

## ENHANCING THE EFFICIENCY OF THE SS-15A SEPARATOR THROUGH MESH SURFACE IMPROVEMENTS

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### Annotation

Currently, SX and SS-15A types of separators are used in production. Separators are used to separate the seeded cotton from the air stream coming through the pneumatic conveying device. Also, the separator cleans the cotton from dust and some small impurities as it transfers the dust and small impurities in the cotton together with the air.

**Keyword:** Saw drum, colosnik grill, air nozzle, dirt removal auger, brush.

### Introduction

At present, one of the main types of transportation of seeded cotton from warehouses to production and interdepartmental transportation in cotton ginning enterprises is the method of pneumatic transportation. The pneumatic conveying system is easy to use and maintain, reliable, and does not lose raw materials during transportation. Cotton separators used in the pneumatic transport system are very important. Separators are the only equipment that affects the normal operation of the pneumatic transport system, its performance and aerodynamic mode of operation.

In the working chamber of the new separator offered to cotton gins, mesh surfaces in the horizontal plane are placed in a different order compared to the mesh surfaces of the existing separator. As a result, cotton will reduce contact with the mesh surface of the separator as it separates from the air in the separator working chamber. This, in turn, preserves the natural properties of fiber and seed, and prevents free fibers from leaving dust with air and clogging in the separator.

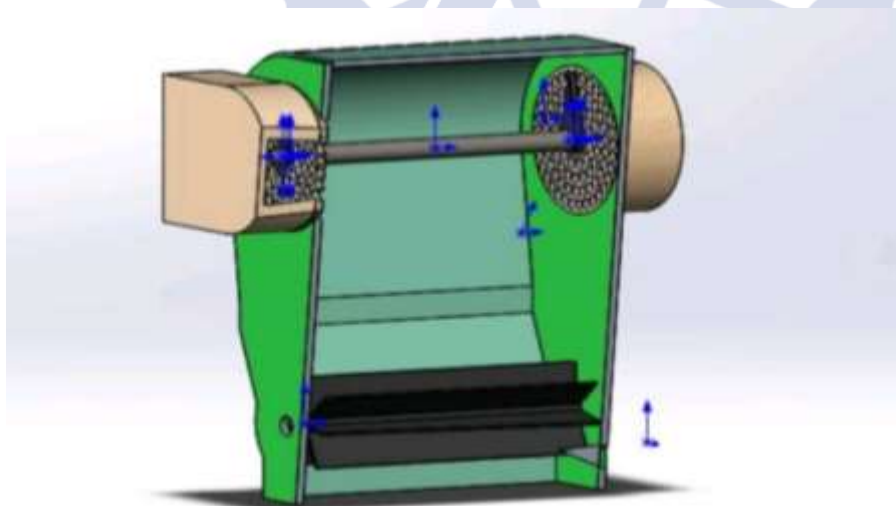
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ginning enterprises. The pneumatic transportation system is easy to use and repair, and there is no loss of raw materials during transportation.

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SS-15A - model cotton separator - The separator is made entirely of iron, it is reliable during operation, it works with high efficiency. The seed cotton mixed with air falls at a high speed through the pipe into the separation chamber (2) of the separator. The cotton moves by its own inertia through the wall of the separation chamber and rests on the rotating blades of the vacuum valve (7), and due to the rotation of the blades, the cotton is thrown out of the separator. If there is air, it loses its initial speed inside the chamber, then changes its direction and is directed to the dust collection devices through the air transfer pipe (6) due to the suction of the fan from the holes of the grid (4) on both sides of the chamber.



Picture 2. The proposed separator structure



### Conclusion

Increasing the number of rotations of the drum of the separator with a cylindrical mesh, which is offered to cotton cleaning enterprises, makes it easier to separate cotton from the surface of the mesh by increasing the rotation speed of the drum, and the cleaning efficiency of the separator decreases. As a result, we can achieve quality fiber.

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