In order to make edge-joining boards, the gluing of the construction of different types of doors, frames and various other furniture assemblies is almost impossible without quality bar clamps. They are generally expensive when purchased at the shops, and it would be great to have a few around in your workshop. For these reasons, we present here a plan for the building of a quality wooden bar clamp.

The construction of bar clamps like these has been checked thoroughly because for centuries woodworkers have been making them for their own purposes. It certainly takes some wood, time and skills to build this indispensable tool. The construction of this bar clamp model is very simple and consists of the following parts: square section bar (Part 1 - Beam), fixed jaw (Part 2 – Fixed delimiter) i adjustable jaw (Part 3 – Movable plank), wedges (Part 6 – Adjustable plank), metal straps (Part 4 – Toggle) i bars (Part 5). In our plan we have welded the bars parts to the metal straps; however, instead of bars you can use rivets or threaded rods (together with nuts and washers). The parts are of very simple geometry, and the hardest thing to do when building this bar clamp is to make a finger woodworking joint (between the ‘fixed jaw’ and ‘beam’ parts) and the slots in the lower edge of the beam.

![Wooden Clamp Plan Image]
How to Use Bar Clamps

- Before use, the bar clamp needs to be cleaned of adhesive and sawdust from previous use.
- Attach your wood pieces with a thin layer of wood glue.
- Place the adjustable jaw in the slot so that the distance between the fixed jaw and adjustable jaw is slightly larger than the width of the joined wood pieces.
- Place wedges between the fixed jaw and joined wood pieces. Light taps on the wedges to fix the pieces.
- Keep the piece clamped until the wood glue is dry.

The bar clamp must be tough, to hold up under continued use. For this reason, it's best to use a hardwood for this woodworking project, preferably maple or birch. Making of this bar clamp requires not much of your time and you don’t need to have some special skills. All you have to do is to precisely make the items/parts with the exact measurements as given in this documentation, then join those parts together.
Parts List

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Title</th>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Beam</td>
<td>Wood</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Fixed Delimiter</td>
<td>Wood</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Movable Plank</td>
<td>Wood</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Toggle</td>
<td>Steel</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Bar</td>
<td>Steel</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Adjustable Plank</td>
<td>Wood</td>
<td>2</td>
</tr>
</tbody>
</table>
Assembly Drawing
1. Beam
2. Fixed Delimiter
3. Movable Plank
4. Toggle

5. Bar
6. Adjustable Plank
Assemblage Instruction

1.

2.
3.

Final Assembly