S. R. BAILEY.

Bending Wood.

No. 162,138. Patented April 20, 1875.

FIG. 1.

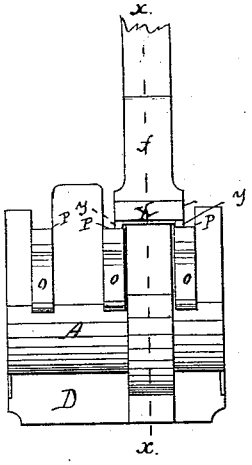


FIG. 2.

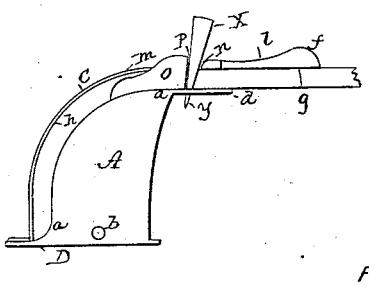


FIG. 3.

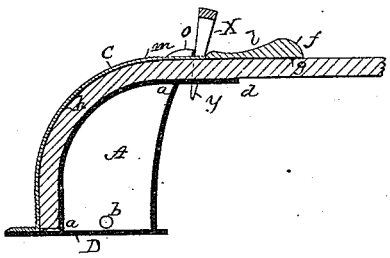
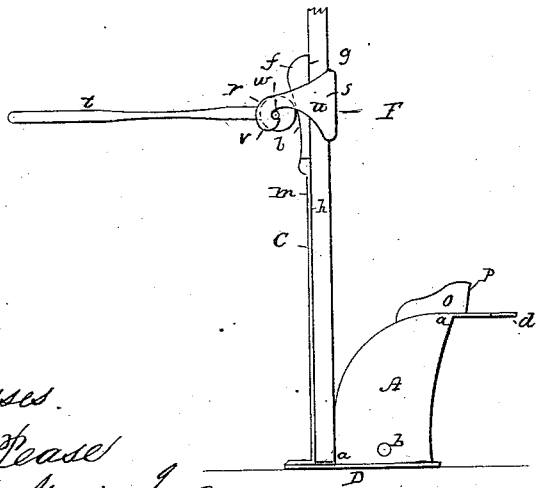


FIG. 4



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN BENDING WOOD.

Specification forming part of Letters Patent No. **162,138**, dated April 20, 1875; application filed April 5, 1875.

To all whom it may concern:

Be it known that I, SAMUEL R. BAILEY, of Bath, in the State of Maine, have invented an Improvement in Bending Wood for Shafts or Thills of Carriages, Sleighs, &c., of which the following is a specification:

This invention relates to devices for bending shafts or thills for carriages and sleighs, and the improvements are fully hereinafter described.

In the accompanying plate of drawings my invention is illustrated, Figure 1 being a plan view; Fig. 2, a side elevation; Fig. 3, a vertical section on line *x x*, Fig. 1; Fig. 4, a side elevation.

In the drawings, A represents a form made of the outline in transverse section shown more particularly in Fig. 3, and this outline form *a* to *a* corresponds to the general curvature for the end of a carriage shaft or thill. The form A is hollow, and at *b* it is connected with any suitable heating apparatus—as, for instance, a furnace, or a stove, or a steam-boiler—for heating it. C, a flexible strap. This strap C, at one end, is fixed to the foundation D of the form A, and when it is bent around the form it extends beyond the edge *d* of the form. The loose end of the strap C ends in a block, *f*. The face *g* of the strap-block *f* is continuous with the face *h* of the strap, and this face *h* is toward the form A. The face *l* of strap-block *f* tapers along its length, and projects above the strap-face *m*, and the block *f* at its inner end has shoulder *n*. *o o*, two parallel ear-pieces, making abutments *p p* at front edge of form. These ear-pieces are in such lines that the strap can lie in and between them, as shown, when it is bent down and about the form A, as shown. F, a clamp. This clamp F is in two parts, *r s*, one, *r*, an eccentric with a handle, *t*, and the other a clasp, *u*, with hook ear-pieces *v*. The eccentric *r* is hung by journals *w* in the hooks of the ear-pieces *v*, as shown. The clamp is applied to the block *f* of the strap, and it surrounds both the strap and the shaft-strip, and it has its eccentric *r* at rest upon the taper face of the block *f*, all as shown in Fig. 4 of the drawings. *x*, a staple having two wedge-shaped prongs, *y*. These prongs may be separate, but it is preferable to combine them as a staple. First, suitably steam the straight shaft-piece, and then place it against the inner face *h* of the strap C—that is, between the strap and the form A. Now apply the clamp, as described, and properly turn its eccentric *r* to draw the clasp *u* tightly about the strap and shaft-piece, thereby binding the two (strap and shaft-piece) together, so that the one cannot move upon the other. This being done, now pull the two (strap and shaft-piece) toward the form, and thereby bend the shaft about and against the form, where secure it by driving the staple-prongs *y* between the form abutments *p p* and the shoulders *n* of the strap-block *f*. The staple-prongs draw the strap and the shaft-piece lengthwise about the form, and also force down the shaft and strap to a more perfect contact with the form.

So long as the staple *x* remains as above the shaft-piece is held to the form, as described, and while so held by the heat of the heated form it is dried, and thus the sooner set in the curved shape of the form.

The form A may be heated by the direct application of heat thereto, but it is preferable to heat it as described.

Obviously, with heat applied to the form, the shaft can be dried to greater perfection, as to evenness and uniformity, than with a cold form, as well as with greater facility and economy of time.

The bending strap and clamps may be increased in number to any desired extent within the length of the form, and in practical use the form will be provided with a series of them.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The hollow former A having the shoulders *p p*, and adapted to be heated, as described, in combination with the strap C hav-

ing the tapering block *f*, and shoulders *n*, and clamp F, eccentric *r*, and lever *t*, all constructed to operate substantially as described.

2. The strap C having shoulders *n n*, in combination with form A, shoulders *p p*, and prongs or keys *y*, substantially as and for the purpose specified.

The above specification of my invention signed by me this 5th day of September, A. D. 1873.

S. R. BAILEY.

Witnesses:
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