

F. W. White,

Making Blind Slats.

N<sup>o</sup> 70,382.

Patented Oct. 29, 1867.

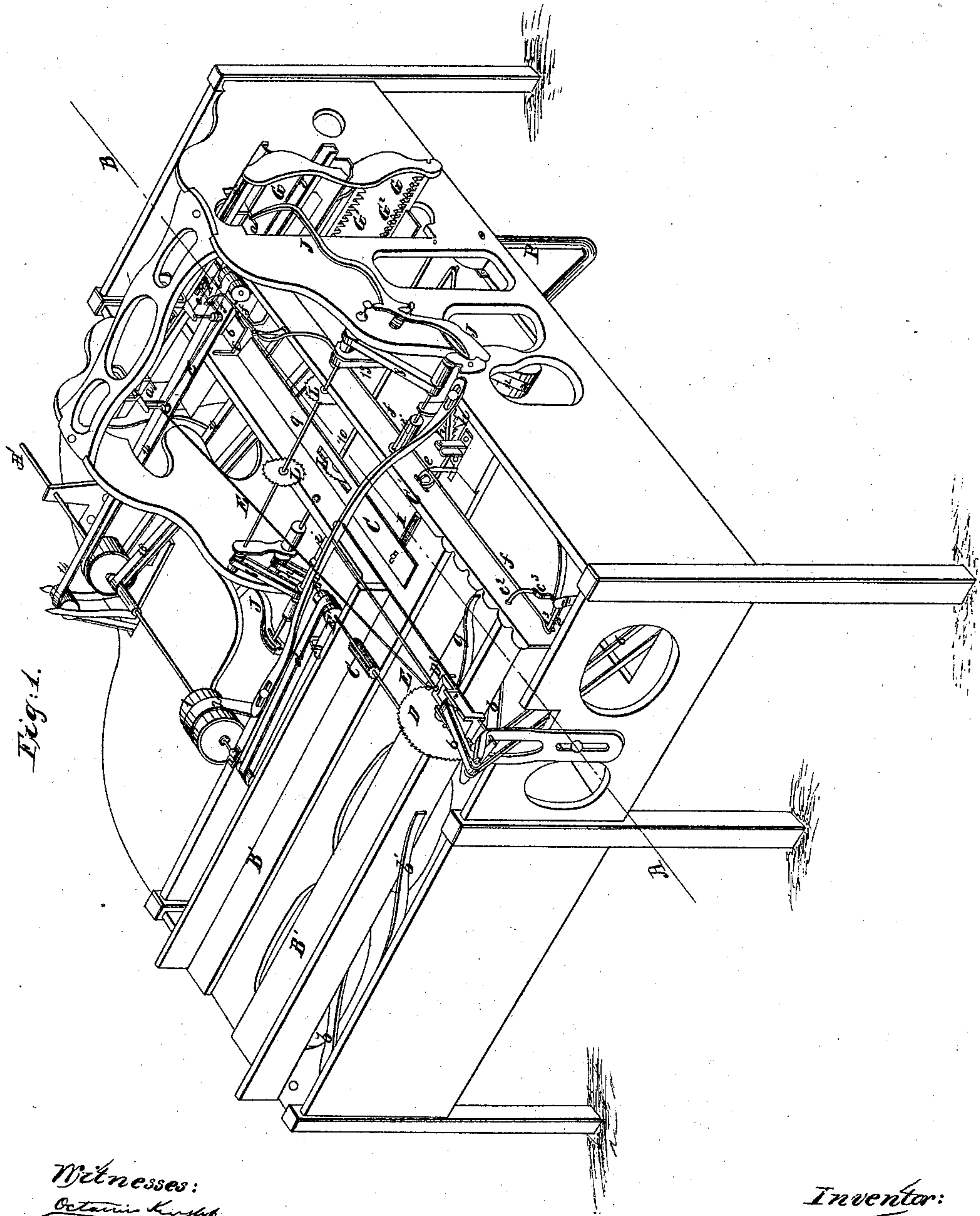


Fig. 1.

Witnesses:  
Octavia Hughes  
J. C. M. Butler

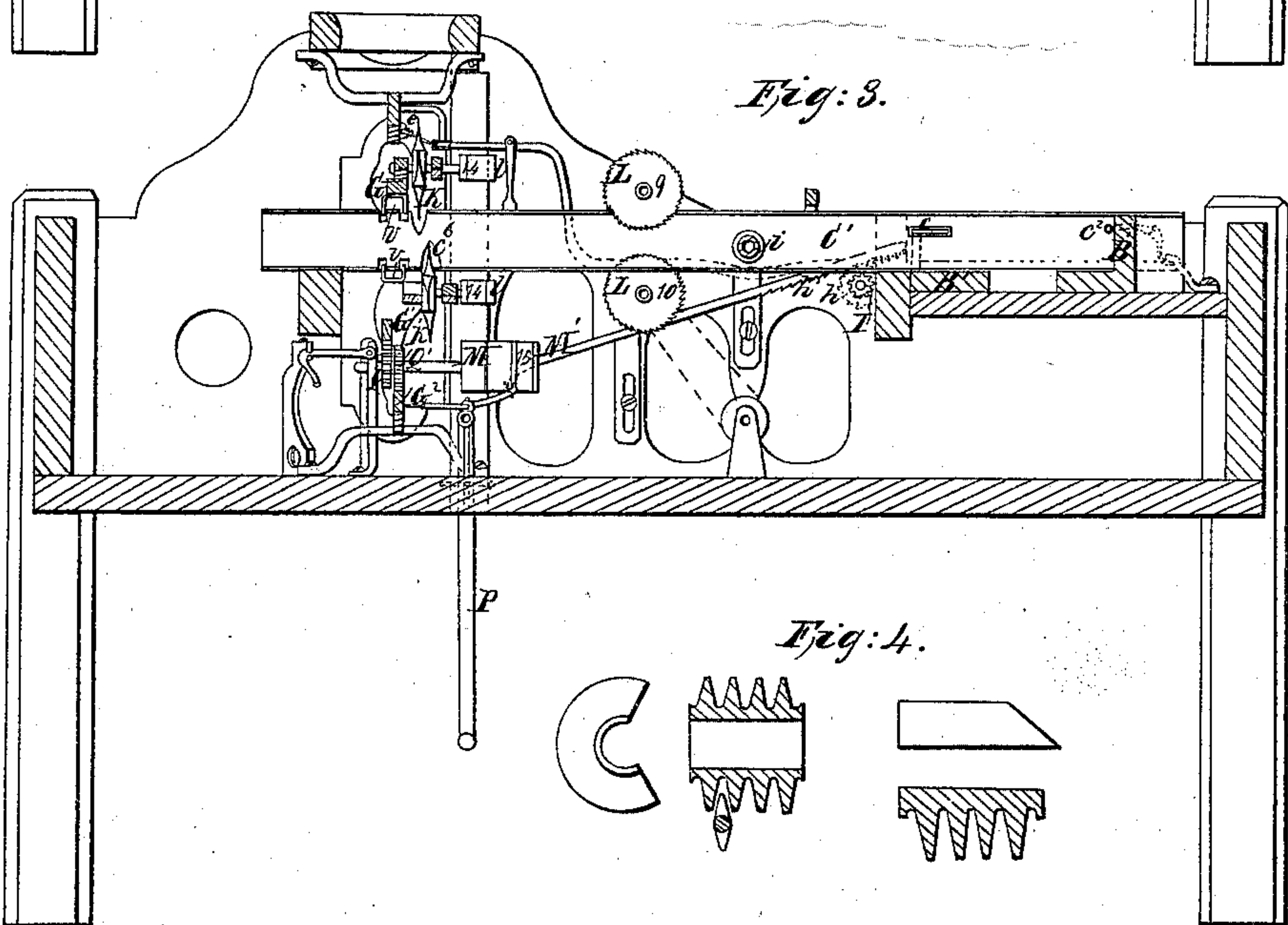
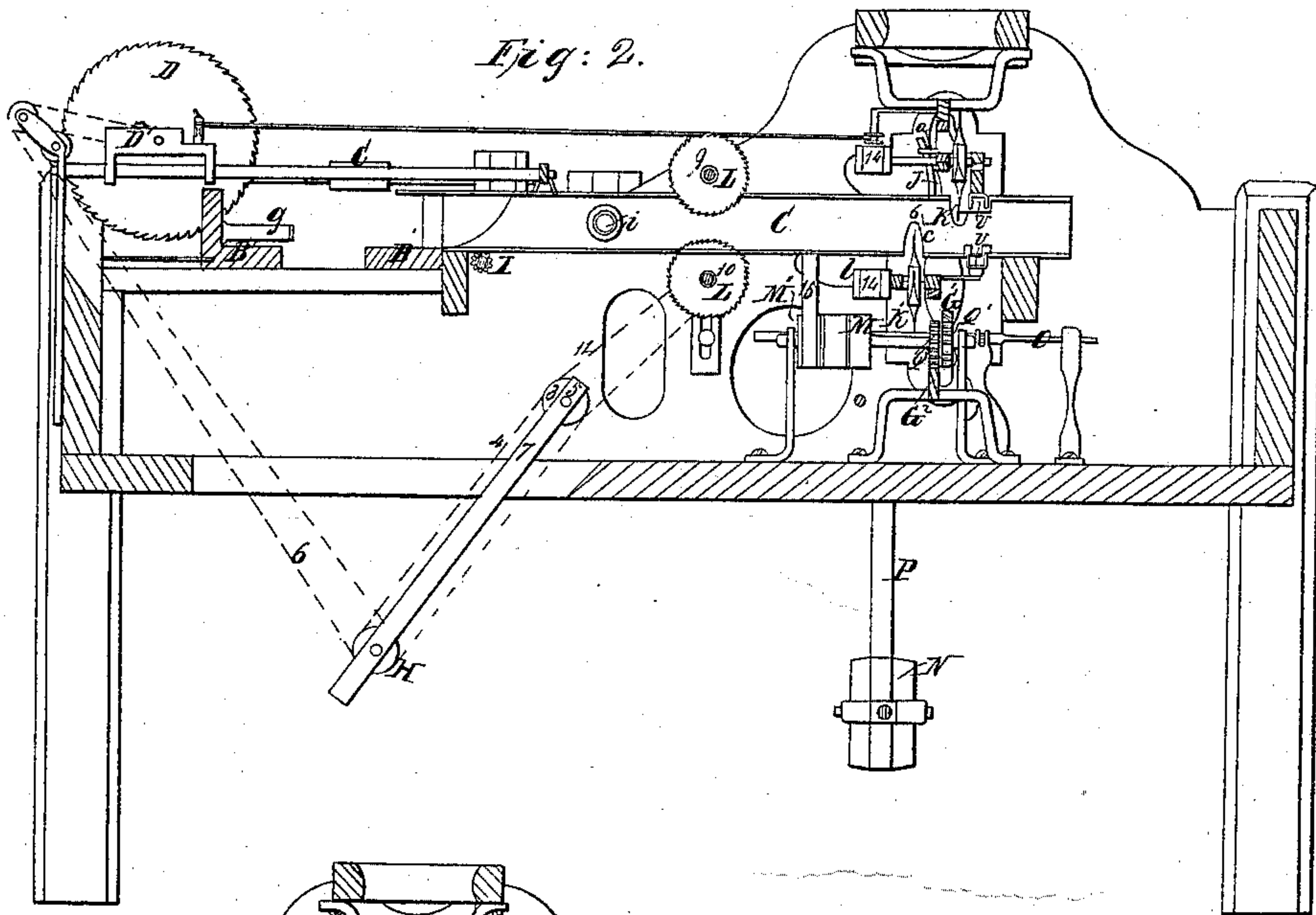
Inventor:  
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Witnesses:  
Chas. D. Smith  
J. E. M. Powell

Inventor:  
F. W. White  
By *Kingdon*  
Atty



# United States Patent Office.

FRANCIS W. WHITE, OF NORWICH, CONNECTICUT.

*Letters Patent No. 70,382, dated October 29, 1867.*

## IMPROVEMENT IN MACHINES FOR MAKING BLIND-SLATS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, FRANCIS W. WHITE, of Norwich, in the county of New London, and State of Connecticut, have invented a new and useful Machine for Making Blind-Slats; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made a part of this specification.

The subject of this invention is an automatic machine for making blind-slats, embodying a novel combination of devices whereby the plank is cut into sections, and such sections divided up into complete slats with planed surfaces and gudgeons on their extremities.

Figure 1 is a perspective view of my improved machine.

Figures 2 and 3 are sectional views on the opposite sides of the plane, indicated by the line A B, fig. 1.

Figure 4 is a detached view, illustrating modifications of the planing and severing cutters.

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

In fig. 1 is clearly exhibited the main frame, in which the several operating parts are mounted. A' is the driving-shaft, from which the working parts derive their motion through the medium of belts and pulleys. B' B' are parallel ways, between which the rough plank or material is first placed, one of said ways being rendered self-adjusting by the connecting-rods *b* and springs *b'*, to accommodate planks of different width. C C' are adjustable guide-ways, joining the ways B' B' at a right angle, and serving to confine in position the blocks or sections which are sawed from the plank and fed to the action of the several devices, by which they are converted into slats, as presently explained. The plank is placed within the ways B' B', and fed along until its motion is arrested by the contact of its extremity with the guide-way C'. At the conclusion of this movement the end of the plank acts upon the end *c* of the shipper *c'* and upon the rod *c''*, which is attached by the bell-crank lever *c'''* to the rod *f*, the parts *c c''* being thus forced outward from the way *c'*, through which they are caused to protrude at other times by the pressure of suitable springs. The effect of the plank striking *c* is to actuate the shipper *c'* so as to throw the belt *d*, which drives feed-rollers C, from the fast pulley E<sup>1</sup> on to the loose pulley E<sup>2</sup>; thus the motion of the feed-rollers C is suspended for the time being. The striking of the rod *c''* by the end of the plank serves to advance the rod *f* so as to make its forked end, *f'*, hold the attachment *e* on the end of the lanyard or line E in position to be caught by the claw F on the rack-frame G, when the latter moves across the space at the terminus of the ways C C'. The attachment *e* consists of two small metallic spheres connected by a short bar, and employed to enable the claw F to readily take hold of the end of the line E. When the line E is thus connected to the traversing-frame G, it serves to give motion to the railway saw-carriage D', which carries the saw D across the ways B' B', a section or block being thereby sawed from the end of the plank. The saw is rotated by the band 6 from a pulley, H, which is journaled in the hinged frame 7, which enables said pulley to adjust itself vertically to maintain the requisite tension upon the band 6, and allow the latter to accommodate its position to that of the saw D, as the latter moves forth and back over the ways B' B'. The motion of the rack-frame G is reversed as soon as the saw D has passed transversely through the plank, and the claw F lets go of the lanyard attachment *e* during this reversed movement of the rack-frame to allow the saw, with its carriage, to be returned to its first position by the gravitating movement of the pulley H. The pulley H is driven by the band 4 from the pulley 3 on the shaft 5, which is rotated by a band, 2, which is driven by the pulley 1 on the driving-shaft A'.

The above-described operation of the saw and its accessories is repeated at proper intervals. The section or block cut from the end of the plank by the saw D is transferred to the feed-roller I by the pressure of a spring, *g*, and when such block is moved fairly out of the ways B' B' and into ways C C' by said feed-roller I, the shipper *c c'*, being relieved from pressure, is actuated by its spring, so as to throw the belt *d* on to the fast pulley E<sup>1</sup>, and thereby put the feed-rollers C in motion, when the plank is advanced to C', and another block sawed off by D, and so the operation of C and D progresses. The feed-roller I receives an intermitting motion from the ratchet-wheel *h* and ratchet-rack *h'*, suitably connected with the traversing rack-frame G G'. Each motion of roller I feeds the block forward the thickness of a slat, and during the interval of rest of the roller I the rotary tubular cutters *i i* are successively forced into the opposite sides of the block, said cutters forming annular openings, and leaving the gudgeons which project from the ends of the slat. The cutters *i i* are forced into the block by levers J J, the upturned free extremities of which are acted upon by pins *a a* projecting from



the traversing-frame G, springs  $a'$  serving to retract the levers at the completion of their penetrating movement. The shafts of the cutters  $i i$  have fast and loose pulleys, and are rotated by a band, 8, from the saw-shaft 9. L L L L are saws, which cut vertically through the block to remove the wood surrounding the gudgeons, and leave the shoulders on the extremities of the slats. The blocks are fed by the roller I to the saws L after having been subjected to the action of the rotary cutters  $i i$ . The saw-shaft 10 is driven by bands 12 from the shaft 5, and the motion of shaft 10 is communicated to shaft 9 by a band or bands, 13. The foremost block in the ways C C' is pushed along beyond the saws L by the blocks subsequently cut from the plank. When the outer extremity of the foremost block reaches the slots  $c^s$  in the ways C C', the block comes to rest, and the frame G being then thrown into gear, moves in its path transversely of the ways C C', and brings the revolving cutters  $k k'$  into action. The cutter  $k'$  planes and slightly bevels the lower portion of the front of the block. The motion of frame G is then reversed, and the block fed forward the thickness of a slat, when both the cutters  $k k'$  are brought to act upon the block simultaneously, the lower cutter serving to partially sever a slat from the block, and to plane and bevel the lower portion of the back of such slat, as well as the lower portion of the front of the succeeding slat, and the upper cutter serving to plane and bevel the upper portion of the front of the slat. The block being again fed forward, the upper cutter  $k$  acts to plane and bevel the upper portion of the back of the slat, and to completely sever the slat from the block, which latter is converted into a number of slats by these successive operations. While the slat is under the action of the cutter  $k$  for completion, its upper and lower edges are embraced by the sliding rests  $v v$ , which follow in the wake of the cutters, and serve to sustain the slat while being cut. The reversal of the motion of the rests  $v v$  releases the severed slat, which is delivered at the ends of ways C C'. A band, 14, from the main shaft A', drives the pulleys  $l l$  on the shafts of the revolving cutters  $k k'$ , and said band is held tightly upon its traversing pulleys by the movable and gravitating pulley N, which is journaled in the hinged arm P. The frame G is moved in both directions by the band 15, which is shifted from one to the other of the pulleys M M' by the shipper-rod O, fig. 2, which is actuated by the main frame through suitable connections at the conclusion of each movement. The pulleys M M' are respectively adapted to impart motion to the pinions Q Q', and these in turn engage with the respective racks G<sup>1</sup> G<sup>2</sup>, to give to the frame G a reciprocating motion.

In lieu of the cutters  $k k'$ , represented in figs. 2 and 3, I propose to employ reciprocating or rotary cutters of the form shown in fig. 4, each of which is adapted to act upon a plurality of slats to finish their sides and edges simultaneously.

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

1. Cutting blind-slats from a plank, and finishing the same automatically at one operation by the mechanism substantially as herein set forth.
2. The railway-saw D, in combination with the connecting-rod  $f$ , to throw it into operation by the contact of the plank while passing through the parallel ways, as shown and described.
3. Cutting the tenons of the slat in the block by mechanism, substantially as described.
4. Cutting the shoulders of the slats in the block by mechanism, substantially as described.
5. The cutters  $k$  and  $k'$ , formed to fit the space between two slats, and employed to finish their sides and edges, substantially as shown and described.
6. The rests or followers  $v$ , for holding the slats while being cut from the block, as described.

F. W. WHITE.

Witnesses:

S. T. HOLBROOK,

GEO. FRED. LATHROP.