

Lace.

THIS delicate and beautiful fabric, which has always been esteemed one of the most ornamental parts of dress, may lay claim to high antiquity, as it appears from paintings to have been used for the borders on dresses of Grecian ladies. It probably arrived at its greatest perfection in the Netherlands, particularly in Antwerp, Brussels, Mechlin, Louvaine, and other cities. These laces were rich and durable, and were worked by hand on the cushion or pillow. Honiton lace derived its name from the place of its manufacture, Honiton, in Devonshire, England, and in quality nearly if not quite equals the best Brussels point.

Lace is a delicate network formed of thread cotton or silk, the meshes of which are varied in their figure, being eight-sided, six-sided, etc. The various kinds are denominated either from the particular mode of working. *Brussels* is the most valuable. There are two kinds: *Brussels ground*, having a hexagonal mesh formed by plating and twisting four threads of flax to a perpendicular line of mesh; *Brussels wire ground*, made of silk, meshes partly straight and partly arched. The pattern is worked separately and set on by the needle. The finest specimen of Brussels lace is so complicated as to require the labor of seven persons on one piece, and each operative is employed at distinct features of the work. The thread used is of exquisite fineness, which is spun in dark underground rooms, where it is sufficiently moist to prevent the thread from separating. It is so delicate as scarcely to be seen, and the room is so arranged that all the light admitted shall fall on the work. It is such material that renders the genuine Brussels ground so costly.

Mechlin is an hexagonal mesh, formed of three flax

threads, twisted and platted to a perpendicular line or pillar. The pattern is worked in the net. *Valenciennes* has an irregular hexagon, formed of the threads partly twisted and platted at the top of the mesh. The pattern is worked in the net similar to Mechlin lace. On a piece of Valenciennes, not two inches wide, two or three hundred bobbins are used; even eight hundred are sometimes used on the same pillow. The more frequent the twists the clearer and more beautiful will be the lace. Belgium sells of this lace alone over four millions of dollars worth annually. Chantilly lace is always black and used chiefly for veils and flounces. Real chantilly is very fine and costly.

Lisle has a diamond mesh, formed of two threads platted to a pillar. *Atençon* (called *Blanda*) hexagon, of two threads, is considered inferior to any made on the cushion. *Atençon point*, formed of two threads to a pillar with octagon and square meshes alternately. *Single press point*, called when not ornamented *tulle*, and when ornamented *dentelle*, made of silk, is an inferior net, but attractive from the beautiful manner in which it is stiffened. *Pillow, cushion, or thread* lace is worked on the pillow or cushion, and being made of linen thread, is the most durable. No lace will bear washing without injury except thread lace. Its origin was quite romantic. The story is that a sailor brought to his lady love a splendid bunch of "mermaid's lace," which is generally called "coralline." The girl was a lace-maker and quite artistic in her taste. She greatly admired the delicate beauty of the coralline and imitated on her lace the beautiful lines of the sea weed.

Bobinet is a machine-made lace. The threads are entwined together so as to form perfectly regular six-sided meshes.

Not many years ago, all lace was made by hand of flax thread, and as the process was extremely tedious, particularly when of great width, with complicated patterns worked by the needle, it was very expensive; at present, machinery is also employed to produce it from cotton thread, and the consequence is that the price of lace has fallen in a degree of which we scarcely have any example in manufactures. Lace made by hand, or as it is called *pillow* or *bone* lace, is worked upon a pillow or cushion upon which a piece of stiff parchment is stretched, having a number of holes pricked through it to form a pattern of the intended lace. Through these holes pins are stuck into the pillow, and the fine threads wound upon small bobbins, made of ivory or bone, are woven around the pins and twisted round each other in various ways to form the required pattern.

A frame-work knitter of Nottingham, England, named Hammond, about the year 1768, was the first who made lace by machinery. Dissipated in habits, and destitute of money, employment, or credit, the idea struck him, while looking at the broad lace on his wife's cap, that he could fabricate a similar article by means of his stocking frame. He tried and succeeded, working a complete revolution in the entire manufacture of lace.

The embroidery of lace or working figured patterns on it was at first all done by hand in the tambour, and many females still earn a miserable pittance by their labor at this work, particularly at Nottingham; but even of this a great deal is now done by machines that drive a multitude of needles. When the net is to be embroidered by hand, a pattern is first drawn on paper; if the quantity to be embroidered is considerable, the design is cut on a wooden block, and printed on the net; after being embroidered the net has next to be bleached and dyed if required. It is afterward "dressed," or stiffened, by being dipped into a mixture of gum, paste, and water and stretched on a frame by pins until it is dry.

Gold lace is formed of threads made by covering yellow silk thread with flattened gold wire; this thread is covered, being afterward woven into lace or cloth. The gold wire is seldom made entirely of gold, but is, in fact, only silver wire gilt, and the manufacture of it exhibits a striking instance of the ductility

of gold and the extreme thinness to which it can be reduced. To form it a cylindrical ingot of silver is superficially gilt, and is afterwards drawn into wire by passing it through a succession of holes in a steel plate each one smaller than the other. The fine wire so produced is then flattened by a flattening mill. The gold with which the ingot is covered is not above the $\frac{1}{4000}$ th or $\frac{1}{5000}$ th of an inch, and sometimes not the $\frac{1}{10000}$ th of an inch, being thin gold leaf burnished on the silver. When the ingot has passed through the several holes required to form it into fine wire, it has been calculated that the thickness of the gold is only the $\frac{1}{1340000}$ th part of an inch, but by flattening its surface is much increased and consequently the gold is still thinner. Reaumur's calculation made its thickness still less, only $\frac{1}{3340000}$ th part of an inch, and yet the gilding is entire; the best microscope does not show the least break. The flattened gold wire so formed is twisted round a silk thread by means of a curious complex machine, which causes several of the wires to go round the silk at once, so that each wire shall just touch another, the whole forming a complete covering.