

Pneumatic Automatic Feeder

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The feeding arrangement for willows and cards consists, as a rule, of a spiked lattice with stripper or of a spiked lattice with transport band and stripper. These arrangements have the great drawback that the material is held fast by the spikes, or is sorted, or becomes entangled, causing a badly mixed layer, indeed it is often necessary to stop work until the feeder has been cleared. Besides this it is tiresome and costs much time to clean

be used for all raw materials employed in the textile industry and that the power consumption is very low.

Figure 1 shows a vertical longitudinal section of the apparatus and Figure 2 a side elevation.

The material is fed into the hopper *g* and passes into the space below *k* through two delivery rollers *h* and *i* connected with one another by toothed wheels, the rollers serv-

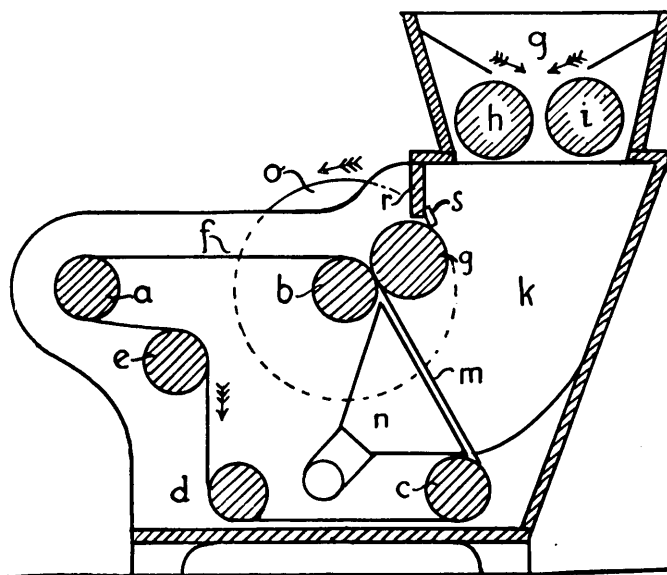


Fig. 1

the feeder after a lot has been run through.

The pneumatic feeder of Heinrich Glass, of Lambrecht, Palatinate (Germany), for which a patent has been applied in Germany (German Patent of Design Nr. 989 496) does away with all these drawbacks. Besides this, its construction is extremely simple, so that it is much cheaper than the arrangement hitherto in use, it does not require much space, and it is very easy to clean and to operate. Apart from that the quantity of material fed can be regulated and is always uniform. Finally it may be mentioned that the arrangement can

ing to deliver the material evenly. The endless lattice passes over the rollers *a*, *b*, *c*, *d*, and *e*, and is driven by the belt pulley *o* which is mounted on the axle of the roller *b*. The ends of the rollers *a*, *b*, and *c*, on the other side are provided with toothed wheels which are connected by means of a chain *p* (Figure 2) and serve to drive the lattice regularly. The rate of speed of the lattice can be regulated. A conical suction funnel *n* is mounted between the two rollers *b* and *c* beneath the slanting surface of the lattice *m*, which permits the passage of air, and sucks the material in any

desired quantity by means of a fan situated outside the feeder. The suction surface *m* before the funnel *n* can be made larger or smaller by adjusting the two rollers *b* and *c*. The fluted roller *g* removes the material which has been sucked onto the lattice and delivers it to the vertical surface of the lattice be-

fore the funnel *n*. Air is prevented from entering the space *k* by means of a piece of wood *r* with a strip of leather *s* arranged above the fluted roller *g*.

If the willow is furnished with a pneumatic transport equipment, a branch pipe can be built in to connect the pneumatic automatic feeder with the willow.

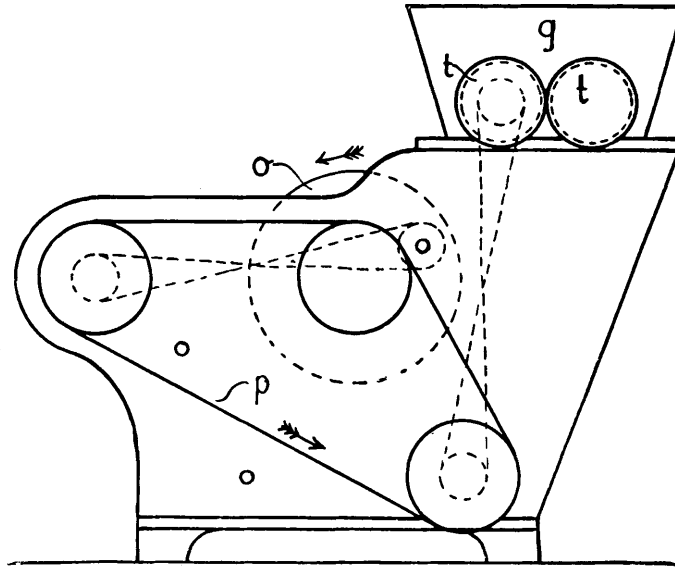


Fig. 2

tween the rollers *a* and *b*, whence it is taken to the next machine. The fluted roller *g* is connected with the guide roller *a* and the feed roller *h* with the guide roller *c* by a crossed rope to regulate their speed properly. The tension of the lattice can be regulated by the roller *e*. The lattice is endless and fastened by patent links which can be loosened; further it can readily be changed and can be replaced in special cases by wirecloth. The fan at the same time removes the dust in the material.

Finally attention should be drawn to a fundamental change in lubricating the wool, if the well known automatic oiling device of J. J. Marx, Lambrecht, is used. The material has hitherto been lubricated on the feed table before the willow, but in the present case it is advisable to mount the spraying nozzle so that the lubricant is finely sprayed onto the material as it falls from the lattice onto the feed table of the willow which lies below it. In this way the loose material is sprayed from all sides.