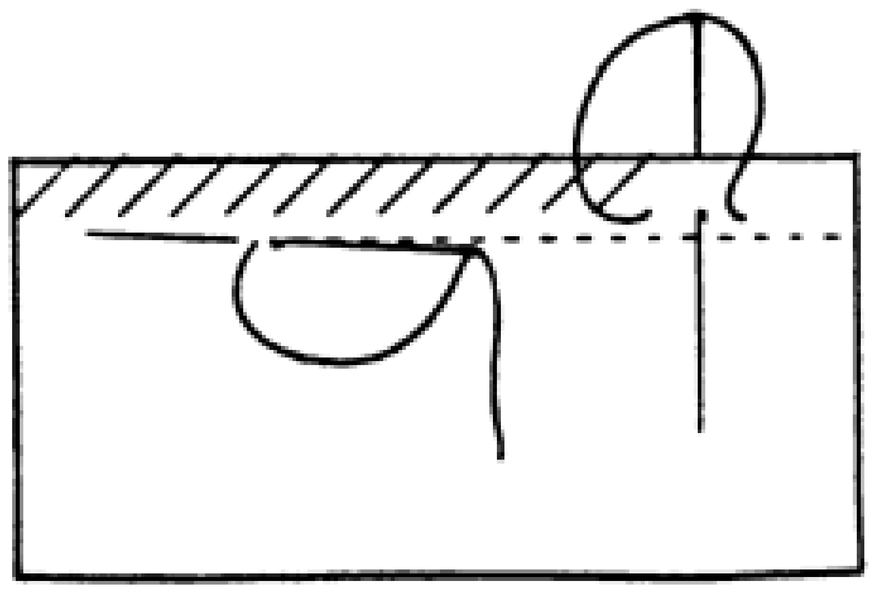
HALF-BACK STITCH.



Half-back stitching is the same as back stitching, except that the needle is put only half way back, thus leaving a space between the stitches.

It is used in sewing on gathers.

OVERCASTING.

Overcasting is a diagonal stitch taken loosely through and over two raw edges of cloth to keep them from ravelling.

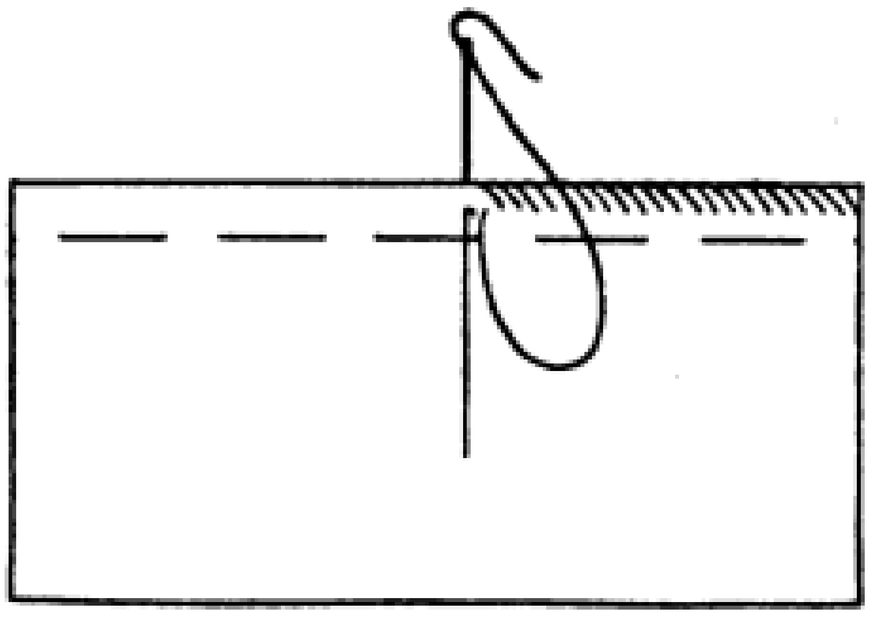
It is worked from left to right.

To make the stitches uniform, the distance between them and the depth of each one, should be the same.

Before overcasting a seam, remove your basting threads, and trim the edges evenly.

Overcasting is very difficult to do nicely.

OVERHANDING.



Overhanding is a stitch taken very closely over two edges of cloth, which may be either selvedges or creased folds.

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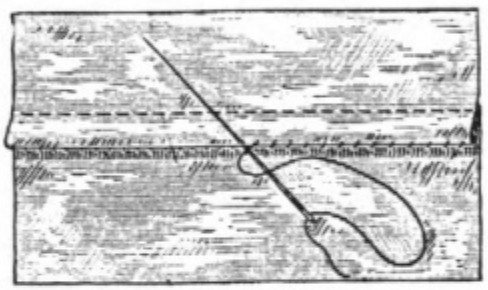
The threads of the warp and woof should correspond exactly, in the two pieces joined.

This seam should be sewed from right to left.

DOROTHY SEAM.

A Dorothy seam is made by covering a seam with narrow ribbon or tape, hemmed down on both sides. It is used on flannels for babies.

FELLED SEAM.



A felled seam is made by first stitching one-fourth of an inch from the edge, then trimming the side toward you, one-eighth of an inch. Fold the untrimmed side over on the material and hem down, making a flat seam.

The felled seam is used in corset covers, drawers, and the side seams of night gowns. This seam is more easily laundered than the French seam.

HEMMED SEAM.

In making a hemmed seam, place two pieces of material over-lapping each other about one-fourth of an inch.

Baste through the center, then crease and hem alike on both sides.

This seam is used in making baby flannels, in sewing loosely woven silks, and when raw edges must be avoided and other seams might draw.

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HEMS.

A hem is a fold made by creasing a piece of cloth and then sewing it down.

First crease an eighth of an inch, then crease the second fold the desired width, baste and hem.

To join the thread in hemming, leave the end of the thread in the fold of the hem, and fasten another thread by hiding the knot under the fold.

Fasten the thread by taking two or three stitches over each other.

A narrow hem in stiff materials, as on table linen, or a rolled hem, need not be basted.

When basting a straight hem, the seams or stripes should match exactly.

Hems on elastic materials, as woolen or mohair, that do not stay folded, should be basted twice. First crease an eighth of an inch and baste, then turn the desired width and baste at the fold.

FACED HEMS.

A faced hem is used when the material is not long enough to allow for a hem, or where a hem can not be turned evenly. It is a finish or protection to an edge of a garment, and has the appearance of a hem. It is also called a facing and is said to be "felled" on.

A bias facing fits better than a straight one, and should always be used if the edge on which it is to be sewed is curved or expected to give.

EXTENSION HEM.

Cut a piece of cloth twice the width of the desired hem, and sew one edge on the garment in a seam; then crease the upper edge and baste on the wrong side, even with the seam, and hem down. It is used where there is not enough cloth to allow for a hem, or in a placket.

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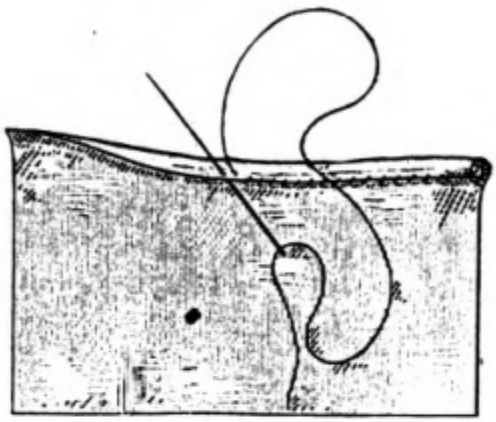
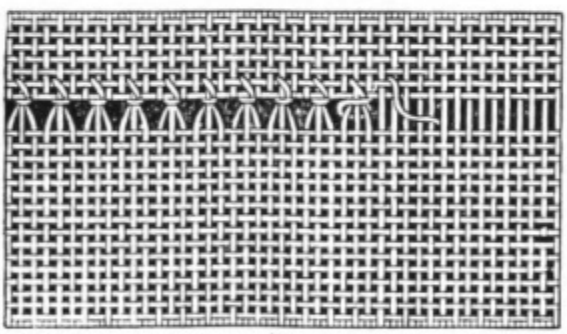
ROLLED HEM.



A rolled hem is a very narrow hem, made by rolling the edge of the material between the left forefinger and thumb; hemming as you roll, and sewing with a very fine needle and thread.

It is used on ruffles of very fine material or wherever a very narrow hem is required.

HEMSTITCH HEM.



In hemstitching, six threads are drawn, twice as far from the edge of the material, as the hem will be when finished. Then crease the edge, one-eighth of an inch and baste the hem even with the threads first drawn.

Fasten the thread in the hem at the left hand side.

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Pointing the needle toward you, take up four or five crossthreads. Draw the needle through and take one stitch as in ordinary hemming, being careful not to take the stitch too deep.

To draw the threads, choose a coarse one, and, with the point of a needle, pick it out, one-fourth of an inch from the edge. Remove the thread carefully with the right hand, being careful not to break it. The chief difficulty is in drawing the first thread.

FRENCH HEM.

To make a French hem, first crease a narrow hem; then, holding the wrong side towards you, fold the hem back, and crease the material, so as to make it even with the hem. Overhand the folded edges together, being careful not to take the stitches too deep into the cloth.

This hem is used in hemming table linen.

BLIND HEM.

A blind hem is turned and basted on the right side of the material, and hemmed so that the stitches do not show. Take up one or two threads of the material, and, before drawing the needle through, take up one-fourth of an inch of the fold. Continue in this manner, being careful not to draw the threads tightly.

SLIP-STITCH HEM.

In a slip-stitch hem, take up one thread of the cloth, then of the fold, a little farther ahead; then of the cloth, etc. Keep the stitches in line with the thread of the material, instead of diagonally, as in regular hemming.

This hem is used on woolen materials, where the stitches are not to show on the right side. It is often used in hemming silk or velvet.

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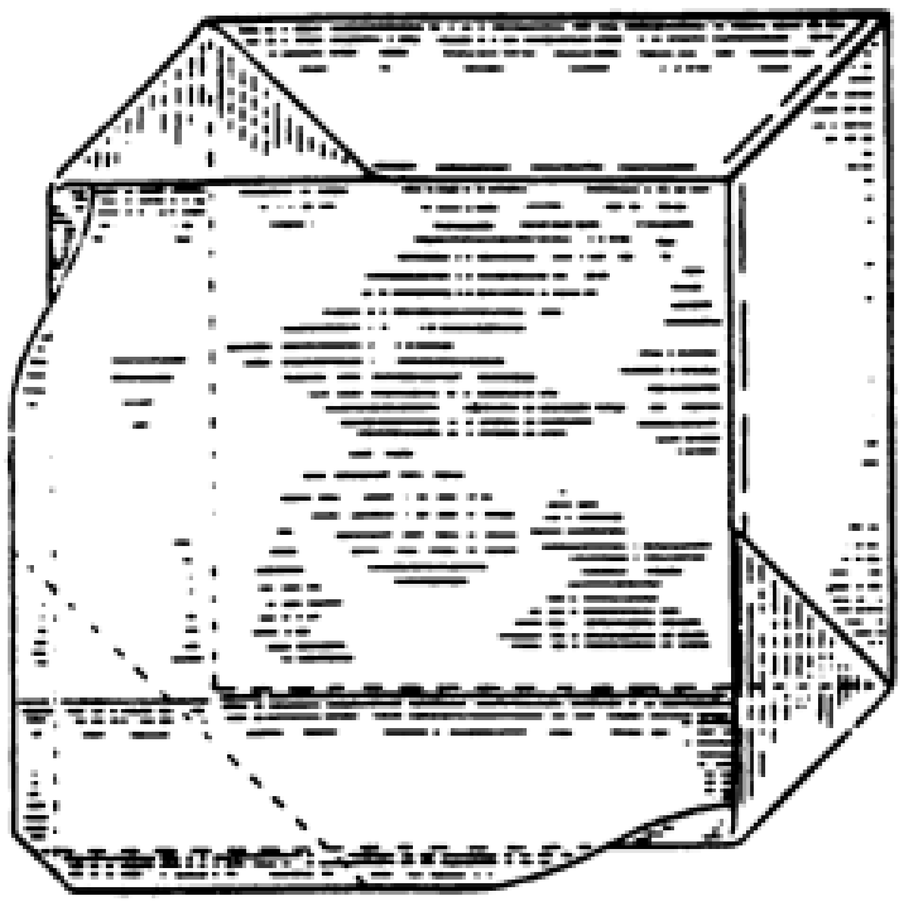
A MITERED CORNER.



To miter a corner in needle work is to change the direction of a hem, straight band or border, by cutting it at an angle, so as to sacrifice a three-cornered piece.

In a hem cut off the corner one-eighth of an inch deep, then, creasing the material each side of the cut corner, one-eighth of an inch, (see hems), fold the hem the desired width.

Open the hems and fold the corner towards you, creasing it one-eighth of an inch outside of the point where the creases of the hem meet. Cut off the corner on the crease, then fold and baste the hem at the right of the bias edge. Fold and crease the bias edge one-eighth of an inch. Fold and baste the hem at the side, making the edge of the two hems meet at right angles. Hem the corner fold, taking the stitches through only one thickness of cloth.

A mitered corner is used on heavy cotton or linen materials.

"Miter" is a term derived from carpenter work.

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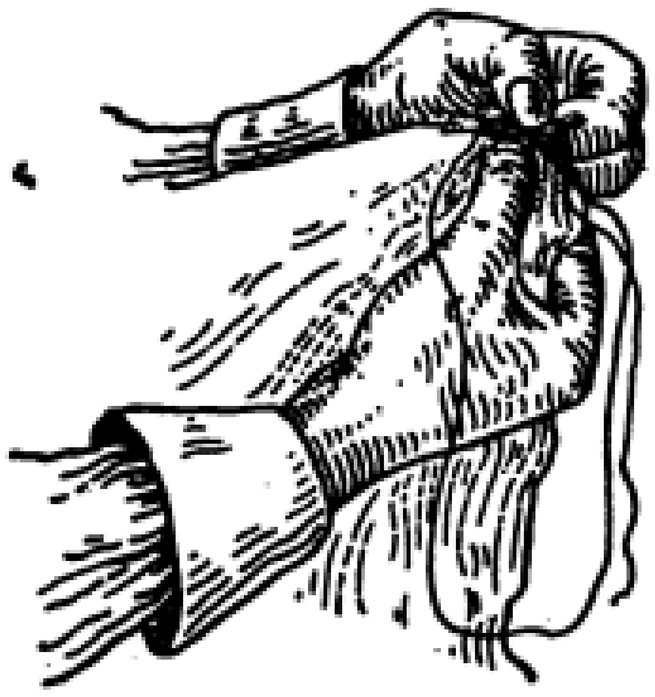
GATHERING.



Gathering is composed of small running stitches, and the thread is drawn so as to full the material.

Take as many stitches on the needle at a time, as possible, using rapid wrist motion. Draw the stitches together on the needle, and fasten the thread by winding it over and under the eye and point of the needle; then hold the gathers between the thumb and finger of the left hand, and with the other pull each gather in its place. Unwind the thread, and pull the needle through. Do the same with each needle full.

Gathering is used whenever a piece of material is required to fill a smaller space.

The thread should be a little longer than the section to be gathered. Divide both the gathers and the plain material into halves or fourths. Place the marks together and sew the gathers in place with half-back stitches, holding the gathers towards you. The size of the gathering stitches would vary with the quality and quantity of material to be put into the arranged space.

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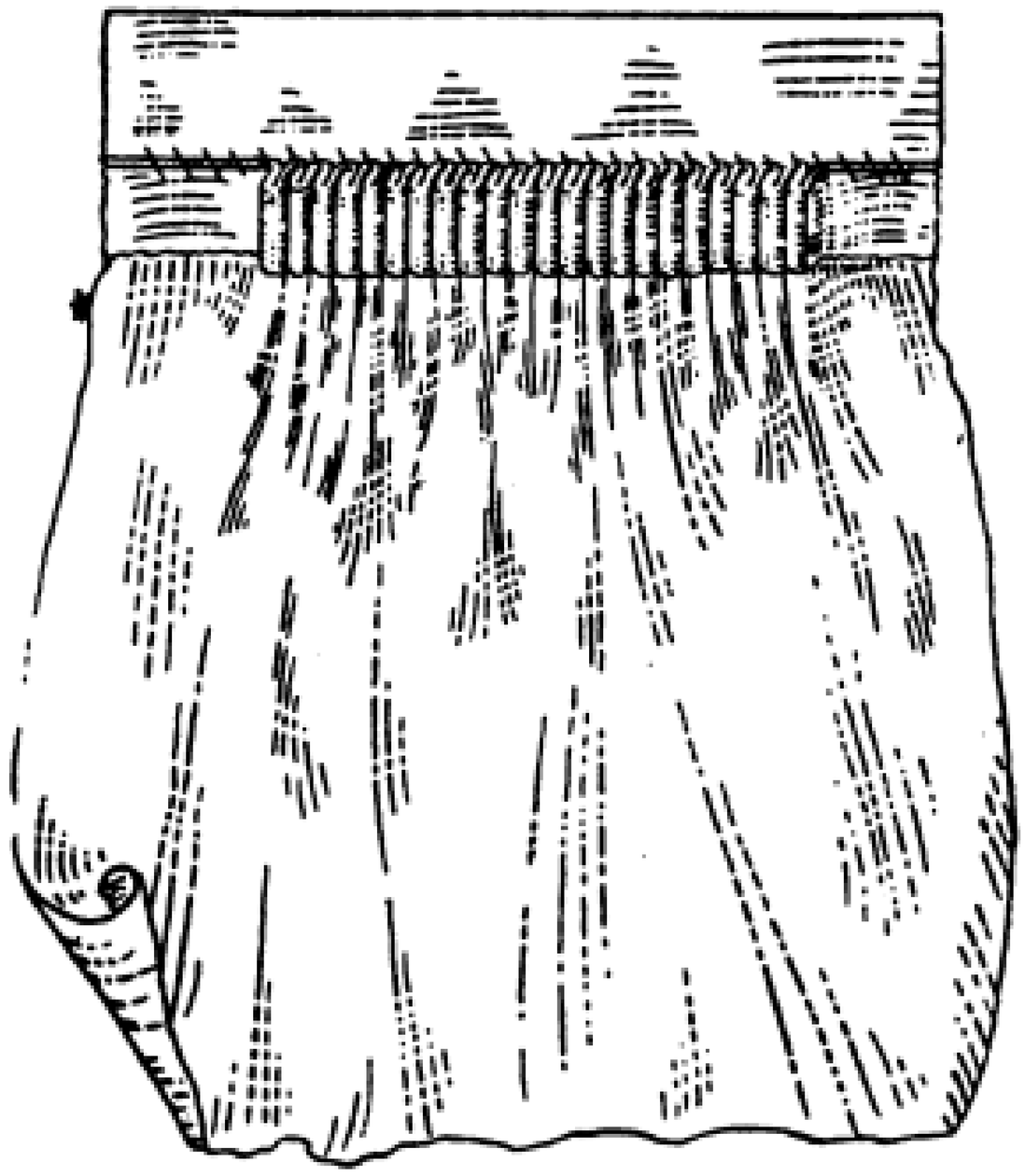
GAUGING.



Gauging is two rows of running stitches, one-eighth by one-eighth inch, with the stitches of the second row exactly below those of the first.

In heavy materials, as the backs of skirts, the stitches would be long.

PLACKETS.

A placket is an opening made in a garment.

To make a placket for cotton garments, cut an opening from eight to ten inches; hem the right side one inch wide, and the left side with a narrow hem. Place the wide hem over the narrow one, and finish at the bottom with two rows of back-stitching.

To make a placket for woolen garments, cut the opening the same as for cotton garments.

Cut a facing for the right side two and one-half inches wide, and one-half inch longer than the

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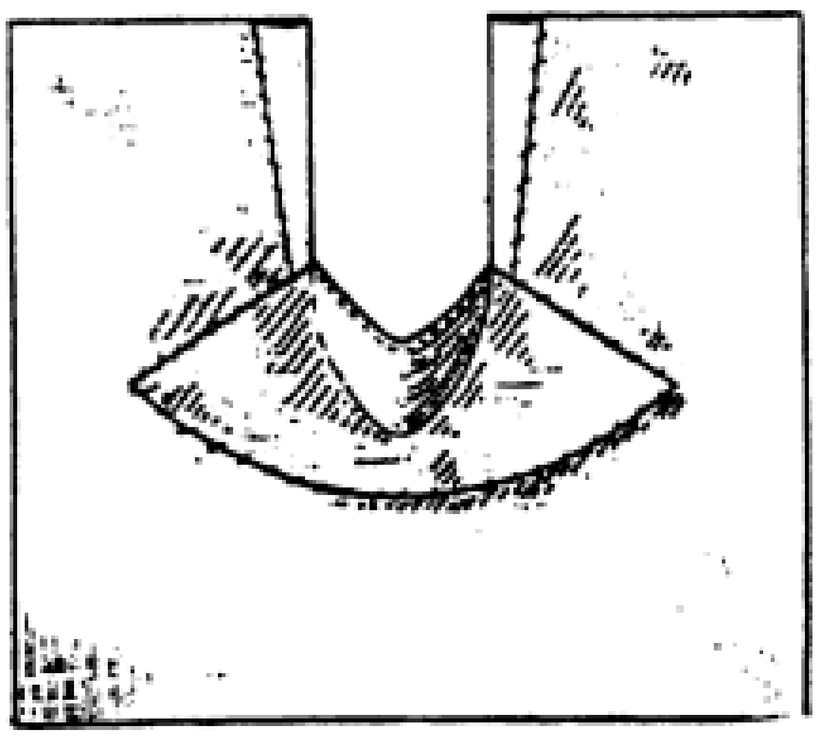
opening. Fold and baste the right side of the placket, one-fourth inch. Baste the facing on and hem both sides.

The left side should be made as an extension hem; the piece to be put on, being five inches wide and one half inch longer than the opening. Finish at the bottom by hemming the left side under the right.

GUSSETS.



A Gusset is a small piece of cloth inserted in a garment for the purpose of strengthening and enlarging an opening.

One method of making a gusset is to cut a piece of cloth two inches square, crease each side one-eighth of an inch, fold so as to form a half square and baste. Beginning at the point, overhand it in the opening.

This gusset is used for finishing the under arm seams in shirts.

Another gusset is made by cutting a piece of cloth two and one-half inches square, and creasing two adjoining sides one-eighth of an inch; then, inserting the gusset in the opening, which has been hemmed so that at the end where the gusset is to be inserted, the hem is as fine as a rolled hem, overhand both sides of the gusset, one-half way up. Fold the gusset over to the wrong side and crease. Hold in place with the neeedle, so that the middle

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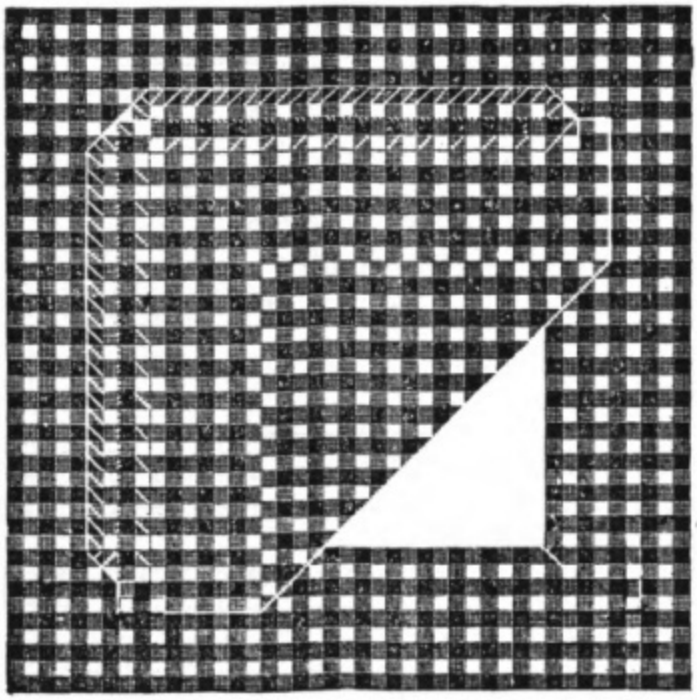
falls over the point of the gusset and cut the square diagonally. Baste to the material and hem (as illustrated on page 33).

The gusset can be made as large or small as desired. This kind is used, principally, in plackets of drawers.

PATCHING.



A patch is a piece of cloth sewed on a garment to repair it.

There are several different ways of patching, the overhand and hem patching being used principally.

An overhand patch is much neater than a hem patch, but the latter is the stronger.

When a garment requires a patch the worn parts must be cut away, until strong threads are found to support the new piece placed on it.

Checks, stripes and figured materials should always match. Great care should be taken to have

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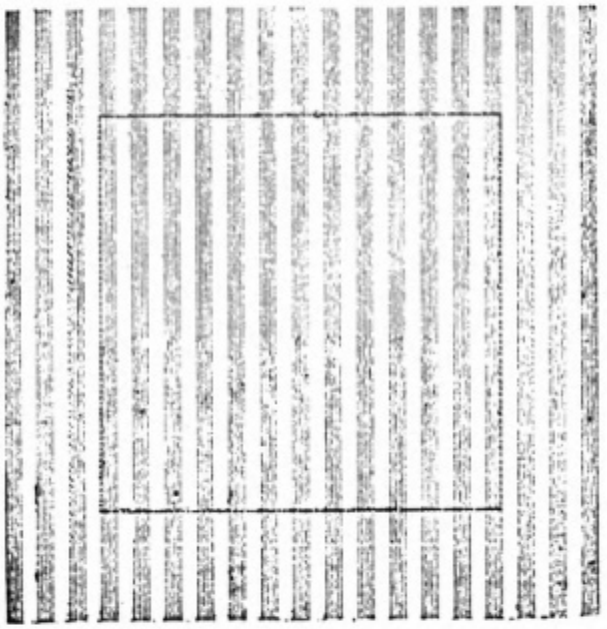
the warp and woof of the patch run the same as those of the garment.

In an overhand patch cut the patch one inch larger than the hole. Cut the corners diagonally one-eighth of an inch, then cut the corners of the hole one-eighth of an inch. Crease one edge of the patch and one edge where it is to be joined, each one-fourth of an inch. Place the right sides together, having the folded edges even, and baste. Overhand that side of the patch, remove basting; crease and overhand the remaining sides the same way.

HEMMED PATCH.



In a hemmed patch, cut the patch one inch larger than the hole. The corners should be cut the same as for the overhand patch.

Place the patch on the wrong side and baste through the center where the two edges lap. Crease the right side an eighth of an inch and hem. Crease the patch the same on the wrong side and hem.

This patch is used where both sides of the garment are to be seen.

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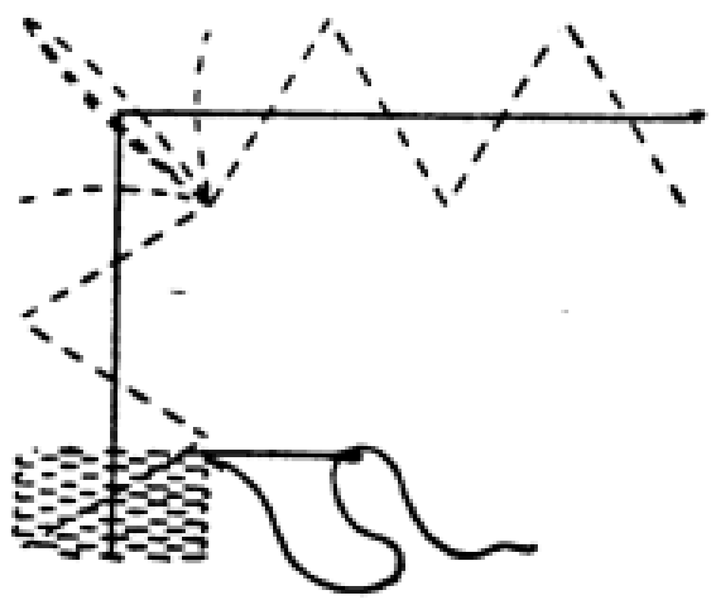
DARNING.



In darning a three cornered tear, first draw the corner together, (as illustrated.) If the rent is in silk or woolen fabrics, use the warp of the same material for darning it. The warp is stronger than the woof, and, when used for mending, does not show as plainly as silk thread.

Ravelings over fifteeen inches long are liable to become rough and break, if used for darning.

If the tear is very large or irregular, baste a piece of paste-board under the rent, then draw the corners in place. The ragged edges should not be trimmed, but weave the stitches over and under, so as to fold down each torn thread. Always darn with the right side toward you. When finished, press the darn on the wrong side, and, if it is well done, it can scarcely be seen. To be an expert in the art of darning, is an accomplishment of which one may be proud.

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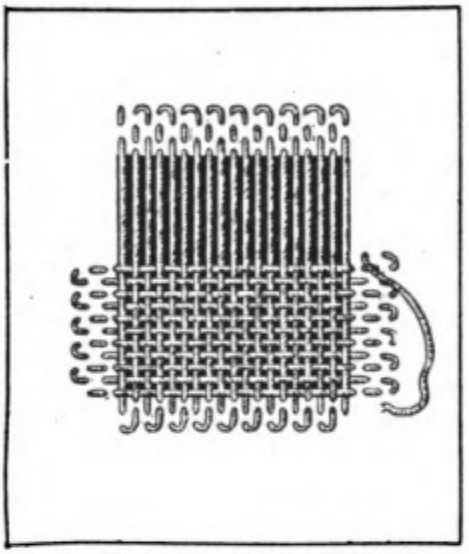
STOCKINET DARNING.



For stockinet, linen and stockinet web darning, warp and woof threads have to be formed.

In stockinet darning, cut a hole on a line with the stitches, remove the cut loops from the edges, run a thread around the hole, about one-fourth of an inch from the edge.

The warp threads, which should be very close together, are formed by bringing the thread up through the stitch at one edge, and down through the stitch on the opposite edge so that no roughness may show on the right side. Leave a small loop at each end to allow for shrinkage in washing.

When the warp threads are all in, fill in the woof by taking up the alternate threads of the warp, using the needle to lay the woof threads very close together.

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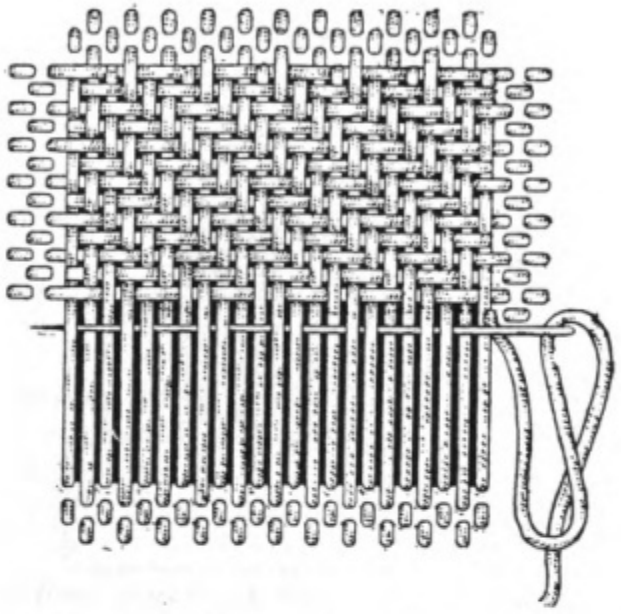
LINEN DARNING.



Before darning linen, the edges of the worn or torn parts should be made even. It is often better to cut the worn part in a square, then the warp threads can be more easily arranged to correspond to the warp of the material. When these threads are all in, weave in the woof threads, using the warp of the linen.

In the first row take up two threads, then over two, continuing until the row is completed. In the next row there are two threads the same length, one, a little longer and one still longer. In weaving in the second woof thread, take up one of the shortest threads and the one next to the longest; then over the longest and one of the shortest continuing in this way until the darning is finished.

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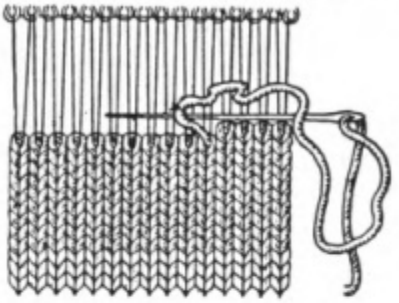
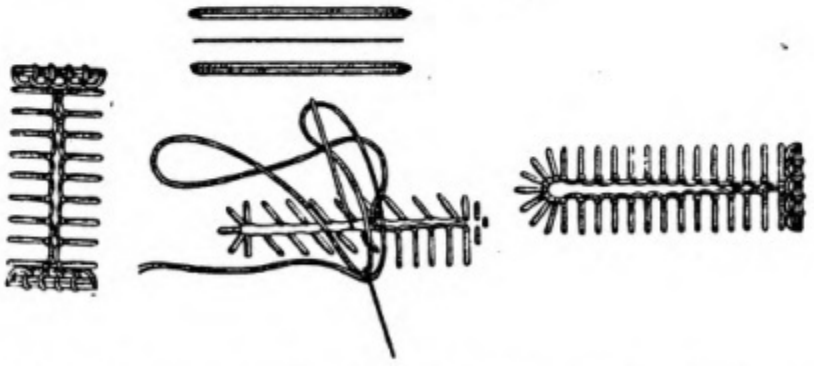
STOCKINET WEB STITCH.



Baste the stockinet on a card board and cut the hole in a line with the stitches. Remove the cut loops, and weave in the warp, by catching into the loop at one end, then through the opposite loop. Use a dull pointed darning (or worsted) needle, and weave in the woof by putting the needle around two of the warp threads, down through the loop, up through the next one, and so on, until across the darning. In turning bring the needle up through the first loop, then around the first two warp threads, down through the loop, up through the next loop and around the two warp threads. Continue in this manner until the darning is finished. This method of darning is used in mending the knees of children's stockings and silk underwear.

BUTTON HOLES.



In making a button hole, always use buttonhole scissors to cut them.

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Overhand the edges closely, not taking in any deeper than necessary to hold the threads.

In working a buttonhole, always begin at the end farthest from the edge of the material, working from the right toward the left.

Insert the needle with the point towards you, drawing it but half way through. Take the twd threads at the eye of the needle and bring them around from right to left, passing under the point of the needle. Draw the needle out so that the thread will be at right angles from the buttonhole, forming a knot or purl on the edge.

In the first position the needle points towards the worker; in the second, it points in the opposite direction.

When the buttonhole has been worked across one side, work several stitches close together, so that the buttonhole will be rounding at the end. Work across the other side and finish with a bar, which is made by drawing the needle down through the first buttonhole stitch taken, bringing it up on the opposite side, through the last buttonhole stitch. Draw this stitch tightly, so as to bring the sides close together. Make four of these stitches, then, bringing the needle under them, work four buttonhole stitches on them. Draw the needle down through the cloth close to the purl of the last stitch and fasten on the wrong side.

In working a buttonhole, if the thread should be too short, pull the needle through the hole and fasten the thread tightly on the wrong side, close beside the last stitch. Fasten the new thread on the wrong side, bringing the needle up through the last purl. Proceed with the buttonhole stitch, as if a new thread had not been necessary.

Buttonholes for shirts and shirt waists, and garments where the buttonhole is made lengthwise, should be worked with a bar at each end, to make it stronger. In addition to overhanding their buttonholes, very careful workers sometimes strand

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them—i. e., carry a thread of silk across each edge, over which the stitch is to be worked. This is done by bringing the needle up through the cloth close to one end of the hole; down through the material at the opposite end, coming up on the other side; repeating these stitches so that there will be two strands on each side. The buttonhole is then worked as has been explained.

BUTTONS.

A button is a knob or ball, fastened to a garment in such a way that it will go through a buttonhole or loop, and hold different parts of a garment together.

They are made of horn, wood, mother of pearl, etc.

In sewing on buttons, draw the needle through the material from the upper side, to conceal the knot under the button.

A large button should be sewed on a cloak, with a smaller one under it and on the wrong side of the garment, which will prevent the cloth from tearing. Each button should have the same number of holes. The stitches should never be crossed

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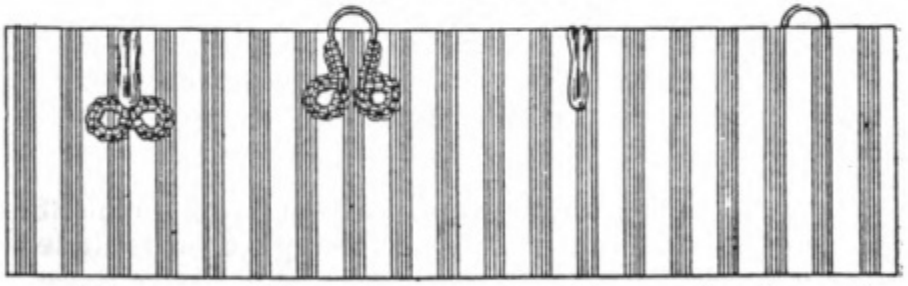
but sewed lengthwise (as illustrated). Place a pin across the top of the button, then, after sewing it on securely, remove the pin, which will loosen the stitches. Then bring the needle out between the top button and the cloth, and wind the thread tightly around the stitches four times. This will allow room for the buttonhole. Fasten the thread by bringing the needle through to the wrong side, and taking several stitches under the small button.

In sewing on buttons for other garments, place a pin across the top, and, after removing it, bring the needle out between the button and the material, wind the thread tightly around the stitches, as in sewing on the cloak button. Bring the needle through to the wrong side, and fasten by taking several stitches over each other.

A boot button or one with a shank, should be sewed on over and over, the stitches being lengthwise.

HOOKS AND EYES.



There are different ways of putting on hooks and eyes.

For the outside of a garment they are buttonholed (as illustrated). When they are to be covered, they are sewed on over and over. Always sew on the hooks firmly through the rings and across the shank, close to the turn. Sew on the eyes through the rings and across each side of the eye itself. Under the name of crochet and loop, this form of fastening was in use as early as the 14th century.

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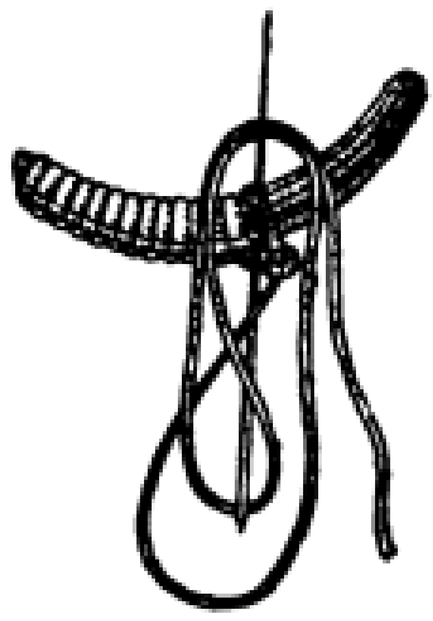
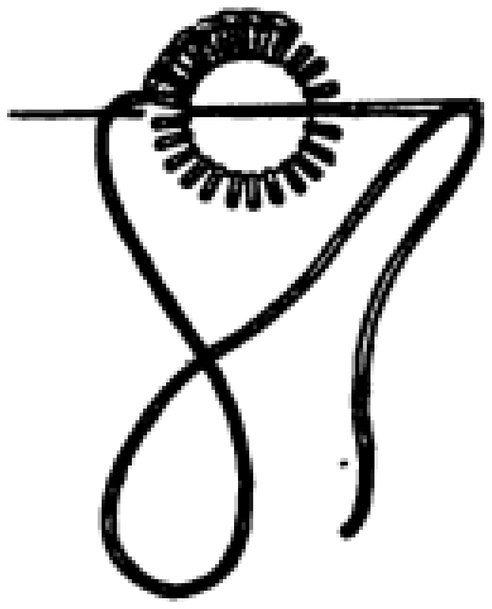
LOOPS.



A Loop is a catch used on a garment to take the place of an eye. In making a loop, make six stitches, one-fourth of an inch in length, for a foundation, on which the 'loop" stitch should be closely worked, the twist or purl being drawn to the outside edge of the loop. To fasten the thread, bring the needle down through the material, close beside the last stitch and fasten on the wrong side, with several stitches over each other.

Loops are also often made with the button-hole stitch.

EYELETS.



An eyelet is a round hole made in the material with a stiletto.

Overhand the hole closely with twist; the stitch being firmly drawn up to strengthen the edge of the hole and keep it well open and in shape.

Work the eyelet with the "loop" stitch, from left to right.

The thread is fastened on the under side the same as buttonholes.

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PART II

GARMENT DRAFTING

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INTRODUCTION.

In submitting to the public the result of years of labor and experience, I feel that I am responding to a genuine need and filling a place that has long been vacant or at best but inadequately filled by the use of patterns. My system is primarily for use in drafting underclothing, aprons and children's dresses, but it can also be used with the best of results in dressmaking. This system is so simple that it can be taught to children, and therefore might, without difficulty, be used in the public schools.

Beauty in personal appearance is often almost destroyed by the lack of knowledge how not to spoil the beautiful gift of nature. This knowledge can be best inculcated in the children, and a wonderful change would soon be noticed in the appearance of young women, if in the public schools the little girls were taught what is proper to wear and how to make their clothing. The art of sewing really antedates history, for the first clothing of man, the skins of animals, were roughly sewn together, yet it has never, until recently, been developed scientifically along utilitarian lines.

As an art, sewing has long been popular and the knowledge of making tapestries, embroideries and other beautiful needlework has, for centuries,

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been thought much of, but the more useful art of making garments and making them beautifully has been allowed to lie unused. The problem of putting this art on a scientific basis and making of it a part of the education of women is now being solved.

A hundred years ago our great-great-grandmothers were employing nearly all of their time—not only in making garments to wear—but in spinning and weaving the cloth of which they were made, and in addition to this, all of the table linen, bed linen and towels must be manufactured by the maidens' own hands. No doubt this constant employment became at times irksome, but fingers were deft and the end toward which she was striving was most alluring, namely, a well-filled linen chest and a large stock of clothing, which we know the young matron of 1797 had in store.

And she was proudly conscious that everything was perfect of its kind, for every thread had been woven and every stitch taken by her own industrious fingers. Has there ever been a woman, I wonder, who has not felt the deepest pride in her own handiwork, if she is so fortunate as to know how to use her hands? These are her best servants, but, like all servants, they must be trained or they can not obey the dictates of her mind.

In order to reach the state of cultured womanhood toward which we all aspire we must study something besides literature and the arts—we must study civilized dressing. A bird sings its sweetest notes after its morning bath is taken and its feathers plumed; so will we all do better anything we undertake if we know how to dress well and suitably. We may think that the making of

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garments and keeping them in repair is a thing to which we do not wish to become a slave. Then let us master this art, and when we know how, it will all become so easy that it will not take up so much of the precious time which we long to devote to other things.

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SYSTEM OF GRADING.

The understanding of principles makes the work easy, hence the first thing in the course is the inculcating of those principles which are the foundation of needlework.

The first grade pupils are taught the different stitches used in sewing; basting, the different seams, hemming, patching, flannel stitches, buttonholing and darning.

For children we arrange the work somewhat differently, using an open canvas for the first sampler stitches which are sewn with bright colored thread on a gray or brown canvas. Hemming, patching, darning and button holing should be taught as second and third grade work in children's classes, and for them the work should be kept simpler in all its grades than for older pupils.

The aim should be to see that each step in the work has been so thoroughly taken that the next step becomes easy. If properly taught and the child has taken up the primary work at the age of six, she should be able to make her own dresses by the time she is fourteen.

For older pupils the drafting and making of underwear should be taught in the second grade.

The third grade pupils may be taught the drafting and making of shirt waists and cotton dresses.

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The fourth grade work consists of the drafting and making of children's garments. After these steps have been taken, dressmaking may be taken up, and to become a finished dressmaker requires from one to two years of study.

IMPLEMENTS USED IN CUTTING AND MAKING GARMENTS.

In work of any kind success depends largely upon the tools used and this is especially true in garment making.

The first thing needful is a suitable pair of shears. Scissors and shears are made in various sizes and styles; strictly speaking, every pair over six inches in length should be called shears. Bent shears are best for cutting heavy material as they are so shaped as to raise the material as little as possible from the table. Avoid dropping your shears or scissors upon the floor as the concussion they thus sustain often loosens their adjustment and may cause uneven cutting.

The next implement with which the work basket should be supplied is the needle. Needles have been used by women of every country, in every age. The common sewing needle is made from steel wire and is manufactured almost exclusively in England. Three kinds of needles are in use for ordinary sewing; they are Sharps, Grounddowns and Betweens. Of these Sharps are the longest and Betweens are the shortest.

Grounddowns are best for school work and for all beginners. All needles are numbered from 1 to 12; number 1 being the coarsest and number 12 the finest.

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Always use thread the size of the warp of the material upon which you are working. Do not use too long a thread and always cut your thread, never bite or break it. Use a number 8 needle with number 50 to 70 thread and a number 10 needle with number 80 to 100 thread.

A small pin cushion well supplied with the best pins is a necessary adjunct to the work basket. Those made of aluminum are excellent and do not rust. Thimbles made of aluminum are also very good and do not soil or irritate the finger.

The other articles belonging to the work box are a 60 inch tape line, an emery bag and a piece of wax.

In all the illustrations in this volume each square, the sides of which measure three-sixteenths of an inch, represents a full inch.

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INSTRUCTIONS FOR TAKING MEASURES.

First tie a cord tightly around the waist so as to find correct waist line.

The first measure taken is the neck measure and is taken around the fullest part of the neck.

In taking the bust measure stand behind the person and measure over the fullest part of the bust.

The waist measure should be taken tightly around the foot of the waist.

The front measurement is taken from the center of back of neck to waist line in front.

The length of back is taken from back of neck straight down to waist line, another back measurement is taken from the shoulder to waist line, this is sometimes called the back balance.

The under arm measure is taken from well up under the arm straight down to the waist line.

The chest measure is taken straight across the chest. Width of back is taken straight across the widest part of back.

The shoulder measure is taken from neck to shoulder point.

Dart No. 1 is measured from waist line to fullest part of bust.

Dart No. 2 is measured one-half inch higher than dart No. 1.

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SLEEVE MEASUREMENTS.

The arm's eye measurement is taken around the arm just below the shoulder bone.

The next measure is from shoulder to elbow, the next from elbow to wrist. The elbow measure is taken around elbow with elbow half bent.

The inside measure is taken from the hollow of elbow to arm's eye.

The hand measure is taken around the fullest part of the hand.

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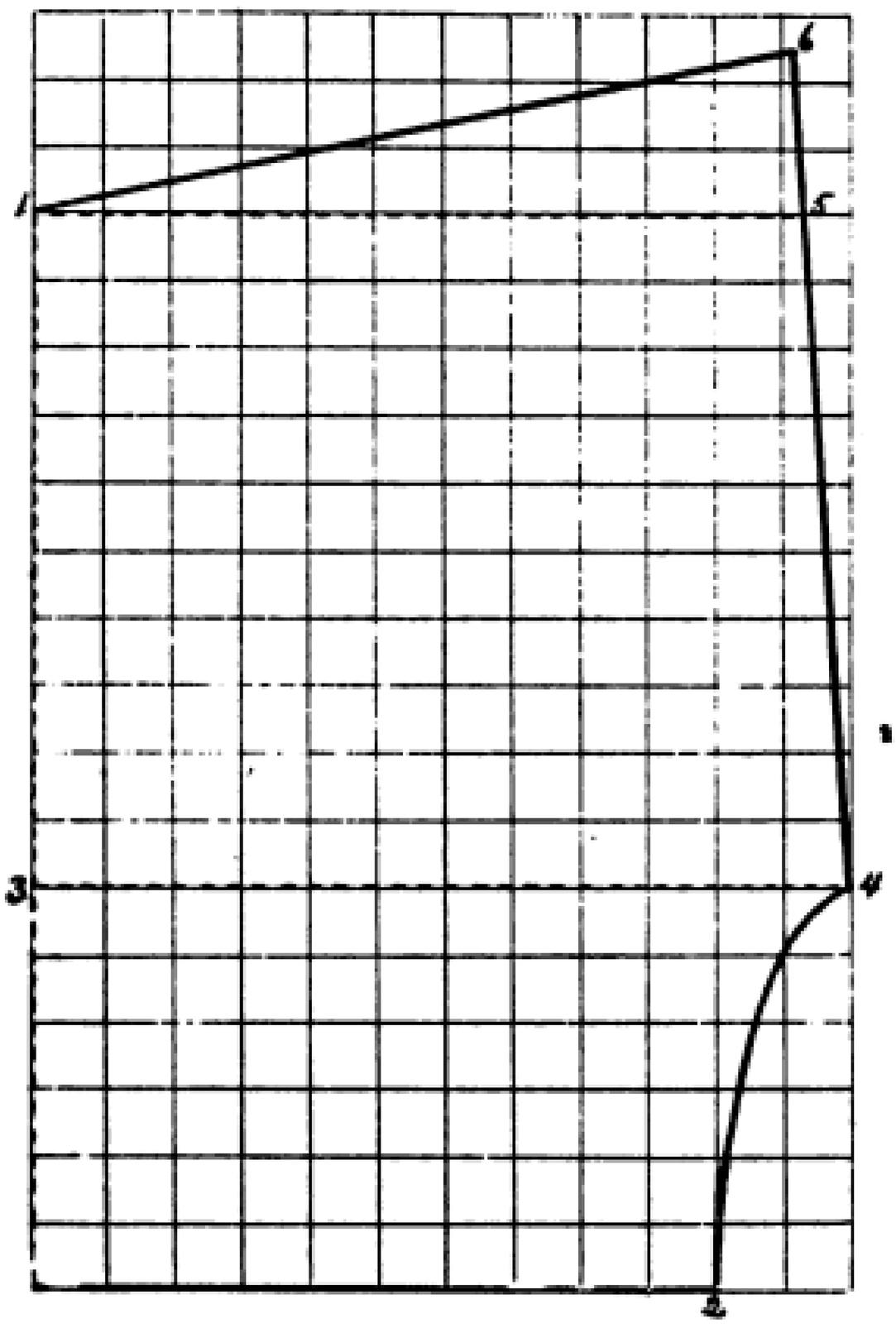

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CHILD'S DRAWERS.

To make a pair of child's drawers requires from one to one and one-half yards of material. Two measurements are taken, the first, around the smallest part of the waist; the second, from the waist line over the hip to the knee.

First measure on fold of paper the required length from bottom up, then mark for the width of bottom one-half of band measure.

To find seat line, measure downward from 1 five-eights of the length to 3; from this point measure out three-fourths of the length, then connect this point with 2 by an inward curve.

To find width of top, measure out from 1 four-sevenths of band and mark, from this point measure up two and one-half inches to 6, connect 6 with 4 at seat line by a straight line and connect 1 and 6 by a straight line.

Place the pattern on the folded material having the bottom on a woof thread, pin and cut according to the pattern. Make an opening on each side and finish with a gusset.

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CHILD'S NIGHT GOWN.

The measurements taken for the child's night gown illustrated on the opposite page and described below were as follows:

Neck, 11 inches.
Bust, 25 inches.
Waist, 23 inches.
Back, 11¾ inches.
Back balance, 10¼ inches.
Under arm, 6 inches.
Shoulder, 4 inches.
Chest, 10 inches.
Width of back, 9½ inches.

First draw a horizontal line one inch from the edge of paper and six inches long.

1 is one-quarter inch from top, 2 is three inches from 1 and 3 is the length of yoke. Measure one and one quarter inches from 1 to 4. From 2 measure out seven inches to get the correct slant for the shoulder. Measure up one inch from 3 and out one-half of the width of the back to 6. 7 is the length of the shoulder which is obtained by connecting 4 and 5 by a slanting line then measuring on this line from 4 the length of the shoulder. Connect 7 and 6 by slightly inward curve which is 8, and connect 3 and 6 by an outward curve.

For the front of the yoke draw a horizontal line

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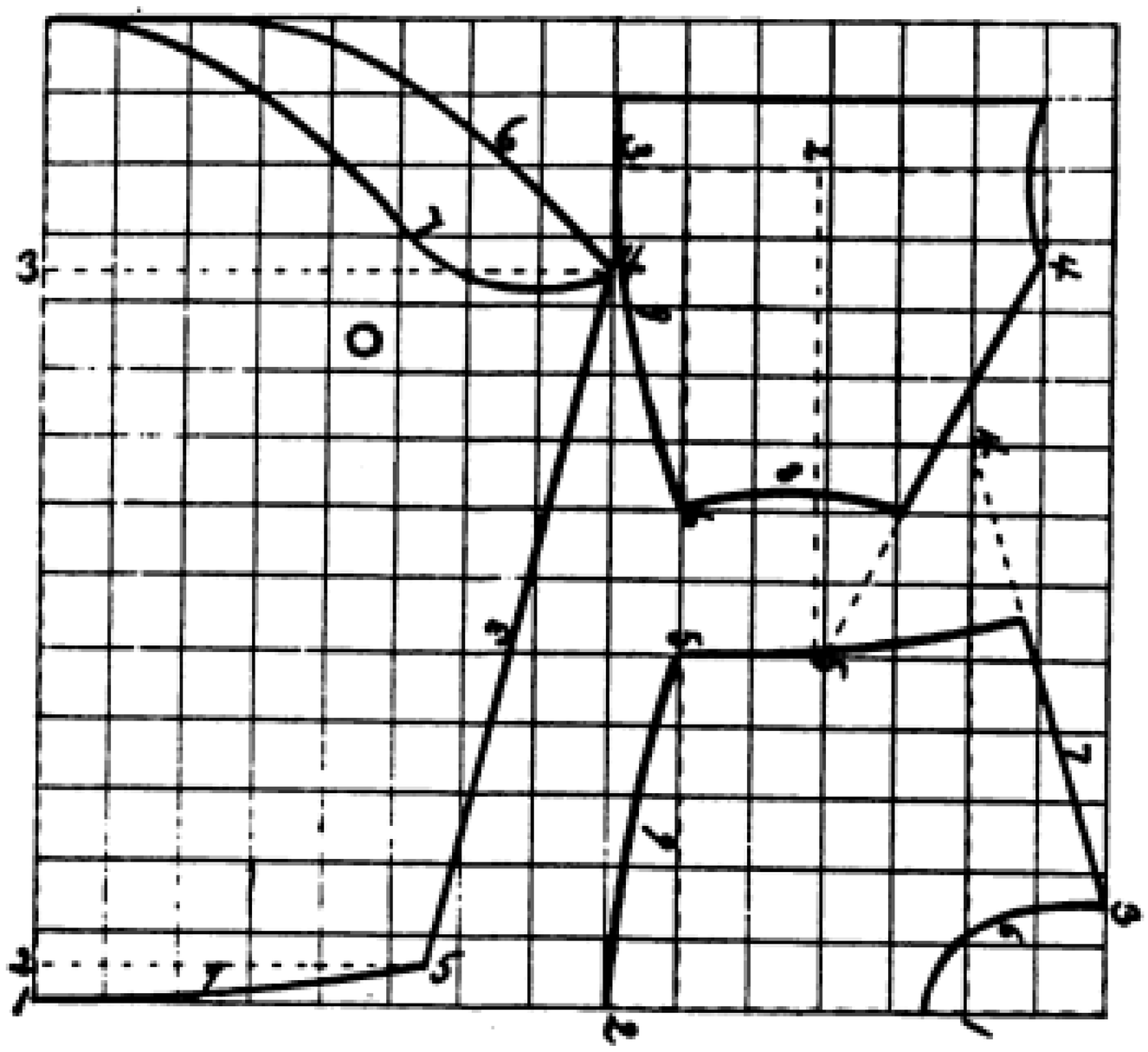

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seven inches long and measure down two inches to 1, from this point measure five inches to 2 then from top of line out one and one-half inches to 3. From 1 measure out eight inches to 4. Measure one inch above 2 out one-half of the chest measure, this line will be 5. Draw the neck curve 6, then the length of the shoulder measuring from 3 and connect the shoulder with 5 by an inward curve, then connect 5 with 2 by an outward curve which will be 9.

For the sleeve measure on fold of paper the length of inside measure, always adding three and one-half inches for the curve at the top. Measure up from 1 one-half inch to 2, then up the length of the inside to 3, then out the width desired and mark 4. Slope two and one-half inches in at the wrist or more if desired. Draw a curved line 6, beginning four inches in from the top of fold to 4; from 4 draw a curved line 7 to the edge of fold. Connect 4 and 5 with the line 8 and 1 and 5 with the line 9.

Another very good pattern for a child's night gown is cut exactly like the child's apron on page 21 with the exception of the neck which is cut like the child's Waist, on page 25.

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CHILD'S APRON.

For the back draw a horizontal line the length of the paper. From 1 to 2 measure three and one-fourth inches; from 1 to 3 the length of back; from 3 to 4 the under arm measure; from 3 to 5 the length from waist to bottom of skirt; 6 is one and one half inches from dotted line; 7 is always seven inches from dotted line and marks the shoulder slant. 8 is the width of back adding on one and one-quarter inches to bring the seam under the arm. 9 is the width on waist line slanting out one inch. 10 is the back balance. 11 is the shoulder, 12 marks the arm's eye curve, 13 the neck curve, 14 is the slanting line below waist line and 15 is a slightly curved line at the bottom.

For the front draw a horizontal line the length of your paper. 1 is two inches from top of line; from 1 to 2 is five inches for a child, from 2 to 3 is the length of the under arm measure; from 3 to 4 is the length below the waist line; 5 is two inches out from top of line; from 1 to 6 is always eight inches; from 2 to 7 is the bust line which is obtained by subtracting the width of back from the bust measurement, and making the back one and one-quarter inches wider. This must be taken off on the front. 8 is the slant on the waist line; 9 is the

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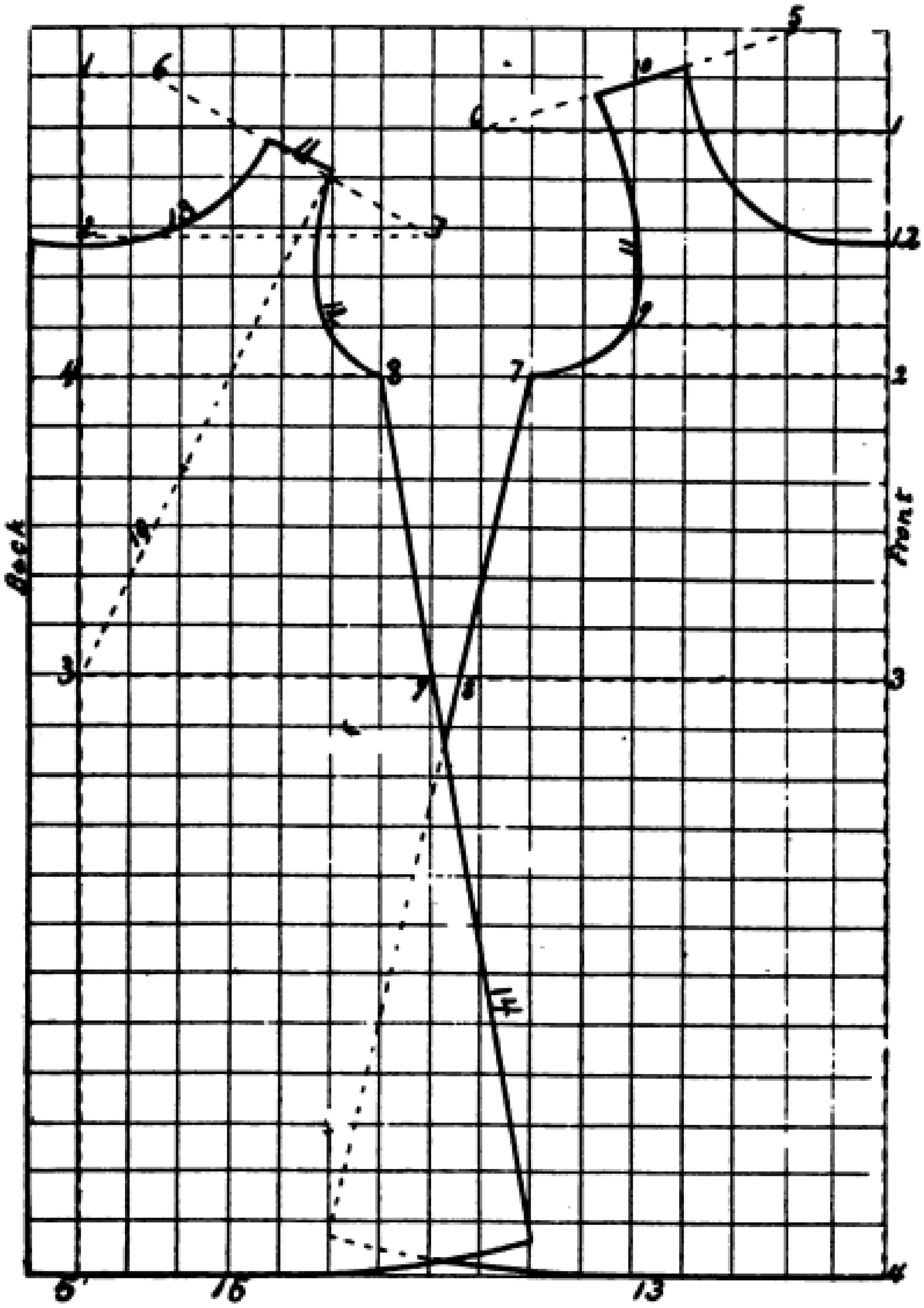

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chest measure and is taken one inch above the bust line.

Measure off four inches on shoulder slant from 5 and mark off two inches, this line is 10. 11 is the arm's eye curve from shoulder to bust line and touching the chest line; 12 is the neck curve from shoulder to two and one-quarter inches below 1. 13 is the curve at bottom.

Fullness at the neck may be allowed if desired.

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CHILD'S WAIST AND SLEEVE.

The measurements taken for the waist illustrated here were as given below, and the waist was made to fit a child 7 years old.

Neck, 11 inches.
Bust, 25 inches.
Waist, 23 inches.
Front, 14 inches.
Back, 11¾ inches.
Back bal., 10¼ inches.
Under arm, 6 inches.
Shoulder, 4 inches.
Chest, 10 inches.
Width back 9½ inches.

For the back draw a horizontal line one inch from the edge of paper. From top of line mark down one-quarter inch to 1, from 1 to 2 measure three inches, from 1 to 3 the length of back, and from 3 to 4 the under arm measurement.

From 1 draw out one and one-fourth inches to 5; from 2 measure out six inches to 6 for slant of shoulder; from 4 mark out on dotted line the width of back to 7; from 3 to 8 the width of back on waist line; for each additional inch of waist measure add on one-eighth inch. 9 is the length of shoulder measured out on shoulder slant from 5. 10 is the back balance taken from center of

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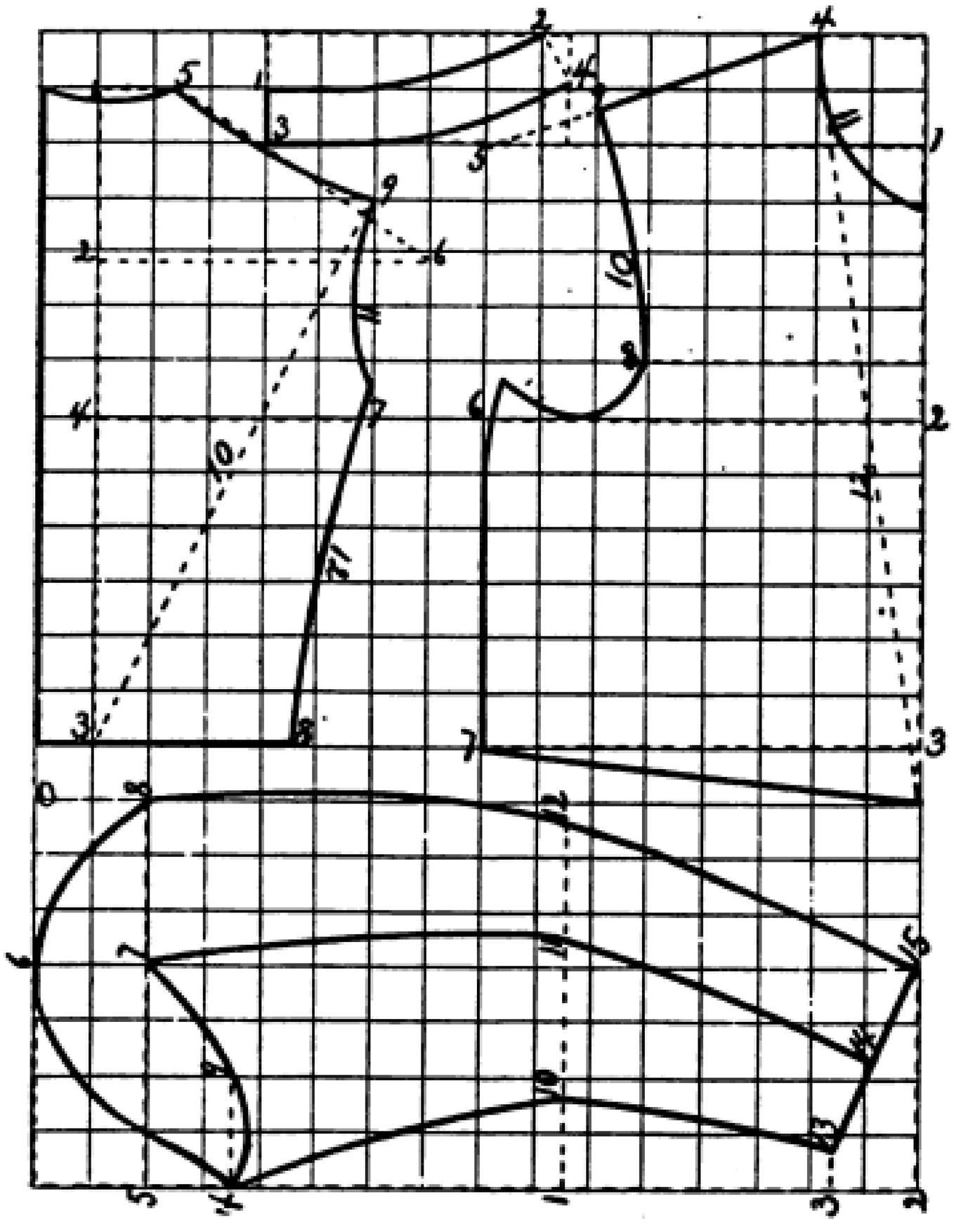

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back on waist line to shoulder point and determines where the shoulder seam should be; 11 is the arm's eye curve.

For the front, draw a horizontal line the length of paper. From top of paper mark down two inches to 1. From 1 to 2 is always five inches, and from 2 to 3 is the underarm measure. Now, from top of line mark out two inches to 4, from 1 to 5 mark out eight inches to get shoulder slant. From 2 to 6 is the bust measure after taking off the width of back.

3 to 7 is the width of waist line of front; to find how wide to make the front measure the back on waist line and subtract from the waist measure, then mark the remainder out on temporary waist line from 7 to 3.

8 is the chest measure taken one inch above bust line; 9 is the length of shoulder from 4 out on shoulder slant; 10 is the arm's eye curve from shoulder to bust line touching chest line; 11 is the neck curve from 4 to one and one-quarter inch below 1; 12 is the measurement used to get correct waist line and is taken from center of neck to waist line in front.

The measurements taken for the child's sleeve were as below and the sleeve was made for a child of seven.

From shoulder to elbow, 9½ inches.
From elbow to wrist, 6½ inches.
Inside from arm's eye to elbow, 6 inches.
Elbow, 8 inches.
Hand, 6½ inches.

First measure down from top of paper the length from shoulder to elbow to dotted line 1. From 1 to 2 the length from elbow to wrist; from

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2 to 3 always mark off one and one-half inches for slant at wrist.

From 1 to 4 mark the inside measure from elbow to arm's eye; from 4 to 5 always mark one and one-half inches for the curve of under sleeve. From top of line mark in four inches to 6; from 5 measure out one-half of arm's eye less one and one-half inches to 7. 5 to 8 is one and one-half inches more than one-half of arm's eye measure. From 4 mark off one-half of the distance from 5 to 7, this gives the line 4 to 9. From 1 always mark in one and one-half inches for curve; from 10 mark off one-half less one inch of elbow measure to 11. From 10 to 12 is one inch more than one-half of elbow measure. Measure from 3 to 13 one-half inch and mark from 13 to 14 one-half of hand measure less one inch. From 13 to 15 one inch more than half of hand measure. Connect 13 and 15 with straight line; 4 to 13 an inward curve; from 7 to 14 an outward curve; from 8 to 15 an outward curve; 4 to top of line with an outward curve; 6 to 8 is an outward curve and 4 to 7 an inward curve.

For the collar mark down one inch to 1 and out from top of line one-half of neck measure, then mark in one-half inch to 2. From 1 mark down one inch to 3. At the end of top line mark down one inch, connect 1 and 2 with an inward curve which is the top of the collar. Connect 2 and 4 with a straight line which is the center of front, and connect 3 and 4 with an outward curve. This curve is joined to the neck of the dress.

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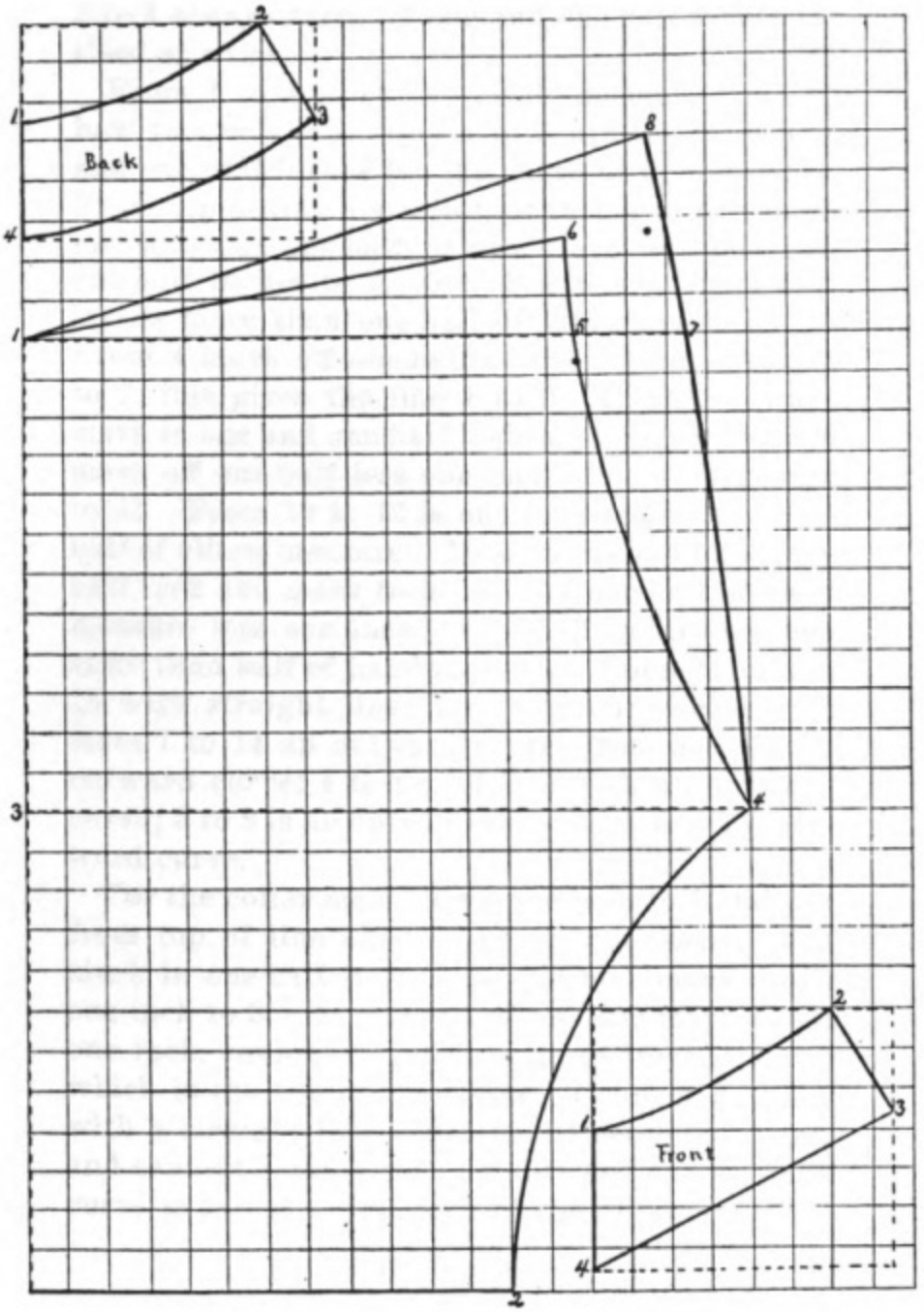

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DRAWERS.

For a pair of drawers two to two and one-half yards of material, thirty-six inches wide is required. If lace is used for trimming, one and one-half the width of the bottom is required, but if embroidery is used, but one and one-third the width will be needed.

Two measurements are required for drafting drawers. The first is the band measurement and is taken around the waist, the second is the length and is measured from the waist over the hip to the knee.

On fold of paper measure from bottom up the required length and mark at 1. At bottom from fold of paper measure out one-half of band measure which is the width of bottom of drawers and mark 2. For the seat line, measure down from 1 one-half of the length to 3; from this point measure out three-quarters of the length for width of seat, then connect 4 and 2 by an inward curve.

For width of top of front, measure from 1 four-sevenths of the band measure to 5, from this point measure up two and one-half inches and mark 6, connect 6 with 4 by a slightly inward curve and connect 6 and 1 by a straight line.

For back of drawers measure out from 5 three inches and mark 7, then measure from 6 up two

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and one-half inches and out two inches to 8, connect this point with 4 by an outward curve and connect 4 and 1 by a straight line.

Cut the pattern by the outside pencil mark, then unfold the paper and cut the front by the pencil mark. Cut the band lengthwise of the material, make it three inches wide and the length of the waist measure, allowing one inch for lapping at each opening.

To draft the yoke, first find the size of the square by dividing the waist measure by four, always adding one and one-half inches for the slant on the hip.

If the band measure is twenty-four inches as in our illustration, draft the square seven and one-half inches. In front measure down three inches to 1. For very slight figures it is only necessary to measure down two and one-half inches from the front and two inches from the back. Measure out on square six inches to 2, then down from the corner two and one-half inches to 3. Measure down from 1 three and one-half inches to 4, connect 1 and 2 by an inward curve, connect 2 and 3 by a straight line, 3 and 4 by a straight line and 1 and 4 by a straight line which will be the middle of the front.

For the back draft a square the same size as for the front and measure down two and one-half inches to 1, out at top of square six inches to 2 and down from the corner two and one-half inches to 3, measure down from 1 three inches. Connect 1 and 2 by an inward curve, 2 and 3 by a straight line and 3 and 4 by an outward curve.

Fold the material lengthwise, the width of the

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pattern from one of the edges and pin together, place the pattern even with the raw edge of the cloth and pin firmly, cut both thicknesses by the back and trace the front; remove the pattern and cut the upper fold of cloth by the tracing; cut the other leg by placing the one already cut on the cloth with the right sides together and the bottom on a woof thread of the material. Make with felled seams and finish with gussets.

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UNDER SKIRT.

To make a skirt about three and one-half yards around bottom requires four and one-half yards of material thirty-six inches wide, and more if ruffles are desired. Two measurements are required for drafting a skirt.

The hip measure is taken six inches below the waist line from the center of front to center of back. Length is taken in front from waist line to bottom of skirt allowing two inches for hem.

On fold of paper measure down six inches to 1, then measure the required length and mark 2, measure out from 1 on hip line to 3 seven inches or whatever the hip measure may be, follow the corresponding figures in table given. Get width of bottom by following the table, then measure the same length on gored side and mark 5; at the top measure in one-half inch for curve and extend the curve down three inches, cut pattern by pencil mark; for most figures it is necessary to curve the front slightly at top, about one-half inch down in centre of front.

For side gore measure down on edge of paper six inches to 1, then mark off the length from the top of paper to 2. Measure out on hip line nine and one-half inches, measure out from 2 the width of bottom to 4; measure the length on gored edge and mark 5, at top measure in one-half inch for curve, to 6, and on straight edge measure in one-half inch to 7.

For the back, measure off two straight lengths or more if one wishes to have the skirt wider.

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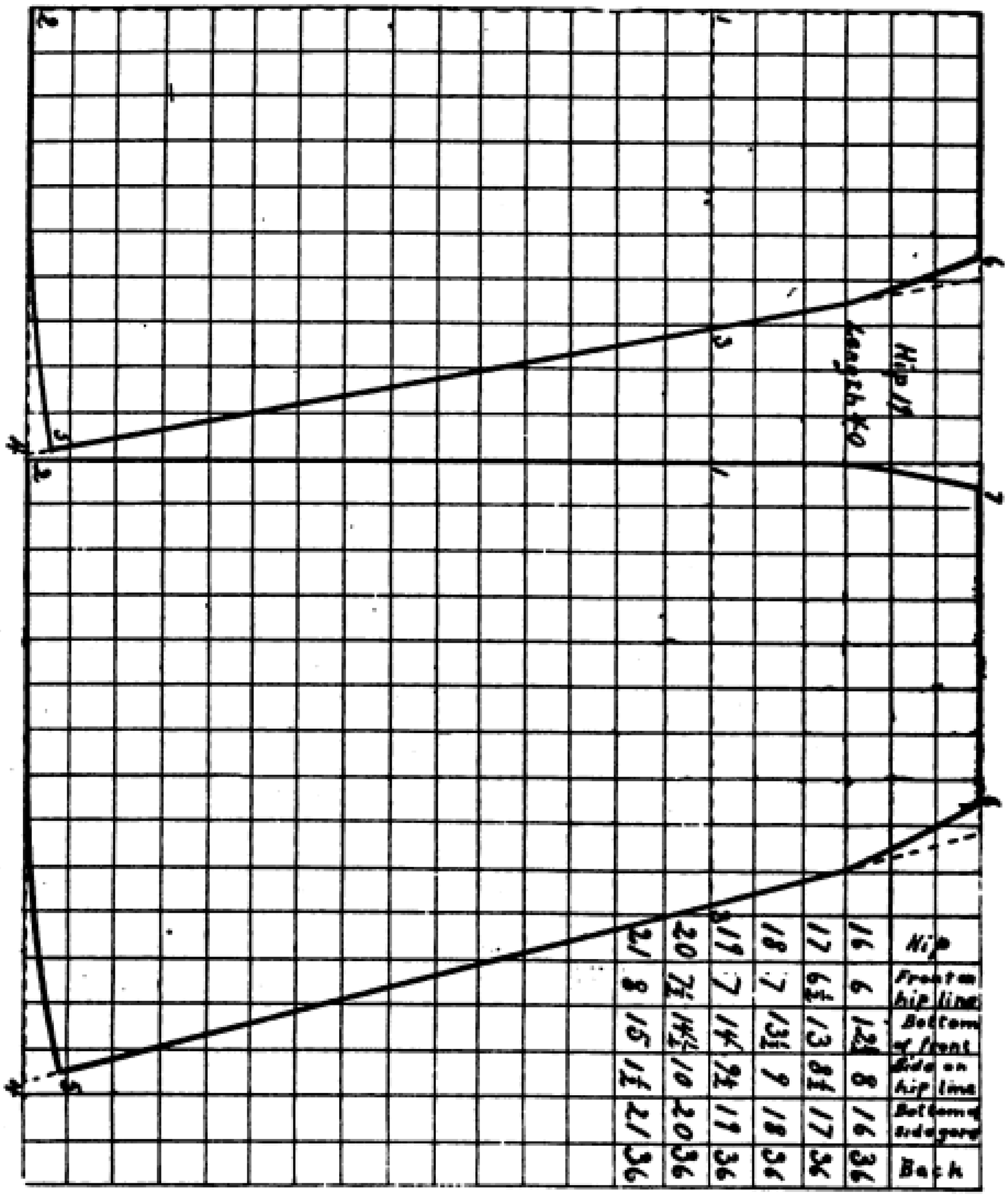

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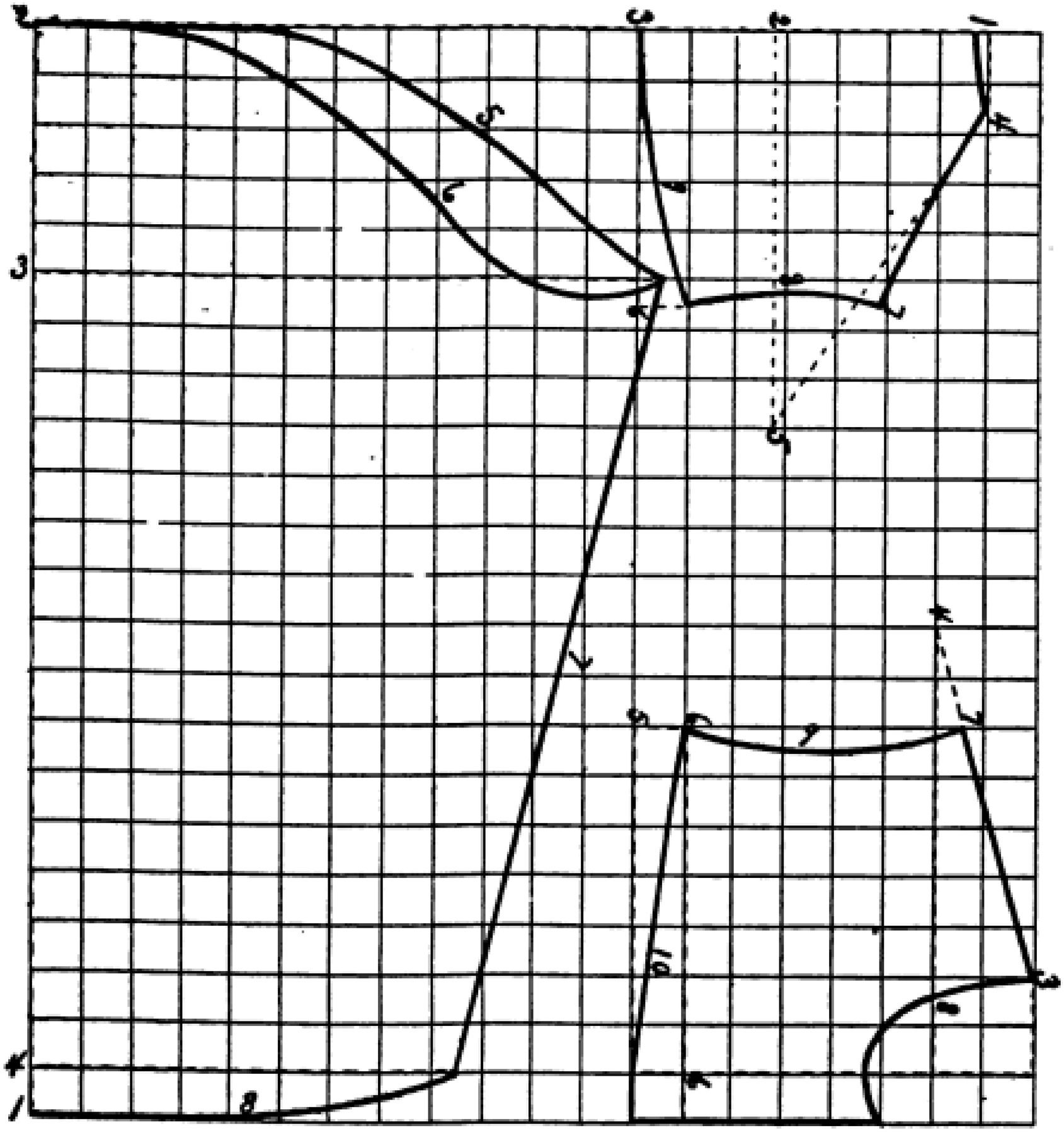

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NIGHT GOWN.

The night gown, chemise and shirt waist illustrated in this volume were all cut from the following measurements:

Neck 12.
Bust 34.
Waist 24.
Front 19½.
Back 16.
Back balance 14½.
Under Arm 8¾.
Chest 13.
Width back 11½.
Shoulder 5½.

Back:

Draw a horizontal line seven inches long one inch from the edge of the paper. Always mark down one-fourth of an inch for the curve at the neck to 1, then from 1 measure down four inches to 2 and the bottom of the yoke is 3. Measure out from the top one and one-half inches to 4, then from 2 measure out eight inches to 5. Measure out from 3 one-half of the width of the back to 6 and up from 6 one inch. Measure on shoulder slant the length of the shoulder from 4 and come up one-half an inch and connect 7 and 4 with very slight inward curve. Connect 7 with the mark an

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inch above 6 with an inward curve, this line is 8. Then make the curve, 9 at the bottom of yoke.

For the front, commence two inches in from the edge of paper and draw a horizontal line eight inches long; first mark down two inches to 1, then measure down six inches from 1 to 2 or the length of the yoke. At top of line measure out two inches to 3; from 1 measure out nine inches to get the slant of the shoulder; at 2 measure out the width of chest and come up one inch at the arm to 6, then connect 3 and 4 and measure on this line beginning at 3, the length of the shoulder and mark 7; now draw the neck curve, making it one and one-fourth inches below 1.

For a twelve inch neck measure, make the back of the neck one and one-half inches and for the front come out two inches and down from 1, one and one-half inches; for every inch larger add one-eighth inch and for every inch smaller take off one-eighth.

Connect 6 and 7 by an inward curve and 6 and 2 by a slight outward curve.

The measurements taken for this night gown sleeve were: arm's eye 12, shoulder to wrist 22, inside arm's-eye to wrist 17, hand 8.

For the night gown sleeve take the inside measure of the arm and add to it five inches for the curve at the top. Measure the whole length on fold of paper.

From 1 mark up the length of inside measure to 3, then mark from 1 up one inch to 4. Measure out from 4 the desired width and mark, also measure out from 3 the width desired at top of sleeve and mark, from this point, draw the curve 5 to

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within four and one-half inches of 2. From the same point draw the curve 6 for the under part of the sleeve. Connect the top of sleeve with the wrist by a straight line 7 then finish with curved line 8 at bottom.

To make the night gown hang evenly, measure from bust line all around the correct length.

Overhand the gores and sew up in French seam.

Another excellent pattern for a night gown is cut exactly like the Shirt Waist on page 51 with the exception of the two lines 12 which should be changed from curved lines to slanting lines from the bust line to bottom of night gown.

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CHEMISE.

Back:—

Draw a horizontal line two inches in from the edge of paper, measure down one-fourth inch from top line to 1, from 1 to 2 is four inches, from 3 to 1 is the length of back to waist and from 3 to 4 is the under arm measure.

Now, begin at top and measure out one and one-half inches for neck to 5, (for a neck measure exceeding twelve inches see neck scale in night gown). From 2 to 6 always measure out eight inches to get the shoulder slant; from 4 to 7 is the width of back, adding one and three-fourth inches to bring the seam far enough under the arm as no under-arm piece is used in this garment. Connect 7 and 8 by an inward curve. 9 is the shoulder and is made two inches wide; 10 is the arm's eye curve; 11 is the neck curve from shoulder to three-fourths of an inch above 2. A square neck may be made by following the dotted lines. 12 is an inward curve to waist line. The dotted lines show the fullness allowed in the back, more may be allowed if desired.

Front:—

Draw a line three inches in from edge of paper; 1 is two inches from top, from 1 to 2 always meas-

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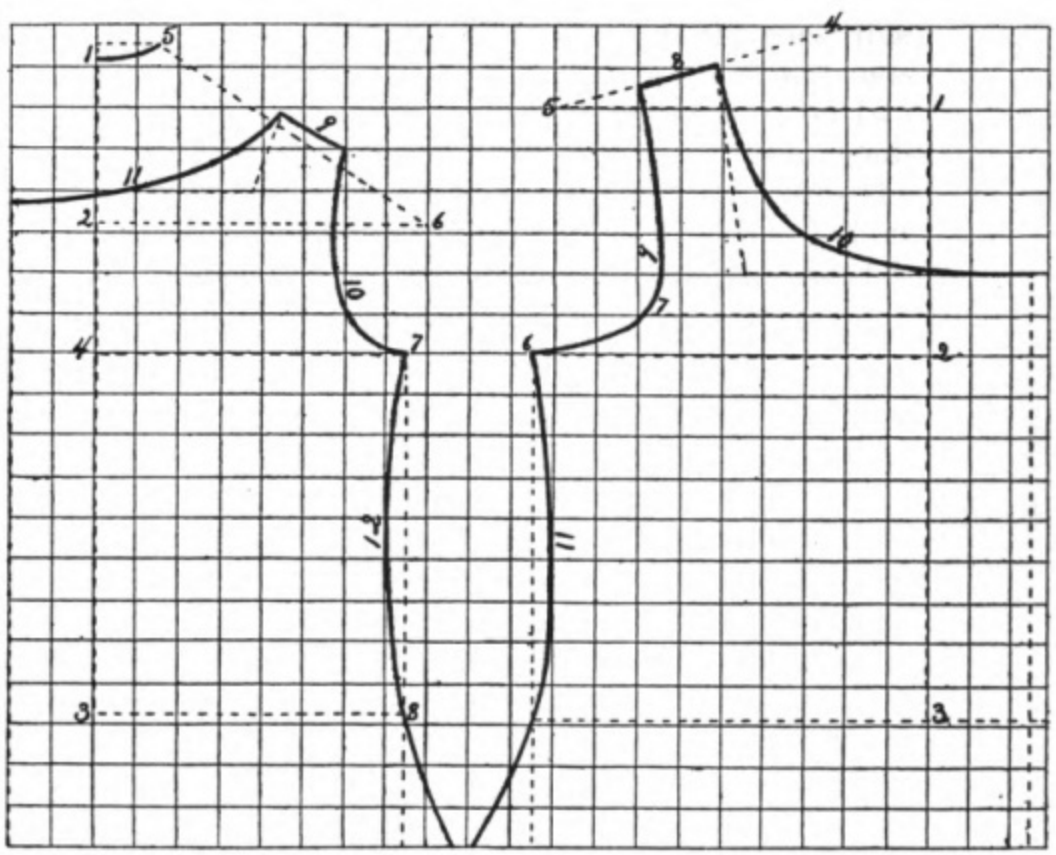

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ure six inches; 4 to 3 is the under arm measurement. For 4 measure out two inches from top of line (see neck scale in night gown). From 1 to 5 always measure nine inches for shoulder slant; 2 to 6 is the bust line which is obtained the same as in corset cover, but as we have made the back one and three-fourths inches wider this amount must be taken from the front. 7 is the chest line taken one inch above the bust line and out one-half of chest measurement. 8 is the shoulder two inches wide; 9 is the arm's eye curve from shoulder to bust line and touching chest line; 10 is the neck curve from shoulder to one inch above chest measure. The neck may be made square by following the dotted lines.

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CORSET COVER.

The following measurements were used for the corset cover illustrated and for all other tight fitting waists in this volume.

Neck, 12 inches.
Bust, 34 inches.
Waist, 24 inches.
Front, 19½ inches.
Length back, 16 inches.
Back bal., 14½ inches.
Under arm, 8¾ inches.
Chest, 13 inches.
Width back, 11½ inches.
Shoulder, 5½ inches.
Dart No. 1, 6 inches.
Dart No. 2, 6½ inches.

For the back of corset cover, first draw a horizontal line the length of your paper. From 1 measure down four and one-fourth inches to 2,then the length of the back from 1 to waist line 3. From 3 to 4 is the under arm measurement.

Begin at the top and mark out one and one-half inches to 5, (see neck scale in night gown). From 2 to 6 always mark out eight inches to get the shoulder slant; from 4 to 7 measure the width of back, then from 7 up one inch to get the curve for the arm's eye.

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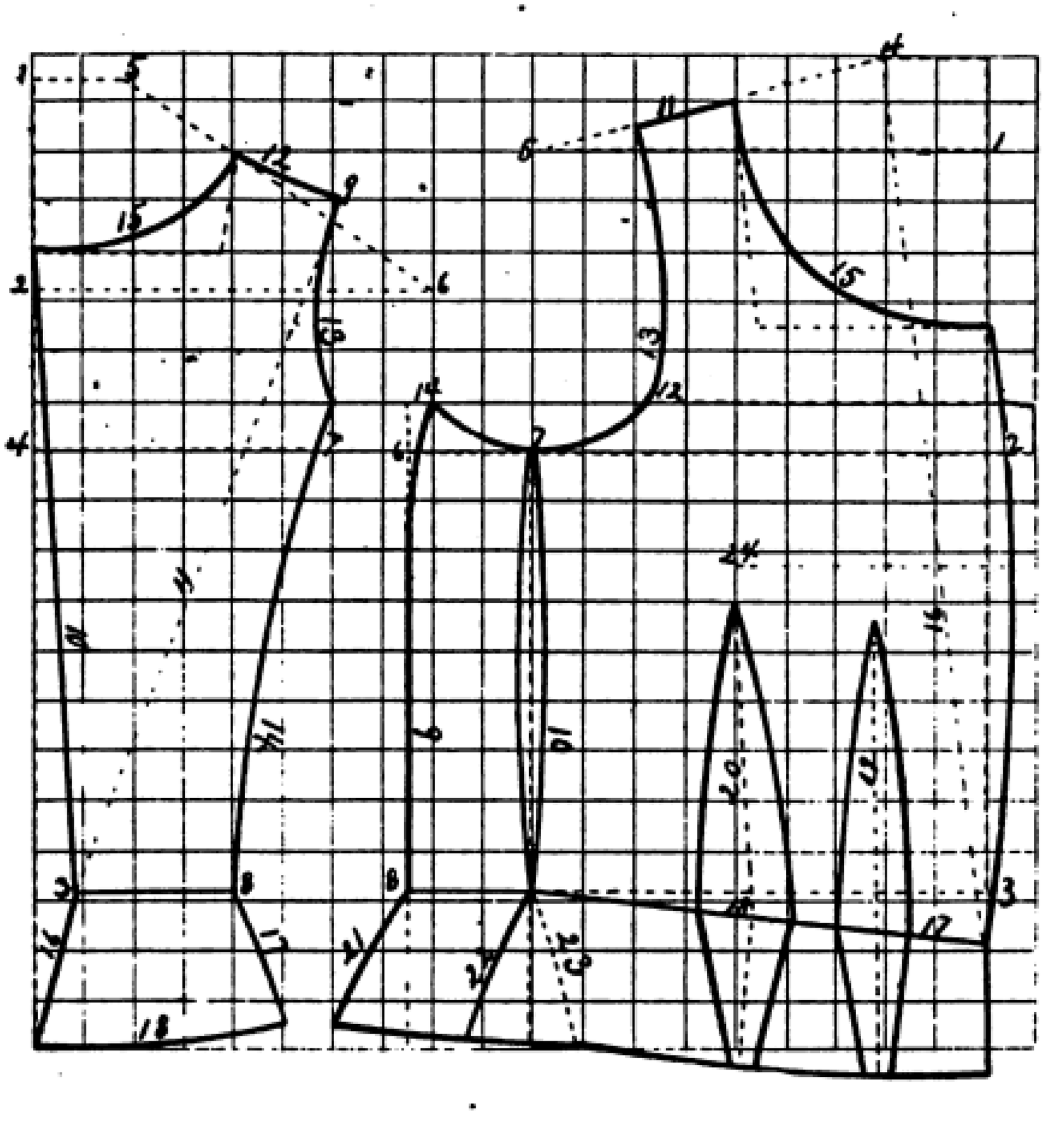

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3 to 8 is the width of waist line, for a twenty-four inch waist measure, make the back three and one-fourth inches for a corset cover.

Now mark off the length of shoulder to 9, then draw the slant in the back which is 10. 11 is the back balance and determines where the shoulder seam come. 12 is the shoulder made two inches wide; 13 is an inward curve at the arm's eye and 14 is the inward curve drawn from the inch mark above 7 to 8; 15 is an inward curve from the shoulder to three-fourths of an inch above 2. The neck may be cut square if desired by following the dotted lines. 16 is a straight line extending three inches below the waist line and out to the main line. 17 is an outward curve three inches down and slanting one inch; 18 is a slanting curve connecting 16 and 17.

To cut the front of corset-cover draw a horizontal line two inches from the edge of the paper. Measure down two inches from top to 1,from 1 to 2 is always six inches. From 2 to 3 is the length of the underarm measure. Measure two inches from top of line to 4 for twelve inch neck measure, (see neck scale in night gown).

Always measure nine inches from 1 to 5 for shoulder slant. 2 to 6 is the bust line; to get the length of this line we must subtract the width of back from the bust measurement. The width of our back is eleven and one-half inches, this subtracted from thirty-four , our bust measurement, would leave twenty-two and one-half inches, and since we are making but half the front we divide this by two which would give us eleven and one-fourth. From 6 mark in two and one-half inches

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to 7 for the under arm piece. From the waist line, 8, draw a straight line, 9, extending one inch above 6. 10 is the dotted line from 7 to waist line and on each side of this dotted line is a slightly curved line which outlines the forms.

11 is the length of shoulder and is marked out on shoulder slant, making the shoulder two inches wide. 12 is the chest measurement taken one inch above the bust line and out one-half of chest measure. 13 is the arm's eye curve from shoulder to bust line and touching chest line. 14 is the curve one-half inch in from top of line 9 to bust line. Now draw a curve from the one-half inch point, extending down two and one-half inches and connecting with the line 9. 15 is the neck curve from the shoulder to one and one-half inches above chest line. 16 is the front measurement; 17 is the first dart and is one and one half inches in from the front line. Always make the first dart smaller than the other. To find the quantity to put into the darts measure the back which in this figure is six and one-half inches, subtract this from the waist measure which is twenty-four, this leaves seventeen and one-half which, divided by two, makes one-half the pattern or eight and three-fourths inches; measure out on waist line eight and three-fourths inches and the quantity we have left on waist line is for the darts. The amount we have left for the darts in this figure is three and one-half inches, so mark off one and one-half inches for the first dart and two inches for the other, 18. Always leave a space of three-fourths of an inch between the darts. 19 is the straight dart; the dart lines are curved

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to the waist line and straight below, they are just half as large at the bottom as at the waist line. 20 is slightly slanted toward the back and is half an inch higher than the first dart. 21 is an outward curve, three inches down from waist line 8, and slanting one and one-half inches; 22 is an outward curve three inches down and slanting one and one-fourth inches; 23 is an outward curve slanting three-fourths of an inch.

Make the corset cover with felled seams.

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SHIRT WAIST.

For the back draw a horizontal line the length of your paper. Measure one-fourth of an inch down from dotted line to 1. Measure four inches from 1 to 2; from 1 to 3 is the length of back to waist line; from 4 to 3 is the under arm measurement.

Begin at top and measure out one and one-half inches to 5 (see neck scale in night gown). From 2 to 6 always measure out eight inches to get shoulder slant; 4 to 7 is the width of back, then we take one and three-fourths inches from the front and add it to the back so as to bring the seam under the arm. After adding one and three-fourths inches to this line we mark up one inch from 7 to get the curve for arm's eye, from 3 to 8 is the width of waist line.

Now mark length of shoulder on shoulder slant, 9 is back balance and determines where the shoulder seam comes. 10 marks the curve on shoulder. Now draw curve for the neck.

11 is the inward curve for the arm's eye, 12 is the slight inward curve extending to the waist line. 13 is an outward curve, 3 inches down and slanting one inch. The dotted line shows fullness allowed for back.

For the front of shirt waist draw a horizontal

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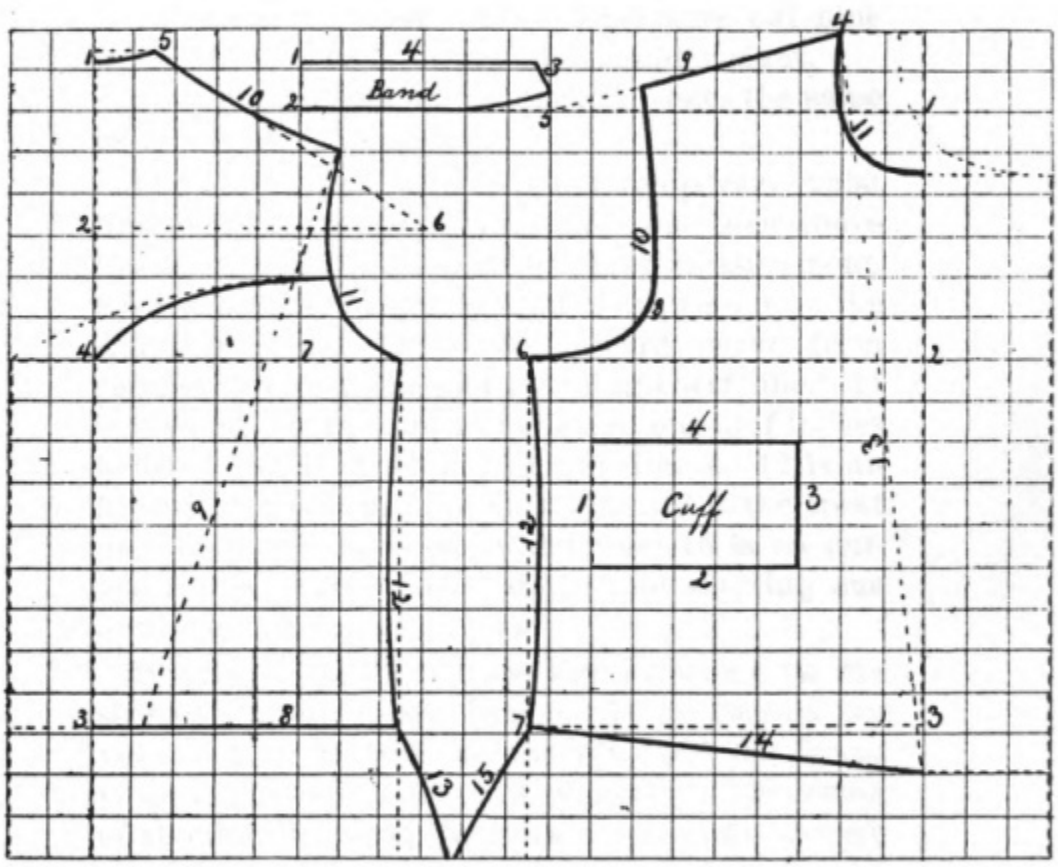

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line two inches from edge of paper. Measure down two inches from top to 1, from 1 to 2 always measure six inches.

From 2 to 3 is the under arm measure. From top of line measure out two inches to 4 (see neck scale in night dress). Always measure out nine inches from 1 to 5, to get the shoulder slant.

Get the bust line and under arm seam the same as in the chemise.

The dotted line, 3 to 7, is our temporary waist line, 8 is the chest measure taken one inch above bust line and out one-half of chest measurement. 9 is the length of shoulder and is drawn out on the shoulder slant. 10 is the inward curve from shoulder to bust line and touching chest line. 11 is the neck curve from 4 to one and one-half inches below 1 (see neck scale in night dress). 12 is an inward curve from 6 to waist line; 13 is the front measurement; 14 is our waist line; 15 is an outward curve three inches down and slanting one and one-half inches.

In making this waist use French seams for the sleeves and under arm seams. In putting on the yoke, cut the outside on the bias and the lining straight. Sew the front of shoulder to the lining of shoulder in back, then sew the outside of back shoulder over on the seam. In sewing in the sleeve the seam of sleeve should come from 2 to $2\frac{1}{2}$ inches in front of under arm seam and the fullest part of the gathers should come just in front of the shoulder seam. The Bishop or leg of mutton sleeve is used in the shirt waist.

The cuff is a straight band ten inches wide and three inches long. The neck band is one and one-

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fourth inches wide, in sewing the band on, the curve is sewed to the neck curve of the dress. Always cut the neck band lengthwise of material. To make the cuff always cut the lining lengthwise and the outside crosswise; the interlining should be of butcher's linen and should always be shrunk.

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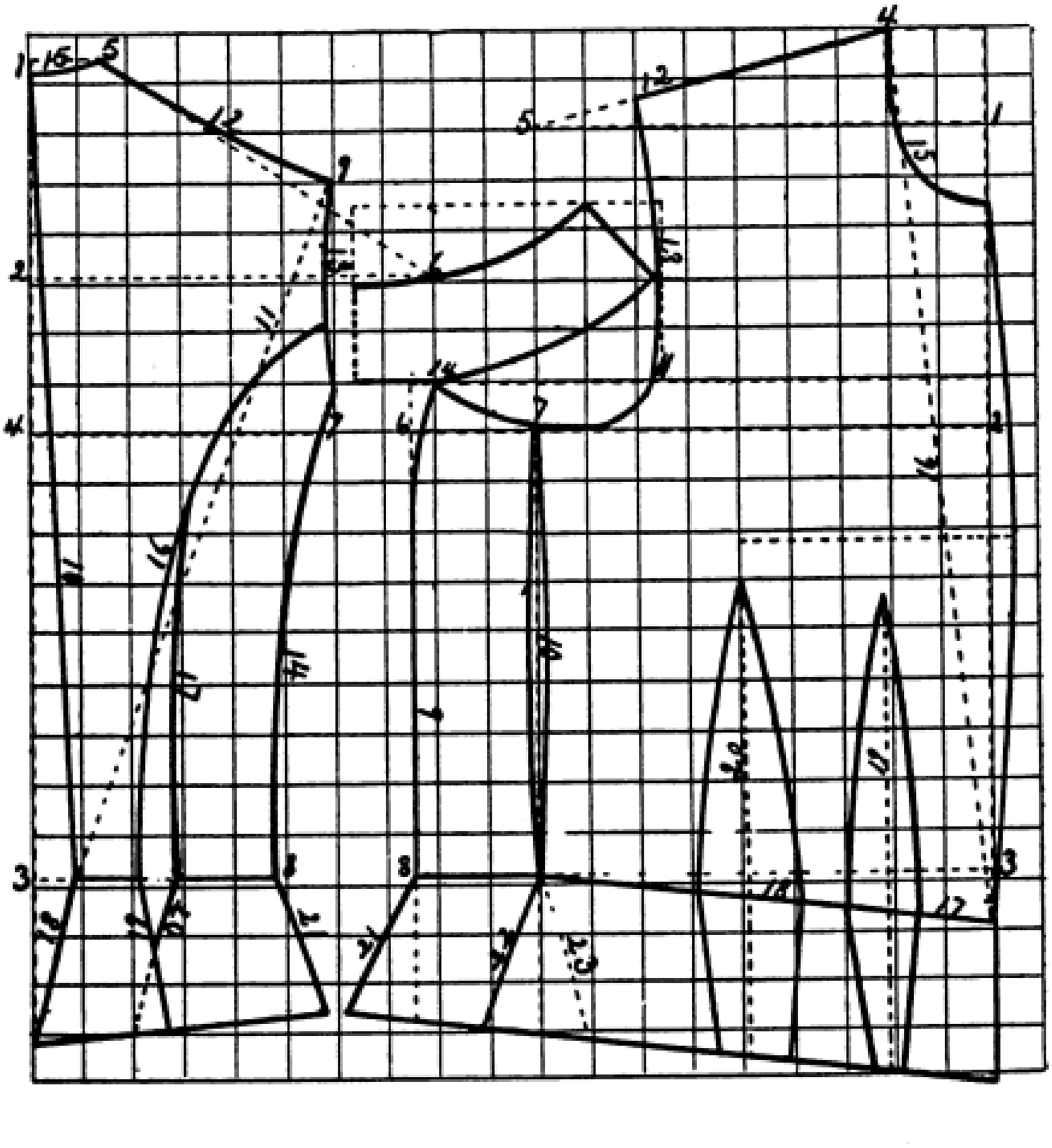

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PLAIN WAIST.

The same measurements were taken for this waist as for the corset cover.

For the back, draw a horizontal line the length of paper. 1 is one-fourth of an inch from top of line; 2 is four inches from 1. Mark from 1 to 3 the length of back to waist. From 4 to 3 is the under arm measure. Begin at the top and mark out one and one-half inches—this for a twelve inch neck measurement, see neck scale in night gown—to 5. From 2 to 6 always mark out eight inches to get the shoulder slant, from 4 to 7 is the width of back, from 7 mark up one inch to get the curve for the arm's eye. From 3 at waist line, first mark off three-fourths of an inch for the slant in the back, then one and one-fourth inches for width of back at waist line, then space three-fourths of an inch; for the side body mark off two inches to 8 (this for a twenty-four inch waist measure). Since for a twenty-four inch waist the two back forms together will measure three and one-fouth inches at waist line, allowing one and one-fourth inches for back and two inches for side body, then for each additional inch in the waist measurement allow one fourth of an inch, one-eighth on back and one-eighth on side body. For each decreasing inch in the measurement take off a like amount.

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Now measure off on shoulder slant the length of shoulder to 9. 10 is the slant from 1 to the waist line; 11 is the back balance and shows where the shoulder seam should be; 12 is the curve of the shoulder; 13 is an inward curve for the arm's eye.

For 14 draw an inward curve from the point one inch above 7 to 8 at waist line; 15 is an inward curve at the neck; 16 is an inward curve from the arm's eye, one and one-fourth inches above the to¬ of line 14 to the second mark on waist line. 17 is an outward curve beginning an inch below the dotted line, marking the width of back, and drawn to the next mark on the waist line; this is the curve of the side body.

18 is a slanting line three and one-half inches down from waist line and slanting three-fourths of an inch; 19 is drawn three and one-fourth inches and slants three-fourths of an inch; 20 is drawn down three and one-fourth inches and slants three-fourths of an inch; 21 is an outward curve, drawn three inches down and slants one inch.

For the front of the waist draw a horizontal line two inches from the edge of the paper. Mark down two inches from top to 1. Always measure down six inches from 1 to 2. 2 to 3 draw the length of the under arm measure. At top measure out two inches to 4—this for a 12 inch neck measure, if more, see neck scale in night gown.

Always mark out nine inches from 1 to 5 for shoulder slant. From 2 to 6 is the bust line, to get this line subtract the width of back from bust measurement; the width of our back is eleven and one-half inches, this subtracted from thirty-four, our bust measurement, would leave twenty-two and one-half inches and since we are making but

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half the front we divide this by two, which would give us eleven and one-fourth. From 6 mark in two and one-half inches to 7 for the under arm piece; from the waist line, 8, draw a straight line, 9, extending one inch above 6; 10 is the dotted line from 7 to waist line; 11 is the chest measurement taken one inch above the bust line and out one-half of chest measure.

12 is the length of shoulder; this line is marked out on shoulder slant five and one-half inches. Now make the arm's eye curve, 13, from shoulder to bust line and touching chest line; 14 is the curve one-half an inch in from top of line 9 to bust line. Now draw a curve from the one-half inch point, extending down two and one-half inches and connecting with the line 9.

15 is the neck curve from shoulder to one and one-half inches below 1—see neck scale in night gown. 16 is the front measurement and determines the permanent waist line. 17 is the first dart one and one-half inches in from front line. Always make the first dart smaller than the other. To find the quantity to put into the darts measure the back which in this figure is six and one-half inches, subtract this from the waist measure which is twenty-four, this leaves seventeen and one-half which, divided by two makes one-half the pattern or eight and three-fourths inches; then measure out on waist line eight and three-fourths inches and the quantity we have left for the darts in this figure is three and one-half inches, so mark off one and one-half inches for the first one and two inches for the other, 18. Always leave a space of three-fourths of an inch between the darts. 19 is the straight dart, the dart lines

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are curved to the waist line and straight below, they are just half as large at the bottom as at the waist line. 20 is slightly slanted toward the back and is one-half inch higher than the first dart. 21 is an outward curve three inches down from waist line, 8, and slanting one and one-half inches; 22 is an outward curve three inches down and slanting one and one-fourth inches; 23 is an outward curve slanting three-fourths of an inch.

The trimmings needed for a plain waist are two yards of silesia, sewing silk, button hole twist, basting cotton, buttons or hooks and eyes, three whale bones and 4 yards of bone casings.

Always cut your waist lining crosswise of the silesia. In basting the material onto the lining hold lining slightly full from two inches above the waist line to one and one-half inches below it.

Great care must be taken to bast the seams of a basque according to the tracing marks; always begin basting at waist line, first basting up then from waist line downward. After the waist is basted try it on.

After the seams are sewed take out the bastings, pare the seams, making notches at the waist line to allow for the curving of the dress. The under-arm seams may be left wider than the others so that the waist may be altered.

Overcast the seams closely or if in silk, bind them with a narrow silk binding, then press open.

In sewing the whalebone casing which should be single casing, hold it full; if possible soak the whale bone over night before using, then place in the seam and fasten firmly every 2 inches; sew through the bone in finishing.

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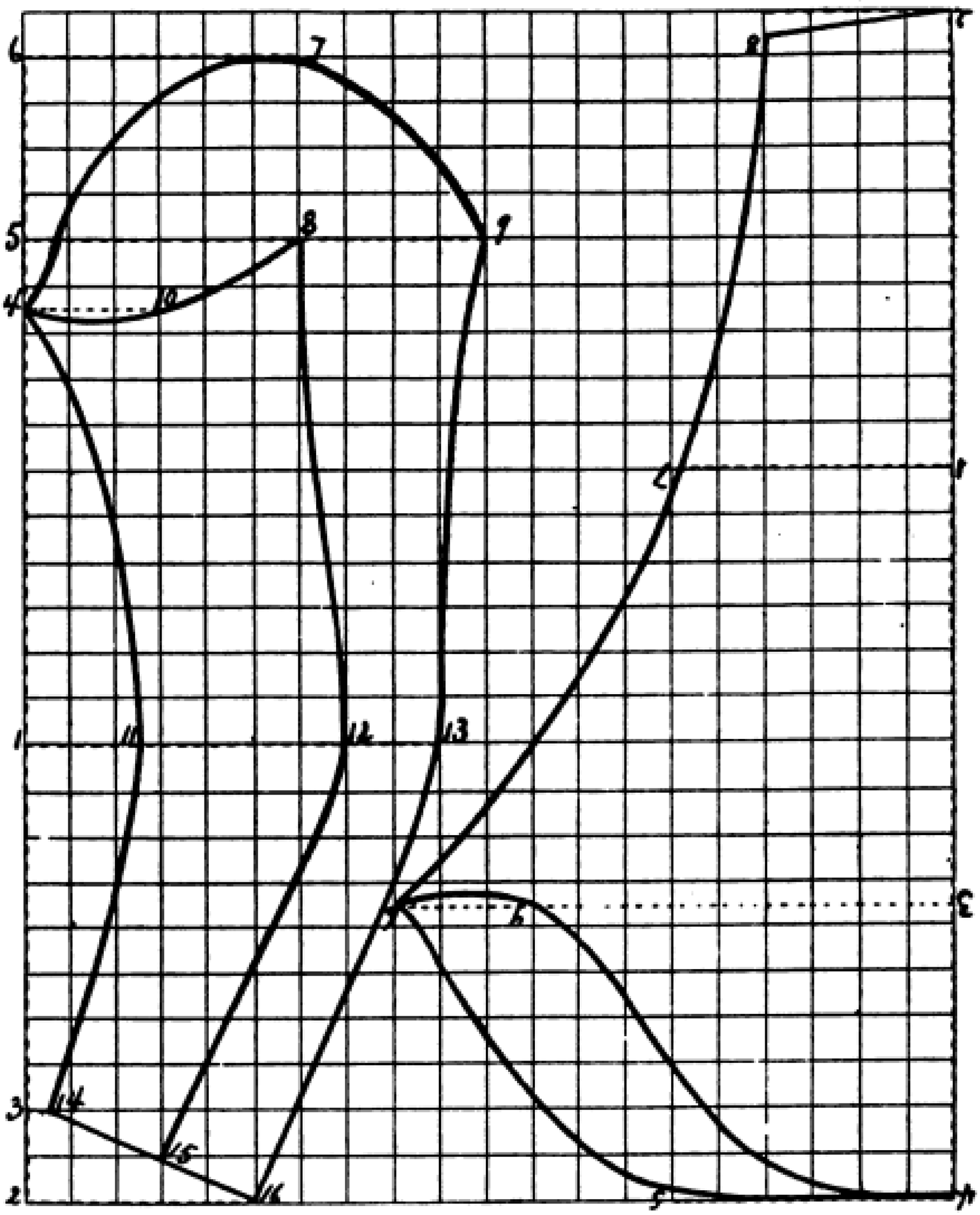

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SLEEVES.

The measures taken for the sleeves illustrated here are as follows:

Arm's eye, 12 inches.

Shoulder to elbow, 15 inches.

Elbow to wrist, 11 inches.

Inside elbow to arm's eye, 9½ inches.

Elbow, 11 inches.

Hand, 8 inches.

For the plain coat sleeve, first draw a horizontal line. From 6 to 1 is the length from shoulder to elbow, 1 to 2 the length from elbow to wrist. For 3 mark up two inches from 2, 1 to 4 is the inside measure from elbow to arm's eye, from 4 to 5 always mark up one and one-half inches, from 6 to 7 mark half the arm's eye, from 5 to 8 measure out half of arm's eye and always add on four inches. From 4 to 10 measure out one-fourth of arm's eye, from 1 measure in two and one-half inches; from 11 to 12 measure one-half the elbow measure less one inch, and for the upper piece, 11 to 13 measure one-half the elbow measurement plus one inch. Our elbow measure is 11 inches then the under part of sleeve would be four and one-half inches wide and the upper side would be six and one-half inches in width. For wrist measure in one-half inch from 3 to 14 and divide the hand measure,

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eight inches, in the same way as the elbow measure was divided.

For the leg of mutton sleeve mark on fold of paper 4 to 1 the length of shoulder to elbow plus one inch; 1 to 2 from elbow to wrist, from 1 to 3 inside measure, from 4 to 5 one-half of arm's eye, from 3 to 6 is width of sleeve putting in the amount of fullness desired, from 1 to 7 is one-half the elbow measure and 2 to 8 is one-half the hand measure, slanting up one-half inch. Connect 6 and 8 by an inward curve, for the outside curve at the top of sleeve connect 5 and 6. Measure from 6 to 9 one-fourth of the arm's eye or three inches to get the under side of sleeve, draw a curve from 4 to 9 and from 9 to 6 coming one-fourth inch below dotted line. This is the upper and lower sleeve.

The making of a sleeve is. to many the most difficult part of a garment and yet by following a few rules carefully it is easy to make a sleeve that fits well.

When making a plain, closely fitting sleeve (as the lining) it is best to test it before basting it to the arm's eye, to see that the seams run properly and that no part has been twisted. To do this lay the sleeve flatly upon the table or lap board so that the inside seams come on the upper side close to the inner fold at the top and if the sleeve be properly made all the parts will fall naturally into shape. See that the thread of the material runs straigh down from the shoulder seam.

Now pin the sleeve to the arm's eye in such a way that nearly all the fullness will come in the upper portion and arrange the fullness so that it

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will be greatest about an inch in front of the shoulder seam, gradually lessening it as it nears the seams of the sleeve. The surest guide we can have for deciding how to distribute the fullness is to see that the thread runs downward in a straight line from the shoulder in all material in which the thread can be followed.

Face the wrist with crinoline and finish with a bias piece of material or silk.

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THE FRENCH BIAS DART.

Back.—

First draw a horizontal line the length of paper. Measure down one-fourth inch from dotted line to 1, measure four inches from 1 to 2, from 1 to 3 is length of back from neck to waist, 4 to 3 is the underarm measure. Begin at top and measure out one and one-half inches from 1 to 5, for twelve inch neck measure (see neck scale in night gown). From 2 to 6 always measure out eight inches to get shoulder slant, 4 to 7 is the width of back, from 7 measure out one inch to get curve for arm's eye. From 3 at waist line first measure out three-fourths inch for slant in back then three and one-fourth inches from that point to 8.

Measure off on shoulder slant the length of shoulder 5 to 9, 10 is the slant from 1 to waist line, 11 is the back balance and determines the point where the shoulder seam comes, 12 is the shoulder curve connecting 5 and 9, 13 is an inward curve for the arm's eye, 14 is an inward curve from the arm's eye to 8, 15 is the neck curve, 16 is a straight line extending three inches below the waist and out to the main line, 17 is an outward curve three inches down and slanting one and one-fourth inch, 18 is a straight line at the bottom.

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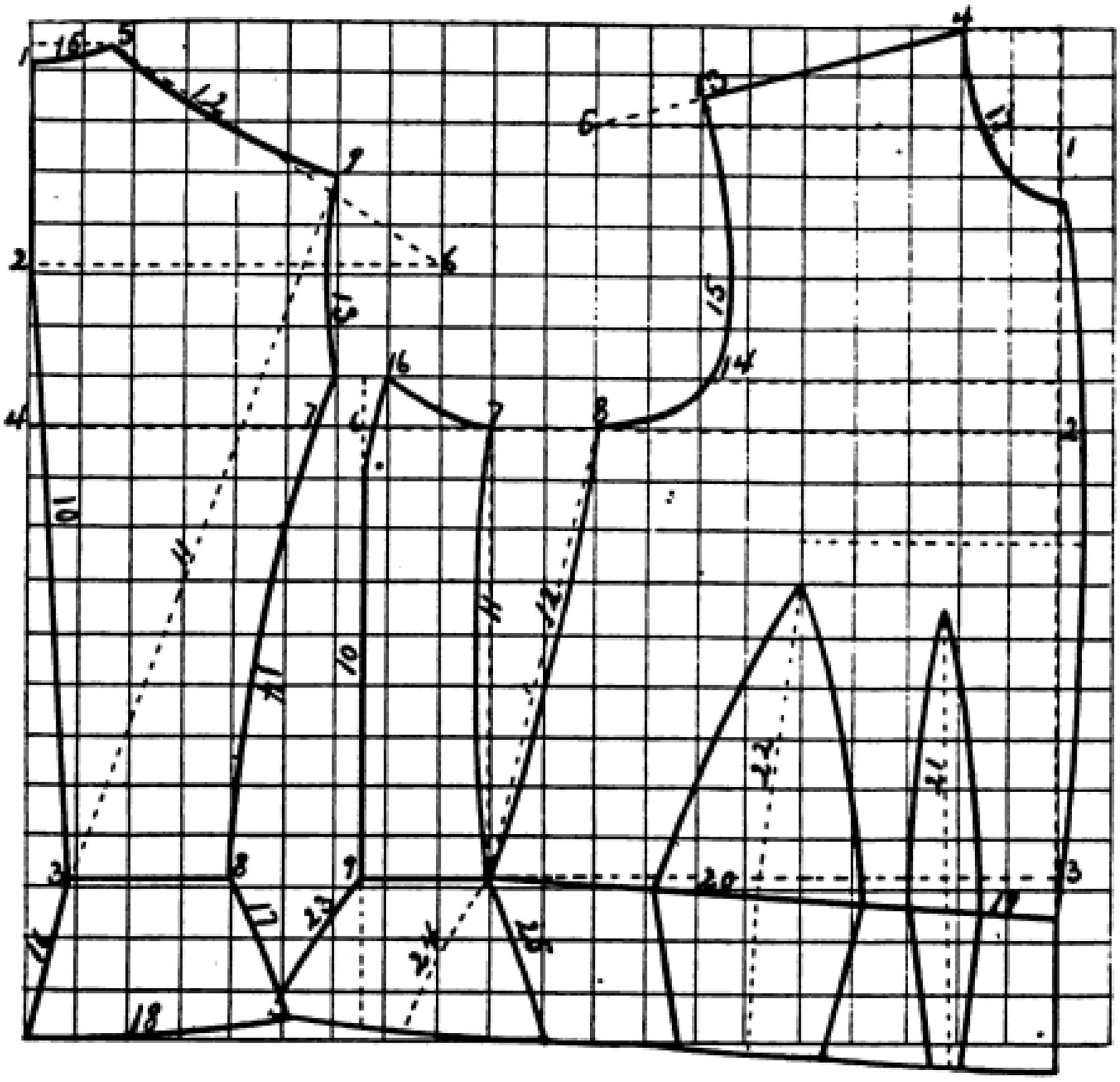

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Front.—

Draw a horizontal line two inches from the edge of paper, measure down two inches from top to 1, from 1 to 2 always measure down six inches, 2 to 3 is the length of underarm measure. Measure out two inches from top to 4 (see neck scale in night gown). From 1 to 5 always measure out nine inches for the shoulder slant, 2 to 6 is the bust line, (to get this follow description in plain waist), but for the French Bias Dart add two or more inches on the bust line to increase the bias. From 6 measure in two and one-half inches to 7, from 7 to 8 measure off the amount added on bust line which in this figure is two inches. From 9 which is the waist line, a straight line 10 extends up to one inch above 6, 11 is a slightly curved line extending from 7 to waist line, 12 is a slightly curved line from 8 to waist, 13 is length of shoulder marked out on shoulder slant five and one-half inches, 14 is the chest measure one inch above the bust line, and out one-half of chest measurement, 15 is the arm's eye curve from shoulder to bust line and touching chest line; 16 is a curve starting one-half inch in from top of line 10 and extending to 7; from the curve 16 another curve extends down two and one-half inches and joins line 10. 17 is the neck curve from shoulder to one and one-half inches below 1 this for a twelve inch neck measure. 19 is the first dart (always make the first dart smaller than the other) one and one-half inches in from front line. To find the quantity to put in the darts measure the back which in this figure is six and one-half inches, subtract this from the

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waist measure which is twenty-four inches, this leaves seventeen and one-half inches, divide this by two as we are making but one-half the pattern, then measure out eight and three-fourths inches on waist line and the quantity left on this line is the quantity we have to put in the darts. In this figure we have five and one-half inches for the darts, we measure off one and one-half inches for the first dart and four inches for the other which in the illustration is marked 20. Always leave three-fourths of an inch between the darts, 21 is the center of the first dart, the outlines to the waist are curved but straight below and one-half as large at bottom as at waist. 22 marks the center of the second dart which extends one-half inch higher than the first. 23 is an outward curve extending down three inches and slanting one and one-half inches, 24 is an outward curve extending down three inches and slanting one and one-fourth inch, 25 is an outward curve slanting three-fourths inch.

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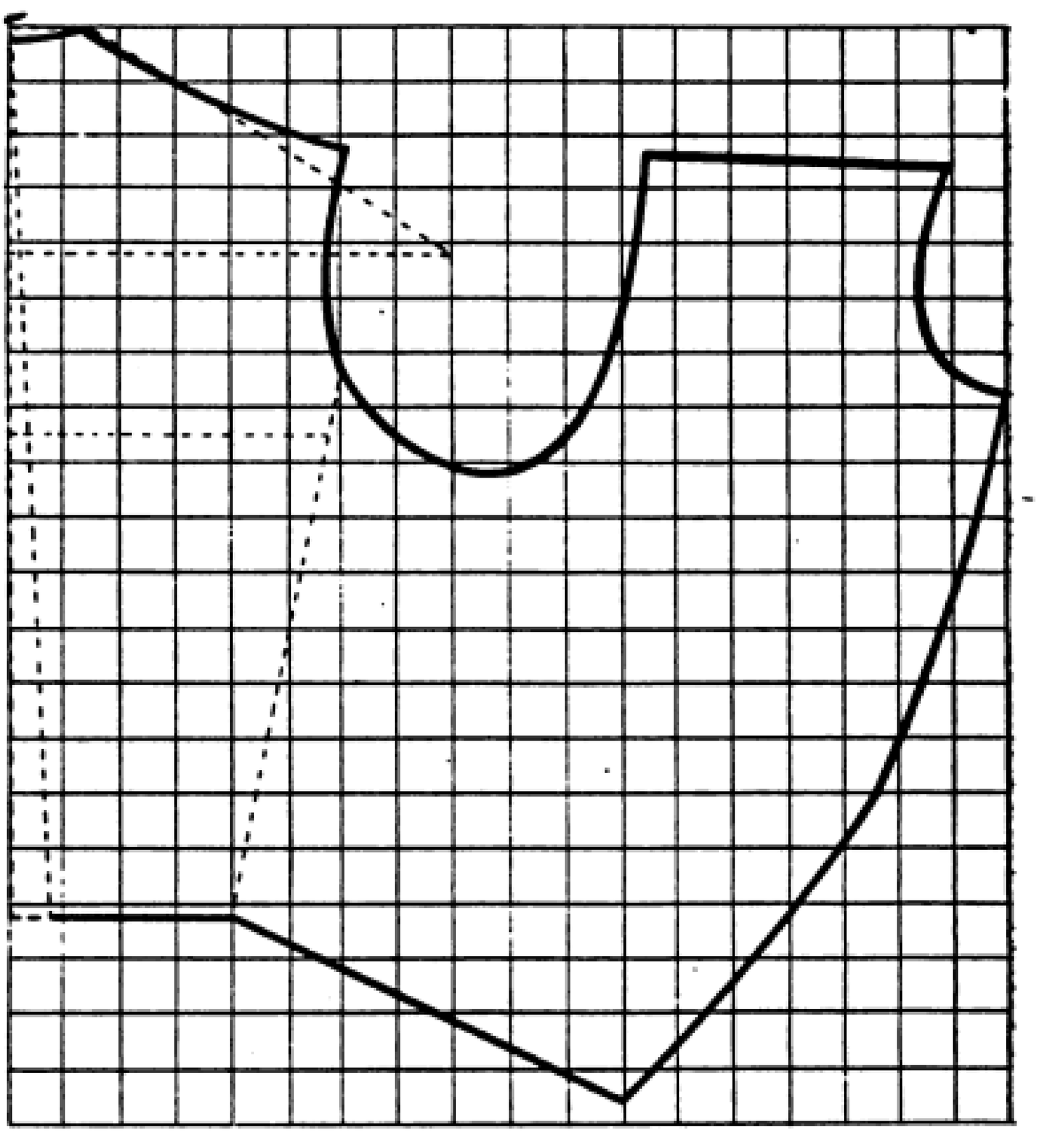

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THE SEAMLESS WAIST.

To make a seamless waist first draft a French back, then draft a plain front, instead of putting in darts take off one-half the quantity usually used in darts, in front from bust line to waist line and the other half from back seam slanting in from bust line to waist line. Cut out this front and connect with French back, this brings the front on the bias, cut your pattern and place on fold of cloth. The seamless waist makes a good corset cover by adding a three inch ripple at bottom.

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PRINCESS DRESS.

Back.—

First draw a line the length of paper, measure down one-fourth inch from dotted line to 1. From 1 to 2 measure four inches, from 1 to 3 measure the length of back to waist, 4 to 3 is the underarm measure.

Begin at top and measure out one and one-half inches to 5, this for a twelve inch neck measure (see neck scale in night gown). From 2 to 6 always measure out eight inches to get the shoulder slant. From 3 on waist line first measure off three-fourths of an inch, mark, then one and one-fourth inches for back and mark, leave a space one and three-fourths inches wide then measure off two inches for side body and mark 8.

Measure off length of shoulder on shoulder slant from 5 to 9, 10 is the slant from 1 to waist line, 11 is the back balance and determines the place where the shoulder seam should be, 12 is the shoulder curve, 13 is an inward curve for the arm's eye, 14 is an inward curve from arm's eye to waist line, 15 is the neck curve, 16 is the arm's eye curve on side body, 17 is a slightly curved line from an inch above 7 to 8, 18 is side body curve from arm's eye to waist line, 19 is a straight line extending below waist line and slanting as illustrated, 20 is a curved line extending below waist, 21 and 22 are also slight curves and extend well below waist line.

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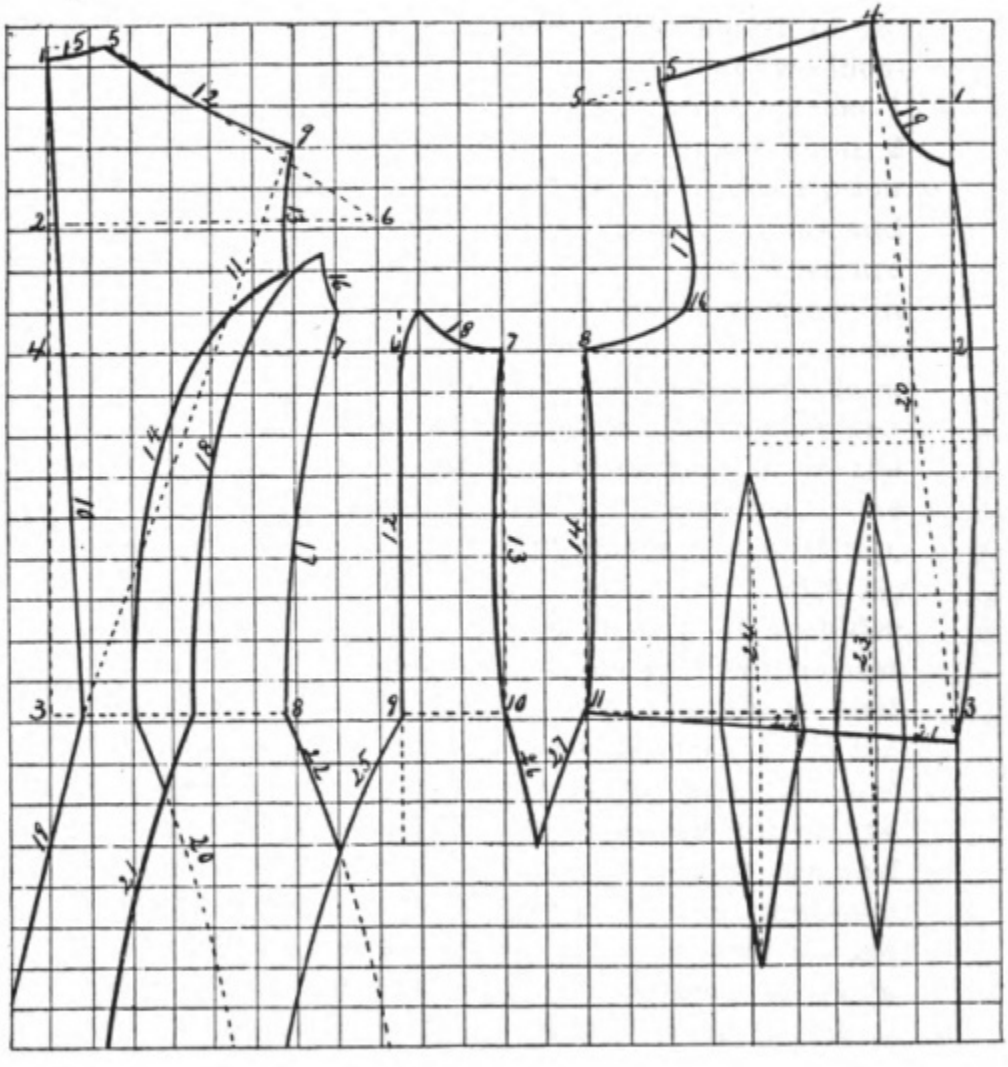

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Front.—

For the front draw a straight line two inches from the edge of paper, measure down two inches from top to 1, from 1 to 2 always measure down six inches, from 2 to 3 measure the length of underarm. Begin at top and measure out two inches to 4 (see neck scale in night gown). From 1 measure out nine inches to 5 for shoulder slant, 2 to 6 is the bust line to get which see description of Plain Waist, but for the Princess Dress add two inches to the bust line, these two inches are used in the under arm dart. From 6 measure in two and one-half inches to 7 and from 7 two inches to 8. 9 is the same distance from front as 6, from 9 to 10 measure two and one-half inches and from 10 to 11 measure two inches, 12 is the straight line extending from 9 at waist line to one inch above 6 and curving in one-half inch at top, 13 is a slightly curved line connecting 7 with 10, 14 connects 8 with 11, 15 is length of shoulder measured on shoulder slant from 4, 16 is the chest measurement and is taken one inch above bust line and out one-half of chest measure, 17 is the arm's eye curve from shoulder to bust line and touching chest line, 18 is a curve from top of line 12 to 7, 19 is the neck curve from 4 to one and one-half inches below 1, 20 is the front measurement, 21 is the first dart, 22 the second (to get size of darts see description of them in Plain Waist.) 23 marks the straight line in center of first dart and 24 marks the second which is slightly slanting. 25 is a curved line extending below waist, 26 is a curved line slanting three-fourths of an inch and 27 is a curve slanting one and one-fourth inches.

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JACKET.

For the back draw a horizontal line the length of paper, measure down one-fourth of an inch from dotted line to 1, from 1 to 2 measure four inches, from 1 to 3 mark length of back to waist, from 4 to 3 is the underarm measure. Begin at top and measure one and one-half inches out from 1 to 5 for a twelve inch neck measure (see neck scale in night gown). From 2 to 6 always measure out eight inches to get the shoulder slant, 4 to 7 is the width of back, measure up one inch to get curve for arm's eye. From 3 on waist line, measure off three-fourths inch for slant in back, then one and one-half inches for the back, then space three-fourths of an inch, and for side body measure off two and one-fourth inches for a twenty-four inch waist measure, (if more see plain waist). Measure off on shoulder slant the length of shoulder from 5 to 9, 10 is the slant from 1 to waist line, 11 is the back balance and determines where the shoulder seam should come, 12 is the shoulder curve, 13 is an inward curve for the arm's eye, 14 is an inward curve from the arm's eye to 8 at waist line, 15 is an inward curve at the neck, 16 is an inward curve from the arm's eye one and one-fourth inches above the top of line 14 to the one and one-half inch mark on waist

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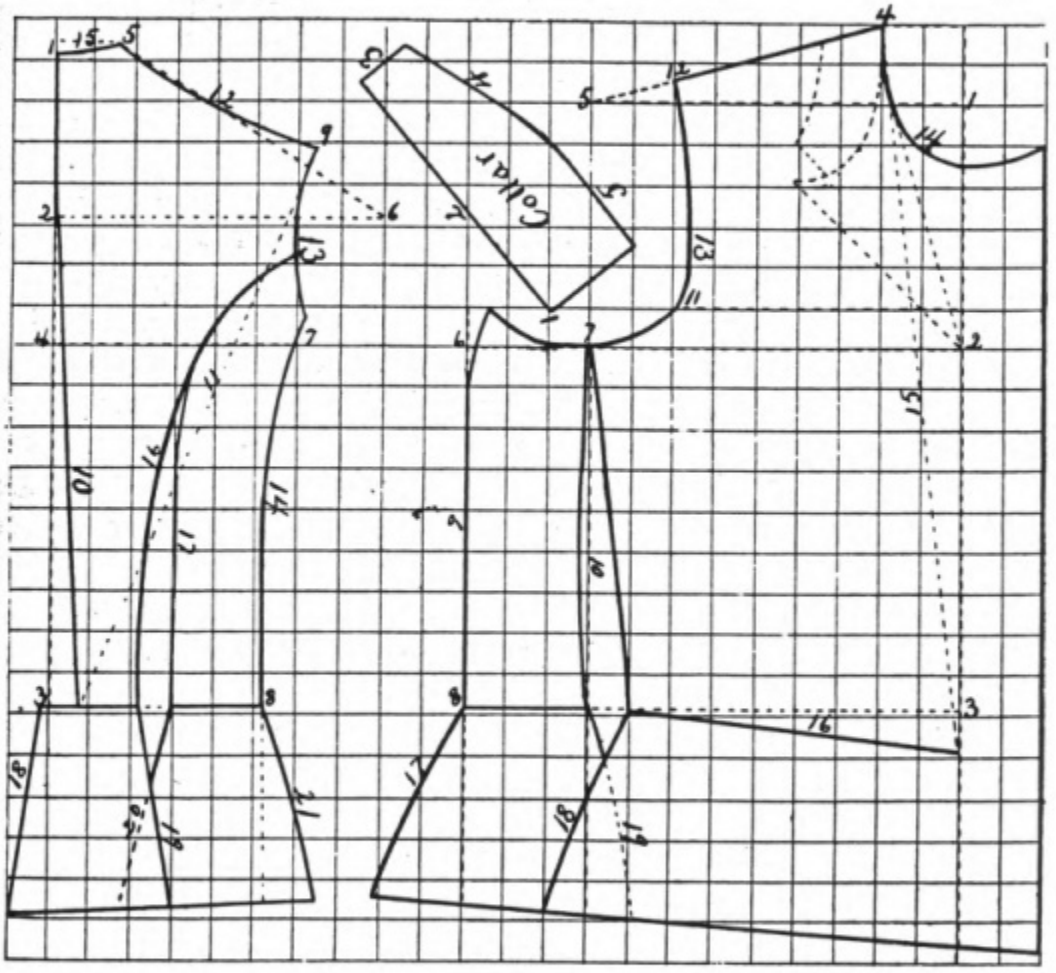

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line, 17 is an outward curve beginning one inch below the dotted line marking width of back, extends to the next mark on waist line and marks the curve of side body. 18 is a slanting line extending five inches down from waist line and slanting outward three-fourths inch, 19 extends down five inches and slants three-fourths inch, 20 extends down five inches and slants one and one-fourth inches, 21 is an outward curve, extending down five inches and out one and one-half inches. For the front of Jacket draw a horizontal line two inches from the edge of paper, measure down two inches from top and mark 1, from 1 to 2 is always six inches, 2 to 3 is the length of under arm measure. Measure out two inches from top of line to 4 (if more than twelve inches neck measure see neck scale in night gown). From 1 to 5 measure out nine inches for shoulder slant, 2 to 6 is the bust line, (to get bust line follow description given in Plain Waist), measure in three inches from 6 to 7 for under arm piece. From one inch above 6 to the waist line 8 is a straight line 9, 10 is the dotted line from 7 to waist line, 11 is the chest measurement and is taken one inch above the bust line and out one-half of chest measurement. 12 is the length of shoulder and is measured out on shoulder slant from 4, 13 is the arm's eye curve from shoulder to bust line, touching chest line, 14 is the neck curve from shoulder to one and one-half inch below 1 (see neck scale in night gown). 15 is the front measurement, 16 is the waist line, 17 is an outward curve extending five inches below the waist line and slanting two inches, 18 is a curved line slanting two inches, 19 is a curved line slanting one inch.

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The illustration shows a double-breasted effect and a dotted line shows a coat collar. In the separate cut of collar 1 is the center of back cut on the bias, 4 and 5 come next to the neck of jacket, 2 is the edge which is turned down and 3 is the front of collar.

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DRESS SKIRT.

To make a skirt of the present style four lengths of material are required.

Three measurements are taken.—Band tightly around waist, hip measure taken six inches below waist from center of front to center of back and length from waist to floor which allows for making. The skirt described here is for a twenty-four inch waist, hip nineteen and length forty inches. For the front mark down on fold of paper one-half inch, from this point measure down six inches, which is the hip line and measure the length from first mark.

Then measure out from top of fold four and one-half inches; on hip line measure out six and one-half inches, and at the bottom measure out twelve inches from fold.

Draw a curved line from the mark at the top to mark on hip line and a straight line down to the twelve inch mark at bottom, on this edge measure the same length as on the fold, curve the bottom by connecting the two points, draw a curved line at the top and cut by pencil marks. For the side gore mark down on the edge of paper one inch, from this mark measure down six inches for hip line then the length from first mark. At top of paper mark out five inches, on hip line

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measure out eight inches and at the bottom eighteen inches. From the five inch mark at top draw a curved line to mark on hip line and a straight line from this point to the eighteen inch mark at bottom. On straight edge at top curve off one-half inch, draw the curve at top from the one inch mark to five inch mark, measure the length down on gored edge and mark, make a curved line at bottom and cut by pencil marks.

For side gore No. 2, first mark down one and one-half inch on edge of paper, from this mark measure the length, at the top mark out three inches, from this point measure out eight inches and at bottom measure out twenty-two inches. Connect this point with mark at top by a straight line, measure the length on this edge and mark, draw the curve at the top. From the three inch mark at top curve slightly about six inches down then from this on a straight line to edge of paper at bottom. Draw a curved line at bottom.

For the back gore, mark down on fold of paper one-half inch, then the length. From fold at top measure out four and one-half inches and at bottom measure out fifteen inches, draw the curve at top. Connect the points on gored edge with a straight line and measure length on this line. Then draw curve at bottom.

This skirt when finished is about four and one-half yards around the bottom.

In making a dress skirt see that you have plenty of material for it will not do to piece the material crosswise.

For the lining, if of silk, ten yards is required, of percaline five and one-half yards or eight yards of

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cambric. Double the lining crosswise, lay pattern on and pin firmly. After cutting lining lay the interlining on it (if the interlining is of hair cloth it should always be shrunk before using).

Cut the interlining from four to five inches wide, baste interlining on lining and stitch at the top of interlining, (if of haircloth it must be bound at the top.

Now lay material on the table place lining on it with interlining between, smooth the material carefully from top toward bottom. First baste through the center always beginning at top; baste top and sides and so on until all the gores are basted. Baste the gores together always beginning at the top. Try on the skirt to see that it fits nicely around the hips; if darts are needed make them in lining and stretch material over them. When stitching the seams always begin at the top. Pull the basting threads out of the seams and press thoroughly. Now make the belt which should be of silk or some firm lining material; cut it on the bias two and one-half inches wide and the length of waist measure, adding one and one-half inch for making. Now take a strong cord, (wrapping cord will do) double it and twist, fold your belt in center, lengthwise, run the cord through and stitch on the machine, turn the ends in nicely and overhand. Before putting belt on overcast around the top of skirt and seams. To put the belt on the skirt find the centre of front gore and begin there; always hold the skirt next you and slightly full. When you have basted the belt on try on the skirt to see that it hangs evenly all round the bottom. When it hangs evenly

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overcast the bottom and baste the velveteen on. Now stitch the belt where it was basted and hem down nicely on the right side of skirt.

For fastening skirt belt use a large hook and eye in the back of the belt, sew on three eyes to fasten to waist and two loops to hang the skirt up by.

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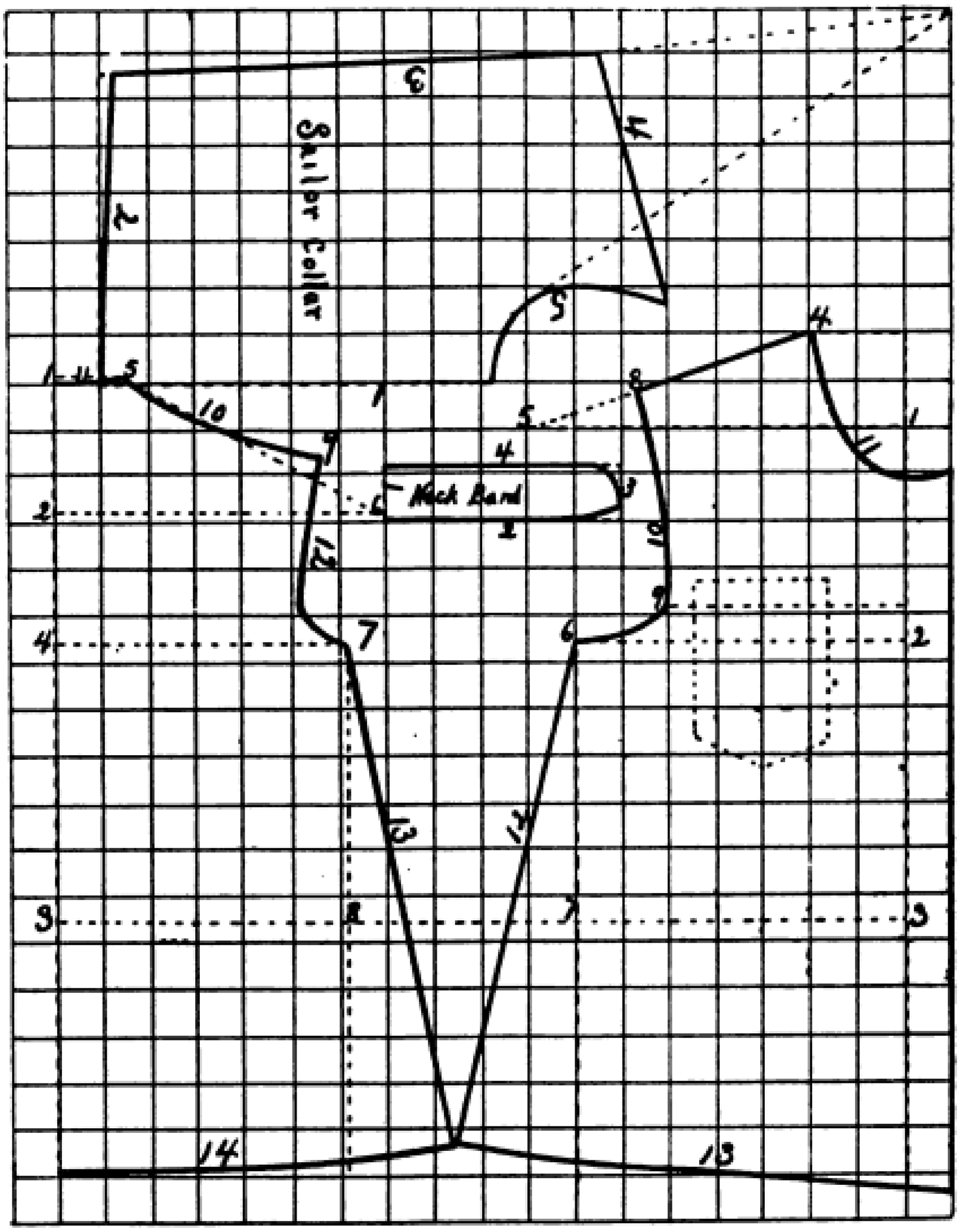

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BOY'S SAILOR WAIST AND COLLAR.

Take measurements as for child's dress waist omitting back balance and front measure.

For the back begin one inch in from edge of paper and draw a straight line, measure down one-fourth of an inch from top of line to 1, from 1 to 2 always measure three inches, 1 to 3 is length of back to waist line, 3 to 4 is the under arm measure.

Begin at top and measure out one and one-half inches from top to 5, from 2 to 6 always measure seven inches to get shoulder slant, 4 to 7 is the width of back adding on one and one-half inches, 3 to 8 is the waist line, the slanting line comes one and one-fourth inches from 8. 5 to 9 is length of shoulder coming up one-half inch from shoulder slant, 10 is the shoulder curve, 11 is the neck curve, 12 is the arm's eye curve, 13 is a straight line extending from arm's eye to bottom and slanting two and one-fourth inches, 14 is the curve at bottom which is five inches below the waist line.

For the front draw a straight line two inches from edge of paper, measure down two inches from top of line to 1, from 1 to 2 measure four and one-half inches, 2 to 3 is the length of under arm measure. From top of line measure out two

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inches to 4, measure out eight inches from 1 to 5 to get shoulder slant, 6 is the bust line measured out from 2 and taking off the amount added to width of back, 3 to 7 is the width on waist line, 8 is the length of shoulder, measured out on shoulder slant from 4, 9 is the width of chest taken one inch above bust line and out one-half of chest measure, 10 is the arm's eye curve from 8 to bust line and touching chest line, 11 is the neck curve from 4 to one and one-fourth inches below 1, 12 is the slanting line extending from 6 to five inches below waist line, 13 the slightly curved line at bottom.

For the neck band mark off one-half of neck measure and make it one and one-fourth inches in width. The dotted line 1 is the center of back, 2 is the edge of band which is sewed on to the neck of waist and is slightly curved in front, 3 is the curved edge in front and 4 is the top which is straight. Cut the band lengthwise of material.

For the Sailor Collar mark off on fold of paper eight and one-fourth inches which is the dotted line 1 and marks the center of back. 2 is the bottom of collar in back and is very slightly curved, 3 is straight line slanting one-half inch, 4 is edge in front slanting one and one-half inches, 5 is the neck curve.

This collar may be made to come to a point in front by following the dotted lines.

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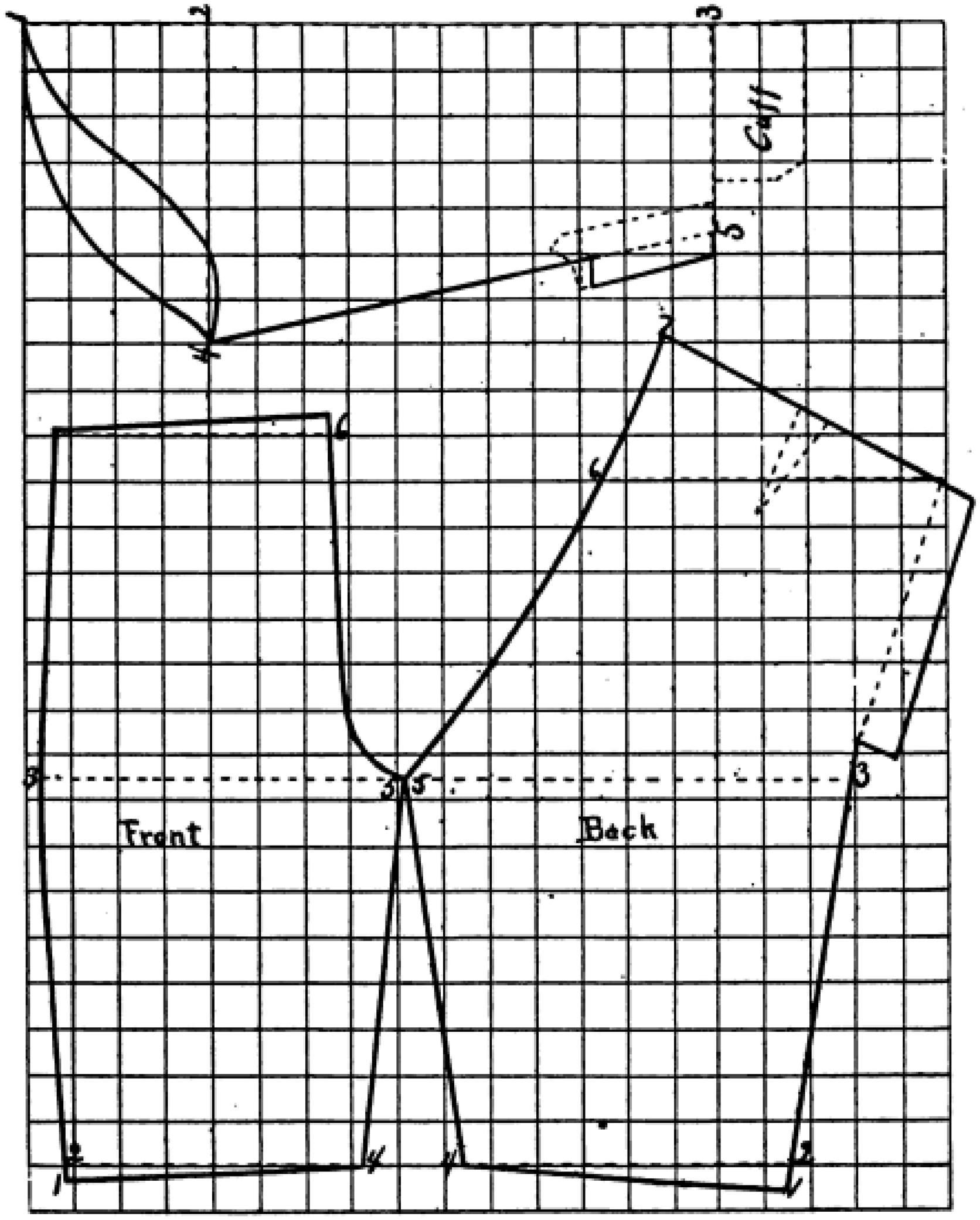

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BOY'S SLEEVE.

This sleeve is for a boy five or six years of age. From 1 to 2 measure off four inches, from 2 to 3 is the inside sleeve measure, from 2 to 4 is one-half width of sleeve at arm's eye, from 3 to 5 is width of sleeve at wrist allowing for fullness which is gathered into the band or cuff. By connecting 1 and 4 by an outward curve and also by an inward curve you have both the upper and lower part of the sleeve. The dotted lines show the facing and cuff. Cut the sleeve on fold of material.

BOYS PANTS.

These pants are for a boy six years of age.

Front.—

From 1 to 2 measure up one-fourth inch on hip line, 2 to 3 is the length of leg, 2 to 4 is the width at knee, 3 to 5 width on seat line, from waist on dotted line 6 measure up one-half inch and connect with hip by slanting line; from hip to 1 draw a slightly outward curve; from 6 to 5 draw an inward curve and connect 5 and 4 by a straight line.

Back.—

Draw a slanting line on hip line the length of pants to 1, from 1 to 2 measure up one-half inch, 2 to 3 is the length of leg, 2 to 4 is width of knee, 3 to 5 width on seat line, dotted line 6 is the band measure, from 6 to 7 measure up three inches to get the length of seat in back.

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