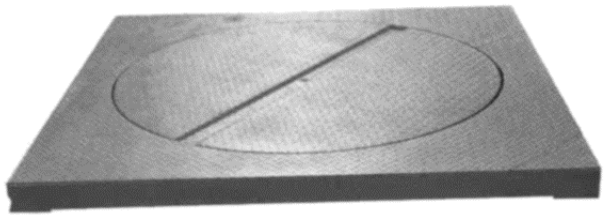
Influence on wet solidity

Finishing treatments act favourably on wet solidity (washing, water, perspiration). In the majority of cases, notable improvements can be seen, especially for substantive dyes, for which in the case of light tones the use of cationic products for post-treatments to increase solidity is often unnecessary. On the other hand, a significant reduction in fastness to light occurs.

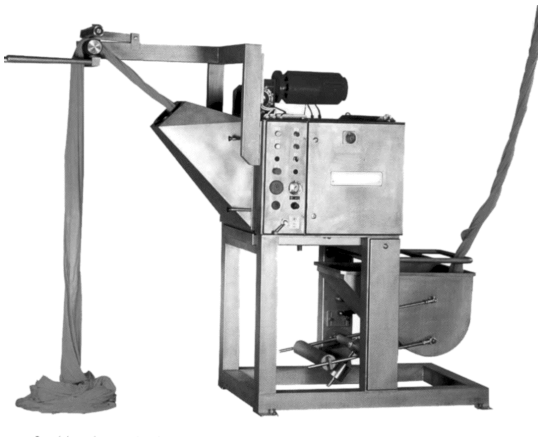
Accessories

De-twister rope-opener: this crucial system allows switching from a process in *open-width* form to a process in *rope* form. It automatically eliminates distortions of rope fabrics (woven fabrics, knitted and tubular knitted goods).
A stitch cutting machine (Picture 161) is usually assembled before this system. This machine opens the sewn pieces of cloth and recovers the yarn. The fabric, placed on a carriage on a rotary plate (Picture 162), is conveyed to a rope-squeezer (Picture 163) and then to a de-twister (Picture 164), which eliminates fabric distortions.

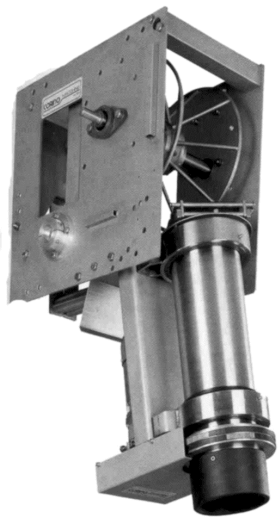
Picture 161 – Stitch cutting machine



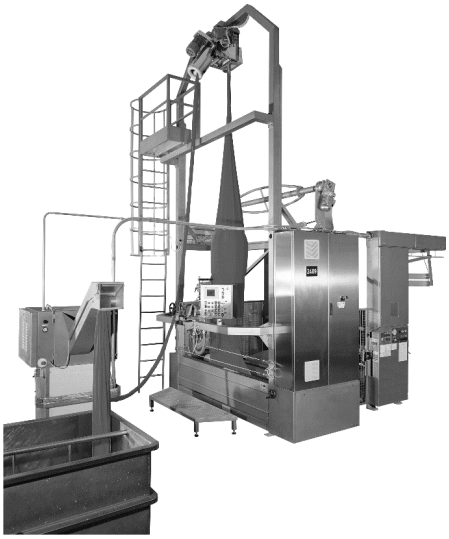
Picture 162 – Rotary plate



Picture 163 – Rope squeezer



Picture 164 –Special de-twister



Picture 165 – De-twister for tubular knitted goods

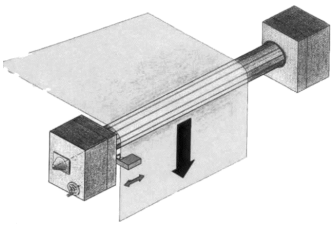
Picture 166 – De-twisting, rope-opening, spreading and centering system

Spreader: This machine is used to spread fabrics and eliminate the longitudinal creases before loading the fabrics into the open-width machines or before ultimate winding. The spreader can be combined with a centering unit

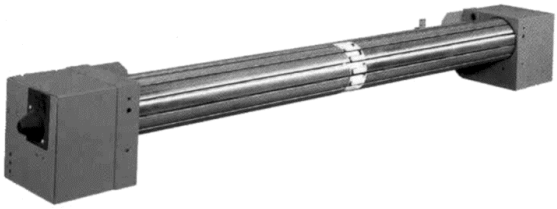
The spreading process can be carried out by means of bowed bars (Picture 167), with diverging helical-engraved drums (sometimes combined with oscillating drums) (Picture 168), with slat-type spreading drums (the slat opening is controlled pneumatically or by means of a servomotor) (Picture 169 and 170) and with roller drums (Picture 171).

Picture 167 – Bowed-bar spreading

Picture 168 – Helical spreading: Picture + scheme



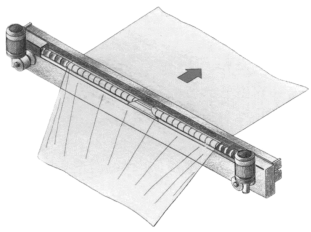
Picture 169 – S lat-type spreading



Picture 170 – Slat-type spreading

Weft straightener: This system is fundamental for preparing fabrics for printing and other functional finishing operations before final winding.

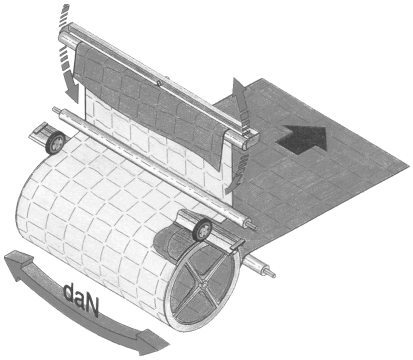
It allows positioning the weft perpendicular to the warp in woven fabrics (thus avoiding angular differences and distortion), and to line up the stitches in knitted fabrics, as a result preventing the subsequent deformation of the printed patterns or of the finished garments.



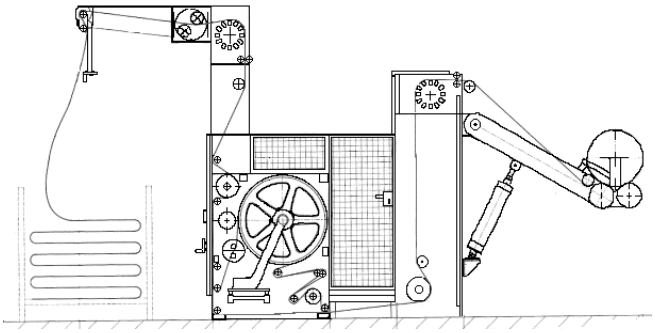
Picture 171 – Roller spreading

Different operating principles are applied to the various types of machines:

- a combination of horizontal or bow straightening rollers (Picture 172), with manual or automatic adjustment (controlled by photocells and microprocessor or by automatic devices detecting the warp position).
- free wheels with straightening pins (which are used when there is a crosswise difference between the two opposite selvedges).



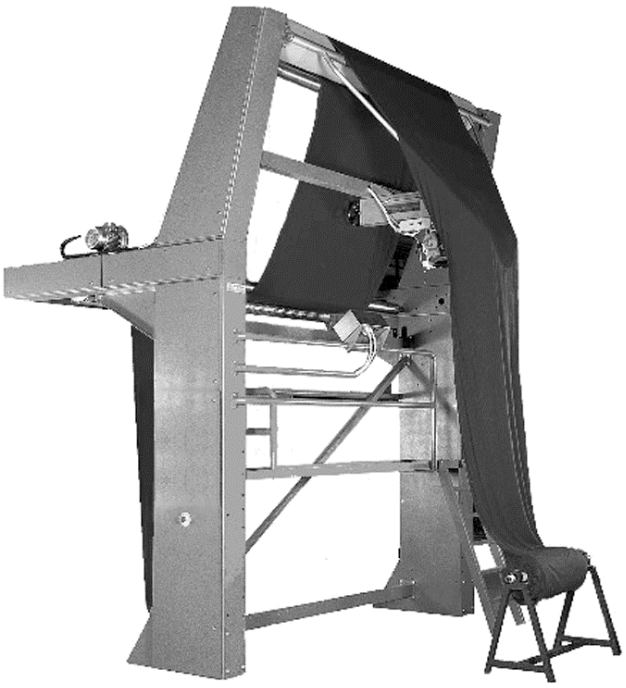
Picture 172 – Bow-roller weft straightener



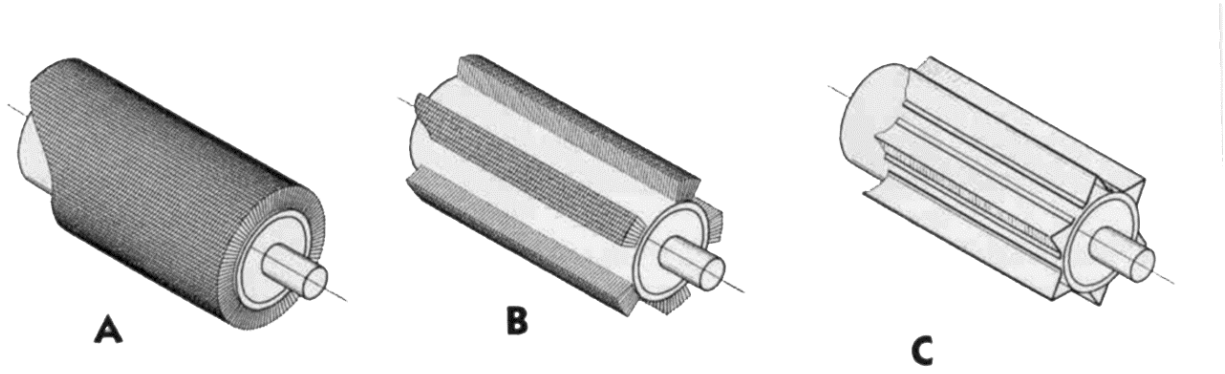
Picture 173 – Free wheel weft straightener

Cutters: these systems grant an efficient cutting of the selvedge (when required), a precise longitudinal cutting of the fabrics at the desired height as well as the cut and the opening of tubular knitted goods. Cutting systems are usually equipped with gluing or thermowelding systems (for tubular knitted goods made of synthetic fibres)

Brushing machines: these systems are used to eliminate any particle or impurity from the surface of the fabric; brushing machines are also used to equalise the fabric hairiness and the direction of the fibre end after raising.
The brushing machine (including motorised drums coated with horsehair) is always combined with an efficient suction system, which eliminates and conveys the particles to a bag filtering system (Picture 176).

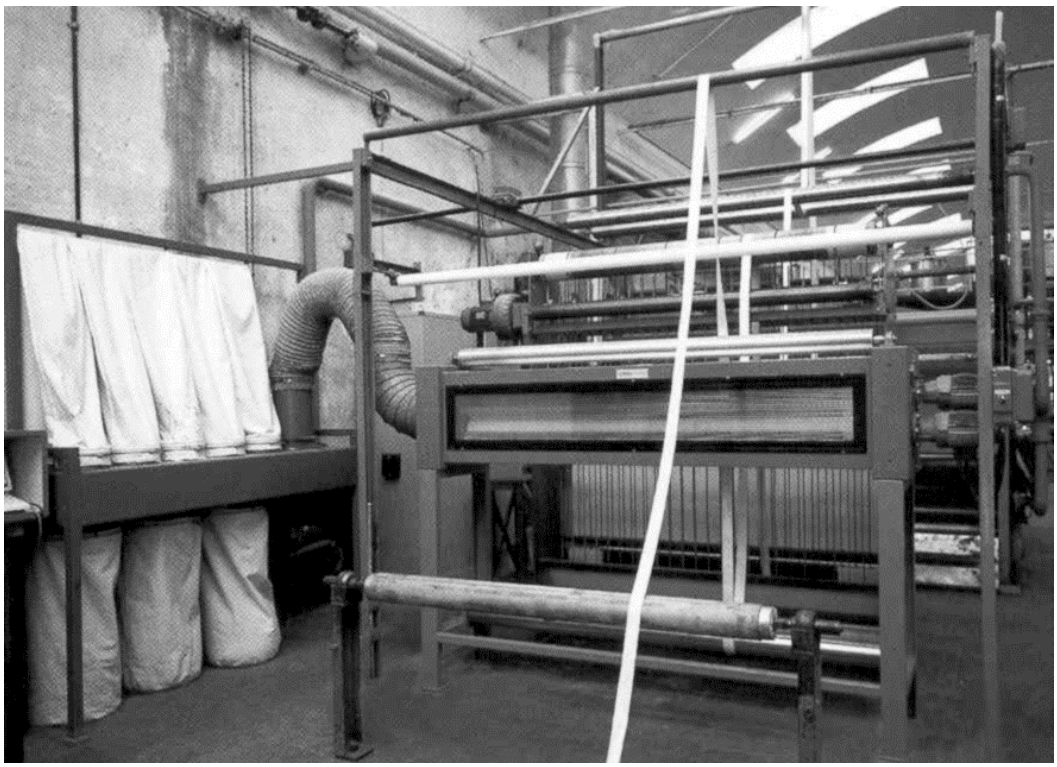


Picture 174 – Cutting, opening and alignment of tubular knitted goods



A – Brushing roller *B – Section brush* *C – Beater brush*

Picture 175 – Different types of brushes

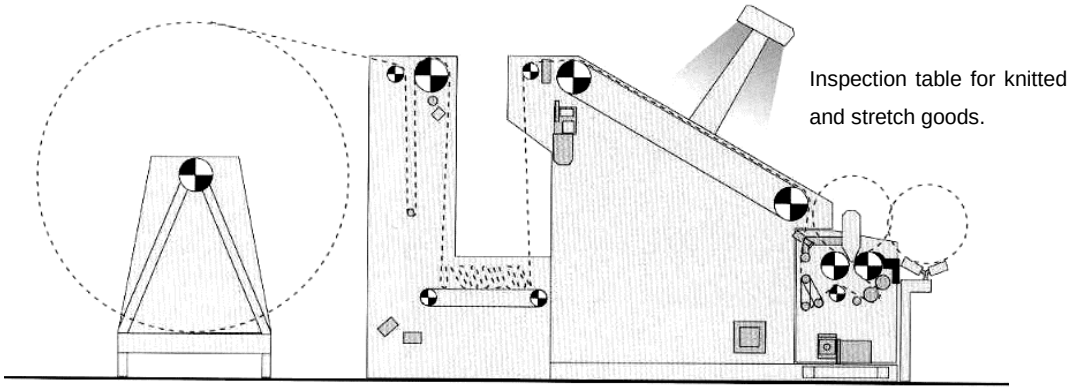


Picture 176 – Brushing machine equipped with suction system

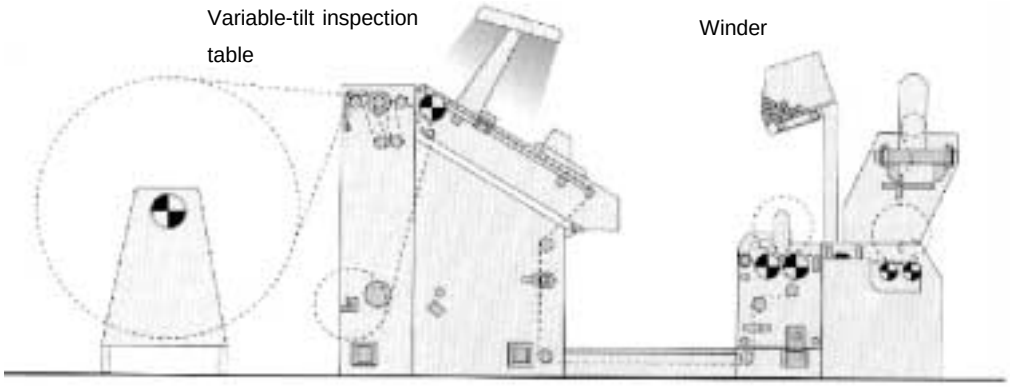
Inspection table: This table is used for the visual inspection of fabrics usually carried out in optimum lighting conditions to allow the operator to detect any possible defects. The inspection takes place at an intermediate stage (usually after weaving) or at the very end of the textile process (final inspection). According to specific needs, the inspection table can be fed by means of standard or giant beam and can be equipped with cutting and packaging systems or with a fabric accumulator (with conveyor belt or others), which eliminates tensions on knitted and stretch goods.
There are many types of automated inspection systems; defects can be highlighted by applying stickers or marking the selvedge; these systems can be also connected to a computer-controlled defect mapping system, granting an extremely precise indication of the defect and allowing cutting optimization.

The checks carried out on inspection tables usually include:

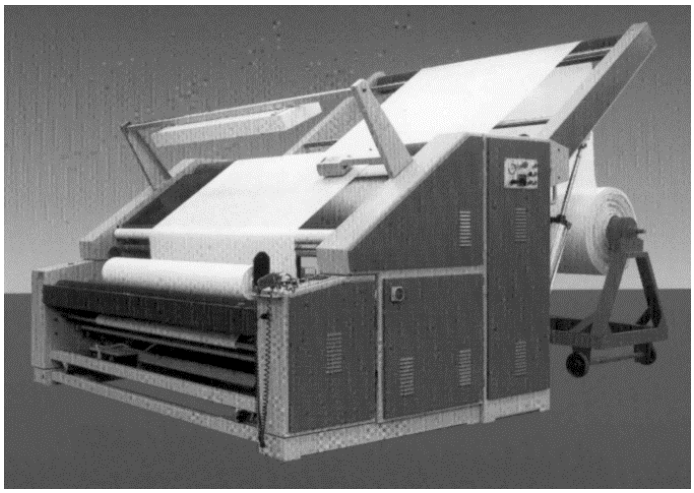
- fabric length
- weaving defects (type and position)
- dyeing defects (type and position) (see reciping, quality control and automation)
- printing defects (type and position)
- seam (position)
- unwanted width variations



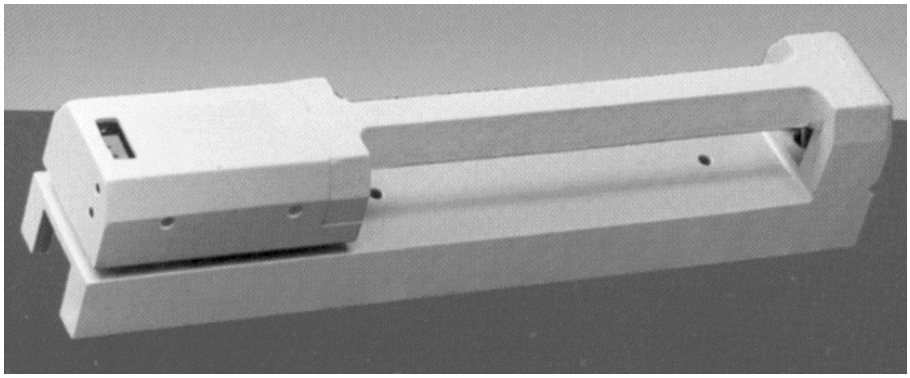
Picture 177 - Inspection table with accumulation belt



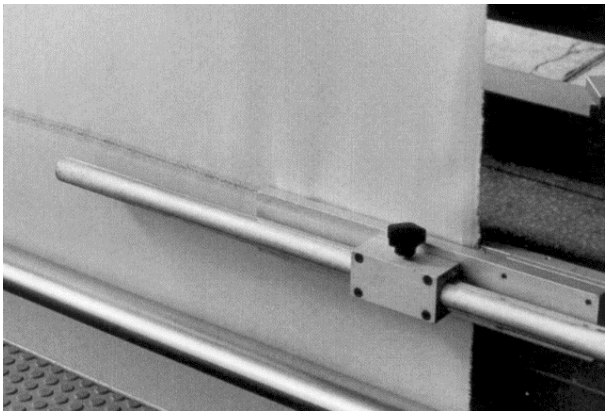
Picture 178 – Inspection table for woven fabrics suitable for knitted and stretch goods



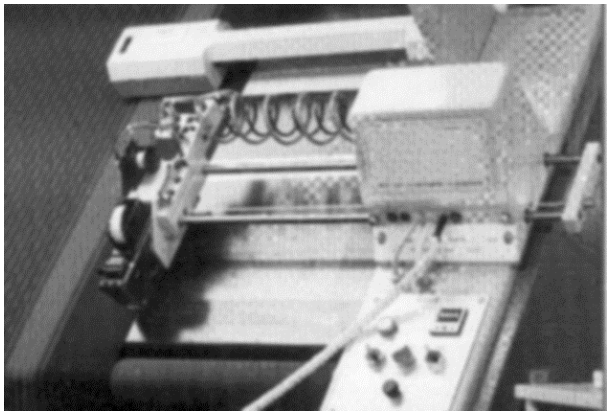
Picture 179 - Inspection table



Picture 180 – Meter counting device



Picture 181 - Stitching detector (indication or cut)



Picture 182 – Defect marking system with stickers