

CHAPTER IV.

JOHN LOMBE:

INTRODUCER OF THE SILK INDUSTRY INTO ENGLAND.

“By Commerce are acquired the two things which wise men account of all others the most necessary to the well-being of a Commonwealth : That is to say, a general Industry of Mind and Hardiness of Body, which never fail to be accompanied with Honour and Plenty. So that, questionless, when Commerce does not flourish, as well as other Professions, and when Particular Persons out of a habit of Laziness neglect at once the noblest way of employing their time and the fairest occasion for advancing their fortunes, that Kingdom, though otherwise never so glorious, wants something of being compleatly happy.”—*A Treatise touching the East India Trade* (1695).

INDUSTRY puts an entirely new face upon the productions of nature. By labour man has subjugated the world, reduced it to his dominion, and clothed the earth with a new garment. The first rude plough that man thrust into the soil, the first rude axe of stone with which he felled the pine, the first rude canoe scooped by him from its trunk to cross the river and reach the greener fields beyond, were each the outcome of a human faculty which brought within his reach some physical comfort he had never enjoyed before.

Material things became subject to the influence of labour. From the clay of the ground, man manufactured the vessels which were to contain his food. Out of the fleecy covering of sheep, he made clothes for himself

of many kinds; from the flax plant he drew its fibres, and made linen and cambric; from the hemp plant he made ropes and fishing nets; from the cotton pod he fabricated fustians, dimities, and calicoes. From the rags of these, or from weed and the shavings of wood, he made paper on which books and newspapers were printed. Lead was formed by him into printer's type, for the communication of knowledge without end.

But the most extraordinary changes of all were made in a heavy stone containing metal, dug out of the ground. With this, when smelted by wood or coal, and manipulated by experienced skill, iron was produced. From this extraordinary metal, the soul of every manufacture, and the mainspring perhaps of civilised society—arms, hammers, and axes were made; then knives, scissors, and needles; then machinery to hold and control the prodigious force of steam; and eventually railroads and locomotives, ironclads propelled by the screw, and iron and steel bridges miles in length.

The silk manufacture, though originating in the secretion of a tiny caterpillar, is perhaps equally extraordinary. Hundreds of thousands of pounds weight of this slender thread, no thicker than the filaments spun by a spider, give employment to millions of workers throughout the world. Silk, and the many textures wrought from this beautiful material, had long been known in the East; but the period cannot be fixed when man first divested the chrysalis of its dwelling, and discovered that the little yellow ball which adhered to the leaf or the mulberry tree, could be evolved into a slender filament, from which tissues of endless variety and beauty could be made. The Chinese were doubtless among the first who used the thread spun by the silkworm for the purposes of clothing. The manu-

facture went westward from China to India and Persia, and from thence to Europe. Alexander the Great brought home with him a store of rich silks from Persia.

Aristotle and Pliny give descriptions of the industrious little worm and its productions. Virgil is the first of the Roman writers who alludes to the production of silk in China; and the terms he employs show how little was then known about the article. It was introduced at Rome about the time of Julius Cæsar, who displayed a profusion of silks in some of his magnificent theatrical spectacles. Silk was so valuable that it was then sold for an equal weight of gold. Indeed, a law was passed that no man should disgrace himself by wearing a silken garment. The Emperor Heliogabalus despised the law, and wore a dress composed wholly of silk. The example thus set was followed by wealthy citizens. A demand for silk from the East soon became general.

It was not until about the middle of the sixth century that two Persian monks, who had long resided in China, and made themselves acquainted with the mode of rearing the silkworm, succeeded in carrying the eggs of the insect to Constantinople. Under their direction they were hatched and fed. A sufficient number of butterflies were saved to propagate the race, and mulberry trees were planted to afford nourishment to the rising generations of caterpillars. Thus the industry was propagated. It spread into the Italian peninsula; and eventually manufactures of silk velvet, damask, and satin became established in Venice, Milan, Florence, Lucca, and other places.

Indeed, for several centuries the manufacture of silk in Europe was for the most part confined to Italy. The rearing of silkworms was of great import-

ance in Modena, and yielded a considerable revenue to the State. The silk produced there was esteemed the best in Lombardy. Until the beginning of the sixteenth century, Bologna was the only city which possessed proper "throwing" mills, or the machinery requisite for twisting and preparing silken fibres for the weaver. Thousands of people were employed at Florence and Genoa about the same time in the silk manufacture. And at Venice it was held in such high esteem, that the business of a silk factory was considered a noble employment.*

It was long before the use of silk became general in England. "Silk," said an old writer, "does not immediately come hither from the Worm that spins and makes it, but passes many a Climate, travels many a Desert, employs many a Hand, loads many a Camel, and freights many a Ship before it arrives here; and when at last it comes, it is in return for other manufactures, or in exchange for our money."† It is said that the first pair of silk stockings was brought into England from Spain, and presented to Henry VIII. He had before worn hose of cloth. In the third year of Queen Elizabeth's reign, her tiring woman, Mrs. Montagu, presented her with a pair of black silk

* "This was equally the case with two other trades;—those of glass-maker and druggist, which brought no contamination upon nobility in Venice. In a country where wealth was concentrated in the hands of the powerful, it was no doubt highly judicious thus to encourage its employment for objects of public advantage. A feeling, more or less powerful, has always existed in the minds of the high-born,

against the employment of their time and wealth to purposes of commerce or manufactures. All trades, save only that of war, seem to have been held by them as in some sort degrading, and but little comporting with the dignity of aristocratic blood."—CABINET CYCLOPEDIA — *Silk Manufacture*, p. 20.

† *A Brief State of the Inland or Home Trade.* (Pamphlet.) 1730.

stockings as a New Year's gift; whereupon her Majesty asked if she could have any more, in which case she would wear no more cloth stockings. When James VI. of Scotland received the ambassadors sent to congratulate him upon his accession to the throne of Great Britain, he asked one of his lords to lend him his pair of silken hose, that he "might not appear a scrub before strangers." From these circumstances it will be observed how rare the wearing of silk was in England.

Shortly after becoming king, James I. endeavoured to establish the silk manufacture in England, as had already been successfully done in France. He gave every encouragement to the breeding of silkworms. He sent circular letters to all the counties of England, strongly recommending the inhabitants to plant mulberry trees. The trees were planted in many places, but the leaves did not ripen in sufficient time for the sustenance of the silkworms. The same attempt was made at Innes Shannon, near Bandon, in Ireland, by the Huguenot refugees, but proved abortive. The climate proved too cold or damp for the rearing of silkworms with advantage. All that remains is "The Mulberry Field," which still retains its name. Nevertheless the Huguenots successfully established the silk manufacture at London and Dublin, obtaining the spun silk from abroad.

Down to the beginning of last century, the Italians were the principal producers of organzine or thrown silk; and for a long time they succeeded in keeping their art a secret. Although the silk manufacture, as we have seen, was introduced into this country by the Huguenot artizans, the price of thrown silk was so great that it interfered very considerably with its progress. Organzine was principally made within the

dominions of Savoy, by means of a large and curious engine, the like of which did not exist elsewhere. The Italians, by the most severe laws, long preserved the mystery of the invention. The punishment prescribed by one of their laws to be inflicted upon anyone who discovered the secret, or attempted to carry it out of the Sardinian dominions, was death, with the forfeiture of all the goods the delinquent possessed; and the culprit was "to be afterwards painted on the outside of the prison walls, hanging to the gallows by one foot, with an inscription denoting the name and crime of the person, there to be continued for a perpetual mark of infamy."*

Nevertheless, a bold and ingenious man was found ready to brave all this danger in the endeavour to discover the secret. It may be remembered with what courage and determination the founder of the Foley family introduced the manufacture of nails into England. He went into the Danemora mine district, near Upsala in Sweden, fiddling his way among the miners; and after making two voyages, he at last wrested from them the secret of making nails, and introduced the new industry into the Staffordshire district.† The courage of John Lombe, who introduced the thrown-silk industry into England, was equally notable. He was a native of Norwich. Playfair, in his 'Family Antiquity' (vii. 312), says his name "may have been taken from the French Lolme, or de Lolme," as there were many persons of French

* *A Brief State of the Case relating to the Machine erected at Derby for making Italian Organzine Silk, which was discovered and brought into England with the utmost difficulty*

and hazard, and at the Sole Expense of Sir Thomas Lombe. House of Commons Paper, 28th January, 1731.

† *Self-Help*, p. 205.

and Flemish origin settled at Norwich towards the close of the sixteenth century; but there is no further information as to his special origin.

John Lombe's father, Henry Lombe, was a worsted weaver, and was twice married. By his first wife he had two sons, Thomas and Henry; and by his second, he had also two sons, Benjamin and John. At his death in 1695, he left his two brothers his "super-visors," or trustees, and directed them to educate his children in due time to some useful trade. Thomas, the eldest son, went to London. He was apprenticed to a trade, and succeeded in business, as we find him Sheriff of London and Middlesex in 1727, when in his forty-second year. He was also knighted in the same year, most probably on the accession of George II. to the throne.

John, the youngest son of the family, and half-brother of Thomas, was put an apprentice to a trade. In 1702, we find him at Derby, working as a mechanic with one Mr. Crotchet. This unfortunate gentleman started a small silk-mill at Derby, with the object of participating in the profits derived from the manufacture. "The wear of silks," says Hutton, in his 'History of Derby,' "was the taste of the ladies, and the British merchant was obliged to apply to the Italian with ready money for the article at an exorbitant price." Crotchet did not succeed in his undertaking. "Three engines were found necessary for the process; he had but one. An untoward trade is a dreadful sink for money; and an imprudent tradesman is still more dreadful. We often see instances where a fortune would last a man much longer if he lived upon his capital, than if he sent it into trade. Crotchet soon became insolvent."

John Lombe, who had been a mechanic in Crotchet's

silk mill, lost his situation accordingly. But he seems to have been possessed by an intense desire to ascertain the Italian method of silk-throwing. He could not learn it in England. There was no other method but going to Italy, getting into a silk mill, and learning the secret of the Italian art. He was a good mechanic and a clever draughtsman, besides being intelligent and fearless. But he had not the necessary money wherewith to proceed to Italy. His half-brother Thomas, however, was doing well in London, and was willing to help him with the requisite means. Accordingly, John set out for Italy, not long after the failure of Crotchet.

John Lombe succeeded in getting employment in a silk mill in Piedmont, where the art of silk-throwing was kept a secret. He was employed as a mechanic, and had thus an opportunity, in course of time, of becoming familiar with the operation of the engine. Hutton says that he bribed the workmen; but this would have been a dangerous step, and would probably have led to his expulsion, if not to his execution. Hutton had a great detestation of the first silk factory at Derby, where he was employed when a boy; and everything that he says about it must be taken *cum grano salis*. When the subject of renewing the patent was before Parliament in 1731, Mr. Perry, who supported the petition of Sir Thomas Lombe, said that "the art had been kept so secret in Piedmont, that no other nation could ever yet come at the invention, and that Sir Thomas and his brother resolved to make an attempt for the bringing of this invention into their own country. They knew that there would be great difficulty and danger in the undertaking, because the king of Sardinia had made it death for any man to discover this invention, or attempt to carry it out of his dominions. The petitioner's brother, however,

resolved to venture his person for the benefit and advantage of his native country, and Sir Thomas was resolved to venture his money, and to furnish his brother with whatever sums should be necessary for executing so bold and so generous a design. His brother went accordingly over to Italy; and after a long stay and a great expense in that country, he found means to see this engine so often, and to pry into the nature of it so narrowly, that he made himself master of the whole invention and of all the different parts and motions belonging to it."

John Lombe was absent from England for several years. While occupied with his investigations and making his drawings, it is said that it began to be rumoured that the Englishman was prying into the secret of the silk mill, and that he had to fly for his life. However this may be, he got on board an English ship, and returned to England in safety. He brought two Italian workmen with him, accustomed to the secrets of the silk trade. He arrived in London in 1716, when, after conferring with his brother, a specification was prepared and a patent for the organizing of raw silk was taken out in 1718. The patent was granted for fourteen years.

In the meantime, John Lombe arranged with the Corporation of the town of Derby for taking a lease of the island or swamp on the river Derwent, at a ground rental of 8*l.* a year. The island, which was well situated for water-power, was 500 feet long and 52 feet wide. Arrangements were at once made for erecting a silk mill thereon, the first large factory in England. It was constructed entirely at the expense of his brother Thomas. While the building was in progress, John Lombe hired various rooms in Derby, and particularly the Town Hall, where he erected temporary

engines turned by hand, and gave employment to a large number of poor people.

At length, after about three years' labour, the great silk mill was completed. It was founded upon huge piles of oak, from 16 to 20 feet long, driven into the swamp close to each other by an engine made for the purpose. The building was five stories high, contained eight large apartments, and had no fewer than 468 windows. The Lombes must have had great confidence in their speculation, as the building and the great engine for making the organzine silk, together with the other fittings, cost them about 30,000*l*.

One effect of the working of the mill was greatly to reduce the price of the thrown-silk, and to bring it below the cost of the Italian production. The King of Sardinia, having heard of the success of the Lombe's undertaking, prohibited the exportation of Piedmontese raw silk, which interrupted the course of their prosperity, until means were taken to find a renewed supply elsewhere.

And now comes the tragic part of the story, for which Mr. Hutton, the author of the 'History of Derby,' is responsible. As he worked in the silk mill when a boy, from 1730 to 1737, he doubtless heard it from the mill-hands, and there may be some truth in it, though mixed with a little romance. It is this:—Hutton says of John Lombe, that he "had not pursued this lucrative commerce more than three or four years when the Italians, who felt the effects from their want of trade, determined his destruction, and hoped that that of his works would follow. An artful woman came over in the character of a friend, associated with the parties, and assisted in the business. She attempted to gain both the Italian workmen, and succeeded with one. By these two slow poison was

supposed, and perhaps justly, to have been administered to John Lombe, who lingered two or three years in agony, and departed. The Italian ran away to his own country; and Madam was interrogated, but nothing transpired, except what strengthened suspicion." A strange story, if true.

Of the funeral, Hutton says:—"John Lombe's was the most superb ever known in Derby. A man of peaceable deportment, who had brought a beneficial manufactory into the place, employed the poor, and at advanced wages, could not fail meeting with respect, and his melancholy end with pity. Exclusive of the gentlemen who attended, all the people concerned in the works were invited. The procession marched in pairs, and extended the length of Full Street, the market-place, and Iron-gate; so that when the corpse entered All Saints, at St. Mary's Gate, the last couple left the house of the deceased, at the corner of Silk-mill Lane."

Thus John Lombe died and was buried at the early age of twenty-nine; and Thomas, the capitalist, continued the owner of the Derby silk mill. Hutton erroneously states that William succeeded, and that he shot himself. The Lombes had no brother of the name of William, and this part of Hutton's story is a romance.

The affairs of the Derby silk mill went on prosperously. Enough thrown silk was manufactured to supply the trade, and the weaving of silk became a thriving business. Indeed, English silk began to have a European reputation. In olden times it was said that "the stranger buys of the Englishman the case of the fox for a groat, and sells him the tail again for a shilling." But now the matter was reversed, and the saying was, "The Englishman buys silk of the

stranger for twenty marks, and sells him the same again for one hundred pounds."

But the patent was about to expire. It had been granted for only fourteen years; and a long time had elapsed before the engine could be put in operation, and the organzine manufactured. It was the only engine in the kingdom. Joshua Gee, writing in 1731, says: "As we have but one Water Engine in the kingdom for throwing silk, if that should be destroyed by fire or any other accident, it would make the continuance of throwing fine silk very precarious; and it is very much to be doubted whether all the men now living in the kingdom could make another." Gee accordingly recommended that three or four more should be erected at the public expense, "according to the model of that at Derby."*

The patent expired in 1732. The year before, Sir Thomas Lombe, who had been by this time knighted, applied to Parliament for a prolongation of the patent. The reasons for his appeal were principally these: that before he could provide for the full supply of other silk proper for his purpose (the Italians having prohibited the exportation of raw silk), and before he could alter his engine, train up a sufficient number of workpeople, and bring the manufacture to perfection, almost all the fourteen years of his patent right would have expired. "Therefore," the petition to Parliament concluded, "as he has not hitherto received the intended benefit of the aforesaid patent, and in consideration of the extraordinary nature of this undertaking, the very great expense, hazard, and difficulty he has undergone, as well as the advantage he has thereby procured to the nation at his

* *The Trade and Navigation of Great Britain considered*, p. 94.

own expense, the said Sir Thomas Lombe humbly hopes that Parliament will grant him a further term for the sole making and using his engines, or such other recompense as in their wisdom shall seem meet." *

The petition was referred to a Committee. After consideration, they recommended the House of Commons to grant a further term of years to Sir Thomas Lombe. The advisers of the King, however, thought it better that the patent should not be renewed, but that the trade in silk should be thrown free to all. Accordingly the Chancellor of the Exchequer acquainted the House (14th March, 1731) that "His Majesty having been informed of the case of Sir Thomas Lombe, with respect to his engine for making organzine silk, had commanded him to acquaint this House, that His Majesty recommended to their consideration the

* The petition sets forth the merits of the machine at Derby for making Italian organzine silk—"a manufacture made out of fine raw silk, by reducing it to a hard twisted fine and even thread. This silk makes the warp, and is absolutely necessary to mix with and cover the Turkey and other coarser silks thrown here, which are used for *Shute*,—so that, without a constant supply of this fine Italian organzine silk, very little of the said Turkey or other silks could be used, nor could the silk weaving trade be carried on in England. This Italian organzine (or thrown) silk has in all times past been bought with our money, ready made (or worked) in Italy, for want of the art of making it

here. Whereas now, by making it ourselves out of fine Italian raw silk, the nation saves near *one-third part*; and by what we make out of fine China raw silk, above *one-half* of the price we pay for it ready worked in Italy. The machine at Derby contains 97,746 wheels, movements, and individual parts (which work day and night), all which receive their motion from one large water-wheel, are governed by one regulator, and it employs about 300 persons to attend and supply it with work." In *Rees Cyclopedia* (art. 'Silk Manufacture') there is a full description of the Piedmont throwing machine introduced to England by John Lombe, with a good plate of it.

making such provision for a recompense to Sir Thomas Lombe as they shall think proper."

The result was, that the sum of 14,000*l.* was voted and paid to Sir Thomas Lombe as "a reward for his eminent services done to the nation, in discovering with the greatest hazard and difficulty the capital Italian engines, and introducing and bringing the same to full perfection in this kingdom, at his own great expense."* The trade was accordingly thrown open. Silk mills were erected at Stockport and elsewhere; Hutton says that divers additional mills were erected in Derby; and a large and thriving trade was established. In 1850, the number employed in the silk manufacture exceeded a million persons. The Old mill has recently become disused. Although supported by strong wooden supports, it showed signs of falling; and it was replaced by a larger mill, more suitable to modern requirements.

* Sir Thomas Lombe died in 1738. He had two daughters. The first, Hannah, was married to Sir Robert Clifton, of Clifton, co. Notts; the second, Mary Turner, was married to James, 7th Earl of Lauderdale. In his

will, he "recommends his wife, at the conclusion of the Darby concern," to distribute among his "principal servants or managers five or six hundred pounds."