Brussels Carpet. A carpet having a heavy linen web, inclosed in worsted yarns of different colors, raised into loops to form the pattern. The ordinary Brussels carpet has an uncut pile. In the imperial Brussels the figure is raised above the ground and its pile is cut, but the ground is uncut.

In the illustration the small dots represent the ends of the linen warp-threads; the double waving lines the linen warp-threads; the five lines inclosed between the linen warp and weft represent the worsted yarn which is pulled upon to form loops over the wires, which are represented in the figure by the larger dots, and are subsequently withdrawn.

The pattern is formed by bringing to the surface, at any particular spot, such one of the colored yarns as is required, and they are formed into loops by being turned over wires. As the yarns are taken up very unequally, they are not wound upon a yarnbeam, but are separately wound upon bobbins arranged on frames at the back of the loom, a small leaden weight being attached to each bobbin to give it the required tension.

In the Brussels-carpet loom there are as many frames as there are colors, and the number of bobbins is regulated by the width of the carpet. With a yard-wide carpet there are 260 bobbins to a frame.

Fig. 560.

Brussels Carpet.

Fig. 561.

Brussels-Carpet Loom.

One lash is necessary for every set or row of colors that has to be drawn to the surface, and the lashes are taken in regular succession till the pattern is complete.

The number of lashes required will depend upon the number of weft-threads which occur in the regular recurrence of a complete pattern. If the pattern be a yard long, it may require as many as 320 lashes. The lashes are pulled by a boy who is called the drawor, in the manner of the Drawloom (which see). Like the latter, the arrangement described has been superseded to some extent by the Jacquard attachment.

In operation, the first lash being pulled raises one fifth of the yarns, their colors being such as to form the commencement of the pattern. A light wooden board termed a sword is set up on edge beneath the raised ends. The lash is let go; a round wire is inserted in the bowen, or opening formed by the sword, which is then withdrawn. The weaver then depresses a treadle which works the heddles and crosses the linen warps, and depresses all the worsted ends except those loops over the wire. The shuttle with a linen weft is then thrown; the other treadle is depressed, which crosses the warps, again locking the linen weft and raising the worsted ends. Having thrown another linen weft-thread, and driven all home against the web by the batten, he repeats the process, the drawor pulling on the second lash and so on. When a number of wires are thus employed, the ones farthest from the batten may be withdrawn and used over again. Sixty wires form a set.

In making Wilton or pile carpet the wires are flatted and have a groove in top, acting as a director for the knife which cuts the row of loops and releases the wire.

The quality of Brussels and Wilton carpets is estimated by the number of wires to the inch. The usual number for Brussels is nine, and for Wilton ten.

In either fabric great care is requisite in beating up evenly, or the pattern would not match when the breadth were joined together at the sides. A bell rings when 64, 80, or 90 lashes have been woven, and then the weaver tests by a measure whether the required number of lashes measures 3 of a yard. If too short, he repeats the last lash; if too long, he omits it.

As the five ends run throughout the yarn while only one of the five is taken up on an average at each lash, it has been attempted to dye the yarn in places, so as to make one set of ends fill the various colors of the pattern. See Printed Carpet.