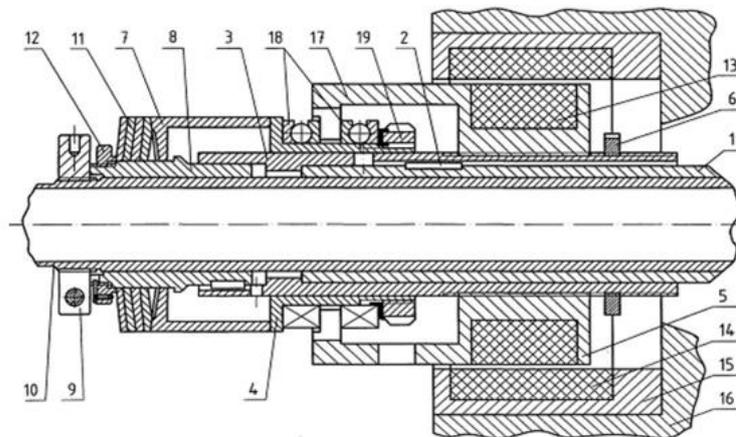




Course: Machine building

1. **Name of innovative development:** Device for clamping rod material.
2. **Purpose and scope:** The characteristics of the clamping mechanism have a significant impact on the performance and quality of the parts. The tendency to increase the maximum speeds of spindles of metal-cutting machine tools determines the need to provide new requirements for the operation of the mechanisms of clamping of the workpiece. The development can be used in turntables and CNC machines.
3. **The main characteristics, the essence of development:** The development is intended to increase the reliability of fastening the rod due to the stabilization of the clamping force in the absence of unbalanced elements and centrifugal forces that affect the operation of the mechanism.
4. **Comparison with the world analogues, the main advantages of development:** The characteristics of the drive mechanism of the clamping mechanism depend: Maximum spindle rotational speeds when cutting, which determines the costs of the main processing time; clamping speed, which reduces the cost of auxiliary time; reliability and stability of the clamping force, providing the possibility and quality of processing of uncalibrated and thin-walled blanks; the reliability of the operation of rod single-spindle and multi-spindle machines.
5. **The State of Intellectual property protection:** The developed design is protected by the patent of Ukraine for the invention No. 95323 dated July 25, 2011.
6. **Demand on the market:** The demand is determined by the main advantages: the possibility of obtaining a stable axial force of the clamping when the diameter of the workpiece is rejected; lack of unbalanced drive elements that affect the appearance of centrifugal forces at different spindle speeds; the ability to automatically adjust the size of the clamping force during workpiece processing.
7. **Condition of development readiness:** A design was developed and a working prototype was created.
8. **Color illustrations, photo development:**



9. **Coordinators for communication:**
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