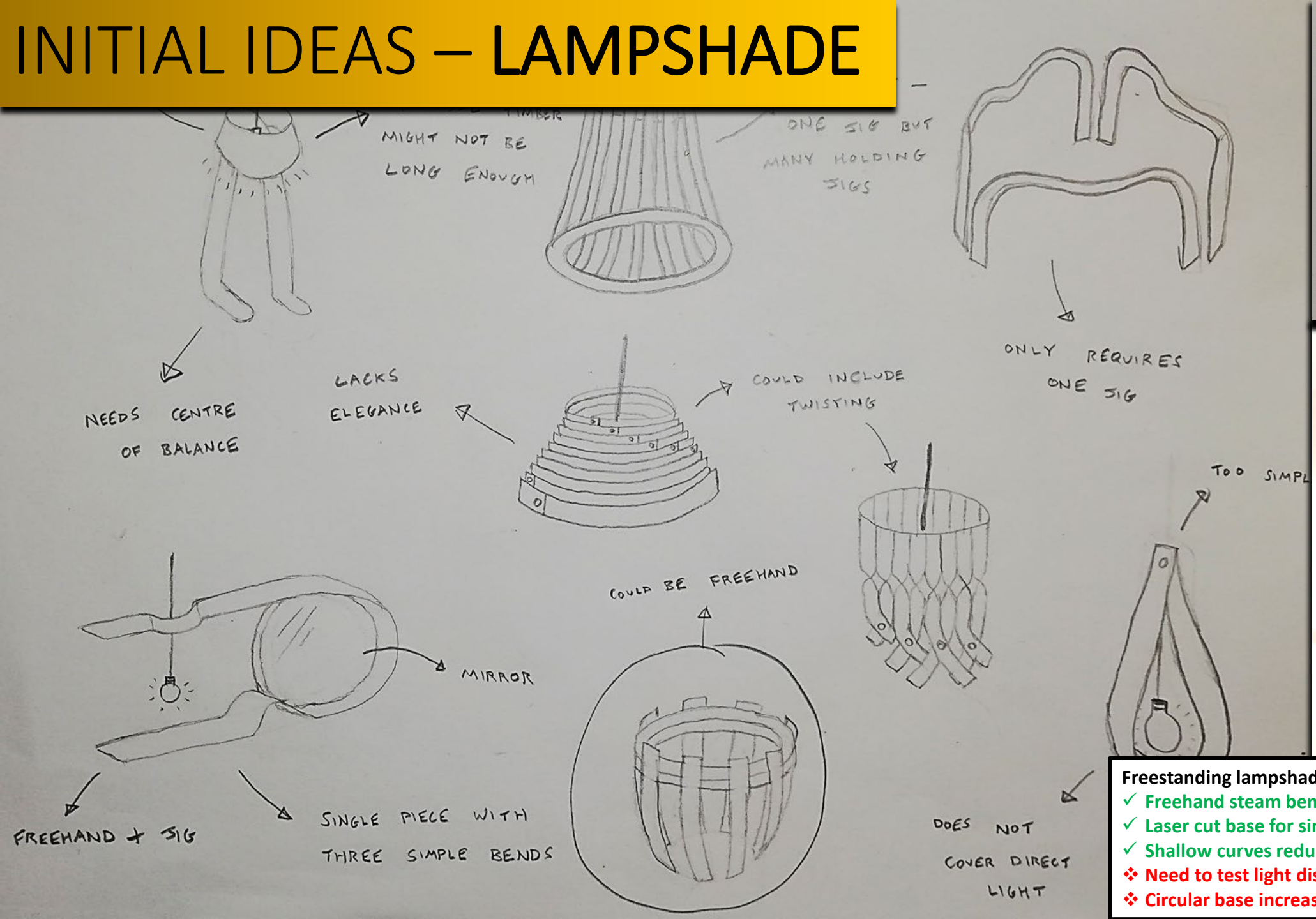
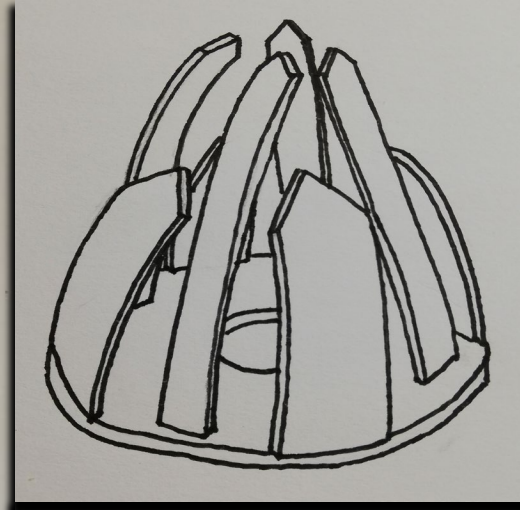
PROJECT REPORT

Jack Wells

INITIAL IDEAS – LAMPSHADE

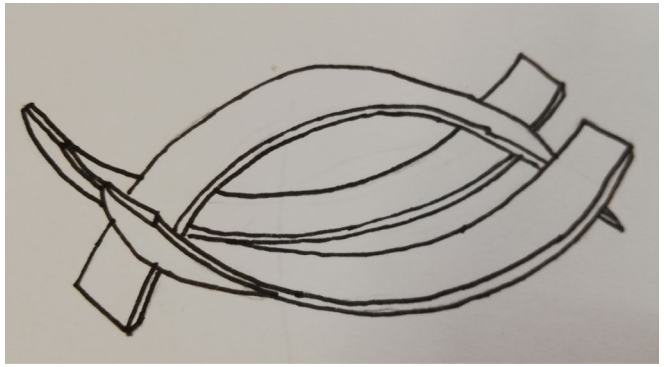


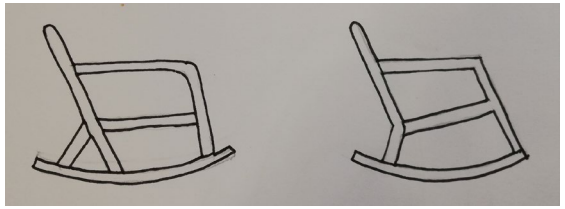


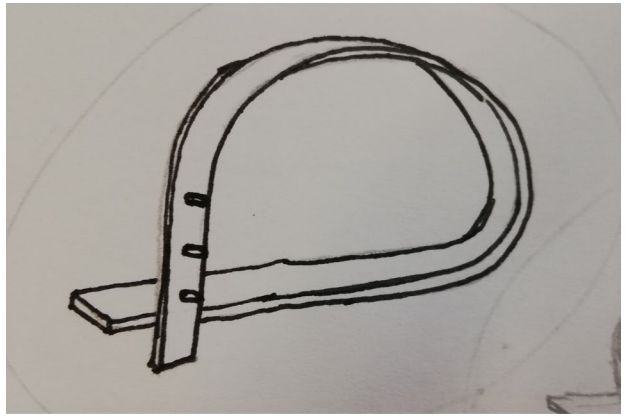
Freestanding lampshade

- ✓ Freehand steam bent or two simple jigs – saves money
- ✓ Laser cut base for simple slotting system
- ✓ Shallow curves reduce risk of breakages
- ❖ Need to test light distribution capabilities
- ❖ Circular base increase material waste

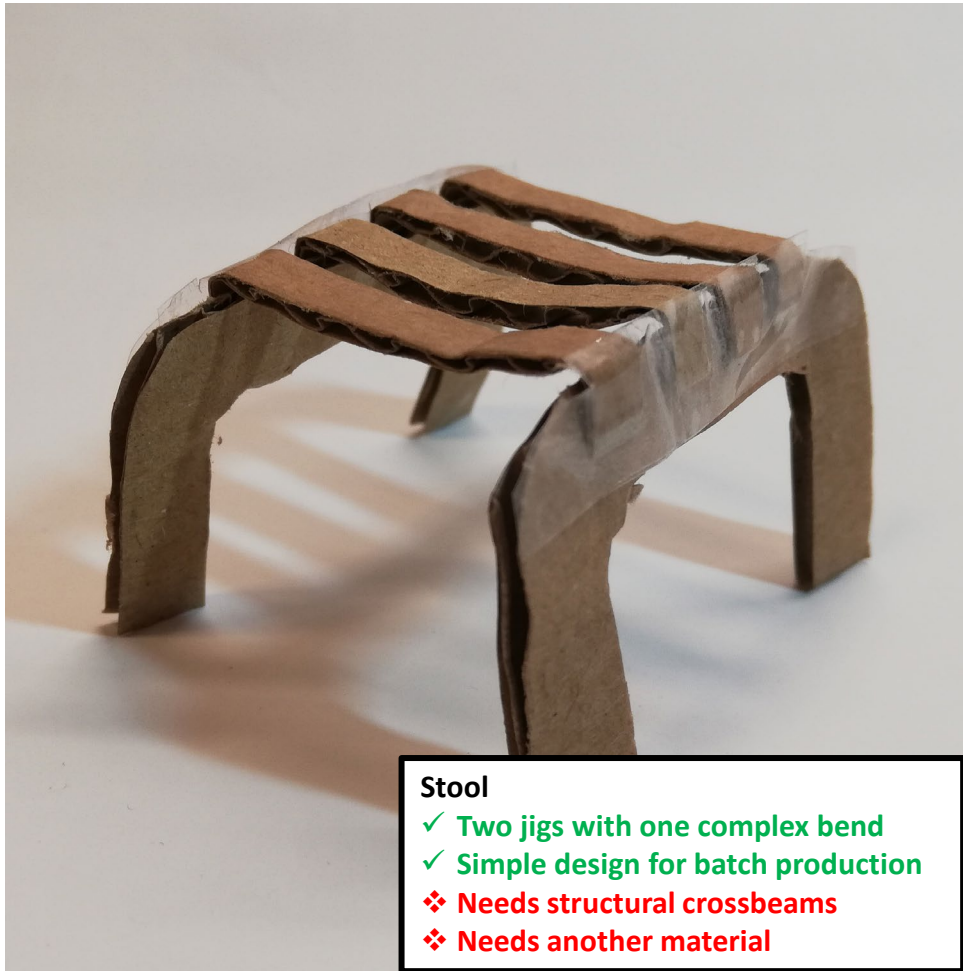
INITIAL IDEAS – OTHER PRODUCT







INITIAL CONCEPTS – I decided to focus on seating as it is challenging and requires ergonomic curvature.

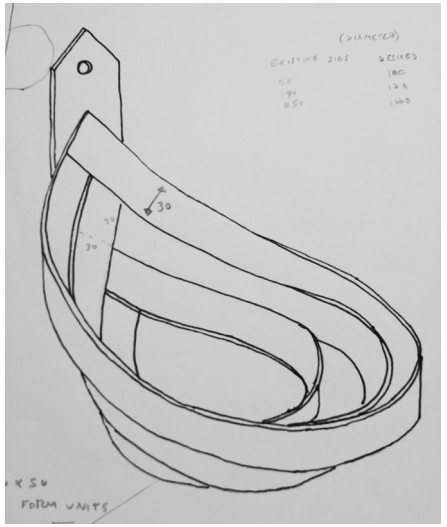


Stool

- ✓ Two jigs with one complex bend
- ✓ Simple design for batch production
- ❖ Needs structural crossbeams
- ❖ Needs another material

DEVELOPED IDEAS – LAMPSHADE

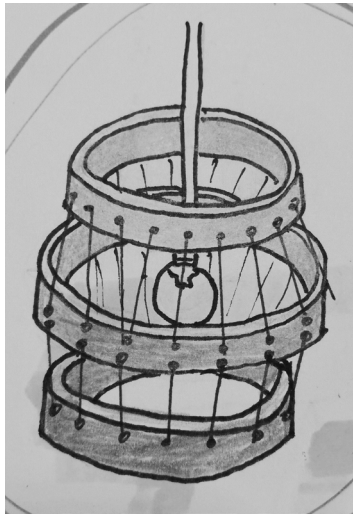
1 The Sun Shell



Wall-mounted lampshade

- ✓ Aesthetic light distribution
- ✓ Simple spotlight fixing
- ❖ Three jigs and complex bends – increased expenses
- ❖ Needs other material

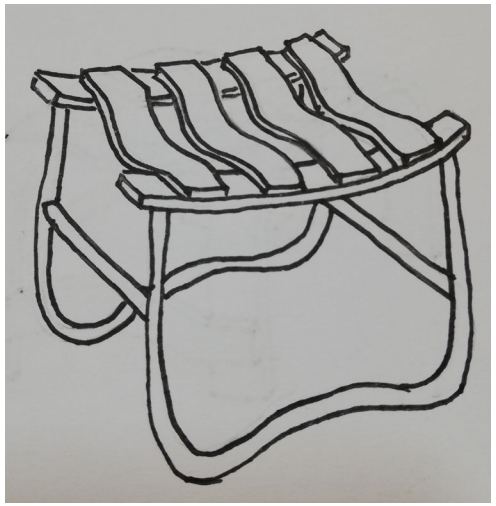
2 The Light Lantern



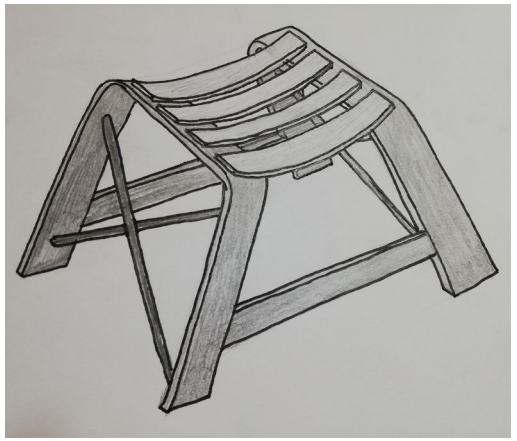
Pendant lampshade

- ✓ Two jigs for simple bends – cheap for batch production
- ❖ Lots of string to filter light
- ❖ Drilling - time and material waste
- ❖ Doesn't display high skill levels

DEVELOPED IDEAS – STOOL

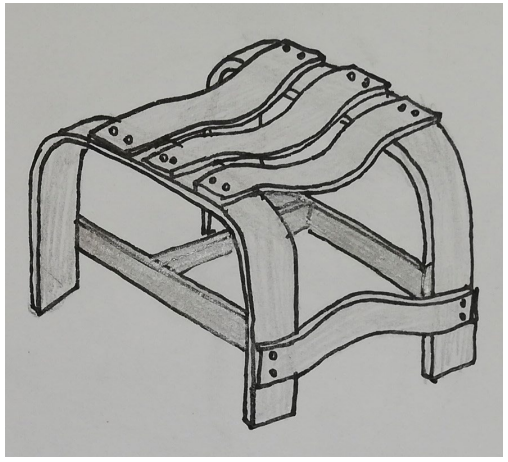


- ✓ "W" metal legs prevents rocking
- ✓ Two simple jigs – easy to batch produce
- ✓ Time-consuming metal framework
- ✓ Difficult angle for metal to wood connection



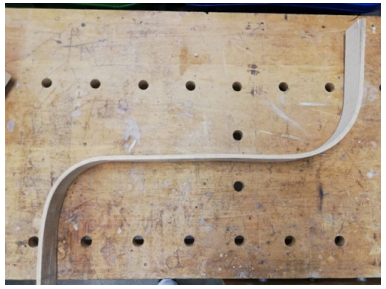
- ✓ Splayed legs increases structural stability
- ✓ Metal crossframe – structure and aesthetics
- ❖ Right-angle bend radius becomes difficult with thick wooden legs
- ❖ Complex for batch production

- ✓ Challenging design – demonstrates skills
- ❖ Calculating centre of balance
- ❖ Steam bent rockers will unbend under pressure without supports

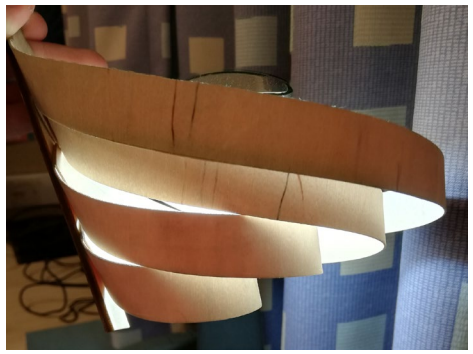


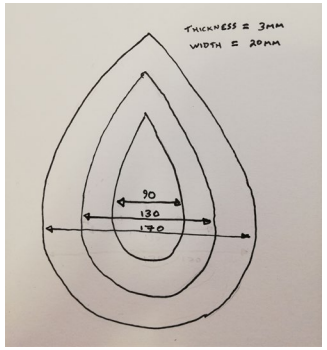
- ✓ Uses steam bending practically and aesthetically
- ✓ Simple metal framework
- ✓ Curved front wooden bar prevents obstruction
- ❖ Needs simplification for batch production – lots of jigs
- ❖ Difficult "s" bend connecting slats to legs

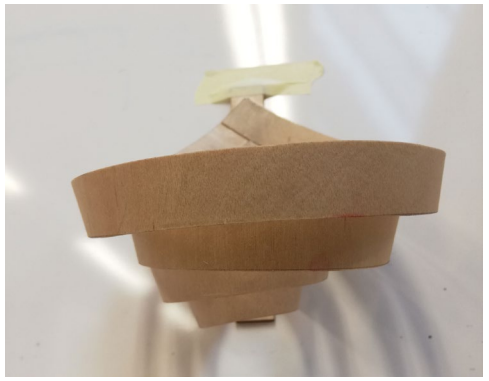
- ✓ Exhibits advanced steam bending skills
- ❖ Two jigs for complex bends
- ❖ Difficult to create "s" bend with thicker wood than 6mm test piece



FINAL IDEA – LAMPSHADE



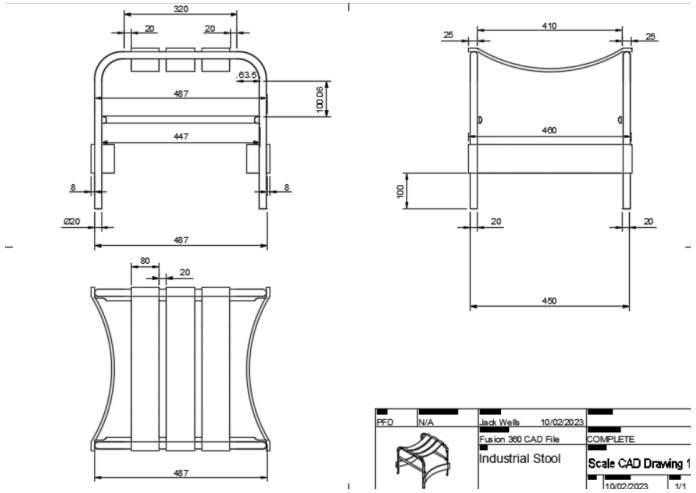




INSPIRATION – repeating curved pattern of Tom Raffield's Lampshade combined with biomimetic inspiration from shell structures and their light distribution possibilities.

The Sun Shell

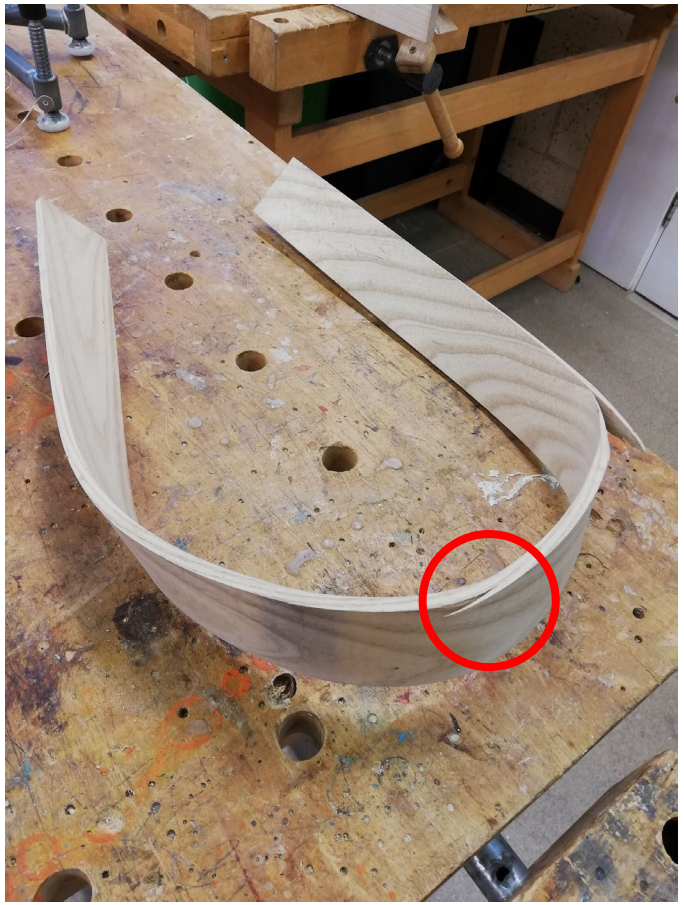
FINAL IDEA – STOOL



INSPIRATION – ergonomic and aesthetic slatted seating of Max Cheprack's chair that can easily be batch produced

The Ergostool

PHYSICAL TESTING – LAMPSHADE



FAILED - 6mm ash freehand test bend fractured due to insufficient time steaming and tightness of radius without a jig.

SUCCESSFUL - 1.5mm ash freehand test bend of curved lampshade structure

PHYSICAL TESTING – **STOOL**

FAILED – 9mm slat test bend. Jig broke under spring-back pressure causing distortion. The bend is also too sharp for an ergonomic seat.

Vice indentations on tubular steel when filing corners – needs filing and a finish to cover surface imperfections.

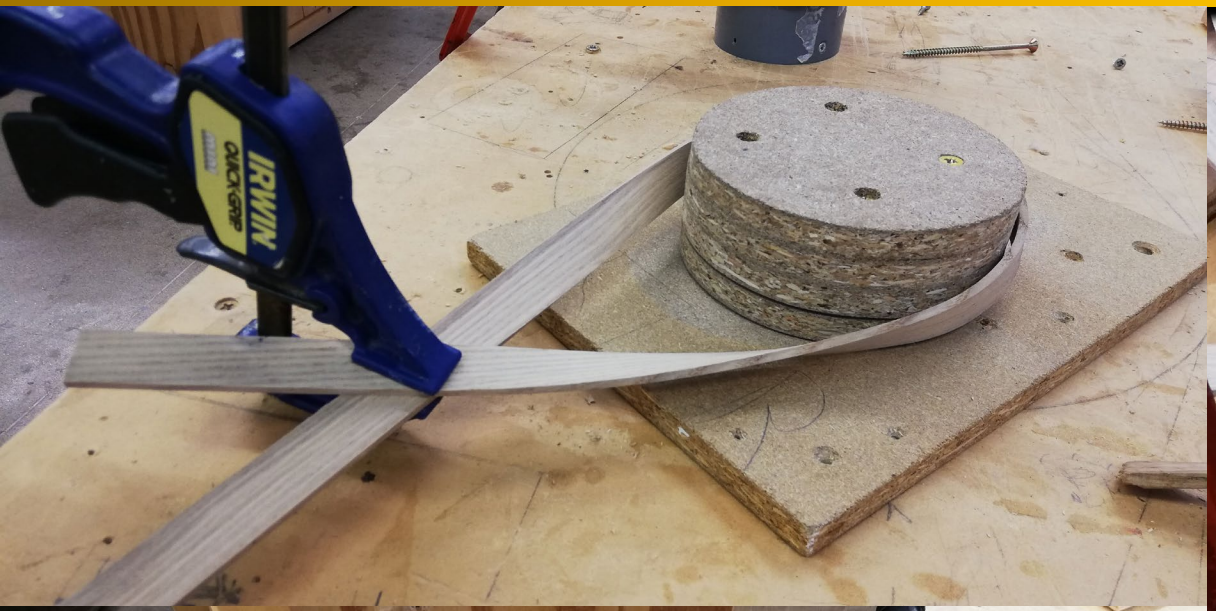
Metal support bar flattening test comparing directly placing steel tube in the vice (leaving indentations) versus wrapping it in a leather glove for a smooth edge.

Rivet size and aesthetics testing revealed that the dimensions of the rivets were suitable and visually pleasing with the washers.

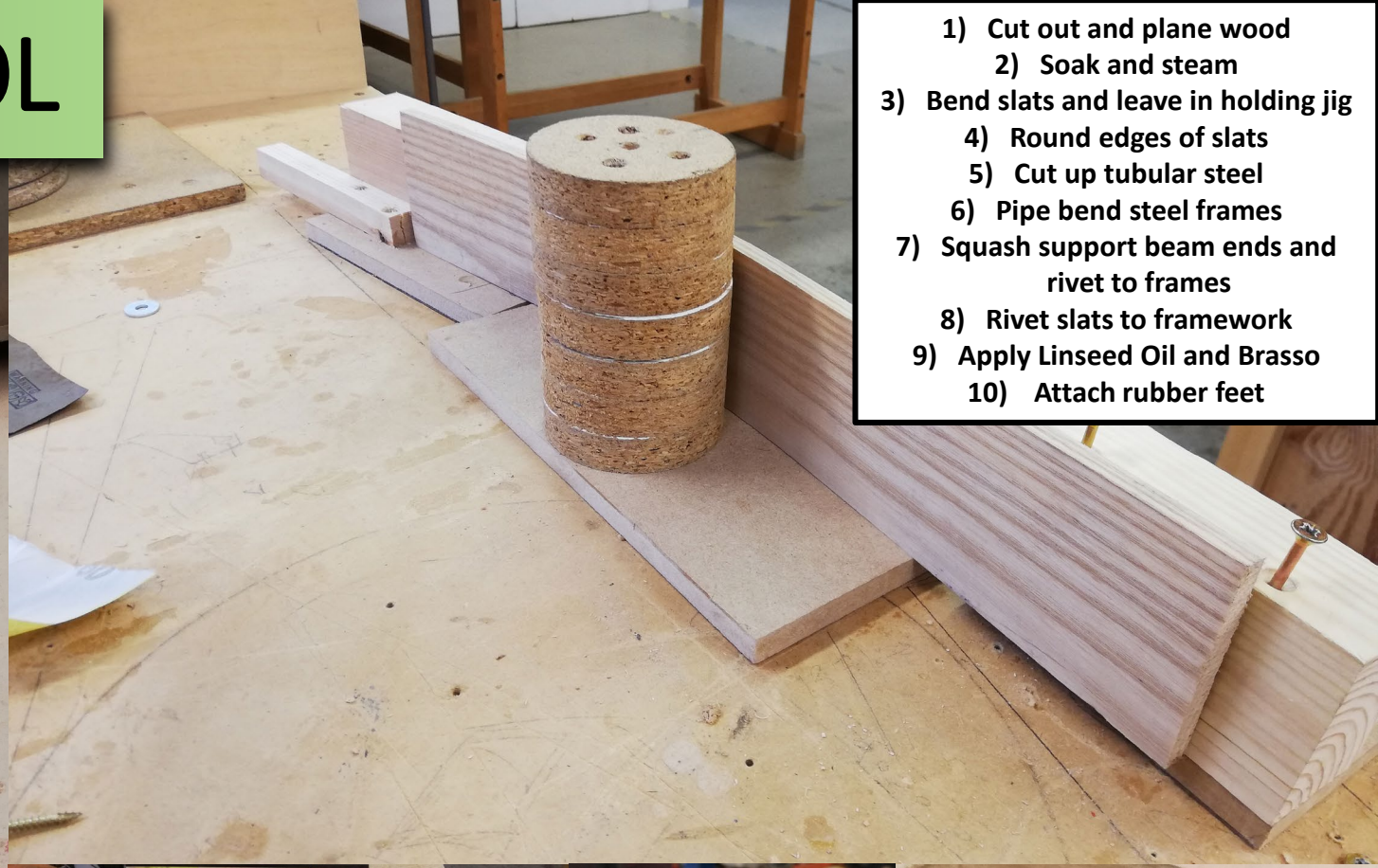
Metal-to-metal rivet test without washers demonstrates a clean aesthetic and a quick connection method.

CONSTRUCTION – LAMPSHADE

1) Cut out and plane wood
2) Soak and steam
3) Use jigs to bend curves
4) Cut out back support
5) Screw to support
6) Apply Linseed Oil



CONSTRUCTION– **STOOL**



1) Cut out and plane wood
2) Soak and steam
3) Bend slats and leave in holding jig
4) Round edges of slats
5) Cut up tubular steel
6) Pipe bend steel frames
7) Squash support beam ends and rivet to frames
8) Rivet slats to framework
9) Apply Linseed Oil and Brasso
10) Attach rubber feet

The Ergostool

The Sun Shell