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Portable Lithographic Device Model 002

2021

Research projects: Pure Print/i2ADS, GroundLab/i2ADS

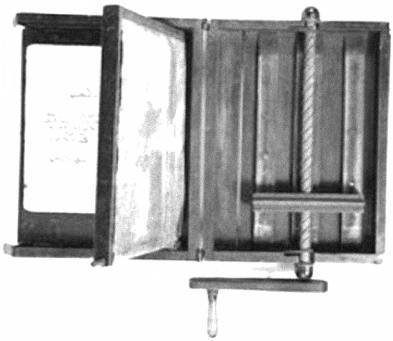
Researchers: Antonio Regis da Silva, Graciela Machado, Marta Bełkot (SFRH/BD/149042/2019)

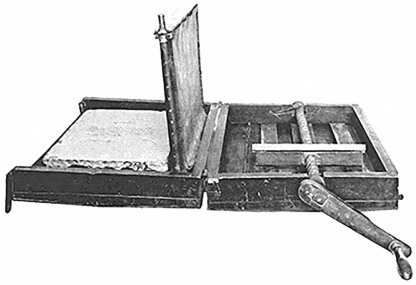
Support: Tiago Cruz, Carlos Lima (collaboration and technical support from the wood and metal workshops of FBAUP). Drª.Paula da Costa Machado, Museologist at the Municipal Museum of Valongo

Illustrations: Antonio Regis da Silva

Consulting: Engineer Carlos Moreira (FEUP)

This research was conducted within the scope of the lithography in situ research topic, carried out in recent years through projects such as Pure Print (i2ADS/FBAUP 2013-2021) and GroundLAB (i2ADS/FBAUP 2021-2024). For the II Valongo Biennial 2021, a case study was proposed focusing on the use of black slate with the reconstruction of the portable lithographic press, called Model 2, based on the design proposed by Alois Senefelder, and testing its application in situ.[1]



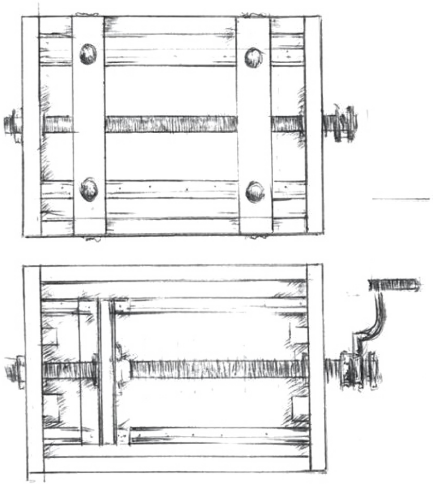


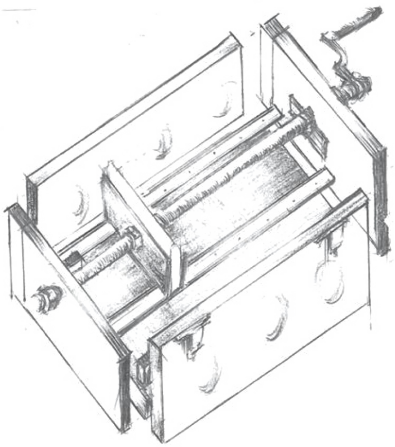
Photograph of the lithographic press Senefelder's manual. The last manual press Senefelder (42 x59 16 cm) with lithographic stone (42 x 30 x 3cm)

Image provided by the Museum German/Museum Islands, Munich, on 11/02/2023 at Department: Collection managers. Object ID: 470365. Inv. nº 4341. Thematic area: 560.05.01

The decision to make advancements with respect to Model 02 involved the application of a galvanized metal screw bar, a mechanism that ensures better functionality in movement. The press was designed to support dimensions up until an A3 sized stone.

1 Allocation of two grants dedicated to technological research on slate as a substrate, material, and matrix. For the II Valongo Biennial, a technological systematization was proposed to assess slate as a support and chemical impression; lithography in situ (in situ printing and printing from the portable printing press); study of lithographic matrix alternatives based on slate lamination and/or experimentation on "slate paper." Proposal and coordination by Graciela Machado (i2ADS/FBAUP) with researchers Marta Belkot (FCT/i2ADS) and Antonio Regis da Silva (FCT/i2ADS).

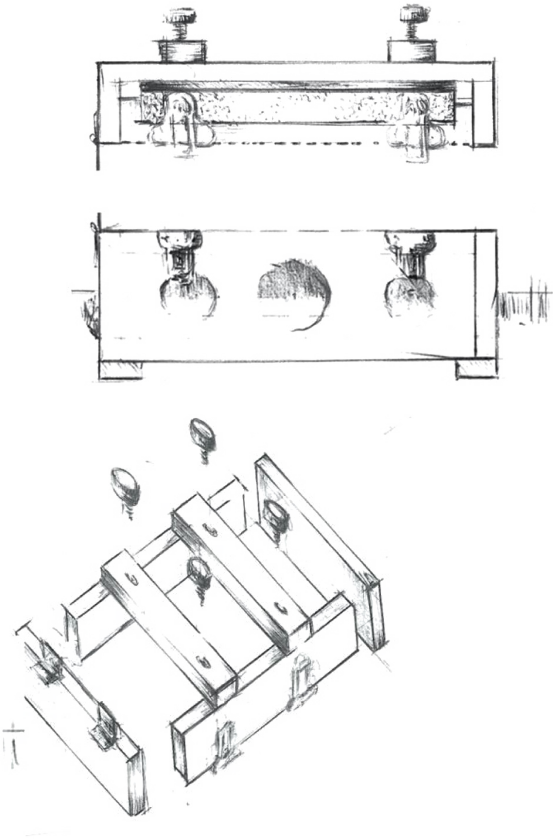




The use of the device allowed for the reassessment as well as retention of the opening at the top of the model implemented in the final phase of the technological residency. To reduce the weight of the wooden box supporting the mechanism, the side walls were cut into various wooden circles under the guidance of engineer Carlos Moreira. This also allows for visibility of the inside of the press. The top cover in this model was designed to accommodate the stone during the process, and the adjustments for the positioning of the stone, analyzed and recorded from the experiments conducted during its in situ use, led to the revision of a functional pressure system.

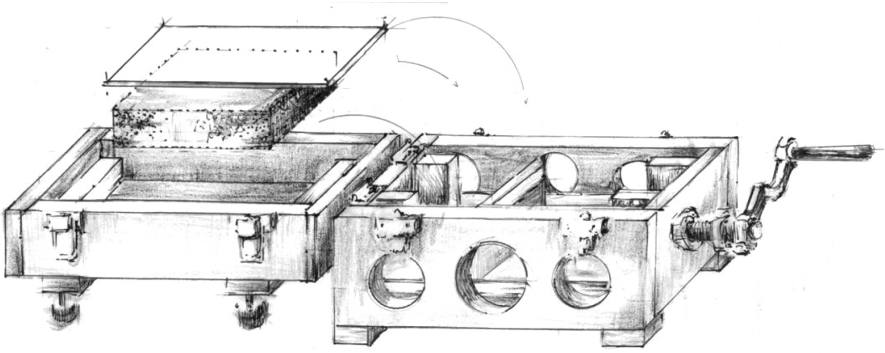
Technical drawing of the plan and axonometry of the device. The center piece with galvanized threaded rod and with the crank that can be removed for easier transport. Pine wood with 4cm thickness and the external structure dimension 40cm x 50cm x 32cm.

Technical drawing of the plan and axonometry of the device, featuring the central piece with a galvanized screwed rod and a removable crank for ease of transportation.



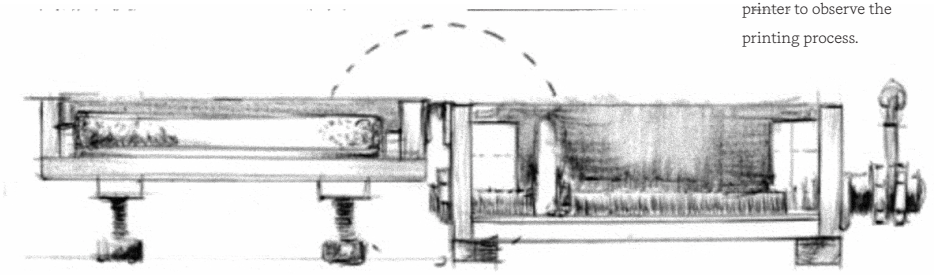
These were based on studies by John Philips.[2] Pressure becomes increasingly relevant for the printing process in this model, in which the stone is positioned at the top on a scraper bar. This strategy allows for good quality prints on this type of device.

2 Twyman, Michael (2016) Johns Phillips's lithographic notebook. London: Printing Historical Society. Development based on Alois Senefelder's and John Philips' portable model, both adapted for in situ use.



The practical aspects of locomotion proved to be a challenge in this last phase, deserving careful consideration to optimize its transport, as we identified during technological residency at the Valongo Slate Factory S.A. in 2021.

To position the stone, the upper part opens and closes over the lower part of the device. The side openings allow the printer to observe the printing process.



Transportation and locomotion were facilitated through the use of an aluminum trolley[3] during the last testing phase at the Valongo Slate Factory S.A. in 2022. In addition to its functional performance, it became evident that the functionality and mobility of the equipment plays a crucial role in enabling future in situ expeditions.

Technical drawing of the elevation showing the internal part of the device, and the stone support uses solid wooden cubes that can be positioned according to the size of the stone.