

Problem

Dispensing and moving fabric is tedious and time consuming

Re-rolling fabric to correct errors can take significant time and effort

Objectives

Create a design that:

1. Automates the re-rolling process
2. Reduces rolling errors
3. Accommodates a range of fabrics

Fabric Cradle

Cradle of roller tubes evenly supports fabric of varying diameters and weights

Arc shape secures fabric roll for automated rolling and manual unrolling

Swivel Arm

Swings away from the fabric cradle for easy loading and unrolling

Auto-adjusting to facilitate greater fabric contact

Motorized Roller

Allows for hands-free rolling of fabric, with reduced opportunity for errors

Our Solution

Motors

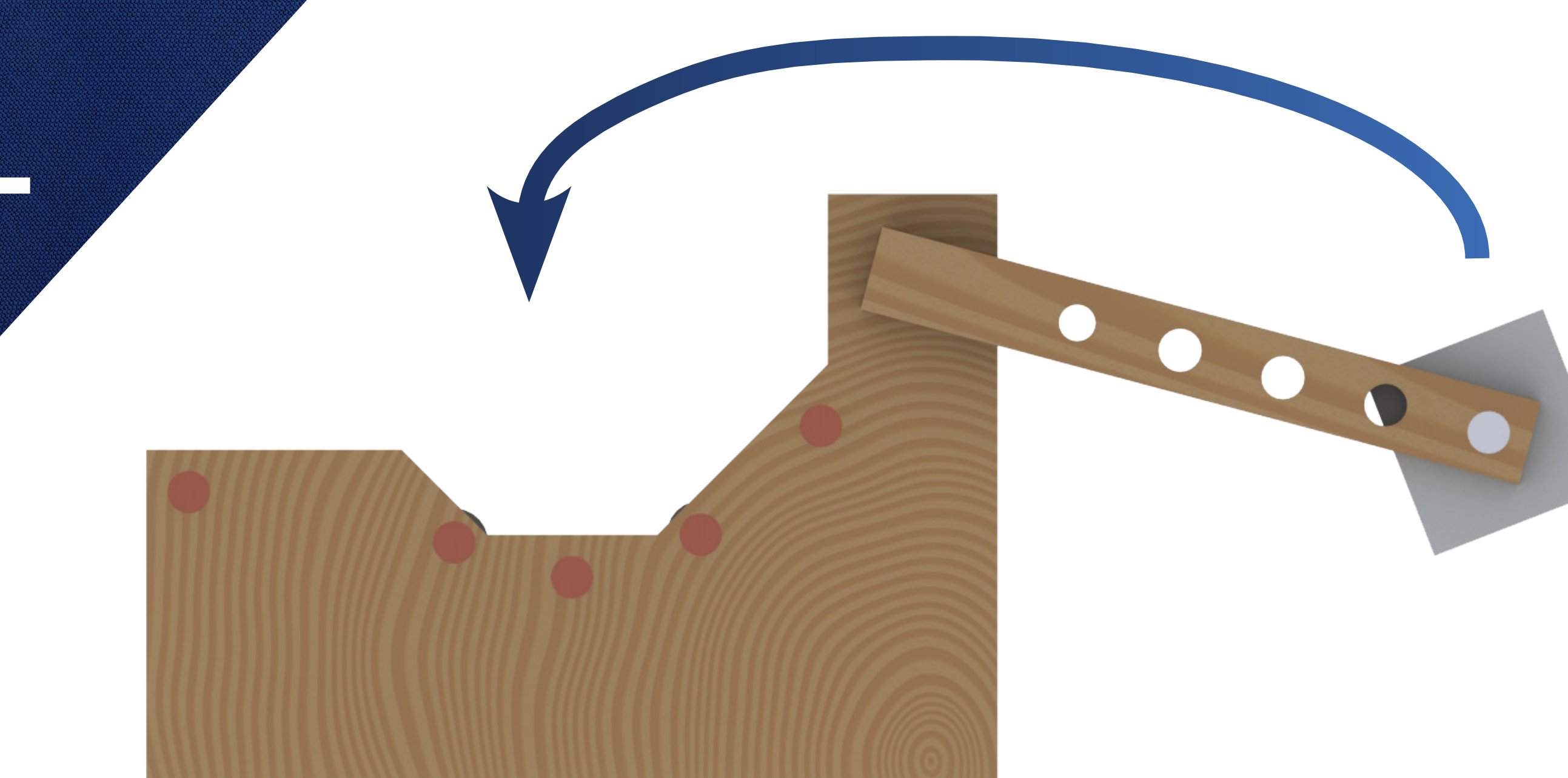
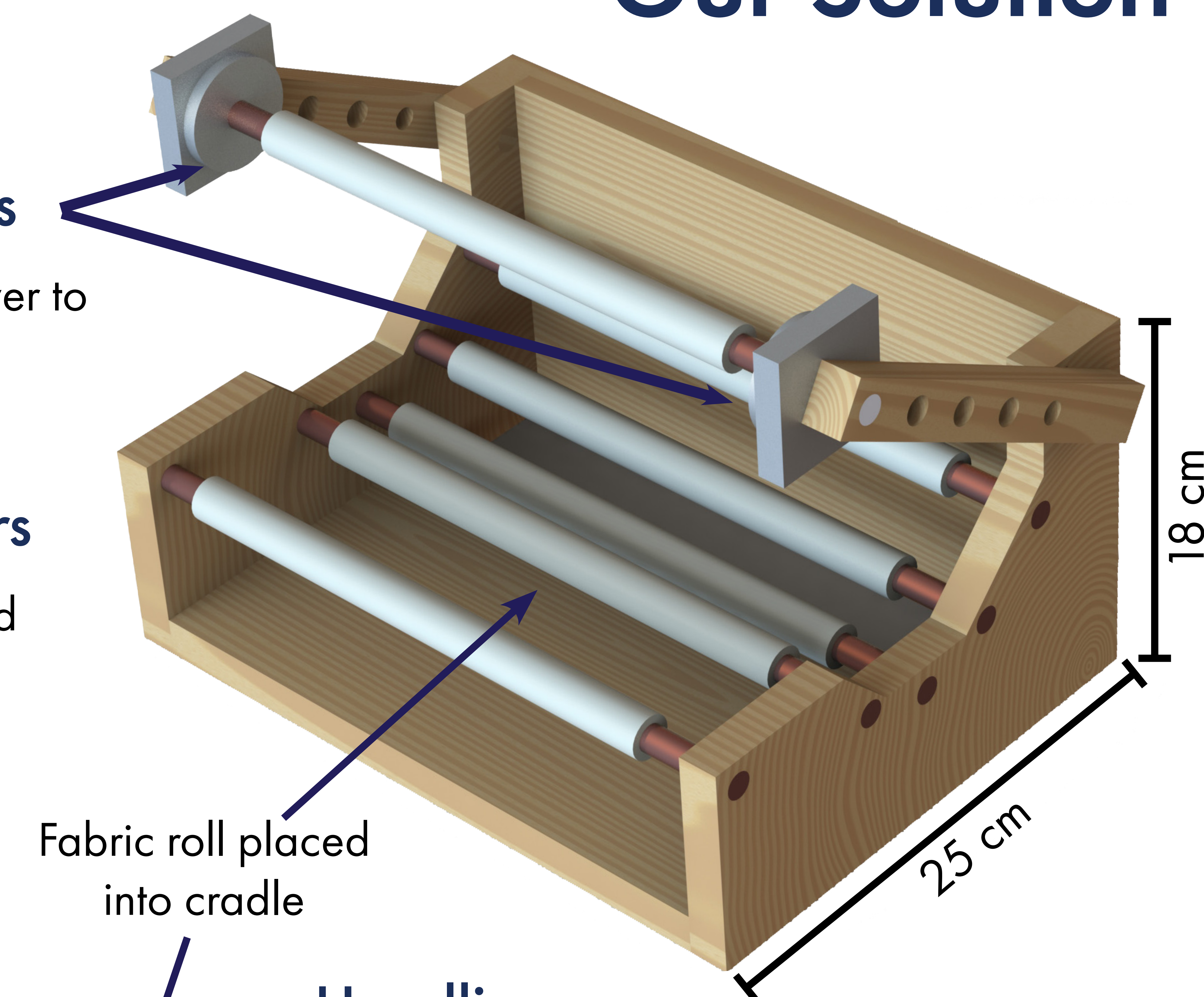
Provide power to the motorized roller bar

Rubberized Rollers

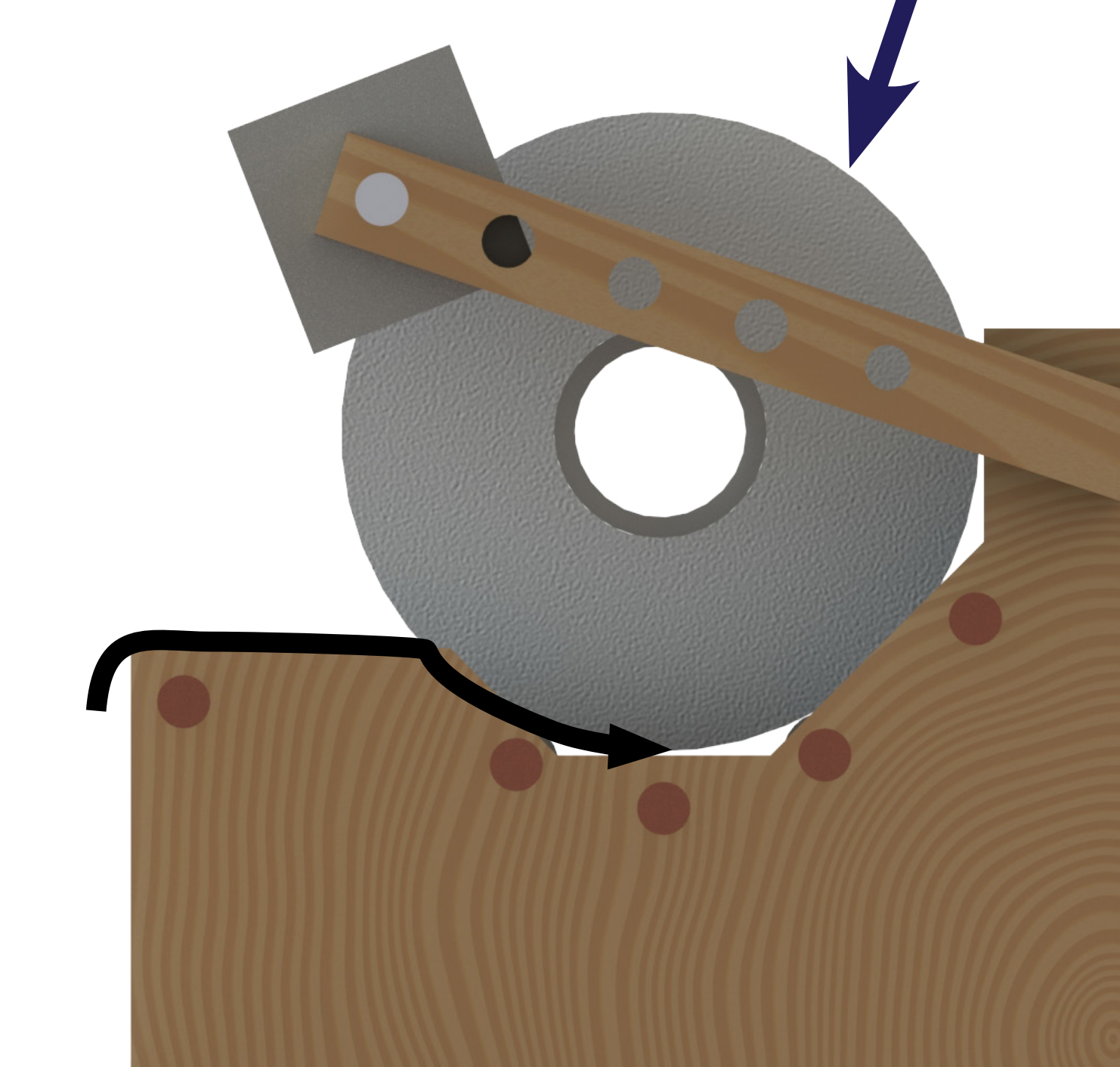
Reduces fabric slippage and uneven rolling

Compact Design

The Cradle assembly has a small cross-section, and is scalable in width to accommodate various cutting surfaces



Loading & Unrolling Position



Rolling Position

Unrolling

With the roller arm swung back, fabric can be pulled and unrolled from the bottom

Rolling

Roller arm is brought into place, and fabric resting in the cradle is rolled in-place