

patents after patents were taken out, resulting mostly in disappointment.

The machine for making "bobbin" net was invented by John Heathcoat, son of a farmer at Longwhatton (Leicestershire). After serving his apprenticeship, he settled at Nottingham, and, while occupied in putting together stocking and net machines, gave his attention to improving the Mechlin net frame.⁵ In 1809, in conjunction with Mr. Lacy, he took out a patent for fourteen years for his new and highly ingenious bobbin-net machine, which he called Old Loughborough, after the town to which he then removed.

"Bobbin-net" was so named because the threads are wound upon bobbins.⁶ It was "twisted" instead of "looped" net. Heathcoat began by making net little more than an inch in width,⁷ and afterwards succeeded in producing it a yard wide. There are now machines which make it $3\frac{1}{2}$ yards in width.⁸

In 1811 that vandal association called the Luddites⁹ entered his manufactory and destroyed twenty-seven of his machines, of the value of 8000*l.* Indignant at their conduct, he removed to Tiverton,¹⁰ in Devonshire.

⁵ Mechlin net was disused in 1819, from its too great elasticity.

⁶ The "bobbins" on which the thread is wound for the weft consist of two circular copper plates riveted together, and fixed upon a small carriage or frame which moves backwards and forwards like a weaver's shuttle.

⁷ The Old Loughboro' employed sixty movements to form one mesh; a result now obtained by twelve. It produced 1000 meshes a minute—then thought a wonderful achievement, as by the pillow only five or six can be obtained: a good circular machine now produces 30,000 in the same time.

The quality of bobbin-net depends upon the smallness of the meshes, their equality in size, and the regularity of the hexagons.

⁸ Bobbin-net is measured by the "rack," which consists of 240 meshes. This mode of counting was adopted to avoid the frequent disagreements about measure which arose between the master and the workmen in consequence of the elasticity of the net. The exchange of

linen to cotton thread was the source of great regret to the Roman Catholic clergy, who by ecclesiastical law can only wear albs of flax.

⁹ This association was formed by Ludlam, or General Ludd, as he was called, a stocking-frame worker at Nottingham, in 1811, when prices had fallen. The Luddites, their faces covered with a black veil, armed with swords and pistols, paraded the streets at night, entered the workshops, and broke the machines with hammers. A thousand machines were thus destroyed. Soon the net-workers joined them and made a similar destruction of the bobbin-net machines. Although many were punished, it was only with the return of work that the society disappeared in 1817.

¹⁰ Heathcoat represented Tiverton from 1834 to 1859, colleague of Lord Palmerston.

Steam power was first introduced by Mr. J. Lindley, in 1815-16, but did not come into active operation till 1820; it became general 1822-23.