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Portable Lithographic Device Model 003

2023

Research projects: Pure Print/i2ADS, GroundLab/i2ADS

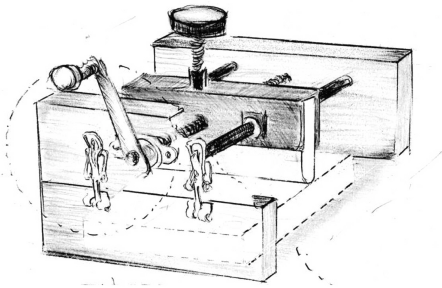
Researchers: Antonio Regis da Silva, Graciela Machado

Support: Tiago Cruz, Carlos Lima (collaboration and technical support from the wood and metal workshops at FBAUP). Pedro Rosa, President of the Sustainable Tourism Association of Faial

Illustrations: Antonio Regis da Silva

Consulting: Engineer Pedro Lanhas

For model 003, we followed the same structure as the Box LK-35[1] lithographic press, which uses the principles established by Senefelder but with adaptations that allowed us to change the external dimensions of the device and consequently reduce the weight of the model 01 (the first developed model) produced in November 2020 at the wood and metal workshops of FBAUP.



Lithographic device Model 03, illustration Antonio Regis da Silva. Model developed in reference to the LK-35 model.

The prototype's construction had the support of Pedro Rosa, who provided cryptomeria[2] boards and information about the properties of this raw material introduced in the 19th century in the Azores, establishing a model for use in future models. We counted on the support of Flávio Medeiros from the carpentry department of the Museum of Horta, and,

1 Supplier: Joop Stoop. Available at: https://www.joopstoop.fr/en/presses/771-coffre-litho-lk-35.html

2 The prototype's construction had the support of Pedro Rosa, who provided cryptomeria boards and information about the properties of this raw material introduced in the 19th century in the Azores, establishing a model for use in future models. We counted on the support of Flávio Medeiros from the carpentry department of the Museum of Horta, and, following the same principle of reusing resources, we were provided with abandoned materials (hinges, screws, handles, metal table torso), and by using these materials we attempted to demonstrate how reusing applied mechanical components reinforces our specific design principles.

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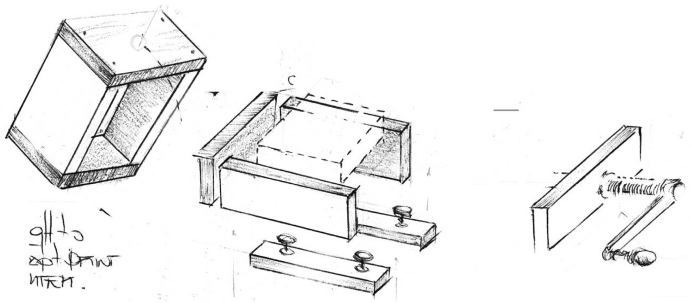
In this exhibition, we will present one of the essential elements for the development of this project: Model 03 as the device for a nomadic lithography practice. The device was developed and refined in the wood and metal workshops of FBAUP in November 2023, with the collaboration of technicians Tiago Cruz and Carlos Lima, and consulting by engineer Pedro Lanhas. For this model, access to local materials during the artistic residency on the island of Faial ensured solutions to a series of problems previously identified in earlier models[3]: flexibility of use, weight, and consequently, portability. The need to reconsider the construction of this device, using cryptomeria boards[4], wood identified on the island of Faial, arose from the transportation of the portable device from one territory to another.[5]

3 See reference Pure Print Archeology: Technological Reserve Nº1.

4 Cryptomeria japonica is considered the most important tree species in the Azores archipelago, not only because of its economic importance, occupying 60% of the production forest area, but also because it stands a structural element of the Azorean landscapes. / Accessed on: 18 nov 2023: https://www.almanaqueacoriano.com/index.php/recursos/26-floresta/2601-crip-tomeria-cryptomeria-japonica

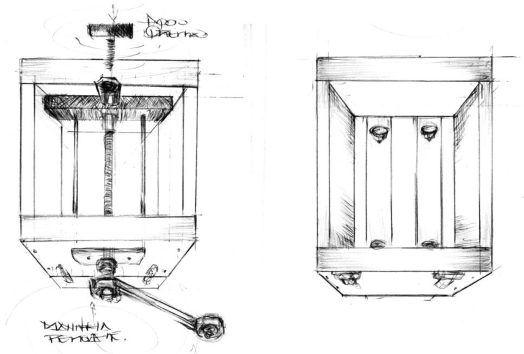
5 Jr. Carpenter, Edwin H. (1956). Army Field printing in the new world. The paper of the Bibliographical Society of America, Second Quarter, 1956, Vol. 50, n. º 2, p.p. 169-180. Disponível em: https://www.jstor.org/stable/24299394. Acesso em: 18 jun. 2023.

Development of the assembly process following the strategies of model 01. Final assembly October 2023, FBAUP wood and metal workshops.



According to the research conducted for the selection of the reference model, we found that the first version of the lithographic box was designed over 200 years ago for the "traveling" lithographer[6]. Prints could then be pulled in the open field, and in this particular case, on battlefields. Naturally, there was also a military application: creating maps. The LK-35 is technically adapted to that era and has a printing format of a maximum of 35 x 40 cm with a weight of 23.00 kg.

The dimension of the external structure was designed for a maximum A4 dimensions.
The central internal part, the screw rod, was modified to 14mm, making it possible to reduce printing time due to rotation.

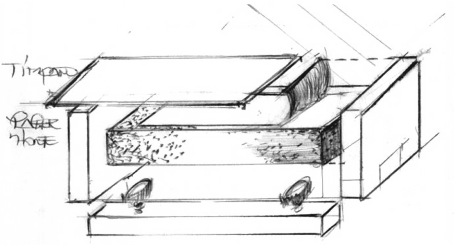


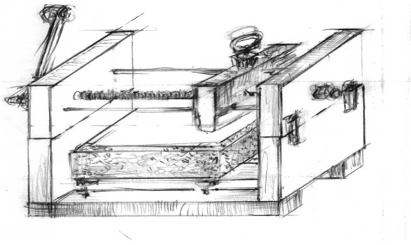
The prepared stone is placed in the box and inked the-

6 Data acquired from Polymetaal, a company that designs and produces engraving equipment since 1978, located in Leiden, Netherlands. Available 18/12/2023: https://www.polymetaal.nl/contents/en-uk/d1299_Lithographic-Box-LK-35.html

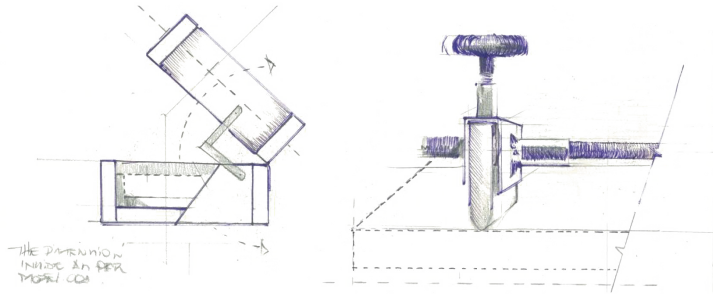
re. The paper and tympanum are applied, and the box is closed. The squeegee (screwed rod) is then activated over the stone by turning a crank, thus allowing the printing to take place.

For assembly, the crank can be attached and retained to facilitate transport of the device.





The height of the roller is adjustable, depending on the thickness of the stone, and for a more functional solution, its base can also be adjusted for stones of different thicknesses.



Details in the model include adaptations for the stone, and its opening features a side support. For the scraper (raclette), its adjustment process has been maintained at the top.