

Motion was communicated to the plates by means of side bars moved by eccentrics.

When effected by hand, the scutching process consists in taking a handful of the broken straw, hanging it through a notch in an upright board, and striking it repeatedly with a sort of wooden knife until the fiber is free from straw or shove.

When the scutching is done in the power-mill, wooden or light metal blades attached to a horizontal revolving shaft take the place of the wooden knife of the hand scutcher. In order that these scutching blades may do their work properly, with a minimum of waste, they must have a certain amount of flexibility, so that the blade may yield before a large "strick" and not cut it away. Flemish mill scutching is usually accomplished in four successive operations by two workmen. The effect of the last or "finishing" turn in the mill is to split up the fiber, and in this point lies the failure of several of the so-called improved scutchers which have been brought out.

(To be continued).

#### WET LUSTERING.

Wet lustering has only recently been introduced into practice on a large scale, and the machines suitable for it are chiefly of modern construction. Formerly dry lustering was almost exclusively practised, and, as a rule, was only used for goods of superior quality, rendering the complicated and lengthy finishing process for fine goods still more complex and tedious. Even to-day no really simpler process of finishing broadcloths is known, and those who want to produce very good results in this line must not mind time, labor, and expense. For such stuffs dry lustering is still an important factor in the process of improvement. It is true, however, that with the comparatively high price of broadcloths, the complicated finishing process pays, says a Continental contemporary.

The case is different when medium, fine, or inferior stuffs are being treated; then, in consideration of price, the finishing process must be considerably simplified. Of late, however, very high requirements from inferior goods are exacted as regards solidity, elegance of appearance and feel, and it becomes the task of the finisher to satisfy these demands within the narrow compass of the low quotation of prices—that is, with limited facilities and means. Such a means is the wet lustering. An older kind of wet lustering was, and is still, partly employed in fine cloth finishing, especially for fine piece-dyed goods. It is different, however, from dry lustering only in the fixed medium employed—water in the one and steam in the other—and is rather still more complicated than the latter; for in this older wet-lustering operation the material was likewise first dried, sheared a few cuts, brushed, twice hot-pressed, wound up and placed into boiling water instead of the

steaming box, as is done in dry lustering; after unwinding, the material is put for a short period in the washing machine and rinsed with a solution of fuller's earth.

With this kind of wet lustering the good properties of boiling water, as a fixing medium, are appreciated. The material receives a pleasing lustre and fine, full feel, and it is probably only the greater complexity of the process, as contrasted with deep lustering, which prevents its more extensive application.

Wet lustering is now mostly applied in a materially simpler form, which renders its use practical for inferior and cheap goods. The material is wet immediately after the longitudinal gigging, and, after laying, entered into the boiling water.

As regards the effect obtained by wet lustering, it is evident that hot or boiling water must act upon the wool fibers nearly in the same manner as steam, since in the former the two most important factors of lustering, heat and moisture, are likewise present. In dry lustering higher degrees of heat may be employed, as the steam can be given any desired pressure, the temperature rising with the pressure of the steam. This, however, is probably only resorted to in very exceptional cases where a high gloss is required. Usually, only low degrees of pressure are employed—up to  $1\frac{1}{2}$  atmosphere at the most. On the other hand, in wet lustering the other factor, moisture, naturally predominates. The wool fiber is softened, and consequently becomes plastic and assumes a greater gloss. The grain of the lusted material becomes more solidly fixed, the cover smoother, the gloss brighter. The lustering effect is still heightened by the so-called chilling, or fixing, which consists in treating the material emerging from the hot water directly with cold water. The wool fiber becomes more quickly rigid in its position, and thereby the gloss and the solidity of the grain are further increased.

A valuable factor in wet lustering is its cleansing action upon the material. All contaminations, especially residual soap, soda, earth and dyestuffs, are loosened by the boiling water and removed by the subsequent rinsing or passage through cold water. The material gains in cleanness whereby a better appearance and more pleasing feel is obtained. Owing to this cleaning effect, the wet-lustering process is particularly adapted to the previous finishing of piece-dyed goods, since stains, clouds, dark selvages, etc., occur not infrequently in piece-dyed cloths as a consequence of impurities and residues which remained in the material in the course of manufacturing.

The process is also available for wool-dyed cloth goods, not less than for piece-dyed stuffs after dyeing, after they have been rinsed and laid. For meltons, chevots, serges wool-dyed, as well as piece-dyed, wet lustering is very beneficial. Broadcloths are likewise improved by a bath of boiling water as first sponging. With goods which have no grain their special character must be taken into consideration. Stuffs with a very