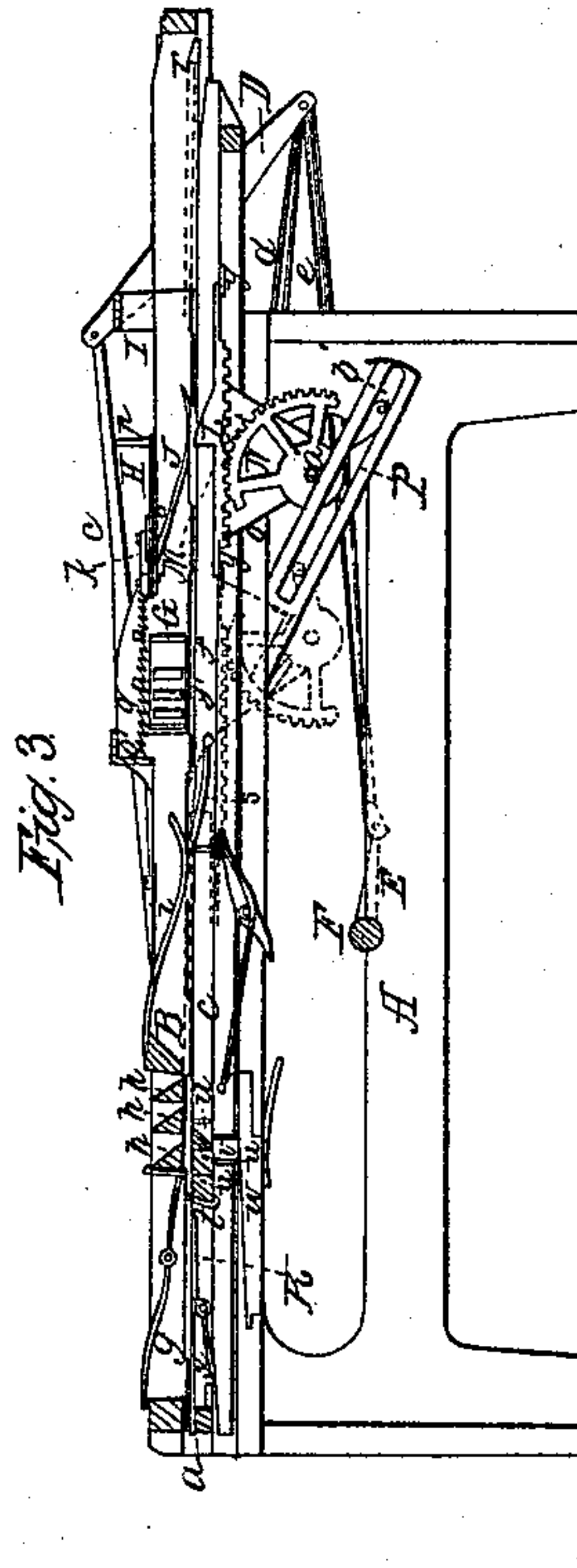
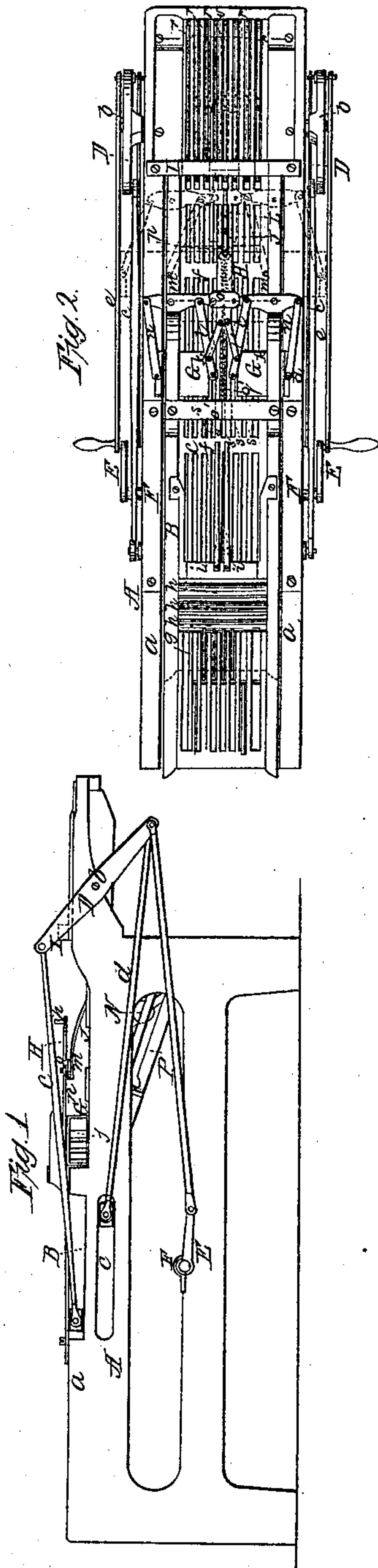


J. J. Sneed, Jr. & J. A. Bailey,

Planing and Jointing Shingles.

No. 12,105.

Patented Dec. 19, 1854.



UNITED STATES PATENT OFFICE.

JOHN J. SPEED, JR., AND JOHN A. BAILEY, OF DETROIT, MICHIGAN.

SHINGLE-MACHINE.

Specification of Letters Patent No. 12,105, dated December 19, 1854.

To all whom it may concern:

Be it known that we, JOHN J. SPEED, JR., and JOHN A. BAILEY, of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Machine for Planing and Jointing Shingles; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side elevation of our improved machine. Fig. 2, is a plan or top view of the same. Fig. 3, is a vertical longitudinal section of the same.

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

This invention relates to a new and improved machine for planing and jointing shingles, and consists in the employment or use of two reciprocating frames provided with cutters and a feeding bar or catch, the above parts being arranged and operating conjointly as will be hereafter shown and described.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A, represents a rectangular frame having at its upper part two frames B, C, which work between the two top rails (a) (a) of the frame A, the upper frame B, resting upon the lower frame C, as shown in Fig. 3.

The two frames B, C, work with a reciprocating motion in opposite directions, and motion is communicated to them by means of levers D, D, attached to the frame A, one at each side, by pivots (b), which pass through their centers, see Figs. 1 and 2, to the upper ends of the levers D, D, the ends of connecting rods (c) (c) are attached, one to each lever, and the opposite ends of these connecting rods are attached to the sides of the upper frame B. To the lower ends of the levers D, D, are attached connecting rods (d) (d) the opposite ends of which are attached to the lower frame C, connecting rods (e) (e) are also attached to the lower ends of the levers D, D, and to cranks E, E, at the ends of a driving shaft F, on the frame A.

The lower frame C, is formed principally of a series of bars or slats (f) as shown in Fig. 2. The upper frame B, is provided with bars or slats (g) at its outer end only as also shown in Fig. 2.

In the upper frame B, there are three transverse inclined cutters (h) (h) (h) placed parallel to each other and directly in front of the bars or slats (g) see Figs. 2 and 3, and directly in front of the cutters (h) (h) there are two spring catches (i) (i), the lower ends of which just touch the upper surface of the lower frame C. On the upper frame B, there are also two sets of cutters (j) (j) which are placed vertically at the inner ends of boxes G, G, which work horizontally through recesses in the side pieces of the frame B. One set of cutters are shown in Figs. 1 and 3, and the boxes are more particularly shown in Fig. 2.

The two boxes G, G, are connected together by a toggle joint formed of levers (k) (k), which are also attached to levers (l) (l) one end of which is connected to the inner ends of the boxes and the opposite ends to the inner ends of arms (m) (m) secured to the frame B. There are also levers (n) (n) attached to the outer ends of the arms (m) (m) and boxes G, G, as clearly shown in Fig. 2. The inner ends of the levers (k) (k) are attached to a sliding bar H, which works in bearings (o) (o) on the frame B. To the outer end of this rod or bar a vertical pin (p) is secured, and on the inner end of the rod a spiral spring (q) is placed, see Figs. 2 and 3.

A series of spring catches (c') are secured between the bars or slats (g) at the outer end of the frame B, see Figs. 2 and 3.

I, is a cross bar or plate on the frame B, the use of which will be explained hereafter.

J, is a spring catch, one end of which is secured to the under side of the bearing (o) and the opposite end just touches the upper surface of the lower frame C, shown more particularly in Fig. 3.

To the inner end of the lower frame C, a series of spring catches (r) are attached, see Figs. 2 and 3, and a series of spring catches (s) are also attached to the frame C, at about its center, and also a series of spring catches (t) near its outer end. The last named catches (t) however are secured in a smaller frame K, which is placed within the frame C, and is provided with three transverse inclined cutters (u) (u) (u) parallel to each other. This smaller frame K has two projections (v) (v) one at each side, which work over inclined planes (w) (w) one at each side of the top rails (a) (a). In Fig. 3 one of the projections (v) and one

of the inclined planes (w) are seen. The frame K works on pivots (x) (x) which rest upon the sides of the frame C, one pivot is shown by dotted lines Fig. 3. The series of spring catches (r) (s) (t) are placed between the bars or slats of the frames.

L is a feeding catch attached to a bar M, which works in cleats or bearings (y) (y) on the under side of the lower frame C, see Fig. 3. The catch L is secured to the upper side of the bar M and works between the bars or slats of the frame and projects a short distance above them, as shown in Fig. 3. The under side of the bar M, has a rack (z) secured to it in which a toothed segment N works. The axis (a) of this segment N is secured to a projection O, which is secured to the under side of the frame C, and a pin (b') is attached to the segment, said pin fitting in an inclined slotted bar P, which is permanently secured to the frame A.

Operation: The shingles are previously rived by any proper machine, and motion being given the shaft F an opposite reciprocating motion is communicated to the two frames B, C. The shingles are laid, one at a time, upon the lower frame C, just in front of the spring catches (r) as shown by the black dotted lines in Figs. 2 and 3 (v') representing a shingle. As the frames B, C, move the shingle (v') is moved forward with the frame C, till the spring catch J passes over its outer end, it being understood that the upper frame B moves in a reverse direction to the frame C, and consequently the upper frame B is moving toward the cross bar I, and the pin (p) on the end of the bar H, comes in contact with said cross bar and the boxes G, G, are consequently expanded or thrown apart by the time the spring catch J catches over the end of the shingle (v') see red lines Fig. 2. The shingle now moves forward with the upper frame B, while the lower frame C is returning back to its original position to receive another shingle, and the boxes G, G, return to their original position when the pin (p) is moved from the cross bar I in consequence of the spiral spring (g). The shingle moves with the frame B, till it passes over the feeding catch L, which then bears against its end and the projection O then forces the pin (b) in the slotted bar P, and

the segment N, forward, as the lower frame C now moves forward, and the segment N is turned and the shingle (v') is forced between the cutters (j) (j) on the boxes G, G, with an accelerated motion and the sides or edges of the shingle are jointed. The shingle is now caught by the spring catches (i) (i) on the upper frame B, and is moved forward with the frame B till caught by the spring catches (s) on the lower frame C, by which it is moved forward with the lower frame underneath the cutters (h) (h) on the upper frame B, and the upper face of the shingle is planed thereby. The shingle is now caught by the spring catches (t) in the upper frame B and moves with the upper frame B, over the cutters (u) (u) in the small frame K in the lower frame C, the small frame K moving in an opposite direction to the upper frame B, and the projections (v) passing up the inclined planes (w) (w) which throw up the small frame K, and cutters (u) (u) (u) and consequently give the desired taper to the shingle.

The object in giving the accelerated motion to the shingle while passing between the side cutters (j) (j) is to allow the cutters time to return and be ready for the succeeding shingle.

The above machine will perform its work in a perfect manner, it is not liable to get out of repair, nor expensive in manufacture.

We do not claim the employment or use of reciprocating frames with cutters attached irrespective of the feeding bar or catch, neither do we claim the cutters; but

What we do claim as new and desire to secure by Letters Patent, is—

The combination of the reciprocating frames B, C, and feeding bar or catch L, the reciprocating frames being provided with cutters (h) (h) (h) (u) (u) (u) and (j) (j) and the feeding bar or catch giving the shingles an accelerated motion while passing between the cutters (j) (j) the above parts being otherwise constructed and arranged as herein shown and described.

JOHN J. SPEED, JR.
JOHN A. BAILEY.

Witnesses:

C. H. ALLEN,
CHAS. CROSMAN.