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**INCLUDING A JANE ACCELERATOR WORKING CAMERA**

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**Abstract**

In order to ensure the quality of cotton fiber, the article presents the effect of a working chamber with a ginning accelerator on the technological processes of ginning.

**Keywords:** damaged fibers, knots, fiber cleaning machine, working chamber, saw cylinder, colossal mesh.

In Uzbekistan, certain activities are being carried out in the field of cotton cultivation, its preliminary processing, and increasing its competitiveness in the world market. Increasing the purchasing power of Uzbek cotton in the world market through quality production of cotton products is defined as one of the main priority tasks of state importance. One of the main directions of the ongoing reforms is the introduction of new techniques and technologies in the field of cotton production, including in primary cotton processing enterprises, to ensure high output of fiber, to further improve its quality, and to reduce product costs is one of the goals. Currently, it is necessary to ensure that the working productivity of the gins, the compliance of the fiber quality indicators with the standards, the minimum amount of fiber waste, and the compliance with the requirements specified in the technical documents of the machine are currently working in the technology of the initial processing of cotton.

The following requirements must be met during ginning of seeded cotton: separation of all the fibers suitable for spinning from the seeds, no defects in the fiber and seed as a result of the action of the working organs of the gin on the fiber; that pieces of seeded cotton do not join the fiber or seed coming out of the gin it should be possible to adjust the hairiness of the emerging seed and the amount of fiber in the grain. In the process of ginning, along with partial cleaning of the fiber from impurities and separation of the husk from the fiber, the following defects may appear: fibers stuck to a piece of seed pod, broken and damaged fibers, knots, twisted fibers, empty seeds. In order to avoid ginning defects, it is necessary to dry gins and other pre-ginned cotton, use cleaning equipment in accordance with technological requirements, and always keep them in good condition.

By improving the machines (genies) for separating cotton raw materials from seed, increasing fiber yield, improving quality, ensuring timely exit of seed from the working chamber, increasing efficiency and productivity are urgent issues. Taking this into account, scientific research works focus on improving the working bodies of the gin machine.

It is known that during the ginning process, the seeds separated from the fiber move to the central part of the raw material. as a result, the density of the raw material increases, which leads to increased damage to the seed and fiber.

Today, researchers are proposing to install the rotary accelerator in the form of a belt-type working chamber.

Currently, existing sawing gin machines in cotton ginning enterprises have low productivity (8-10 kg/hour of fiber per saw) due to the friction force between the two sides of the working chamber and the two ends of the raw material shaft. in this regard, according to the results of scientific research, it was considered appropriate to improve the working chamber of the gin machine.

This proposed device works as follows. The seeded cotton falls into the working chamber (1) of the gin machine. As a result of the rotation of the saw cylinder (2), the sawed cotton gets stuck in its teeth and forms a raw material roll. The side of the working chamber rotates around its axis so that the raw material shaft does not experience any frictional force from both sides. in order to speed up the rotation of the raw material shaft, special pegs were installed on the side of the working chamber. This accelerates the movement of raw materials. The fiber adjacent to the saw teeth is separated from the seed at the colosnik grid (3) and begins to fall under the influence of its own weight. in the proposed device, in order to speed up the rotation of the raw material roller, the side part of the working chamber of the saw fiber separator rotates around its axis, and special pegs are installed on the surface of the side part.

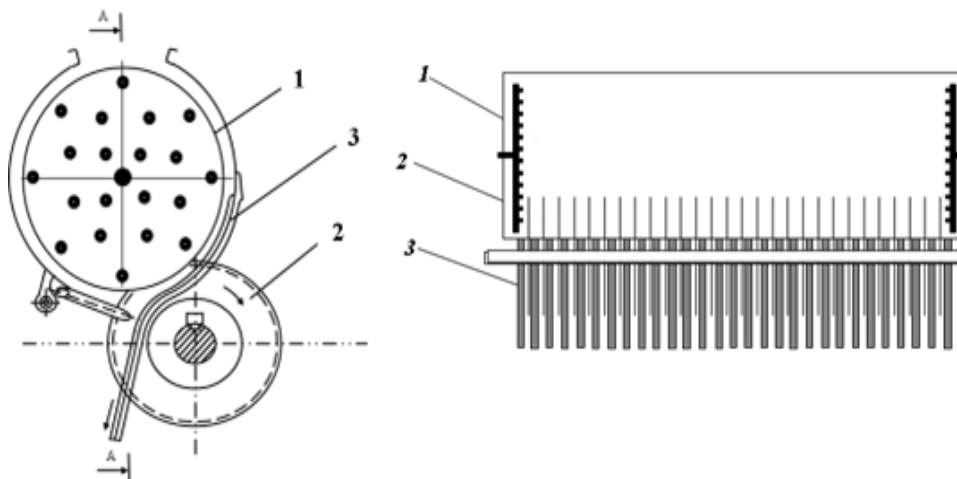


Figure 1. Recommended working camera.

The 1- side part is a device that rotates around its axis, 2-saw cylinder, 3- colosnik. This accelerates the movement of raw materials, reduces friction and electricity consumption, and allows to increase production productivity. but with the help of piles, according to the length of rotation of the raw material, that is, the speed of rotation at the two ends is lower than the speed of the middle part, compared to the edge part. As a result, productivity is relatively low.

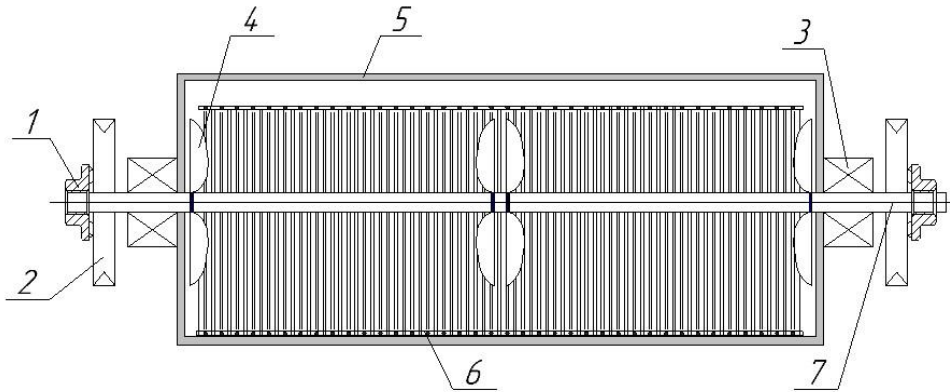


Figure 2. Proposed working chamber structure.

1-upper cover, 2.- Fixing base, 3. -Shaft holder, 4. -Side panels, 4 -panels in the upper part, 5.- Working chamber, 6. -Colosnik, 7. -Shaft.

In order to prevent this, taking into account the quality of fiber output during the ginning process, rotating blades were installed in the middle part of the working chamber of the ginning machine offered by us, and the following conclusion was reached after studying the results. The shaft is passed along two side walls of the working chamber of the gin, and the device with a plate installed in the center causes the speed of rotation of the raw material shaft to rotate at the same speed on the entire surface, which is the main factor affecting the increase of the working productivity of the gin. The installed working part is used to warm the raw material to the saw teeth, to prevent the clogging of the raw material shaft, to reduce the friction force of the raw material against the walls of the working chamber, and to speed up the process of the seeds separated from the fiber from the center, as well as to increase the attachment of long fibers to the saw tooth. This proposed device works as follows. The seeded cotton falls into the working chamber (1) of the gin machine. As a result of the rotation of the saw cylinder (2), the seeded cotton gets stuck in its teeth and forms a raw material roll. In order for the raw material shaft not to be subjected to friction force against the side walls without jamming, and the time of meeting of the raw material shaft with the saw teeth is accelerated, the shaft is passed along the two side walls of the working chamber, and the device, which is installed in the center, rotates around its axis. which accelerates the movement of raw materials. The fiber adjacent to the saw teeth is separated from the seed at the colosnik grid (3) and begins to fall under the influence of its own weight. In conclusion, it should be said that through the proposed gin equipment, it will be widely used in the production of cotton industry in the future and it will be possible to obtain quality products.

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### Used Literature

1. Саримсақов А.У., Каримов А.И., Мурадов Р.М. Аррали жин ишчи камерасидаги жараёнларни амалий ва назарий статик ҳисоби Механика муаммолари. – Тошкент, 2012. – № 2. Б. 60-63.
2. Саримсақов А., Эргашев Ж., Мурадов Р. Жин машинаси ишчи камерасида ҳосил бўладиган хомашё валигининг ҳолатини ўрганиш ФарПИ. Илмий-техник журнали. – Фарғона, 2012. – № 2. Б. 34-37.