ELEMENT SPIRĂ PENTRU SITĂ CILINDRICĂ

/ COIL ELEMENT FOR CYLINDRICAL SIEVE

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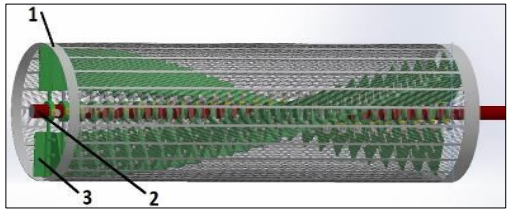
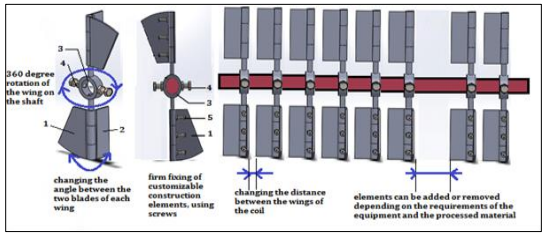
INTRODUCTION

The invention relates to an innovative subassembly that mounts inside cylindrical grain separators to improve their performance called "Novel coil subassembly for cylindrical sieve". The novel subassembly allows versatile operation of the equipment, being able to be converted easily to the form of a helical coil with variable pitch, a homogenization palette, or grain mixer/agitator, in order to separate the impurities from the seed mass introduced in the sieve, obtaining qualitative good seeds for sowing or grinding. The innovative element improves the separation process, allows a high level of customization, increases the efficiency and cleaning capacity of cylindrical sieves.



RESULTS

The technical problem solved by the invention (Fig. 2) consists in the design and execution of a versatile subassembly, that can be converted in the form of helical coil with variable pitch (Fig. 3), of homogenization palette (Fig. 4) or grain mixer/agitator (Fig. 5), mounted on an axis inside a rotating cylindrical sieve, which will rotate in the opposite direction of rotation of the sieve, in order to increase the sieve speed, to eliminate the effect of "resting core". In this way there is an improved separation from the seed mass introduced into the sieve of good seeds intended for sowing or grinding, leaving on the sieve only the material, and leading to increased yields and sieving cleaning capacities.



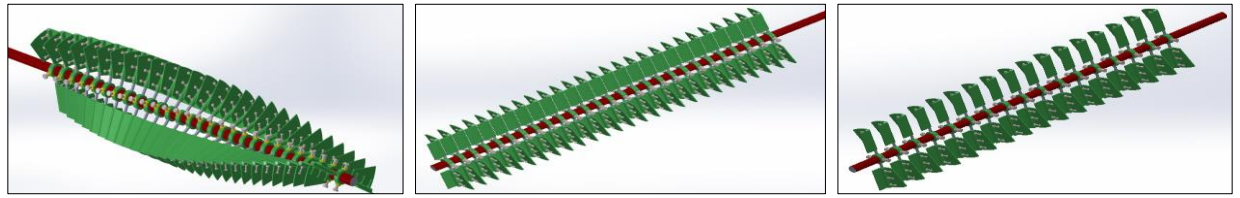


Fig.2 - Novel subassembly components and the customization possibilities

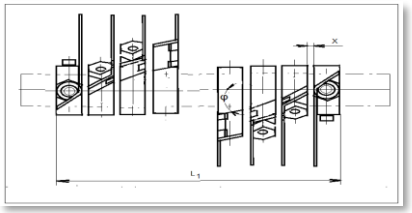


Fig.3 - Positioning of the subassembly in the form of a **helical coil**

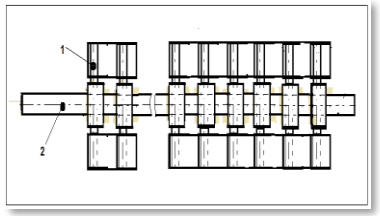


Fig.4 - Positioning of the subassembly in the form of a **homogenization palette**

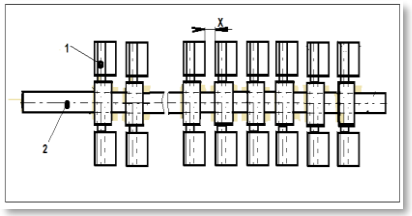


Fig.5 - Positioning of the subassembly in the form of a **grain mixer / agitator**

CONCLUSIONS

- The innovative subassembly positioned inside the rotating cylindrical sieves, presents a high level of versatility and can be quickly modified in the form of a helical coil, homogenization palette or grain mixer/agitator. In addition, the equipment can be customized in an advanced way, by changing the angle between the blades of the elements that make up the subassembly.
- This modification allows the cleaning of cereals with a high content of impurities or with high humidity (a major advantage for rotary sieves).
- The possibility to change the shape of the subassembly allows it to be used for different types of cereals.
- The use of the subassembly in association with the rotating coil, which rotates in the opposite direction to the subassembly leads to an important improvement of the separation efficiency, can increase the processing speed, or the volume of material entering the equipment.