

(I. i.) * COTTON. *n. f.* [named, according to Skinner, from the down that adheres to the *mala cotonea*, or quince, called by the Italians *cotogni*; whence *cotone*, Ital. *cotton*, French.] 1. The down of the cotton tree.—The pin ought to be as thick as a rowing pin, and covered with cotton, that its hardness may not be offensive. *Wifeman*. 2. Cloth made of cotton.

(ii.) COTTON. *adj.* made of cotton. *Afb.*

(iii.) * COTTON. *n. f.* A plant.—The species are, 1. Shrubby cotton. 2. The most excellent American cotton, with a greenish seed. 3. Annual shrubby cotton, of the island of Providence. 4. The tree cotton. 5. Tree cotton with a yellow flower. The first sort is cultivated plentifully in Candia, Lemnos, Cyprus, Malta, Sicily, and at Naples; as also between Jerusalem and Damascus, from whence the cotton is brought annually into these northern parts of Europe. This cotton is the wool which incloses or wraps up the seeds, and is contained in a kind of brown husk or seed-vessel growing upon this shrub. It is from this sort that the vast quantities of cotton are taken, which furnish our parts of the world. The second and third sorts are annual; these are cultivated in the West Indies in great plenty. But the fourth and fifth sort grow in Egypt: these abide many years, and often arrive to be trees of great magnitude. *Miller*.

(iv.) COTTON, in commerce, (§ 1. *def.* 1.) is a soft downy substance found on the gossypium, or cotton tree. See GOSSYPIMUM. The finest sort comes from Bengal and Coromandel.

(v.) COTTON, DIFFERENT KINDS OF. Cotton makes a very considerable article in commerce, and is distinguished into *cotton wool* and *cotton thread*. COTTON WOOL is brought mostly from Cyprus, St John d'Acre, and Smyrna: the most esteemed is white, long, and soft. Those who buy it in bales should see that it has not been wet, moisture being very prejudicial to it. Of COTTON THREAD, that of Damas, called *cotton d'ounce*, and that of Jerusalem, called *bazas*, are the most esteemed; as also that of the West India islands. It is to be chosen white, fine, very dry, and evenly spun. The other cotton threads are the half bazas, the rames, the beledin, and gondezel; the payas and montafiri, the geneguins, the baquins, the josselaffars, of which there are 2 sorts. Those

of India, known by the name of Tutucorin, Java, Bengal, and Surat, are of four or five sorts, distinguished by the letters A, B, C, &c. They are sold in bags, with a deduction of one pound and a half on each of those of Tutucorin, which are the dearest, and two pounds on each bag of the other sorts. For those of Fielebas, Smyrna, Aleppo, and Jerusalem, the deduction at Amsterdam is 8 in the hundred for the tare, and two in the hundred for weight, and on the value one per cent. for prompt payment. COTTON OF SIAM, is a kind of silky cotton in the Antilles, so called because the grain was brought from Siam. It is of an extraordinary fineness, even surpassing silk in softness. They make hose of it there preferable to silk ones for their lustre and beauty. They sell from 10 to 12 and 15 crowns a pair, but there are very few made, unless for curiosity.

(vi.) COTTON, MANNER OF PACKING, IN THE ANTILLES. The bags are made of coarse cloth, of which they take three ells and a half each; the breadth is one ell three inches. When the bag has been well soaked in water, they hang it up, extending the mouth of it to cross pieces of timber nailed to posts fixed in the ground seven or eight feet high. He who packs it goes into the bag, which is six feet nine inches deep, or thereabouts, and presses down the cotton, which another hands him, with hands and feet; observing to tread it equally every where, and putting in but little at a time. The best time of packing is in rainy moist weather, provided the cotton be under cover. The bag should contain from 300 to 320 pounds. The tare abated in the Antilles is three in the hundred. Cotton being a production applicable to a great variety of manufactures, it cannot be too much cultivated in such of our own plantations as will admit of it.

(vii.) COTTON, MANUFACTURE OF. Cotton is separated from the seeds of the plant by a mill, and then spun and prepared for all sorts of fine works, as stockings, waistcoats, quilts, tapestry, curtains, &c. Muffin is also made of it, and sometimes it is mixed with wool, sometimes with silk, and even with gold itself. The cotton manufacture consists of various branches, and requires much machinery. See § 1—4.

(1.) COTTON, CARDING OF, as a preparation for spinning, used formerly to be performed by the hand, with a pair of single cards upon the knee: but this being a tedious method, ill suited to the rapid operations of the new spinning machines, other methods were contrived for affording a quicker and more adequate supply. The first improvement for this purpose was made by Mr James Hargrave weaver, near Blackburn, in Lancashire, and consisted in applying 2 or 3 cards to the same board, and fixing them to a stool or stock; whence they obtained the name of *stock cards*. With these, one woman could perform two or three times as much work as she could do before in the common way. A still more expeditious method of carding, however, by what are commonly called *cylinder cards*, was soon afterwards invented, and is that which is now most commonly practised: but as several persons lay claim to this invention, it is not easy to determine to whom the merit of it is due.

(2.) COTTON MILLS are large buildings with peculiar machinery for carding, roving, and spinning cotton: (see § 3.) These were entirely unknown in this country before the different inventions and improvements of Messrs Arkwright and Hargrave; since which time great numbers have been erected in England, and several in Scotland. The first erections of the kind were by Messrs Arkwright and Hargrave, both in the town of Nottingham, and both nearly at the same time. The engines were then driven by horses; but since that time they have been chiefly erected upon water falls in different parts of the country; particularly the warp machines, which are better adapted for being driven by water than any other. The most extensive of these is in the village and neighbourhood of Cromford in Derbyshire, and under the immediate inspection of Sir Richard Arkwright. The first that was erected in Scotland was for Mr Peter Brotherston, under the inspection and direction of Mr John Hackett from Nottingham; and is in the neighbourhood of Penrynucick near Edinburgh. Since which time several have been erected in the neighbourhood of Glasgow, Paisley, Lanark, Perth, &c.

(3.) COTTON SPINNING is the art or process of reducing cotton wool into yarn or thread. The most simple method for this purpose, and the only one in use for a long time in this country, was by the hand upon the well known domestic machine called a *one thread wheel*. But as the demand for cotton goods began to increase, other inventions were thought of for expediting this part of the manufacture. About 50 years ago, one Paul and others of London contrived an engine for a more easy and expeditious method of spinning cotton, and for which they obtained a patent; but the undertaking did not prove successful. Some years thereafter, various machines were constructed by different persons for facilitating the spinning of cotton; but without producing any very material or lasting advantage. At length, about 1767, Mr Hargrave, constructed a machine by which a great number of threads (from 20 to 80) might be spun at once, and for which he obtained his Majesty's letters patent. This machine is called a *Jenny*, and is the best contrivance for spinning *wool* or *shute* that has hitherto appeared. It is now commonly constructed for 84 threads; and with it one person can spin 100 English hanks in the day, each hank containing 840 yards. The most capital improvements which this branch of manufacture received were from Mr Arkwright, a native of Lancashire, now Sir Richard Arkwright of Cromford in Derbyshire. He first brought forward his new method of spinning cotton in 1768, for which he obtained a patent in 1769; he afterwards, in 1775, obtained a patent for engines which he had constructed to prepare the materials for spinning: though one of these patents, being challenged at law, was set aside some years before it expired. The result of Mr Arkwright's different inventions and improvements is a combination of machinery, by which cotton is *carded*, *roved*, and *spun*, with the utmost exactness and equality; and such a degree of perfection attained in spinning *warp*, as is not to be equalled in any other part of the world. To these improve-

ments this country is entirely indebted for the great extent of its cotton manufactures; large buildings have been erected for that branch both in England and Scotland, many of which contain several thousands of spindles, each driven by one or more large water-wheels; and some of such extent as to spin at the rate of 1000 yards of twist or warp yarn in the minute. Other machines have been invented at different times, and a variety of improvements made by different mechanics and manufacturers; one of which in particular we must not omit to mention. It is called a *MULE*, being a kind of mixture of machinery between the *warp* machine of Mr Arkwright and the *woof* machine or hand-jenny of Mr Hargrave; and was also invented in Lancashire. This machine bids fair to be of great use in spinning cotton yarn for muslins to a degree of fineness never before known in this country, being nearly equal to those usually brought from India.

(4) COTTON, STATE OF THE MANUFACTURE OF. The facilities which the manufacturers of Great Britain had suddenly acquired, and the immense capitals which they have so recently laid out in expensive machinery and other heavy establishments for carrying on the cotton trade, are unparalleled in the annals of the world. Above 140 cotton mills are now built in Great Britain, of which nearly two thirds have been erected within these 17 years. Besides these, there are above 20,500 hand-mills or jennies for spinning the shute for the twisted yarn spun by the water mills. Above a million of money was, within this time, sunk in mills, hand engines, and other machines, including the grounds and necessary buildings.

Expence of water-mills,	L. 715,000	0	0
Ditto of hand-jennies, houses,			
buildings, and auxiliary ma-			
chinery, supposed at least,	285,000	0	0
Total,	L. 1,000,000	0	10

A power had been also created of working nearly two millions of spindles; and men, women, and children were trained to this business, capable of carrying the cotton manufacture almost to any extent. In 1787, the power of spindles capable of being worked was estimated as follows:

In the water-mills,	286,000
In the jennies,	1,665,100
Total spindles,	1,951,100

In the branches applicable to muslin and callico, it was calculated that employment was given to 100,000 men and women, and at least 60,000 children; many of the latter having been taken from different parishes and hospitals in Great Britain. The quantity of the raw material of cotton wool consumed in this manufacture, which did not amount to 6,000,000 lb. in 1781, and was only about 11,000,000 lb. in 1784, had amounted in the year 1787 to the enormous height of 22,000,000 lb. and upwards; and the astonishing rapidity of this increase is in some measure to be attributed to the extension of these branches to the goods of India, particularly the calicoes and muslins. British calicoes were first made in Lancashire about the year 1772, but the progress was slow till within these last 20 years. The quantity manufactured

manufactured has since extended from about 50,000 to 1,000,000 of pieces made in the course of a single year. British mullins were not successfully introduced until the year 1781, and were carried to no great extent until 1785, after which period the progress during two years became rapid beyond all example. The acquisition of cotton wool of a superior quality from Demerara and the Brazils, and the improvements made in the spinning fine yarns upon the mule jennies, had given a spring to this branch of the cotton manufactory, which extended it beyond what it was possible to have conceived. Above half a million pieces of mullin of different kinds, including shawls and handkerchiefs, were computed to be annually made in Great Britain; while the quantity not only increased daily with the new accession of powers that were bursting forth upon the country, but the quality was exceedingly improved; and a yearly supply of about 300 bales of East India cotton having been obtained by the way of Ostend, yarns were spun, and mullins wove, equal to any from India. Nothing, therefore, but a fine raw material appeared wanting to enable the British manufacturer to carry this branch to the greatest extent; and, of all others, it is that species of cotton goods which deserves most to be encouraged, because of the immense return it makes for labour more than any other branch of the cotton manufactory. East India cotton wool has been spun into one pound of yarn worth five guineas; and when wove into mullin, and afterwards ornamented by children in the tambour, has extended to the value of L. 15; yielding a return of 5,900 per cent on the raw material. But the state of the raw materials, and the progressive and astonishing increase of this manufactory, will be best understood by what follows:

<i>Cotton Wool used in the manufactory.</i>	<i>Supposed Value when manufactured.</i>
1781, lb. 5,101,920	L. 2,000,000
1782, 11,206,810	3,900,000
1783, 2,546,179	3,200,000
1784, 11,280,238	3,950,000
1785, 17,992,888	6,000,000
1786, 19,151,867	6,500,000
1787, 22,600,000	7,500,000

Such was the progress of the British cotton manufactory till 1787; when, with establishments and mechanical powers capable of bringing forward immense quantities of goods into the consumption, this manufactory was checked by a great and sudden reduction of the prices of East India goods of the same species, which were sold above 20 per cent on an average under the lowest prices at which the British manufacturer can afford to sell without loss. This conduct in the East India Company quickly operated to the great prejudice of the British manufacturers; and there is no saying how far these might be reduced, should that company be allowed to press goods upon the market, at prices which have no relation to the original cost, and under circumstances where the just laws of competition cannot operate, and where every idea of protecting duties is annihilated in the effect of the general system. Notwithstanding this, however, the home manufactory, in all its branches, revived, and continued to be carried on

with great advantage to the manufacturer, till it was again checked, with most other branches of commerce, by the commencement of the present war.