

(No Model.)

F. E. FARWELL.
CIRCULAR SAWING MACHINE.

No. 403,880.

Patented May 21 1889.

Fig. 1.

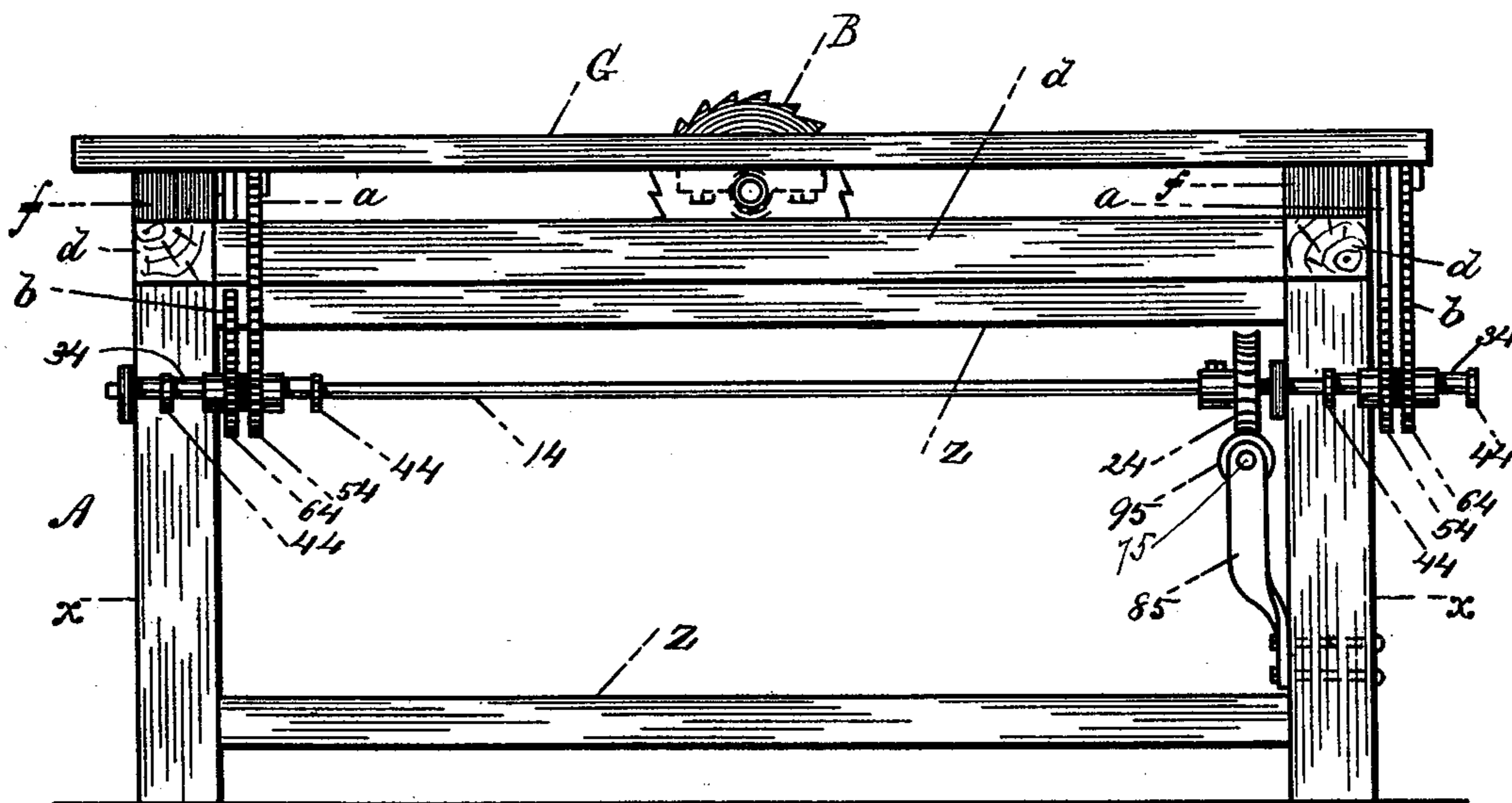
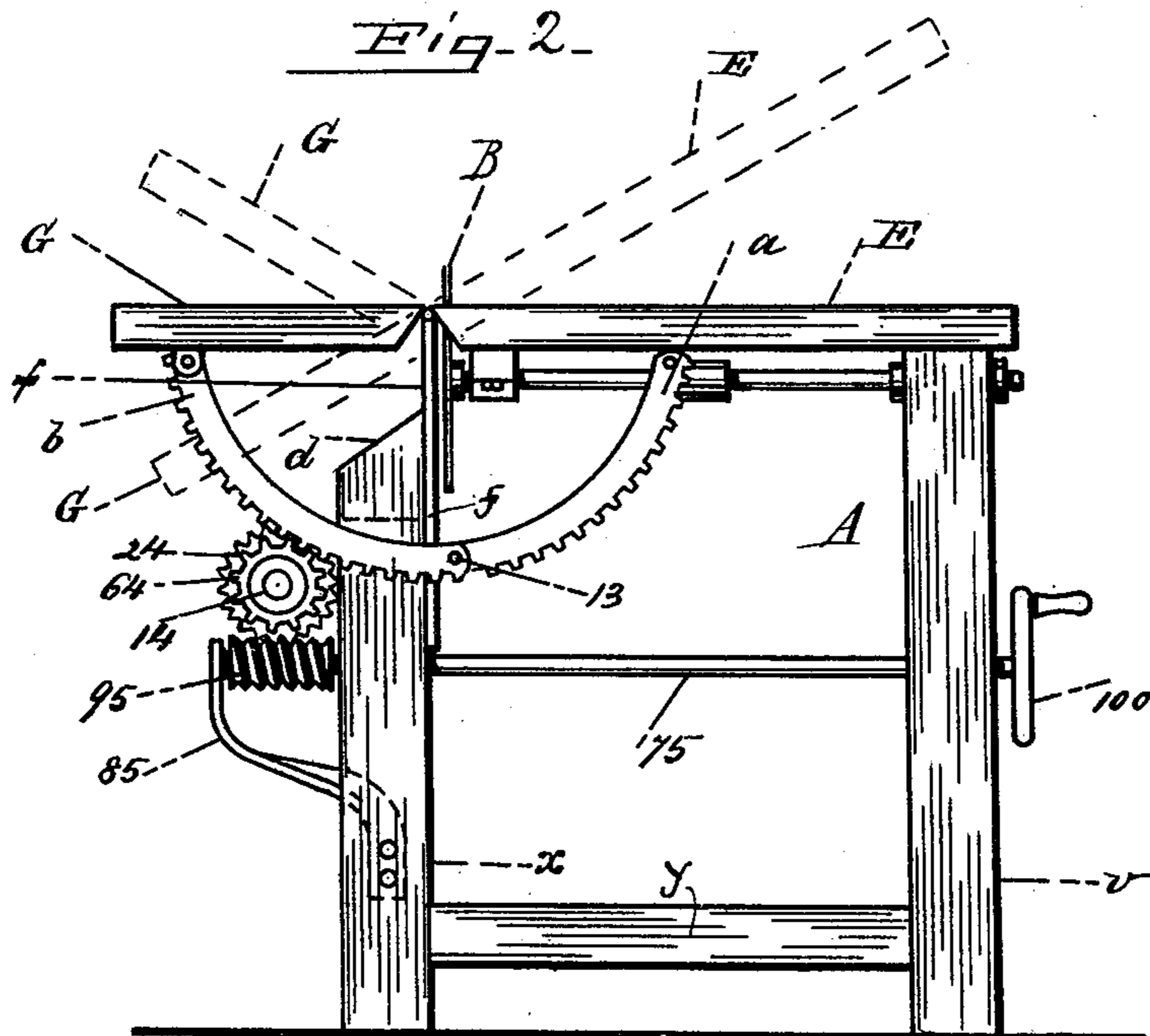


Fig-2-



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CIRCULAR SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 403,880, dated May 21, 1889.

Application filed September 17, 1888. Serial No. 285,576. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC E. FARWELL, of Fitchburg, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Circular Sawing Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my improved saw-bench; Fig. 2, an end elevation of the same.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of circular sawing machines which are provided with adjustable tables; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a simpler and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the bench, and B the saw. The bench consists of four legs, *x v*, connected by horizontal braces or ties *z* and transverse braces *y y*. The front legs, *x*, and the upper front brace are beveled at *d*, (see Fig. 2,) and upwardly-projecting arms or standards *f* are secured to the inner sides of said legs. The table proper or top of the bench E is hinged by one edge to the top of the standards *f*, its opposite edge resting on the top of the rear legs, *v*. An adjustable leaf, G, is also hinged to the standards *f*, said leaf being supported by the upper ends of curved ratchet-bars *b*, hereinafter described.

The edge of the leaf G adjacent to the standards *f*, and also the edge of the top E adjacent to said standards, are beveled, as shown in Fig. 2, to permit said leaf and top to swing freely on their hinges.

A shaft, 75, (see Fig. 2,) is journaled to a rear leg, *v*, and in a bracket, 85, secured to the

adjacent front leg, *x*, of the bench, said shaft bearing a worm, 95, on its forward end and a hand-wheel, 100, on its rear end. A longitudinally-arranged horizontal shaft, 14, (see Fig. 1,) is journaled to the front legs, *x*, and bears a worm-gear, 24, secured thereto in engagement with the worm 95 on the shaft 75. The shaft 14 is provided at each end with a longitudinally-arranged spline, 34, (see Fig. 1,) and an annular flange, 44, at each end of said spline. Two toothed pinions, 54 and 64, are disposed on each end of the shaft 14, between the flanges 44, and are fitted to slide on the spline 34, which also prevents them from revolving on said shaft. A curved segmental rack, *b*, is secured at one end to the under side of the leaf G at each end thereof, in such a position that its teeth may be engaged by the teeth of the toothed pinion 64. A similar segmental rack, *a*, is secured at each end of the table proper, E, so that they may be engaged, respectively, by the toothed pinions 54. The lower end of each segmental rack *b* is provided with a hole, 13, (see Fig. 2,) adapted to register with a series of holes (not shown) in the segmental rack *a*, and receive a pin, by which said bars may be detachably secured together.

When it is desired to adjust the table E and leaf G simultaneously, the pinions 64 are made to engage the segmental rack *b*, attached to the leaf G, and the pinions 54 to engage the segmental racks *a*, attached to the table. In this position of the toothed pinions the turning of the hand-wheel 100 turns the shaft 75 and its worm 95, whereby motion is communicated to the shaft 14 through the pinion 24. The rotation of the shaft 14 rotates the toothed wheels 54 and 64 and moves the segmental racks *a* and *b* simultaneously, whereby the table and leaf are adjusted in unison to any desired angle, as indicated by dotted lines in Fig. 2, and when so adjusted they may be held in such position by a pin inserted in the hole 13 in the rack *b* and in the corresponding hole of the rack *a*.

When it is desired to adjust the table E independently of the leaf G, the toothed pinions 64 are slid outward on the spline 34, out of engagement with the segmental racks *b*, attached to the leaf G, and the pinions 54 re-

maintaining in engagement with the segmental racks *a*, attached to the table, said table will be adjusted when the hand-wheel 100 is turned, while the leaf will remain stationary.

5 When it is desired to adjust the leaf *G* independently of the table *E*, the pinions 54 are slid inward on the spline 34, out of engagement of the segmental racks *a*, the pinions 64 remaining in engagement with the
10 segmental racks *b*.

By thus constructing the table proper, *E*, and hinged leaf *G* it will readily be seen that they may be adjusted to the saw so that any desired angle may be cut.

15 Having thus explained my invention, what I claim is—

1. The combination of a saw-bench, a table proper hinged to the front thereof, a leaf, also hinged to the front thereof, a segmental rack
20 attached to said table, a segmental rack attached to said leaf, a longitudinal shaft supported in bearings of said bench, and pinions on said shaft for engaging said segmental racks for adjusting the table and leaf simultaneously, substantially as described.
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2. The combination of a saw-bench, a table proper hinged to the front thereof, a leaf, also hinged to the front thereof, a segmental rack attached to said table, a segmental rack at-
30 tached to said leaf, a longitudinal shaft sup-

ported in bearings of said bench, and pinions longitudinally adjustable on said shaft for engaging said racks simultaneously or independently, substantially as described.

3. The combination of a saw-bench, a table 35 proper hinged to the front thereof, a leaf, also hinged to the front thereof, a segmental rack attached to said table, a segmental rack attached to said leaf, a longitudinal shaft supported in bearings of said bench, and pinions 40 longitudinally adjustable on said shaft for engaging said racks simultaneously or independently, said racks being provided with pin-holes for a locking-pin.

4. The combination of a saw-bench, a table 45 proper hinged to the front thereof, a leaf, also hinged to the front thereof, a segmental rack attached to said table, a segmental rack attached to said leaf, a longitudinal shaft supported in bearings of said bench, and pinions 50 on said shaft for engaging said segmental racks for adjusting the table and leaf simultaneously, a transverse shaft provided with a hand-wheel and with a worm, and a pinion on said longitudinal shaft engaged by said 55 worm, substantially as described.

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Witnesses:

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