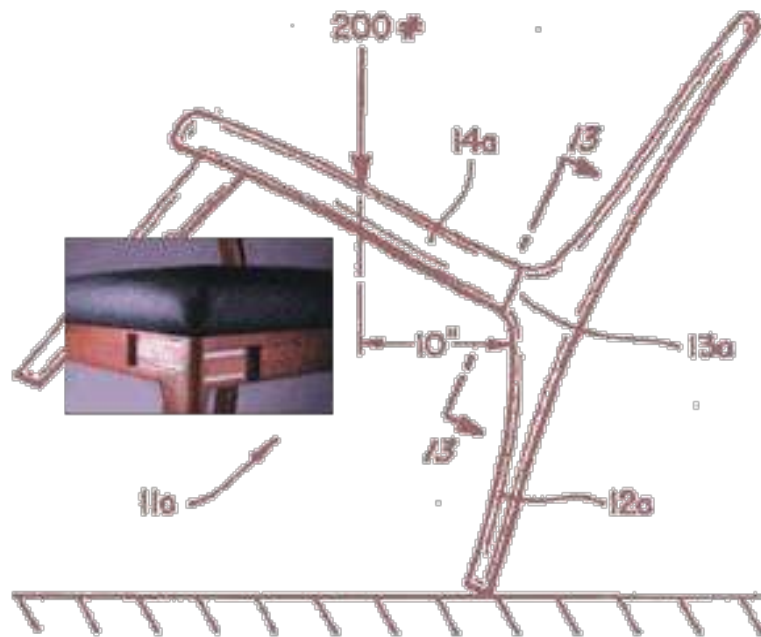


## The Eustis Joint®

### Why Do Chairs Break?

Unlike most other furniture, chairs have several places where a relatively narrow piece of wood is attached to another piece of wood. This narrow joint is then expected to be strong enough to maintain the integrity of the chair, despite the fact that it experiences stress each time the chair is used. This drawing, taken from the patent for the Eustis Joint®, demonstrates the problem well.



Mortise & Tenon chair joinery is among the most common chair joinery techniques. It was developed thousands of years ago and has been commonly used ever since. The problem with Mortise & Tenon chair joinery is that joint failure in the critical joints of a chair is pretty much inevitable. You see, stress is put on the critical joints of a chair each time it is used. This stress begins to cause very small movements in the joint, which ultimately become large movements. Eventually, these joint movements lead to joint failure. Joint failure is even more likely if the joints are made with glued dowels, instead of mortise & tenon joinery.

## **How Does The Eustis Joint® Work?**

The Eustis Joint® utilizes a pair of steel rods placed inside the joint. The steel rods are bonded to the wood by injected, high-strength epoxy. Once the epoxy has reached full strength (a process that takes about 7 days) the stresses of the joint are transferred to the steel rods. The steel and epoxy are far stronger than the wood by itself. Therefore, there is no movement in the chair joint, even in a high traffic area. The photo below shows a cutaway of the two steel rods of a chair made with the Eustis Joint®.



### **The Eustis Joint®: How Eustis Chairs Stand the Test of Time**

During the early years of our work with the Eustis Joint®, we set out to prove the Eustis Joint® was stronger than wood. This photo demonstrates one of our many tests. In this test, we simulated the stress given to the most critical joint in the chair. In the photo, you can see the plugs and bleed holes where the epoxy was injected. The steel rods run between the plugs and bleed holes. We pushed down on the "seat rail" board with approximately 2,200 pounds of force until the "back post" board split.



We did it! We proved the Eustis Joint® is, in fact, stronger than wood. Since 2000, Eustis Chair has manufactured over 20,000 chairs utilizing Eustis Joint® technology. Eustis Chairs last for decades. In fact, we guarantee it with our unmatched 20 year warranty. Eustis Chair manufactures chairs in the USA that stand the test of time.

