Sept. 25, 1951 M. ROYER 2,569,197

EJECTOR FOR SLAT CUTTING MACHINES

Filed Oct. 13, 1949

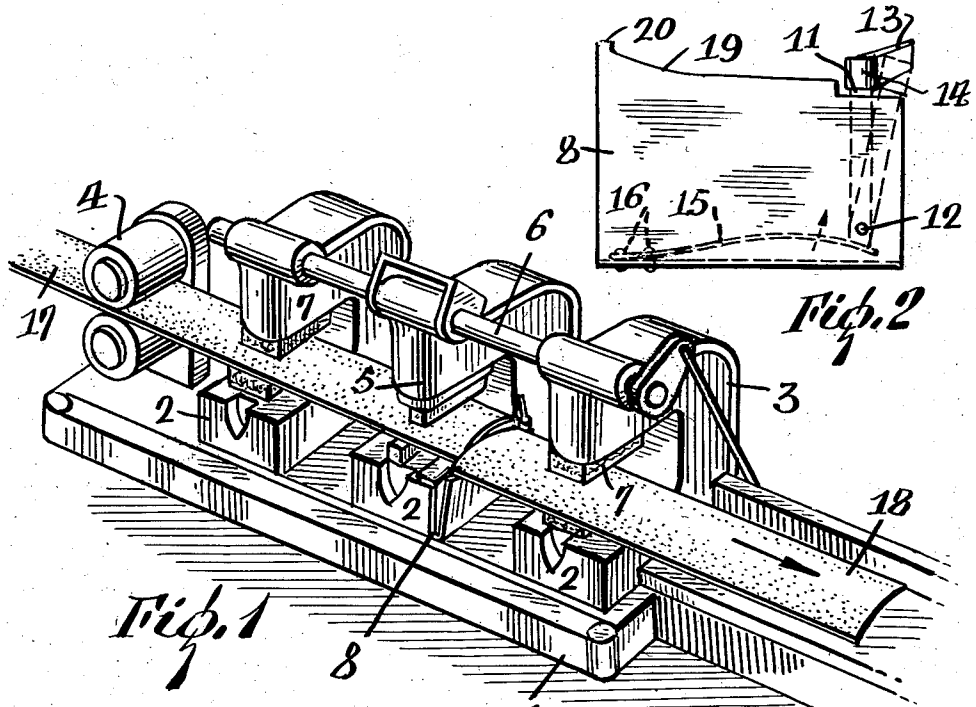


Fig. 1

Fig. 2

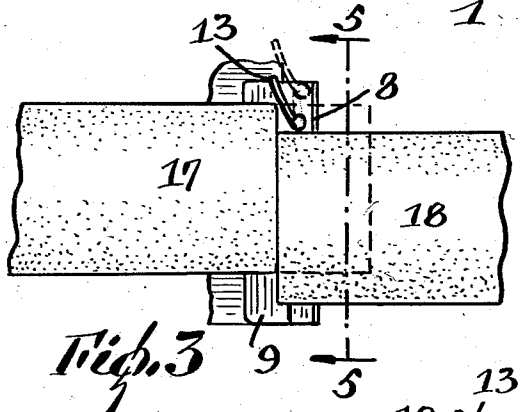


Fig. 3

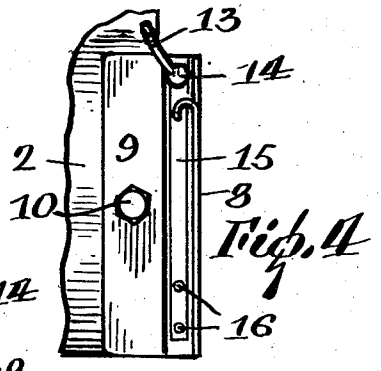


Fig. 4

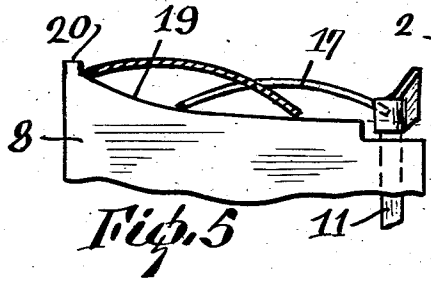


Fig. 5



Fig. 6

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Patented Sept. 25, 1951 2,569,197

UNITED STATES PATENT OFFICE

2,569,197

EJECTOR FOR SLAT CUTTING MACHINES

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Application October 13, 1949, Serial No. 121,155

6 Claims. (Cl. 164—49)

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In the cutting of slats for Venetian blinds and the like, the stock is fed into a machine and cut thereby into proper lengths. The stock, which is usually metal, is of small thickness, and often overlaps the severed slat at the cut. As a result, the machine becomes jammed and the work is interrupted.

The principal object of this invention is to overcome this condition and is accomplished generally by an ejector that displaces the slat laterally. The metal is concave, and the meeting ends of the stock and slat are thus caused to cross each other, so that the stock pushes the slat without overlapping.

Another object of the invention is to provide positive means for tilting the slat with respect to the stock. Such tilting means increases the crossing angle in the case of concave stock or introduces a crossing angle initially in the case of flat stock.

In the accomplishment of these objects, an arm is pivotally mounted at one end of the cutting block and is placed under tension toward the other end. The arm carries a blade that engages an edge of the stock at the advance side of the cutter. When the cut is made, the blade, under tension, moves the severed slat laterally and effects the crossing previously mentioned. The crossing angle is increased, or introduced, by an upwardly sloping member on which the displaced slat is caused to ride.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a perspective view of the device;

Figure 2 is a side elevation of the attachment constituting the invention;

Figure 3 is a detail plan view;

Figure 4 is a similar plan view with the slats removed;

Figure 5 is a section on the line 5—5 of Figure 3, and

Figure 6 is a front elevation of the attachment.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown a cutting machine for Venetian blind slats, including a base 1, a series of blocks 2 thereon, and a number of heads 3 over the blocks. The strip stock for the slats is fed by rollers 4 at one end of the base and is passed over the blocks 2. The center head is fitted with a cutter 5 and operated by a shaft 6 operating also two pads 7. The pads 7 hold the material at both sides of the slit formed by the cutter 5.

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To one side of the central cutting block 2 is applied a U-shaped member or trough 8 having a lip 9 along one edge. A bolt 10 passed through the lip secures the member to the block. In the member 8 at the rear end thereof is pivotally mounted a vertical arm 11 on a pin 12 near the bottom of the member. The upper end of the arm 12 carries a rearwardly extending blade 13 having a rounded boss 14 at the arm. A bowed spring 15 is fastened at 16 to the bottom of the member 8 and engages the lower end of the pivoted arm 11 in a manner to urge it forwardly of the machine.

In the use of the machine, the stock 17 is fed from the rollers 4 and is severed at the cutter 5 to form a slat 18. The moving stock is intended to move the severed slat forward, but often there is overlapping at the cut, because of the small thickness of the stock. Such a condition results in jamming of the machine and interruption of the work.

According to the invention, however, the stock is normally engaged by the blade 13, and the arm 11 is held in a rearward position under the tension of the forwardly urging spring 15. The cutter 5 severs the stock at a line that forms a severed slat 18 in the part of the stock engaged by the blade. Consequently the tensioned arm 11 moves the severed slat forward, as shown in Figure 3, the arm being on the advance side of the cutter.

The forward portion of the lip 9 slopes upward to the forward end, as at 19 in Figure 5. Consequently the convex slat and stock cross each other at the meeting edges, so that the stock can push the slat without overlapping, although such crossing would occur to a smaller extent without the slope 19. At the extreme forward end of the slope is formed a stop 20 to limit the displacement of the slat.

When the stock is advanced again, it rides against the blade 13 and thus cams the arm 18 back to its original position, as shown in dotted lines in Figure 3.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:

1. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising a member dis-

posed beyond said cut-off device and engaging said strip with a yielding spring pressure in a direction transverse to the centerline of the strip, said member being operable to displace a slat severed by said cut-off device in said transverse direction for a fraction of its width, whereby the arcuate end of the severed slat is crossed by the arcuate end of the strip, and said strip is thereby enabled to push the said slat ahead of it the next time that the strip is advanced.

2. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising an arm pivoted on the machine beyond said cut-off device for swinging movement in a plane perpendicular to the longitudinal axis of said strip, and spring means urging said arm toward said strip, said arm yieldingly engaging said strip stock along one edge thereof and being operable to displace a slat severed by said cut-off device in a generally horizontal direction transverse to the axis of the strip for a fraction of its width, whereby the arcuate end of the severed slat is crossed by the arcuate end of the strip, enabling the strip to push the said slat ahead of it the next time that the strip is advanced, said arm being deflected back out of the way against the pressure of said spring means by the advancing end of said strip.

3. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising a member disposed beyond said cut-off device and engaging said strip with a yielding spring pressure in a direction transverse to the centerline of the strip, said member being operable to displace a slat severed by said cut-off device in said transverse direction for a fraction of its width, and means for tilting said slat as the same is displaced laterally, whereby the arcuate end of the severed slat is crossed at a substantial angle by the arcuate end of the strip, and said strip is thereby enabled to push the said slat ahead of it the next time that the strip is advanced.

4. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising an inclined blade positioned to engage one edge of said strip beyond said cut-off device, said blade being movable in a direction transverse to the longitudinal axis of said strip, spring means yieldingly urging said blade toward said strip, said blade being operable to displace a slat severed by said cut-off device in said transverse direction for a fraction of its

width, whereby the arcuate end of the severed slat is crossed by the arcuate end of the strip, and said strip is thereby enabled to push the said slat ahead of it the next time that the strip is advanced, said blade being inclined at an angle to the longitudinal axis of said strip such that the blade is engaged and cammed back out of the way by the advancing strip.

5. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising a member positioned beyond said cut-off device and having a lip on which said strip rests, said lip sloping upwardly to one side of said strip, a member engaging one edge of said strip beyond said cut-off device and exerting a spring pressure thereon in the direction of said one side, said member being operable to displace a slat severed by said cut-off device to said one side, so that said slat is pushed up the incline of said lip and is tilted thereby, the arcuate end of the tilted and laterally displaced slat being crossed by the arcuate end of the strip, whereby the latter is enabled to push the said slat ahead of it the next time that the strip is advanced.

6. In a machine for cutting Venetian blind slats from a strip of bowed slat stock, said machine including a cut-off device and means for advancing a strip of slat stock through said cut-off device, the improvement comprising a member positioned beyond said cut-off device and having a lip on which said strip slides, said lip being substantially horizontal directly beneath said slat and sloping upwardly to one side thereof, an inclined blade positioned to engage one edge of said strip beyond said cut-off device, said blade being movable in a direction transverse to the longitudinal axis of said strip, spring means yieldingly urging said blade toward said strip, said blade being operable to displace a slat severed by said cut-off device in the direction of said upwardly sloping portion on said lip, so that said slat is pushed up the said sloping portion and is tilted thereby, the arcuate end of the tilted and laterally displaced slat being crossed by the arcuate end of the strip, whereby the latter is enabled to push the said slat ahead of it the next time that the strip is advanced.

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REFERENCES CITED

The following references are of record in the file of this patent:

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