

No. 667,284.

Patented Feb. 5, 1901.

F. H. BANCROFT.
MACHINE FOR BENDING WOOD.

(Application filed Sept. 16, 1899.)

(No Model.)

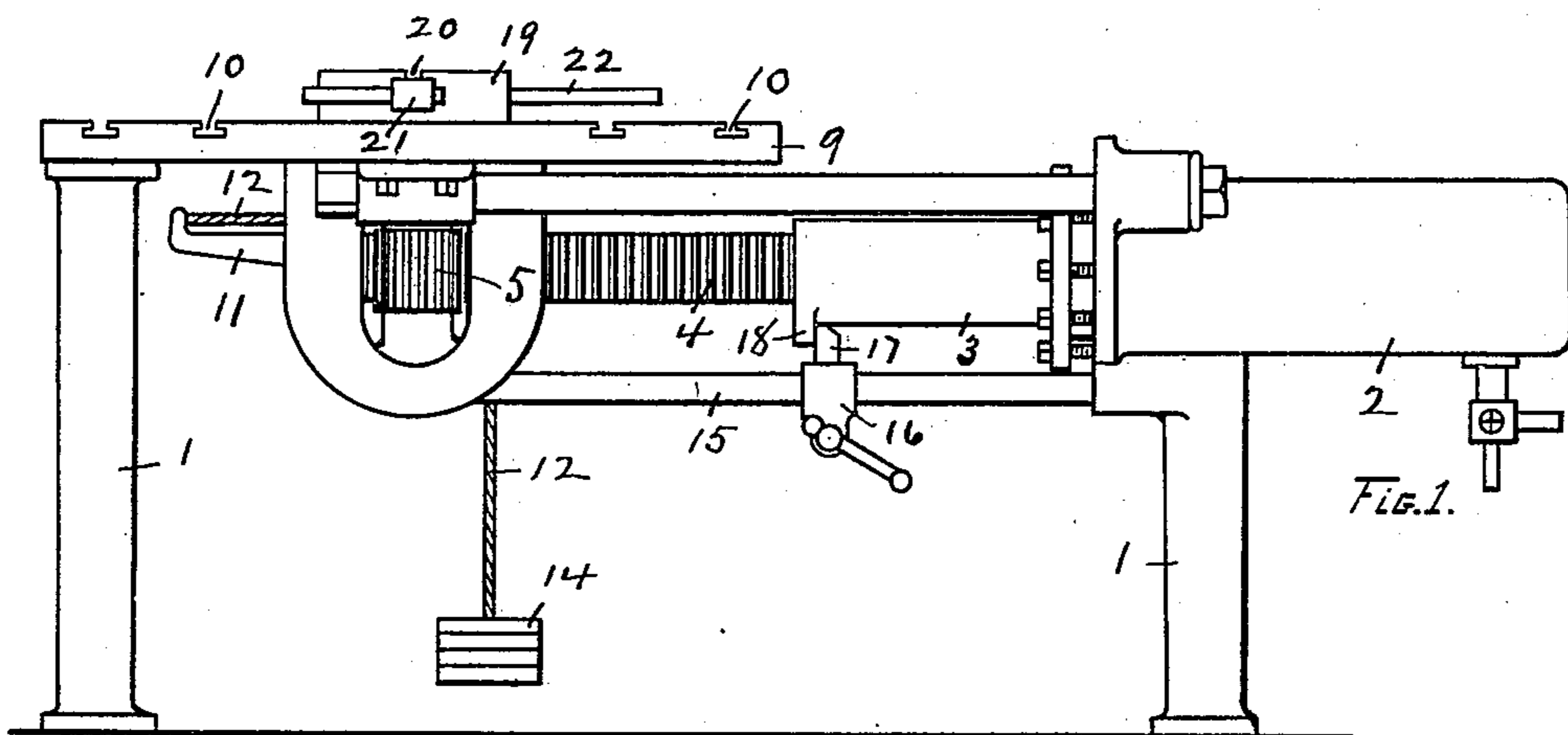


FIG. 1.

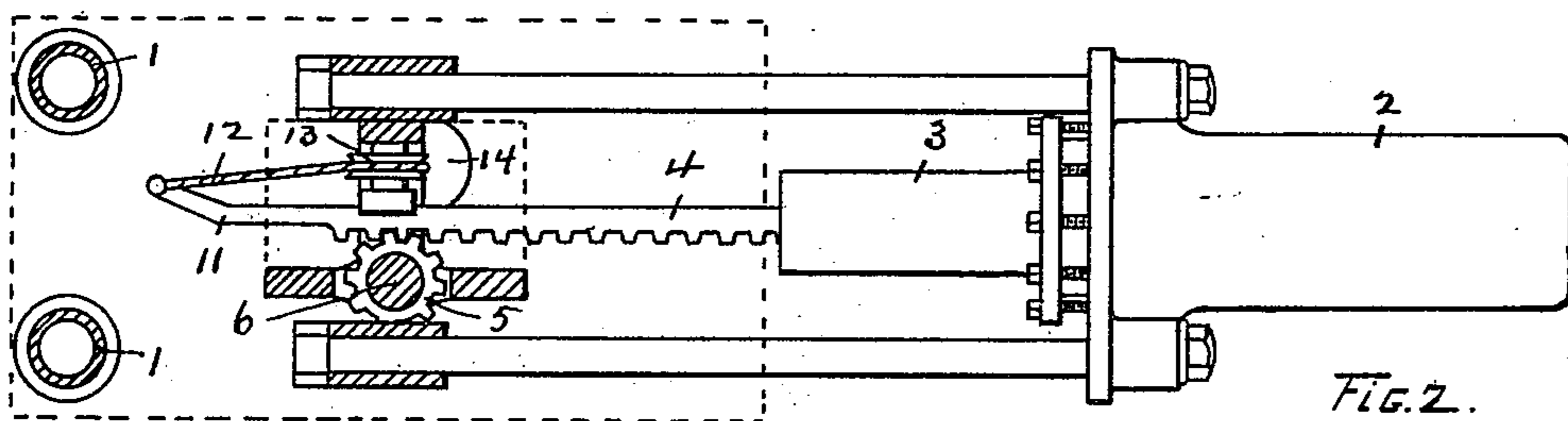


FIG. 2.

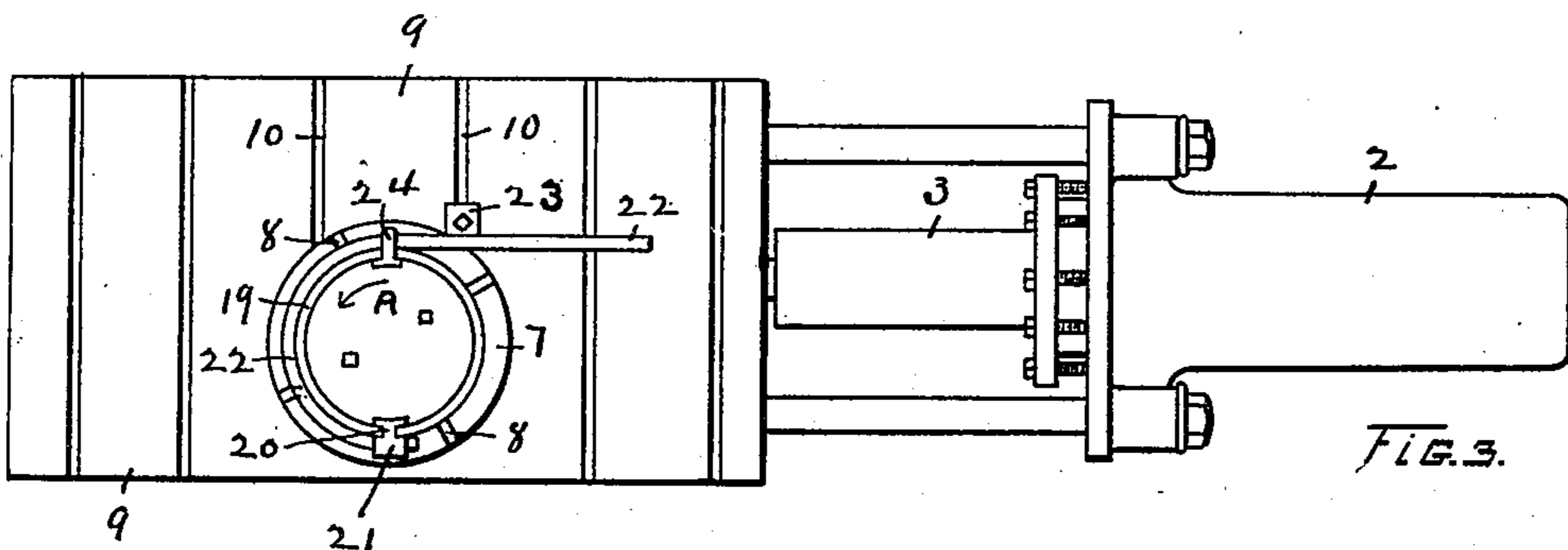


FIG. 3.

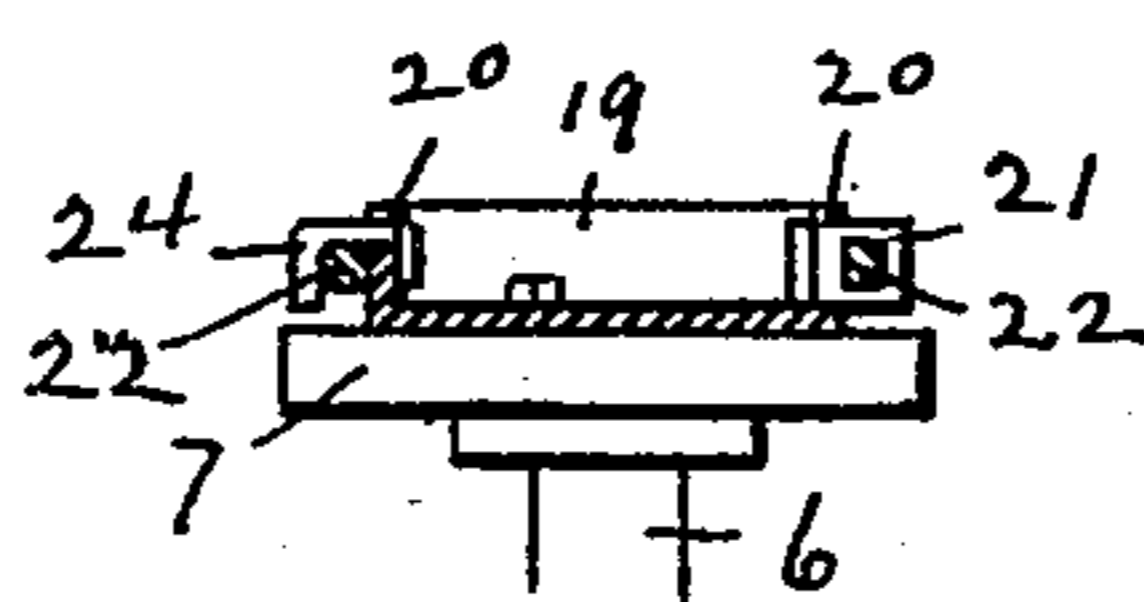


FIG. 4. Inventors:
FRANK H. BANCROFT.

Witnesses:
Samuel A. Hobbs.
McPrice

By Rufus B. Fowler
Attorney.

UNITED STATES PATENT OFFICE.

FRANK H. BANCROFT, OF GARDNER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HENRY M. RICH, OF SAME PLACE.

MACHINE FOR BENDING WOOD.

SPECIFICATION forming part of Letters Patent No. 667,284, dated February 5, 1901.

Application filed September 16, 1899. Serial No. 730,722. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. BANCROFT, a citizen of the United States, residing at Gardner, in the county of Worcester and Commonwealth of Massachusetts, have invented new and useful Improvements in a Machine for Bending Wood, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

10 Figure 1 represents a side elevation of a wood-bending machine embodying my invention. Fig. 2 is a top view with the table removed. Fig. 3 is a top view of the machine, and Fig. 4 is a side view of the rotating disk
15 with a form attached thereto and shown in sectional view.

Similar characters refer to similar parts in the different figures.

The object of my invention is to provide a
20 machine for bending wood comprising a rotating form upon which the piece of wood to be bent is wound; and it consists in the construction and arrangement of parts, as hereinafter described.

25 Referring to the drawings, 1 1 denote the legs upon which the machine is supported.

2 is a hydraulic cylinder having a connection with a source of water under pressure controlled by suitable actuating-valves, (not
30 shown,) as is common in machines actuated by hydraulic pressure.

3 is a plunger contained within the cylinder 2 and having attached thereto a rack 4, which engages a pinion 5, attached to a short
35 vertical spindle 6, journaled in suitable bearings in the machine and carrying on its upper end a rotating disk 7, provided with T-shaped grooves 8. Supported on the framework is a table 9, provided with T-shaped
40 grooves 10 and having its upper surface flush with the upper surface of the rotating disk 7. The rack 4 has an extension 11, to which a cable 12 is attached, which passes over a pulley 13 in order to change its direction, and to the
45 opposite end of the cable is suspended a weight 14, by which the motion of the rack 4 is reversed after the plunger 3 has been forced out by the pressure of the water in the cylinder 2.

50 The framework of the machine comprises

a rod 15 parallel with the rack 4, upon which is adjustably clamped a sleeve 16, having a projecting arm 17 held in the path of a lug 18, projecting from the plunger 3 and serving as a stop to limit the reverse motion of the
55 rack 4 and disk 7.

Upon the rotating disk 7 is attached a cylindrical bending-form 19, whose periphery corresponds to the desired curvature of the wood to be bent. The form 19 is preferably provided with slots 20 20, in one of which a block 21 is inserted, having a hole in which is inserted the end of the piece of wood 22 to be bent. Water is then admitted to the cylinder 2, forcing out the plunger 3 and rotating
60 the disk 7 and form 19 in the direction of the arrow A, Fig. 3, causing the piece of wood 22 to be wound upon the form 19 by means of a stop 23, attached to the surface of the table in proper position to bear against the
65 side of the strip 22 and cause it to be wound upon the form 19. When the form 19 has been rotated sufficiently to give the desired curvature to the strip 22, a clip 24 is inserted over the edge of the form 19 and the strip 22
70 to hold it in contact with the form, and the form and bent strip are then removed from the rotating disk 7 and the strip 22 held in its bent position on the form by the block 21 and clip 24 until the curvature of the wood
75 becomes permanent. A new form is then applied to the rotating disk and water allowed to escape from the cylinder 2, when the rack and disk are reversed by the counterweight 14 until the lug 18 is brought into contact
80 with the arm 17, when the parts are again in position to bend the succeeding piece.

As the amount of rotation of the disk 7 varies in different cases, the sleeve 16 is adjustably attached to the rod 15 to stop the reverse
85 motion of the rack at different points in its reverse motion.

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

1. In a machine for bending wood, the combination of a rotating spindle, a disk carried by said spindle, means for attaching interchangeable bending-forms of different sizes to said disk, means for rotating said spindle in one
90 direction with a range of motion correspond- 100

ing to the largest bending-form, means for reversing the motion of said spindle and an adjustable stop for varying the reverse motion of said spindle as determined by the size
5 of the bending-forms, substantially as described.

2. The combination of a table, a rotating spindle, a disk carried by said spindle adapted to carry interchangeable bending-forms of different sizes, a pinion on said spindle, a rack
10 engaging said pinion, means for moving said rack in one direction with a range of motion corresponding to the largest bending-form, means for reversing the motion of said rack,
15 a rod held by the framework and parallel with the line of motion of said rack and an adjustable stop on said rod by which the reverse mo-

tion of said rack is limited, substantially as described.

3. The combination of the table 9, disk 7, 20 an interchangeable bending-form 19 carried on said disk, spindle 6, pinion 5, rack 4, plunger 3, cylinder 2, counterweight 14, and adjustable stop by which the movement of the rack by said counterweight is limited, sub- 25 stantially as described.

In testimony whereof I have signed my name to this specification, in presence of two subscribing witnesses, this 23d day of August, 1899.

FRANK H. BANCROFT.

Witnesses:

BERTHA M. ATKINS,
ALBERT A. UPTON.