

E. Q. SMITH.

MACHINES FOR BENDING WOOD.

No. 170,910.

Patented Dec. 7, 1875.

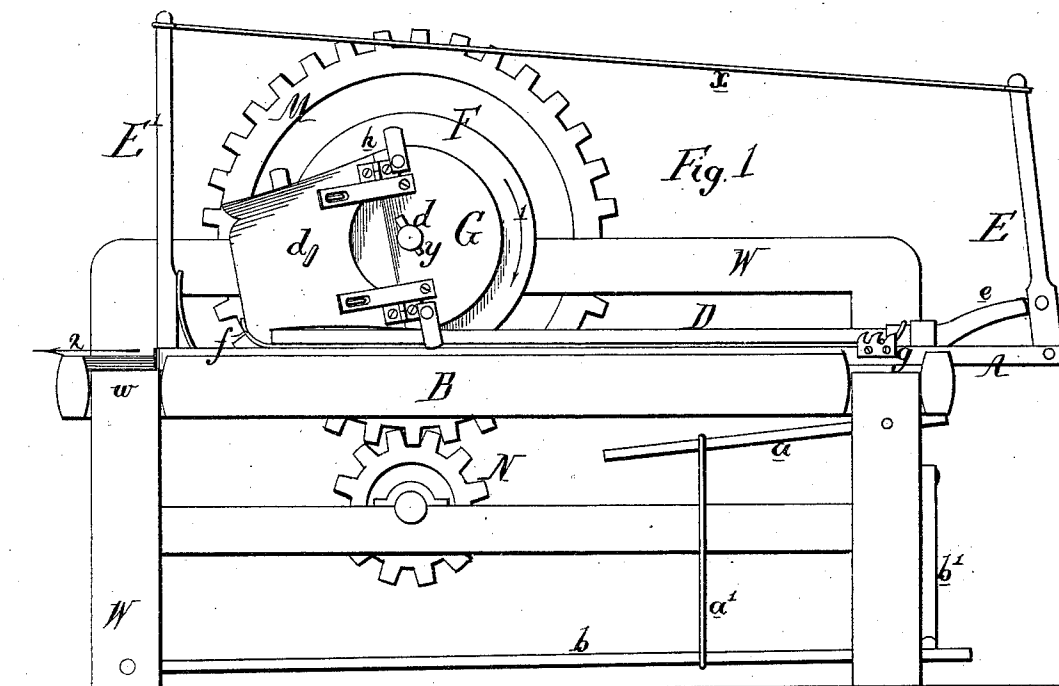


Fig. 2.

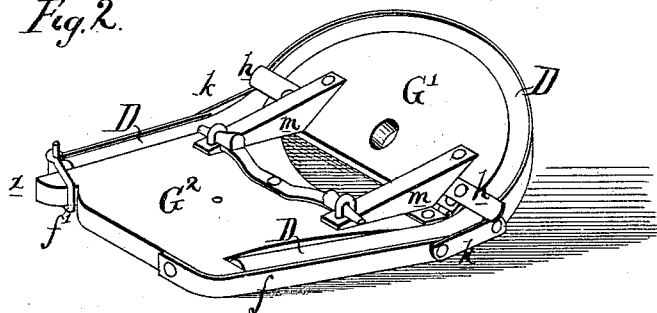
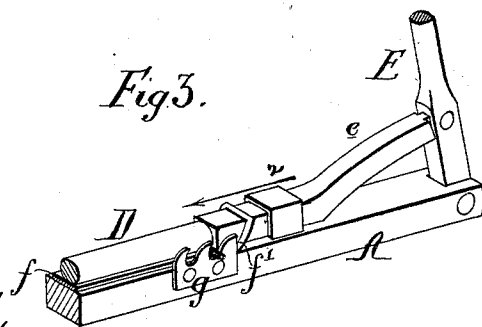


Fig. 3.



Witnesses,
Harry Smith
Albert Howson

Edward Q. Smith
by his Attorneys,
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UNITED STATES PATENT OFFICE

EDWARD Q. SMITH, OF EVANSVILLE, INDIANA.

IMPROVEMENT IN MACHINES FOR BENDING WOOD.

Specification forming part of Letters Patent No. **170,910**, dated December 7, 1875; application filed May 5, 1875.

To all whom it may concern:

Be it known that I, EDWARD Q. SMITH, of Evansville, Vanderburgh county, Indiana, have invented certain Improvements in Machines for Bending Wood, of which the following is a specification:

The object of my invention is to so construct a wood-bending machine, more especially adapted to the bending of chair-backs, as to provide a steady end pressure on the strip of wood during the operation of bending it on the former, which may be of any shape desired, a further object being to so construct the former as to be able to bend the wood in more than one direction.

These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a front view of the machine; Fig. 2, a perspective view of the former; and Fig. 3 a perspective view of part of the machine.

On one end, *w*, of the frame *W* of the machine bears the bar *B*, on which the traveling bed *A* is arranged to slide. This bar *B* is under the control of the lever *a*, which is operated by the treadle *b* through the medium of the spring-bar *a'*; and the said bar may also be under the influence of a spring at the end *w* of the frame. The traveling bed *A* is so arranged, in respect to the face-plate *F* that, when the former *G* has been placed on the said face-plate, its edge will be directly above the said bed. The said face-plate *F* is secured to a spindle adapted to suitable bearings in the frame; and this spindle may be driven by any appropriate system of gearing, in connection with which, however, there should be stopping and starting appliances. To one end of the bed is pivoted the lever *E*, which is connected to the spring-bar *E'* by the cord *x*, and to this lever is pivoted the shoe *e*, for the purpose described hereafter. The former *G*, of the desired shape, is made in two parts, *G*¹ and *G*², hinged together, as shown, so that they may be arranged in the same plane, or at an angle to each other, as seen in Fig. 2.

When the former *G* has been fitted to the central pin *y* of the face-plate *F*, and attached to the latter by the pins *d* and *d'*, and is in the position shown in Fig. 1, the flexible metal band *f*, which is attached at one end to the former, is looped at the opposite end onto the catch *g* on the traveling bed. A strip, *D*, of steamed wood, is then laid on the band *f*, and is maintained in position at one end by a shoulder on the former *G*, and at the other by the shoe *e* above referred to, and, this shoe, being acted on by the spring-arm *E*, imparts a steady pressure to the end of the said strip. (See Fig. 3.) The treadle *b* being now lowered, and retained in position by the stop *b'*, will elevate the bar *B* through the medium of the spring-bar *a*, and will maintain the strip *D* in contact with the former *G* with a pressure which will yield only to the shape of the former, which may be semicircular, or of any irregular shape desired.

Rotary motion is now imparted to the face-plate *F*, and to the former, in the direction of the arrow 1, Fig. 1, when, through the medium of the band *f*, the traveling bed *A* will move in the direction of the arrow 2 until the opposite end of the strip *D* is reached, when the machine is stopped, and the loop *f'* of the flexible band is applied to the projection *z* of the former, which, with its bent strip *D*, is removed from the face-plate to be stored away until the strip is cold, when it will retain the form to which it has been bent.

When it is desired to impart to the strip of wood an additional bend in the direction shown in Fig. 2, the two parts *G*¹ *G*² of the former *G* are adjusted at the angle necessary to bend the strip, and are retained in position by fastening down the braces *m*. The strip of wood is prevented from slipping off the former by projections *h* on the same, and the flexible band *f* is hinged at the points *k*, so as to accommodate itself to the adjustment of the two parts of the former.

I claim as my invention—

1. The combination, in a wood-bending machine, of a rotating former with a traveling bed, *A*, which has at one end a pivoted lever, *E*, connected, by means of a cord or wire, *x*,

to a spring-arm, E', at the opposite end of the bed A, and provided with a shoe, e, as and for the purpose described.

2. The combination, with the sections of a divided former for wood-bending machines, of braces *m*, attached to one section, and staples adapted to said braces on another section, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD Q. SMITH.

Witnesses:

LEWIS J. KRAMER,

WALTER C. KNOBLAUGH.