

Cradles

and other supports for bound volumes

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Cradles

and other supports for bound volumes

- Purpose
- Settings
- Materials
- Designs
- Securing
- Supporting Foldouts
- How-to

Purpose: Support

Hold binding and pages open and/or upright



Photo courtesy of Pam Spitzmueller



Credit: Priscilla Anderson



Photo courtesy of Carly Weggeland

Purpose: Restrict Opening



Credit: Priscilla Anderson



Credit: Priscilla Anderson

- Prevent warping and cracking
- Vellum and parchment are particularly vulnerable to warping when displayed unrestrained, or in unstable humidity.

Purpose: Restrict Opening



- Islamic bindings require a cradle, not open flat
- Reduce stress on endbands, joints, and spine to avoid splits and tears

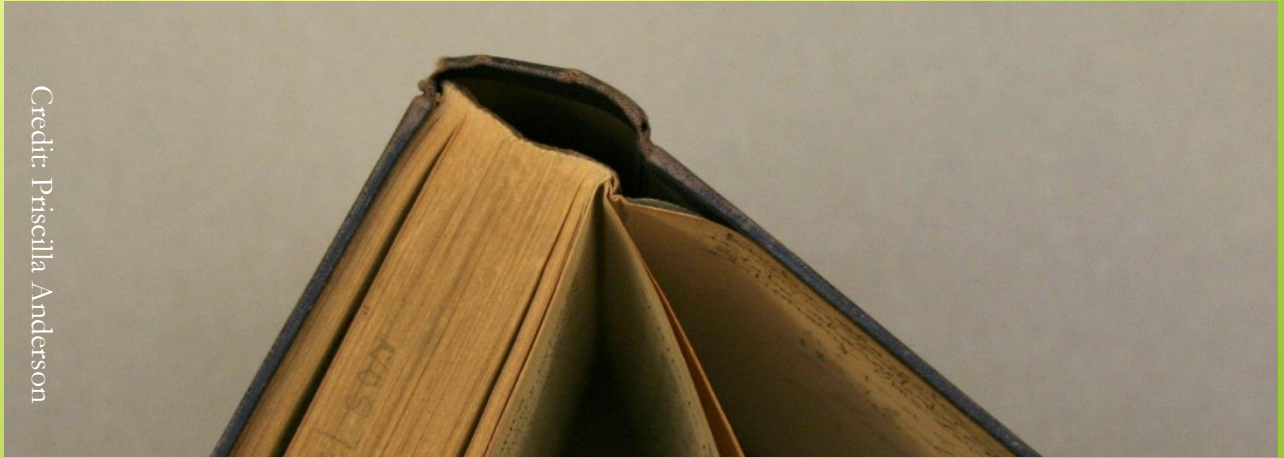
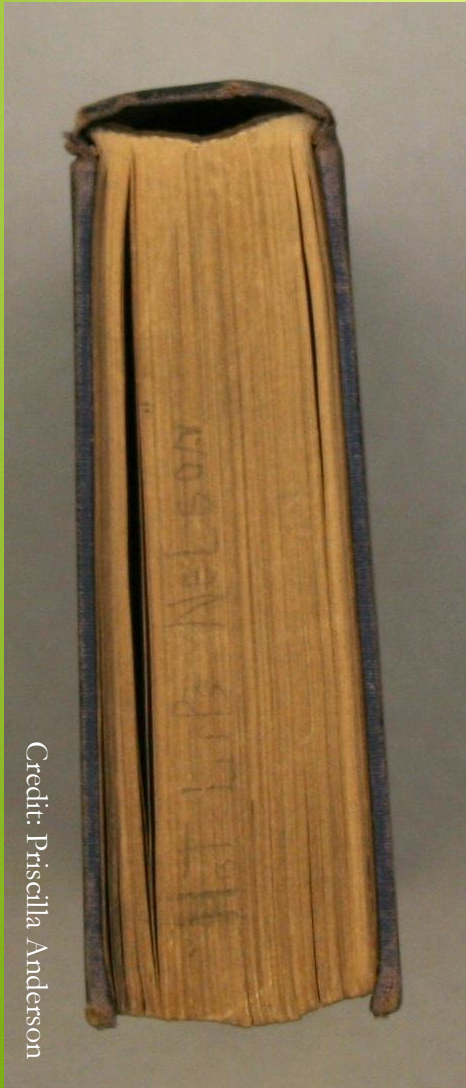
Leather Bindings

Outer joints and inner hinges can crack or split during exhibition.



Credit: Priscilla Anderson

Cloth Case Bindings



- Concave spine warping occurs in bindings with squares that are stored or displayed unsupported
- Damaged hinges
- Preferential opening, spine adhesive cracking, or sewing broken

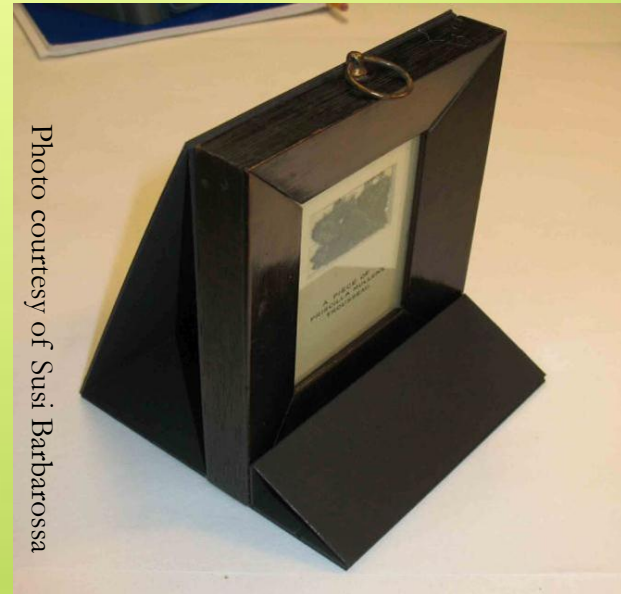
Credit: Priscilla Anderson

Credit: Priscilla Anderson

Preventing Damage

- Restrict the opening by strapping in a cradle
- Support the spine of an open book
- Support the text block of a closed book
- Keep humidity $>30\%$ RH
- Don't display too long
- Change the opening
- Use surrogate or substitute

Purpose: Props & Angles



- Different angle from deck
- Raise up different parts



Purpose: Aesthetics

Credit: Priscilla Anderson



- Visual interest
- Good stewardship of collections

Setting: Exhibition

Credit: Priscilla Anderson



In the American agrarian economy of the early nineteenth century the material means of the majority of the population were relatively simple. Businesses in most areas of the country operated as local, independent, and often family-owned enterprises that included farms, stores, artisan shops, small manufacturing firms, various regional industries (such as textiles), and international import and export firms. Small-scale enterprises still made up a critical part of the United States economy, but the emergence of the railroads in the mid-nineteenth century ignited the rise of modern big businesses. "The railroad, with its vast possibilities for the advancement of the commercial, industrial and social interests of the world," wrote noted economist and statistician Joseph Nimmo in 1885, "can directly counter to the pre-existing order of things." By the turn of the century, the impact of the railroads was widely evident in the emergence of larger companies, with labor forces of as many as 100,000 employees, that were generating and distributing mass-produced goods.

Accounting books reveal that small-scale, local businesses prospered

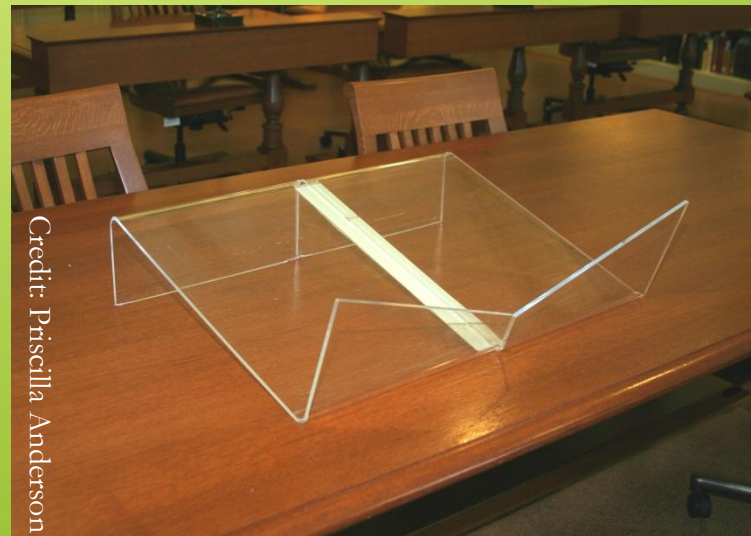
Setting: Presentation



Credit: Priscilla Anderson

Protect book edges by building cradles $\frac{1}{4}$ " wider

Setting: Reading Room



Two part plexi + foams; stackable for storage

Materials: Characteristics

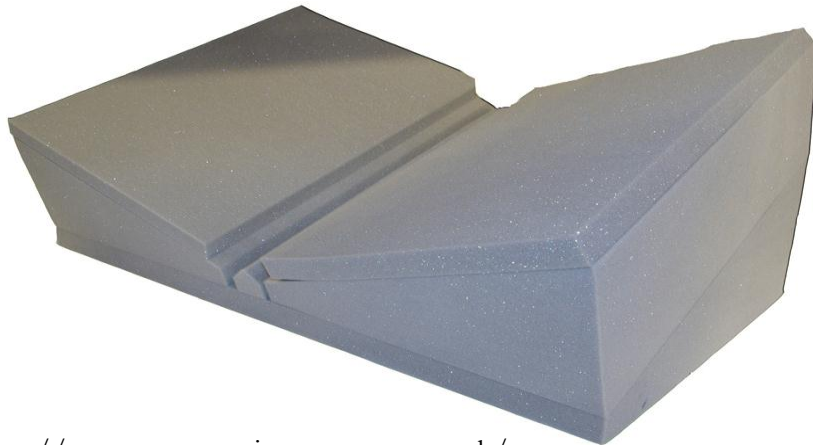
- **REQUIRED:** Strength
- **REQUIRED** for exhibits: Chemical Stability
 - Using unstable materials can lead to fading, staining, and brittleness caused by off-gasing
 - If it smells, don't use in a closed exhibit case!
 - Purchase products that pass the Photographic Activity Test (PAT)
- **Desired:** Easy to cut, shape, adhere; low cost
- **Desired:** Reusable and recyclable
- **Desired:** Aesthetics

Materials: Latex Foam

- Gentle, flexible
- Modular
- Non-skid



<http://100objectsbradford.files.wordpress.com/2011/01/foam-family-3.jpg>



http://www.conservation-resources.co.uk/index.php?main_page=product_info&products_id=682

- Latex rubber foam not chemically stable
- Don't use in closed exhibit cases!

Materials: Polyethylene Foam

- Likely more chemically stable than latex/rubber
- Closed cell foam is more slippery



http://www.universityproducts.com/cart.php?m=product_list&c=1228

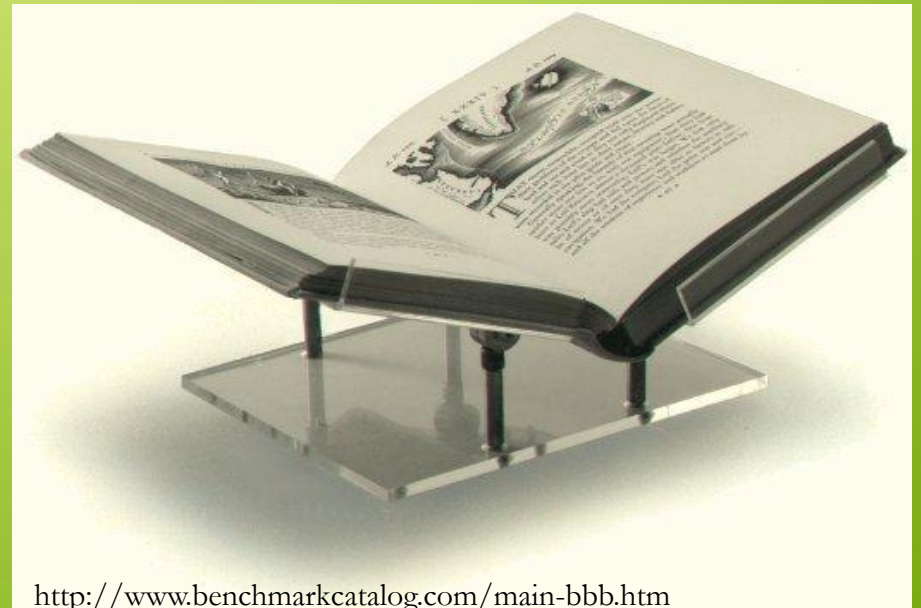
Materials: Acrylic (Plexiglas)



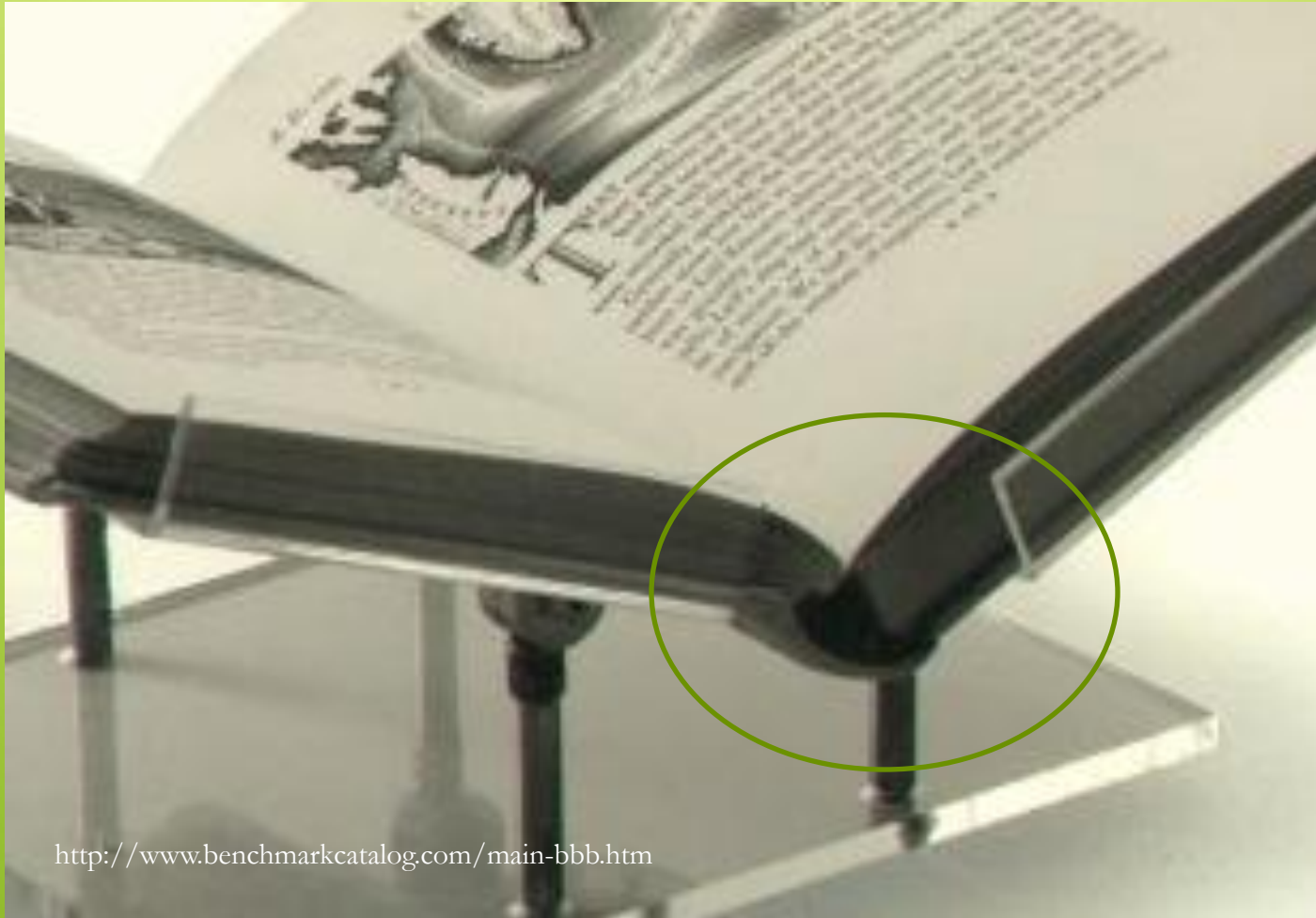
Photo courtesy of Pam Spitzmueller

- Transparent, rigid
- Chemically stable

- Special equipment to cut, shape; \$\$\$
- Adjustable



Materials: Acrylic (Plexiglas)



Add spine support (hammock) and attach to cradle

Materials: Vivak

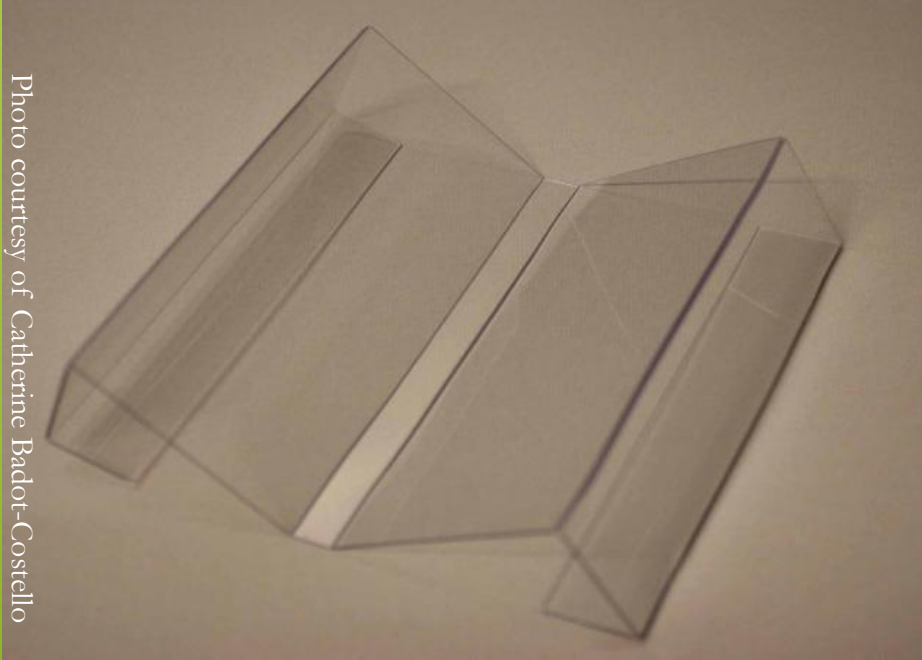
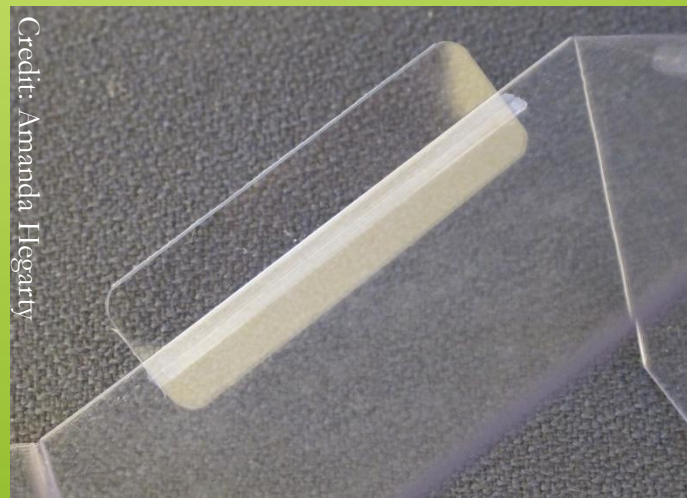
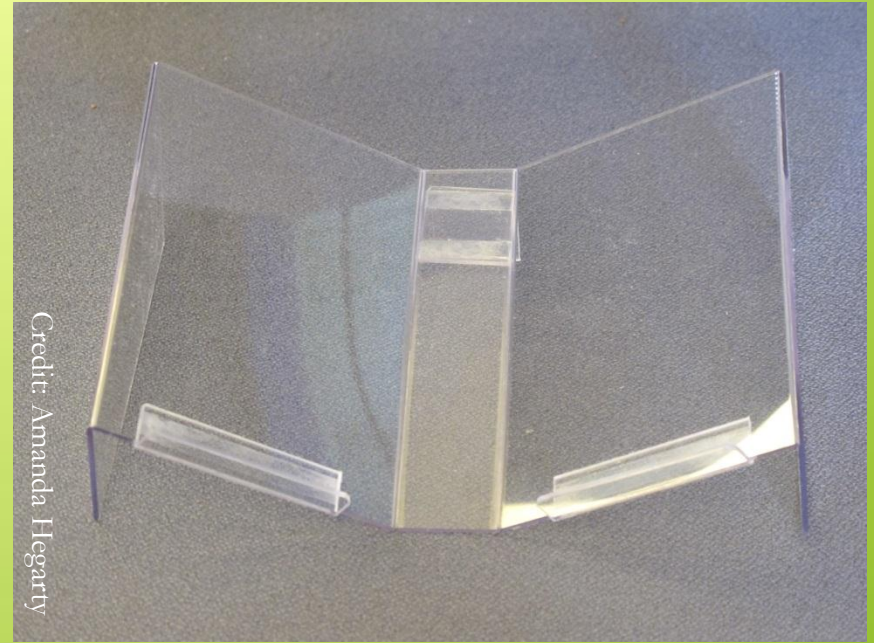
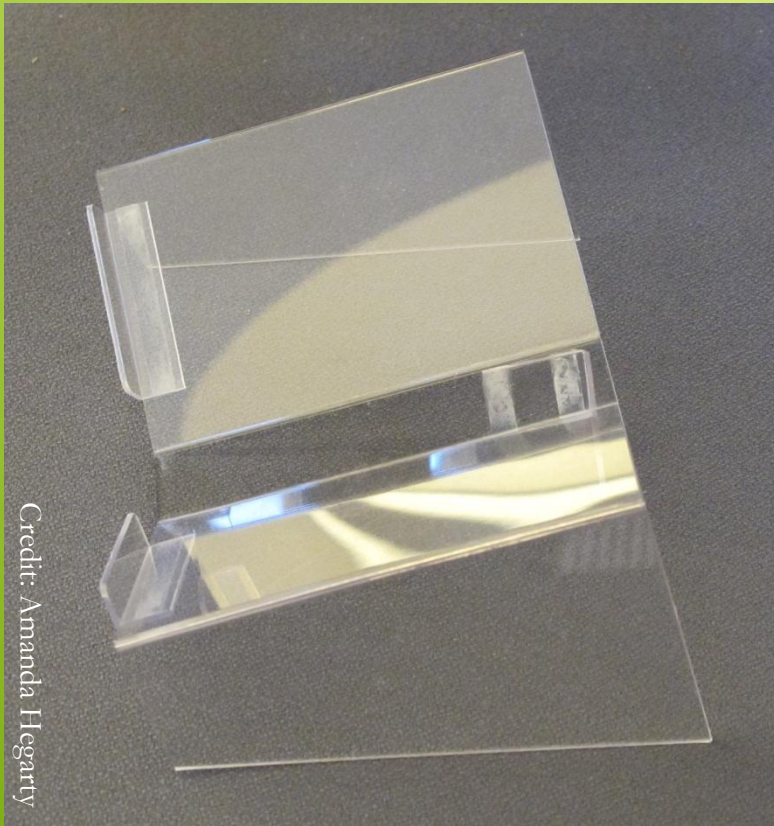


Photo courtesy of Catherine Badot-Costello

- Thermoplastic co-polyester
- Transparent
- Cost effective
- Thinner than plexi
- Cut and bend with standard lab equipment
- Reusable
- Recyclable

Materials: Vivak

- Add angles, foot-rests
- Adhere with double-sided tape



Materials: Velvet



Photo courtesy of Pam Spitzmueller

- Drape foams or cradle with pre-washed cotton or polyester velvet. Caution: Slippery

Materials: Acid-free Mat Board

Photo courtesy of Pam Spitzmueller



- Chemically stable
- Easily cut and shaped
- Score it to bend
- Gamut of neutral colors available
- Cheap, easy to make, very customizable
- Less sturdy than Vivak



<http://www.talasonline.com/photos/boards/4ply-32-40.jpg>

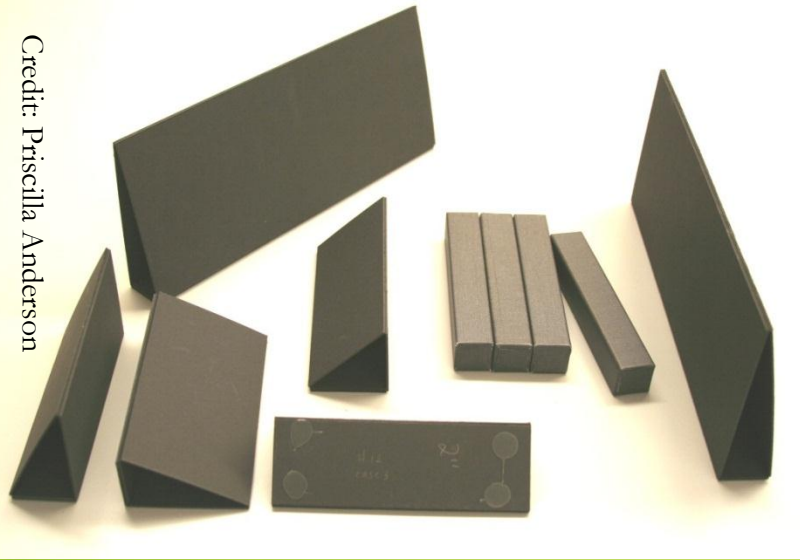
Design: Recessed Supports



- Mat-board U or V plus recessed triangles
- Triangles may be attached with hot melt glue
- Or, attach triangles with Velcro to allow flat storage

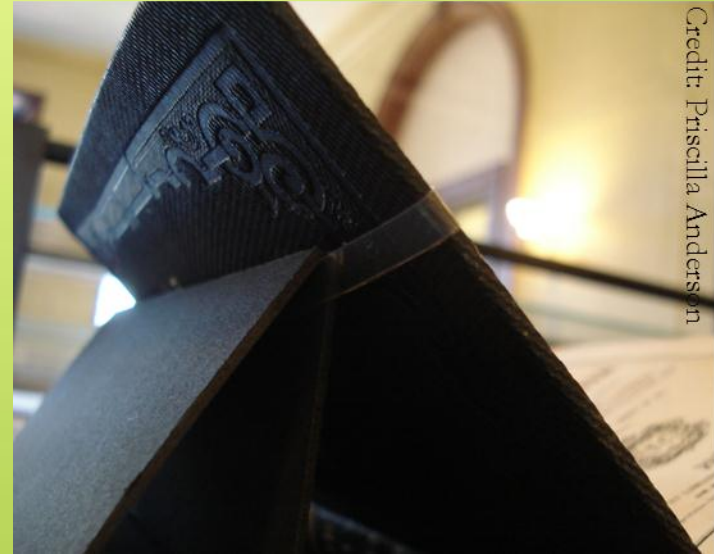
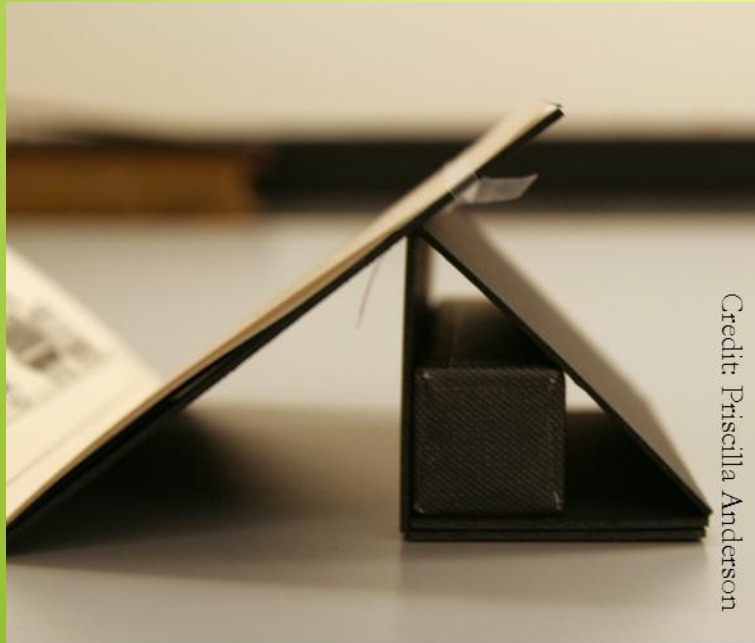
Design: Modular Triangles & Weights

Credit: Priscilla Anderson



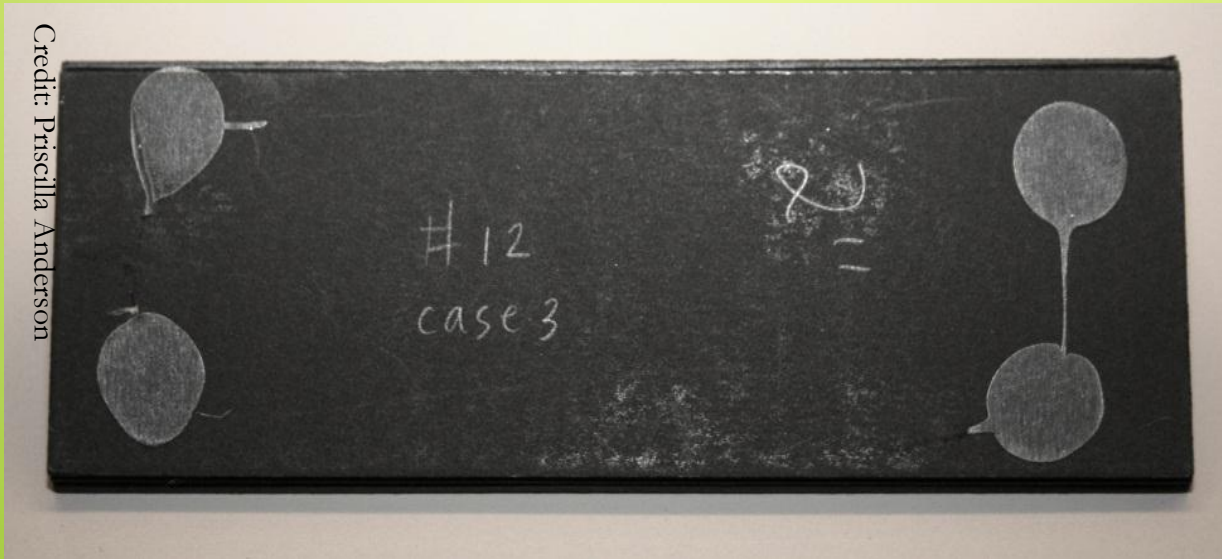
- Standard-sized triangles of black matboard
- Iron bar weights 1" square x 6" long
- If desired, reusable V or U-shaped matboard

Design: Modular Triangles & Weights



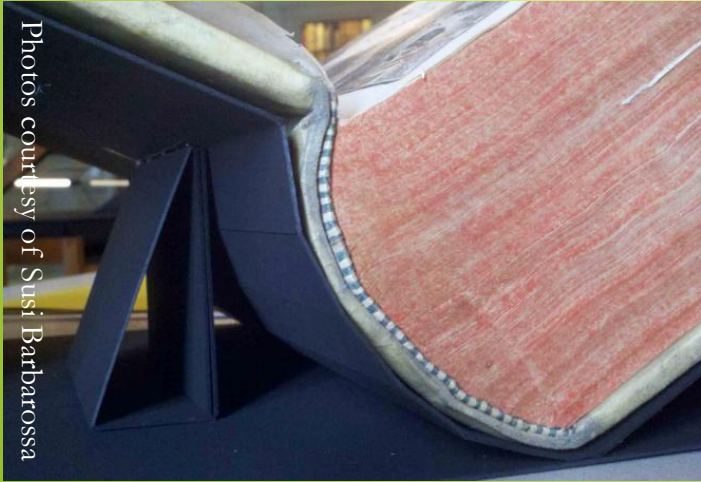
- Insert weight through hollow in triangle
- Insert strapping through hollow

Design: Modular Triangles & Weights



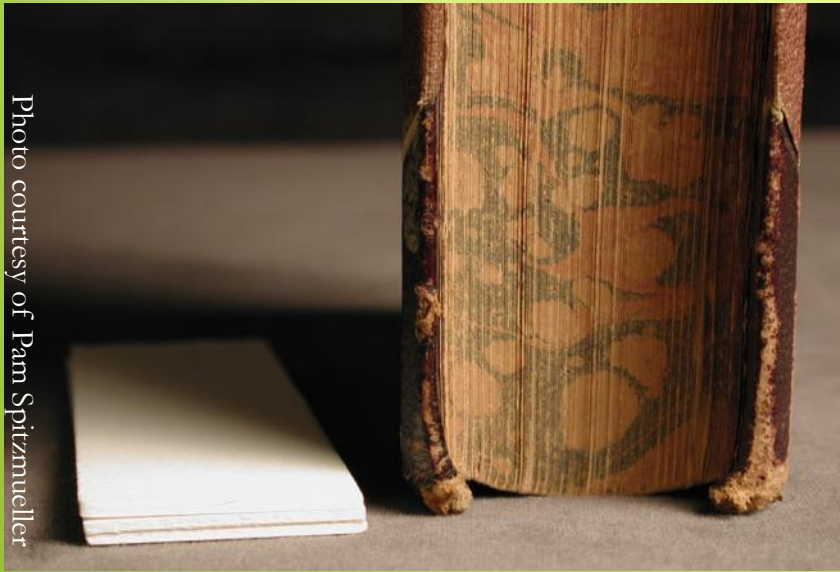
- Non-skid feet (flattened drops of hot melt glue)
- Pencil marks indicate size and intended book

Design: Curves



Mat board can be scored at narrow intervals to create curves that support spines or flexible pages

Closed Text Blocks: support



- Mat board strips prop up the text to prevent warping and damage
- Strap for optimum support



Securing

- Polyethylene strapping
- Polyester film overlay
- Weights



http://talasonline.com/photos/film/mylar_roll.jpg



<http://www.rufflette.com/hardware/images/weighting-tape.jpg>

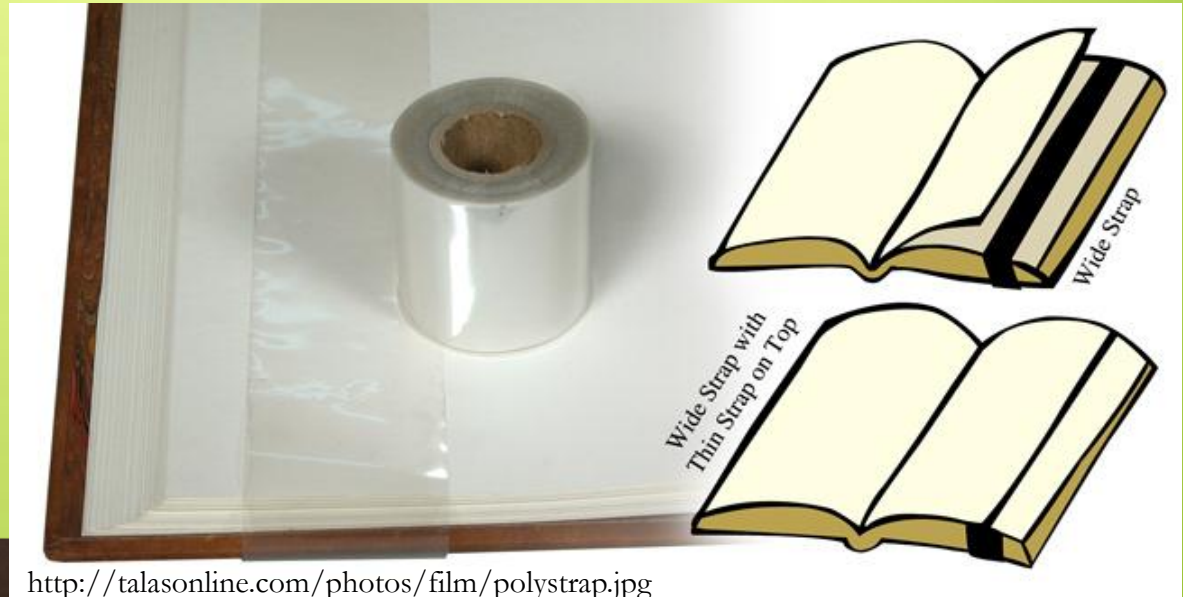
Securing: Polyethylene Strapping

Widths:

2"

3/8"

3/16"



- Soft edges
- Chemically stable
- Transparent
- Less glare than polyester
- Knot or tape

Securing: Polyethylene Strapping



Credit: Priscilla Anderson

Apply tape to paper or board, not strapping to strapping (avoid getting tape adhesive on book)

Use sandpaper on strapping before applying tape

Don't strap tight!

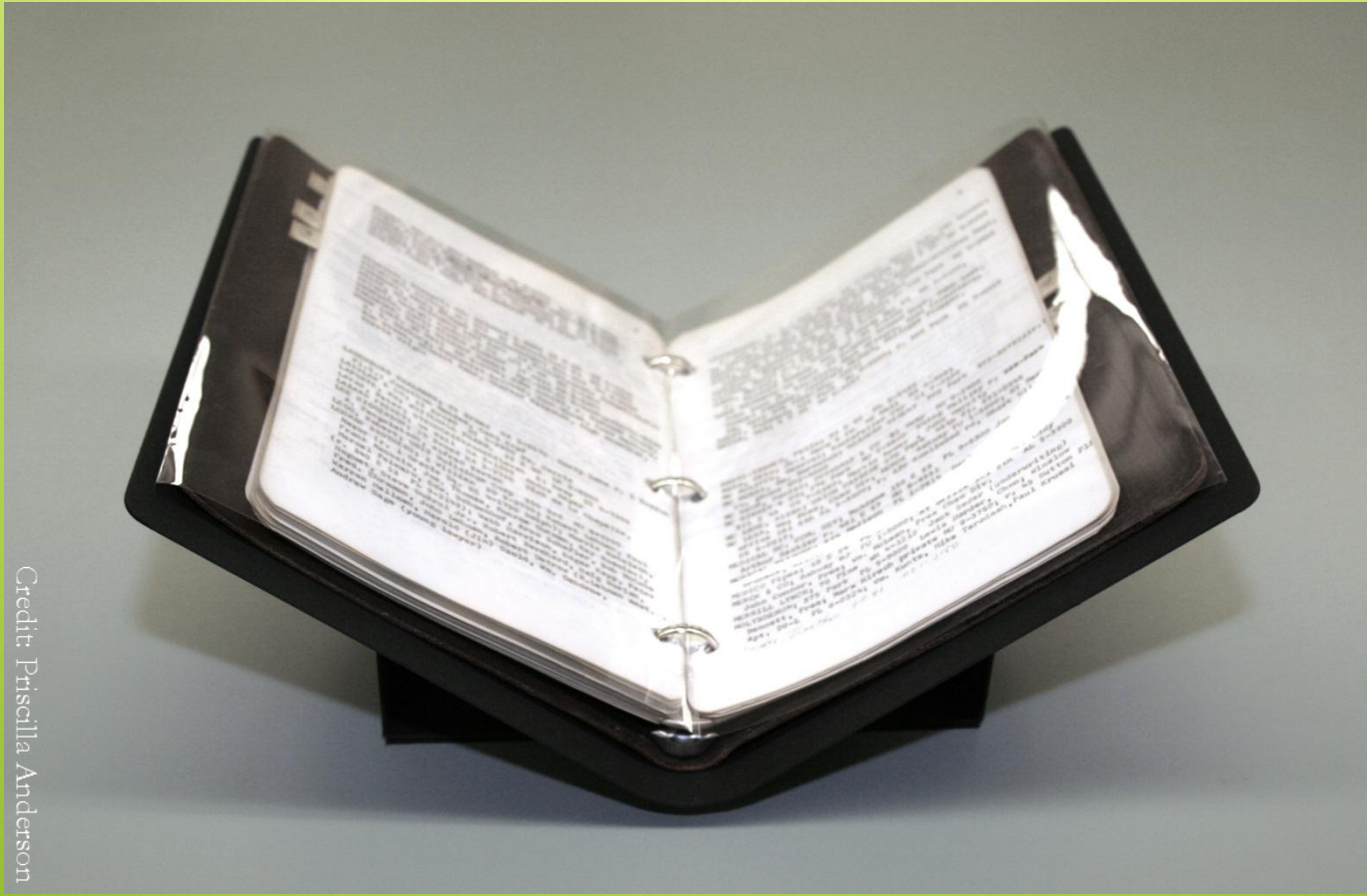
Securing: Polyethylene Strapping



Credit: Priscilla Anderson

Narrow strapping can be tied in secure square knots, by stretching slightly at each turn to lock in the knot.

Securing: Polyester Film Overlay



Credit: Priscilla Anderson

- Film covers entire text and wraps around binding
- Used in presentations to prevent visitor handling
- Glare might preclude use in exhibit cases

Securing: Weights

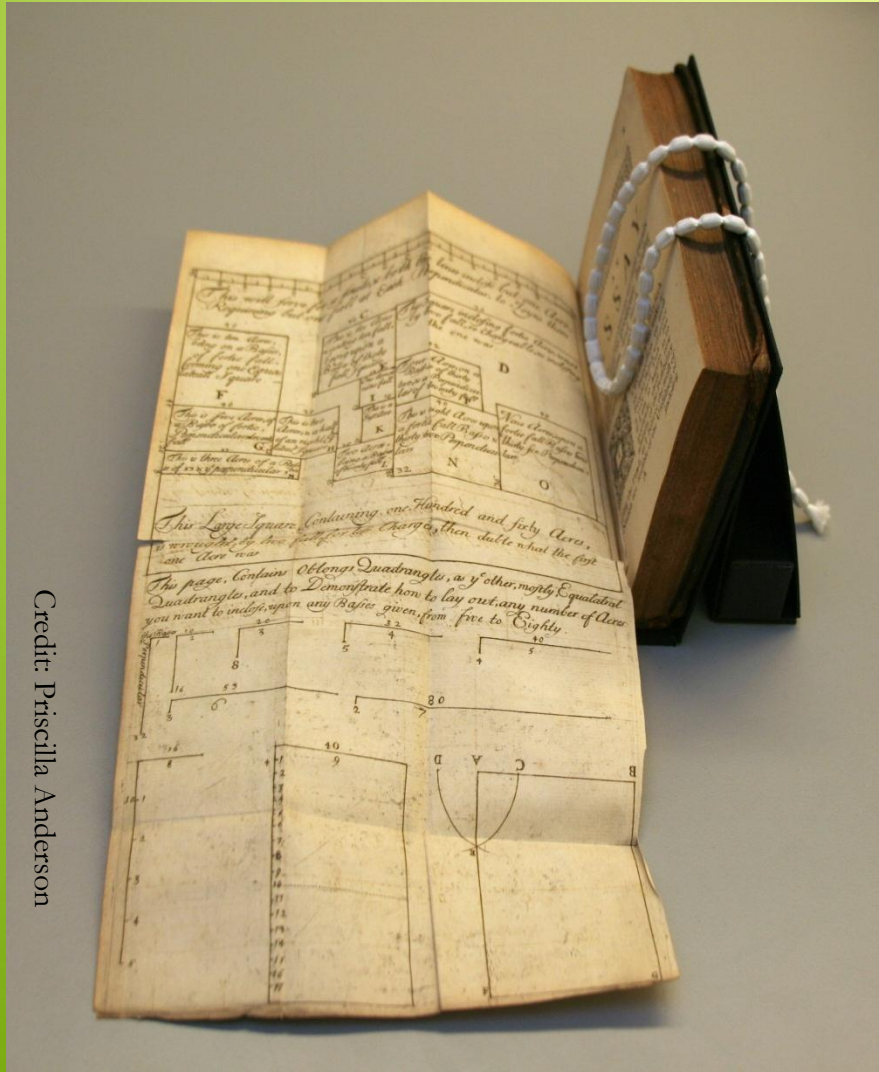


Curtain weighting tape

Lead beads connected with string, and then covered with fabric

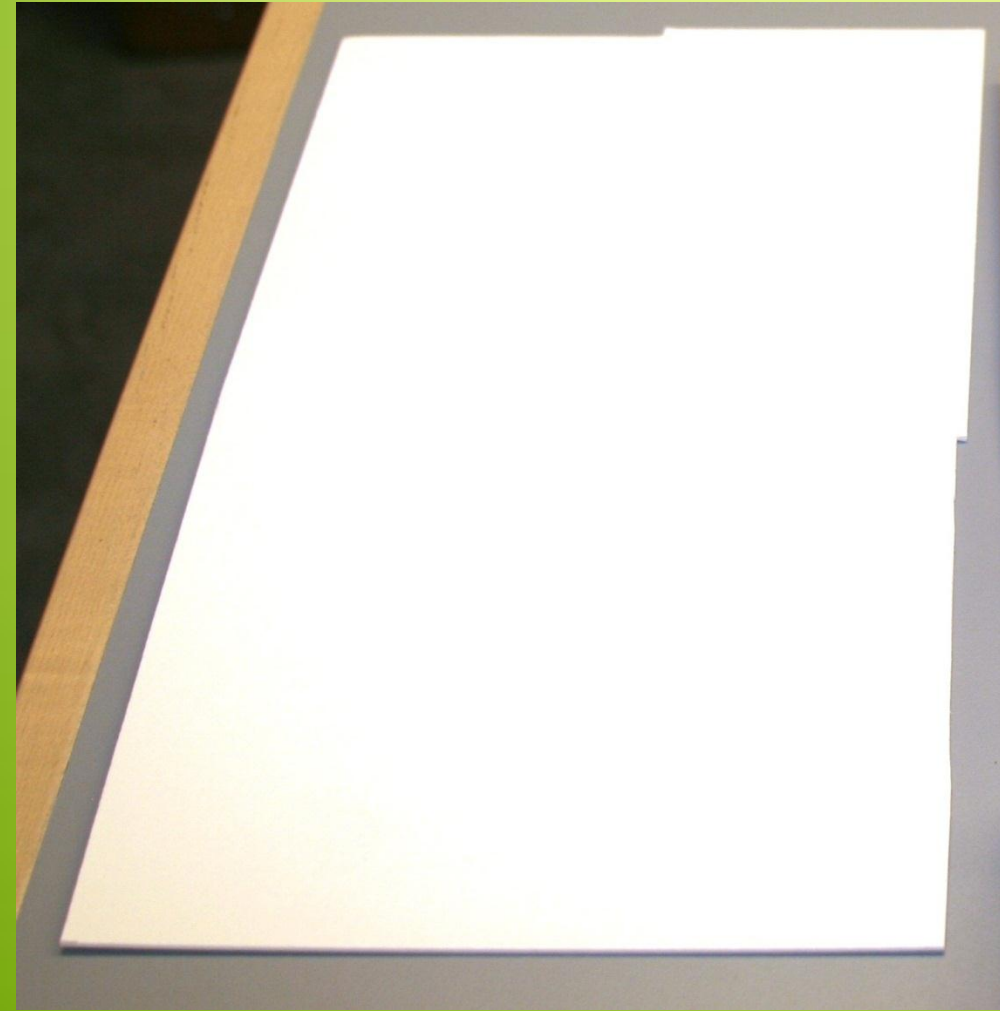
Heaviest ones are better (150 g/m)

Support: Foldouts



- Tears often happen in the “armpit”
- Support this area well

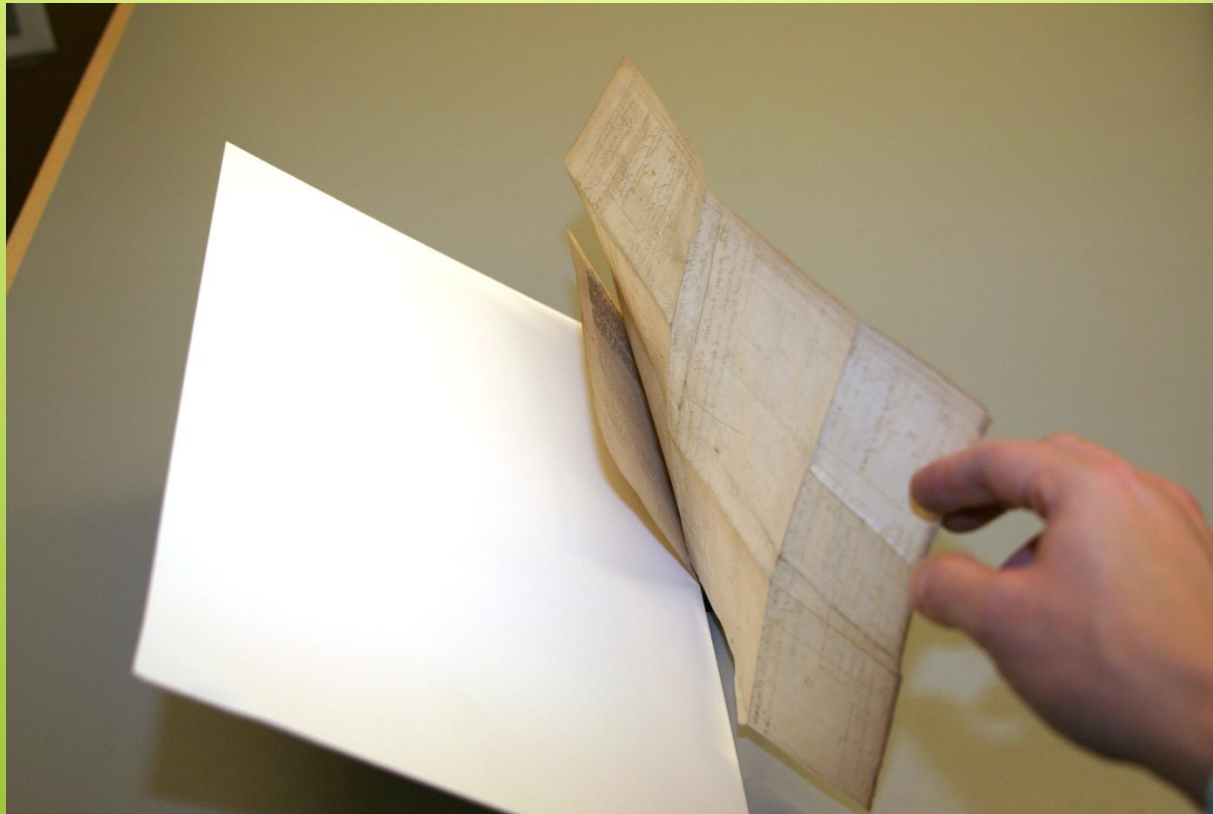
Support: Foldouts



Support foldout with a tailored card below that follows shape of armpit

Board is just slightly larger than foldout so edges are protected

Support: Foldouts



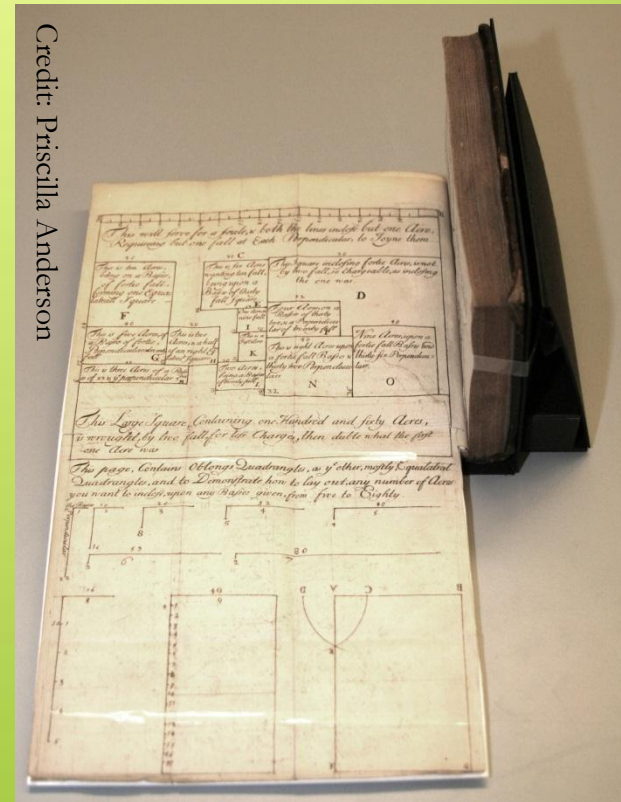
Foldouts often tipped rather than sewn in; place card under another sewn leaf to reduce stress on tipped attachment

Support: Foldouts



Credit: Priscilla Anderson

Before

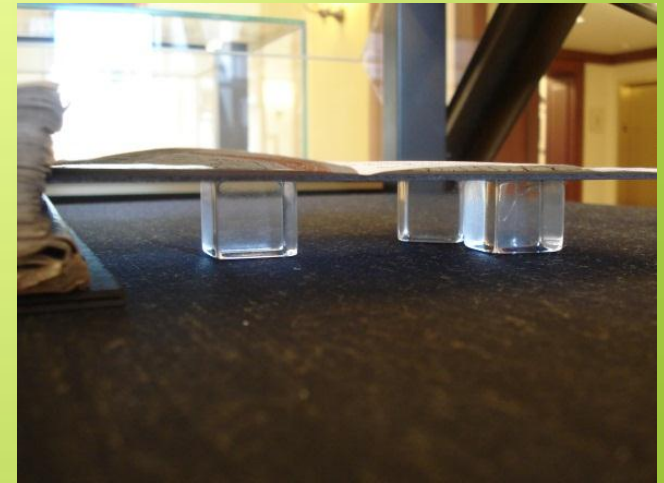
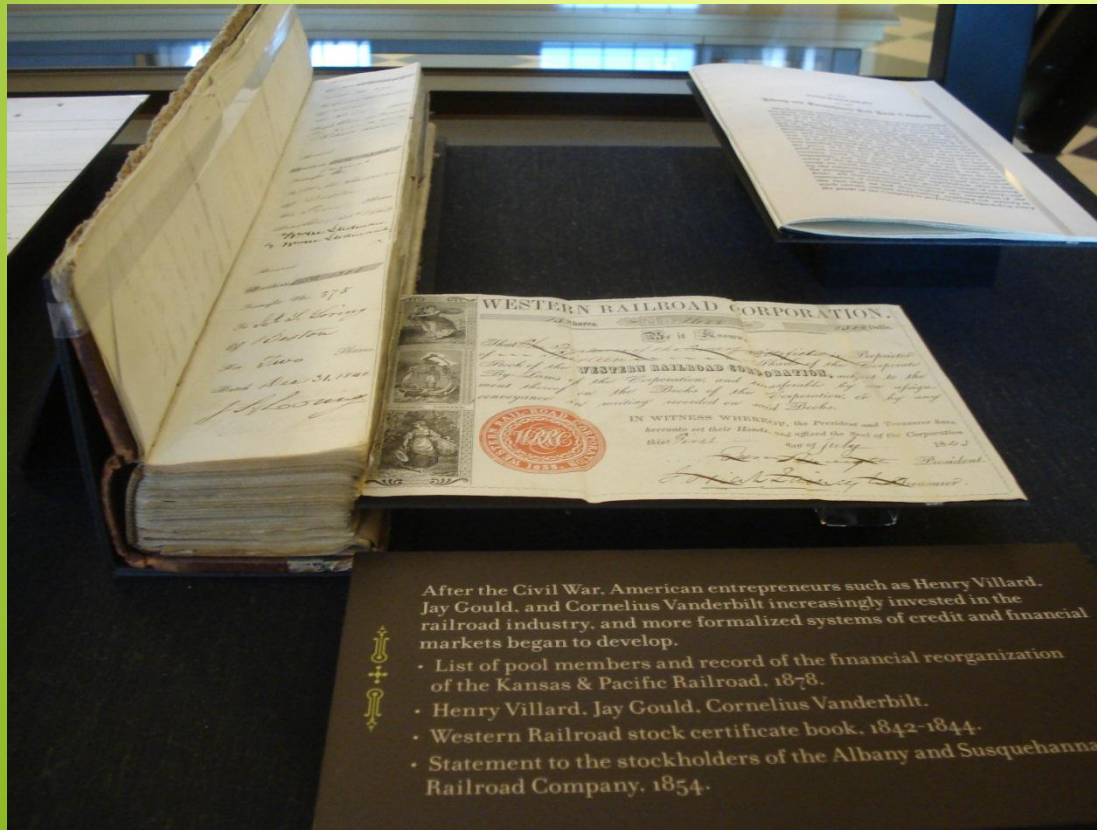


Credit: Priscilla Anderson

After

Use polyethylene strapping and photo corners to secure the foldout to the board

Support: Foldouts



Prop up the supported foldout (acrylic cubes or Legos work well)