

IMPROVEMENT OF THE CONSTRUCTION OF COTTON WOOL SEPARATION EQUIPMENT

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<https://doi.org/10.5281/zenodo.11365542>

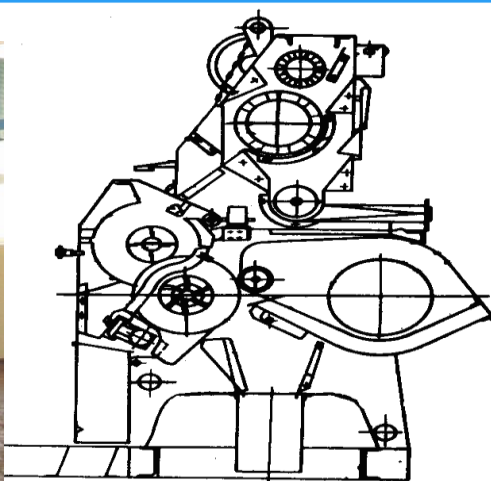
Annotation: after the demining process, a short layer of fiber – fluff remains in the composition of the seeds. The process of separating cotton wool from pollen is called linting, while the equipment that performs this process is called linter. The article talks about the construction of the main working organs of Linter equipment and the process of separating the fluff from the tangle.

Keywords: Fiber, fluff, technique, resurstejamkor, pollen, technology, linter, energy.

Improving the linterization process of cotton seeds is one of the main tasks that cotton cleaning enterprises need to solve today. One of the main workers of the modern linter machine, which affects the linting process, is a blunt chisel. Its condition and placement in the working chamber in relation to the arralissilindr are uniformly aligned along the length of the machine of the pulley roller from its position rotation, known pressure in the range of arralissilindr with blunt particles of pollen and leads to decay at speed.

For torque separation, linter equipment with an UMPL working chamber PMP-160m, 5LP and 6LP are used, in all of which the torque is separated from the saw teeth using air. Linters also have a chin-like fartuk, a Locust comb, a colosnik grid, and a Locust chamber bordered by roof bruses. In the same chamber, the process of linting the seeds is performed. The linterization process is similar to the Jinning process. From the working Chamber of the linter, the rotator is treated with a saw cylinder on the nut roller. The difference between these processes is that in the case of sawn cotton in sawed gin, in the case of linters, the seeds from the gin are used. In the linterization process, a reciprocating puller is mounted on the saw in the Chamber of the linters with the aim of helping to rotate it because the spindle cannot rotate under the influence of the saw. At the same time as turning the tangle shaft, the comb can fix it and improve the arrival of the feathered tangles on the saw teeth. The method of separation of fluff in linters is based on the mechanical action of saws on the rotating pollen shaft, scraping fluff from the surface of the seeds, and then air separation from the Saw tooth and taking it to the condenser, where it is separated from the air. The main indicators of the linter are the amount of fluff separated from the seed and the productivity of work on the seed.

The linterization process is greatly influenced by the working Chamber of the machine. In modern 5LP linting machines, the linear speed of the saws in the arralissilindr is 12.3 m/s, and the linear speed of the blunt fins is 4.2 m/s. From this it is possible to assume that saw teeth react to the mass of pollen with a speed of 8.1 m/s. As a result of the impact of such a high-speed saw on the seed, as well as the damage of the nettle to the seed shaft, the seeds are damaged in the process of scraping the foam from the surface of the seed. When the density of the pollen Valley is low, the nettle feathers cannot exert pressure on the pollen. In this case, the efficiency of fluffy scraping decreases, while the damage increases as a result of the fact that the lump is too exposed to mechanical action.



Draw 1. 5/II - design scheme of branded linter and general appearance.

Analytical analysis of the operation of the linter machine tools working in production, the effect on the linterization process and the previous research work in this direction, showed that when the number of particles in the dust is 4, the dust efficiency improves and has a positive effect on the linterization process. At the same time, mechanical damage to the seeds was observed in the process of scraping the mucus from the seeds passing through the aralicsilindr range with the particles, since the blunt feathers were made of metal and their linear speed was 4.2 m/sec.

In the working Chamber of the linter, at the expense of the rotating nozzle and the saw cylinder, the seeds falling into the chamber form a rotating nut roller. The saw penetrates the seed shaft with its teeth and warms or scrapes the fibrous mass on the surface of the seed - this is called fluff. The torque attached to the Saw tooth is taken out of the working chamber according to the rotation of the saw. In this case, the density of the seed valig has a great acuity. Because the larger the density, the greater the amount of torque (the percentage of torque gain or S'yom) attached to the saw. As a result, the productivity of work on linter fluff increases. The fiber attached to the saw teeth is carried through the colosnik range and is separated from the saw teeth at the expense of the air velocity emanating from it when it comes to the cadence of the air compartment. It detaches the torque and lowers it down, that is, into the vaporizing gorlovina of the air chamber, from where it goes to the vapor condenser with air. The air coming out of the saplo separates the torque from the Sawtooth, which also separates the waste that is in the torque at the expense of the standing of the ulyuk Reika located there, and the waste carrier drops on the conveyor. The seeds, on the other hand, separate from the pollen Valley and fall on the colosnik surface, sliding down, depending on the fact that the mucus is removed from their surface, and are taken to the next process.

References:

1. Strategy of action on five priority areas of development of the Republic of Uzbekistan in 2017-2021. Decree of the president of the Republic of Uzbekistan dated February 7, 2017 No. PF-4947.
2. I.D. Madumarov, M.A. Gapparova, T.O. Tuychiev. The initial processing of natural fibers is a methodological guide. Tashkent 2013.

3. I.R. Maxmudov, I.M. Qabulov "COTTON RECEIVING RULES IN COTTON MILLS AND COTTON RECEIVING PLACES" Central asian journal of multidisciplinary research and management studi 3 Volume 4 Issue 1, Part 2 January 2024.
4. Kabulov, I., Yuldosheva, D., & Ungarov, A. (2024). AGROTECHNICS OF GROWING COTTON, THE PROCEDURE FOR ORGANIZING PREPARATION FOR THE SKIN. *Евразийский журнал академических исследований*, 4(1 Part 2), 88-92.
5. Ungarov A., Yuldasheva D. EFFECT OF TEMPERATURE CHANGES ON FIBER QUALITY DURING STORAGE OF COTTON RAW MATERIALS //Journal of Agriculture & Horticulture. – 2024. – Т. 4. – №. 1. – С. 17-20.