

SarFTI NRNU MEPhI
Faculty of Information Technology and Electronics
Department of Computing and Information Technology

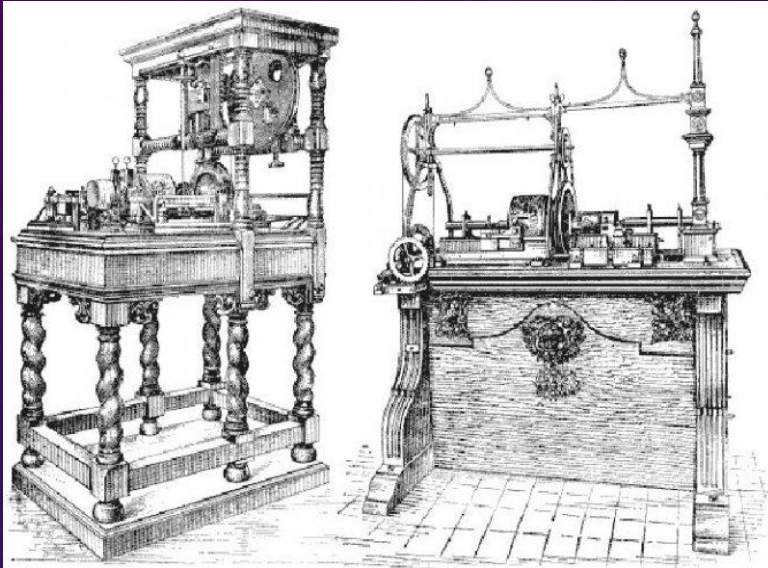
SCREW-CUTTING LATHE

COMPLETED BY A STUDENT OF GROUP TM-10

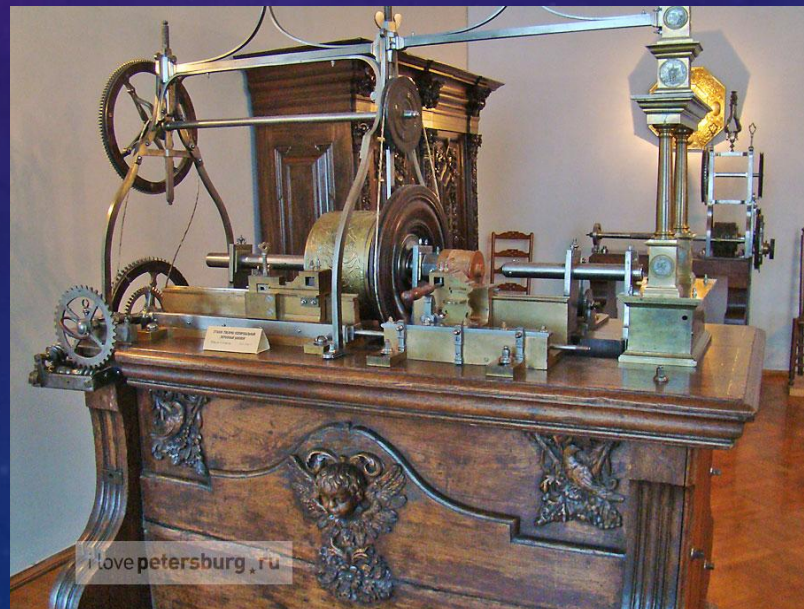
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Sarov 2021

IN 1712, THE MECHANIC OF PETER THE GREAT, ANDREI KONSTANTINOVICH NARTOV (1693-1756), INVENTS AN ORIGINAL LATHE-COPYING AND SCREW-CUTTING MACHINE WITH A MECHANIZED SUPPORT AND A SET OF REPLACEABLE GEAR WHEELS.

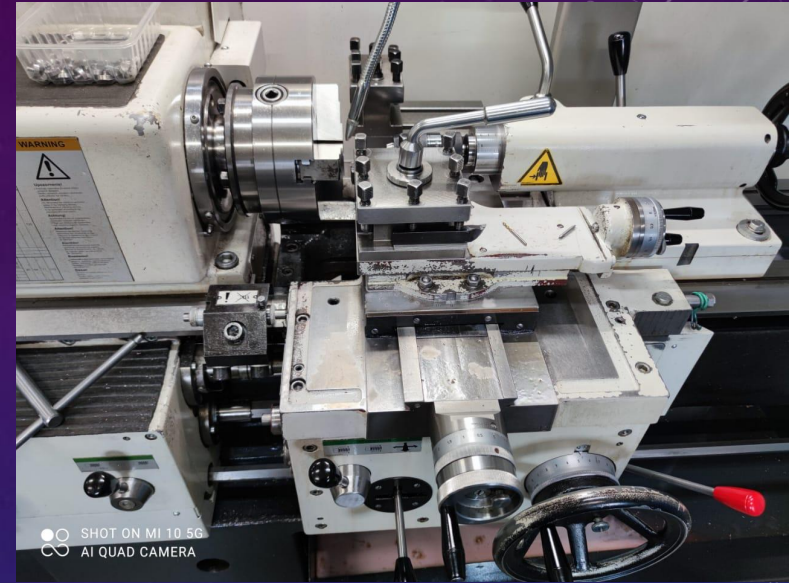


THE COPYING LATHE PROCESSES THE PART BY COPYING, AND THE SCREW-CUTTING LATHE CAN CUT THE THREAD



A. Nartov 1723

FOR EFFECTIVE PROCESSING OF PRODUCTS MADE OF FERROUS OR NON-FERROUS METAL, IT IS NECESSARY TO ACQUIRE A UNIVERSAL EQUIPMENT, WITHOUT WHICH NO PRODUCTION CAN DO - A SCREW-CUTTING LATHE. SUCH A DEVICE IS CAPABLE OF PERFORMING A VARIETY OF TASKS (CUTTING, PROCESSING CYLINDRICAL AND CONICAL PRODUCTS, ETC.).



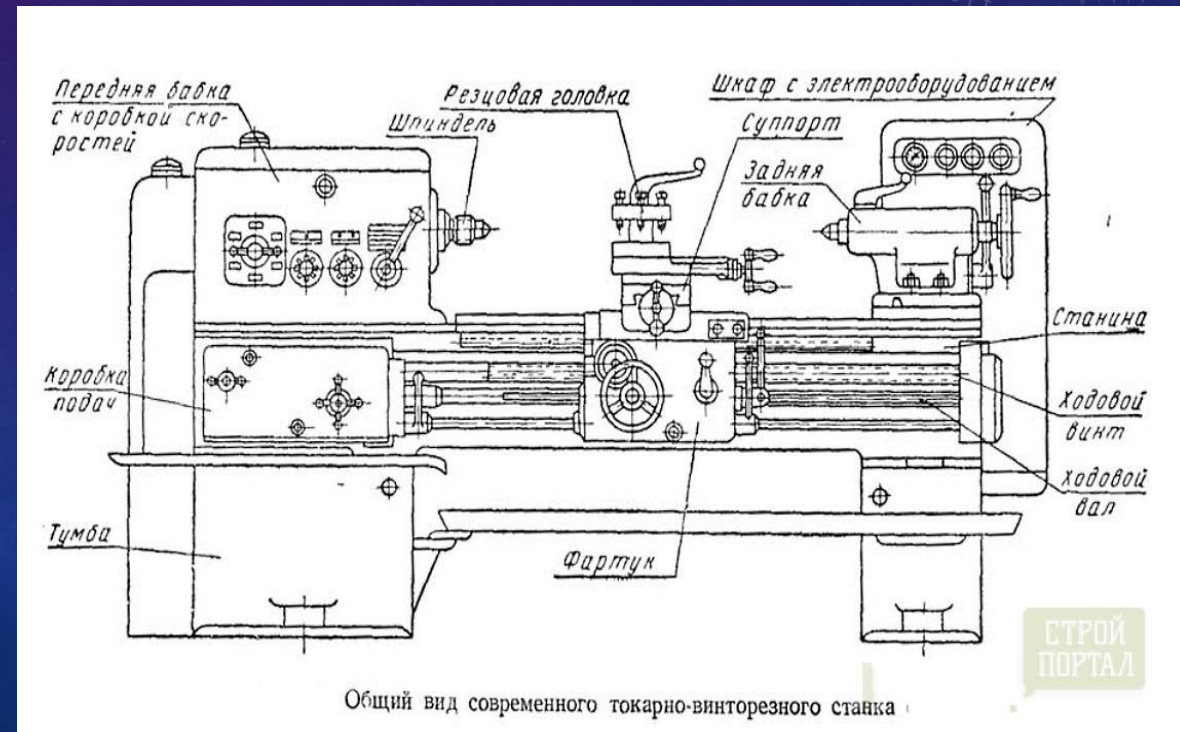
THE EQUIPMENT IS USED FOR SUCH WORKS:

- CUTTING;
- THREAD CUTTING (MODULAR, INCH, ETC.)
- TURNING WORKS
- DRILLING
- PROCESSING AND CHAMFERING
- COUNTERSINKING

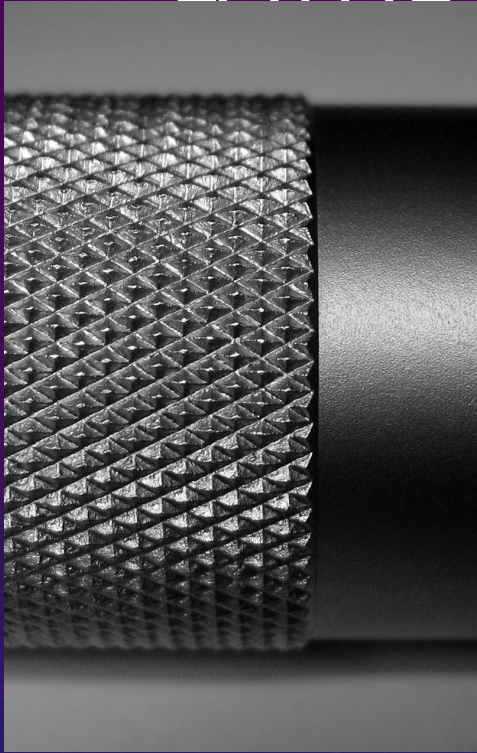
MAIN WORKING UNITS SCREW-CUTTING LATHE

1. ALL THE MAIN UNITS OF THE MACHINE ARE MOUNTED ON THE BED.
2. THE FRONT UNIT (HEADSTOCK) IS A STARTING DEVICE FOR ROTATING THE WORKPIECE TO BE PROCESSED. IN ITS CASE THERE IS A GEARBOX.
3. THE BACK ASSEMBLY (HEADSTOCK) HOLDS THE DRILL, ZINC AND REAMER WHEN MACHINING HOLES.
4. THE SPINDLE AND SPINDLE START THE FEED BOX. IT ALSO CHANGES THE NUMBER OF THEIR TURNS.
5. THE APRON IS THE CONVERTER OF THE ROTARY MOVEMENTS OF THE TRAVEL SHAFT AND THE SCREW INTO THE LINEAR MOVEMENT OF THE CALIPER.
6. THE APRON IS THE CONVERTER OF THE ROTARY MOVEMENTS OF THE TRAVEL SHAFT AND THE SCREW INTO THE LINEAR MOVEMENT OF THE CALIPER.

THE MAIN DIFFERENCE BETWEEN LATHE AND SCREW-CUTTING LATHE IS THE PRESENCE OR ABSENCE OF ONE PART - THE LEAD SCREW. IN THE LATTER, THIS DETAIL IS PRESENT, SO THAT THE DEVICE CAN PERFORM THREADING WITH A CUTTER.



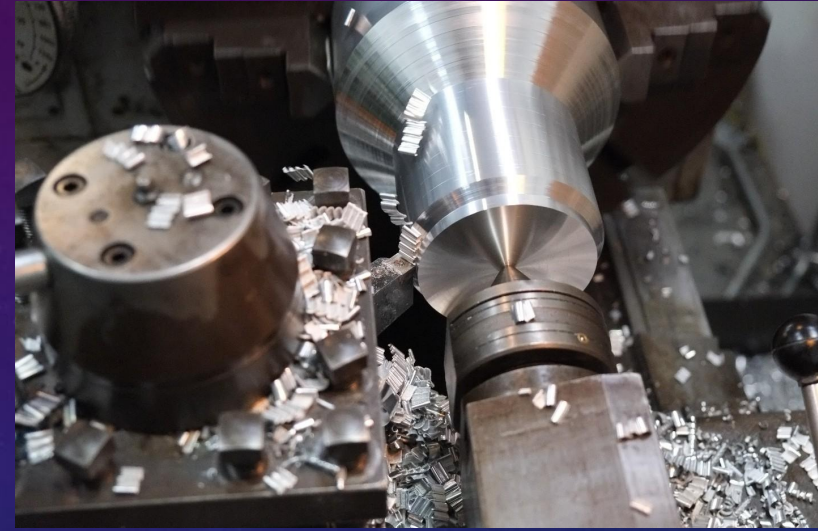
PRODUCTS MADE ON A SCREW-CUTTING LATHE



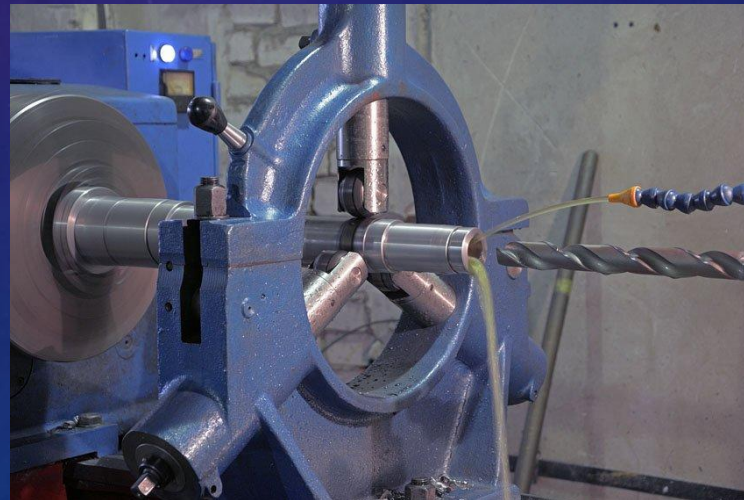
MESH (KNURLED)
CORRUGATION ON
A CYLINDRICAL
PART



REAMING HOLES



TURNING



DRILLING
A
THROUGH
H HOLE

The background is a gradient from dark purple at the top to dark blue at the bottom, filled with a pattern of small white stars. Overlaid on this are several faint, light-colored technical diagrams. In the top right, there is a large circular gauge with a scale from 0 to 210 and a needle pointing towards 180. Below it is another circular diagram with concentric circles and arrows. In the bottom left, there are dashed circular lines with arrows. In the bottom right, there are more concentric circles and arrows.

Thanks for attention!