



*John Heathcoat*

1783-1861

ENGLISH INVENTOR OF THE FIRST MACHINE THAT SUCCESSFULLY IMITATED  
HAND-MADE PILLOW LACE, IN 1809.

## IMITATIONS OF HAND-MADE LACE BY MACHINERY

*by*

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THE reasons for the attempts to produce imitations of hand-made lace by machinery may be roughly summarized as twofold—to produce an article of such likeness or similarity to that made by hand as will enable it to be successfully substituted at a lower price, and to produce the imitation more quickly and in greater volume than is possible in the case of the hand-made article. The production of machine-made types or styles of lace of an original nature, having no forerunners in the hand-made category, is a natural sequence of accident or of imagination and experiment. In these days of commercial exploitation of everything with the inevitable results of mass production and cheapening of the article, we cannot expect lace to escape, not even hand-made lace; witness the enormous production and cheapness of Chinese hand-made lace. Other arts do not escape; the masterpieces of painting, those of da Vinci, Rubens, Raphael, are finely reproduced in colors, and splendid copies are within the reach of every purse. The art of the singer is now reproduced and he is immortalized by the Victrola, so let us glance briefly at the attempts made to reproduce lace by machinery.

Hand-made laces are produced by two basic principles—needle-point and cushion. In addition to the two types of hand-made lace mentioned, it should be recognized that there are other fabrics, mainly products of Ireland and Belgium made in whole or in part by hand and machine, which are commonly listed as hand-made lace. These include crochet lace (which cannot be regarded as either needle-point or pillow lace, being looped and made with the aid of the fingers rather than pins) and tatting; Limerick lace, consisting of needle-run patterns on machine-made net and two styles of Carrick-ma-cross—appliqué on net, and guipure with needlework fillings. The first Carrick-ma-cross style consists of shapes

cut from cambric, appliquéd on to machine-made net ground and ornamented with fancy stitches, and the second, which has no net foundation, is made by cutting flower shapes from cloth, buttonholing the edges, and joining by picot brides. In addition to these styles there has been, in recent years, a large output of semi-hand-made or *mi-manuelle* laces, mainly in Belgium, called Princess, and d'Alost or Luxeuil, the first being made by forming objects, of machine-made braids, by hand and appliquéing or basting the same onto machine-made net, and the latter by sewing machine-made tapes together with the needle, by connecting brides. Though the materials are entirely machine-made and a good proportion of the construction work is also done by machine, the laces are considered to be hand-made and are usually offered for sale as such.

Textile fabrics which may be classed as lace are produced, in whole or in part by the following machines, listed in the chronological order of invention:

Variations of knitting machines operated in conjunction with Jacquard-attachments.

Bobbinet or plain net machines, including the few in existence known as Mechlin or veiling machines.

Bobbinet-Jacquard machines, formerly known as "Pusher" machines.

Levers lace machines, including the variation known as the go-through machine.

Nottingham lace-curtain machines.

Bonnaz or Cornely machines.

Swiss hand-loom and schiffli or multiple needle embroidery machines.

Barmen lace, or torchon, or single thread braiding machines.

The Farigoule and the Matitsche machines are not considered in this résumé as there are only three of the former in existence and the products of the Matitsche machine are negligible from a commercial point of view; the machine invented by J. de V. Machuca y Llorcha seems to have disappeared.

These varieties listed above, with their mutations, reach the number of seventeen.

The origin of the lace machine must be sought in the kindred trade of

hosiery. In 1586, William Lee, a country parson, who lived at Calverton, near Nottingham, invented the knitting frame. This was absolutely original and not a modification of a previous invention. The various modifications of the knitting frame, which were introduced from time to time, eventually led to the production of a crude net, and at the end of the eighteenth century it was possible to weave a pattern on a ground. The machinery was, more or less, in a state of transition, and slowly, but surely, the crude stocking frame was evolving into the highly elaborate lace machine.

Laces made for upholstery purposes are made on the Raschel machine. The bobbinet machine, invented in 1809, by John Heathcoat, is the original lace machine, from which four other types of machines have been evolved; the product is a plain net with hexagonal meshes similar to those of Point Lille and is made of cotton, silk, and rayon. The Mechlin machine produces a net of the same shape as that of the hand-made lace of the same name. The products of the bobbinet-Jacquard machine originally consisted of imitations of Chantilly lace, and the objects or motifs in some of these patterns are outlined by hand or machine with thicker threads or cordonnets producing the popular style known as "Alençon," and the materials used are cotton, silk, and metal threads. The Levers lace machine produces the greatest variety of styles of all the lace-making machines. In every respect its range is great—imitation of many of the styles of hand-made lace, styles distinctive of the machine, unlimited number of patterns, fineness of texture, material comprising cotton, mercerized cotton, flax, silk, spun silk, worsted, rayon, and metal threads, and size ranging from a narrow lace of half an inch to a flounce of fifty-four inches in width. In addition, such shapes as scarves or streamers, handkerchiefs, and shawls are also made. The Nottingham lace curtain machine produces mainly lace window curtains or panels, and upholstery articles, such as nets, bedspreads, tablecloths, piano scarves, place mats, and runners. The Bonnaz or Cornely machine is a variant of the sewing machine and with a chain stitch embroiders patterns on window curtains of net. The schiffli machine embroiders patterns on net with a stitch similar to that of the sewing machine, and the same machine embroiders patterns on a wool, silk, rayon, and a chemically prepared cotton ground. The wool and silk grounds, being animal fiber, are eliminated by the action of an alkali bath, and the prepared cotton by heat, which reduces the fabric to charred powder which is withdrawn by vacuum

suction; in both instances the cotton embroidery is not touched and remains as a lace, technically known as etched or burnt-out lace. Some few laces are embroidered on a rayon ground which is chemically removed. Lace can be made in greater variety of effects on the schiffli embroidery machine than is possible by any other method, except that of the hand. The diversity is as great as can be produced on the Levers lace machine, but the latter cannot make such a perfect imitation of heavy and raised effects. Laces are made on the schiffli machine at Plauen and St. Gall in imitation of every style of lace, from the heavy Venetian points, with relief, to the lightest and finest old point lace. In addition splendid imitations of cushion and crochet lace are produced. Some are so skilfully made that only an expert in this line can distinguish the difference, and whereas only the very wealthy can afford the genuine lace, the modern lace is made for the masses. The Barmen lace machine produces an imitation of cushion lace with exactly the same plaitings and twistings of the threads as in the hand-made article.

The objection may be raised that products of the Barmen lace-braiding machine and of the schiffli embroidery machine are not made on lace machines, yet the products are commercially lace; and these products are logically classed as lace and not as braid or embroidery, in the same way that carbolic acid, ammonia, and coal-tar products are classed as chemicals and not as fuel.

The knitting, bobbinet, Levers, and Nottingham lace curtain machines originated in England; the bobbinet-Jacquard, the Bonnaz, and the Barmen lace machines in France; and the schiffli machine in Germany. It will be seen that all these machines are not lace machines; the lace knitting machine is a variant of the ordinary knitting machine; the bobbinet-Jacquard, Levers, and Nottingham lace curtain machines are lace machines evolved from the bobbinet machine; the Bonnaz machine is derived from the sewing machine; the schiffli machine is an embroidery machine, and the Barmen lace machine, as previously stated, is an improved braiding machine. Only four of these machines imitate hand-made lace in any of its forms—the bobbinet-Jacquard or Pusher machine, the Levers and Barmen lace machines producing simulations of cushion lace, and the schiffli embroidery machine is the only machine, as already stated, the products of which approach in appearance to needle-point lace, though the same machine makes an excellent imitation of pillow lace.

There is no necessity to show illustrations of bobbinet or Mechlin net,

which have the same hexagonal meshes as those of Lille and Malines laces, and, further, neither the bobbinet nor the Mechlin machine produces patterned fabrics.

It is not possible to show the same pattern made by hand and machine in every case, and those specimens which are the same, when made by the processes, have been acquired by a liberal expenditure of time and trouble. The specimens are numbered in the following order:

Imitations of pillow laces:

Laces made on the bobbinet-Jacquard or Pusher machine:

1. Chantilly lace
2. Lace picture, "Le Marchand de Dentelles" (Size 65" by 37")

The lace made on this machine usually has the objects outlined, by hand or by the Michelet or Beyroux machines, with a thicker thread, the lace then being called "Alençon."

Laces made on the Levers lace machine:

3. Hand-made Valenciennes lace
4. Machine-made imitation of the same pattern
5. Hand-made Point de Flandre
6. Machine-made imitation of the same pattern
7. Machine-made "Potten Kant"
8. Machine-made silk Spanish lace
9. Levers machine-made contrasts—Silk veiling
10. —Wool fabric
11. —Lace tuck

The photographs of the Valenciennes lace are highly magnified to show the identity of texture of the toile and the picots. The specimen of "Potten Kant" has no similar hand-made specimen shown, but is introduced to prove how readily hand-made designs are copied on the Levers lace machine. The specimen of silk Spanish lace is shown to demonstrate in detail the similarity of construction. The three remaining specimens, silk veiling, wool fabric, and lace tuck, are not imitations of hand-made lace but are shown to indicate the wide possibilities of the machine when differently clothed with material, the threads being controlled by variable manipulation from the Jacquard.

Laces made on the Barmen lace machine:

12. Imitation of hand-made Valenciennes
13. The same pattern made by different manipulation on the same machine
14. Hand-made Binche. Le Limaçon
15. Machine-made imitation. Le Limaçon

Laces made on the schiffli embroidery machine:

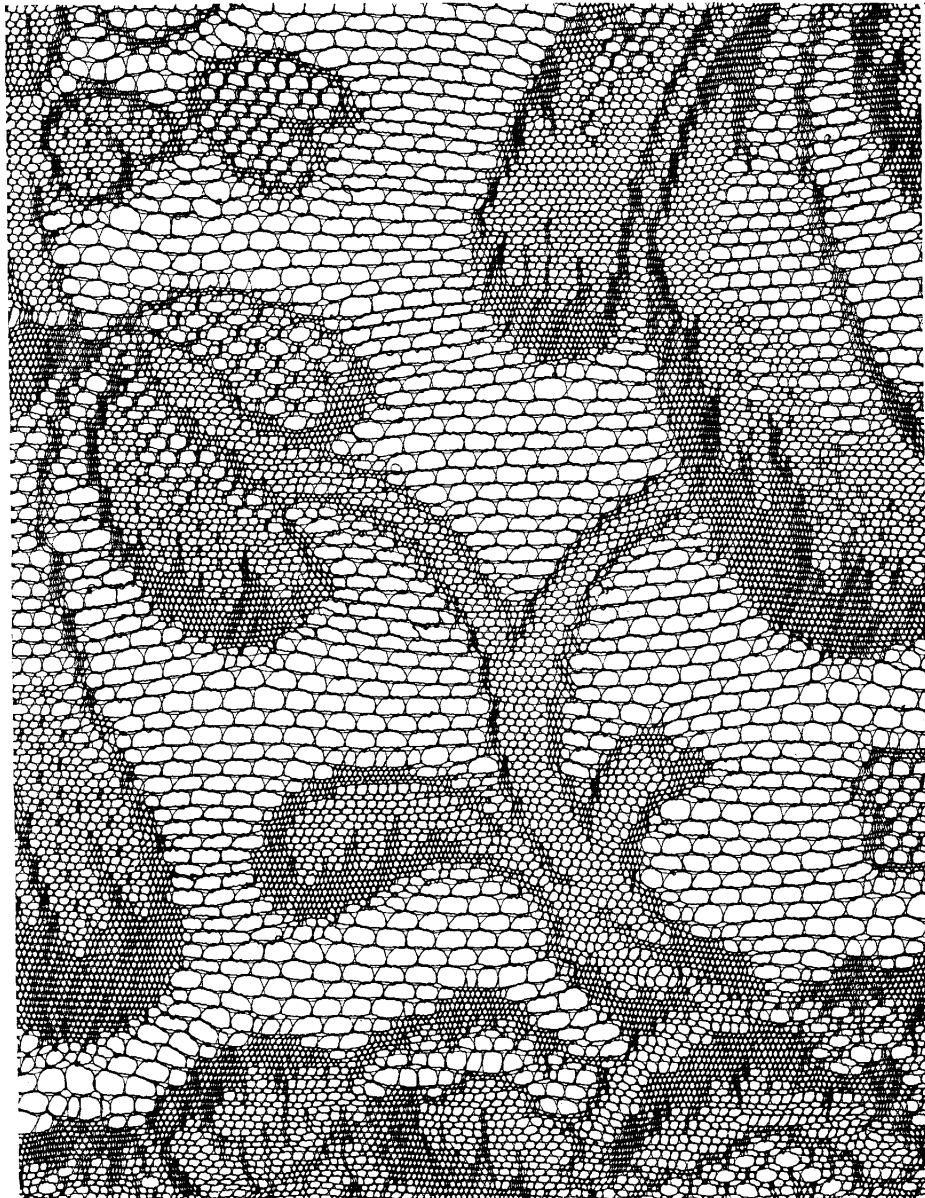
16. Machine-made imitation Duchesse
17. Machine-made imitation Bruges
18. Machine-made imitation Rosaline
19. Machine-made imitation Rosaline
20. Machine-made imitation Guipure

The only machine which can, with any degree of perfection, imitate needle-point lace is the schiffli embroidery machine, the products of which have been burnt-out. There are shown machine-made imitations of the following needle-point laces: Gros point de Venise, Point plat de Venise, Point de Venise à rose, Coralline, Point d'Argentan, Point de France, and Punto in Aria. Further, there are shown some specimens of imitation of Irish crochet lace. In addition, imitations of Cyprus lace, cut work, and Reticella are also produced.

Imitations of needle-point laces:

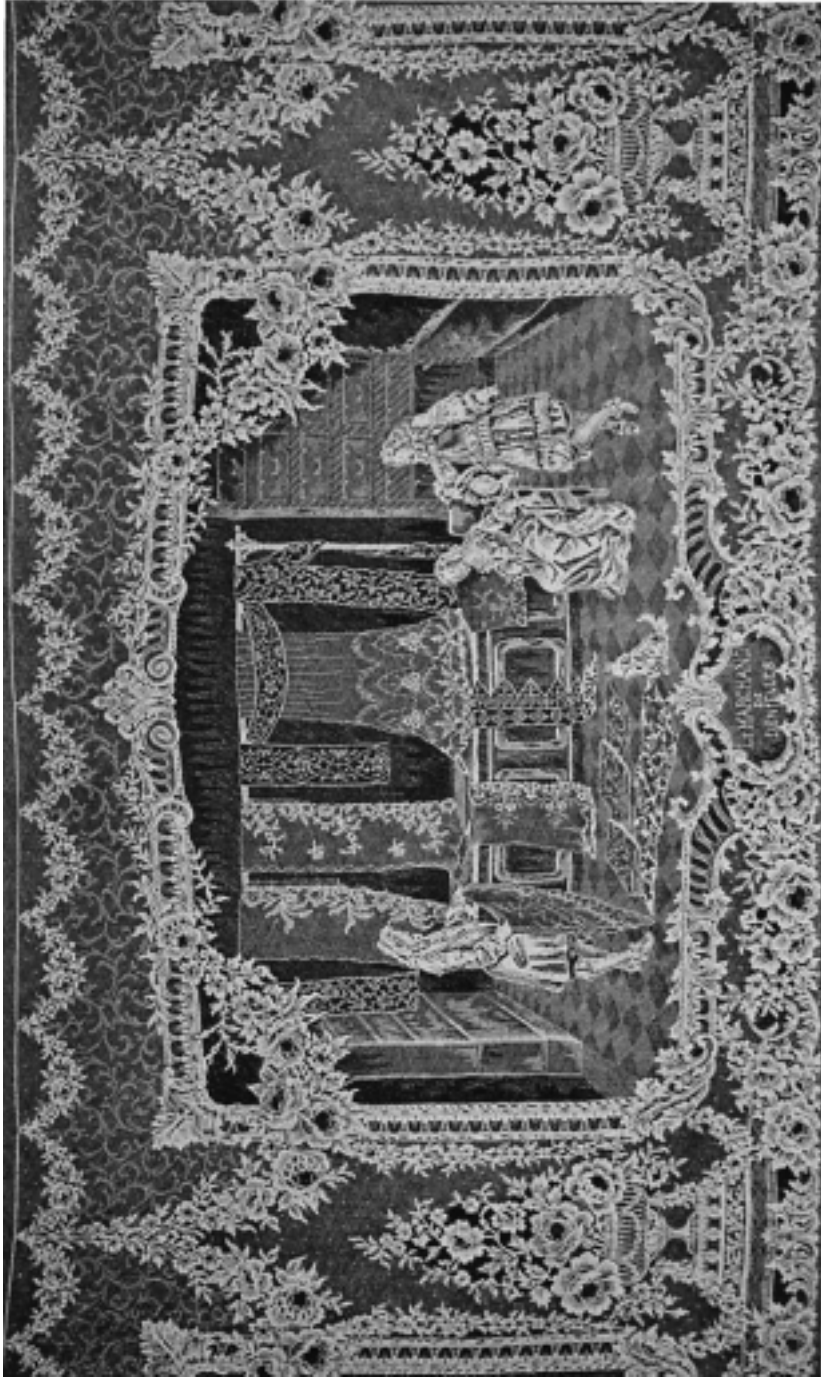
Laces made on the schiffli embroidery machine:

21. Gros point de Venise
22. Rose point de Venise
23. Point plat de Venise
24. Point de France
25. Point d'Argentan
26. Coralline
27. Punto in Aria
28. Points combined with Reticella
29. Black silk lace, mixed bobbin and needle-point laces
30. Imitation of Irish crochet lace
31. Imitation of Irish crochet lace

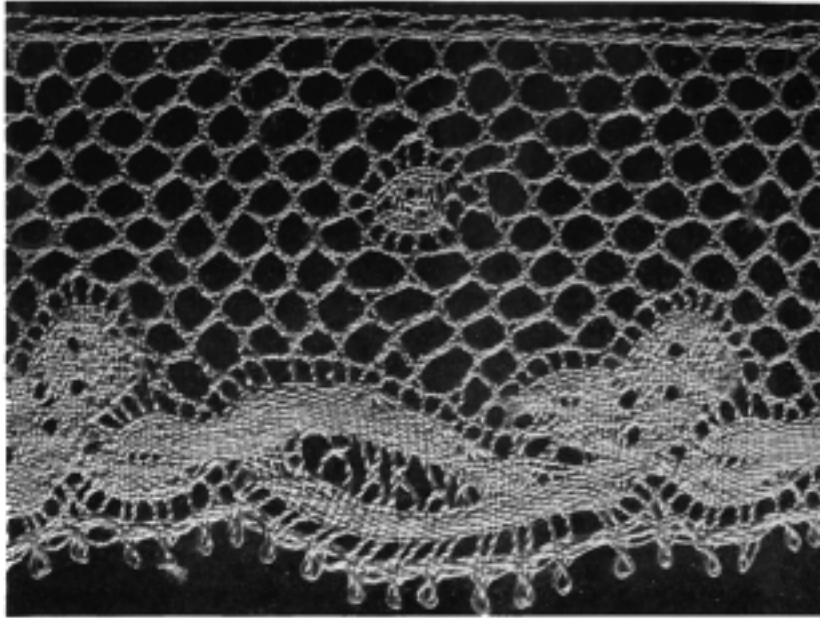


I. CHANTILLY LACE, MACHINE-MADE IMITATION OF HAND-MADE BOBBIN LACE.  
MADE ON THE BOBBINET-JACQUARD OR PUSHER MACHINE.

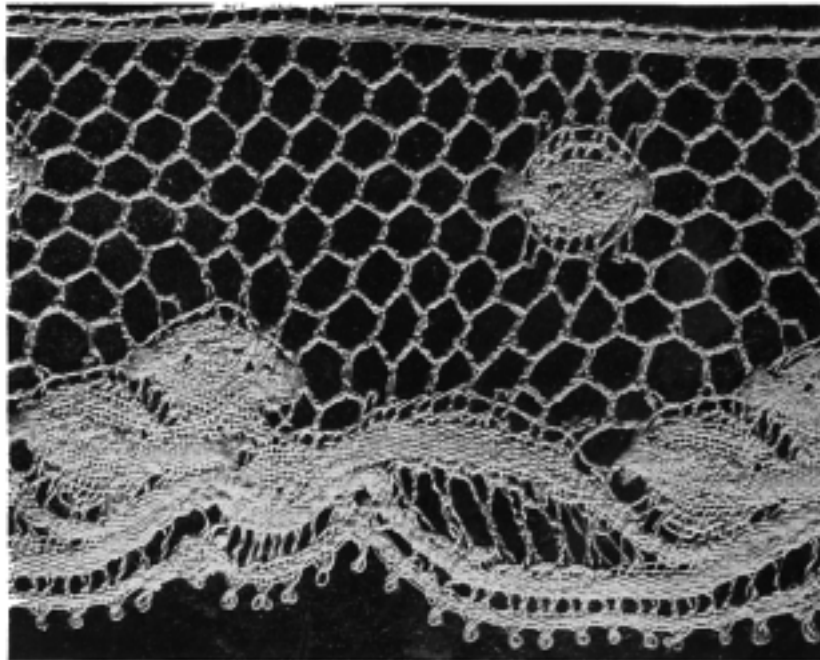




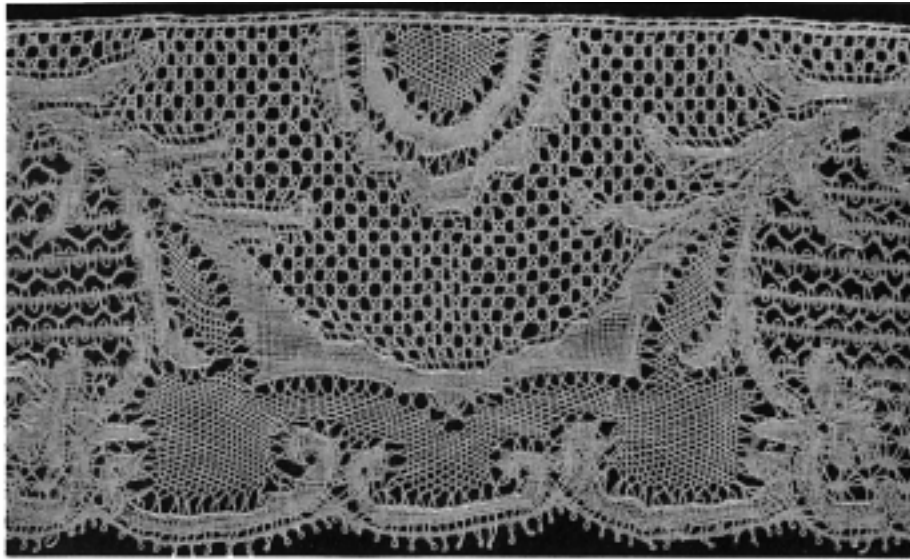
2. LE MARCHAND DE DENTELLES. (SIZE 65 INCHES X 37 INCHES.)  
MADE ON THE BOBBINET-JACQUARD OR PUSHER MACHINE.



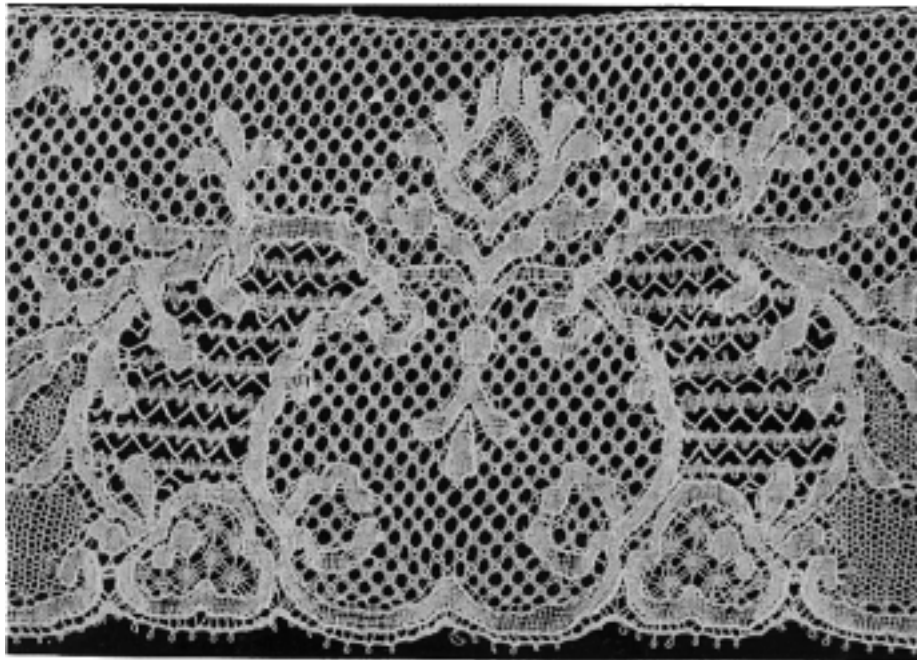
3. HAND-MADE VALENCIENNES LACE.



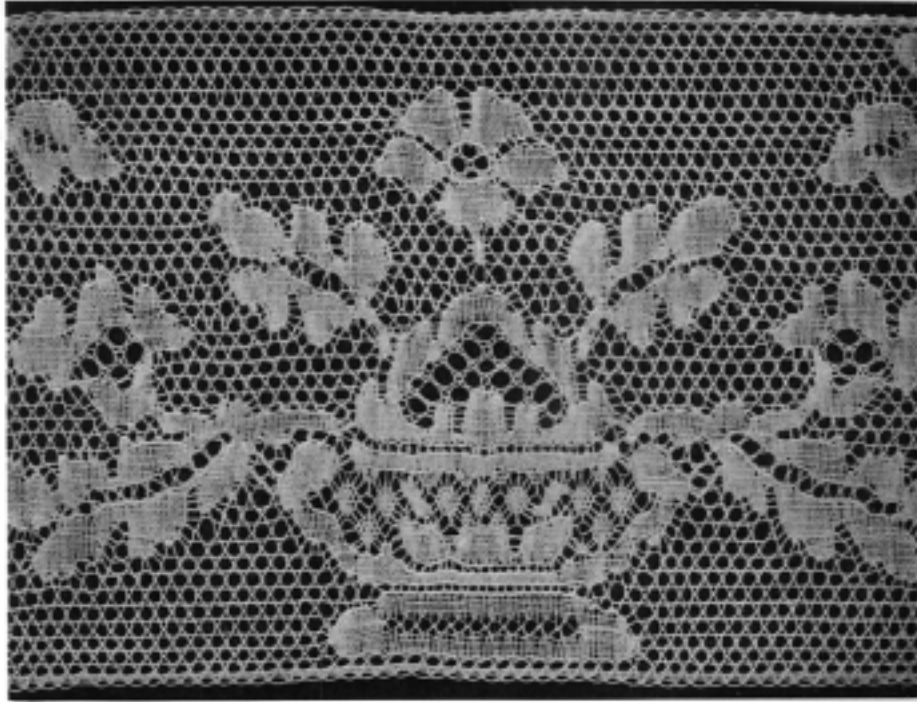
4. FRENCH MACHINE-MADE VRAIE VALENCIENNES CALAIS VAL. OR "FIL PASSÉ" LACE.  
MADE ON THE LEVERS LACE MACHINE.



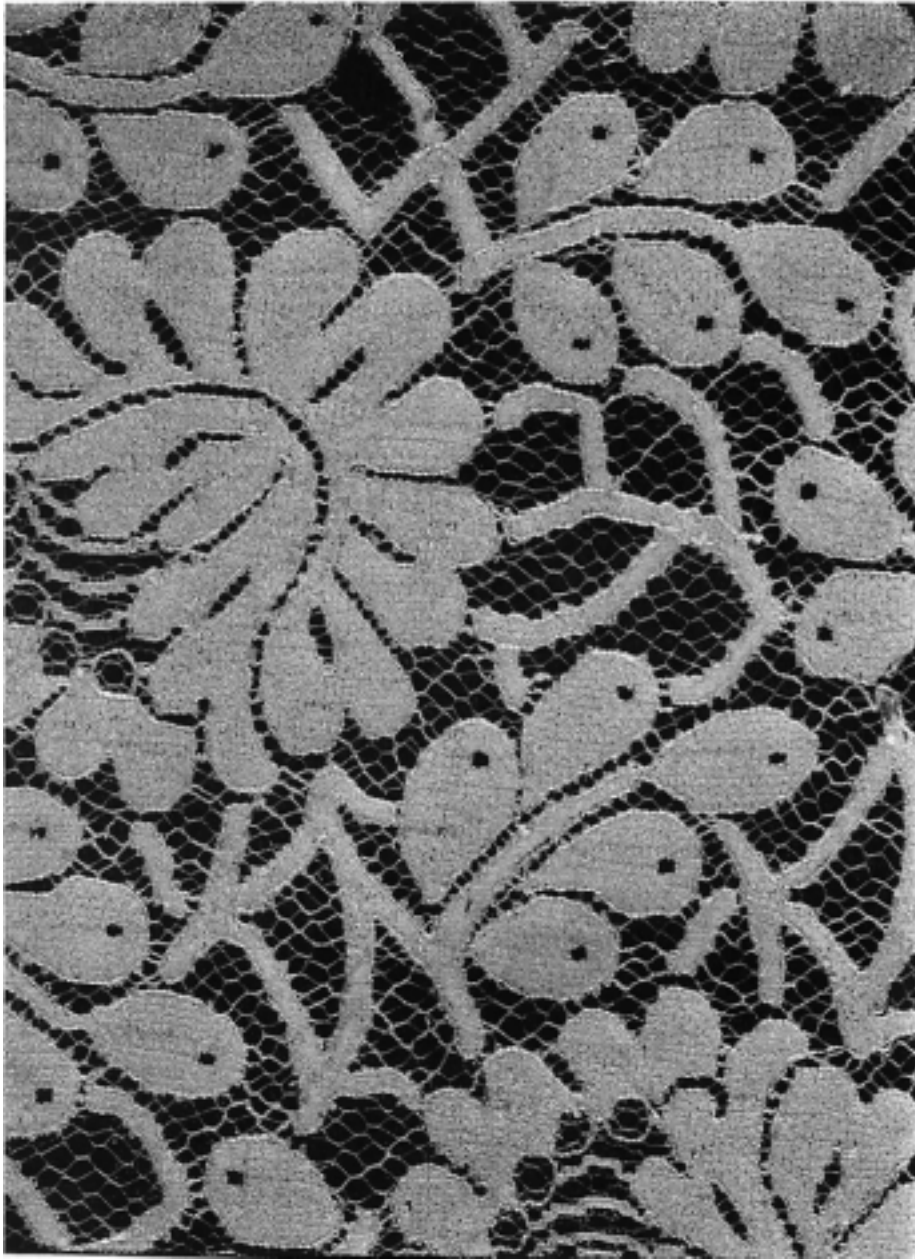
5. POINT DE FLANDRE, HAND-MADE.



6. MACHINE-MADE IMITATION OF THE SAME PATTERN.  
MADE ON THE LEVERS LACE MACHINE.

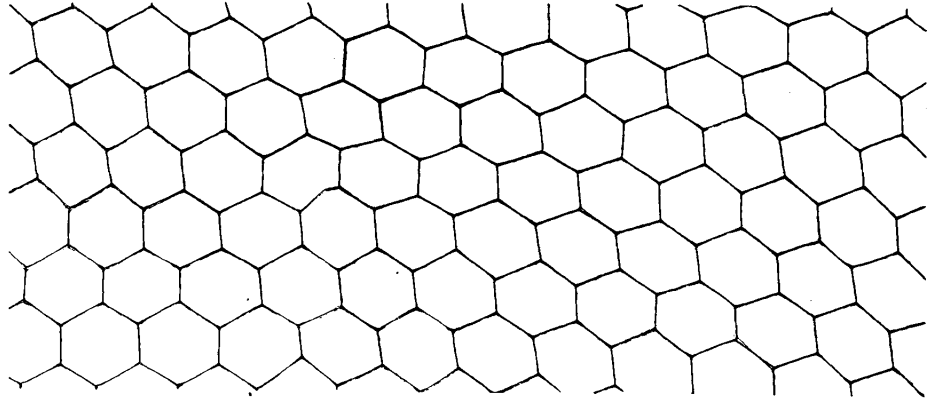


7. "POTTEN KANT," MACHINE-MADE.  
MADE ON THE LEVERS LACE MACHINE.

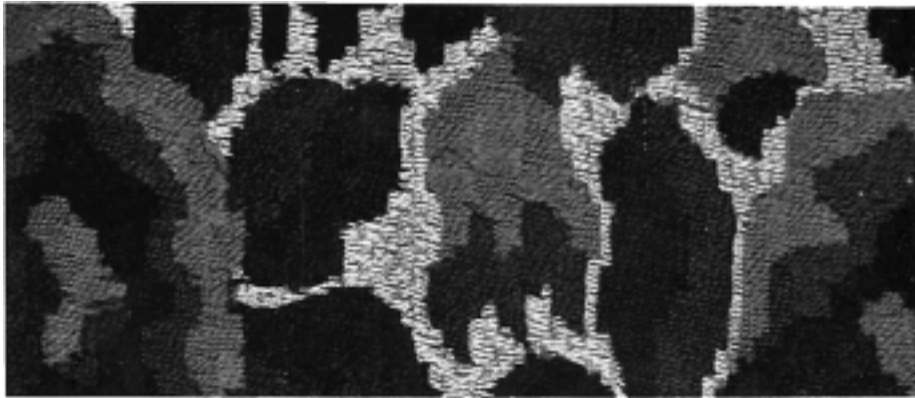


8. SILK SPANISH LACE, MACHINE-MADE.  
MADE ON THE LEVERS LACE MACHINE.

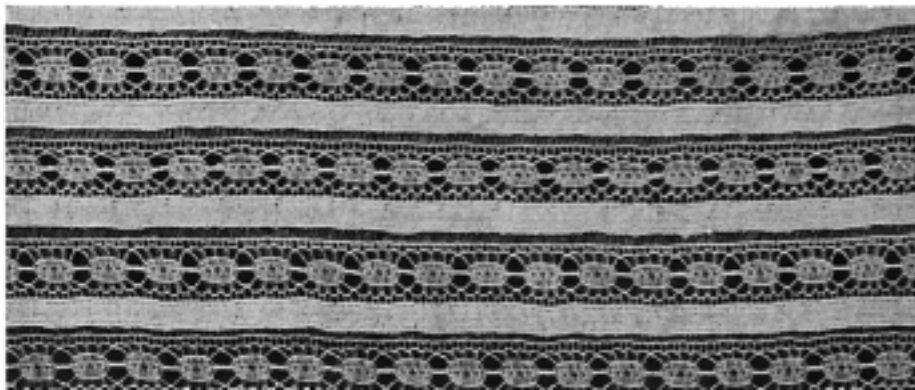
CONTRASTS



9. SILK VEILING.

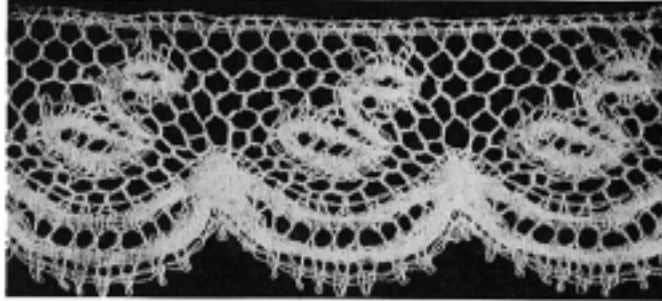


10. WOOL FABRIC.

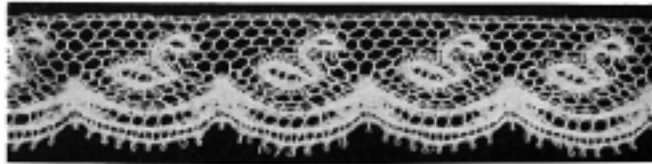


11. LACE TUCK.

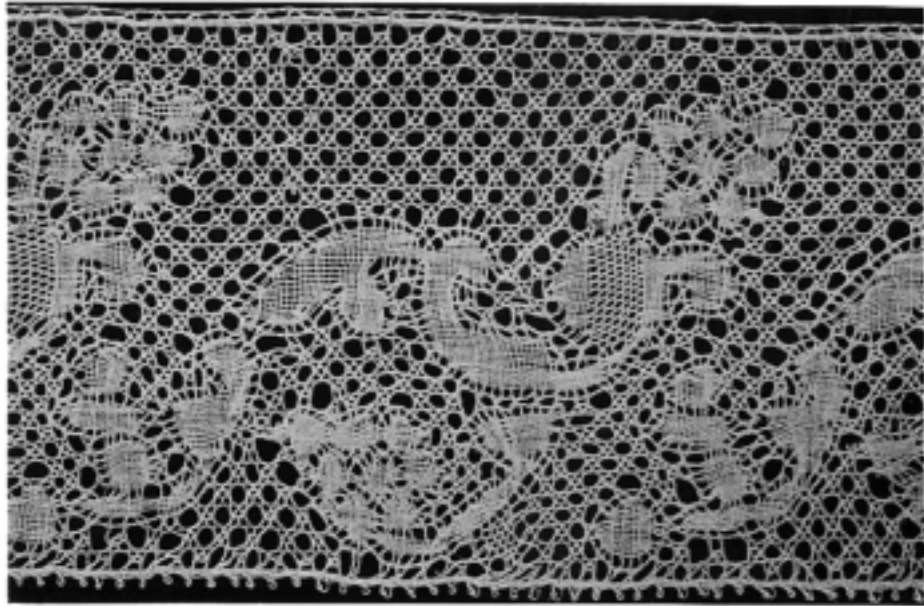
9, 10 AND 11 MADE ON THE LEVERS LACE MACHINE.



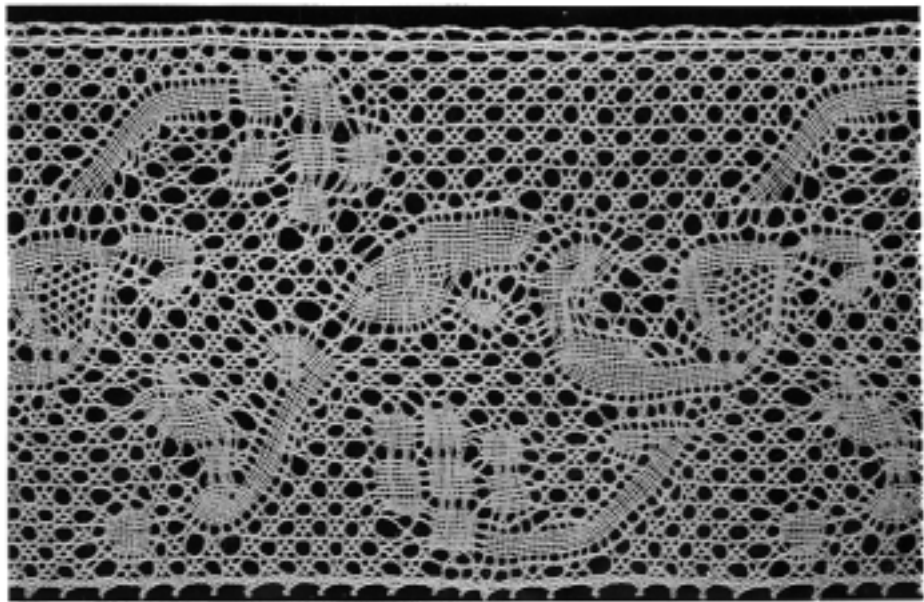
12. IMITATION OF HAND-MADE VALENCIENNES.  
MADE ON THE BARMEN LACE MACHINE.



13. THE SAME PATTERN MADE BY DIFFERENT  
MANIPULATION ON THE SAME MACHINE.

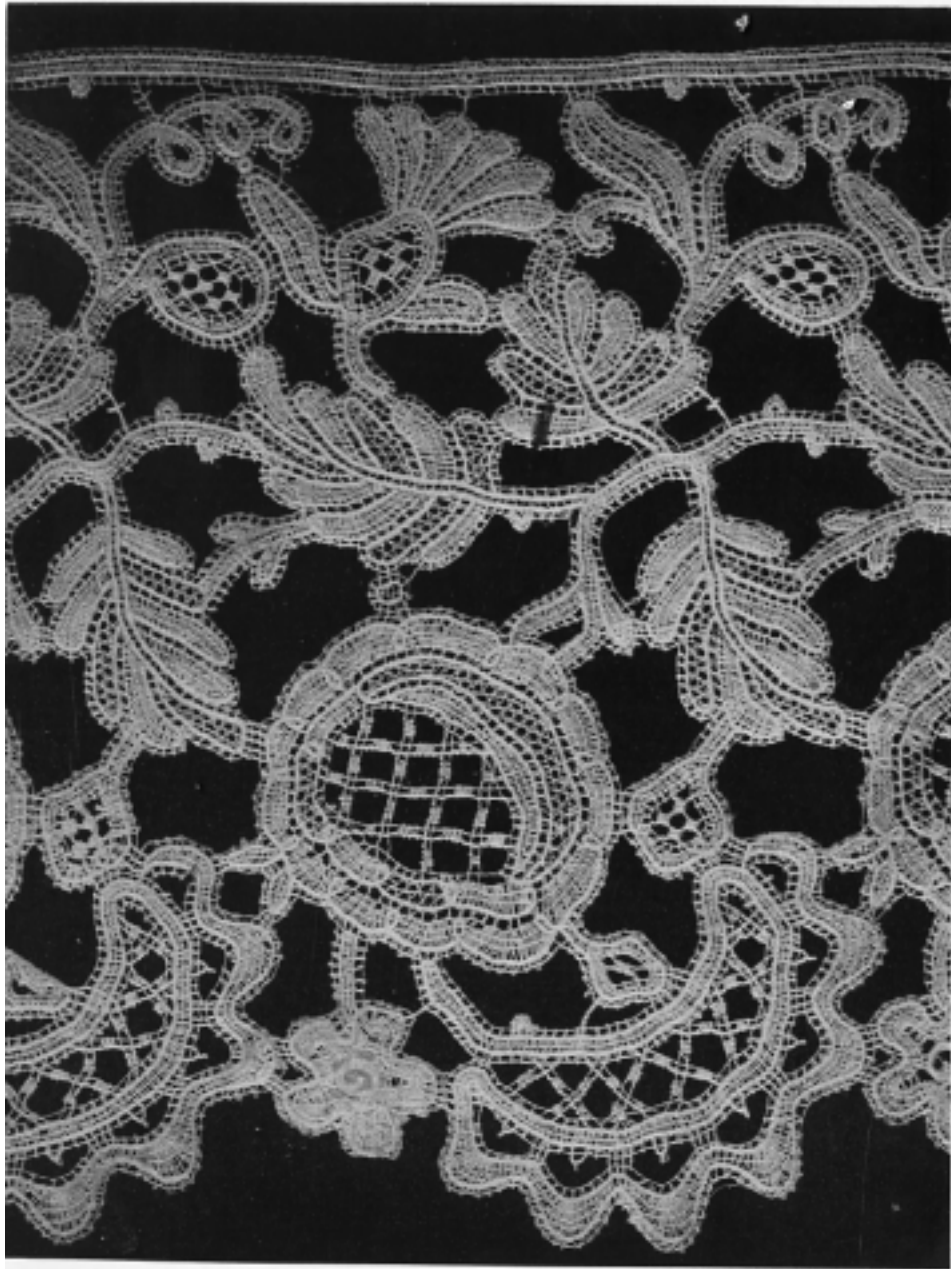


14. BINCHE LACE, HAND-MADE. LE LIMAÇON.

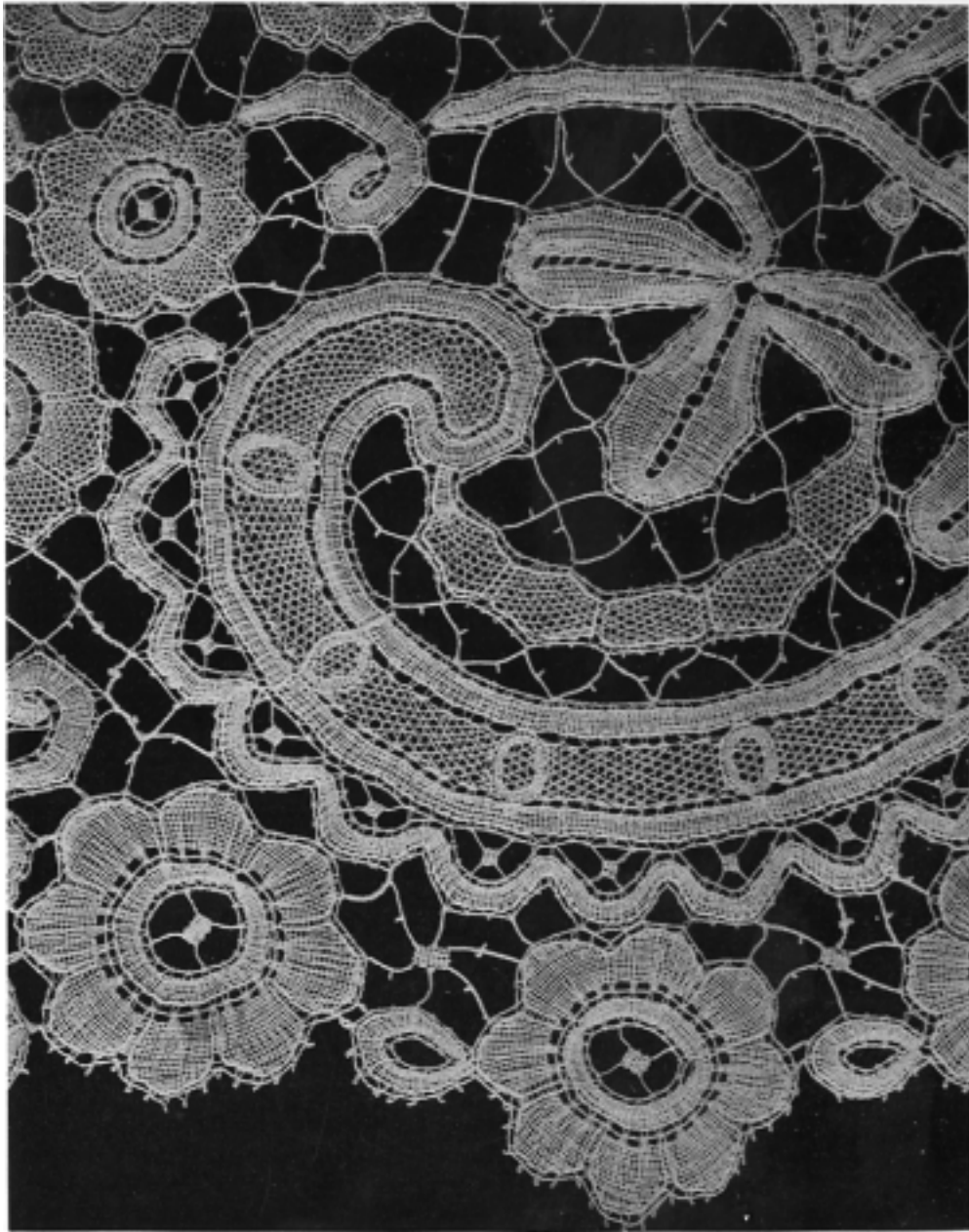


15. MACHINE-MADE IMITATION. LE LIMAÇON.  
MADE ON THE BARMEN LACE MACHINE.

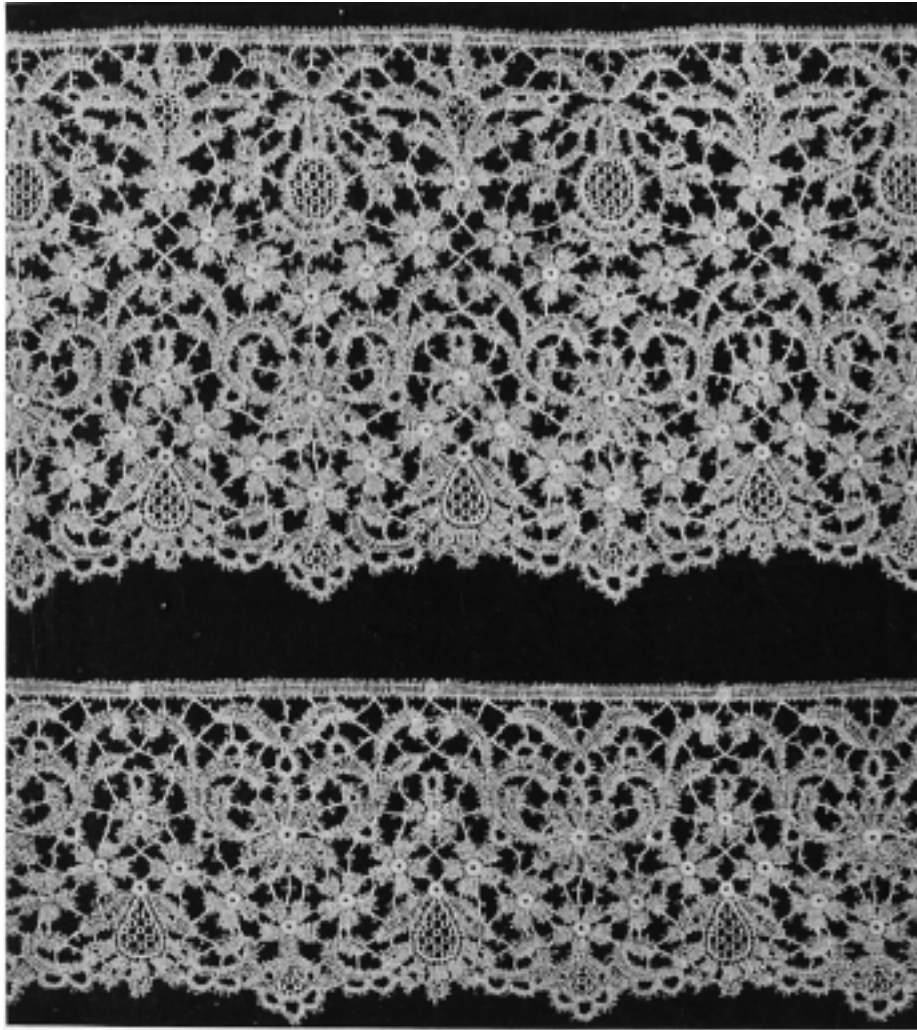




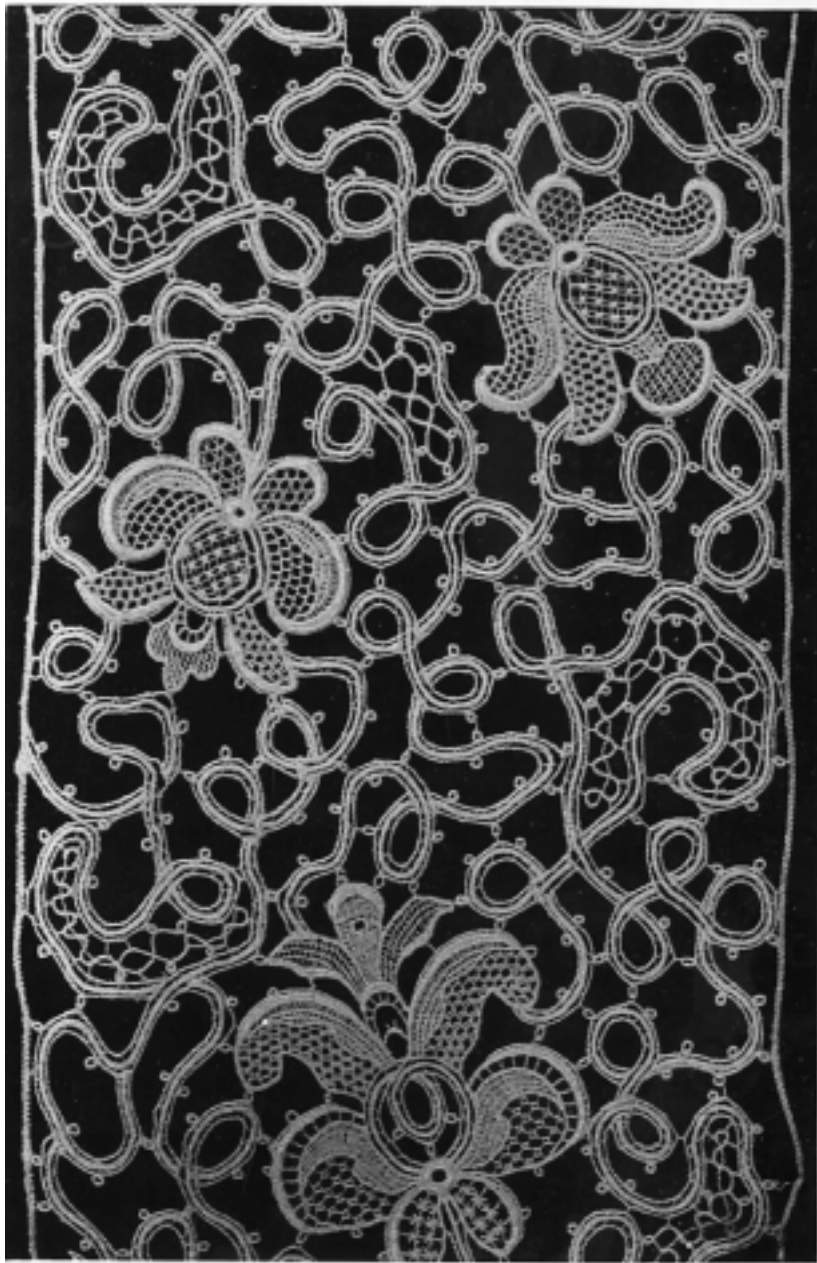
16. DUCHESSÉ LACE, MACHINE-MADE.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



17. BRUGES BOBBIN LACE, MACHINE-MADE IMITATION.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



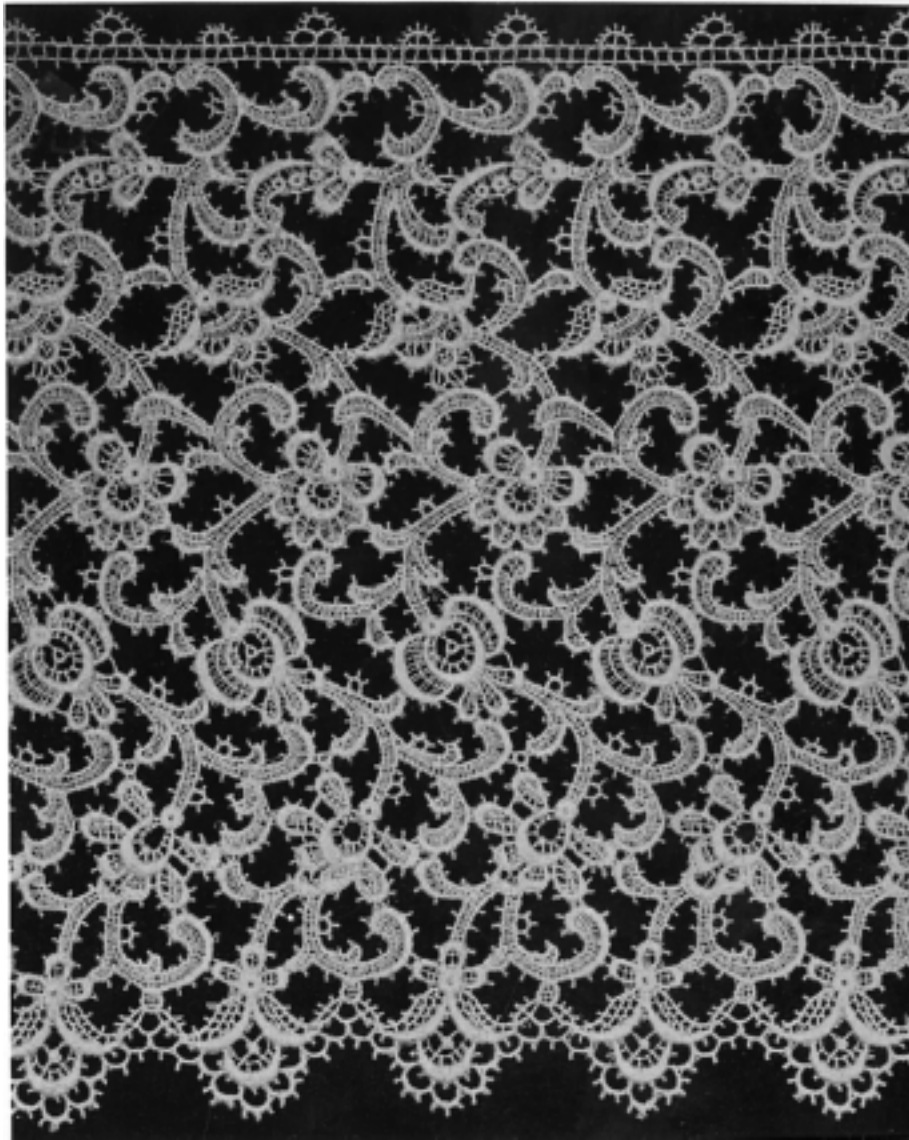
18, 19. ROSALINE LACE, MACHINE-MADE IMITATION.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



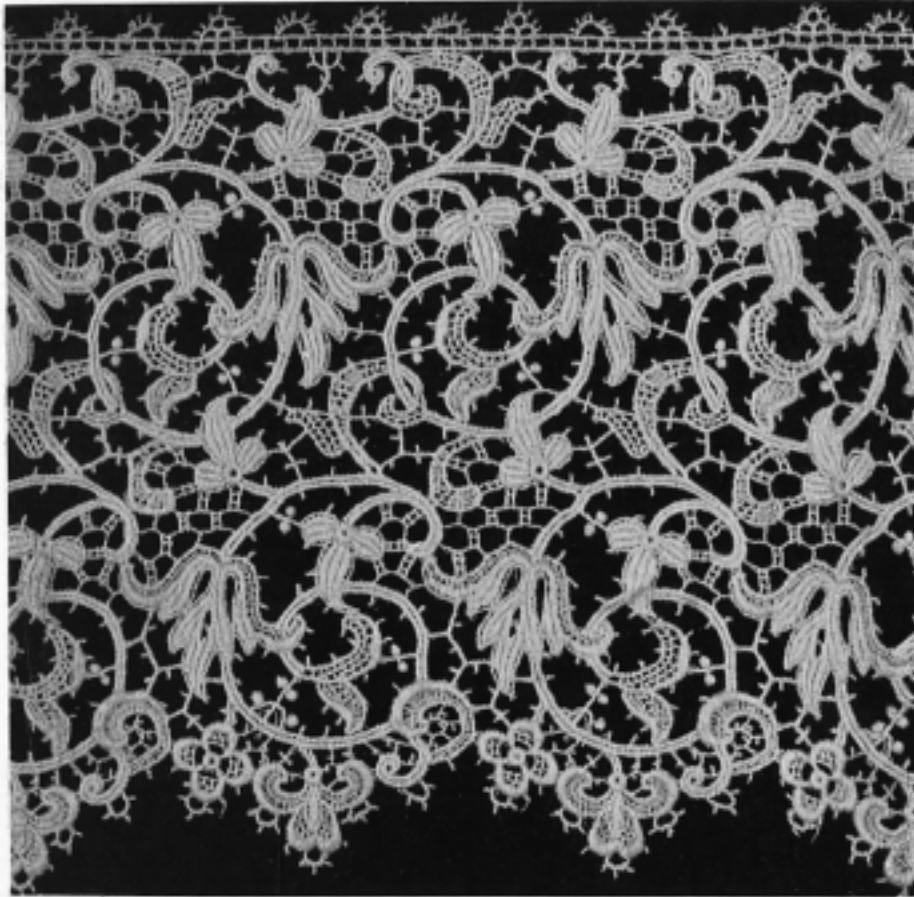
20. GUIPURE LACE, MACHINE-MADE IMITATION.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



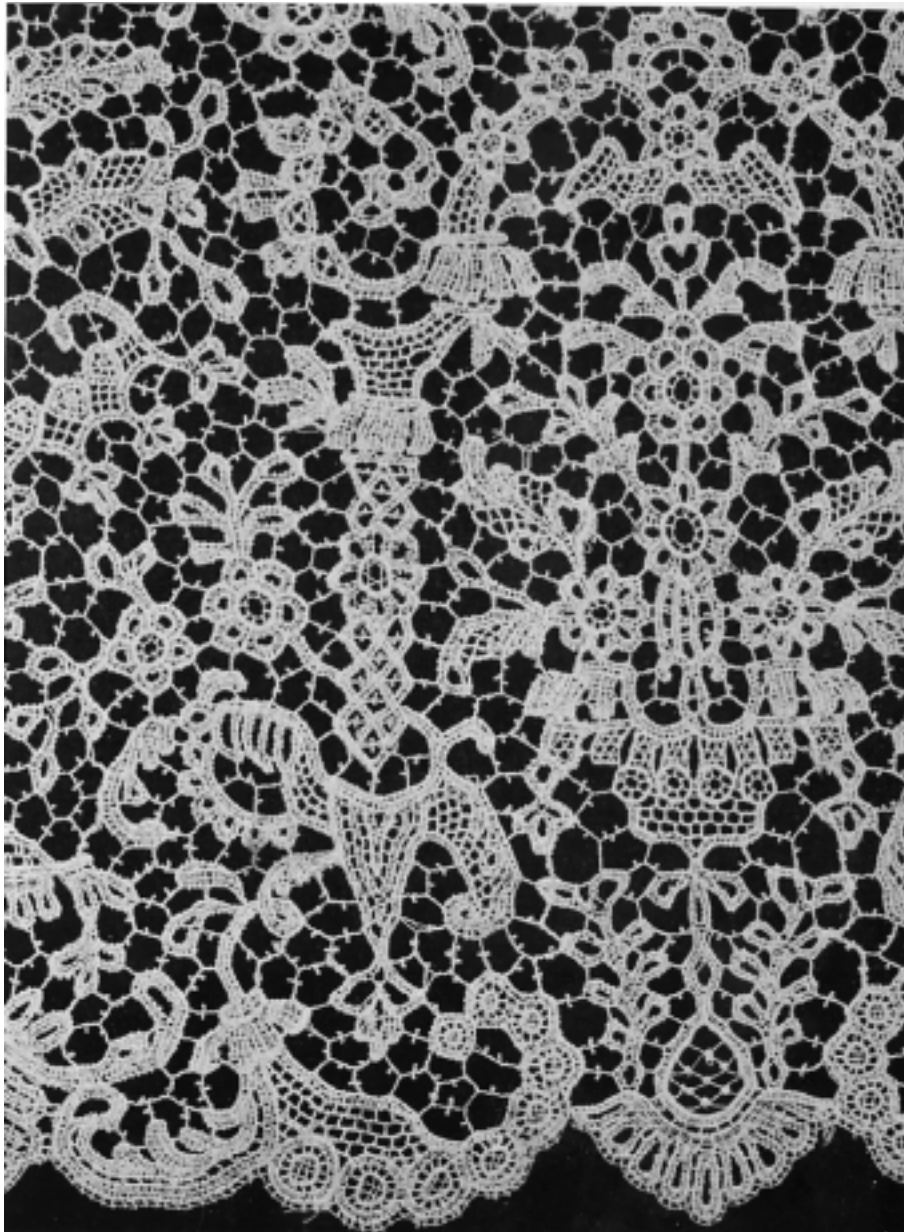
21. GROS POINT DE VENISE, MACHINE-MADE COPY OF HAND-MADE NEEDLE-POINT.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



22. ROSE POINT DE VENISE, MACHINE-MADE COPY OF HAND-MADE NEEDLE-POINT.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)

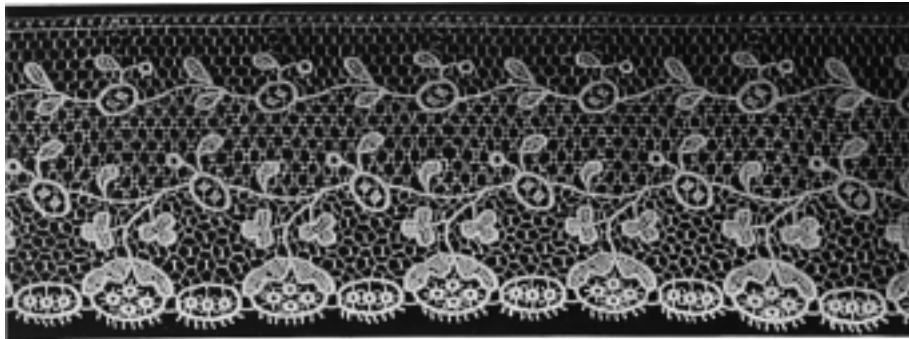


23. POINT PLAT DE VENISE, MACHINE-MADE COPY OF HAND-MADE NEEDLE-POINT.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)

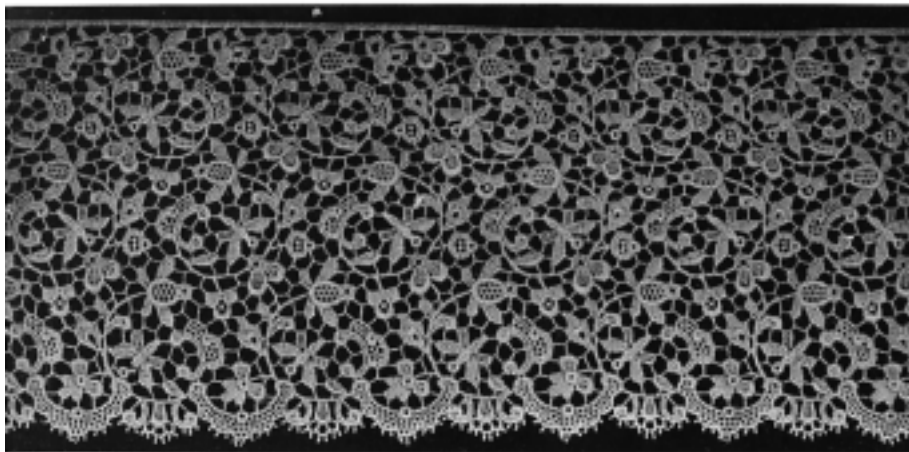


24. POINT DE FRANCE, MACHINE-MADE COPY OF HAND-MADE NEEDLE-POINT.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)

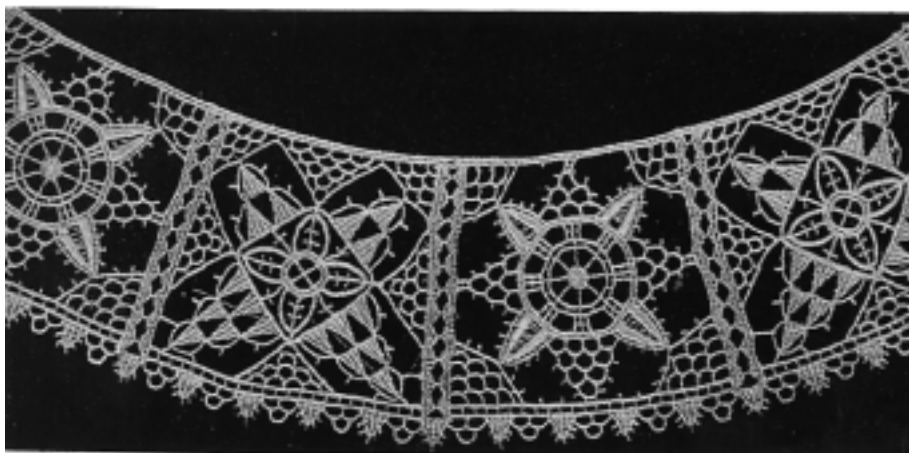




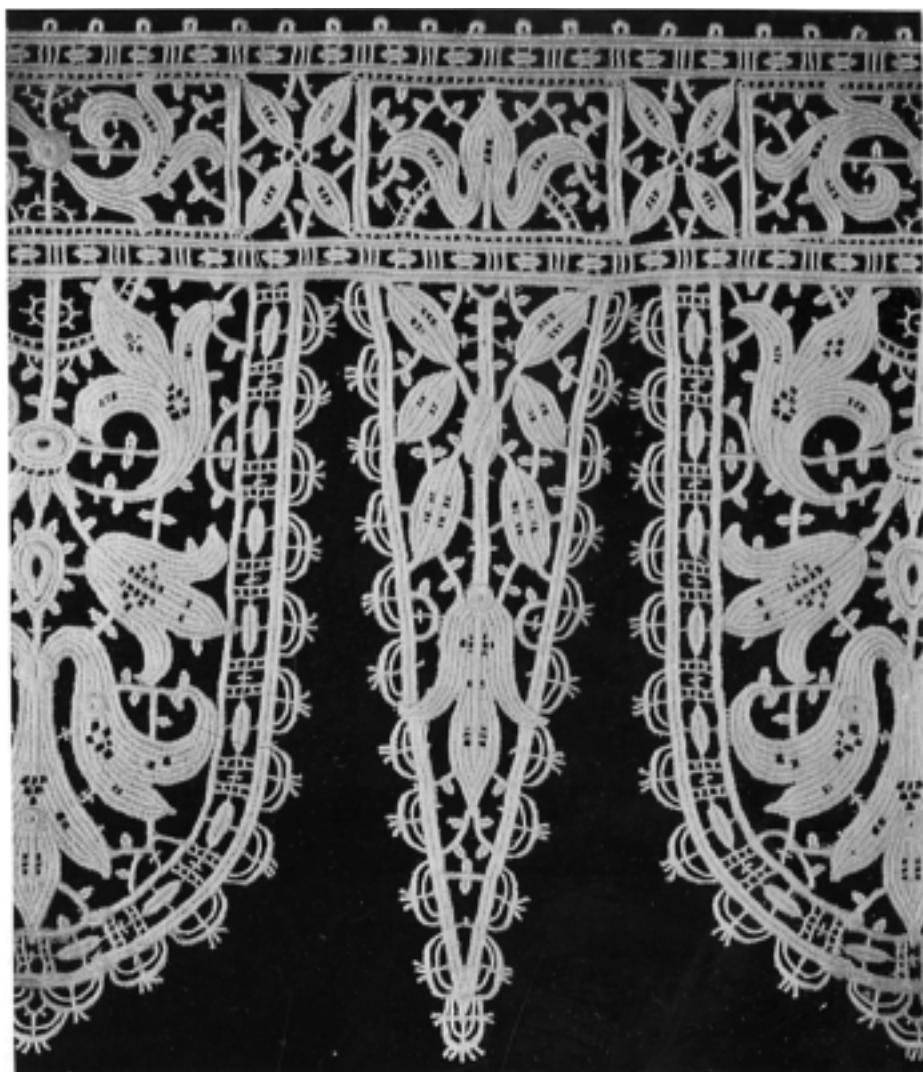
25. POINT D'ARGENTAN.



26. CORALLINE.



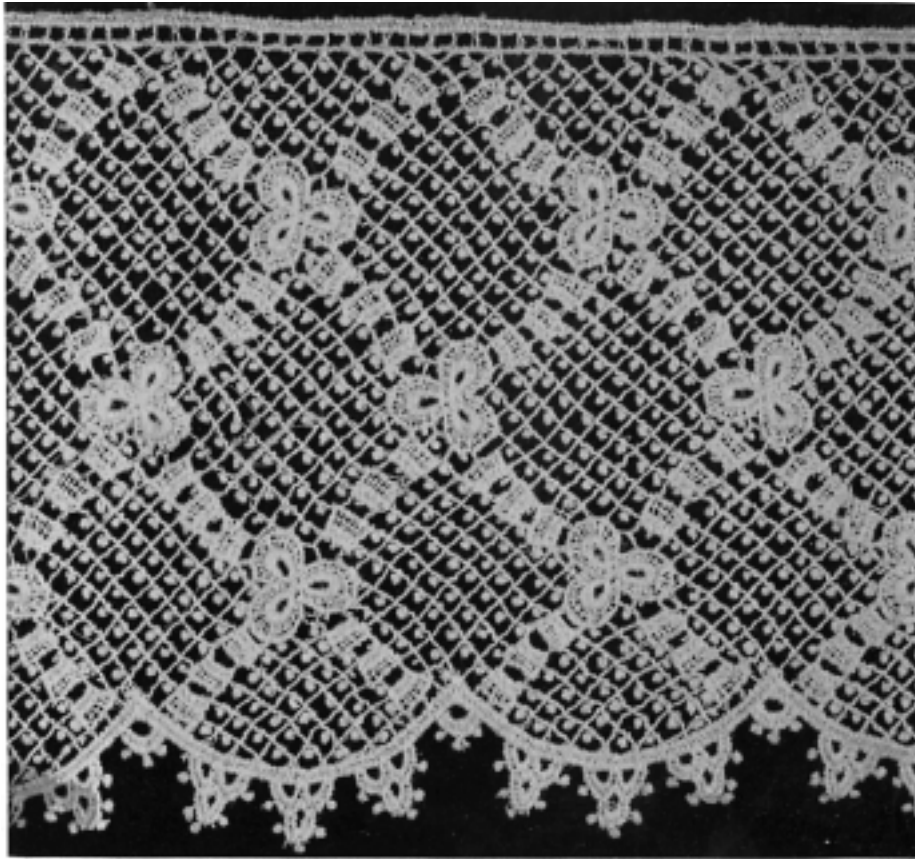
27. PUNTO IN ARIA, MACHINE-MADE COPY OF HAND-MADE NEEDLE-POINT.  
25, 26 AND 27 MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



28. POINTS COMBINED WITH RETICELLA.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



29. BLACK SILK LACE, IMITATION OF MIXED BOBBIN  
AND NEEDLE-POINT LACES.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE.



30. IMITATION OF IRISH CROCHET LACE.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



31. IMITATION OF IRISH CROCHET LACE.  
MADE ON THE SCHIFFLI EMBROIDERY MACHINE. (BURNT-OUT LACE.)



A PLATE FROM LA MODE ILLUSTRÉ OF 1867 SHOWING COSTUMES BY THE MAGASINS  
DU LOUVRE USING MACHINE-MADE LACE.