

Bott-ham'mer. (*Flax.*) A wooden mallet with a fluted face, used in breaking flax upon the floor to remove the *boon*.

Flax-cut'ting Ma-chine'. Flax is sometimes cut before hackling in order to enable its separation according to quality. The machine for this purpose has a circular saw which partly cuts and partly tears its way through the bunch of flax which is presented to it by pairs of parallel rollers on each side of the saw.

Gill. 1. A *hackle*. A series of points which divide the ribbons of flax fiber into finer parallel filaments ready for drawing and spinning. A *porcupine*.

Grass'ing. The exposure of *steeped* flax-straw on the grass, where it is spread evenly and frequently turned to wash out the mucilage and loosen the *shives* and *boon*. Then follows *breaking*.

Hack'le; Heck'le; Hatch/el. A board set with sharp steel spikes for combing or pulling out hemp or flax to dispose the fibers in parallelism, and to separate the *tow* and *hards* from the finer fiber.

The teeth are of steel from 1 to 2 inches in length and very sharp. They are arranged in rank and file, in quincunx order, upon a board. The lock of flax is seized by the middle and one end is thrown over the teeth and drawn through. One end being *hackled*, the other end is turned to the comb and similarly treated.

Hack'le-bar. One of the *gills* or spikes over which the lock of flax or hemp is thrown and drawn to lay the fibers parallel and comb out the refuse.

Hare. The fibrous portion of flax and hemp, as distinguished from the *shives* or scales of bark, etc., which fall from the hare in braking.

Harl. The filament of flax. *Hare*.

Hatch/el. (*Fiber.*) An instrument for cleansing flax or hemp from the *hards*. It consists of a number of teeth set in a board, upon which the hank of fiber is thrown and dragged through, so as to comb it straight and remove the coarser portions. A *hackle*.

Heck'ling-ma-chine'. A machine for *heckling*, that is, separating the fibers of flax. The illustration (*B*, Fig. 2477) shows one of the earliest forms, designed to imitate the process of hand-heckling. It consists of a rotating square *a* with truncated corners, at which the heckles *b* are fixed. A *strick*, about four ounces of flax, previously slightly straightened and dressed, is fixed in the holder *c* on the arm *d*, which is oscillated while the heckle-carrier is being rotated. The separated fibers which collect on the heckles are removed by hand, and the strick, when thoroughly heckled on this, is again heckled on a similar machine with finer teeth. *e e* are back-boards limiting the depth of penetration.

A machine in which the strick of flax was made to vibrate over fixed teeth, so as to heckle the two sides at once, has also been employed.

Machines in which the strick was held over an endless band provided with heckle teeth, or drawn between two such bands, have been used to a considerable extent. The machine now in general use consists of an exterior drum, at the periphery of which are placed removable holders; this has a slow rotary motion, while rapid revolution is imparted to a toothed drum within; the flax hanging down from the holders is, when sufficiently heckled on one side by these teeth, removed, turned, and heckled on the other side.

Lay.

3. (*Flax-manufacture.*) 300 yards of linen yarn. See LEA.

Lea. 1. (*Flax-manufacture.*) A measure of 300 yards of linen yarn.

Table.

300 yards, 1 *lea*.
10 *leas*, 1 *hank*.
20 *hanks*, 1 *bundle* = 60,000 yards.

Also called a *lay*, *ley*, *rap*, or *cut*.

Long-flax. Flax to be spun its natural length without cutting.

Rät'ing. The *retting* or *rotting* of flax, to loosen the fiber from the woody portion and gum; the *hare* from the *shives*. See RETTING.

Rot'ting. The steeping of flax-stalks to soften the gum and loosen the fiber from the woody portions. See RETTING.

Ruffler.

2. A sort of heckle for flax.

Scutch-rake. A flax-dresser's implement.

Scutch'ing-stock. (*Flax Manufacture.*) The part of the machine on which the hemp rests in being scutched.

Spread'er. 1. (*Flax-manufacture.*) A machine in which the *stricks* of *line*, fresh from the *heckle*, are drawn out and combined so as to make a *sliver*, and eventually a *roving*, to be operated upon by the spinning machinery.

A first, second, and third drawing gradually attenuate the material, which, in the first place, is fed upon a feeding apron, but in the subsequent operations is fed as a sliver. A number of slivers are doubled and drawn, and the operation in this respect resembles the drawing-frame of the cotton-manufacture, but the flax-machine has a series of combs or *gills*, through which the slivers are drawn. This feature — of pins to imitate the action of the fingers in holding or retaining the flax with regularity as it is drawn out by the rollers — has given a name to the machine, which is called the *gill-frame* or *gill-head*, probably from the French word *aiguille* (needle).

The machine for which the *gill-frame* was substituted was one with a succession of rollers, over and under which the *line* was passed.

Spread'ing-frame. (*Flax-manufacture.*) A machine in which a number of *stricks* or slivers of flax are spread and conducted to a system of drawing-rollers, whereby they are united and drawn into one. See DRAWING.

Water-ing. 1. (*Flax.*) The soaking of flax halm to loosen the *shives* from the *hare* and remove the mucilage. *Steeping*; *Retting*.