2 Sheets--Sheet 1.

D. WHITLOCK.

Improvement in Tenoning Machines.

No. 130,459. Patented Aug. 13, 1872.

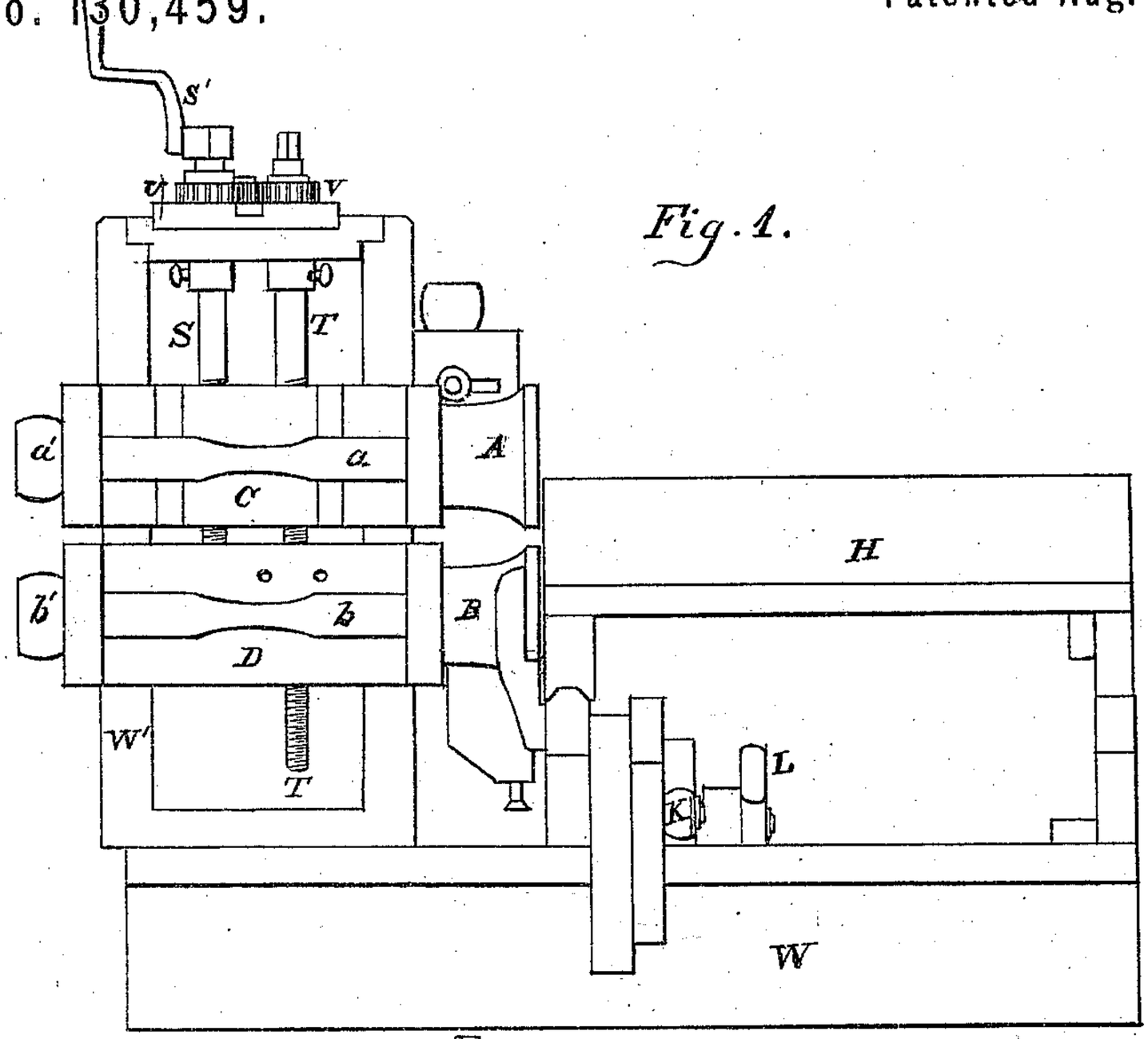

Fig. 1.

Fig. 2.

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2 Sheets--Sheet 2.

D. WHITLOCK.

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Fig. 3.

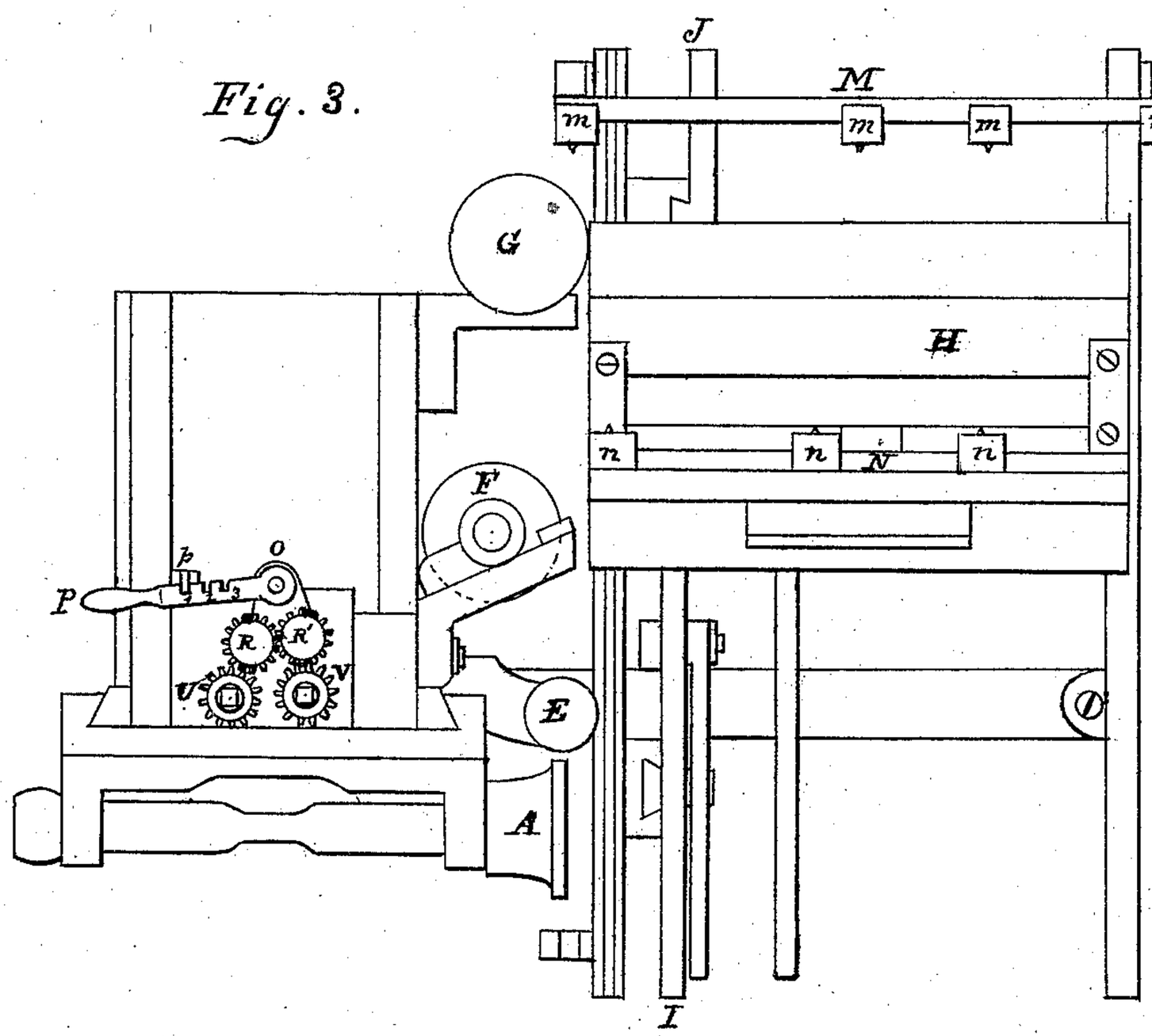


Fig. 4.

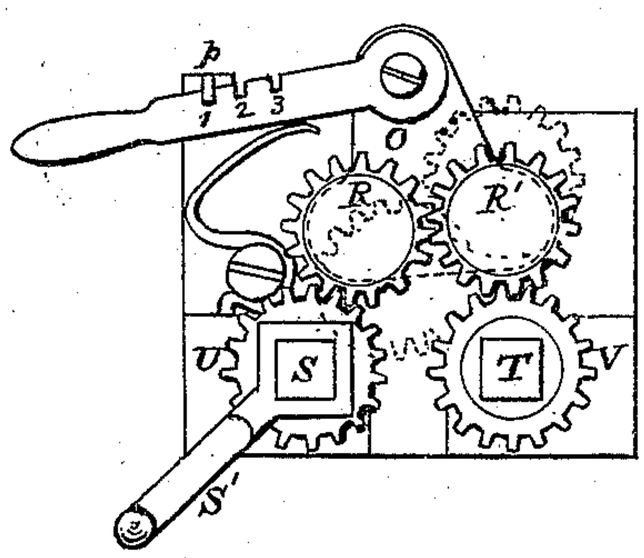
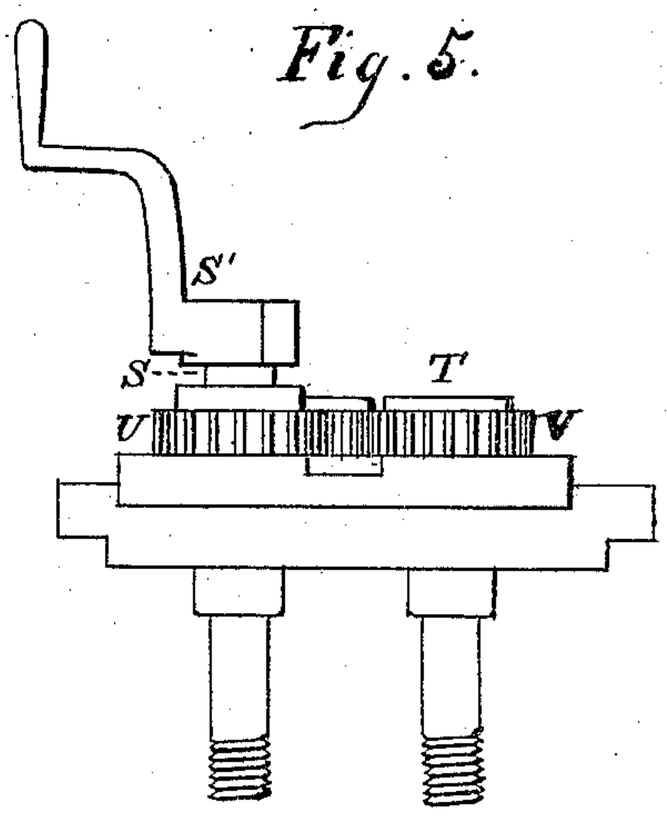


Fig. 5.



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UNITED STATES PATENT OFFICE.

DANIEL WHITLOCK, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN TENONING-MACHINES.

Specification forming part of Letters Patent No. **130,459**, dated August 13, 1872.

I, DANIEL WHITLOCK, of the city of Newark, in the county of Essex, in the State of New Jersey, have invented certain Improvements in Machines for Making the Joints in Window-Sash, of which the following is a specification.

The object of this invention is to produce in the one machine the means for making the dovetail mortises and tenons, or common mortises and tenons, or only dovetail joints or simple tenons, as may be desired; and it consists of the combination and arrangement of the several parts of the machine, as is more fully hereinafter described.

In the drawing, Figure 1 is an upright side view of the machine. Fig. 2 is an end view of the same. Fig. 3 is a plan view of the machine; Fig. 4, plan detail of train of gearing; and Fig. 5, a horizontal view of Fig. 3.

A is the upper revolving cutter-head for cutting the shoulders and one side of a tenon, and hung in adjustable horizontal frame C. B is the under revolving cutter-head for cutting the shoulder and one side of a tenon, and hung in adjustable horizontal frame D. *a* is a horizontal shaft or arbor upon which the cutter-head A is attached, and is revolved by the pulley *a'*. *b* is a horizontal shaft or arbor upon which the cutter-head B is attached, and is revolved by the pulley *b'*. E is a revolving cutter, for coping the sash, on upright shaft *e*. F is a revolving, wabbling or drunken saw-cutter, fast on upright shaft *f*, revolved by pulley *f'*, adjustable horizontally on bar *f''* by the screw f^3, and vertically on the upright support W' by screw f^4. G is a revolving, wabbling or drunken saw-cutter fast on upright shaft *g*, and adjustable in a similar manner to cutter F. These two cutters cut the incline sides of the dovetail in the joint of the sash and are made to be adjusted to the incline, and cut at one passing through the machine the dovetail. H is a horizontally sliding table provided with a tipping bearing for the proper incline or angle of the dovetail. I and J are formers that tip the table H to any required inclination. K is a pivoted lever to adjust the former I, and L is a pivoted lever to adjust the former J. M is a horizontal bar with sliding heads, *m*, sliding thereon, with gage-points therein for marking or gaging the stuff where mortises are to be made. N is also a horizontal bar on the fence of the sliding table, with heads, *n*, to mark the other side of the stuff being operated upon. W is the base or supporting frame of the machine, and has an upright part, W', to support the movable or adjustable frames C and D, and the means for adjusting them, which consists of a train of gear-wheels, R, R', U, and V, of which wheel U is upon a screw-shaft, S, that is attached to the adjustable frame C, and by revolving it in one direction the frame C will be raised, or by reversing the revolution it will be lowered; while wheel V is attached to screw-shaft T that is connected with the frame D, and operates frame D in the same manner as the screw-shaft S operates frame C. O is an oscillating triangular plate pivoted centrally on the top of frame W', with gear-wheels R and R' pivoted to two angles or corners, while hand-lever P is pivoted to the other angle or corner. Lever P has indents 1, 2, and 3 on its side, which indents are to receive the stud *p* as the lever is made to oscillate plate O and wheels R and R'. Stud *p* is fast on the top of frame W'. *s'* is a spring, one end secured to the top plate of frame W', and the other or free end bearing against lever P to keep it upon stud *p*, so that the plate O with the gear-wheels R and R' will be held in the proper position. By this arrangement of gear attached to screw-shafts S and T both shafts can be made to operate frames C and D in the same or opposite directions; or one shaft only may be turned and move the frame to which it is attached in either direction—as, for example, when indent 1 is on stud *p* the two screw-shafts move in opposite directions and will force the frames C and D in opposite directions, and when indent 2 is on the stud the triangular plate O has brought the intermediate wheels R and R' on a line with shaft S and each other, disconnecting screw-shaft from shaft S, when either shaft can be moved independently of the other; and when indent 3 is on the stud *p* the shafts S and T are connected by a single intermediate wheel, R, when by revolving one shaft by the crank-handle S' the other shaft will move in the same direction, and consequently both of the adjustable frames C and D will be moved in the same direction, according to the direction that the shafts S and T may be revolved

in. In sash stiles cutter A cuts the thickness or relishes, saw F cuts the straight and G the incline or dovetail side, and as saw G can be inclined to any desired inclination will cut any desired angle in dovetails that may be required.

By this construction and arrangement of devices by once passing the prepared and dressed stuff through the machine the dovetail joints in sash are fully completed.

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

1. In a window-sash machine the adjustable cutters A and B, in combination with the adjustable wabbling or drunken cutters F and G and sliding tipping table H, in the manner and for the purpose substantially as shown and described.

2. The hand-lever P with indents 1, 2, and 3 thereon and stud *p*, intermediate gear-wheels R and R′, triangular plate O, gear-wheels U and V, and screw-shafts S and T, with the movable frame C and D, substantially in the manner and for the purpose described.

3. The adjustable markers *m* and *n*, in combination with the sliding tipping table H and cutters A B F and G, substantially in the manner and for the purpose described.

DANIEL WHITLOCK.

Attest:
W. M. GOODING,
D. H. CRAWFORD.