

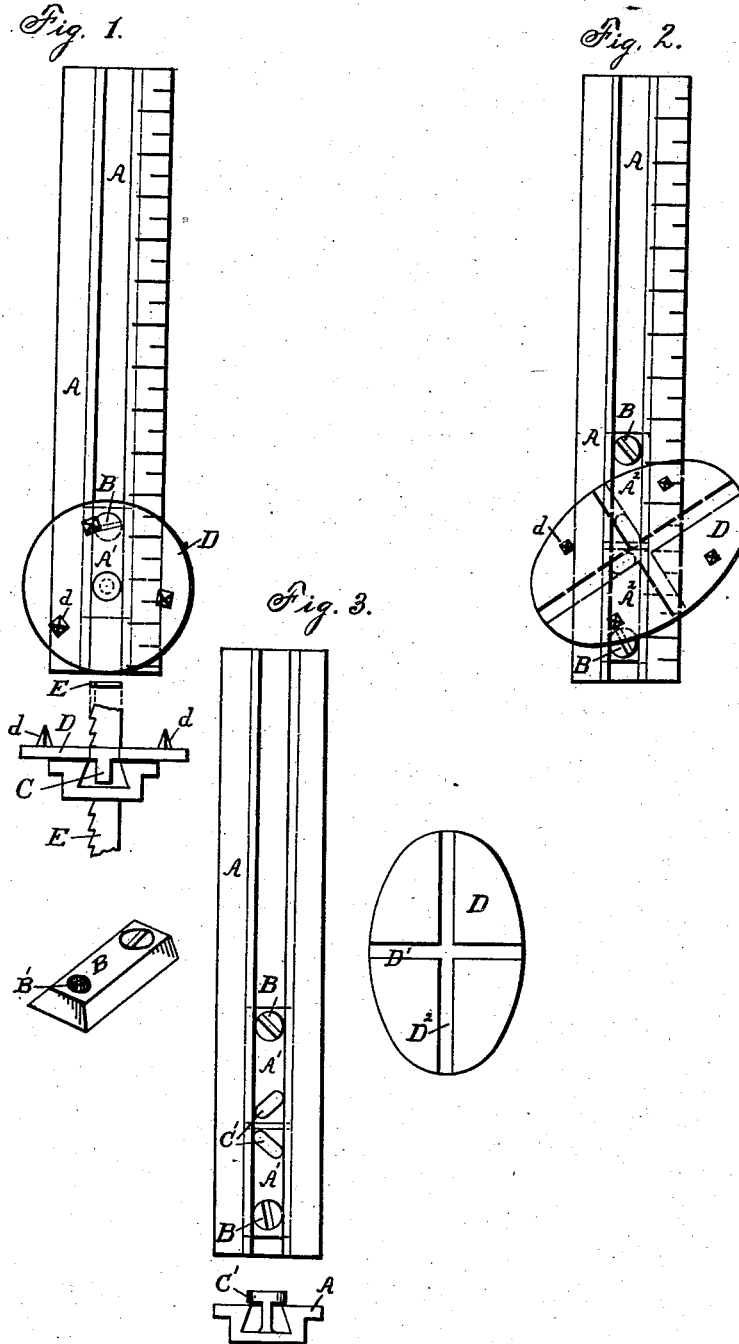
(No Model.)

W. H. GORDON & P. J. BOOST.

GAGE FOR SAWING ELLIPSES.

No. 260,019.

Patented June 27, 1882.



WITNESSES.

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GAGE FOR SAWING ELLIPSES.

SPECIFICATION forming part of Letters Patent No. 260,019, dated June 27, 1882.

Application filed January 3, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. GORDON and PHILIP J. BOOST, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Apparatus for Sawing Circles and Ellipses; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

Our invention consists of the combinations of devices and appliances hereinafter described, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a plan and sectional view of a device embodying our invention. Fig. 2 is a variation in which the apparatus is adapted for sawing ellipses. Fig. 3 represents separate views of the bed or way and the plate shown in Fig. 2.

It is the object of our invention to produce a device that will greatly facilitate the accurate sawing of circular and elliptical pieces of wood or other material, that will be adjustable and readily attached to any sawing-table or jig-saw apparatus, and by means of which true circles or ellipses of any size can be sawed out without the previous marking or scratching of guide-lines.

Heretofore in the manufacture of barrel-heads and similar circular pieces of wood the employment of expensive machinery has been necessary, and the liability of this machinery to get out of order, the original cost of the same, &c., have rendered the expense of manufacturing articles of this character much greater than by the use of such a device as we contemplate.

In carrying out our invention, A represents a grooved and gaged bed or way in which a slide, A', moves freely, and is set at any desired point by means of the set-screw B in one of its ends. The other end of this slide contains a circular recess, B', into which the stem C of the plate D is adapted to fit. This plate revolves freely and bears with it the material to be shaped, which is preferably held in place by means of the spurs *d*, which project from the plate into the material. This plate, rep-

resented in circular or elliptical shape, may be of any other desirable shape—as, for instance, in the form of cross-arms—and of any required size, according to the work to be done, and we do not limit ourselves in this respect. Also, the number or arrangement of the spurs is not essential to the invention. Furthermore, it is apparent that the grooved guides may not be gaged; but the gage or scale is convenient in order to fix accurately and quickly the length of radius. So, also, the separate bed may be dispensed with, and the groove or guide be made in the plane of the table itself. It is preferable, however, especially with wooden tables, to employ the separate grooved metallic plate or bed, which can then be recessed into the top of the saw-table, so that its upper surface shall be flush with the upper surface of the table.

To operate this device it is only necessary to adjust the plate D to the proper radius, measured back from the saw E. In Figs. 2 and 3 the device is shown as adapted for sawing ellipses. The principles of the ellipsograph being employed in this case, the plate D is provided with cross-grooves D' and D², corresponding with the transverse and conjugate axes of the ellipse, and instead of a single adjustable slide, A', there are two slides, A² A², each bearing a pivot, C', so that when the plate is superposed upon the pivots with a pivot in each of its grooves, as shown in Fig. 2, and the plate revolved, its center of motion will at all times be determined by the relative positions of the two pivots in the grooves D' and D². To adjust this to an ellipse of any particular eccentricity, it is only necessary to adjust the two pivots at a distance apart equal to the difference between the length of the semi-conjugate axis and the semi-transverse axis of such an ellipse. The distance from the saw will indicate any particular size of that ellipse that is to be sawed.

This device is especially valuable where it is desired to saw a quantity of elliptical pieces of wood of the same size—as, for instance, in manufacturing fancy table-tops, &c.; and in many other situations it is extremely useful.

What we claim is—

1. In a machine for sawing ellipses, the combination, with a table having a gage and suit-

able guides, of duplicate sliding plates, each
having a pivot and a bearing-plate superposed
upon the plates, and having transverse and
conjugate slots or grooves in which operate
5 the pivots to determine the center of motion,
substantially as and for the purpose specified.
2. The combination of the table A, having
edge gage and central longitudinal guides, as
shown, with the slides A', each bearing a pivot,
10 C', and the plate D, having cross-grooves D'

D² and spurs *d*, as specified, for the purposes
set forth.

In testimony whereof we sign this specifica-
tion in the presence of two witnesses.

WILLIAM H. GORDON.
PHILIP J. BOOST.

Witnesses:

J. EDWARD WARREN,
SAMUEL E. THOMAS.