

[125.]

HENRY O'CONNOR.

No. 119,393.

FIG. 1.

BENDING WOOD.

Patented Sep. 26, 1871.

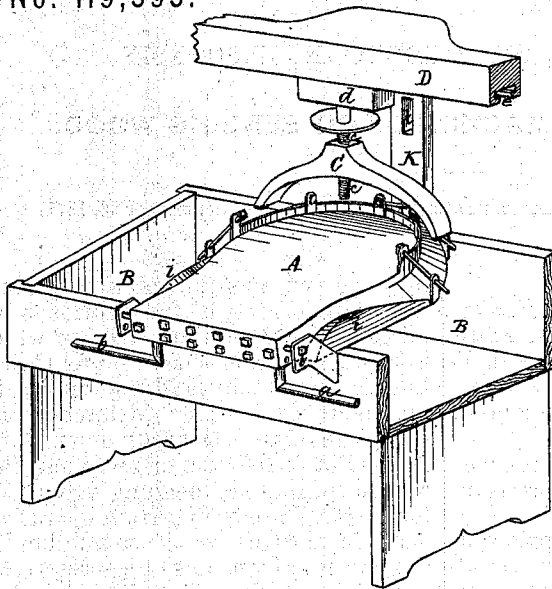


FIG. 4.

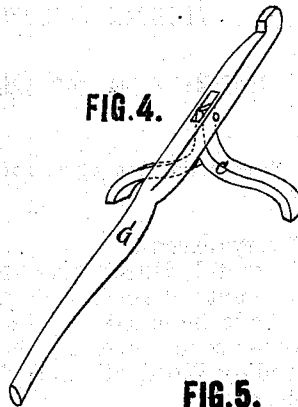


FIG. 5.

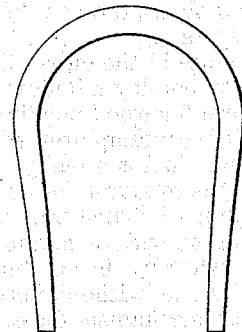


FIG. 2.

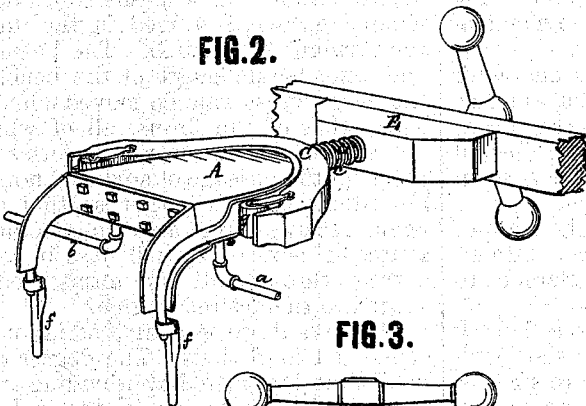


FIG. 3.

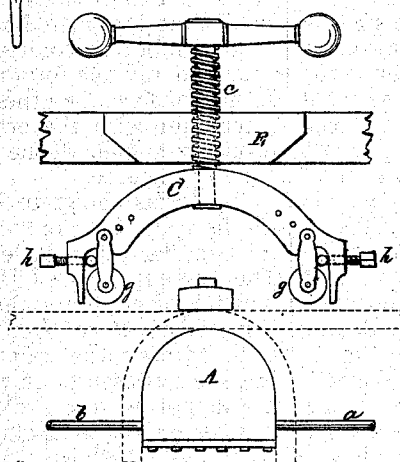


FIG. 6.

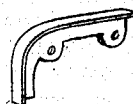
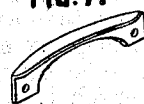


FIG. 7.



WITNESSES

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by his attorney
A. Pollok

UNITED STATES PATENT OFFICE.

HENRY OCORR, OF SHEBOYGAN, WISCONSIN.

IMPROVEMENT IN MACHINES FOR BENDING WOOD.

Specification forming part of Letters Patent No. 119,393, dated September 26, 1871.

To all whom it may concern:

Be it known that I, HENRY OCORR, of Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented certain new and useful Improvements in the Method of and Apparatus for Bending Wood, of which the following is a specification:

The invention hereinafter described has especially for its object the bending of chair-rims or bows and seats.

I would state in the outset that I am aware it is not new to employ a hollow internally-heated metallic form for wood-bending, and that while my invention contemplates the employment of such a form I do not broadly claim it.

My object is to adapt forms of this character to the bending of chair-backs and rims, and further to combine with them and with other forms mechanism whereby the bending may be effected more readily and without necessity for a separate bending mechanism for each form.

The nature of my invention, and the manner in which the same is or may be carried into effect, will be readily understood by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of the hollow heated form, together with a portion of the bench upon which a number of such forms are placed, and the grooved beam carrying the screw-press or follower used to force the wood down upon the form, and arranged to slide along in the grooved beam so as to be brought over any one of the forms with which it is to be used. Fig. 2 is a perspective view of a modified arrangement of the form and screw-press. Fig. 3 is a top view of another arrangement of said parts. Fig. 4 is a representation of the follower, arranged to be operated by a lever instead of a screw. Fig. 5 is a view of a chair-bow after it has been once bent, as, for instance, on the form in Fig. 3, and before it is applied to the form shown in Fig. 1, where it receives its final shape. Figs. 6 and 7 are views of differently-shaped flanges, to be bolted to the sides of the form for the purpose of giving different shapes to the bend of the lower ends of chair-bows.

The form A, which is hollow and made of metal, steam-tight, is of the shape which it is desired to impart to the wood, and is provided with an inlet-pipe, *a*, and an outlet-pipe, *b*, through which the steam, hot air, or other heating agent passes

into and out from the interior of the form. An indefinite number of these forms may be placed on the bench B, (only a portion of which is shown in Fig. 1,) and this bench I prefer to make trough-like, so that it may hold the wedges, tools, bending-levers, &c., needed in forcing and wedging the piece of timber firmly down onto the form. Any suitable follower or press may be employed for the purpose of bending the wood upon the form; but I prefer in certain operations, and, indeed, in most cases, to use a follower, C, raised and lowered by means of a screw, *c*, which is secured in a block, *d*, that slides in a dovetailed or flanged groove, *e*, formed in the under side of the stringer or beam D. The beam overhangs and extends the length of the bench, and thus the screw-press can be moved along from one to another of the forms, all of which rest on the bench. When a series of forms is used its pipes for the passage of steam or hot air are connected one with the other, so that the heating agent received from a steam-generator or other source of heat-supply will pass in a continuous current through all the forms, keeping them heated to the desired degree.

The advantage of using a series of forms thus connected is obvious. The degree of heat can be accurately adjusted by providing a main steam-pipe with branch connections to each form. The steam to any one form may be let on or shut off from that form, or otherwise regulated, without interfering with the others; and there is great economy of fuel, all the forms being heated from the same source.

The forms shown in Figs. 2 and 3 differ from the form in Fig. 1 only in shape, being adapted for bending other styles of chair-bows or rims. The bow represented in Fig. 2 is a heavy back bow for office-chairs, the lower end of the bow being bent down over the side flanges of the form by means of suitable levers *f*. A screw-press is represented in this figure, the screw being supported in the fixed or stationary rail E. For the purpose of facilitating the bending operation, and of allowing the follower to be forced forward with greater ease, rollers *g* are mounted in yokes pivoted to its ends, these rollers being adjusted at the proper distance apart by means of screws *h*, which bear on the yokes. I prefer to interpose springs of rubber or other material between the ends of the screws and the yokes.

The screw-press in Fig. 3 is the same as that in Fig. 2. The shape of the form, however, is slightly different, being adapted to bend a bow of the pattern shown in Fig. 5. The bow thus bent is intended to receive its final shape on the form shown in Fig. 1. The flanges shown in Figs. 6 and 7 represent two of the many patterns of flanges that may be bolted to the sides of the form in Fig. 1 in lieu of the flanges *i*, in order to impart various curves and shapes to the bend of the lower ends of the bow. Instead of the screw-press or follower in Fig. 1, the follower may be pivoted to a lever *G*, Fig. 7, the short arm of which, when the follower is required for use, may be inserted in the hole or bearing *k* formed in the standard *K* that supports the grooved beam. The follower will then occupy the same position over the form as the screw-press, and may be forced down upon the form by means of the lever-handle.

I have not attempted to describe in this specification the various methods of preparing the wood and of fastening it to the form after it is bent, as all these details are well understood by

those acquainted with the art to which this invention relates.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with one or more wood-bending forms and the bench or other support thereof, of a screw-press or follower, supported in a grooved bearing overhanging the form or forms, and arranged to slide in said bearing, so that it may be brought over any one of the forms with which it is to be used, substantially as shown and set forth.

2. A wood-bending form for bending the backs and rims of chairs, provided with detachable side flanges for imparting different shapes, as desired, to the ends of the bow bent over or upon the form, as herein shown and described.

-In testimony whereof I have signed my name to this specification before two subscribing witnesses.

HENRY OCORR.

Witnesses:

GEO. HELLER,
L. SMITH.

(125)