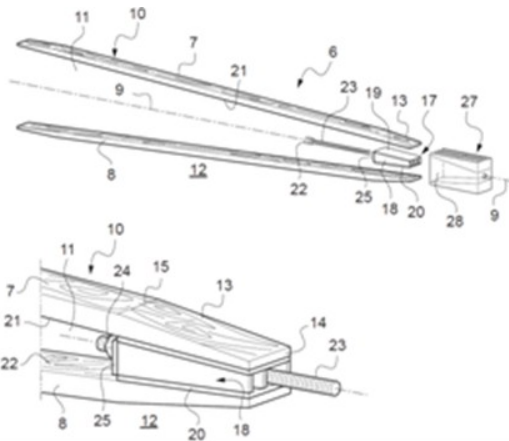


Prestressed wood or fibrous materials assembly

An innovation that brings to you...

- ✓ **An ecological process** (no glue)
- ✓ **Increased mechanical performances** (assembly mechanical yield of 100 %)
- ✓ **Respect of aesthetic qualities**



How does it work?

This prestressed assembly process developed by the LERMAB laboratory of the University of Lorraine can transmit tractive or compression efforts by adherence to fibrous materials. After application of assembly prestress, **resistance threshold is guaranteed and rigidity increased for operations without play**. Parasitic efforts (transverse traction and shear) resulting in recurrent rupture of traditional assemblies are therefore prevented.

The **concept has been tested and validated on bamboo and resinous wood**. If necessary, all implementation steps can be numerically modeled to optimize the shape from an initial bar section. Only a perfect characterization of behavior under transverse compression of the material is necessary.

What is it for?

- ✓ Civil engineering
- ✓ Construction wood
- ✓ Wood furniture
- ✓ Urban furniture

Innovation availability...

- ✓ Patents FR2947593; EP 10 742 023,4; US 13/378,915; CA 2,765,025

A laboratory to accompany you...

The LERMAB is a laboratory of the University of Lorraine, which focuses on various scientific competences such as **biology, chemistry, process engineering, physics, mechanics and civil engineering**. The LERMAB conducts research on wood and natural fibers and plays a privileged **interface role between academic research and wood industry**. The laboratory develops researches in collaboration with different technology transfer centers such as Critt Bois or CETELOR.

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