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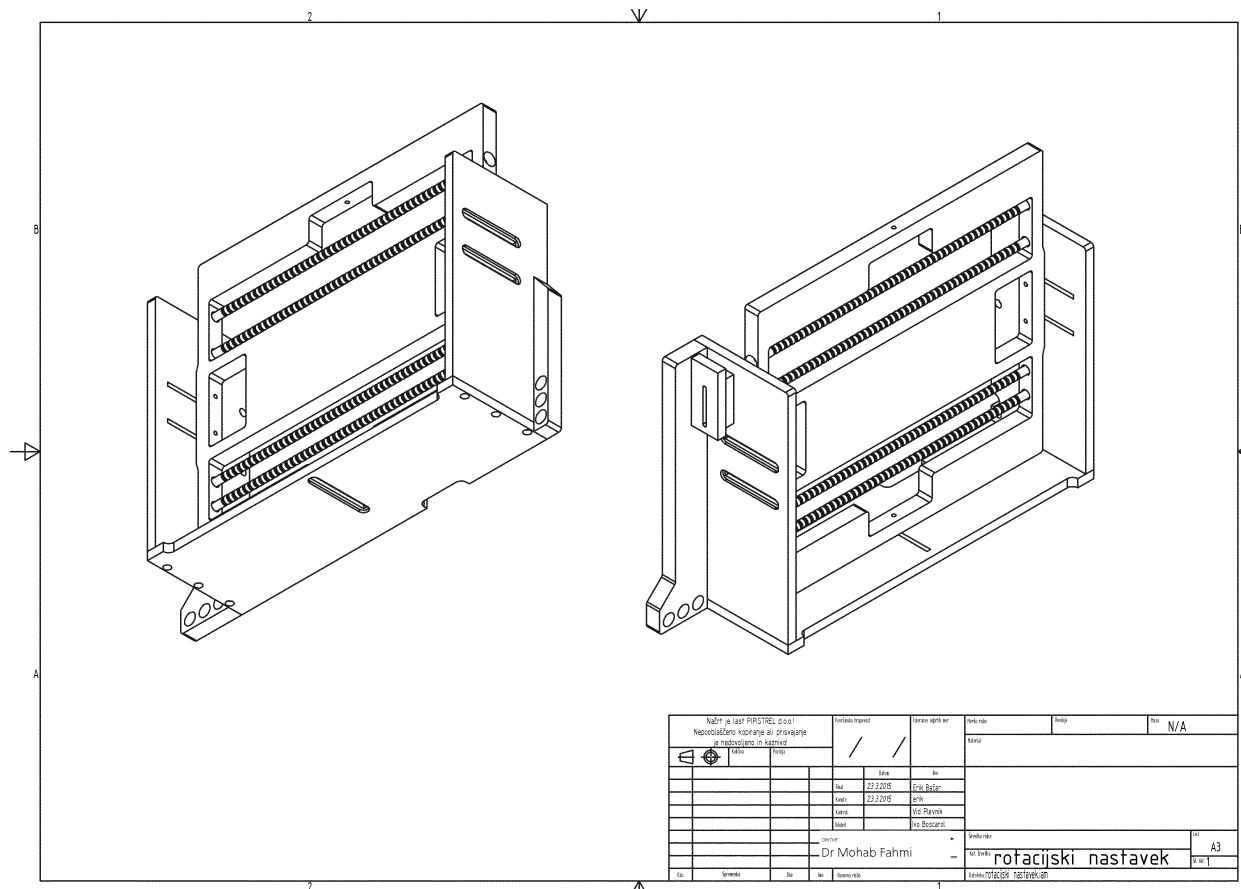
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(54) **ROTARY PRINTING ATTACHMENT FOR ROLAND LEF DIGITAL UV FLATBED PRINTERS**

(57) The world of short run digital rotary printing is a very niche market and one which is totally untapped. The need to print a small quantity of spherical items, such as

bottles, golf balls, mugs, cups in almost totally unsatisfied as the technology to print short run digital rotary is as of yet unavailable.



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Description

[0001] The idea behind the Rotaprint is a very simple one. Roland DG Corp produces a printer that is a UV Flatbed printer designed to print on various substrates but cannot print on anything cylindrical. The Rotaprint is an attachment for the LEF series of Flatbed printers that allows it to be print on any cylindrical object with a diameter not exceeding 83mm.

[0002] The unit can be used on anything from a simple golf ball to a bottle of wine and utilizes the machines own Y advance timing mechanism to create a perfectly and timely rotation of the substrate being printed. The Rotaprint integrates perfectly with the printer via magnets and hinges on its wheels that are designed to forward the print-table within the machine. The INOX stainless steel bars allow for precise movement of the spherical object as well as a grip that fully stabilizes the object being printed.

[0003] The dual ends of the machine allow for various spherical objectives with various diameters to be printed as one end caters for the wider objects whilst the other caters for narrower objects. The ease of use to the end user coupled with the fact that an end-user can install or remove the Rotaprint in less than one minute makes it an extremely user-friendly solution. Uneven holders allow for spherical objects with diverse diameters and uneven surfaces with a tolerance of up to 10mm to be printed well due to the different tilt angles that are custom made for the RotaPrint.

5. The Rotaprint is the only device that utilizes the machine's own bed movement in order to turn the spherical objects being printed.

5 6. The Rotaprint allows users to lay down and remove the unit without the need for any third party tools.

7. The Rotaprint may be adapted to various other flat-bed printers and is the only device that utilizes the Y advance of any printer in order to perfectly time its own object rotation movement.

8. Uneven substrate holders allow for printing of objects with a diameter difference of up to 10mm. These are mounted on the INOX Stainless steel rods.

9. The RotaPrint has no external power supply and doesn't utilize any special software.

10. The unique magnetic attachment mechanism allows the RotaPrint to be attached and removed easily without any hassles.

Claims

1. The Rotaprint allows the Roland LEF-20 to print on spherical objects with a diameter up to 80mm including uneven spherical objects. This assembly is composed of various elements and is designed to attach to the LEF range of printers manufactured by Roland.

a. The elements that the assembly are composed of are Plexiglass, circular ball bearings, INOX stainless steel rods, various screws and o-rings, as well as holders for the INOX rods.

2. The Rotaprint is the only device in the world that allows the Roland flatbed series to print on spherical items.

3. The Rotaprint does not interfere with any of the electrical systems of the printer and is fully detachable from the machine due to its magnetic adherence system.

4. The Rotaprint caters to objects of various diameters thus the dual ended use where narrow rods and wider rods are installed on either side.

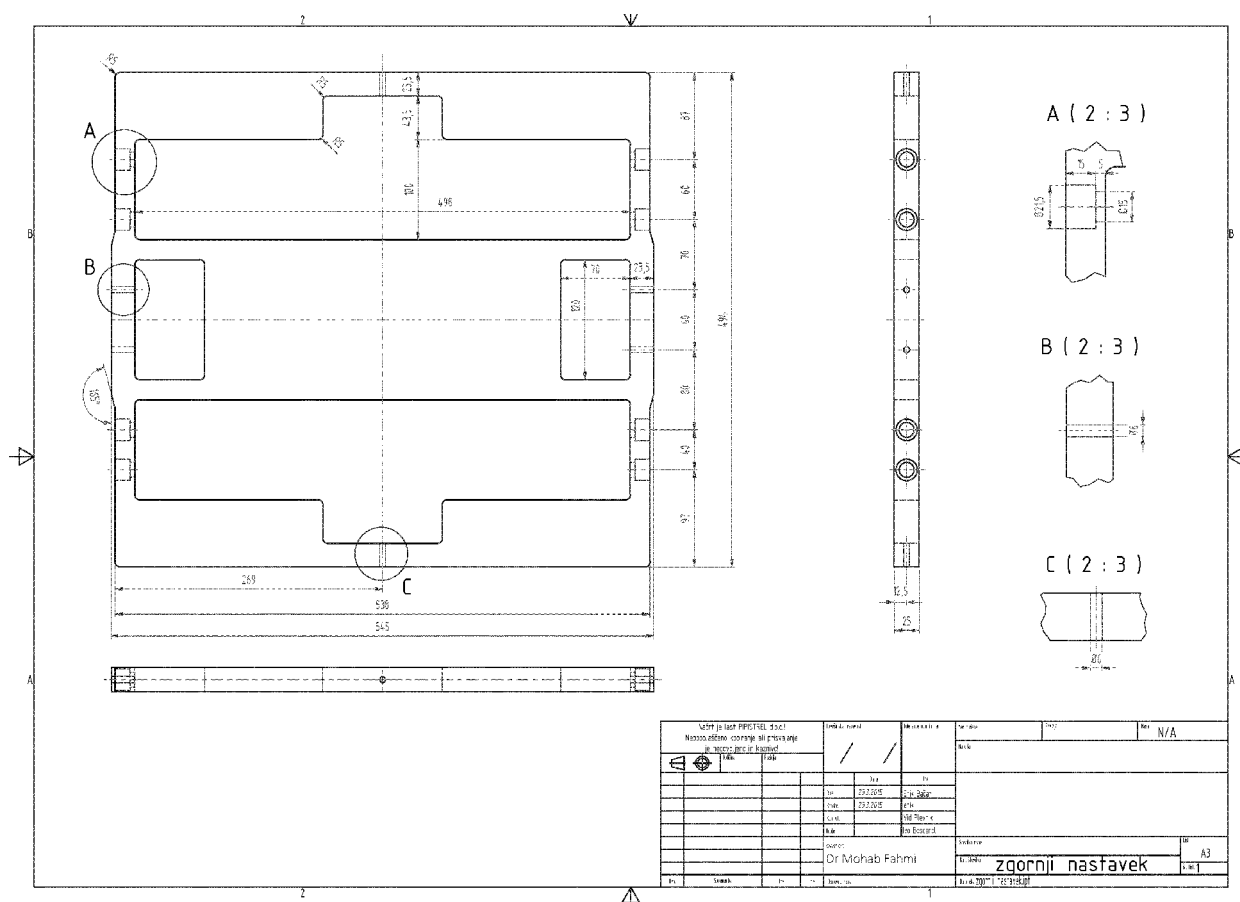
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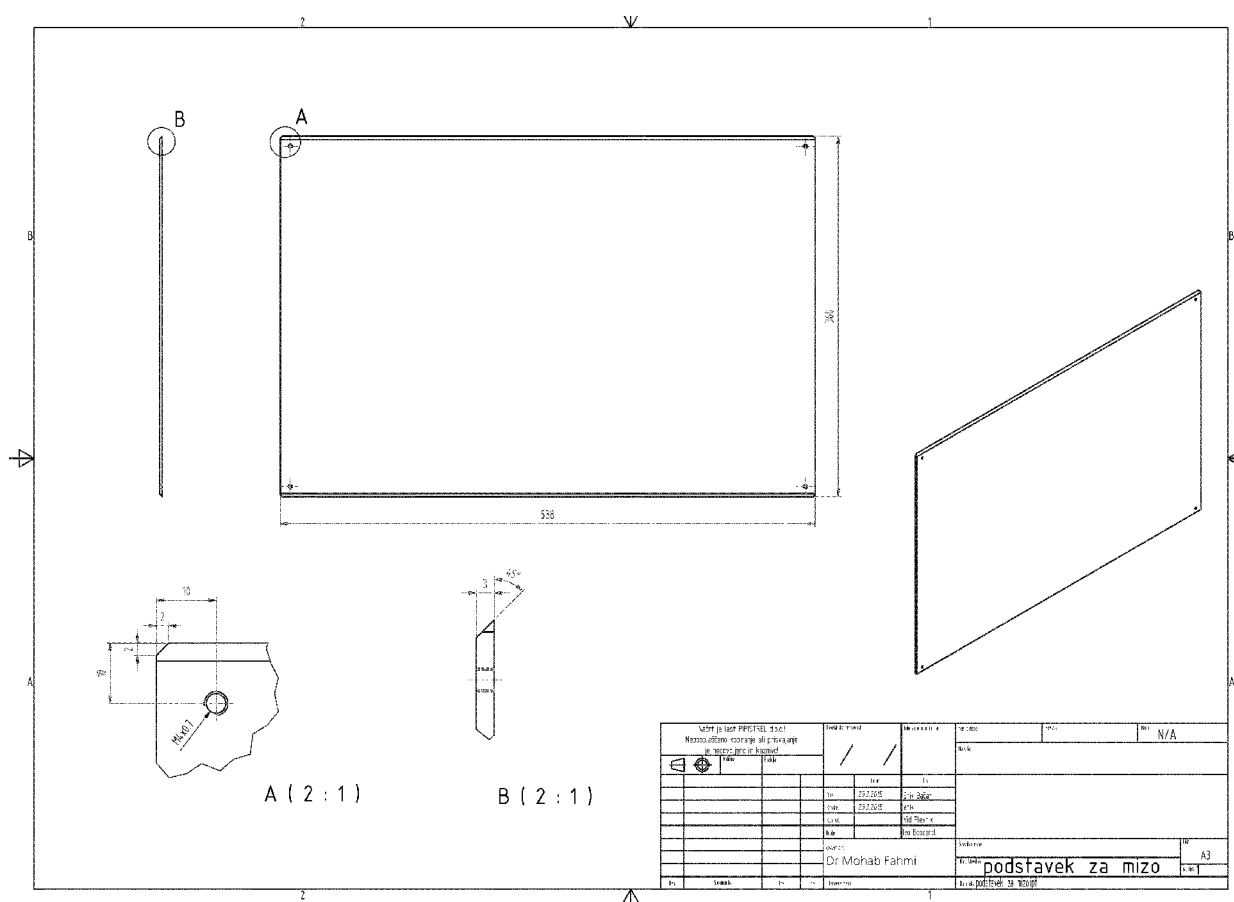
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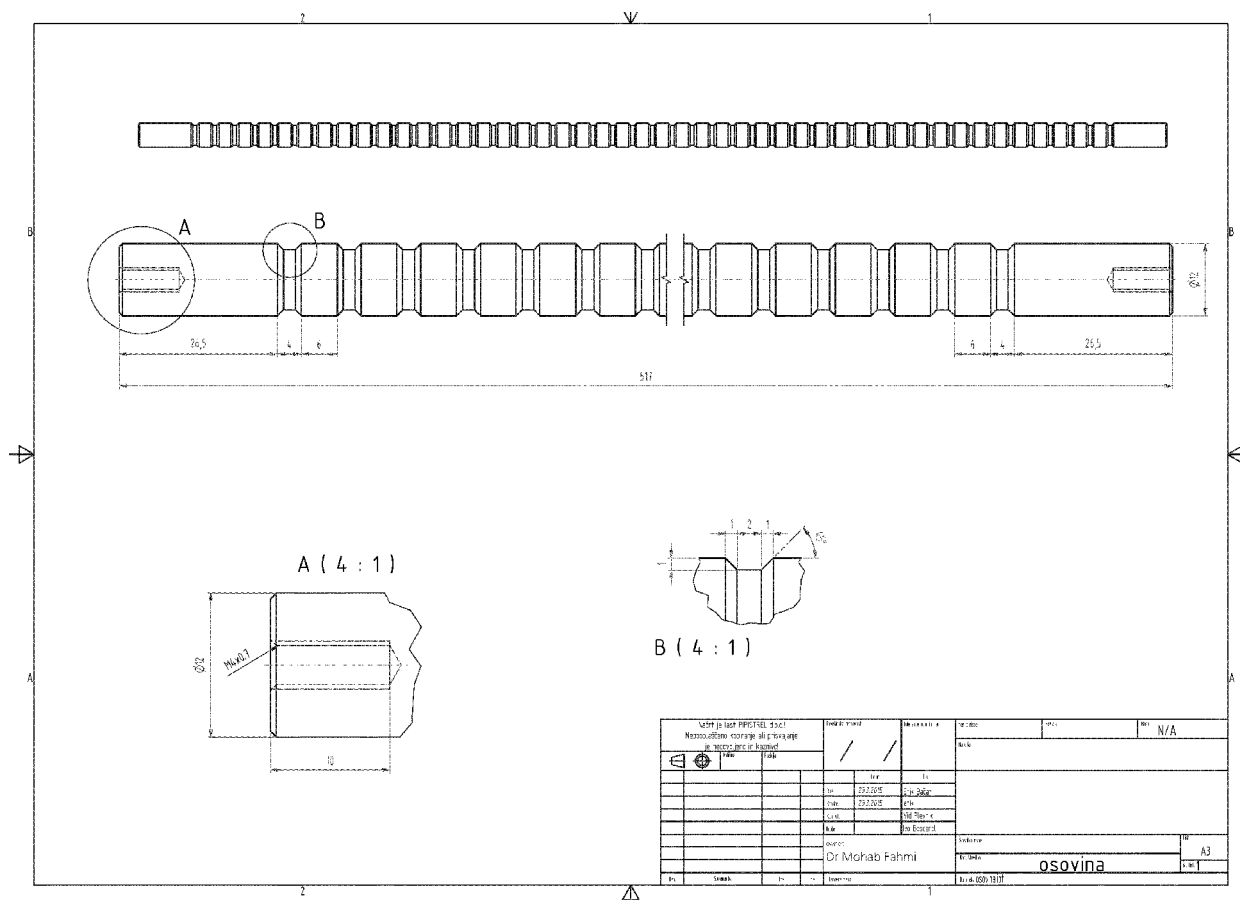
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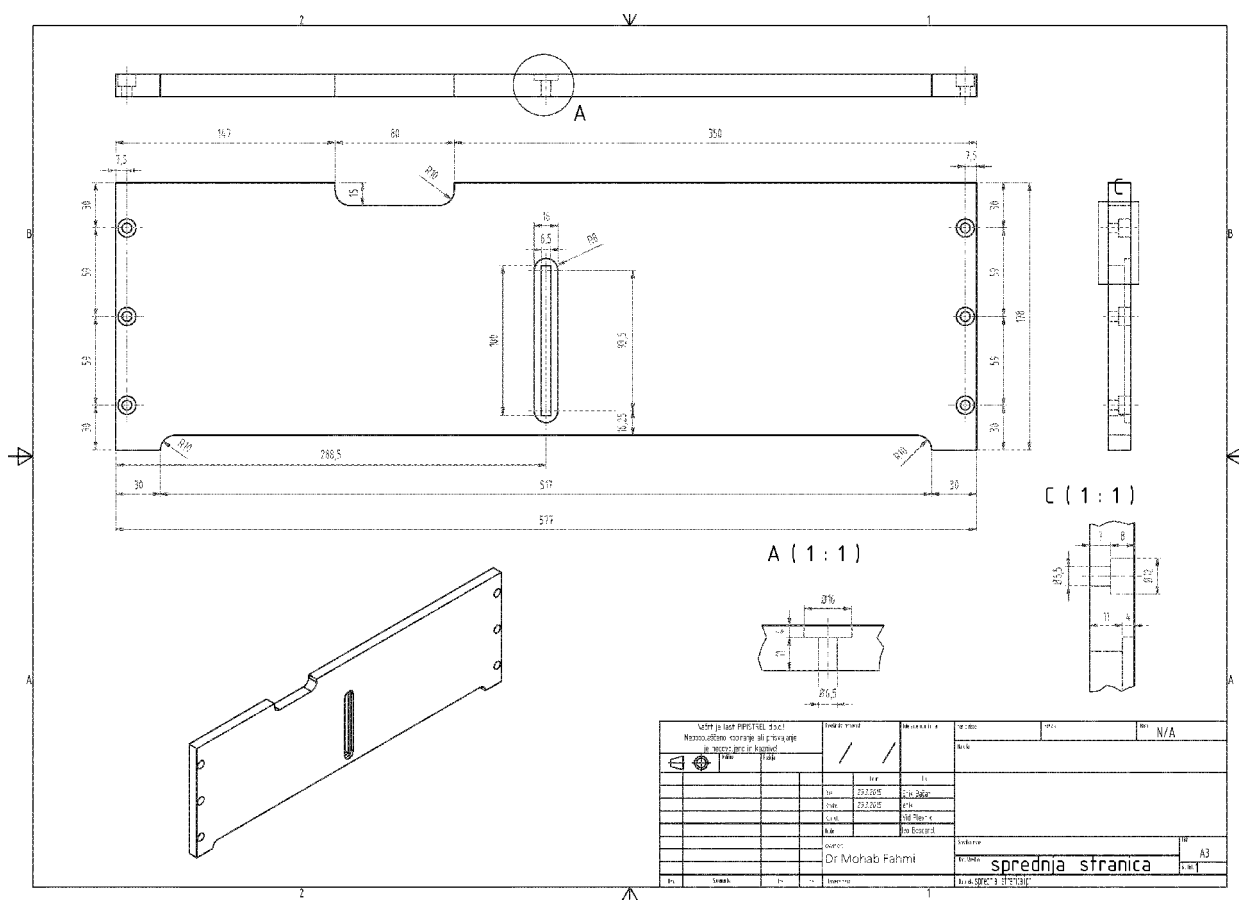
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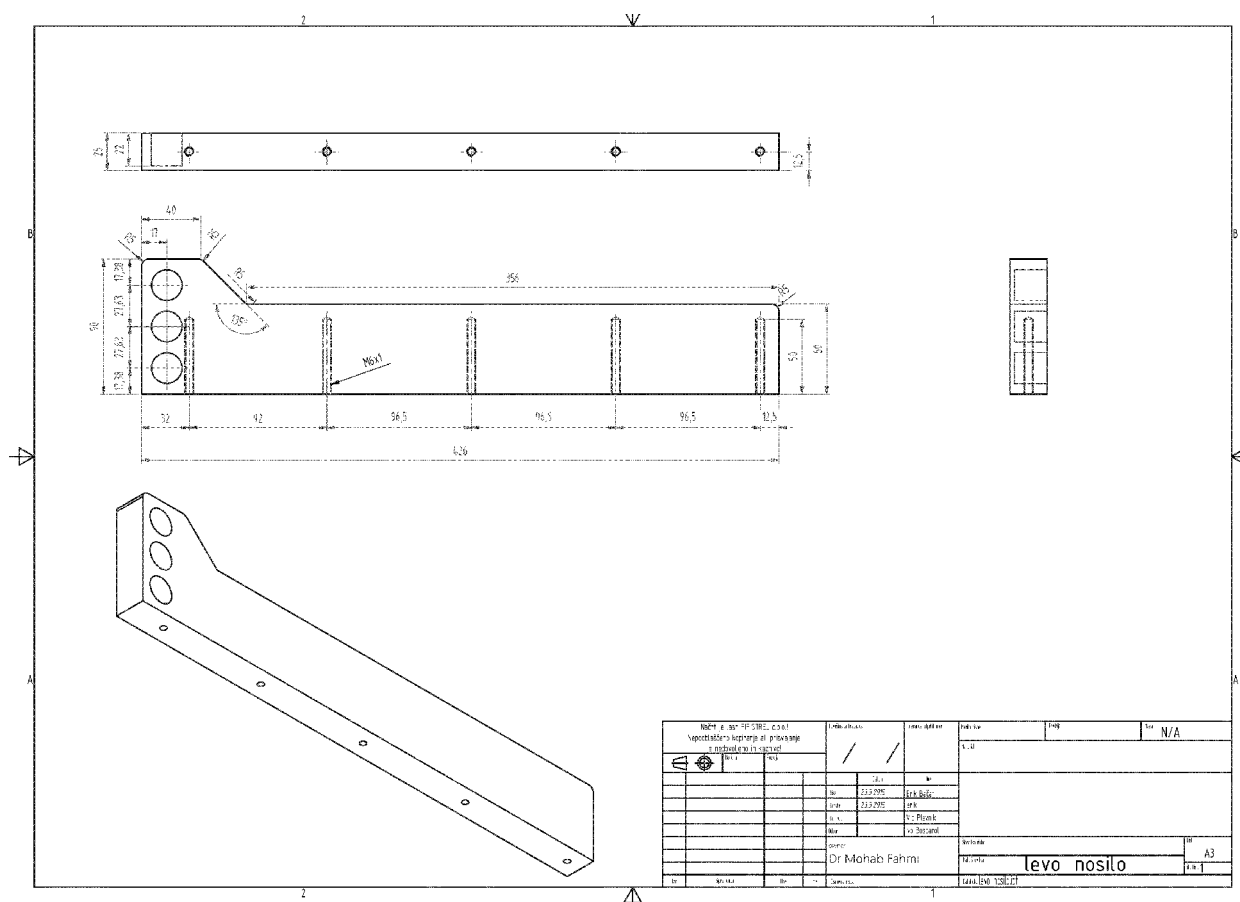
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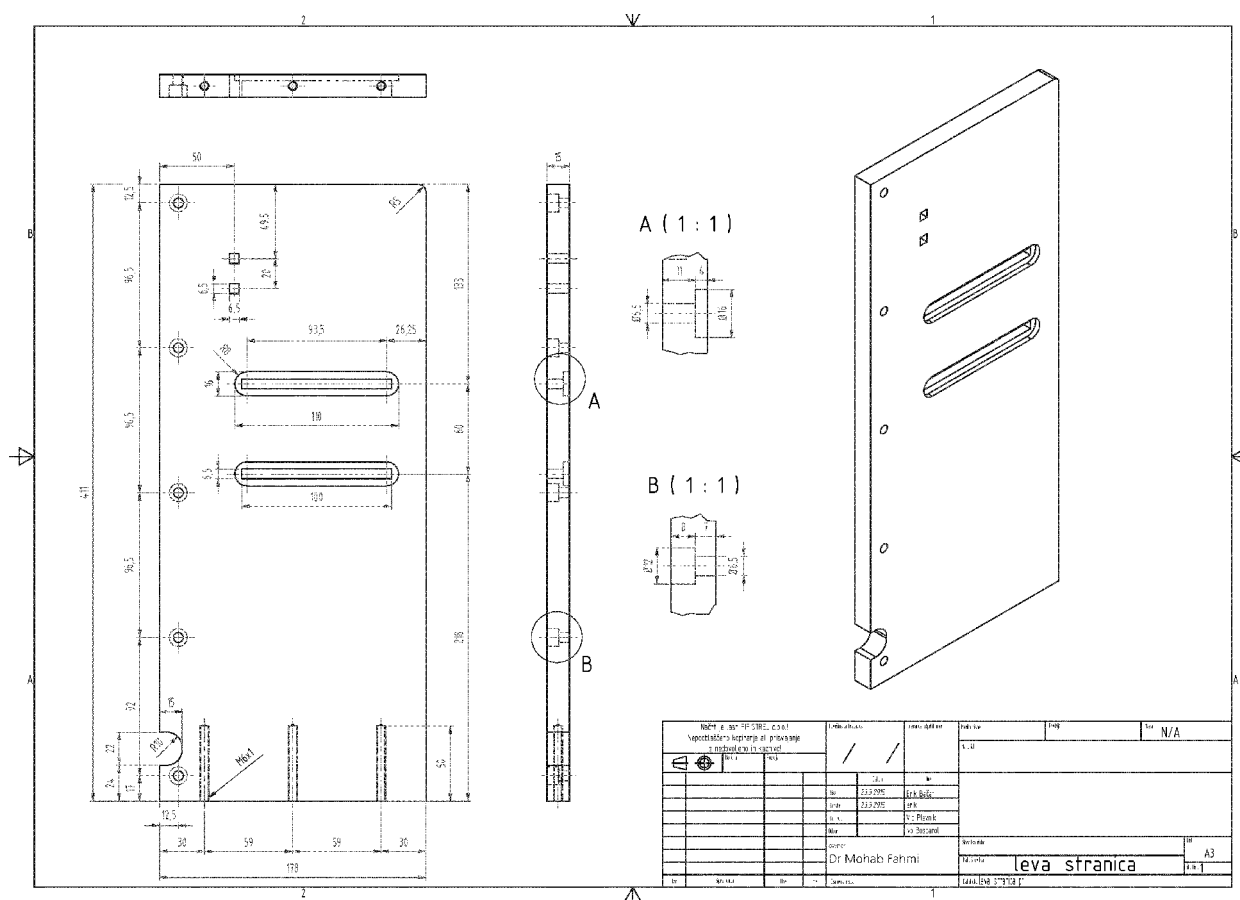


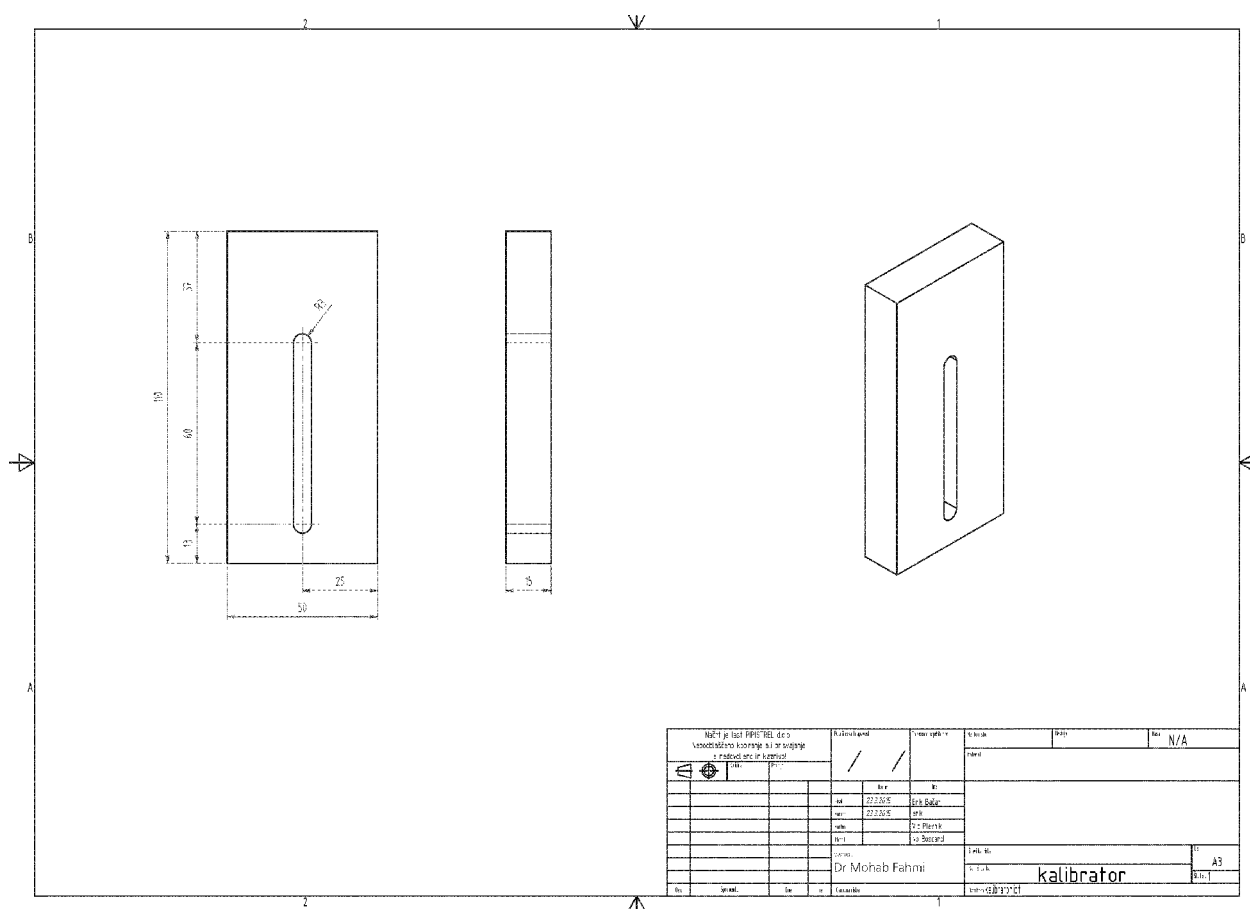


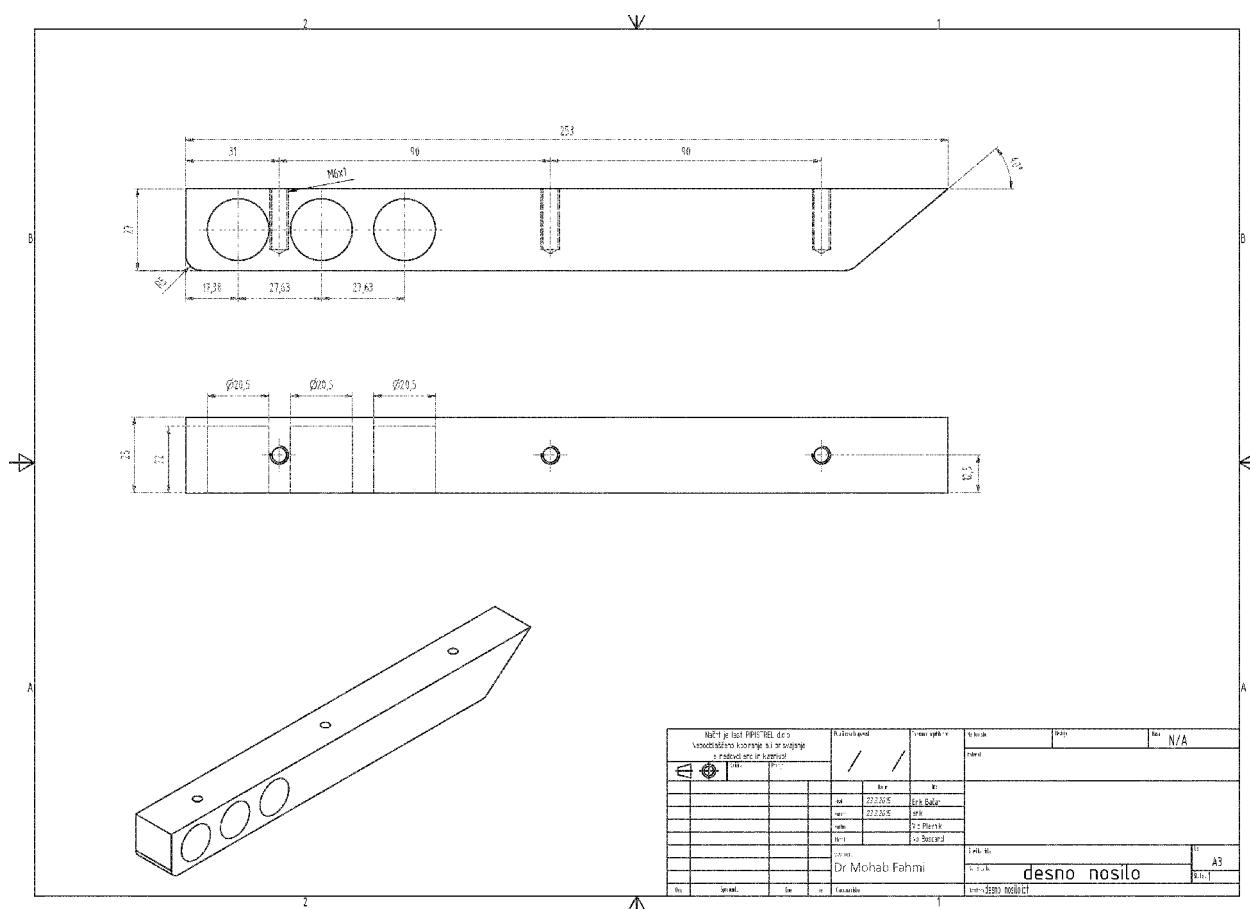


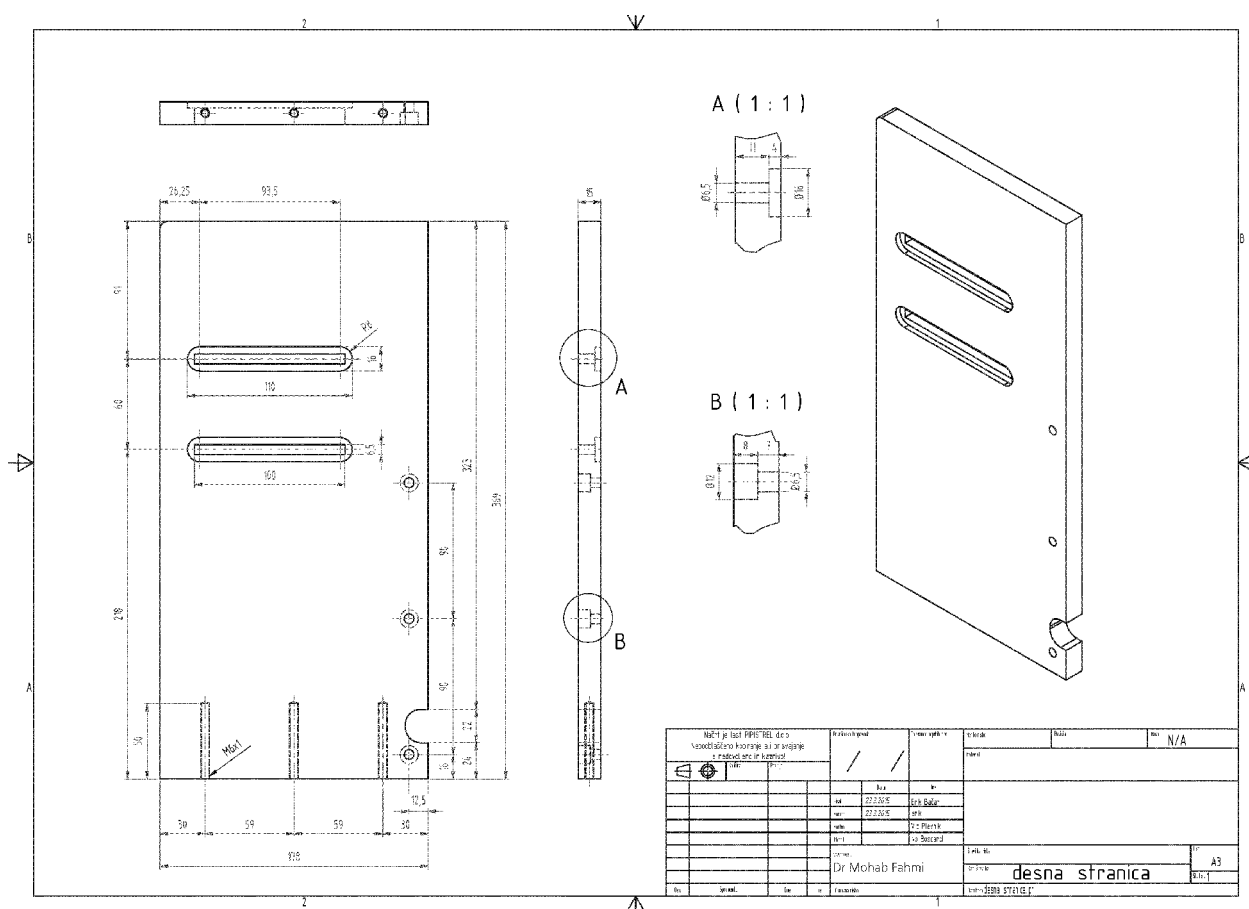


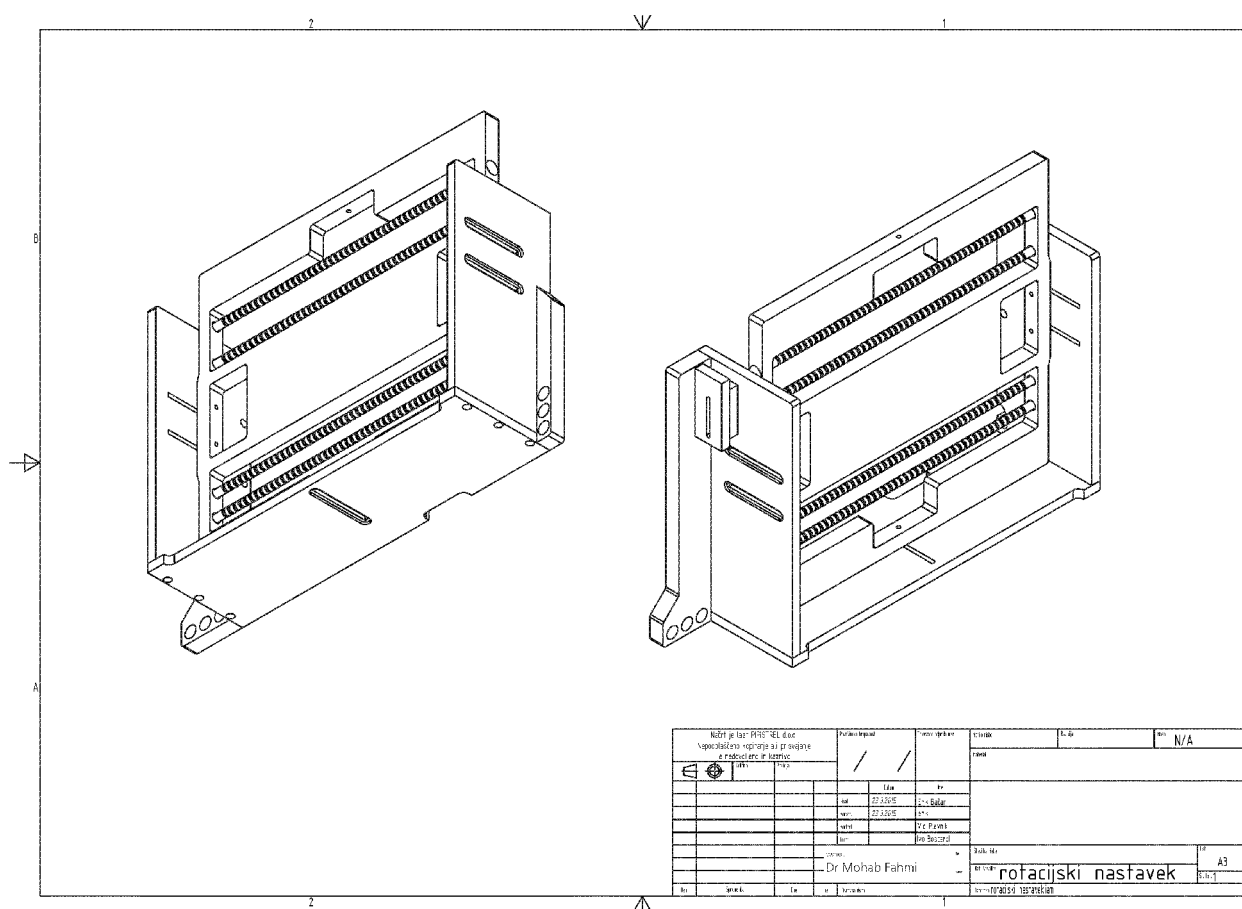


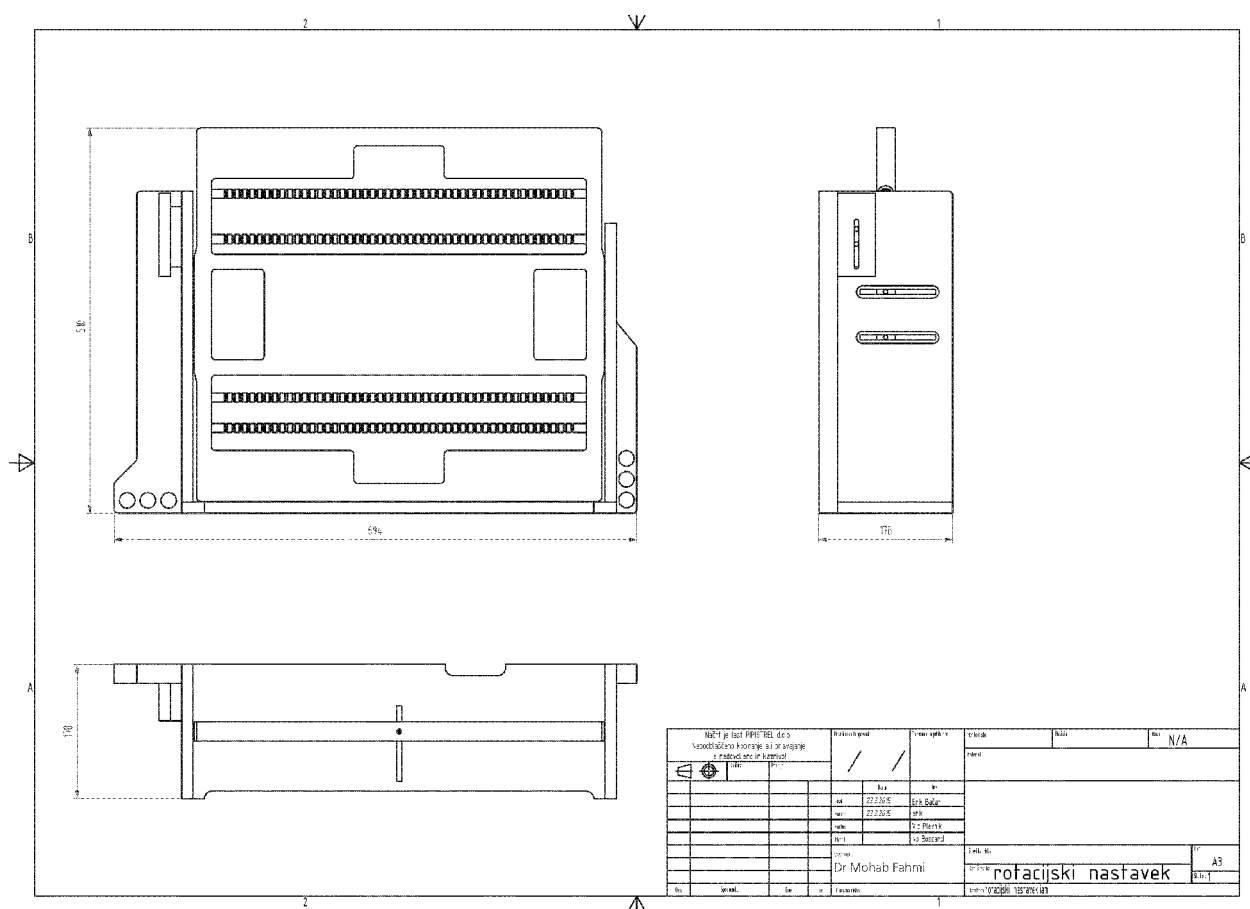














EUROPEAN SEARCH REPORT

Application Number
EP 15 16 2718

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	Mohab Fahmi: "RotaPrint LEF 20 Intro Video", 4 April 2015 (2015-04-04), XP054976067, Retrieved from the Internet: URL:https://www.youtube.com/watch?v=oq0bnVLFZss [retrieved on 2015-09-16] * the whole document *	1-10	INV. B41F17/00 B41F17/18 B41J3/407
A	EP 2 851 199 A1 (MIMAKI ENG KK [JP]) 25 March 2015 (2015-03-25) * paragraphs [0054] - [0066]; figures 1-6 *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			B41F B41J
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 17 September 2015	Examiner D'Incecco, Raimondo
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82