(No Model.) 3 Sheets—Sheet 1.

H. H. BURGETT & L. W. BROWN.

WOOD BENDING MACHINE.

No. 588,743. Patented Aug. 24, 1897.

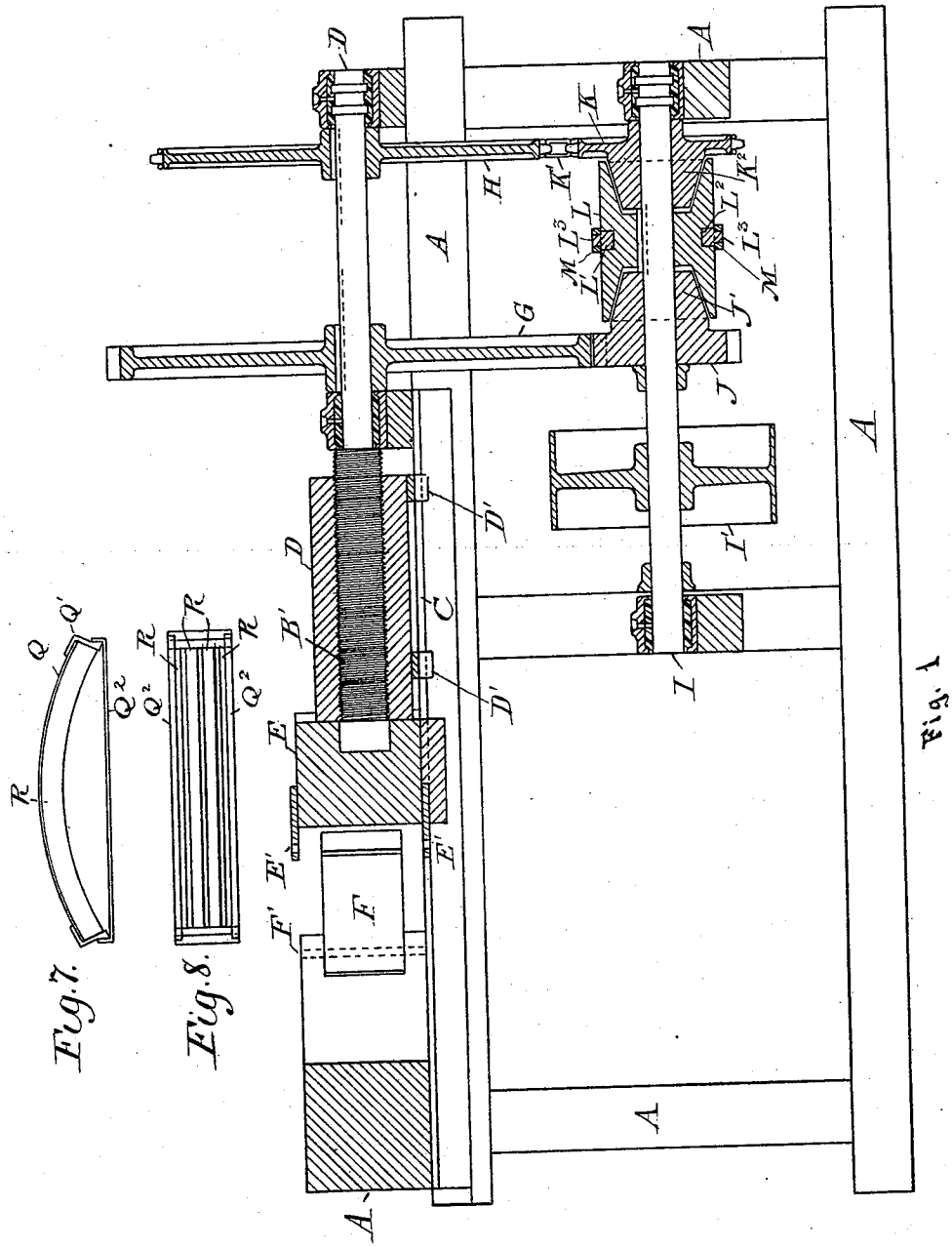


Fig. 1.

Fig. 7.

Fig. 8.

Witnesses,
G. W. Sweeny
L. Vestal.

Inventors,
H. H. Burgett
L. W. Brown

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

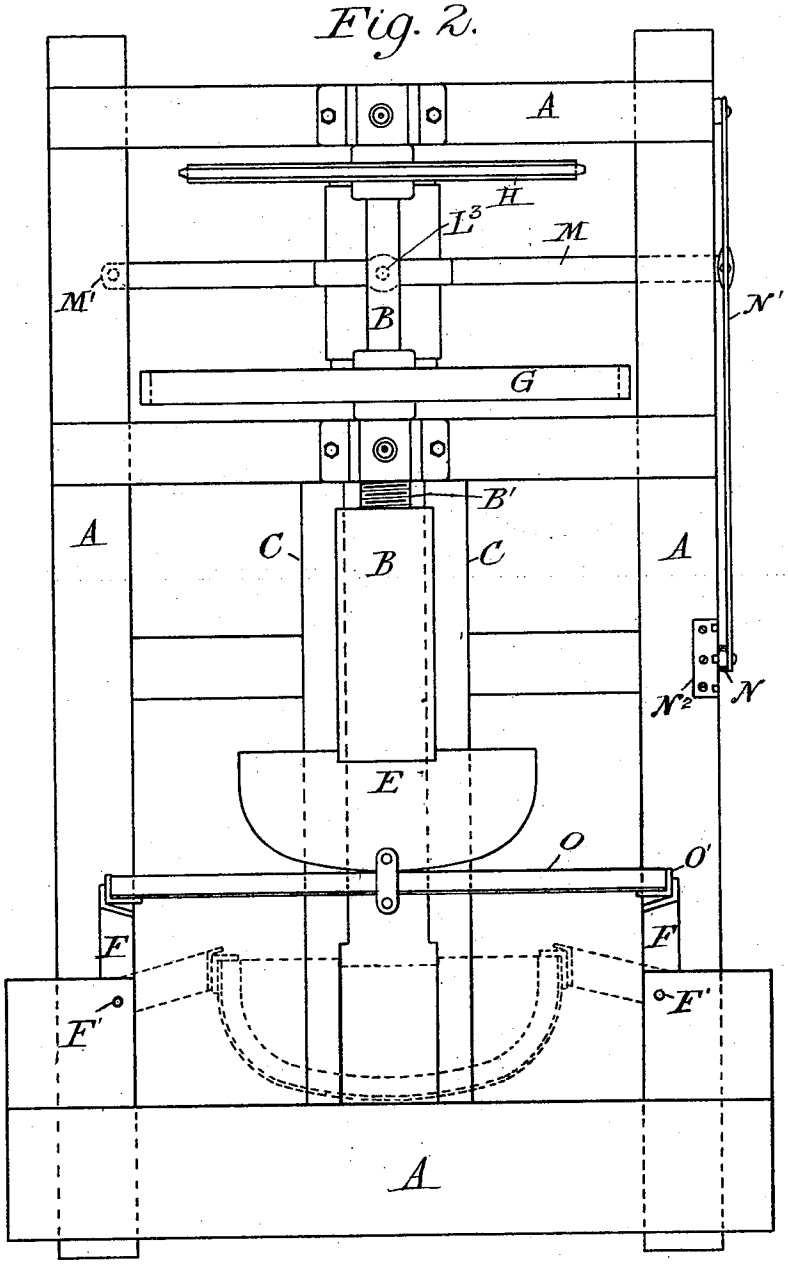
(No Model.) 3 Sheets—Sheet 2.

H. H. BURGETT & L. W. BROWN.

WOOD BENDING MACHINE.

No. 588,743. Patented Aug. 24, 1897.

Fig. 2.



Witnesses,
E. W. Sweeny
F. Vestal.

Inventors,
H. H. Burgett
L. W. Brown

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 3.

H. H. BURGETT & L. W. BROWN.

WOOD BENDING MACHINE.

No. 588,743. Patented Aug. 24, 1897.

Fig. 6.

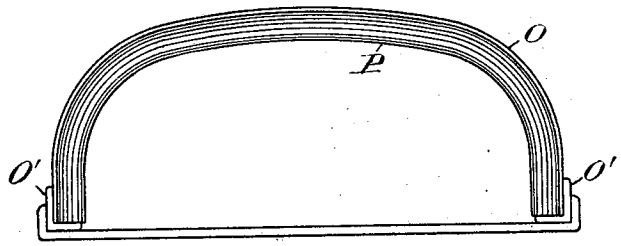


Fig. 5.

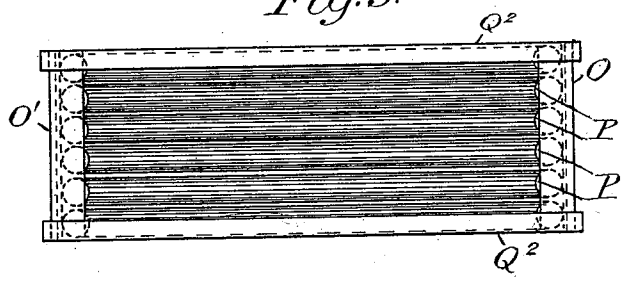


Fig. 4.

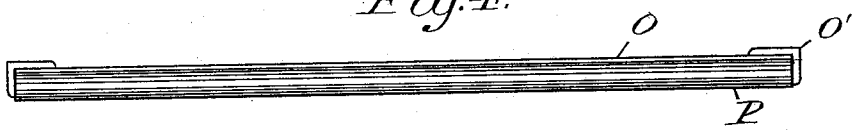
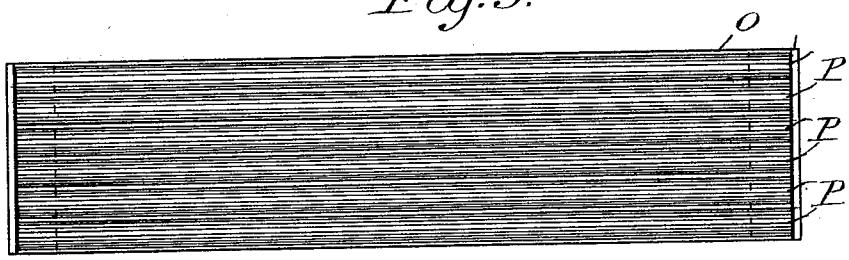


Fig. 3.



Witnesses,
G. W. Sweeny
F. Vestal.

Inventors,
H. H. Burgett
L. W. Brown.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARVEY H. BURGETT AND LORENZO W. BROWN, OF ROCKFORD, ILLINOIS.

WOOD-BENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 588,743, dated August 24, 1897.

Application filed October 23, 1896. Serial No. 609,861. (No model.)

To all whom it may concern:

Be it known that we, HARVEY H. BURGETT and LORENZO W. BROWN, citizens of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Wood-Bending Machines, of which the following is a specification.

The object of this invention is to produce a machine for any kind of wood-bending, but particularly for forming the rockers and brace-arms for chairs.

In the accompanying drawings, Figure 1 is a longitudinal vertical central section through this machine. Fig. 2 is a plan view of the same. Fig. 3 is a face view of a number of chair brace-pieces in their bending-frame. Fig. 4 is an edge view of the same. Fig. 5 is a face view of the chair brace-pieces after passing through the bending operation, showing the clamps for holding the bending-frame in position. Fig. 6 is an edge view of the same. Fig. 7 is an edge view of chair-rockers in their bending-frame after the bending operation, and Fig. 8 is a face view of the same.

Like letters of reference indicate corresponding parts throughout the several views.

A is the supporting-framework for this bending-machine.

B is a shaft having the screw-threaded portion B′ at its forward end journaled in boxes on the supporting-frame.

C are ways extending lengthwise of the supporting-frame A, located beneath the screw-threaded portion B′ of the shaft B.

D is a sleeve screw-threaded to correspond with the shaft B′, supported upon the ways C by the feet D′.

E is a forming-head also resting upon the ways C and having contact with the sleeve D.

E′ are forwardly-projecting ears at the top and bottom of the forming-head E and have coinciding openings E^2.

F are swinging ears pivotally connected with the supporting-frame by pins F′.

G is a gear-wheel, and H a sprocket-wheel, fixed on the shaft B.

I is a driving-shaft having the driving-pulley I′ fixed thereon.

J, K, and L are three members of a clutch communicating motion to the shaft B, causing the latter to rotate in either direction, as desired by the operator. The member J is in the form of a gear-wheel loosely mounted upon the shaft I and has the integral projecting cone portion J′. The member K is in the form of a sprocket-wheel also loosely mounted on the shaft I, being connected with the sprocket-wheel H by the chain belt K′, and has the integral cone portion K^2, projecting inwardly from the sprocket-wheel portion. The member L is a spool mounted upon and having a feather connection with the shaft I, between the cones J′ and K^2. The member L is continuously rotated by the shaft I, but is free to be thrown into frictional engagement with either of the adjacent cones. When engaging the cone J′, it rotates the shaft B in such a direction that the forming-head E is moved forward upon the ways C, and when thrown into contact with the cone K^2 it causes the shaft B to rotate in a contrary direction by means of the chain belt K′.

L′ is a ring seated in a grove L^2, formed in the clutch member L, and has the oppositely-projecting pins L^3.

M is a lever pivoted to the main frame at M′, surrounding the sliding clutch member L and engaging the two pins L^3 of the ring L′.

N is an upright hand-lever pivoted to the main frame near the bottom thereof and has a link connection with the free end of the lever M by means of the rod N′.

N^2 is a plate fixed on the supporting-frame, provided with notches for holding the lever N in any one of its several positions.

O is a bending-strap of the bending-frame and is to prevent the wood from splintering while being bent.

O′ are angle-irons secured to the ends of the bending-strap, and, together with that strap, constitute the bending-frame for brace-arms.

P are brace-arms for chairs, being cut in lengths sufficient for two arms, and after being formed are cut in two and finished.

Q is the bending-strap, and Q′ are the angle-irons for bending chair-rockers, and together constitute the bending-frame for forming chair-rockers.

Q^2 are the clamps for holding the bending-

frame in position after passing through the bending operation.

R are pieces bent for rockers.

In operation rotary motion is imparted to shaft I through the driving-pulley I'. The wood to be bent, cut to a proper size, steamed or boiled until pliable, is placed in position in a suitable bending-frame and this frame set between the swinging ears F. In bending brace-arms it is necessary to place a pin through the openings E^2 in the ears E' to hold the middle portion of the bending-strap in position relative to the forming-head E. The lever N is drawn to its forward position, throwing the spool member L of the friction-clutch into contact with the cone J', causing the shaft B to be rotated and the forming-head E to be fed forward upon its supporting-ways C. As the forming-head travels forward, bending the pliable wood before it, the swinging ears bring the ends of the bending-frame in contact with the sides of the forming-head until the wood conforms to the head, when the forward motion of the forming-head E is stopped by throwing the lever N to the middle notch in the plate N^2, the clamp-irons Q^2 placed in position across the upper and lower edges of the bending-frame, the pin withdrawn from the openings E^2 in the ways E', and the forming-head caused to recede upon its supporting-ways by throwing the lever N into the rear notch of the plate N^2. This latter movement of the lever N causes the spool member L of the friction-clutch to engage the cone portion K^2 of the sprocket-wheel member of that clutch and rotates the shaft B in the contrary direction.

In bending rockers a forming-head corresponding to the desired conformation is employed, and the swinging ears F are replaced by swinging ears sufficiently shorter to accommodate the length of the rocker. Otherwise the bending operation is the same as just described for bending brace arms for chairs.

We claim—

1. In a wood-bending machine, in combination, a supporting-frame, ways thereon, a forming-head on said ways, a screw-threaded shaft, a screw-threaded sleeve for said shaft mounted on the ways, a gear-wheel and a chain-wheel fixed on the shaft and means for driving the shaft through either the gear-wheel or the chain-wheel substantially as and for the purpose specified.

2. In a wood-bending machine, in combination, a supporting-frame, ways thereon, a forming-head on said ways, a gear-wheel and a chain-wheel for moving the forming-head upon the ways, a bending-frame and swinging ears pivoted to the frame for engaging the bending-frame substantially as and for the purpose specified.

3. In a wood-bending machine, in combination, a supporting-frame, ways thereon, a forming-head on said ways, a screw-threaded shaft, a screw-threaded sleeve for said shaft mounted on the ways, a gear-wheel and a chain-wheel on said shaft, a drive-shaft, a gear-wheel and a chain-wheel loosely mounted on the drive-shaft, a chain belt for the chain-wheels and means for engaging either the gear-wheel or the chain-wheel mounted on the drive-shaft with said shaft substantially as and for the purpose specified.

4. In a wood-bending machine, in combination, a supporting-frame, ways thereon, a forming-head on said ways, a screw-threaded shaft, a screw-threaded sleeve for said shaft mounted on the ways, a gear-wheel and a chain-wheel fixed on the shaft, a drive-shaft, a gear-wheel and a chain-wheel loosely mounted on the drive-shaft, and each having a projecting integral cone-shape hub, a spool coinciding with the said cones, which spool is splined on the driving-shaft and is free to be thrown into engagement with either cone substantially as and for the purpose specified.

5. In a wood-bending machine, in combination, a supporting-frame, ways thereon, a forming-head on said ways, a screw-threaded shaft for moving the forming-head, a gear-wheel and a chain-wheel on the screw-threaded shaft, a driving-shaft, a gear-wheel on the driving-shaft meshing with the gear-wheel on the screw-threaded shaft, a chain-wheel on the driving-shaft having connection with the chain-wheel on the screw-threaded shaft, and means for imparting motion from the driving-shaft to the screw-threaded shaft through either the chain connection or the gear connection with the driving-shaft substantially as and for the purpose specified.

HARVEY H. BURGETT.
LORENZO W. BROWN.

Witnesses:
FREEMAN VESTAL,
GEORGE W. SWEENY.