(No Model.)

B. G. LUTHER.

TILTING TABLE FOR WOOD WORKING MACHINES.

No. 370,633. Patented Sept. 27, 1887.

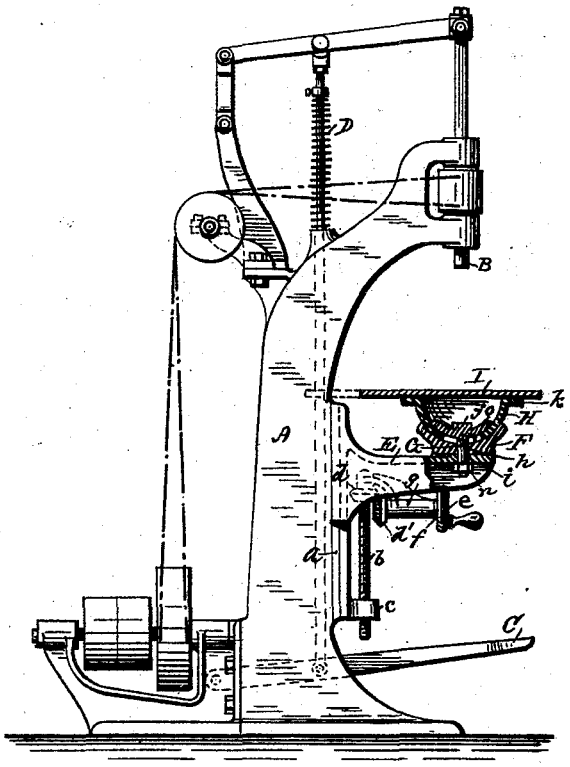

FIG. 1.

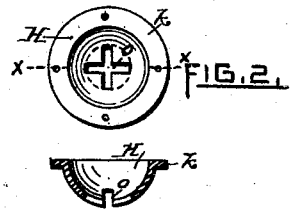

FIG. 2.

FIG. 3.

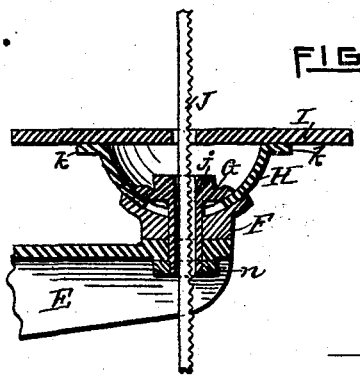

FIG. 4.

WITNESSES.

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TILTING TABLE FOR WOOD-WORKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 370,633, dated September 27, 1887.

Application filed March 14, 1887. Serial No. 230,904. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN G. LUTHER, a citizen of the United States, residing at Worcester, in the State of Massachusetts, have invented an Improvement in Tilting Tables for Wood-Working Machinery, of which the following is a specification.

My invention consists in the combination of the work-holding table with an improved clamping-joint made in the form of a spherical segment, whereby the table may be tilted in various directions, and be properly clamped in any desired position, the construction of such clamping-joint being such as to effect a considerable saving in the cost of machines to which my improvement is applied over the devices heretofore employed for the same purpose.

Figure 1 is a side elevation of a wood-boring machine provided with my improvement, the tilting table and a portion of the attaching-bracket being shown in vertical section. Fig. 2 is a plan view of the hollow spherical segment to which the work-holding table is attached. Fig. 3 is a central section of the same, taken in the line *x x* of Fig. 2. Fig. 4 represents an enlarged vertical section of my improved tilting table provided with a hollow clamping-bolt.

In the accompanying drawings, A is the frame of a boring-machine; B, the revolving spindle, which serves to hold the boring-bit, and which is moved up and down, as usual in such machines, by means of the treadle C and spring D and the connecting devices.

At the front of the frame A is secured the vertically-adjustable bracket E, which is held to the frame by means of the gib-slide *a*, and which is operated up and down by means of the screw *b*, held in the fixed nut *c* and suitable bearings, and rotated by means of the bevel-gear *d* upon the end of the screw and the bevel-gear *d'* and hand-wheel *e*, secured to the shaft *f*, which is held in the fixed bearing *g*, secured to the bracket.

Upon the upper side of the bracket E, and at the forward end of the same, is placed the hollowed seat F, which is provided with a central perforation, *h*, to receive the bolt G, which also passes downward through a perforation, *i*, in the bracket, which perforation is in line with the axis of the revolving spindle B. The bolt G is provided with an enlarged head, *j*, and between the seat F and head *j* of the bolt is placed the spherically-hollowed concavo-convex plate H, which is provided with the annular flange *k*, by means of which it is attached to the under side of the table I, the curve of the plate H preferably forming a semicircle having its diameter in the plane of the upper surface of the table.

The concavo-convex portion of the plate H may be provided centrally with a single slot adapted to receive the bolt G; or the same may be provided with a cross-slot, *o*, as shown in Figs. 2 and 3; or the central portion of the plate may be cut out in circular form, as indicated by the broken circle in Fig. 2, and in either case the table I can be turned upon the bolt G as a pivot and be tilted in any direction desired, and clamped in the required position by screwing up the nut *n* of the bolt G.

The hollowed seat F and the spherically concavo-convex plate H may be readily cast in true form for adaptation to each other without lathe turning, and the table so mounted will be firmly held in its required position by means of the clamping head and nut *j n* of the bolt.

A modification of my invention is shown in Fig. 4, in which the clamping-bolt G is made hollow, and thus adapted for the passage of a saw, J, or other tool; and in adapting my improvement to a jig-saw the hollow bolt may be made to embrace and hold the lower guide for the saw.

The table I may be continued backward and made to embrace the upright portion of the frame A, as shown by the broken lines in Fig. 1, and in this case the table will not be capable of rotation upon the bolt G as a pivot; but with a single slot in the plate H it can be tilted in one vertical plane, and with the cross-slots shown in Figs. 2 and 3 the table can be tilted in two vertical planes at right angles to each other, and in the case of the circular opening in the central portion of the plate H the table can be tilted in any required direction without rotating the table upon the bolt G.

The bearing-seat F may be made integral

with the bracket E, instead of a separate construction, if preferred.

I claim as my invention—

1. In combination, the table, the centrally-perforated bearing-seat, the concavo-convex plate resting upon the bearing-seat and provided with a central opening, and the fastening-bolt passing through the central opening of the plate and bearing-seat, with its head resting in the cavity of the plate, substantially as described.

2. In combination, the table, the centrally-perforated bearing-seat, the concavo-convex plate resting upon the bearing-seat and provided with a central opening, and the hollow fastening-bolt passing through the central openings of the plate and bearing-seat, with the head resting in the cavity of the plate, substantially as described.

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Witnesses:
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