

Removal of creases and planar distortions

Definition

These are the operations directed towards restoring the initial flat condition of a paper leave. There are three main methods to achieve that, with their variations:

- Pressing
- Stretching
- Friction

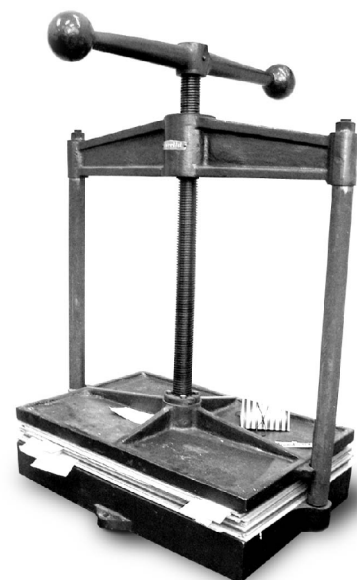
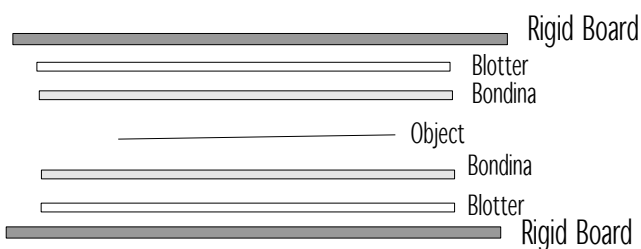
Pressing

Pressing is the easiest way of getting a paper object flat. It is based upon the principle of humidifying an object and immediately putting it under the pressure of a flat surface, such as the nipping press, a sheet of tempered glass or wooden board. To obtain results there is no need of great pressure. The paper does not need to be compressed but rather to be kept flat while losing the humidity acquired during the humidification treatment.

Usually a smooth, flat and highly absorbent material is needed in direct contact with the object to take the moisture that the object will be losing. Blotting paper is by far the most usual.

Felts are an interesting absorbing material with the property of not distorting with large amounts of moisture. They are often employed in those cases when the paper contains a three-dimensional feature such as a plate-mark or blind-stamp or for delicate surfaces that do not withstand pressure.

STRUCTURE OF INDIVIDUAL PRESSING UNITS



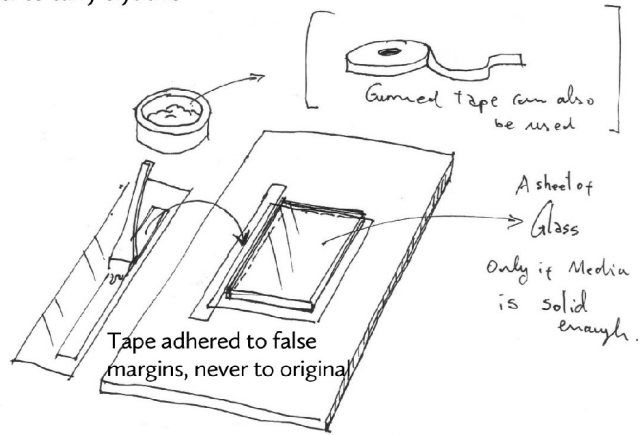
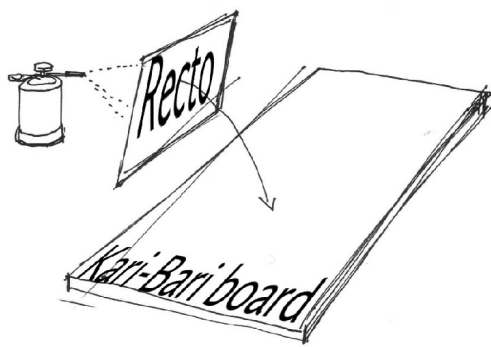
- Do not press too hard. Stop the compression as soon as resistance is met.
- Press can be easily replaced by a heavy wooden board or sheet of glass.
- Felts can be used on their own without or with very light weight.

Stretching

Stretching is a great method to flatten objects with delicate, untouchable surfaces. It is based upon the idea of humidifying an item, securing the edges to a board and letting it dry under tension.

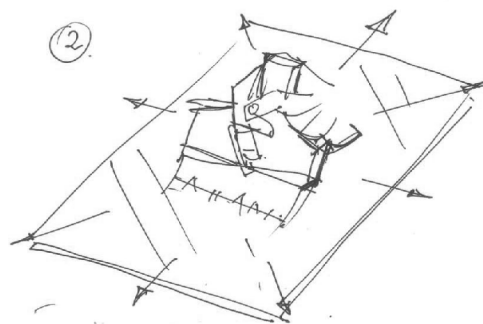
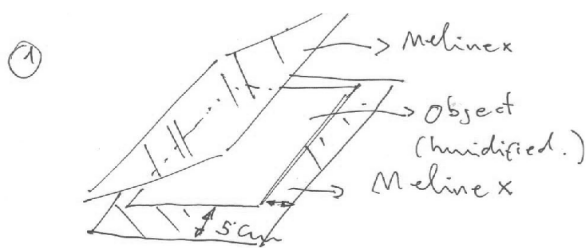
False margins or a lining are generally necessary.

Objects need to have false margins or be lined in order to carry out this treatment



Friction

Persistently distorted items can be "forced" back to flatness by humidification, sandwiching between two Polyester sheets and application of friction over the polyester by means of a wide brush.



Flattening of tight creases

Tight creases and folds must be often opened and flattened individually. It is recommended to humidify the object first thoroughly adding, if necessary, a small amount of water and ethanol (1:1) with a fine brush along the crease line. This action must be immediately followed by a friction flattening as described above, using a brush or bone folder over the Melinex.

Warning!

- Be aware of the object type and its surface characteristics. Select the flattening method accordingly.
- Extensions or lining paper for stretching must be weaker than the original support to protect the last from tearing accidentally during drying.
- Do never tape the original support during friction drying, but the extensions or lining paper.

Further Reading

- Gibson J.A et al. *Drying rare books soaked by flood water*.
- Sugarman E. Jane and Vitale, Timothy, *Observations on the Drying of Paper: Five drying methods and the drying process*, JAIC 31 (1992), pp 175-97.
- Banik, G. *Conservation of water-damaged museum and archival documents*, ICOM, 1990, Vol II, pp 443-46
- Gallay, Wilfred, *Stability of dimensions and form of paper*. Tappi 56, 1973, pp. 54-63
- Htun, Myat, *Changes in in-plane mechanical properties during drying of handsheets*, Tappi 67, 1984, pp. 124-127
- Antoinette, Dwan, *Use of Goretex to dry smooth, calendered and modern papers*, The Book & Paper Group annual 11, 1992, pp 22-23