Can'droy. A machine used to prepare cotton cloths for printing, spreading out the fabric as it is rolled around the lapping-roller.

Cot'ton Pa'per. We are indebted for cotton paper to the Arabians, and it is surmised that they learned it of nations still east of them. The use of cotton for this purpose was probably derived from "far Cathay" (China), whence we received gunpowder, porcelain, the mariner's compass, and the art of glazing earthenware.

The first use of cotton paper in Europe was among the Saracens in Spain, and cannot be traced back beyond the tenth century. In Europe, it preceded the use of flax fiber for that purpose. The paper of Xativa, a city of Valencia, was famous in the twelfth century. See PAPER.

Cot'ton Thread. Cotton thread for sewing is made by laying together two or more yarns of equal quality and twisting them. Previous to the doubling and twisting, the yarn is passed through a trough containing a thin solution of starch. The twist is given in an opposite direction to that applied by the spinning-machine, as in the case of organzine silk.

Coun'ter-fal'ler. (*Cotton-manufacture.*) In the mule-spinner, a counterweighted wire, which is depressed when the *faller-wire* lowers the row of yarns to wind them on the cop. Its duty is to balance the threads after they are depressed by the *faller-wire*, and to straighten them when loose.

Cot'ton-brush Chop'per. A machine with revolving knives to cut up the old dried cotton-stalks, to prepare the land for plowing for another crop.

Deg'ging-ma-chine'. (*Cotton.*) One for damping the fabric in the process of calendering.

Gin-wheel. 1. A wheel in a cotton-gin. It may mean a wheel with curved pointed teeth or claws, which act as the teeth of the usual saws in drawing the fiber through the grid; or the brush-wheel, which cleans the lint from the said wheel or saw. See GIN.

I'ron-man. (*Cotton-manufacture.*) A name applied to the self-acting mule invented in 1825 by Roberts, of Manchester, England. The working of the ordinary mule was confided to the most skillful operatives. The machine by which their services were dispensed with was regarded as a triumph of ingenuity, and was thus named. See MULE.

Jack-frame. (*Cotton-manufacture.*) A device, formerly in greater favor, for giving a twist to the roving as it was delivered by the drawing rollers.

In order to give a certain degree of cohesion to the sliver, the can into which it was received from the drawing rollers received a rapid rotation, imparted by the table on which it stood. See DOUBLING; ROVING.

Following this process was that of winding it upon bobbins, so as to be fed from thence to the spinning-frame.

The *jack-frame*, or *jack in the box*, was devised to twist and wind the sliver and form it into a roving on a bobbin *in the can*.

Lay.

2. (*Cotton-manufacture.*) *a.* 120 yards of yarn. The yarn is wound on a reel 4½ feet in circumference, 80 revolutions of which make a *lay*, and 7 lays make a *hank* of 840 yards. This is the length of a *hank* of any grade of cotton yarn. The yarn is rated by the number of hanks which go to make up a pound. Nos. 40 to 50 are ordinary *throstle* weaving; Nos. 300 to 400, ordinary mule weaving. By the mule much higher numbers have been reached. No. 700 being exhibited in 1853. See YARN; HANK.

The *lay* is also called a *rap* or *ley*.

Lea.

2. (*Cotton.*) 120 yards of yarn.

O'pen-er. A machine for opening cotton taken from the bales in which it has been closely compacted. Is usually a box or casing with inwardly projecting blunt teeth, and with a screen-like bottom. A drum provided with blunt pins rotates within this casing, opens the cotton, and dirt falls through the grating. See OPENING-MACHINE.

Re-serve'-style. (*Cotton-manufacture.*) A method of calico-printing in which the white cloth is impressed with figures in resist paste, and is afterward subjected first to a cold dye, as the indigo vat, and then to a hot dye-bath; the effect being the production of white or colored spots upon a blue ground. Also known as the *resist-style*.

Scav'en-ger-roll. (*Cotton Manufacture.*) A roller in a spinning-machine to collect loose fiber and fluff which may gather on the parts with which it is placed in contact.

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Shake-wil'ly. (*Cotton-manufacture.*) A *willy* or willowing-machine for cleaning cotton, preparatory to carding.

Speed'er. (*Cotton-manufacture.*) A machine invented by Mason as a substitute for the *bobbin and fly frame*, by which *slivers* of cotton from the *carding-machine* are slightly twisted, and thereby converted into *rovings*.

The sliver is *drawn* between rollers, as in the *bobbin and fly frame*, but the bobbins are arranged horizontally and rotated by rollers on which they revolve. Being rotated by their peripheries, their rate of winding is constant, and the *copping* rail is dispensed with. The *twist*, which is given in the *bobbin and fly frame* by the rotation of the spindle and flyer, is given in the *speeder* by an endless belt, which rapidly rotates the guiding tubes of the sliver as it comes from the drawing rollers.

The bobbin is made into a cop with conical ends, as in the other machine, each successive layer being shortened, as its diameter increases, so that each shall have the same length of yarn.

Spool'ing-ma-chine'. (*Cotton-manufacture.*) A machine on which cotton-thread is wound on to wooden spools. The spool is placed on a rotating spindle, and the thread is guided on to it by a steel finger, which delivers the thread in coils, whose layers have a gradually increasing length as the thread is built up against the conical ends of the spool. As each reel is filled, the thread is broken and the end inserted in a notch at the edge of the spool.

Weild's machine for winding sewing-thread upon spools, January 22, 1869, is an automatic machine. It takes the empty spools, winds the thread upon them, stops when they are filled, nicks the edge of the spool, inserts the thread therein, breaks the thread, discharges the filled spools, takes empty ones, starts the machine to wind the thread upon them, and so on continuously.

Stretch'ing-frame. (*Cotton-manufacture.*) *a.* A machine in which rovings are stretched in the process of converting them into yarn.

b. A long frame on which starched muslins are stretched and exposed in a warm room to dry. It is the substitute for the cylinder drying-machine, which is used upon heavier classes of goods.

To give the *patent finish*, the sides of the frame are moved backward and forward, so as to give a diagonal stretch in alternate directions to the cloth. This is continued until dry, and the effect is a soft and elastic finish, resembling clear-starching.

Stretch'er-mule. (*Cotton-manufacture.*) A mule adapted to stretch and twist fine rovings of cotton, bringing them forward another stage in respect of attenuation and twisting. See MULE.

Twil'ly. A willowing-machine. A form of cotton-cleaner. In the coarse Lancashire style a *twilly-devil*.

Wa'ter-twist. (*Cotton-manufacture.*) Yarn made by the *throstle*, or *water-frame*; so called because in the first cotton-*mill*, which was organized by Arkwright, the motive-power was a *water-wheel*.

Previous to the time of Arkwright (his patents were 1769 and 1775), all the operations of cotton were done by operatives at their homes. The cotton was *hand-carded*, *spun*, and *woven* by men, women, and children, who took a bunch of work home and returned it when completed, the houses of the cottagers being in clusters around central distributing-depots, or scattered over the country. Arkwright centralized the business, and organized it in manufactories where the operations were concertedly performed.

Wad'ding. 1. A spongy bat of cotton wool, made by the carding-machine, and attached by a coat of size to tissue-paper, or treated on one side with a film of glue or gelatine. The name is derived from *ouate* or *wat*, the down of the asclepias, which was formerly imported from Asia Minor for stuffing cushions.