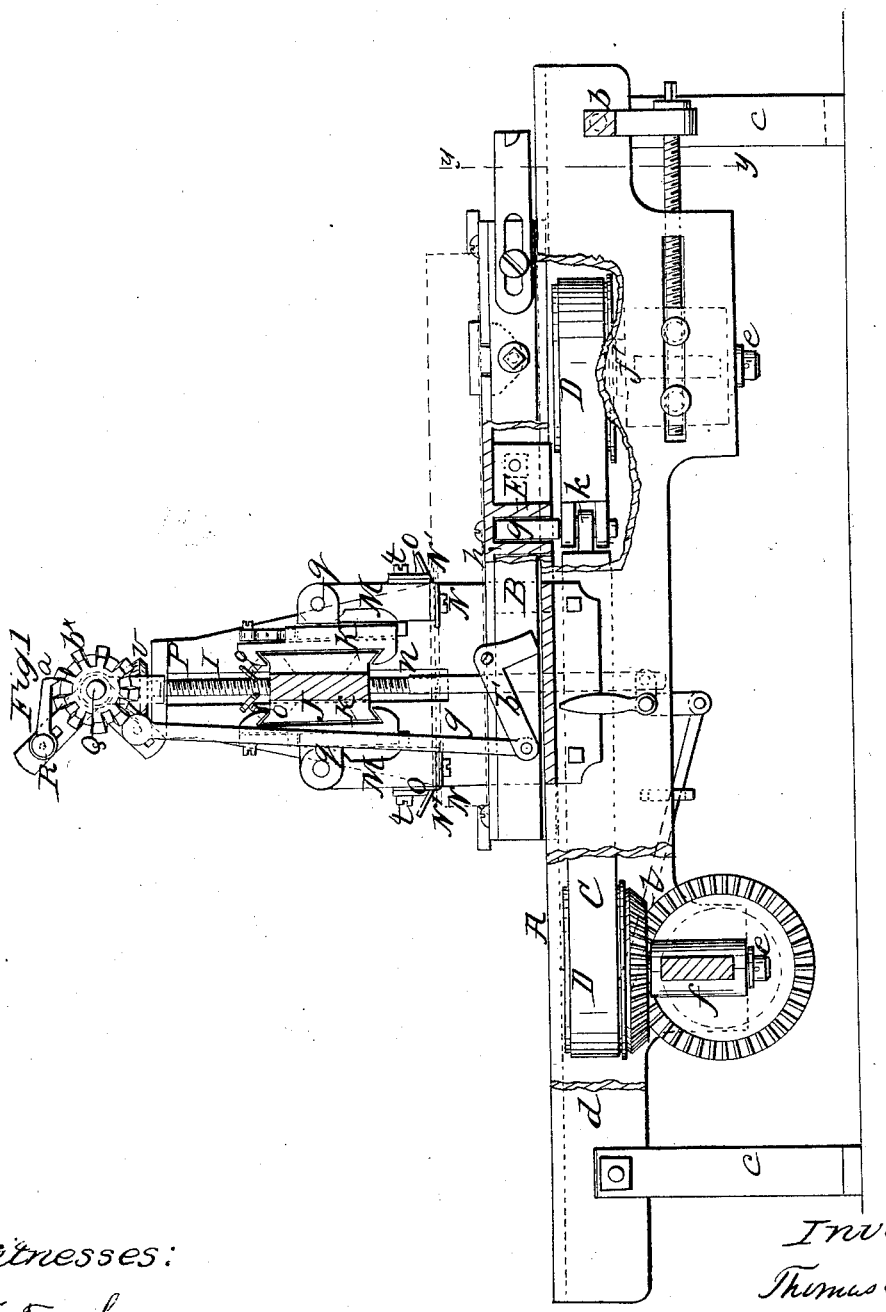
2 Sheets. Sheet 1.

# T. N. Davey,

## Making Chair-Backs.

No. 45,790. Patented Jan. 3, 1865.




Witnesses:

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Inventor:

Thomas N. Davey

per Munn & Co

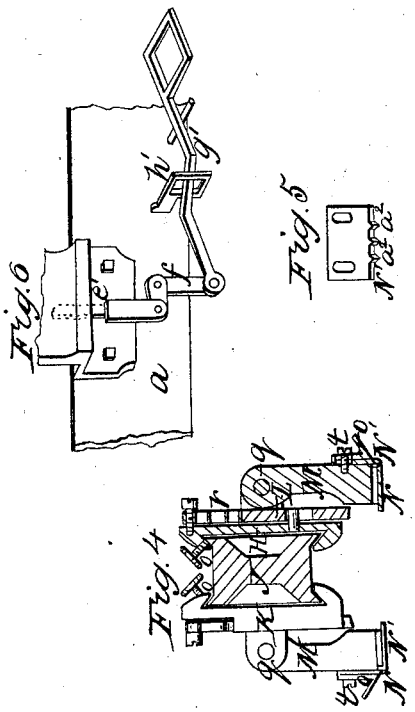
Attorneys

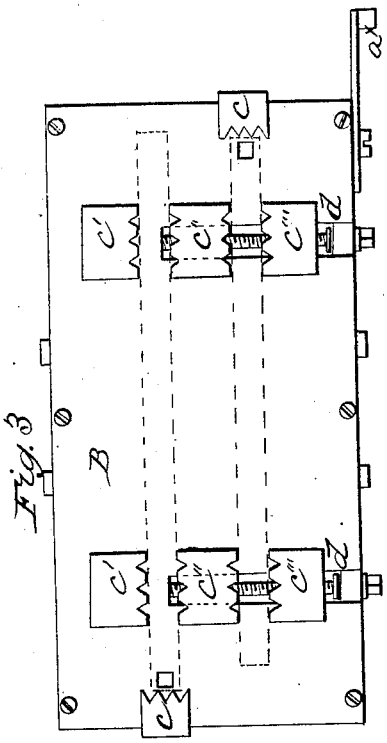
2 Sheets. Sheet 2.

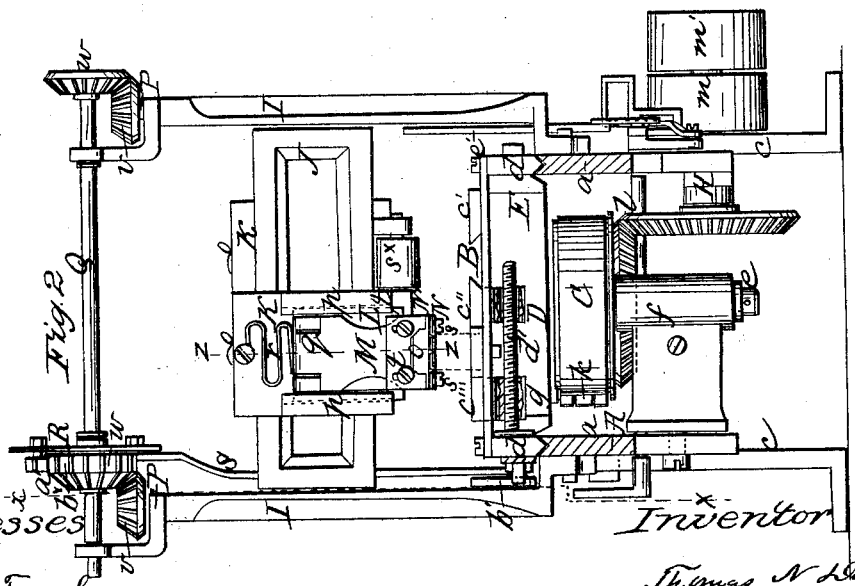
# T. N. Darcy,

## Making Chair-Backs.

No. 45,790. Patented Jan. 3, 1865.




Witnesses

Theo Tusch

Henry Morris

Inventor

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# UNITED STATES PATENT OFFICE

THOMAS N. DAVEY, OF JEFFERSONVILLE, INDIANA, ASSIGNOR TO HIMSELF AND THOMAS DAVEY, SR., OF SAME PLACE.

## IMPROVEMENT IN MACHINES FOR CUTTING CHAIR-SPLINTS.

Specification forming part of Letters Patent No. **45,790**, dated January 3, 1865.

*To all whom it may concern:*

Be it known that I, THOMAS N. DAVEY, of Jeffersonville, in the county of Clark and State of Indiana, have invented a new and useful Machine for Cutting Splints for Chair-Bottoms and for Similar Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a side sectional view of my invention, taken on the line *x x*, Fig. 2, Sheet No. 2. Fig. 2, Sheet No. 2, is a transverse vertical section of the same, taken in the line *y y*, Fig. 1; Fig. 3, a detached plan of the sliding bed pertaining to the same; Fig. 4, a vertical section of a portion of the same, taken in the line *z z*, Fig. 2; Fig. 5, a detached view of the dividing-knife; Fig. 6, a side view of a portion of the machine.

Similar letters of reference indicate like parts.

This invention relates to a new and useful machine for cutting splints for chair-bottoms and for similar purposes.

The object of the invention is to supersede the slow and laborious process of manufacturing splints by hand by producing a superior article in an expeditious manner.

The main frame A of the machine is composed of two parallel bars, *a a*, connected by cross-pieces *b*, and supported at a suitable height by legs *c*. The upper surface of the bars *a a* are grooved longitudinally in V form to receive the sides *d d* of a sliding-bed, B, the lower parts of the sides *d d* being made in V form to fit into the grooves of the bars *a a*. (See Fig. 2.)

The bed B is moved back and forth by means of an endless belt, C, which works around pulleys D D, the axes *e* of which are fitted in brackets *f f'*, attached to the inner side of the framing. This endless belt has an upright pin or stud, *g*, attached to it, which is fitted and works in an oblong slot, *h*, made in a bar, E, attached transversely to the under side of the bed B. (See Figs. 1 and 2.) This arrangement, it will be seen, admits of the reciprocating movement of the bed B, as the pin or stud *g* is allowed to pass around the pulleys D D and act upon the bed at either side of the machine while moving in either direction. The endless belt C may be tightened, whenever desired, by adjusting the bracket *f'*, the bolts *i* of which pass through an oblong slot, *j*, in the frame A of the machine for that purpose, the bracket *f'* being moved or adjusted by a screw, F. (Shown in Fig. 1.) The pin or stud *g* is secured to the endless belt C by a knuckle-joint, *k*, and the belt-pulleys G are operated by the bevel-gears *l* and pulleys *m m'* on the driving-shaft H. (See more particularly Fig. 2.)

I I are two uprights, fastened one at each side of the frame A, and having upright slots *n* in them, extending nearly their whole height, to receive the ends of a beam, J, which extends transversely over the bed B, and has two blocks, K K, attached to it—one at each side—in such a manner that said blocks may slide freely, as will be fully understood by referring to Fig. 4, and be capable of being secured at any desired point by set screws *o*. On these blocks K K there are vertical gib-slides *p p*, between which sliding blocks L are fitted, the latter having bars or stocks M attached to them by a hinge, *q*. These bars or stocks M have knives N N' attached to their lower ends, and in consequence of having the bars or stocks M attached to the blocks L by hinges *q* the former are allowed to swing up and down when the knives are not down to their work. Above and bearing down on the blocks L are springs *r*, which keep the knives pressed down to their work while they are following the grain of the wood.

The knives N N' are of peculiar construction. The knives N are attached to the bottom of the bars or stocks M by screws *s*, while the knives N', (see Fig. 5,) which perform the slitting and are provided with spurs $a^2$, are immediately above and in front of the knives N. The knives N' have guard-plates O fastened on them by screws *t*, and the two knives N N' enter the wood or stick simultaneously, cutting and splitting the stuff to the proper width, and also trimming the edges. By taking off the guard-plates O and substituting knives N', with a greater or less number of spurs, splints of different widths may be cut. The guard-plate and splitting-knives form the guide to keep the cutting-knife N to the proper

depth, and they are readily adjusted by slacking or loosening the screws *t*. (See Fig. 4.)

On the top of the uprights I I are feed-pinions *v v*, which are keyed on screws P P, the latter working in internal screw-threads in the ends of the beam J. Into the pinions *v v* corresponding pinions, *w w*, gear, the latter being on a horizontal shaft, Q, on which a rock-shaft, R, is fitted, having a pawl, *a'*, attached to it, and also a rod, S, the lower end of which is connected to a bent arm, *b'*, pivoted to one of the uprights I. (See Fig. 1.)

On the bed-plate B there are fitted dogs *c c' c'' c'''*, by which the sticks or timber to be operated upon are secured to the bed. The ends of the dogs *c* are fixed as well as the dogs *c'*, but the dogs *c''* are loose, while the dogs *c'''* are adjustable and moved by screws *d'*, (see Fig. 3,) and by actuating or moving the dogs *c'''* the sticks (shown in red in Figs. 1, 2, and 3) will be firmly clamped to the bed.

In order to guard against the knives coming in contact with the dogs *c c' c'' c'''*, there is a stop-motion employed, which consists of a rod, *e*, rock-arm *f'*, guard-rod *g'*, and guide *h'*. (See Fig. 6.) By this means the beam J, when the knives are as low as they can be without coming in contact with the dogs, actuates or presses down the rod *e'*, which, through the medium of the rock-arm *f*, actuates the guard-rod *g'*, and causes the latter to throw the belt off from the working-pulley *m* to the idle-pulley *m'*.

The wood or sticks from which the splints are cut are first rived out of the proper dimensions and secured by the dogs on the bed B. The shaft Q is then turned to bring the knives N N' down in proper position to act upon the sticks, and the driving-belt is thrown upon the working-pulley *m*. A reciprocating movement is then imparted to the bed B by the endless belt, pin, and gearing previously described, and the wood, or one stick, comes in contact with the guard plate O of one cutter-bar or stock M, raising the latter and the block L against the spring *r*. The wood or stick passes under the knives N N' and the splints pass between them and under pressure-rollers *s*. At the end of every alternate stroke of the bed B a projection, $a^x$, at one side of the bed B, strikes the bent arm *b'*, raising the rod S and actuating the rock-arm R, causing the pawl *a'* to act upon a ratchet, $b^x$, on shaft Q, and the latter, through the medium of the gears *v w*, turning the screws P, which move the beam J downward and set the knives N N' in a proper relative position with their work. While one pair of knives is at work the other pair swings up out of the way until the end of the cut, at which time they drop, and the motion of the bed changes, when they resume their work. The machine thus operates until the sticks are cut down as far as possible without letting the knives come in contact with the dogs, when the driving-belt is thrown on the idle-pulley *m'*, as previously explained, and the beam J and knives moved upward by turning the shaft Q. The remains of the old sticks are then taken from the bed R and others adjusted thereto and the operation repeated.

I claim as new and desire to secure by Letters Patent—

1. The reciprocating bed B, provided with the dogs *c c' c'' c'''*, in combination with the endless belt C, with pin or stud *g* attached, and the slotted bar E at the under side of the bed, in which the pin or stud works, substantially as and for the purpose specified.

2. The beam J, with adjustable blocks K K attached, the latter provided with the vertical sliding blocks L, having cutter bar or stocks M secured to them by hinges *q*, when said parts are used in connection with a reciprocating bed, B, as and for the purpose specified.

3. The means employed for automatically feeding the beam J downward—to wit, the bent arm *b'*, rod S, rock-arm R, pawl *a'*, and ratchet $b^x$, in connection with the projection $a^x$ on the bed B, all arranged substantially as set forth.

4. The knives N N', attached to the bars or stocks M, in connection with the guard-plates O, substantially as and for the purpose specified.

THOMAS N. DAVEY.

Witnesses:

THOMAS DAVEY,

JOS. STEALEY.