

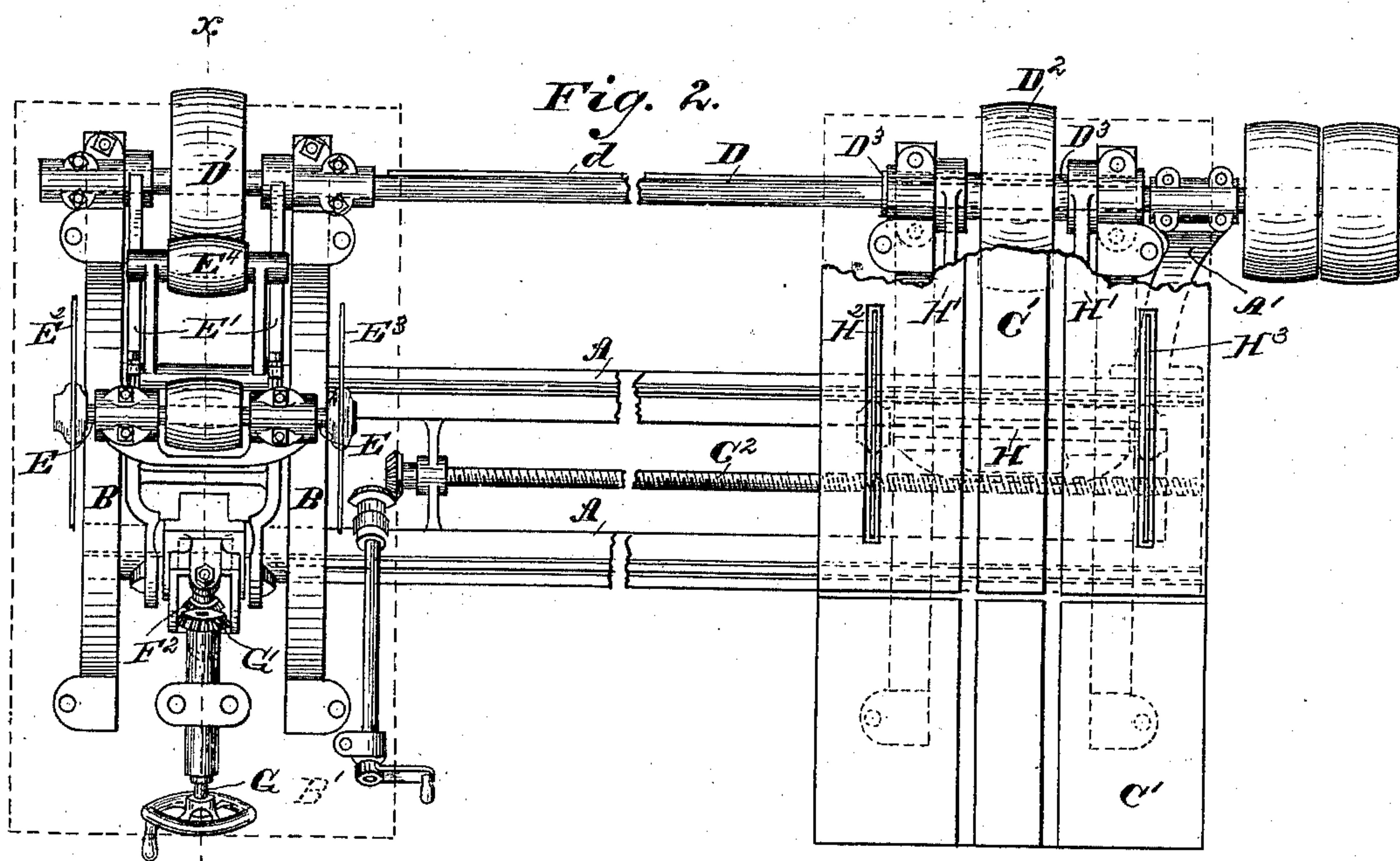
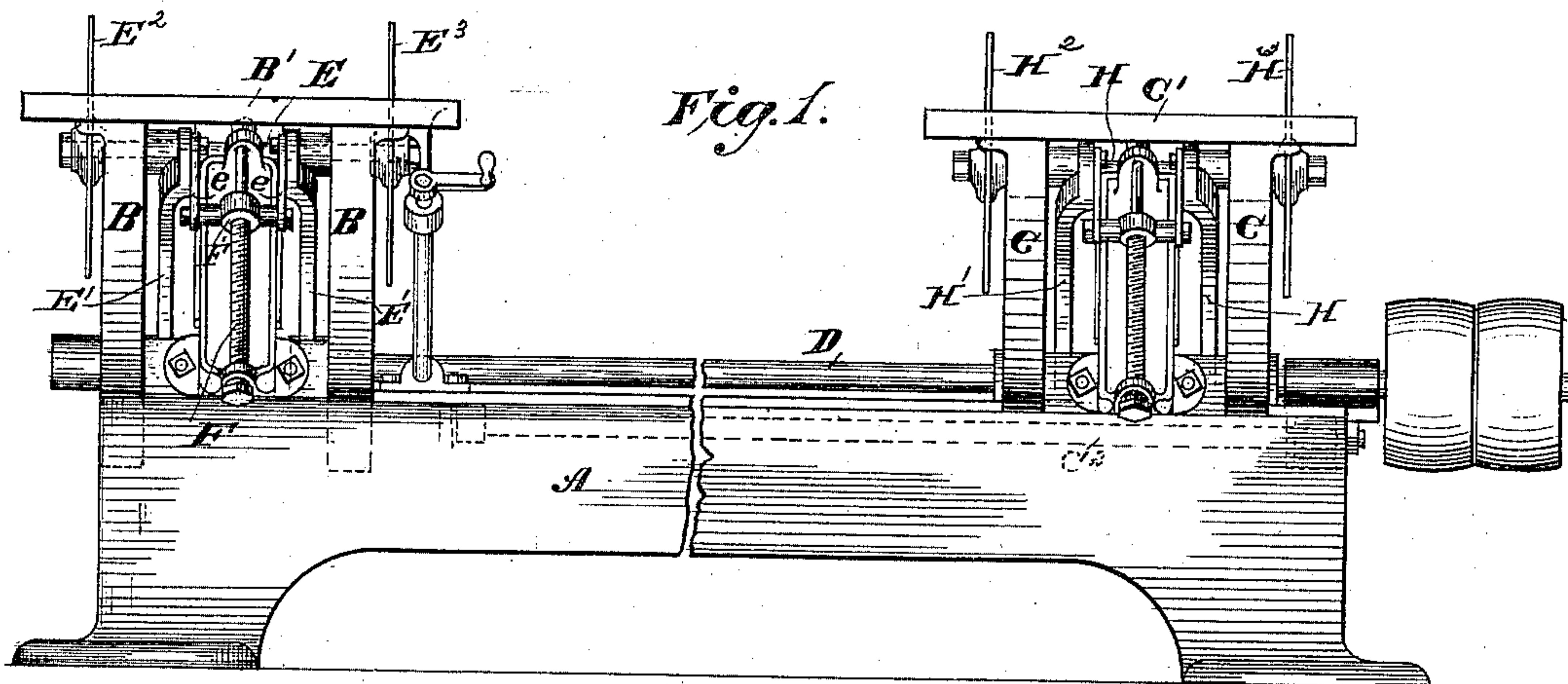
(No Model.)

2 Sheets—Sheet 1.

W. H. DOANE.
CIRCULAR SAWING MACHINE.

No. 319,395.

Patented June 2, 1885.



Witnesses:
E. J. Walker
Jas. T. Howenstein Jr.

Inventor:
William H. Doane
by his attorney
O. K. K.

(No Model.)

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Fig. 3.

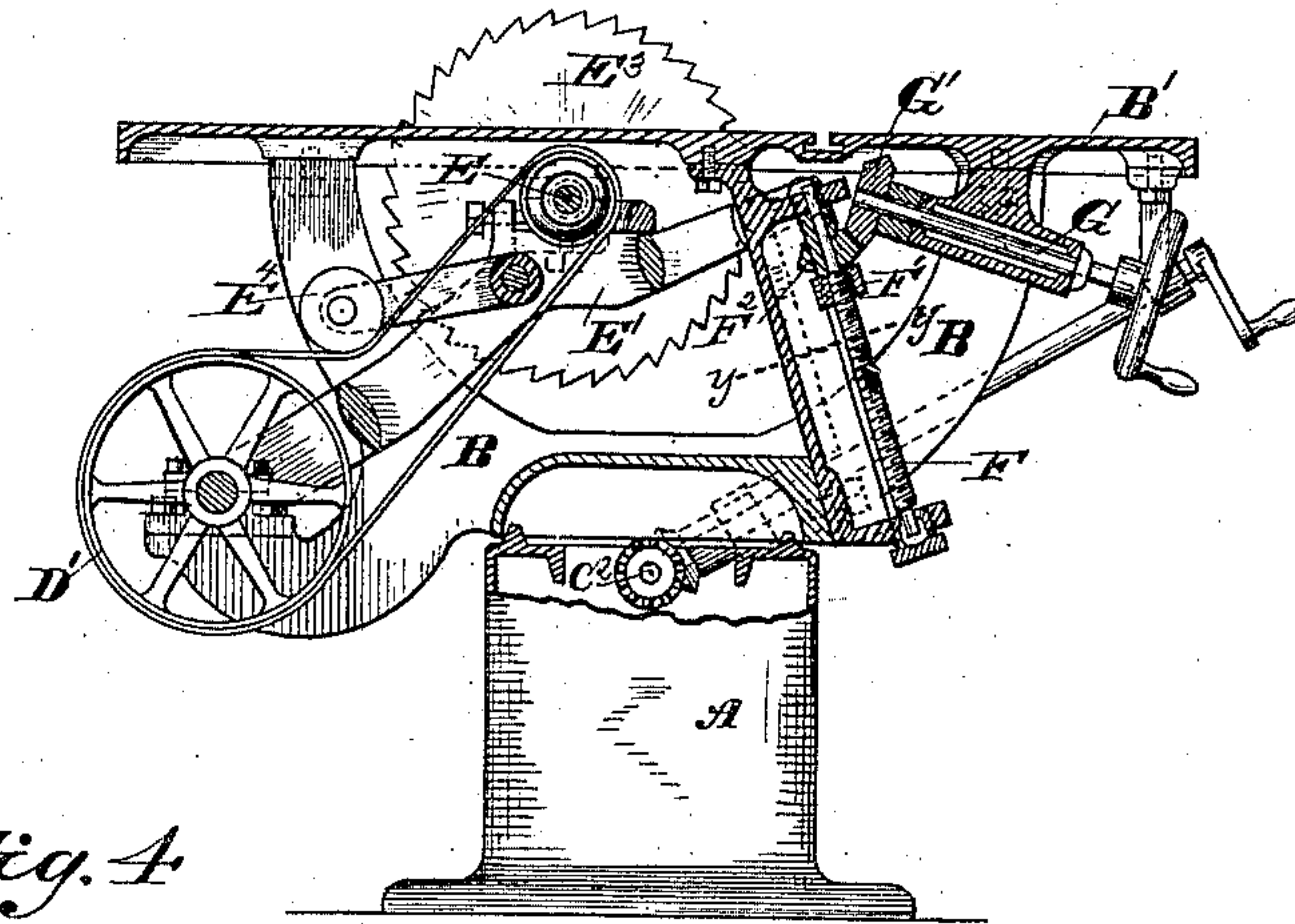


Fig. 4

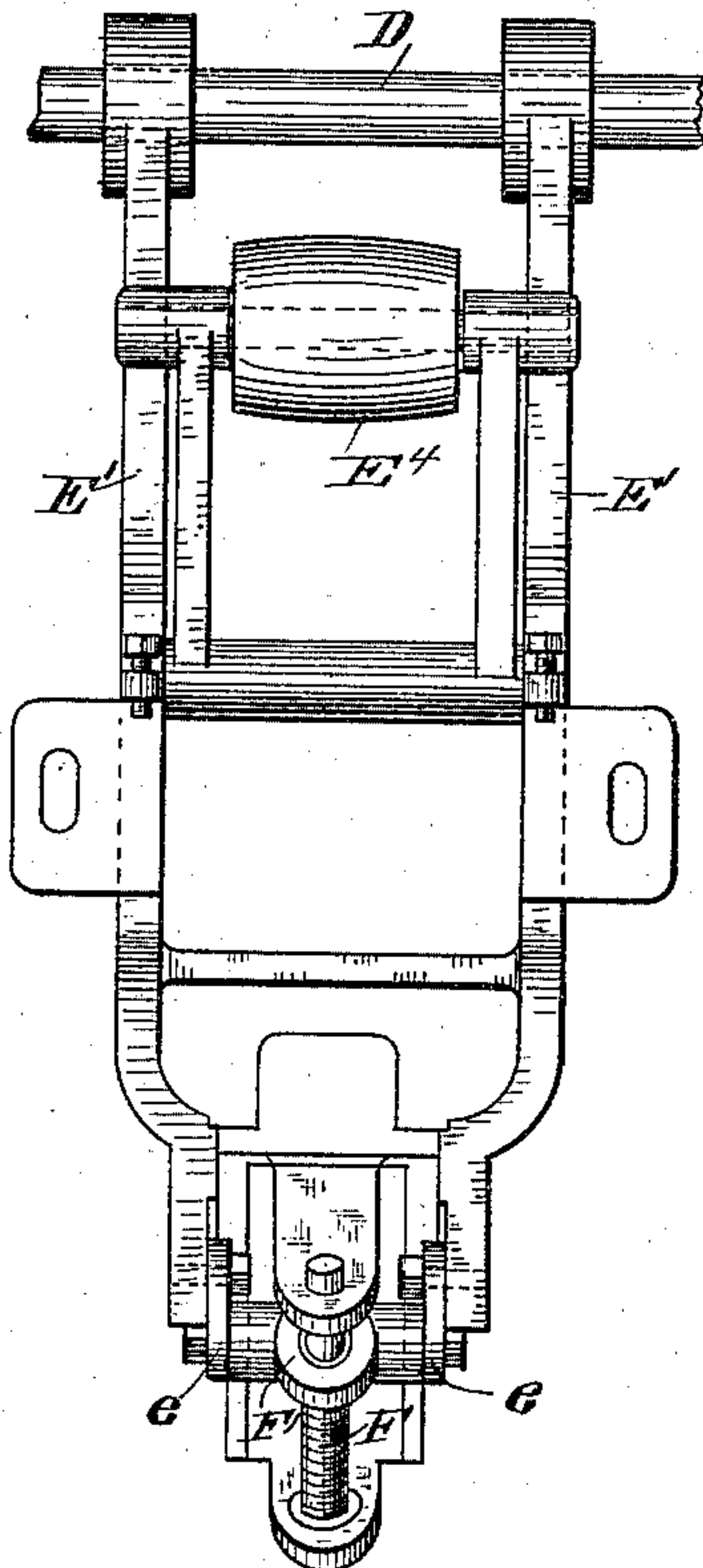
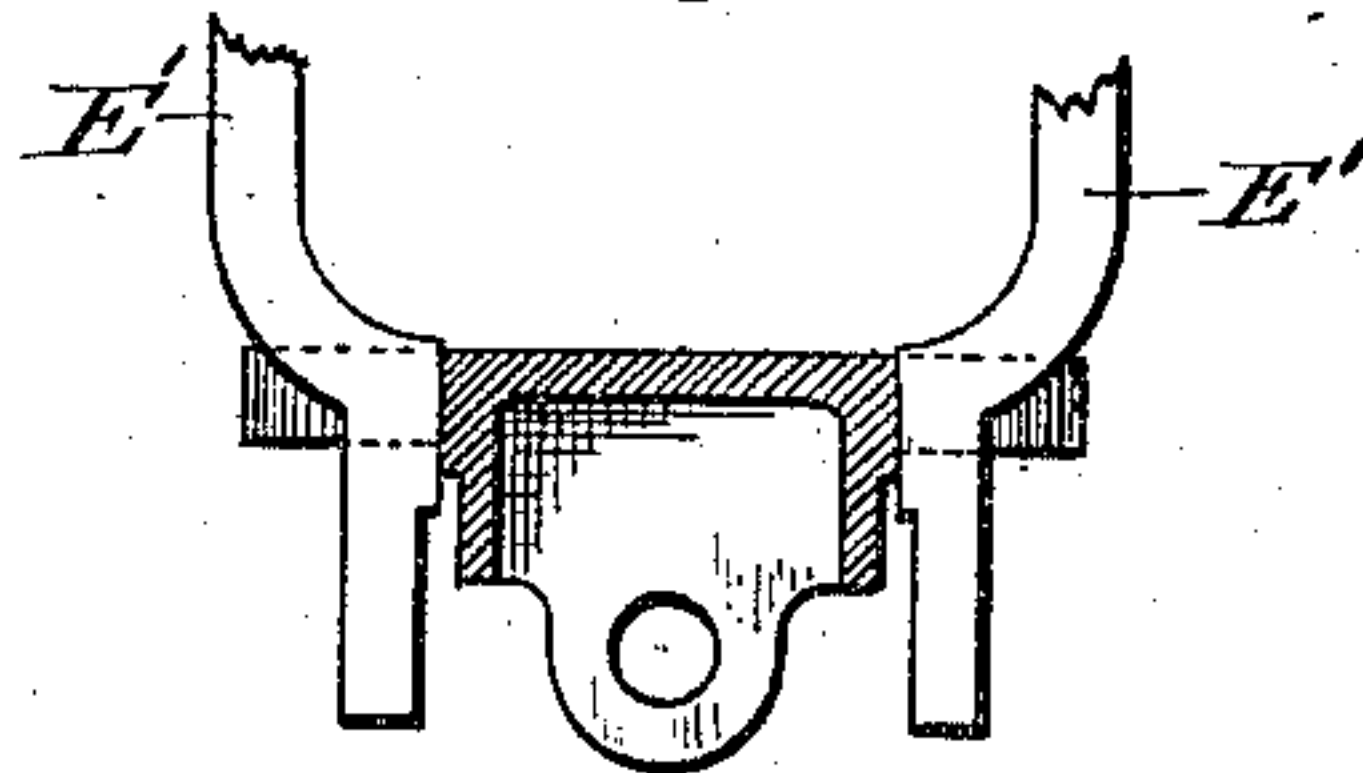


Fig. 5



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" "
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UNITED STATES PATENT OFFICE.

WILLIAM H. DOANE, OF CINCINNATI, OHIO.

CIRCULAR SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 319,395, dated June 2, 1885.

Application filed January 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DOANE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Sawing-Machines; and I 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 appertains to make and use the same.

This invention relates to that class of duplex sawing-machines an example of which is described in my United States Patent No. 303,923.

My improvement consists in this—namely, that the respective saw-arbors, one or both, are mounted on adjustable frames or yokes, so that said arbors, one or both, may be independently elevated or lowered at the pleasure of the operator.

I am aware that it is old to mount the saw-arbor of a single-table circular sawing machine in an adjustable frame or yoke in order that the saw may be elevated or lowered; but the application of this feature of construction to a duplex sawing-machine, such as referred to above, has this important result (foreign to single-table machines)—namely, that it enables the operator to regulate and vary, if required, the depth of the cut at one table with reference to that at the other table without disturbing either table—a desideratum which may be readily appreciated on considering that the two tables must be in the same plane whenever both are used for sawing a piece of lumber.

In order that my invention may be clearly understood, I have illustrated in the annexed drawings, and will proceed to describe with sufficient detail, a practical form thereof.

Figure 1 represents an elevation of my improved duplex sawing-machine. Fig. 2 represents a plan view thereof, one of the tables being omitted and the other partly broken away to show the mechanism below. Fig. 3 represents a cross-section of the same on the line *x x*, Fig. 2. Fig. 4 represents a plan view mainly of the adjustable frame or yoke of one of the saw-arbors and the means for adjusting it. Fig. 5 represents a cross-section on line *y y* of Fig. 3. Figs. 4 and 5 are drawn on a larger scale than the other figures.

The same letters of reference indicate identical parts in all the figures.

Except in the respect above mentioned, the general organization of the machine does not differ essentially from the machine described and claimed in my United States Patent No. 303,923. A refers to the main frame. B refers to the fixed head-stock which supports the table B'. C refers to the movable or adjustable head-stock which supports the table C', and is adjusted by means of a screw, C², mounted on the main frame and engaging a nut on this movable head-stock. D refers to the counter-shaft, which carries the fixed pulley D' for the driving-belt of the saw-arbor associated with table B', and also on a sleeve, D³, the adjustable pulley D² for the driving-belt of the saw-arbor associated with table C'. The counter-shaft D is supported at one end in bearings on bracket-arms of the fixed head-stock and at the other end in a bearing on a bracket-arm, A', fixed to the main frame. Beyond bracket-arm A' the counter-shaft is provided with the usual fast and loose pulleys for the line-shaft belt. The saw-arbor E, associated with table B', and carrying in this instance two saws, E² and E³, is supported in bearings on the yoke E', which is pivoted at one end on the counter-shaft D. At the other end the yoke is connected by links *e e* to a cross-bar of a nut, F', on an upright screw, F, supported at the top and bottom in suitable bearings on the fixed head-stock. A bevel-pinion, F², is fastened to the screw F, meshing with a bevel-wheel, G', on shaft G, journaled in a bearing on the fixed head-stock. By turning shaft G, by a hand-wheel thereon, the screw F is turned, and causes the nut to travel on it, whereby the yoke E' is raised or lowered, according to the direction in which the screw is turned, elevating or lowering the saws with reference to table B'. The yoke E' is provided with a belt-tightener, E⁴, as usual. Saw-arbor H, associated with table C', and also provided with two saws, H² and H³, is supported in bearings on the yoke H', which is pivoted at one end on the sleeve D³ on counter-shaft D, and is connected at the other end with the movable head-stock C, in the same manner in which yoke E' is connected with the fixed head-stock B, so that the saw-arbor H may also be elevated

or lowered. The adjustable head-stock C is provided with bracket-bearings C³ C³, in which the sleeve D³ of the counter-shaft D is journaled. The counter-shaft is provided with
5 a long spline, d, which engages a groove in sleeve D³, to cause it to turn with the shaft and rotate pulley D².

The manner of supporting the counter-shaft by a grooved sleeve in bracket-bearings on
10 the adjustable head-stock is substantially the same as described and claimed in my aforesaid United States patent.

I prefer to mount both saw-arbors on adjustable frames or yokes, so that either saw-
15 arbor can be readily adjusted without disturbing the tables, making the depth of the cut of the saws at the respective tables unequal, if desired—a result which cannot be attained on previous duplex machines having adjustable
20 tables, but fixed saw-arbors, without at the same time disturbing the alignment of the tables—but it is obvious that the depth of the cut at one table may be varied from that at the other table of a duplex machine, provided one
25 of the saw-arbors is mounted in an adjustable frame or yoke. Again, the depth of the cut at either table may be changed with reference to that at the other table of a duplex machine constructed with adjustable tables, as shown
30 in my aforesaid patent, provided one of the saw-arbors is mounted in an adjustable frame or yoke; but that would require an adjustment of both tables as well as an adjustment

of the adjustable saw-arbor whenever the cut of the saws on the fixed saw-arbor is to be
35 changed.

I believe that I am the first to construct a duplex sawing-machine having two independent saw-arbors mounted, one or both of them, on adjustable frames or yokes, and this my
40 claims are intended to cover as broadly as is possible within legal bounds.

I claim as my invention—

1. In a duplex sawing-machine, the combination, substantially as before set forth, of the
45 table on the fixed head-stock, the table on the adjustable head-stock, and an independent saw-arbor for each table, one of the saw-arbors being mounted on an adjustable frame or yoke, the parts being arranged on a suitable sup-
50 porting-frame.

2. In a duplex sawing-machine, the combination, substantially as before set forth, of the
55 table on the fixed head-stock, the table on the adjustable head-stock, and an independent saw-arbor for each table, each saw-arbor being mounted on an independently-adjustable frame or yoke, the parts being arranged on a suitable supporting-frame.

In testimony whereof I affix my signature
60 in presence of two witnesses.

WILLIAM H. DOANE.

Witnesses:

A. O. BLAKEMORE,
A. M. NEWKIRK.