

(No Model.)

W. S. MOORE.  
BOX MAKING MACHINE.

No. 584,825.

Patented June 22, 1897.

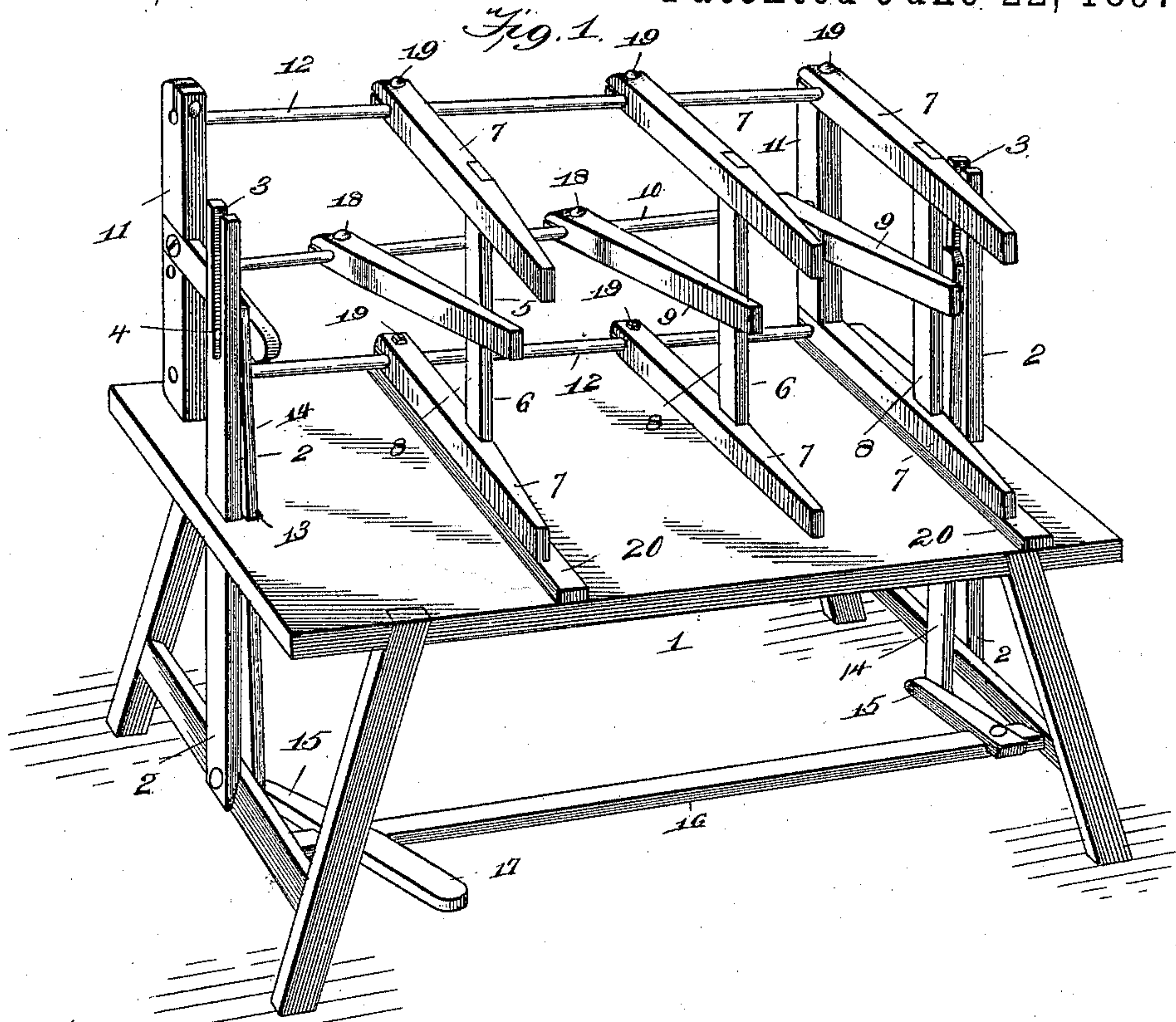
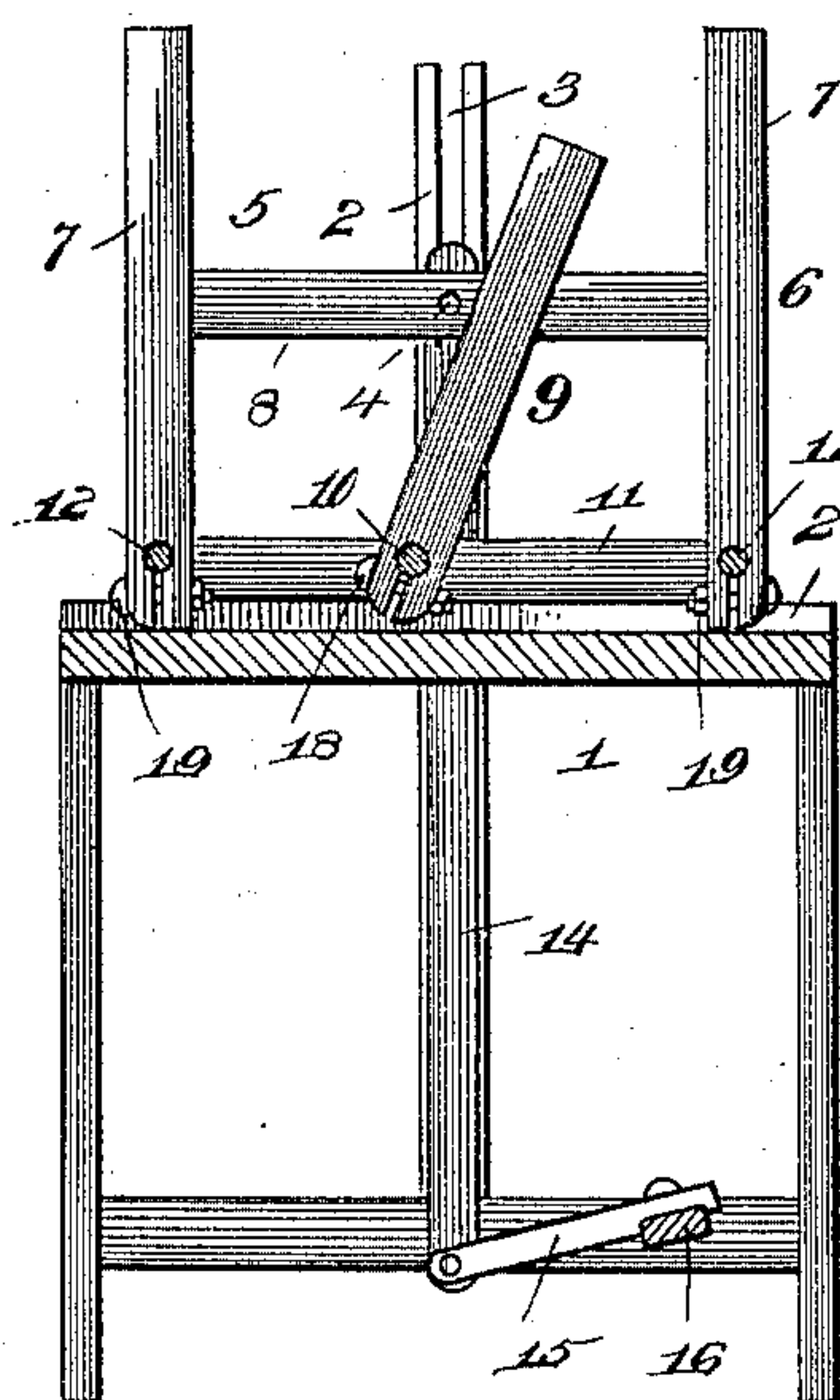


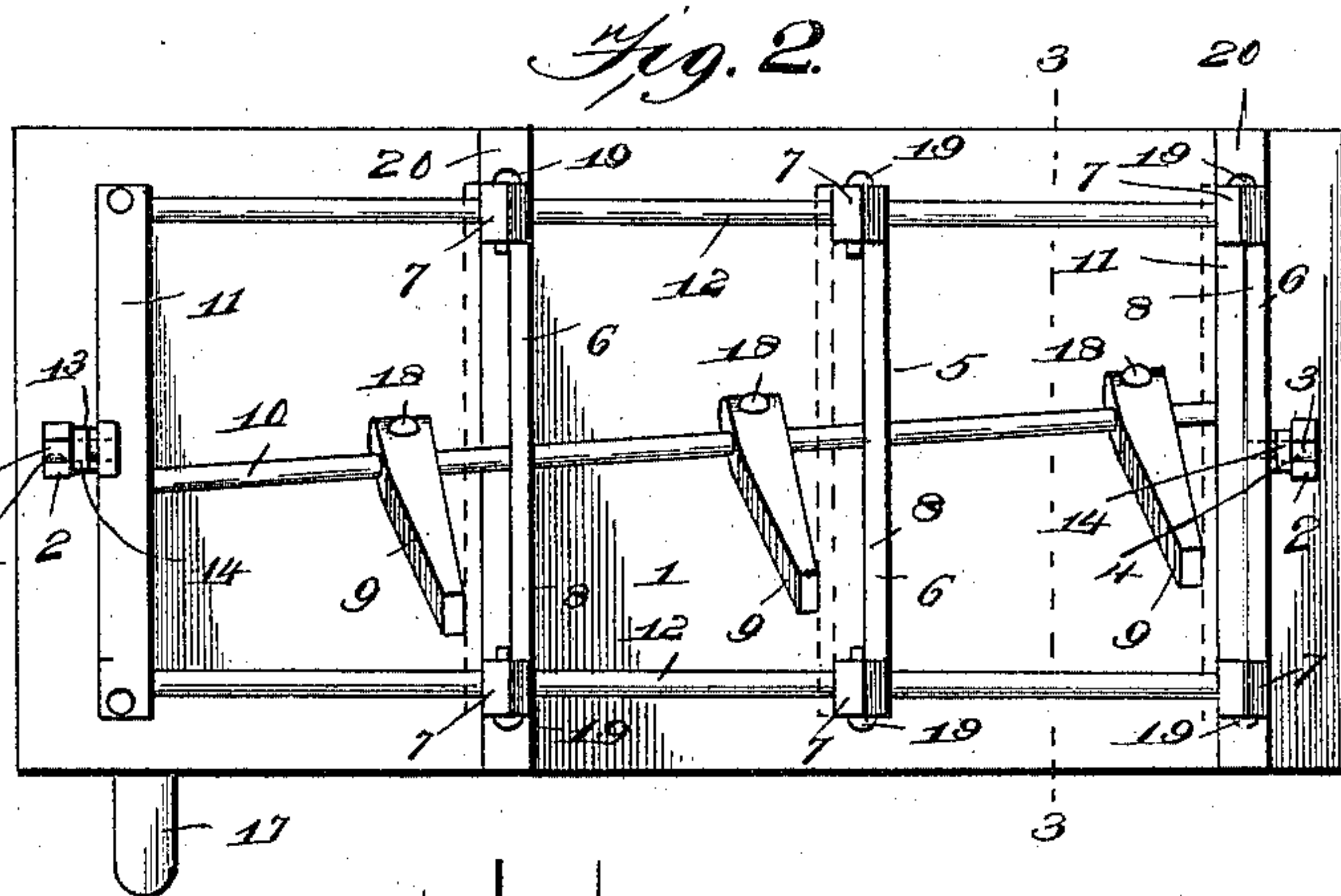
Fig. 3.



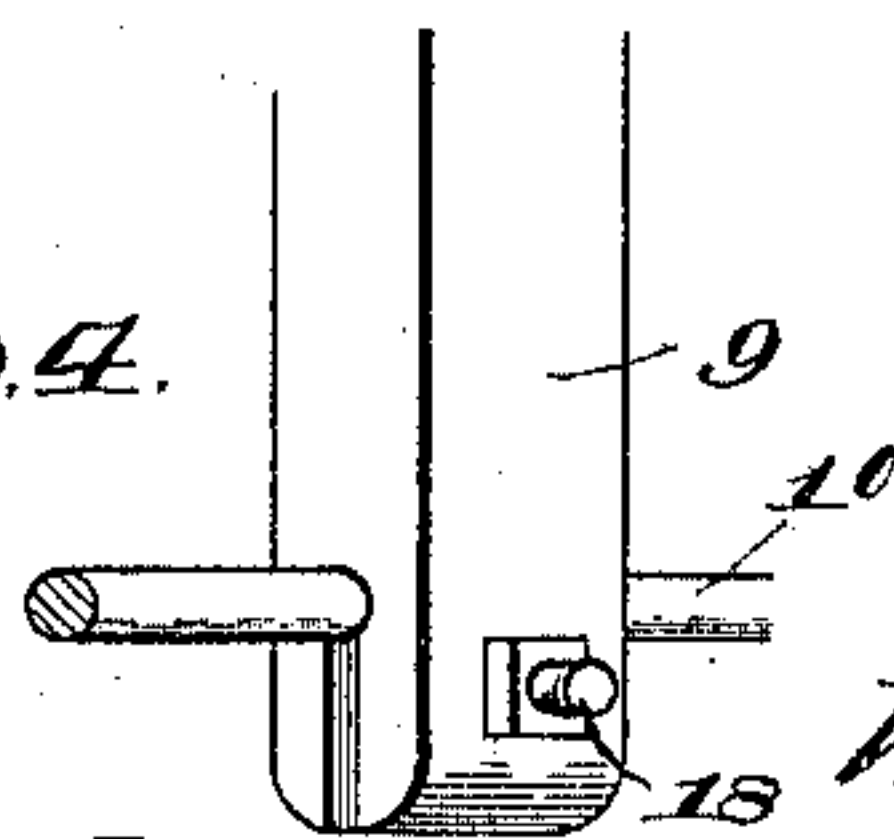
Witnesses

John C. Shaw

*John C. Kraft*



*Fig. 2.*



Ingvengför

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# UNITED STATES PATENT OFFICE.

WILLIAM S. MOORE, OF HAWTHORN, FLORIDA.

## BOX-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 584,825, dated June 22, 1897.

Application filed July 30, 1894. Renewed February 17, 1897. Serial No. 623,898. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. MOORE, a citizen of the United States, residing at Hawthorn, in the county of Alachua and State of Florida, have invented a new and useful Box-Making Machine, of which the following is a specification.

My invention relates to box-making machines, and has for its object to provide simple and efficient means for clamping the heads of a box in place while the sides are being nailed or otherwise secured thereto, and to provide means for adjusting the relative positions of the parts of the apparatus, whereby boxes of different sizes may be constructed in the same machine.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a machine embodying my invention with the clamping-bars or arms swung up, as seen when the heads of a box are being arranged in the machine. Fig. 2 is a plan view showing the bars or arms in operative positions, as seen when clamping the heads of a box. Fig. 3 is a transverse section on line 3 3 of Fig. 2, showing the bars or arms in operative position. Fig. 4 is a detail view showing the means of attachment of the clamping-bars to the spindle.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a bench or table, at the opposite ends of which are erected the uprights 2, having vertical slots 3 for the reception of the terminal trunnions 4 of the clamping-frame 5. The clamping-frame may be constructed and proportioned to contain any desired number of clamps, the distance between the same being governed by the desired lengths of the compartments in the box. Each clamp comprises a backing 6, formed by the parallel side arms 7 and a connecting-brace 8, and a clamping bar or arm 9, carried by a fulcrum-bar or spindle 10. The clamps, as above described, are carried by a frame comprising the end bars 11 and parallel side bars

12, the end bar at one end of the apparatus being arranged between and mortised into the side arms 7 of the terminal clamp. The frame is provided at its extremities with trunnions 4, as above stated, which fit in the slots in the upper ends of the uprights 2, and fitted in slots 13 near the uprights are the supports 14, provided at their upper ends with bearings for the trunnions. These supports are pivotally connected at their lower ends to arms 15 on a rock-shaft 16, one of said arms being extended forward to form a treadle 17 to enable the operator to raise and lower the clamping-frame by foot-pressure.

The fulcrum-bar 10 is mounted at its ends in bearings in the end bars of the frame, and the said bar is arranged in a plane parallel with one side of the frame and at an inclination to the axis of the frame, whereby the clamping-arms swing in planes at an inclination to the planes of the backing-frames. Thus the free ends of the clamping-arms may be swung toward the backing-frames to clamp box-heads arranged in contact therewith or from said backing-frames to release the box-heads. The clamping-arms are arranged upon the corresponding side of all of the backing-frames, whereby when the box is released by swinging the clamping-arms out of contact with the heads it may be removed freely from the frame. In other words, in the improved construction the parts are so arranged as not to necessitate the placing of two heads of the box in contact with the facing or adjacent sides of two backing-frames, avoiding the jamming of the box by the frictional contact of its heads with the said backing-frames and the consequent delay in the removal of the box from the apparatus.

The fulcrumed ends of the clamping-arms are preferably split or bifurcated and secured upon the fulcrum-bar by means of bolts 18, which thus hold the said parts in place when the bolts are tightened, but facilitate the adjustment thereof to take up lost motion due to wear, &c. The connection of the ends of the side arms of the backing-frames to the side bars of the clamping-frame is accomplished in a similar manner—namely, by splitting said ends and engaging the same by bolts 19, which when tightened hold the parts firmly



in place and which when loosened allow the free adjustment thereof to provide for the desired size of box and the preferred sizes of compartments.

5 Thus one apparatus such as described may be used for constructing boxes of various sizes, and the adjustment necessary to produce the desired size of box may be accomplished with facility and rapidity.

10 It will be seen, furthermore, that the parts of the frame, as shown in the drawings, may be connected by splitting and bolting one of the members and engaging the adjoining member, as above described, in connection  
15 with the parts of the clamps.

Attached transversely to the upper surface of the bench or table are the rests 20, consisting of strips adapted to support the clamping-frame slightly above the surface of the bench  
20 to facilitate the operation of applying nails or other fastening devices.

The manner of using the improved device will be understood from the foregoing, and it will be obvious that various changes in the  
25 form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, I  
30 claim—

1. In a box-making machine, a clamp having a fixed backing-frame, and a clamping-arm arranged to swing in a plane at an inclination to that of the backing-frame, whereby the free  
35 end thereof is adapted to move toward or from

a head arranged in contact with the backing-frame, substantially as specified.

2. In a box-making machine, a clamping-frame having a series of clamps consisting of fixed backing-frames and clamping-arms carried by an inclined fulcrum-bar, whereby the  
40 free ends of said arms are adapted to swing toward and from the planes of the backing-frames, substantially as specified.

3. In a box-making machine, the combination with a swinging frame, of a series of spaced backing-frames carried thereby, a fulcrum-bar arranged at an inclination to the planes of the backing-frames, clamping-arms  
45 attached to said fulcrum-bar, and means for adjusting the clamping-arms on said bar, and locking the same at any desired distance from the planes of the backing-frames, substantially as specified.  
50

4. In a box-making machine, the combination with a swinging frame, of a series of spaced backing-frames carried thereby, means  
55 for adjusting the backing-frames to vary the intervals therebetween, fulcrumed clamping-arms arranged to cooperate with the backing-frames, and means for adjusting the clamping-arms toward and from the planes of the  
60 backing-frames, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in  
65 the presence of two witnesses.

WILLIAM S. MOORE.

Witnesses:

K. F. SHEFFIELD,

T. J. McRAE.