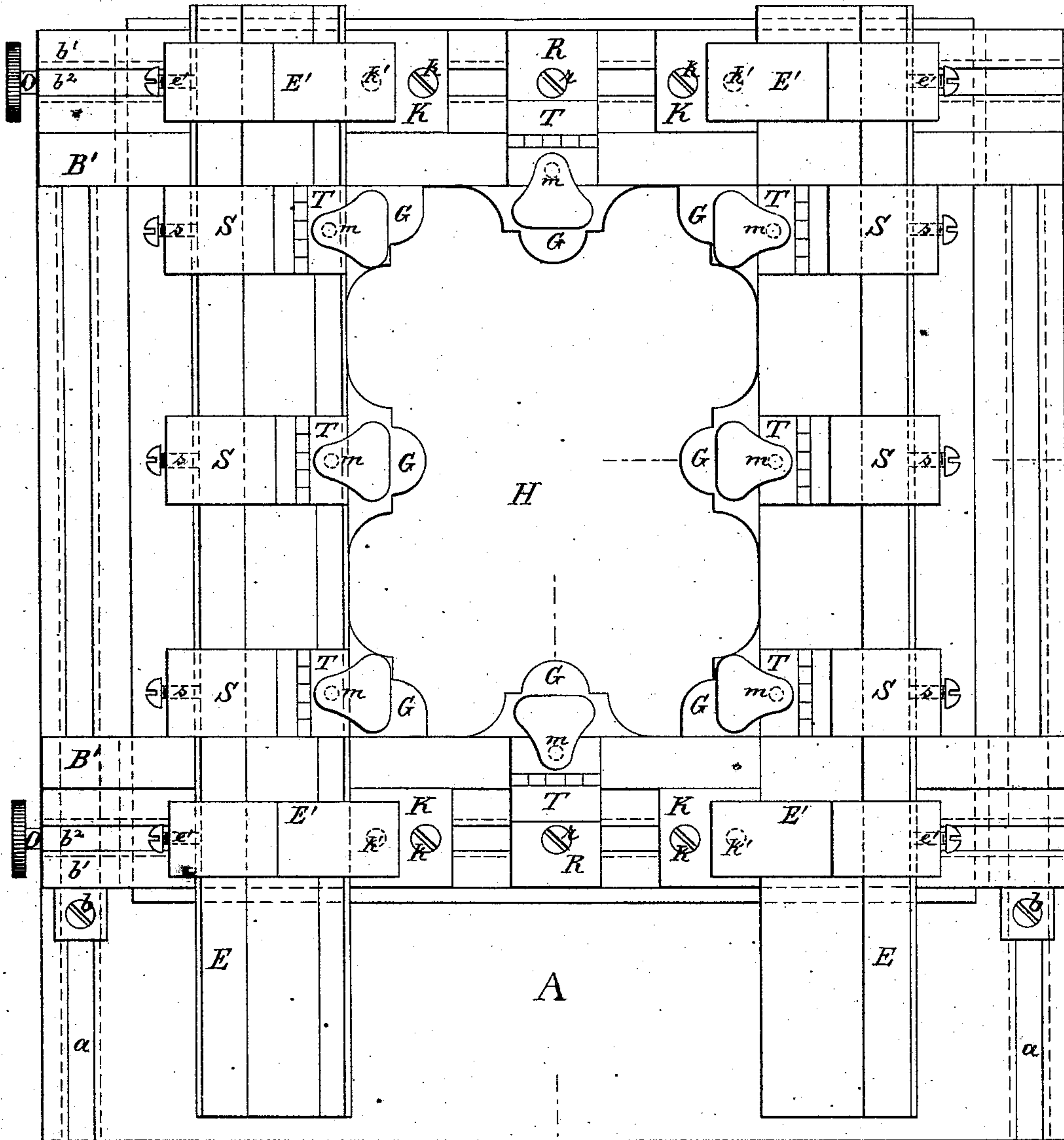


N. JENKINS.
Adjustable-Templates.

No. 157,288.

Patented Dec. 1, 1874.

Fig: 1.



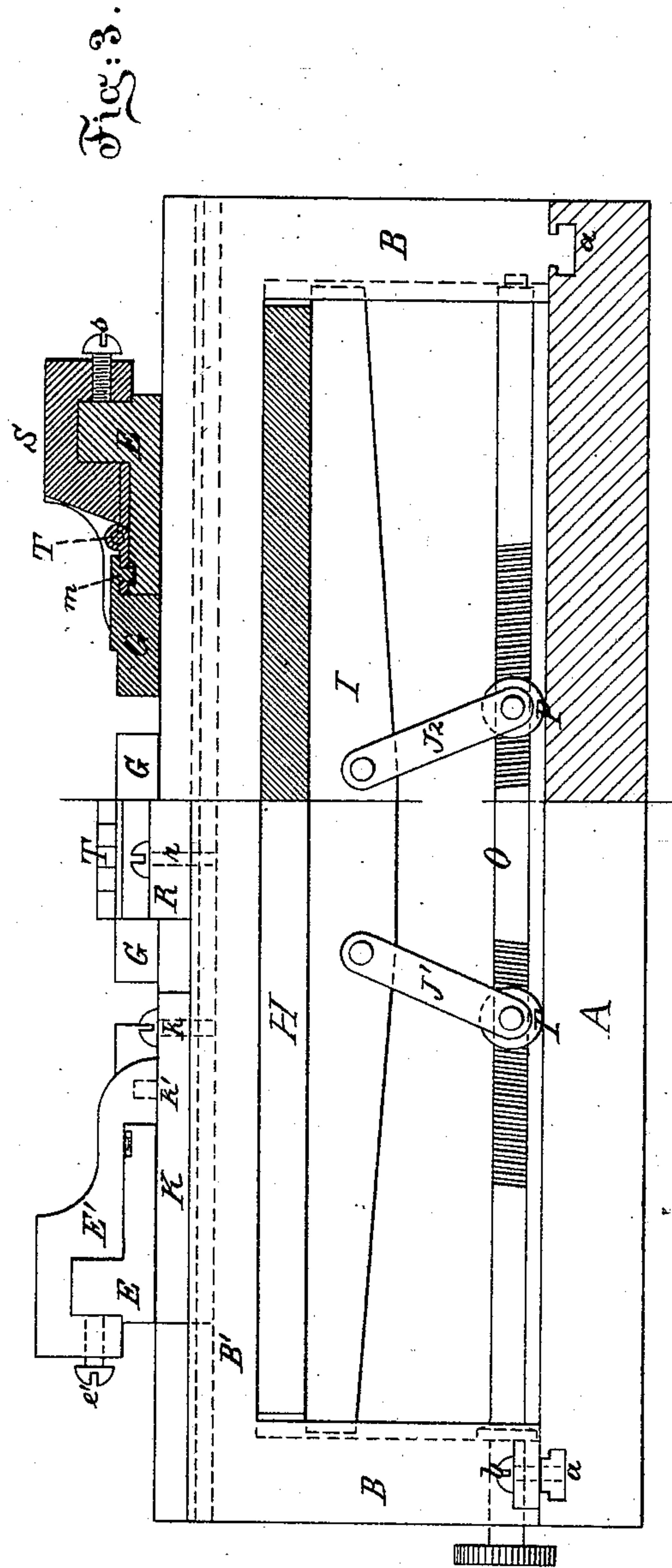
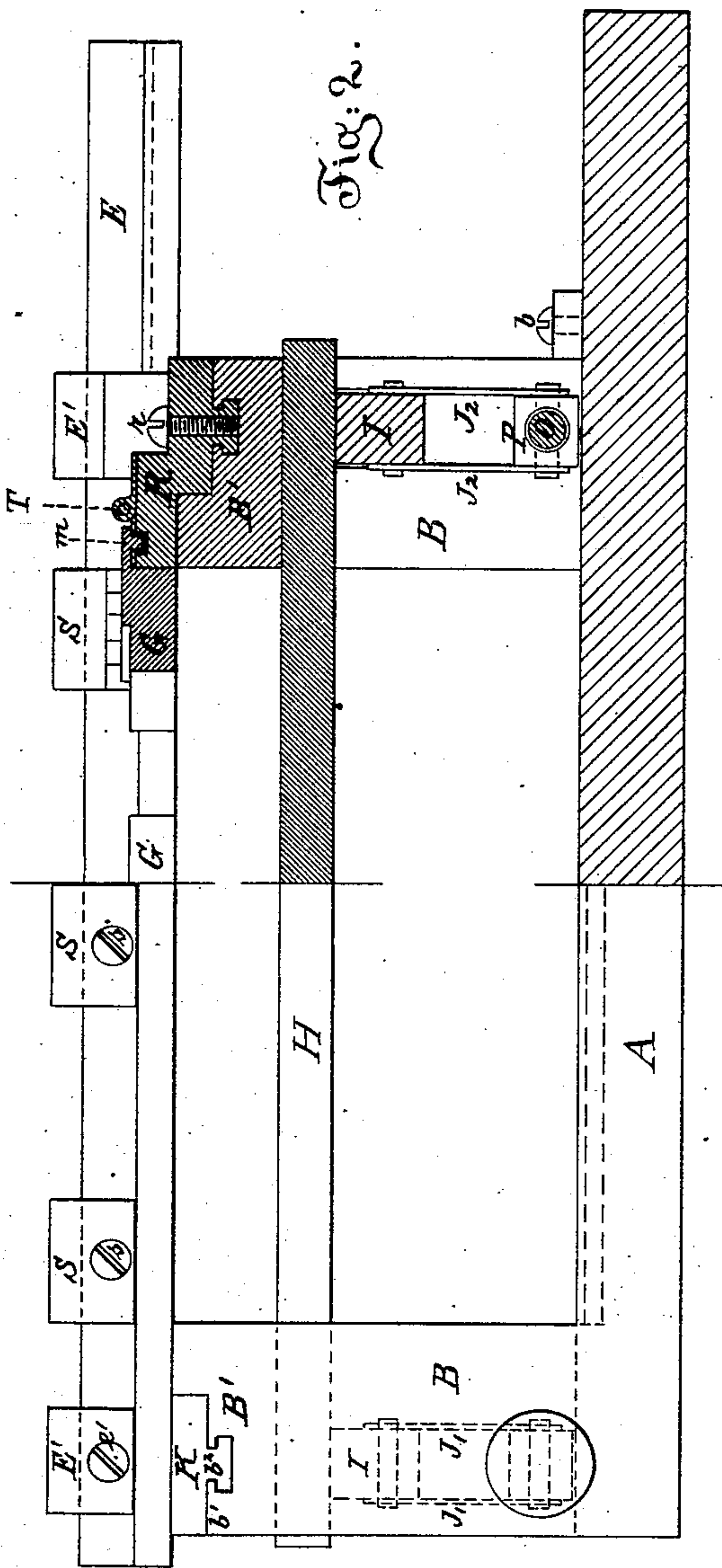
Witnesses,
Geo. D. Patten
D. R. Cowe

Nicholas Jenkins
by his attorney
J. L. Nelson

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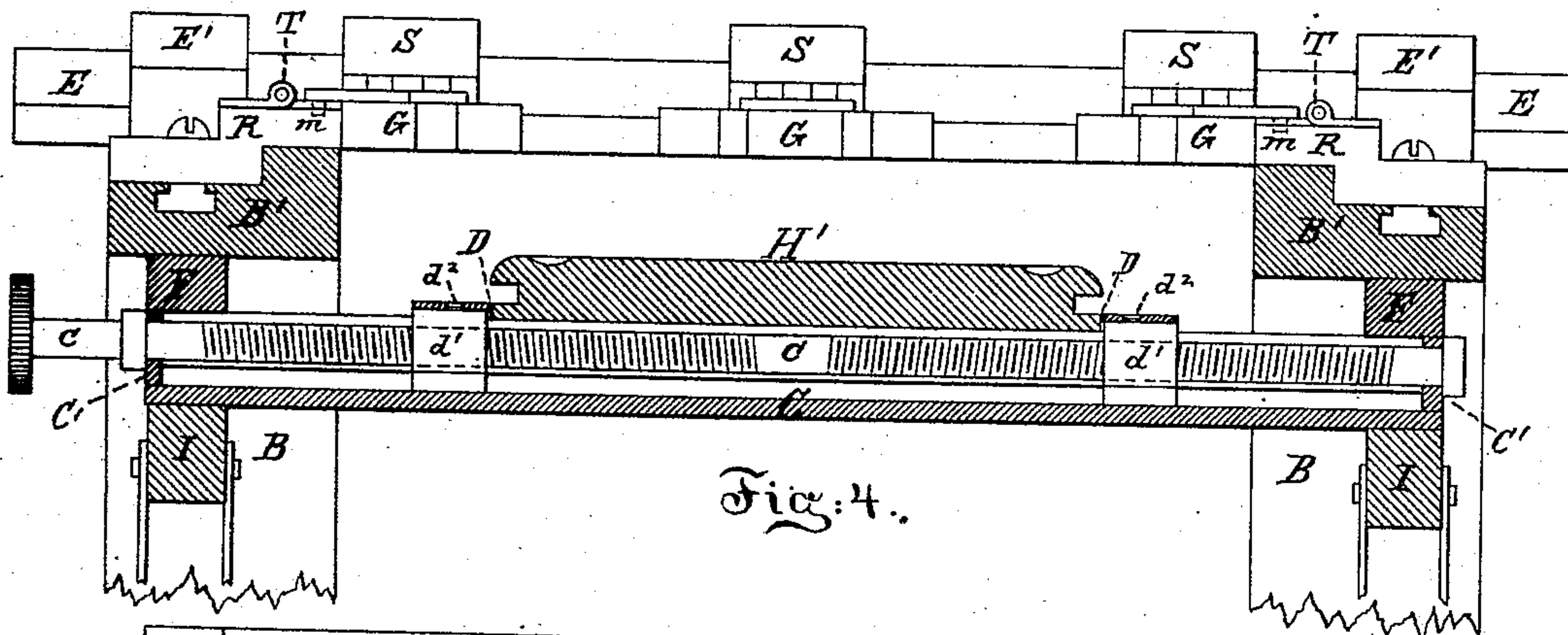


Fig: 4.

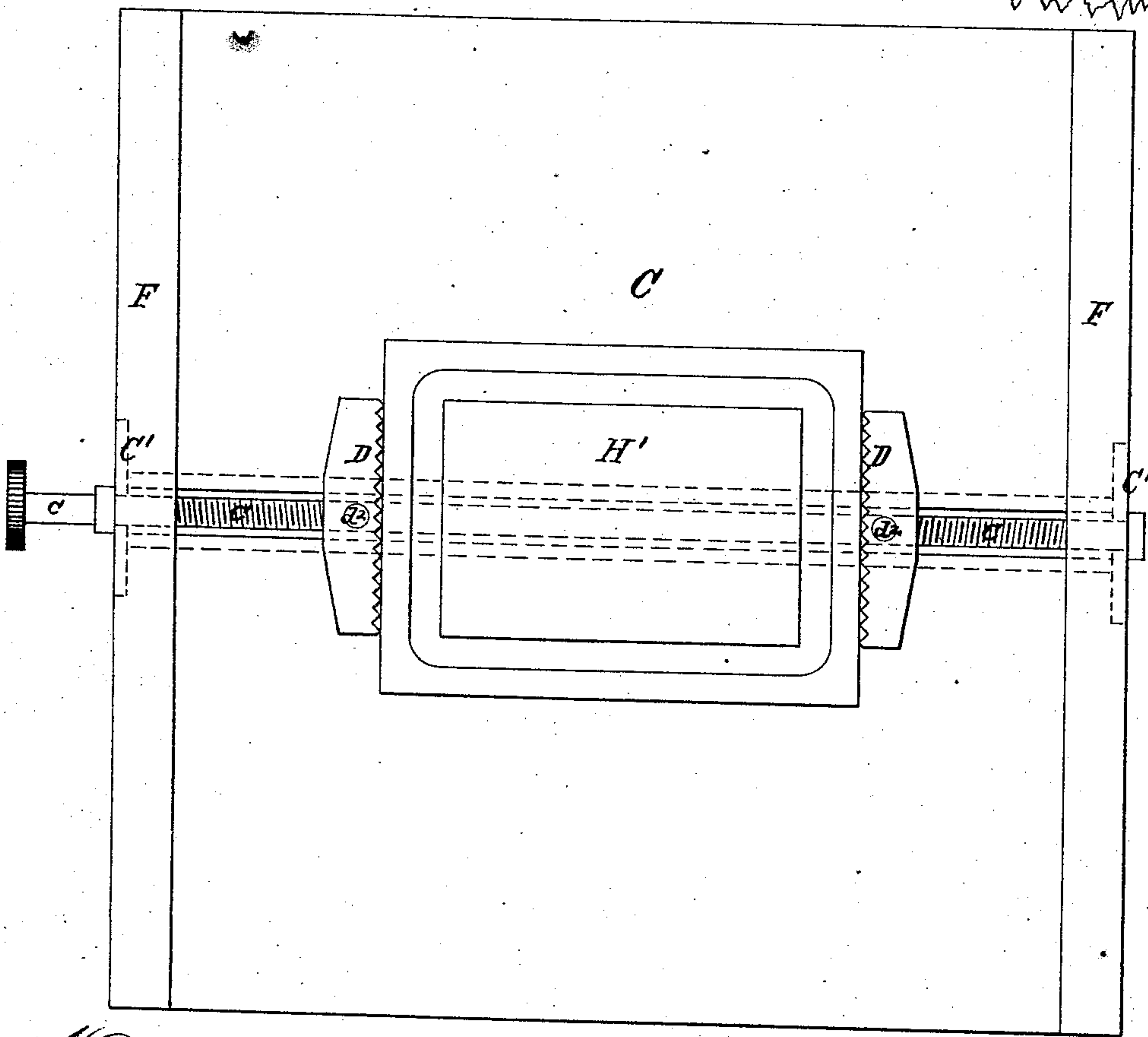


Fig: 5.

Witnesses.
Jno. D. Pitten
D. R. Cowle

N. Jenkins
by his atty J. S. Lelton

UNITED STATES PATENT OFFICE.

NICHOLAS JENKINS, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN ADJUSTABLE TEMPLETS.

Specification forming part of Letters Patent No. 157,288, dated December 1, 1874; application filed November 11, 1874.

To all whom it may concern:

Be it known that I, NICHOLAS JENKINS, of New Haven, in the State of Connecticut, have invented certain Improvements Relating to Adjustable Templets, of which the following is a specification:

The device is adapted for use in the wood-working machines described in former patents to me, and also in other wood-working machines, technically known as paneling, shaping, variety-molding, &c.

It consists in certain improvements, more especially set forth hereafter, on the invention set forth in my patent dated July 12, ante-dated June 29, 1870.

This device gives a great range of sizes by providing means for readily making intermediate sizes. It allows one length of the longitudinal bars to serve for various lengths of templet, and it also provides for more conveniently throwing the removable pieces out of or into play.

I have also devised improved clamping means, which hold the wood to the templet.

The accompanying drawings form a part of this specification:

Figure 1 is a plan view. Fig. 2 is a side view, partly in section; and Fig. 3 is an end view, partly in section. Fig. 4 is a longitudinal section across the principal clamps, and an elevation of the supporting-board and the sub-clamps employed thereon as a holding means for the wood. Fig. 5 is a plan view of the supporting-board and holding-clamps detached from the other parts, with a piece of wood properly held therein.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A is the movable table of the machine. B B are stands, secured thereon by being adjusted in grooves *a*. They support cross pieces or bars B', which are formed each with a narrow plane surface on the top, and with a considerably depressed surface, *b*¹, alongside, in which is a T-section groove, *b*². The under faces of the cross-bars B' receive the pressure of the wood which is to be treated. The wood is to be forced upward against it by clamps actuated from below, as will be explained hereafter. Shoes K are adapted to be adjusted in various positions on

the depressed portions *b*¹, being fixed in any position thereon by means of pinching-screws *k*. The upper surface of each shoe K is flush with the elevated part of the cross-bar. Both receive and support longitudinal bars E, which overhang or extend beyond the cross-bars when the latter are adjusted near together. The bars E are secured to the shoes K by the aid of connecting-pieces E', which fit over an elevated rib on the bar, and are set in the desired positions by means of pinching-screws *e*'. The connecting-pieces E' overhang inwardly, and the under surface of the overhanging part of each has a hole, which matches upon a pin, *k*', in the corresponding shoe.

The cross-bars B' are intended to be graduated on their upper surface, to facilitate the setting of the shoes K, and consequently of the bars E, outward or inward to any desired extent.

The connecting-pieces E' can swing around upon the pins *k*', and thus the bars E can be set in various oblique positions, when desired, as in the preparation of what are known as beveled panels for stair-work and analogous situations.

I employ exchangeable pieces G, which may be exactly similar to those described in my patent of July 12, 1870; but, instead of attaching them to the longitudinal bars E and the cross-bars B' by applying their pins *m* directly in holes in said bars, I match the pin *m* into hinged parts T on adjustable pieces R S, supported on the bars. The adjustable pieces are of two kinds. One set, R, is matched on the cross-pieces B', and confined by means of the T-section grooves *b*² and pinching-screws *r*. Another set, S, of the adjustable pieces are matched on the higher longitudinal bars E, and secured by means of pinching-screws *s*. They hold the adjustable pieces G at a level below themselves, while the other set of lower adjustable pieces, R, hold their pieces G at a level a little above themselves. The result is the holding of the pieces G in any position required on either the bars B' or the bars E, and at practically the same level.

When it is desired to remove the pieces G, they may be removed by disconnecting the pins *m* from the hinged parts T on the respective adjustable pieces; but I prefer, when the

removal is to be only for a moment—as, for example, to allow the cutting-tool to run once around, guided by the bars D' and E alone—to simply turn up the several pieces G out of the way, by turning the hinged parts T on their hinges, to remove or restore the pieces G . The change can thus be made instantaneously, while disconnecting, and especially again connecting, the pin m (when the fit is close) requires time and labor.

I press the wood H which is to be treated firmly against the lower faces of the cross-bars E' by means of clamping-bars I , which are guided at their ends in vertical grooves in the inner sides of the adjustable posts B . $J^1 J^2$ are links pivoted on the sides of the clamps I , and connecting them with nut-pieces P , which receive the threads of the screw O . The thread of each of these screws is right-handed where it passes through one of the nuts P , and left-handed where it passes through the other. By turning the screw O in one direction, the links $J^1 J^2$ are brought into a nearly upright position and the clamp I is elevated, while the opposite direction spreads them apart and lowers the clamp to liberate the wood. The under sides of the nut-pieces P are adapted to bear fairly and slide easily on the table A .

In the operation of the machine, the table A is moved in one direction or the other by means of screws, or otherwise, as required, to guide the entire templet and the wood clamped therewith in the proper positions, guided by the traverse of the cutter, or of a roller thereon, (not represented,) against the interior working-surface. To panel a piece of wainscoting or the like, the several bars B' and E are adjusted in the proper positions, and held firmly by the screws b , k , and O . Then an adjustable piece, R , is set, and held by the screw r on each cross-bar B' , midway between the adjustable shoes K . Then an adjustable piece, S , is placed, and held by the pinching-screw s on each of the longitudinal bars E . Other adjustable pieces, S , are set opposite the corners of the panel, if desired, and the several exchangeable pieces G are attached by means of their pins m . The parts are now adjusted. A piece of plank or board of the proper thickness is clamped under the cross-bars B' by operating the screws O . The whole being now placed in position, and a cutting-arbor being depressed, with its smooth collar or roller just touching the inner face of either a bar, B' , or E , or one of the removable pieces G of the templet, and the attached work is traversed smoothly around, being guided by the templet until a channel is cut quite around on the surface of the wood, having a contour corresponding to the shape of the several removable pieces G and the parallelogram formed by the bars. If, now, it is desired, as is frequently the case, to succeed this movement by a plain cut with the same cutter, or a different cutter passed directly around the interior of the parallelogram, without the ex-

changeable pieces G , it is only necessary to turn up the several pieces G with their connected hinged parts T by the hand of the attendant, and the machine is then in adjustment for doing so; or, if a part only are to be so removed, such part may be thus turned up, and will be ready to be instantly again turned down, after treating the succeeding piece.

The machine allows the same facility as my former one for the entire removal of the pieces G and the substitution of others of larger or smaller size, or different contour.

The operation of introducing and removing the wood may be conducted with more facility, because there are but two screws to operate.

In the last part of the motion the links $J^1 J^2$ act togglewise, to increase the force of the clamping.

In case the wood H chances to be thicker at one edge than another, the clamping-pieces I can tilt on the links $J^1 J^2$ to adapt themselves thereto.

In order to reduce the waste of wood which is involved in clamping a portion under the cross-bars B' , I propose, in some instances, to use only wood of the size required for the panel, and to secure it upon a separate board, which board may then be held under the clamping-bars B' in the same manner as above described. To effect this I provide two movable bars, which I term sub-clamps, preferably formed with fine teeth on their inner faces, as indicated by D , and provide a right-and-left screw, c , lying in a groove in the board C , which draws them together. The wood H' being previously sawed out of a proper length, only a very little greater than the panel-work which is to be produced, the screw c is turned, and the bars D set at the proper distance apart to receive the wood. Now, the wood is laid on the board C , and the screw is turned in the opposite direction until the teeth of the bars D are firmly pressed into the end fibers of the wood. The bars D are pivoted upon the nuts d^1 , which take hold of the screws by means of pivots d^2 , so that the bars may turn as much as is required in taking hold of triangular or irregularly-shaped pieces of wood. The screw is mounted in bearings C' on the board C , at each end of the groove. The groove is made of dovetailed section, or T -section, and the nuts are correspondingly formed, so as to be held firmly down in the groove.

In order to make a better bearing on the under side of the cross-bars B' , I propose to introduce a strip of lumber, F , under each bar B' of a thickness about equal to the thickness of the wood, H' , which is being treated.

I can, if preferred, provide a number of such strips F of different thicknesses, with means for attaching them at will on the board C .

I claim as my improvements in adjustable templets—

1. In combination with the adjustable bars B' and adjustable bars E , crossing the former, the adjustable pieces R and S , adapted to re-

ceive the removable parts G in any required position, as and for the purposes herein specified.

2. The shoes K and connecting-pieces E', adjustable in the required positions on the bars B' E, and adapted to engage with removable pieces G and bars B' E, and to hold them firmly, as herein set forth.

3. The hinged parts T on the inclosing frame-work B' E, or on parts attached thereto, in combination with the pieces G, and

adapted to allow the latter to be temporarily turned up out of the way, as and for the purposes herein specified.

In testimony whereof I have hereunto set my hand this 5th day of November, 1874, in the presence of two subscribing witnesses.

NICHOLAS JENKINS.

Witnesses:

GEO. W. BADGEROW.

E. T. ALLEN.