

No. 744,190.

PATENTED NOV. 17, 1903.

E. T. GORHAM.
SAW TABLE.

APPLICATION FILED AUG. 14, 1902.

4 SHEETS—SHEET 1.

NO MODEL.

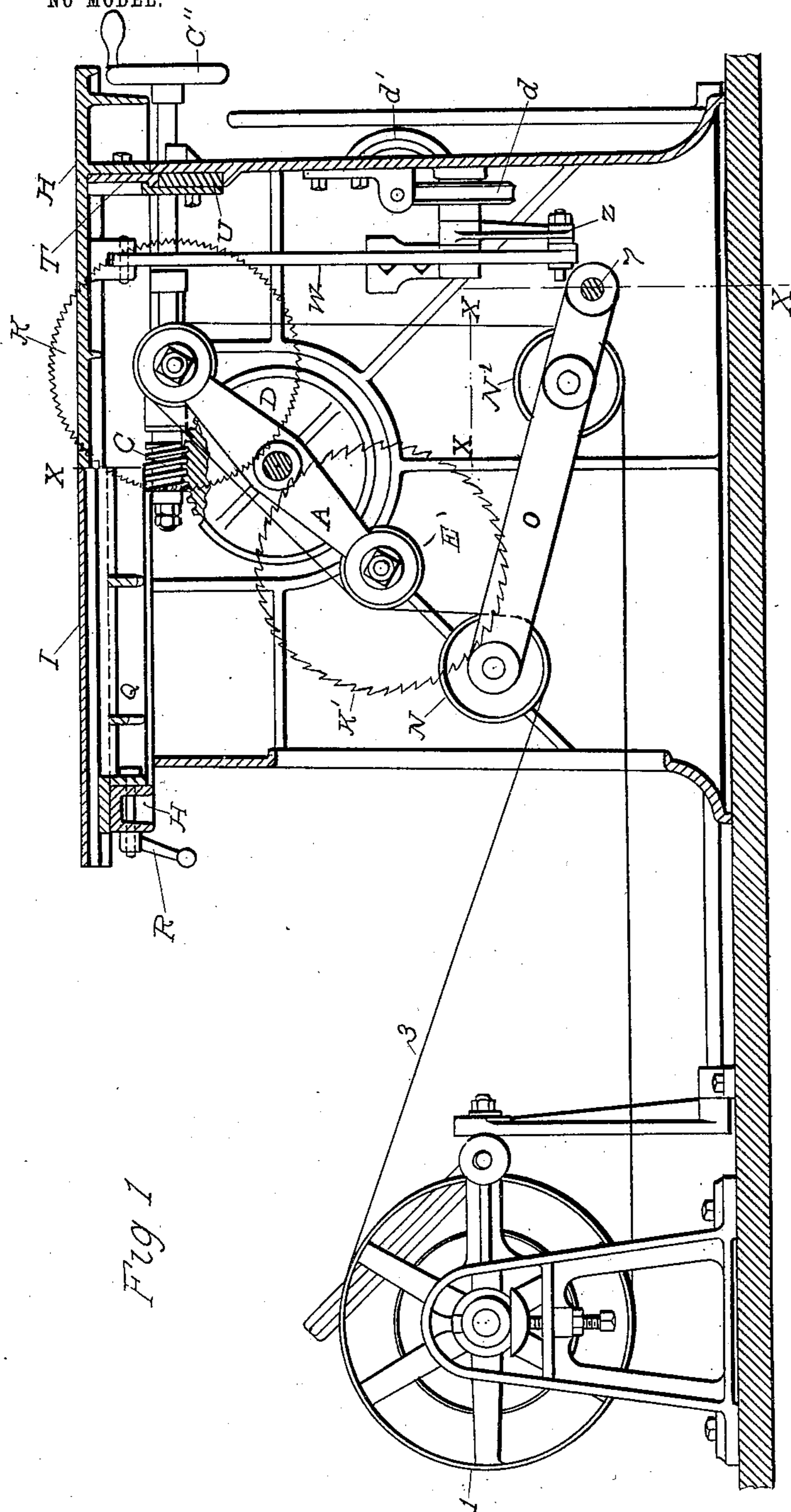


Fig 1

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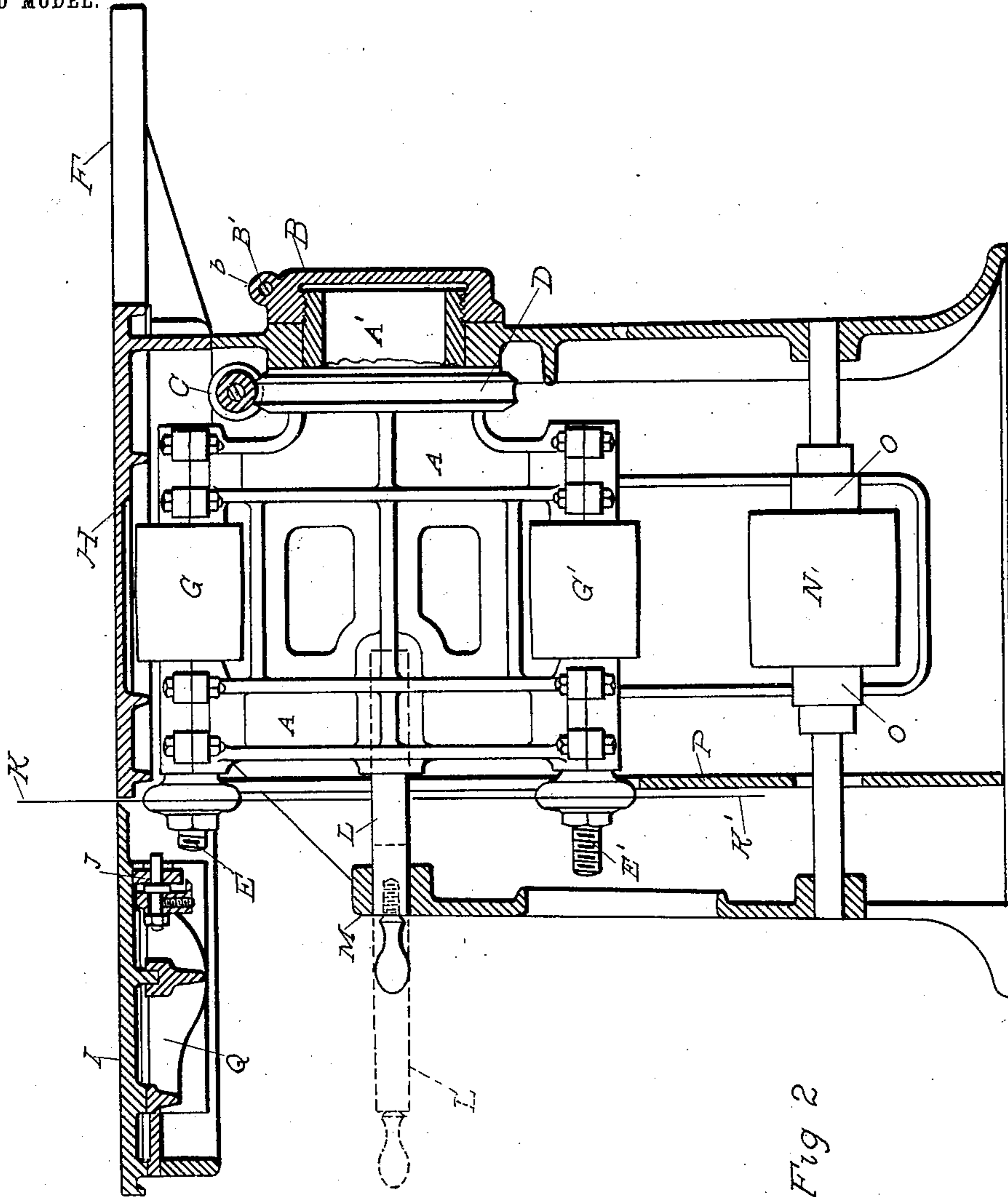
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4 SHEETS—SHEET 2.

NO MODEL.



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4 SHEETS—SHEET 3.

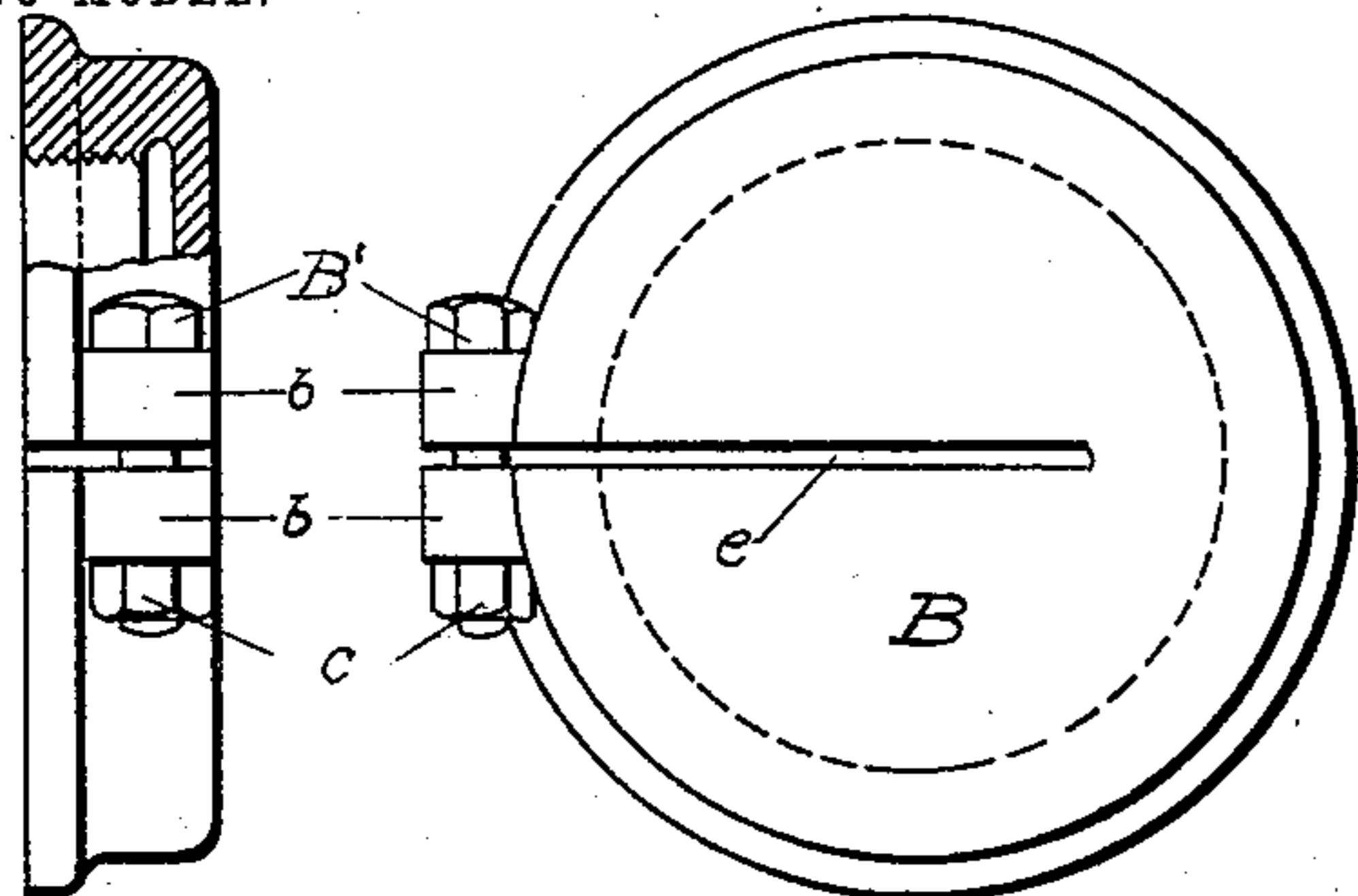


Fig 4

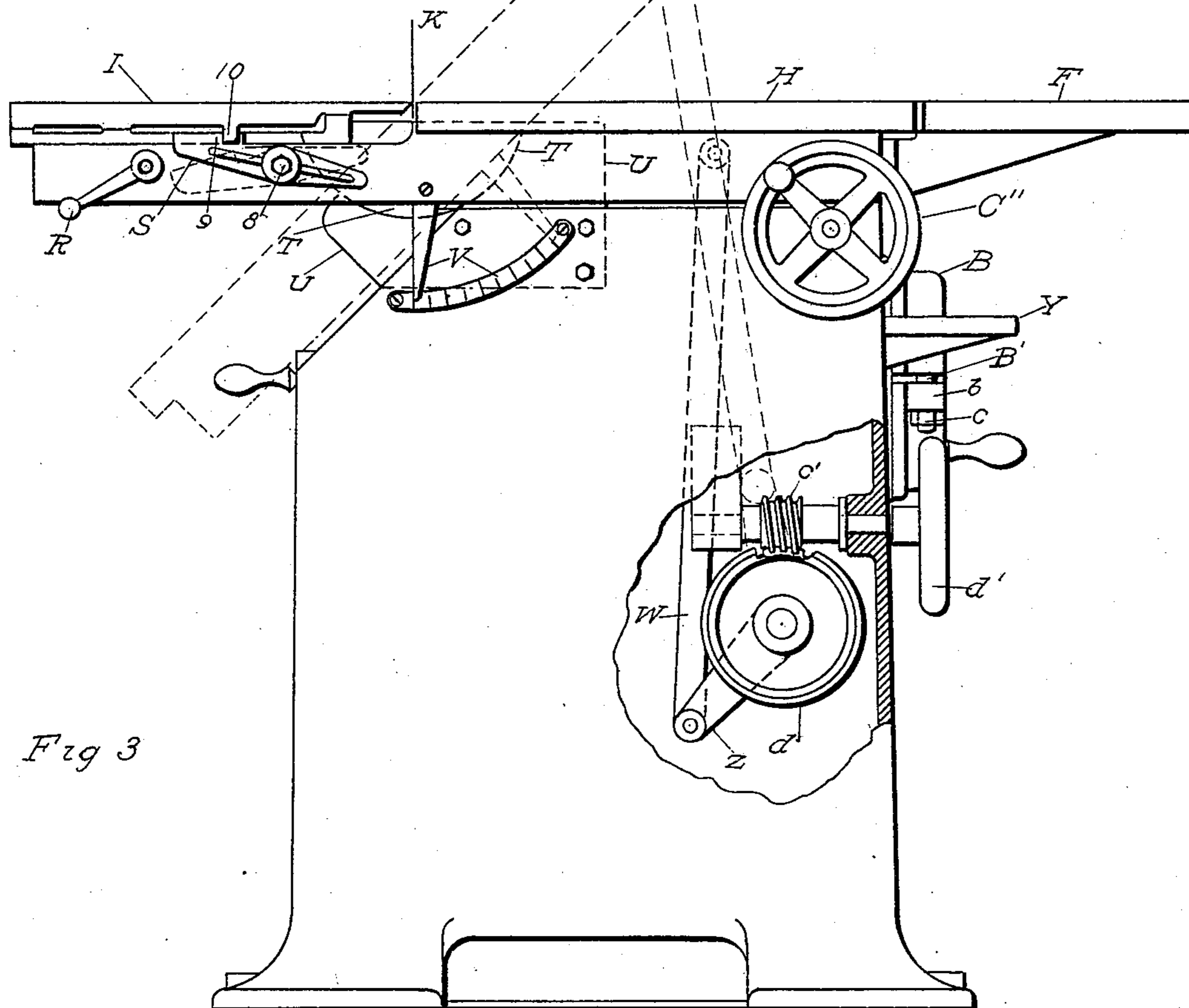


Fig 3

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4 SHEETS—SHEET 4.

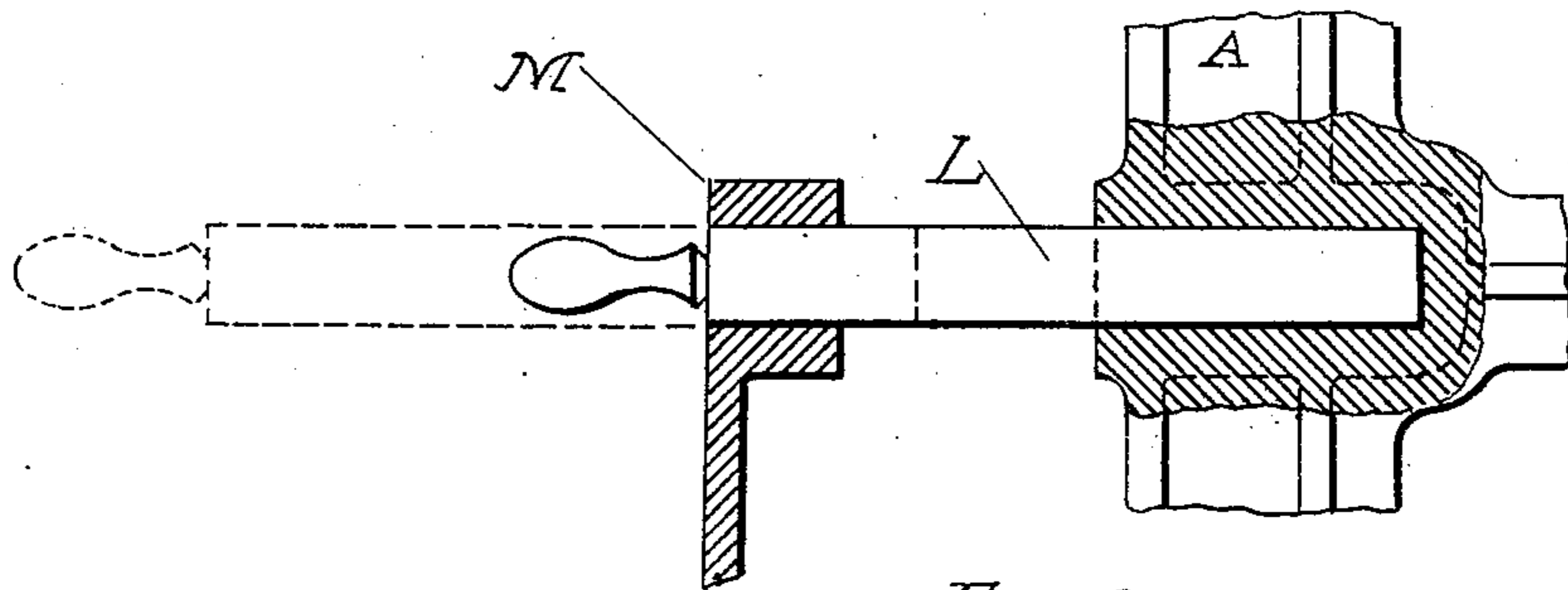


Fig 6

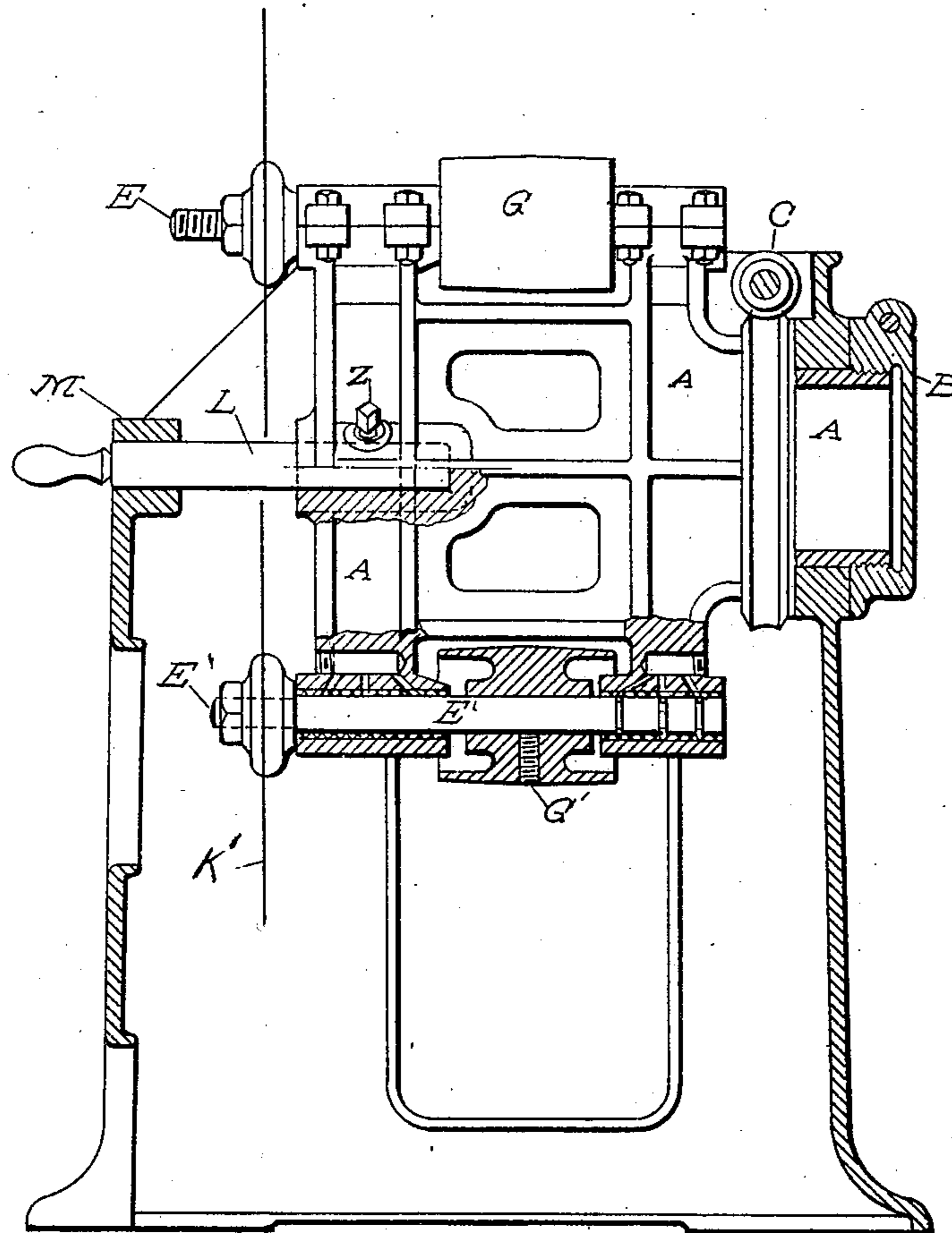


Fig 5

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UNITED STATES PATENT OFFICE.

EDWIN T. GORHAM, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO JOSEPH W. OLIVER, OF GRAND RAPIDS, MICHIGAN.

SAW-TABLE.

SPECIFICATION forming part of Letters Patent No. 744,190, dated November 17, 1903.

Application filed August 14, 1902. Serial No. 119,681. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. GORHAM, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Saw-Tables, of which the following is a specification.

This invention relates to certain new and useful improvements in saw-tables, and more especially to saw-tables which are tilted in order to cut the stock at any required angle.

The invention consists in the construction and combination of parts hereinafter described and claimed.

The objects of the invention are, first, to construct a saw-table having its saws supported by a yoke and mechanism whereby the yoke may be so securely and rigidly supported as to obviate vibration; second, to provide a tilting saw-table that can be adjusted with great accuracy and precision; third, to furnish means whereby a large saw can be applied to the saw-arbor; fourth, to furnish efficient and accurate means for tilting and adjusting the table-top; fifth, to provide means for retaining an even and efficient pressure upon the belt which runs the saws; sixth, other objects hereinafter pointed out and claimed. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows an end elevation, partially in section, of a saw-table constructed in accordance with my invention. Fig. 2 shows a sectional view on line X X of Fig. 1. Fig. 3 shows the side elevation of the table tilted and a portion of the machine cut away in order to more clearly illustrate the table-tilting mechanism. Fig. 4 shows a detailed view of the retaining-cap B, which engages with the journal of the oscillating yoke, which yoke supports the saws. Fig. 5 is a sectional view illustrating the supporting-frame of the saw-table. Fig. 6 is an enlarged detail view showing in solid lines the bearing-pin forming a support for the yoke and showing by dotted lines the bearing-pin drawn out.

Similar letters refer to similar parts throughout the several views.

A represents the arbor-yoke, which carries the two saws and which is adapted to bring

either saw into position for use by means of the mechanism hereinafter described. (See Figs. 1 and 2.)

A' is what I call the "yoke-journal," which is an enlarged journal and is supported in the main frame of the machine and securely retained in position, so as to prevent any oscillation of the yoke. This journal is provided with a screw-thread, with which engages the screw-threaded cap B. The cap B is screwed upon the end of the journal A' until it comes in contact with the smooth outer surface of the main frame of the machine. The position of the cap is shown by the sectional view in Fig. 2 and is also illustrated in a detailed view in Fig. 4.

Referring now to Fig. 4, *e* is a slot in the cap B. The cap B is provided with projecting lugs *b b*, and a bolt B' passes through these lugs and engages with the nut *c*. When the cap B has been applied to the end of the journal until the same bears against the frame, as above described, the bolt B' is tightened, so as to clamp the cap B firmly upon the thread of the journal and to retain the same securely and rigidly thereon, thus holding the yoke A rigidly and securely in a horizontal position and preventing vibration of the said yoke.

D is a worm-wheel rigid with the arbor-yoke journal and may be made integral therewith.

C is a worm which engages with the worm-wheel D. This is shown in Fig. 2. A hand-wheel C' operates the worm C, thereby shifting the arbor-yoke so as to bring either saw into position to operate upon the stock, the stock being placed upon the table and the saw to be used being raised so as to project above the table.

E represents the saw-arbor for the saw K, and E' represents the arbor for the saw K'. The saws may be of different kinds—that is, one of the saws may be an ordinary cut-off saw and the other may be a rip-saw. These saws may be readily removed from their arbors and a single large saw applied to one of the arbors, if desired, as hereinafter described. The table-top is constructed in two parts, with a narrow opening between them through which the saw passes. H is the main table-top, and it may be provided with an ex-

tension F, as shown in Figs. 2 and 3. This part F may be detached, if required.

I represents the movable part of the table-top, which is supported by the adjustable-frame Q, hereinafter described, Q being a portion of the tilting-frame which supports the table-top. It provides for longitudinal movement of the movable section of the table. For this purpose I provide an antifriction-roller, (shown by J in Fig. 2.) The adjustable frame Q may be adjusted toward and from the saw, so as to increase or decrease the opening through which the saw passes.

In order to give greater steadiness to the arbor-yoke, I have provided a removable steadying pin or bearing L, which passes through an opening in the main frame of the machine and into a central opening in the center of the yoke A, thus forming a second journal-bearing for the said yoke. I also provide a boss M on the frame, through which the steadying-pin L passes. This gives it greater stability. If at any time it becomes desirable to use a single large saw, the pin L can be removed and one large saw applied to the self-supporting yoke.

Each saw is provided with a band-pulley, which are shown by G and G'. The band which operates these pulleys is shown in Fig. 1 by 3, the said band being operated by any suitable power. The band-wheel conveys the movement to the band 3 and may be placed above the floor, as shown by the band-wheel 1, or it may be placed below the floor, as shown by the band-wheel 2 in Fig. 1. In order to retain the band 3 in condition to operate the band-pulleys G and G', I provide two idlers, which are supported by the idler-yoke O, which yoke is pivoted at 7 and carries the two idlers N and N'.

Referring to the connection with the band-wheel 1, as shown in Fig. 1, it will be noted that one idler rests upon the outside of the band 3 and that the other idler rests upon the inside of said band 3. The band 3 supports the weight of the two idlers and the yoke O. This keeps the band 3 uniformly taut and insures a steady and positive movement of the saws.

P is a partition between the saws and the operating mechanism, the object of the partition P being to exclude the sawdust from the working parts of the machine.

R represents a clamp for the adjustable frame Q. This clamp secures the adjustable frame Q to the stationary frame H of the table-top.

S represents a latch used for securing the sliding table in its stationary position. The latch is pivoted at the point 8 and is provided with a projection 9, which fits into the notch in the lug 10, said lug being one of the bearings of the movable part of the table.

The table and table-frame are supported in the segment T, which segment T is supported by the bearing U, the segment T serving as a journal and being the part of a cir-

cle the center of which is the center of the saw at the point where it passes through the table.

By this construction the table may be tilted without displacing the opening through which the saw passes and without interfering with the saw. The table, together with the supporting-frame, is tilted by means of the mechanism hereinafter described, in which d represents a worm-wheel supported in the frame and provided with cogs adapted to engage with the worm c . The worm-wheel d is provided with an arm rigidly connected therewith. (Shown in Fig. 3 by X.) Pivoted to the free end of the arm X is the connecting-rod W, the upper end of which connecting-rod is pivoted to the tilting table-frame, as shown in Fig. 3.

d' shows a hand-wheel provided with a suitable handle for operating the worm c' . By turning the hand-wheel d' the worm-wheel d is operated and the arm X is raised and lowered and likewise the table is tilted. Thus the table can be tilted and retained rigidly in any required position, and by means of the index-finger and dial V the angle to which the table is tilted will be accurately recorded and the stock may be cut at any required angle and with great accuracy.

As a matter of convenience I provide a shelf Y, which may be used for the purpose of holding tools which are convenient to use in connection with the machine.

While I have illustrated the band-wheel 1 as located above the floor upon which the saw-table is mounted, I do not desire to be limited to this precise location of the band-wheel or operating mechanism, as it will be obvious that the saws may be operated in many ways beside that which I have illustrated without departing from the spirit or scope of my invention.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

1. In combination with the main frame of a saw-table a saw-carrying yoke, an enlarged journal A' and an adjustable cap B engaging with and retaining the journal in position.

2. In combination with the frame of a saw-table an enlarged journal A', an adjustable screw-cap B bearing against the outer surface of the said table and suitable mechanism for locking the said cap B in position.

3. In combination with the frame of a saw-table of a yoke-carrying saw, a screw-threaded slotted cap bearing against the frame and suitable mechanism for clamping the cap upon the journal A' of the said yoke, substantially as described.

4. In combination with the frame of a saw-table a yoke supporting the saws, a journal A' having a screw-thread, a cap engaging with the said screw-thread, suitable means for securing the said cap rigidly in position, a worm-wheel rigid with the said journal A', a worm engaging with the said worm-wheel, and suit-

able means for operating the said worm-wheel, substantially as described.

5 5. In combination with the frame of a saw, a yoke, an enlarged journal A' provided with a screw-thread, a cap B engaging with the said journal A' and being adjustable thereon, suitable means for rigidly adjusting the said cap, a worm-wheel D bearing against the said frame, a clamp engaging with the said cap, 10 a yoke-bearing carrying saws, and suitable means for operating said worm-wheel and for raising and adjusting the saws.

6. The combination with a saw-table, of a

rotatable yoke adapted to support one or more revolving saws, and a removable bearing at 15 one end of said rotatable yoke, said bearing being removed when it is desired to use a saw of increased diameter.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit- 20 nesses.

EDWIN T. GORHAM.

Witnesses:

A. C. DENISON,
EDWARD TAGGART.