

Press release
Frankenberg, August 2022

A material that is both classic and contemporary Thonet and bentwood

The history of bending solid wood

Bentwood is as contemporary today as when it was first invented by the visionary Michael Thonet



If you want to bend wood, you have to outwit it first. Or, more precisely, you have to trick two of its main components: cellulose, which gives wood its tensile strength, and lignin, which is responsible for compressive strength. In order to work this natural material, both of these components have to be relaxed. Otherwise, the wood would just break. So, what's the trick? The wood needs to be saturated with steam under pressure. This makes the cellulose more elastic and the lignin softer, and the now elastic wood will readily bend along its fibres – and, after drying, its newly acquired shape will be just as stable and resilient as before.

When Michael Thonet was experimenting with bending wood in the 19th century, it was by no means a new discovery that the natural material could be manipulated with heat and moisture. Ancient advanced civilisations had already made use of this knowledge, in shipbuilding for example. And yet Thonet's bending of solid wood was truly ground-breaking. In 1856, the Austrian state officially granted the Thonet brothers the right to manufacture armchairs and table legs from bent wood, the bending of which was achieved by the action of steam or boiling liquids.

It might not sound much, but it was in fact revolutionary! Michael Thonet and his five sons were able to forever change the way furniture was made thanks to their patented bending process. Instead of having individual pieces or small series intricately made by highly skilled carpenters, they could now produce chairs, armchairs, tables, stools and all kinds of small items of furniture in series using a division of labour – engaging semi-skilled workers in their own factories and using machines.

The Thonets were the first to industrialise furniture production, taking the world market by storm thanks to their unrivalled low prices and innovative distribution. Synonymous with this revolution is undoubtedly chair No. 14, today 214, millions of which have now been made. No study of the history of furniture would be complete without this iconic design based on elegantly curved beech wood rods.

Yet the revolution took some time to gather pace. Even if knowledge about the malleability of wood already existed, the opportunities to put that knowledge to use were limited with no scope for mass production. Starting in the 1830s, Michael Thonet began experimenting with bending and veneering

Press release
Frankenberg, August 2022

strips of wood, first in Boppard, Germany and later in Vienna. He boiled the strips in glue and glued them together into blocks before pressing them into moulds. These blocks were then sliced horizontally and veneered, creating the parts for the side and back of his “Boppard chair” for example. This “lamination” process was perfect for making standardised parts in extravagantly curved shapes.

Other carpenters had already been turning their hand to similar techniques at the beginning of the 19th century. But these methods had their limitations. For one thing, the glues, which were made from animal bones or skins, were not sufficiently moisture-resistant. Exporting laminated chairs by sea proved impossible due to the damp conditions in the ship’s hold.

It was only when Michael Thonet decided to use solid wood that he was able to turn his vision of industrial furniture production into reality. Time-consuming production steps such as gluing or veneering were no longer needed. In return, however, Thonet had to reinvent wood bending from scratch. His method, which is still used in exactly the same way at Thonet today, was as follows: the piece of wood is first turned into shape and then boiled in a steam boiler. This softens the wood, to which a metal band is then attached, and this is the important part. This band absorbs the tensile forces exerted on the wood during the bending process. Without it, the wood would break in two.

The prepared workpiece is then pressed into the bending mould by two people. While the process had already been perfected by the mid-1800s, the Thonets continued to work on improving the way that their chairs and armchairs were constructed. They replaced complex glued joints with screwed joints until finally every part, with the exception of the seat, was made of completely solid bent beech wood. They also added a stabilising foot ring.

The technology invented by Michael Thonet proved to be extremely versatile. Its basic elements – the different lengths of straight and curved beech wood – were not only perfect for countless different chairs and armchairs. The range also included rocking chairs, table legs, wardrobes and even sledges, cradles and lamps. And there is another advantage: bentwood furniture, although made of solid material, is comparatively light and yet stable. This is because the cross-section of the wooden rods can be adapted to the respective load. Where large forces have to be absorbed, such as at the joint between the back leg and the seat frame, the timbers are more strongly dimensioned than at less stressed, flexible parts such as the backrest.

This efficiency, in other words using the right materials in the right place and a form of design based on standardised parts, was ground-breaking. Thonet’s bentwood designs were ahead of his time, anticipating many of the themes of modern industrial design. That is why the No. 14 coffee house chair is also considered the first ever piece of designer furniture. And yet bentwood is still extremely contemporary. It is a renewable, regional and non-toxic material that feels good and has a homely effect; it is quite simply more appealing than many other materials. Even if the wood first has to be outwitted to create the desired curved and looping designs.

Press release
Frankenberg, August 2022

Thonet press contact international

neumann communication
Claudia Neumann
Hannah Knospe, Kristina Raderschad
Eigelstein 103-113
50668 Köln
Germany
Tel. +49 (0) 221 – 91 39 49 0
Fax +49 (0) 221 – 91 39 49 19
E-Mail thonet@neumann-communication.de

Thonet GmbH
Susanne Korn
Michael-Thonet-Straße 1
35066 Frankenberg
Germany
Tel. +49 (0) 6451 – 508 160
Fax +49 (0) 6451 – 508 168
E-mail susanne.korn@thonet.de

We would appreciate receiving an author's copy in the event of publication.

Thonet – future-oriented furniture design with a long tradition

The unique success story of Thonet began with the work of master carpenter Michael Thonet. Ever since he established his first workshop in Boppard on the River Rhine in 1819, the name Thonet has stood for high-quality, innovative and elegant furniture. The breakthrough came with the iconic chair No. 14, today known the world over as the Vienna Coffee House Chair: the pioneering technique of bending solid beechwood enabled the mass production of chairs for the first time. The second milestone in design history was the tubular steel furniture by the famous Bauhaus architects Mart Stam, Ludwig Mies van der Rohe and Marcel Breuer in the 1930s. During those pioneering years, Thonet was the world's largest producer of these tubular steel furniture designs, which are today considered timeless.

For the company today, the continuous process of innovation is the top priority, together with a focus on tradition and fine craftsmanship. Thonet's furniture designs originate both from its collaborations with renowned national and international creatives and from the in-house Thonet Design Team. Chief Executive Officer Brian Boyd and Creative Director Norbert Ruf manage the company from the corporate head office and production site in Frankenberg/Eder (Germany). Michael Thonet's fifth- and sixth-generation descendants are actively involved with the company's business as partners and sales representatives.