

(No Model.)

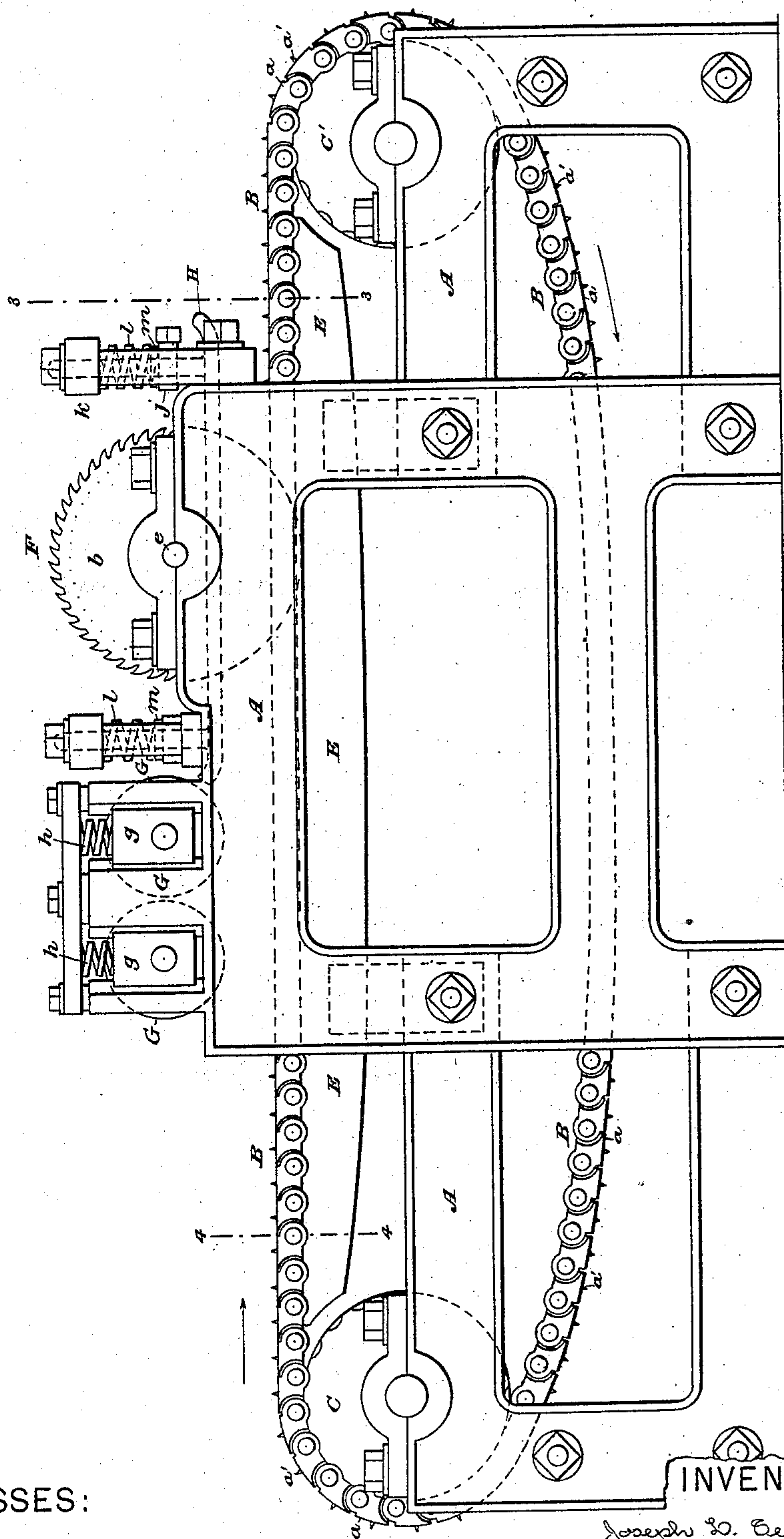
3 Sheets—Sheet 1.

J. L. SEYMOUR.  
KINDLING BLOCK SAWING MACHINE.

No. 290,711.

Patented Dec. 25, 1883.

Fig. 1.



WITNESSES:

*E. B. Bolton*  
*Geo. Bainton*

INVENTOR:

*Joseph L. Seymour*  
By his Attorneys,

*Burke, Ingersoll & Cornell*

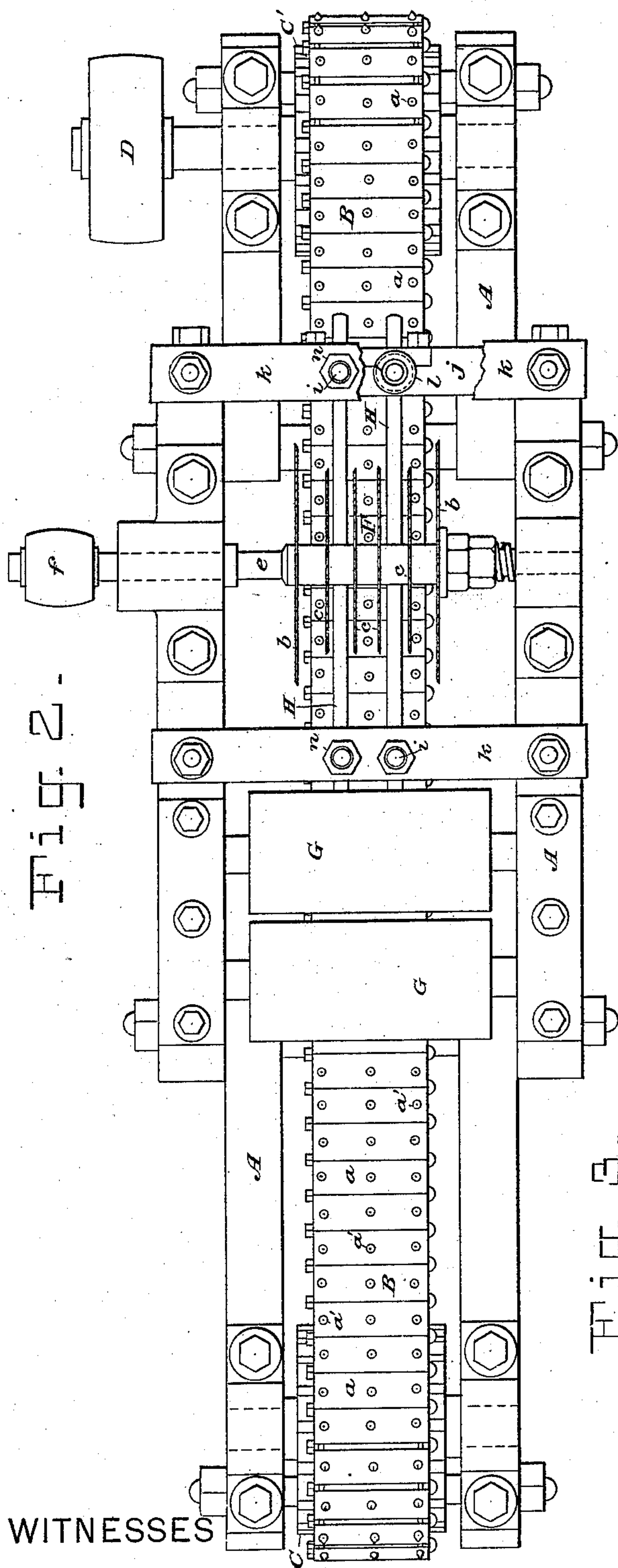
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WITNESSES

E. B. Bolton

Geo. Bainton

Fig. 5.

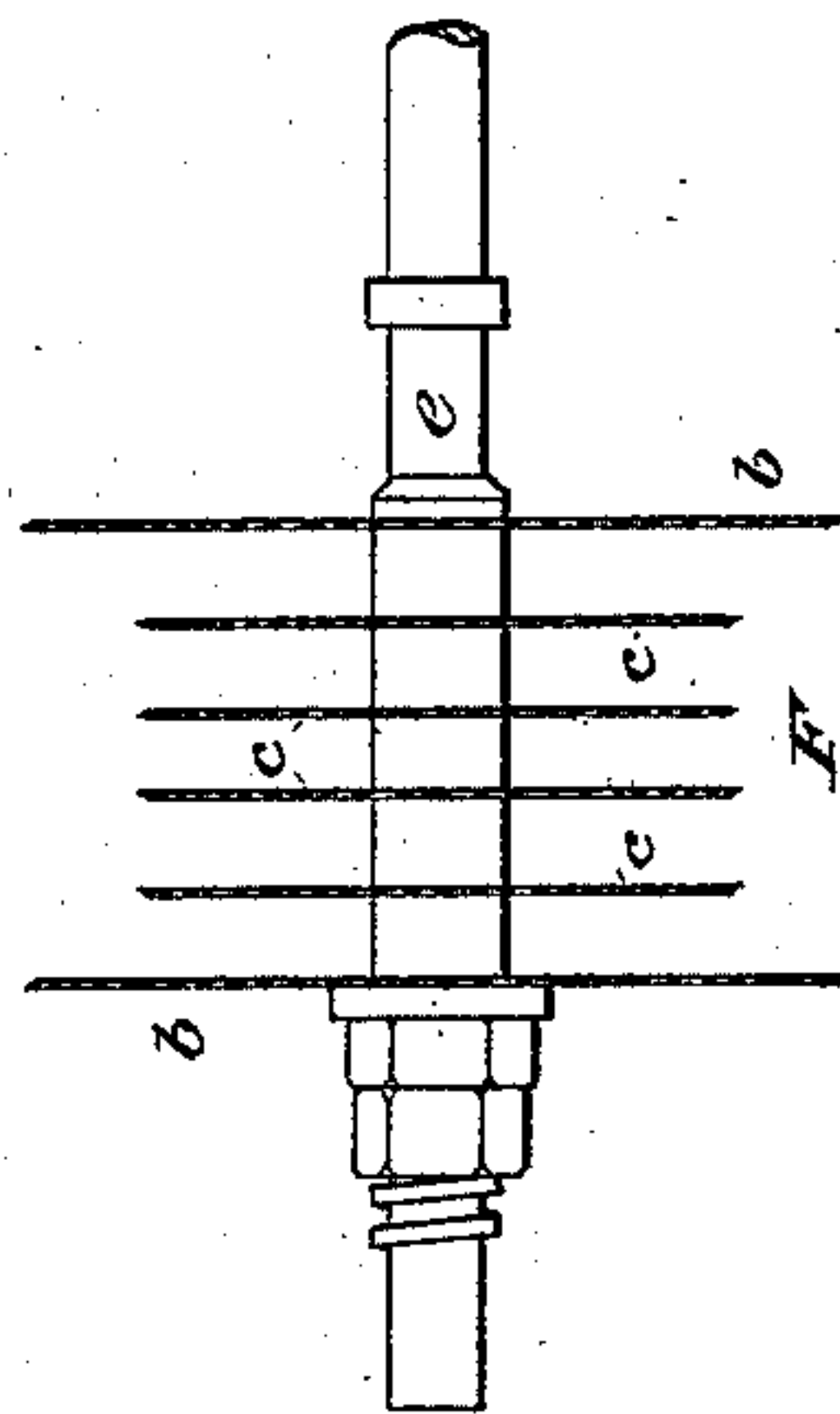


Fig. 4.

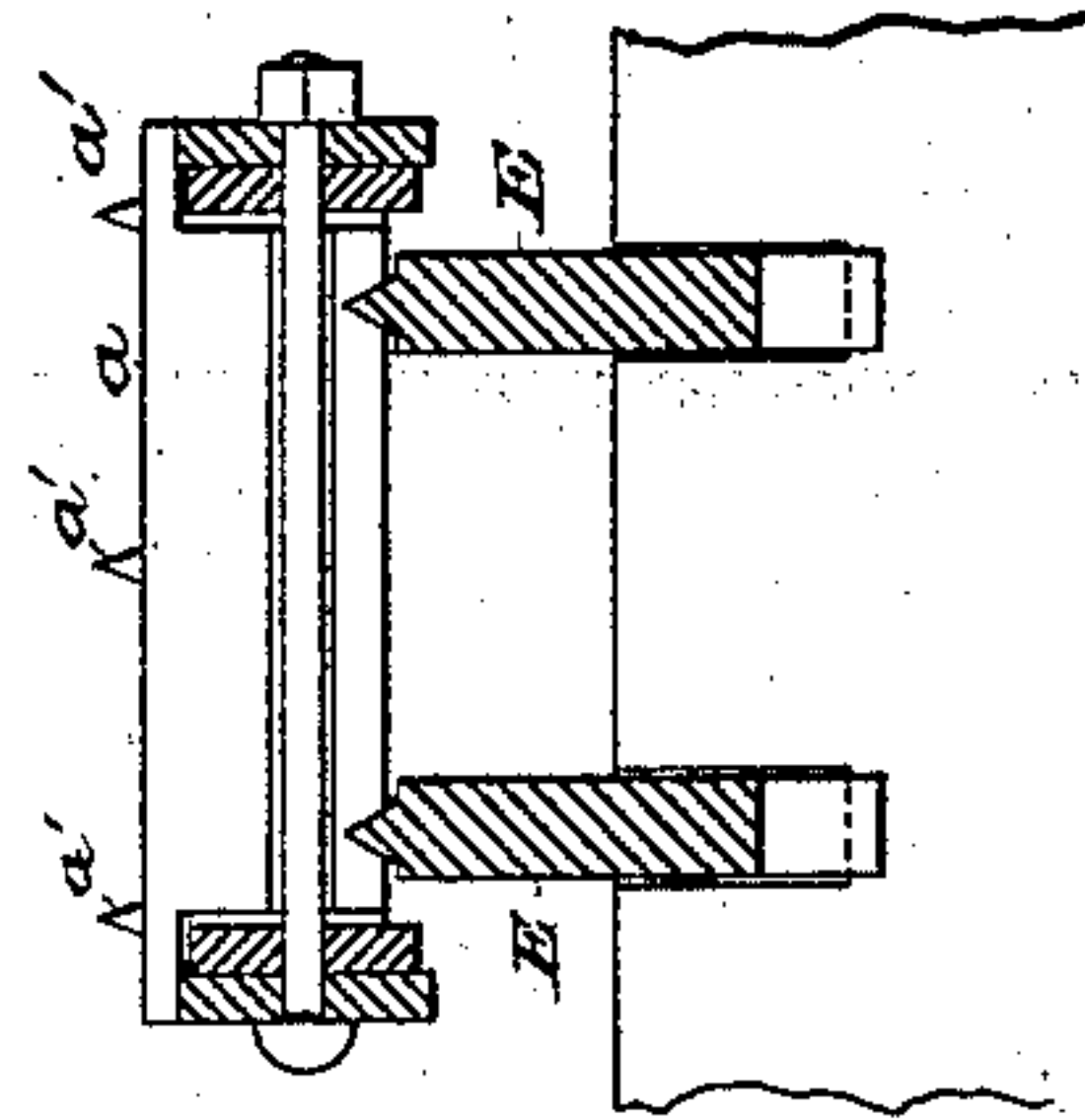
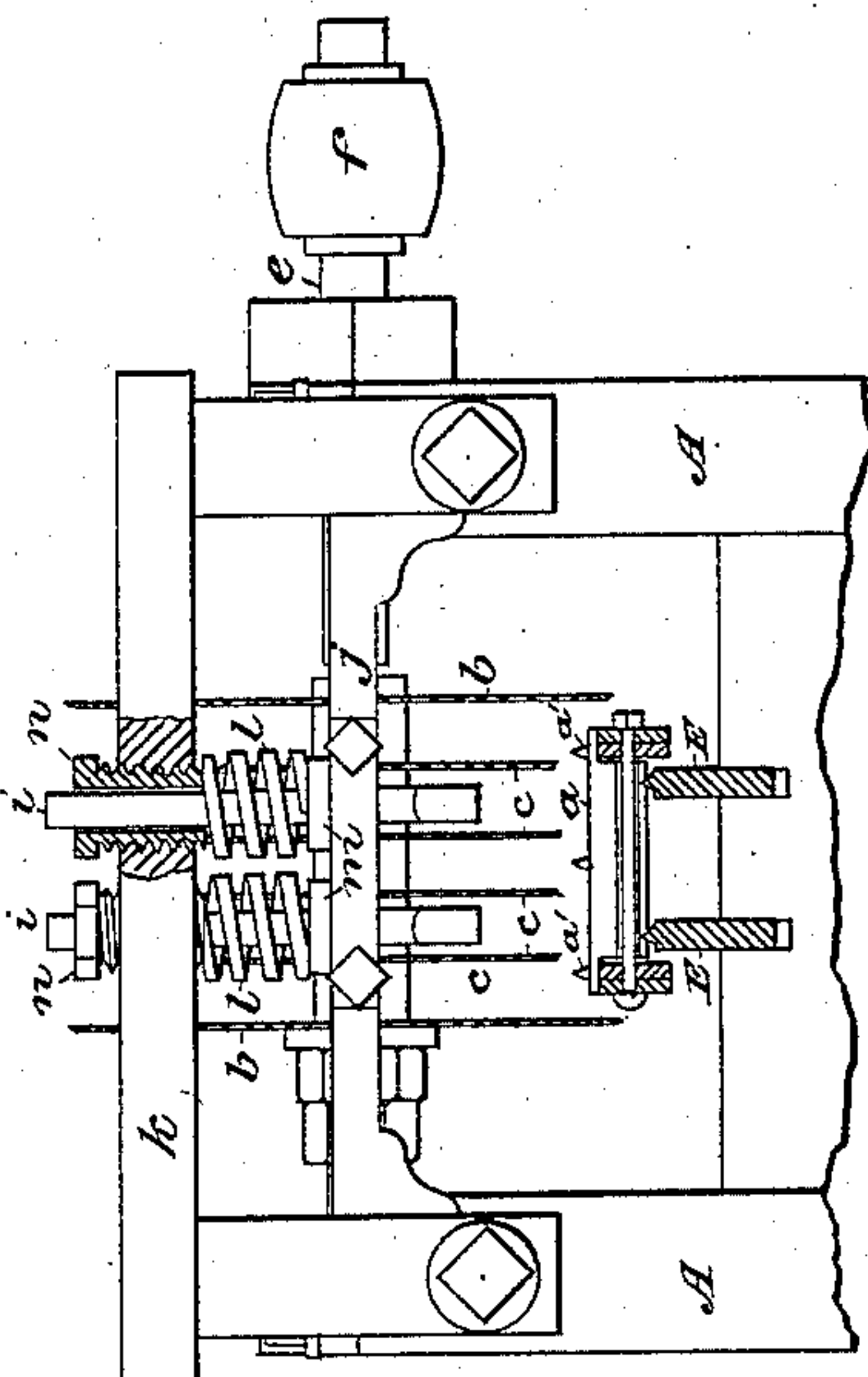


Fig. 3.



INVENTOR:

Joseph L. Seymour  
By his Attorneys,

Purke, Fraser & Connors

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Fig. 6.

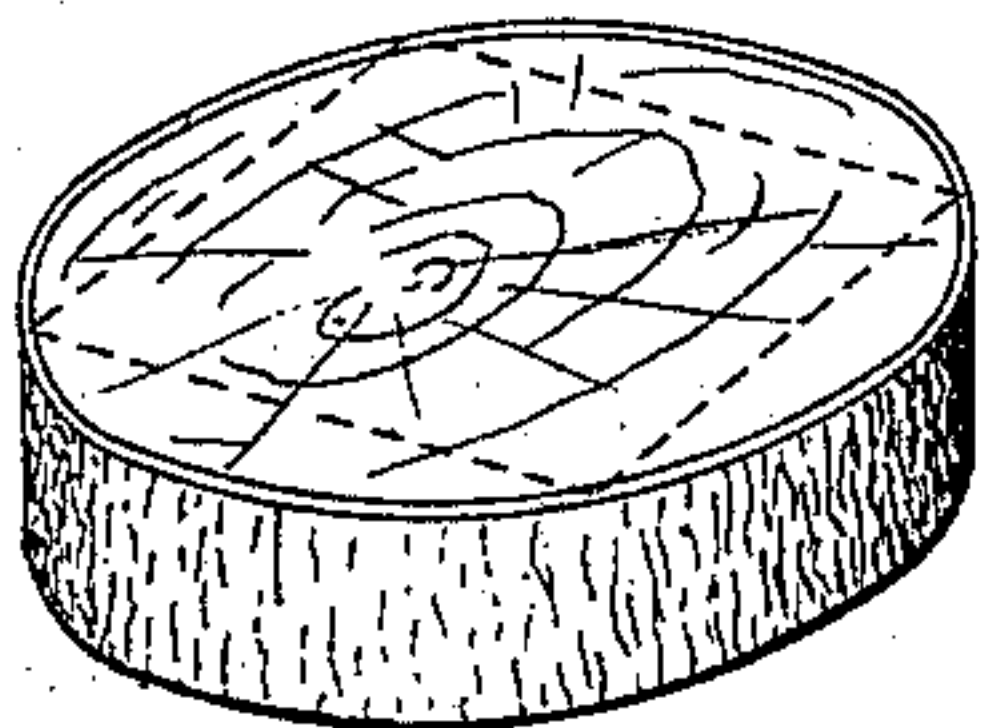


Fig. 7.

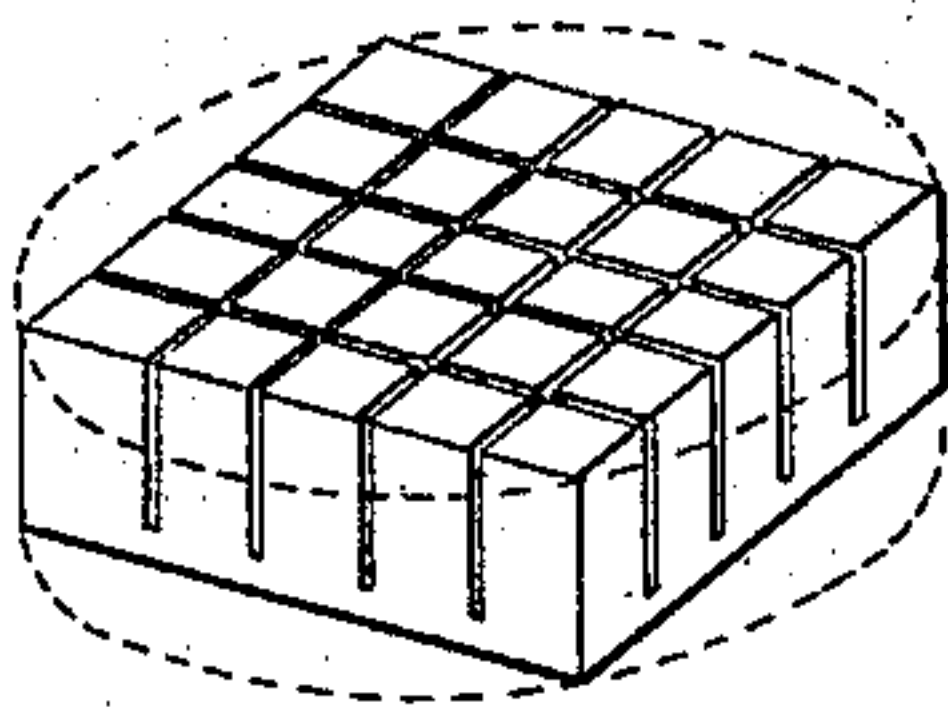


Fig. 8.

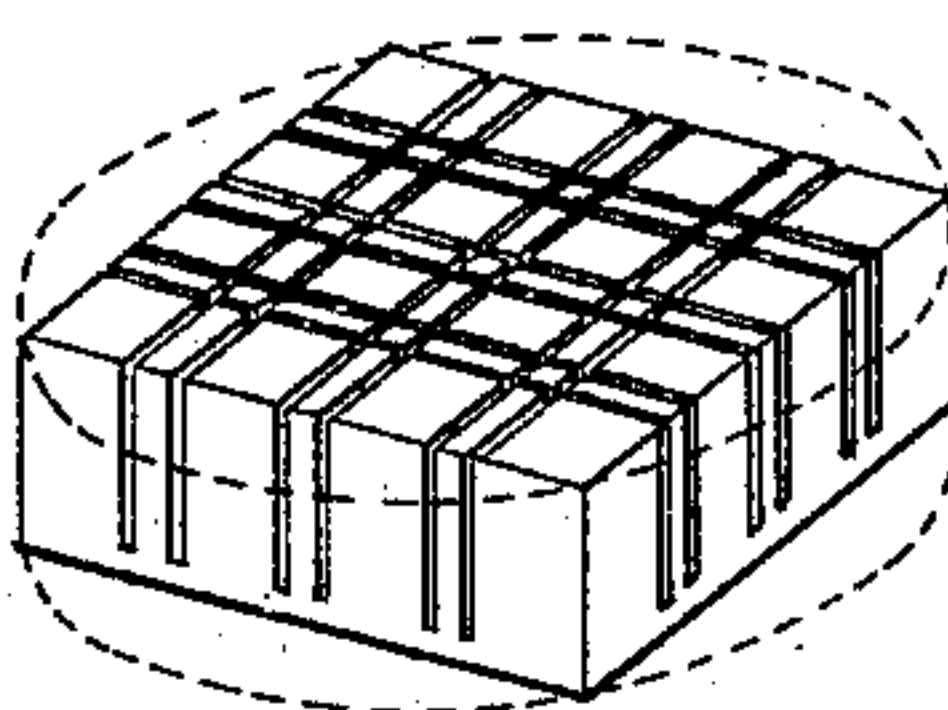
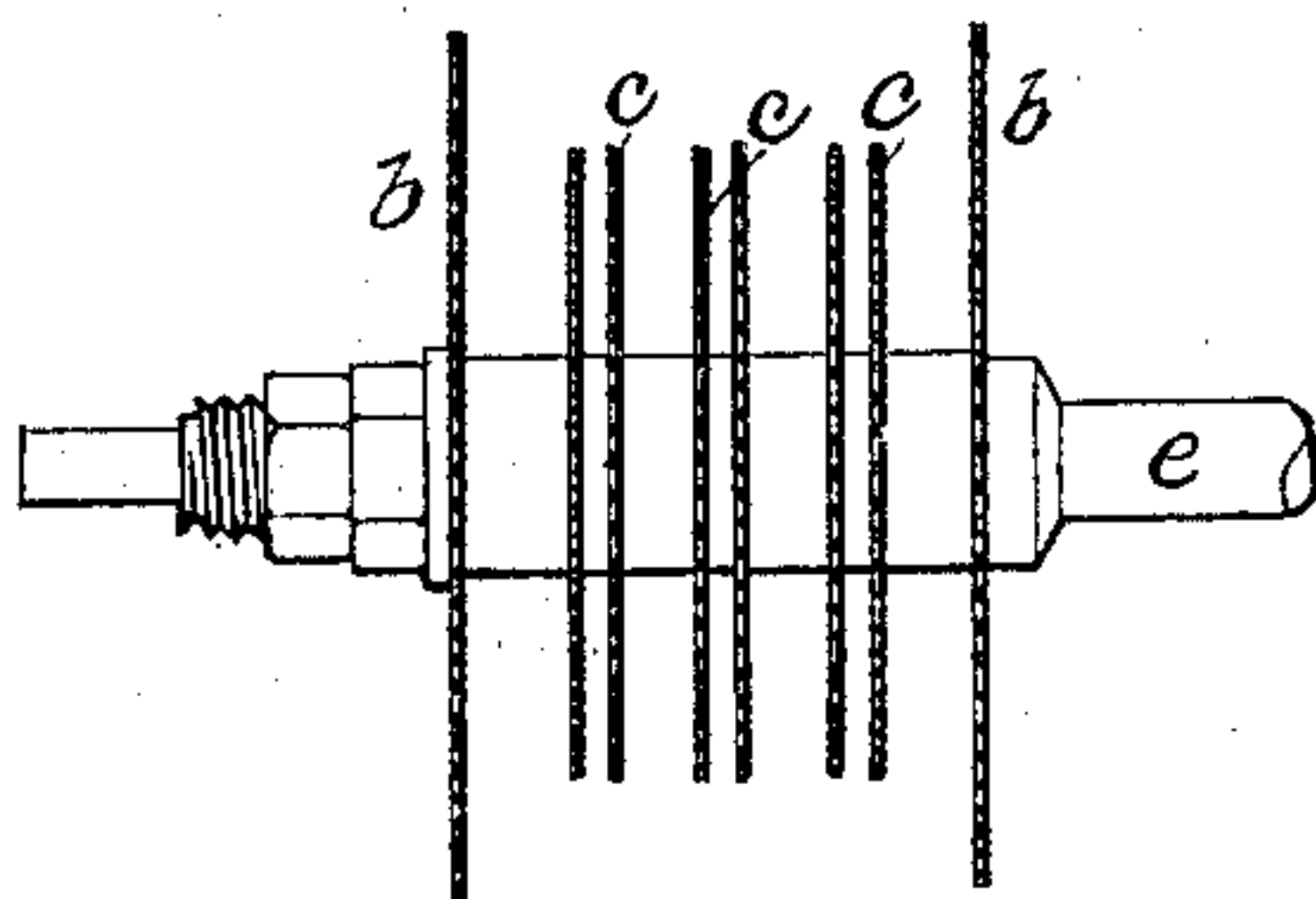


Fig. 9.



WITNESSES:

*E. B. Bolton*  
*Geo. S. Sinton*

INVENTOR:

*Joseph L. Seymour*  
By his Attorneys,

*Burke, Fraser & Connelley*



# UNITED STATES PATENT OFFICE.

JOSEPH L. SEYMOUR, OF NEW YORK, N. Y..

## KINDLING-BLOCK-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 290,711, dated December 25, 1883.

Application filed November 1, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. SEYMOUR, a citizen of the United States, residing in the city, county, and State of New York, have  
5 invented certain new and useful Improvements in Machines for Cutting Blocks for Kindling, of which the following is a specification.

My invention relates to a machine for squaring and slitting blocks for kindling cut from the ends of logs. The main feature of the invention is the gang of circular saws arranged to square the blocks and at the same time slit or kerf them deeply, so that they may be easily  
15 split up into fragments.

My object is to take blocks cut from the end of a log—say about three inches long and about twelve inches in diameter, the form being substantially circular—and pass them under a gang of circular saws arranged so as to square said blocks and kerf them deeply, but leave the blocks in their square form, so that they may be compactly stored for shipment. These blocks, after being thoroughly seasoned,  
25 are placed on the market, and the user may easily split them into fragments with the fingers for use in kindling.

In order to square the block and form the cross slits or kerfs therein the block is passed  
30 under the saws twice, being fed to the saws in such a manner that the second series of cuts and kerfs cross the first at right angles or nearly so.

In the drawings, which serve to illustrate my invention, Figure 1 is a side elevation of my machine. Fig. 2 is a plan of the same. Figs. 3 and 4 are respectively cross-sections on lines 3 3 and 4 4 in Fig. 1. Fig. 5 shows the gang of circular saws detached. Fig. 6  
40 shows the block as it is cut from the end of the log, and Fig. 7 the same after it has been squared and slitted by two operations of the saws. Fig. 8 illustrates a modification of the kerfing of the blocks, and Fig. 9 a modification of the gang of saws adapted to kerf this form of block.

Let A represent a substantial frame, of wood or metal, in which are mounted the journals and other moving parts of the mechanism.

50 B is an endless carrier or apron, formed of sections or links *a a*, hinged together and provided with sharp points *a' a'*, to take into the

blocks to be fed to the saws. This apron or carrier is mounted on drums or pulleys C C', from the latter of which it is driven, through 55 the medium of a belt-pulley, D. The upper portion of the apron B, which forms the moving bed upon which the blocks are placed, rides over longitudinal bearers E E, fixed to the machine-frame. These have V-shaped 60 edges, which engage correspondingly-shaped recesses or notches in the sections or links *a*, as best shown in Fig. 4. These bearers serve to support and guide the apron.

F represents, in general, a gang of circular 65 saws, *b b c c*, mounted on a mandrel, *e*, which bears a suitable belt-pulley, *f*. Fig. 5 shows this gang of saws detached. The saws are mounted over the carrier B, and the gang comprises the two larger end saws, *b b*, which extend below the upper surface of the carrier, and which serve to square the block, and the lesser intermediate saws, *c c*, which do not extend down to the surface of the carrier, and which serve to split or kerf the block. 75

G G are pressure-rollers, with their journals mounted in sliding boxes *g*, upon which bear strong springs *h*. The function of these rollers will be hereinafter described.

H H are spring-pressure bars, to hold the 80 blocks down to the apron or carrier B while they are being operated on by the saws. The mode of mounting these is sufficiently well shown in Figs. 1 and 3. As both bars are mounted alike, a description of one will be sufficient. The bar has two upright stems, *i i*, which pass up through cross-bars *j* and *k* in the frame A and through springs *l*, arranged between said bars. The springs rest on collars *m* on the upright stems *i* and abut against 85 tubular screws *n* in the upper cross-bar, *k*. This bar and nut have been broken away in Fig. 3 to illustrate the construction. By means of the nut *n* the tension of the spring *l* may be properly regulated. The pulleys D and *f* may 95 be driven from the same power-shaft or not, as desired. It is only necessary that the saws be driven with the speed proper to the work they have to perform, and the apron or carrier B be made to move with the speed at 100 which it is desired to feed the blocks to the saws. These speeds and the proper mode of belting the shafts will be well understood by those skilled in the art, and will require no



further description here. These saws and apron move in the direction indicated by the arrows, and the disk-like blocks (see Fig. 6) are placed on the apron at the left. (See Figs. 1 and 2.) As they are borne on to the right by the apron they first pass under the rollers G G, which press them firmly down upon the apron and sink the points  $a'$   $a'$  into them. They next pass under the pressure-bars H H, and while held firmly by these encounter the saws  $b$  and  $c$ . The saws  $b$  trim off both edges of the blocks, and the smaller saws,  $c$ , cut parallel kerfs in them, extending nearly through. The blocks now pass on out from under the bearers and are removed. In order to square and cross-kerf them, they are then turned about one-half way round and passed through again, when they assume the form shown in Fig. 7. These blocks, thoroughly seasoned or kiln-dried, may be packed into a very small compass, and when to be used may be readily split apart by the fingers.

By reference to Fig. 6, which shows the blocks cut from the end of a log, it will be seen that the grain runs lengthwise of the billets or sticks into which the block is split. This mode of slitting makes it easy to season or dry the blocks.

In Fig. 5 I have shown the saws in the gang spaced equally, but this is not necessary. They may, for example, be unequally spaced, as in Fig. 9. In this case the billets formed by the slitting or kerfing will be of different sizes, as represented in Fig. 8.

I do not limit myself to the precise construction and arrangement of the parts of the machine as herein shown, as they may be departed from to some extent without materially affecting my invention—as, for example, one or more rollers, G, may be employed and the points  $a'$  may be omitted from the carrier B, provided the surface of the same be roughened sufficiently by other means to carry forward the blocks.

I may, also, in lieu of placing the saws all on one mandrel, place the larger saws  $b$  on one mandrel and the lesser saws  $c$  on another mandrel, and mount these in the frame in such a manner that one set of saws will act on the block before the other set. This arrangement would divide the work somewhat and lessen the strain on the saw-mandrels.

I am aware that pressure-bars have been before employed in sawing and planing machines, and I make no broad claim to this; nor do I broadly claim arranging saws or rotary cutters of different sizes on the same mandrel, as this is not new. It will be observed, however, that I seek to remove en-

tirely the edges of the block, so as to square it, while the main portion of the block on the carrier is only to be deeply kerfed. Therefore I arrange the mechanism for feeding the block to the saws to pass between the end saws of the gang, while the intermediate saws do not touch it, the former extending down to or below the carrier, so as to pass entirely through the wood, and the latter extending only part way to the carrier or feeding mechanism. This arrangement I believe to be new.

Having thus described my invention, I claim—

1. The combination, with the gang or gangs of saws, comprising the two larger cut-off saws and the smaller intermediate kerfing-saws, of means, substantially as described, for feeding the blocks to the saws, arranged to move between the end saws, the surface of said feeding mechanism being substantially parallel with the saw-mandrel, whereby the end saws are caused to square the block while the intermediate saws kerf it, substantially as set forth.

2. The combination, in a sawing-machine, of the gang or gangs of saws, comprising the larger end saws,  $b$   $b$ , and the lesser intermediate saws,  $c$   $c$ , the carrier or feeding mechanism B, arranged to move or travel between the saws  $b$   $b$ , the bearing-pulleys C C', the pressure-bars H and their springs, and the pressure roller or rollers and their springs, all arranged to operate substantially as set forth.

3. The combination, in a machine for squaring and slitting blocks for kindling, of the endless-apron or carrier-composed of the sections or links  $a$ , provided with points  $a'$ , the pressure roller or rollers G and their springs, the pressure-bars H and their springs, and the gang of circular saws F, comprising the two larger end saws,  $b$ , for squaring the blocks, and the lesser intermediate saws  $c$ , for kerfing or slitting the block, all arranged to operate substantially as set forth.

4. In a mechanism for squaring and slitting blocks for kindling, the combination, with the carrier B, composed of sections  $a$ , with V-shaped notches in their lower faces, of the bearers E, provided with V-shaped upper edges to engage the notches in the sections  $a$ , and to form guides and supports for the moving carrier, as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH L. SEYMOUR.

Witnesses:

HENRY CONNETT,  
GEO. BANTON.