

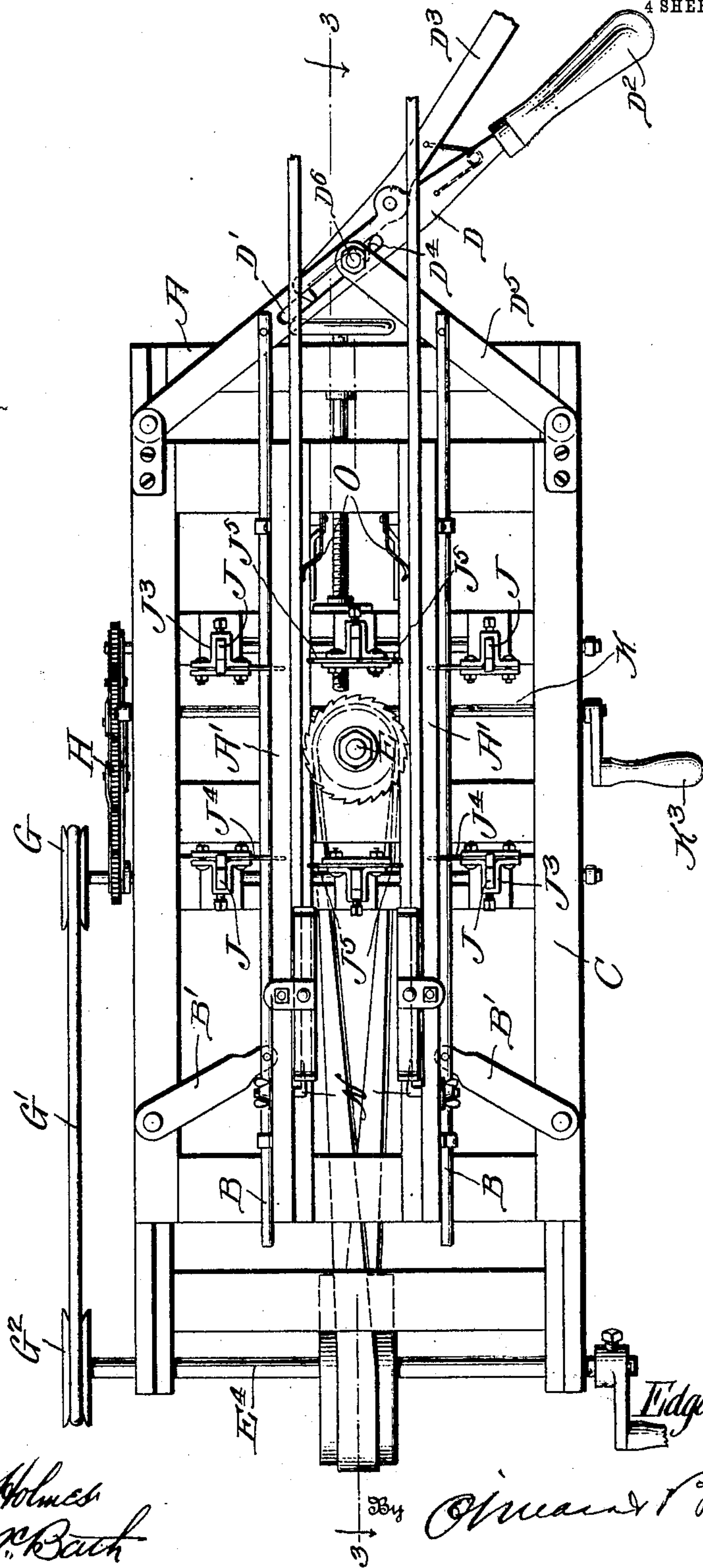
E. L. ZIEGLER.  
MACHINE FOR CUTTING WINDOW STILES.  
APPLICATION FILED FEB. 8, 1908.

916,520.

Patented Mar. 30, 1909.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

Olin H. Holmes  
E. B. McBach

Inventor

Edgar L. Ziegler

Oliver Brock

Attorney

**916,520.**

4 SHEETS--SHEET 2.



Olin H. Holmes  
E. B. McBath

Inventor

*Edgar L. Ziegler,*

ସଞ୍ଜ

*Orman & Brock*

Attorney:

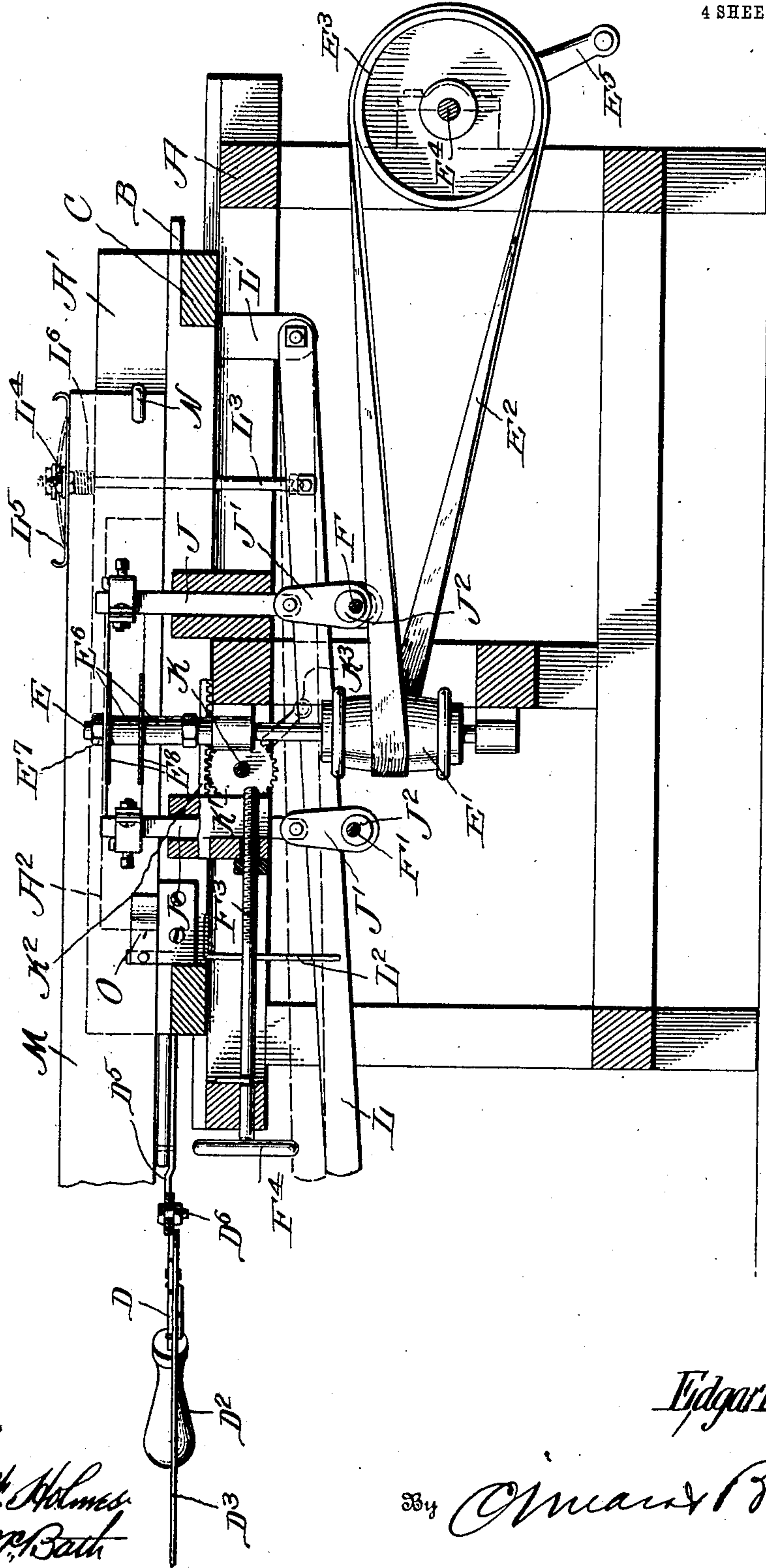
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4 SHEETS—SHEET 3.

Fig. 3.



Witnesses

Oliver H. Holmes  
E. B. McBeth

Inventor

Edgar L. Ziegler,

By

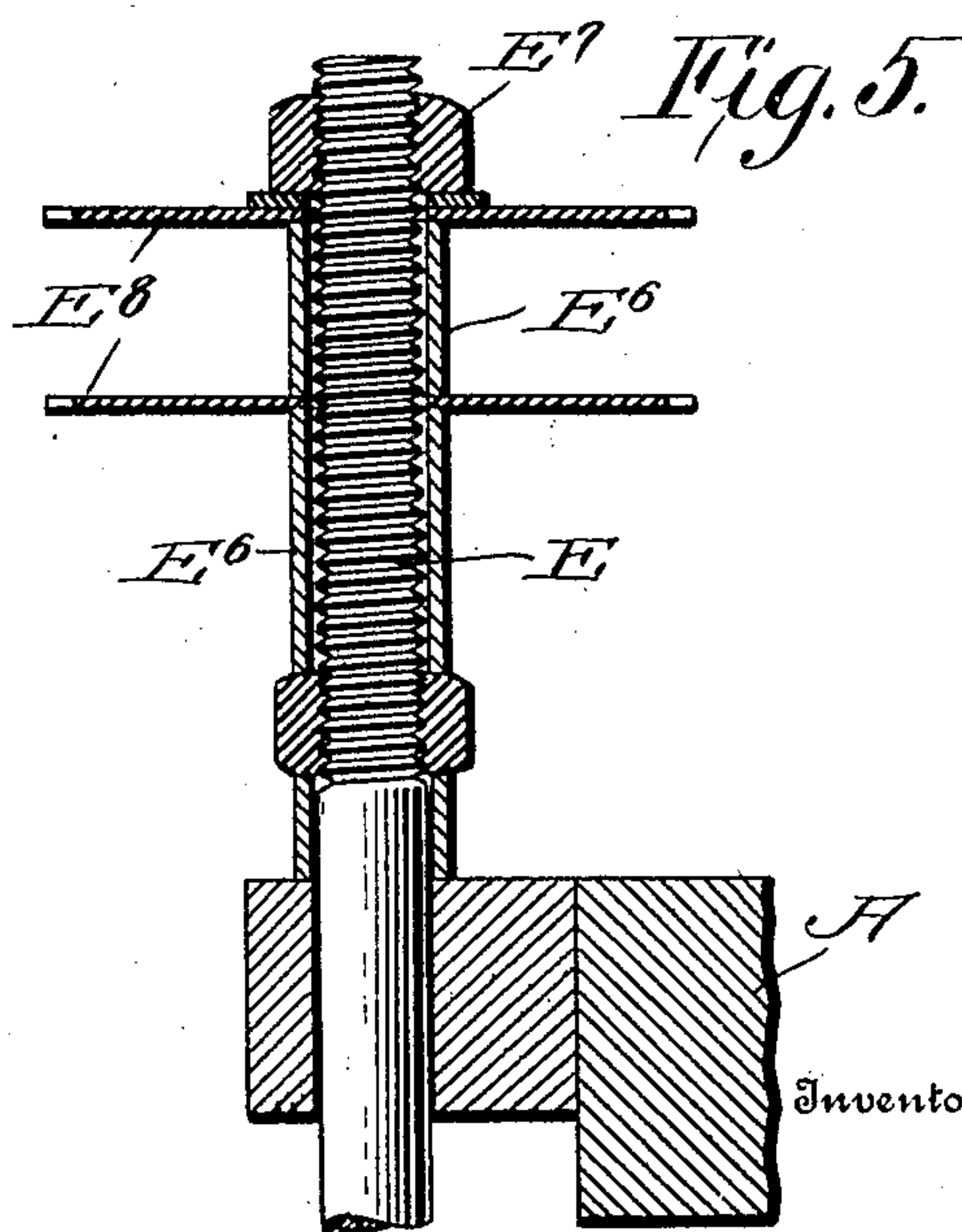
C. M. Brock

Attorneys

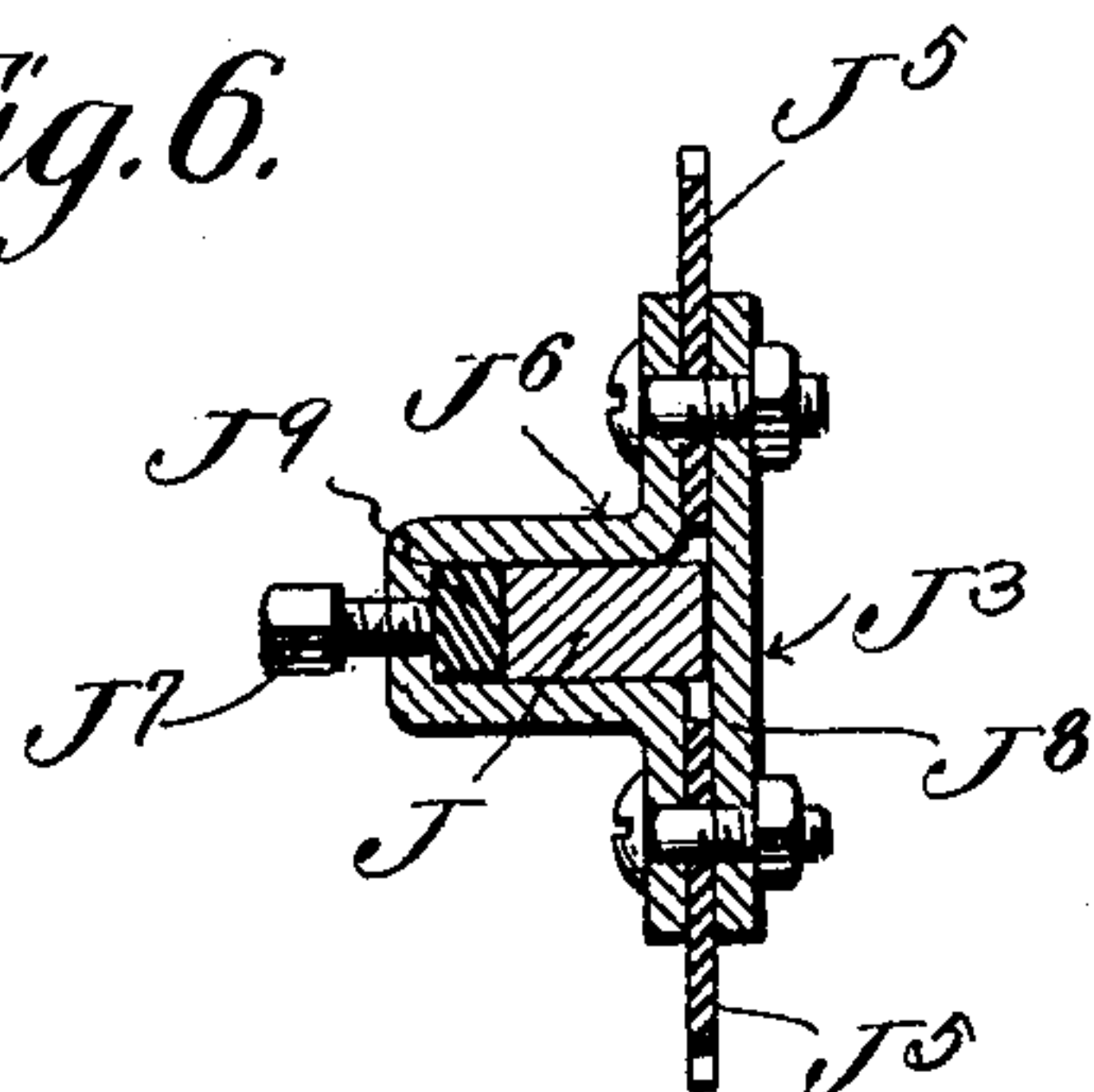


**916,520.**

4 SHEETS—SHEET 4.



*Fig. 6.*



Oliver H. Holmes  
E. B. M. Bash

By *Ormar Brock* Attorney



# UNITED STATES PATENT OFFICE.

EDGAR L. ZIEGLER, OF JACKSON, MISSISSIPPI.

## MACHINE FOR CUTTING WINDOW-STILES.

No. 916,520.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed February 8, 1908. Serial No. 414,946.

*To all whom it may concern:*

Be it known that I, EDGAR L. ZIEGLER, a citizen of the United States, residing at Jackson, in the county of Hinds and State of Mississippi, have invented a new and useful Improvement in Machines for Cutting Window-Stiles, of which the following is a specification.

This invention relates to a machine for cutting pockets in pulley stiles. While these pockets have been heretofore cut by machines but only one stile is operated upon at any time and the object of this invention is to double the capacity of the machine by constructing a device of this kind which will operate simultaneously and upon a pair of pulley stiles and a further object of the invention is a machine of this kind which can be set to cut pockets of various lengths.

The invention consists of a rotatable shaft carrying two circular saws one above the other, and the reciprocating shafts carrying cross saws, together with means for holding in position pulley stiles upon opposite sides of the circular saws when in position to be operated upon both sides by the cross saw.

In the drawings forming part of this specification:—Figure 1 is a plan view of my machine. Fig. 2 is a side view. Fig. 3 is a partial longitudinal section taken through the frame supporting the cutting device, on the line 3—3 of Fig. 1. Fig. 4 is a section on the line 4—4 of Fig. 2. Fig. 5 is a detail sectional view showing the manner of mounting the circular saws. Fig. 6 is a detail sectional view showing the manner of holding the inner cross saws.

In these drawings A represents the table of frame upon which the mechanism is mounted and upon which are two adjustable plates A' centrally cut out as shown at A<sup>2</sup> and set upright parallel to each other. Along the outer sides of these plates are rods B, which extend in advance of the plates and are held to them by suitable staples. Links B' are pivoted at their outer end to the rear corner portions of a movable rectangular frame C which rests upon the supporting table of frame A. To a front corner of the frame C is pivotally connected a lever D which is slotted as shown at D' and is provided with a handle D<sup>2</sup> and a spring pressed hand grip D<sup>3</sup> which grip is also provided with a projecting shoulder D<sup>4</sup> between its gripping end and its pivotal point. A link D<sup>5</sup> is piv-

otally connected to the other forward end of the frame C and is provided with a suitable pin D<sup>6</sup> which engages the slot D' and slides therein. The forward ends of the rods B are pivotally connected respectively to the lever D and to the link D<sup>5</sup> and it will be obvious that the shifting of the handle D<sup>2</sup> will spread the rods B or draw them closer together, according to direction of the movement of the handle, thus bringing the plates A' the desired distance apart.

A vertical shaft E is mounted in the frame and is provided on its lower portion with a drum E', which is driven by a belt E<sup>2</sup> from a drive pulley E<sup>3</sup> mounted on a shaft E<sup>4</sup> carried in suitable bearings at the rear end of the table A. The shaft E<sup>4</sup> can be driven by any suitable means and I have shown a handle E<sup>5</sup> to be used where the device is hand operated. In Fig. 5 I have shown a detail enlarged view of the upper portion of the shaft E from which it will be seen that this portion is threaded and sleeves E<sup>6</sup> inclose the greater portion of this threaded part being held in place by suitable nuts E<sup>7</sup>. These sleeves serve to support and space two circular saws E<sup>8</sup> one above the other. This portion of the shaft E extends upwardly between the plates A', the saws E<sup>8</sup> being in proper position to cut with the grain the two long cuts in forming the pulley stile pockets.

To make the cross-cuts at each end of the long cuts the following mechanism is provided: A shaft F is hung in fixed bearings and a shaft F' is hung in movable bearings F<sup>2</sup>. These bearings are moved longitudinally along the frame A by means of a threaded rod F<sup>3</sup> operated by a suitable hand wheel F<sup>4</sup> at the front of the machine. The shaft F is provided with a pulley G, over which runs a belt G' which also runs over a pulley G<sup>2</sup> fixed upon the shaft E<sup>4</sup>. Rotation of the shaft F is conveyed to shaft F' by a train of link gears H, thereby permitting adjustment of the shaft F' with respect to the shaft F without throwing the gears of the train out of mesh with each other. Each of the shafts F and F' carry three upwardly extending reciprocating arms J. These arms are pivotally connected to plates J' which are mounted upon eccentrics J<sup>2</sup> mounted in turn upon the said shafts. At their upper ends the four outer arms J carry clamps J<sup>3</sup> in which are held cross-cut saws J<sup>4</sup>. The two inner arms J which extend upwardly be-



tween the plates A carry each two cross-cut saws J<sup>5</sup>, held in a single clamp, which clamp is shown in detail in Fig. 6 and consists of a flanged U-shaped piece of metal J<sup>6</sup> fitted upon one of the inner arms J and having a set screw J<sup>7</sup> working through its bow portion and a plate J<sup>8</sup> bolted to the flanges, the saws being held between said plate and the said flanges. The clamp is locked to the arm J, by a wedge J<sup>9</sup> upon which the set screw J<sup>7</sup> bears.

A shaft K is journaled in the frame A and carries a gear wheel K' which meshes with a rack bar K<sup>2</sup> formed on the under side of a side member of the frame C and by turning the crank handle K<sup>3</sup> connected to one end of the shaft K the frame C and all parts connected thereto including the plates A' travel longitudinally upon the frame or table A. To clamp the pulley stiles in position levers L are pivoted at their inner ends in depending brackets L' and their forward end portions engage suitable stepped rack bars L<sup>2</sup> carried by the forward end portions of the plates A'. Rods L<sup>3</sup> pass vertically and loosely through the plates A' and have upper threaded portions upon which are mounted inwardly extending plates L locked in the proper horizontal plane by means of nuts placed upon each side of said plates L<sup>4</sup>. These plates project over the pulley stile M to be operated upon and carry spring plates L<sup>5</sup> which bear upon the upper edges of the stiles and clamp them in position. Each rod is also provided with a coil spring L<sup>6</sup> arranged between the plate A' through which the rod passes and the plate L<sup>4</sup> supporting the spring L<sup>5</sup>. It will be obvious that as the levers L are thrown downwardly at their forward ends they will draw down the rods L<sup>3</sup> bringing the spring plates L<sup>5</sup> into binding contact with the pulley stiles M. These clamp the stiles against any vertical movement and rear movement is effectively prevented by means of stops N. Spring clips O are also carried by the inner sides of the plates A' which plates are angled to form a track-way for the pulley stiles to slide upon and these spring clips also serve to secure the stiles in place while being operated upon.

The operation of the device is as follows:— The stiles M being placed and locked in position the lever D is brought into position shown in Fig. 1 thus bringing the circular saws in position to make the long cuts. The saws are driven through the medium of the pulleys, shafts and belts already described and by rotating the handle K<sup>3</sup> the stile is fed the desired length and at the desired speed. When the pin D<sup>6</sup> strikes the end of the grip D<sup>3</sup> the saw E has finished its cut, and the grip is pressed to the handle D<sup>2</sup> releasing the pin D<sup>6</sup>. The lever D is then shifted, to throw the pulley stiles into engagement with the cross-cut saws and the operation is com-

pleted. By shifting the lever D inwardly the two inner cross-cut saws J<sup>5</sup> of each of the inner arms perform their cutting operation upon the inner sides of both the stiles at the same time. Upon shifting of the lever D to its outermost position the stiles are brought into engagement with the four outer cross-cut saws all of which operate upon the out-sides of the stiles simultaneously thus finishing the operation by three movements, first, the feeding of the stiles longitudinally by rotation of the shoulder K<sup>2</sup>, the bringing them into engagement with the inner cross-cut saws and lastly by throwing them into engagement with the four outer saws, the last two movements being accomplished by proper manipulation of the lever.

In the machine now in use the circular saw is ten inches in diameter and the inner cross cut saws are six inches in length, thus allowing two inches at each end of the inner saws for the operation above described.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A device of the kind described comprising a supporting table, a frame movable longitudinally thereupon, means carried by the frame for holding a pair of pulley stiles, circular saws adapted to operate upon both of the stiles at the same time, a plurality of cross-cut saws, and means for successively bringing the inner and outer faces of the pulley stiles into engagement with the cross-cut saws.

2. A machine of the kind described comprising a longitudinally movable frame, horizontally arranged circular saws fixed with respect to said frame, means for feeding the frame, means for clamping pulley stiles upon said frame upon opposite sides of the saws and in engagement therewith, a plurality of reciprocating cross-cut saws, adapted to engage the inner faces of the pulley stiles, a plurality of cross-cut saws adapted to engage the outer faces of the stiles and means for bringing the stiles into engagement with each set of cross-cut saws.

3. A machine of the kind described comprising a movable frame, means for holding pulley stiles thereon, means for feeding the frame, saws adapted to engage the pulley stiles and make the long cuts for pockets, fixed reciprocating cross-cut saws reciprocating cross-cut saws adjustably mounted with respect to the saws first mentioned, and means for bringing the pulley stiles into engagement with said reciprocating saws for the end cuts.

4. A machine of the kind described comprising a table a frame movable thereon, plates vertically mounted upon said frame, levers pivotally connected to said frame, rods secured to the plates and pivotally con-



5 nected to the levers, thereby bringing said  
plates into proper position, means for clamp-  
ing a pulley stile to each plate, circular saws  
arranged between the plates, each saw oper-  
ating simultaneously upon both of the pulley  
10 stiles, cross-cut saws arranged between said  
plates, means for reciprocating said saws,  
cross-cut saws arranged upon the outer  
sides of said plates, the said plates being cut  
out in alinement with the cross-cut saws,  
and adjusting means for regulating the cut  
of the cross saws.

15 5. A device of the kind described com-  
prising holding means for a pair of pulley  
stiles, said holding means comprising two  
parallel plates, circular saws arranged be-  
tween the plates and adapted to simultane-  
ously produce the long cuts in both of the  
pulley stiles, reciprocating cross-cut saws  
20 working between the plates and making the  
cross-cuts simultaneously in each of said  
pulley stiles, and means for adjusting the  
distance between the plates to bring the

stiles into engagement with the cross-cut  
saws after the long cuts have been produced. 25

6. A device of the kind described com-  
prising a table, a frame movable upon the  
table, a vertical shaft, said shaft being jour-  
naled in the table and projecting upwardly  
into the frame, parallel plates carried by the  
30 frame, and on opposite sides of said shaft,  
means for clamping pulley stiles thereto, cir-  
cular saws carried by said shaft in position  
to engage two of the stiles at the same time,  
a horizontal shaft mounted in fixed bearings, 35  
adjustable bearings, a shaft mounted hori-  
zontally in said adjustable bearings, recipro-  
cating arms operable from said shaft, cross-  
cut saws carried by said arms and means for  
bringing the pulley stiles into engagement 40  
with the cross-cut saws, as and for the pur-  
pose set forth.

EDGAR L. ZIEGLER.

Witnesses:

HOLLIS FLEMING.

E. H. HOWE.