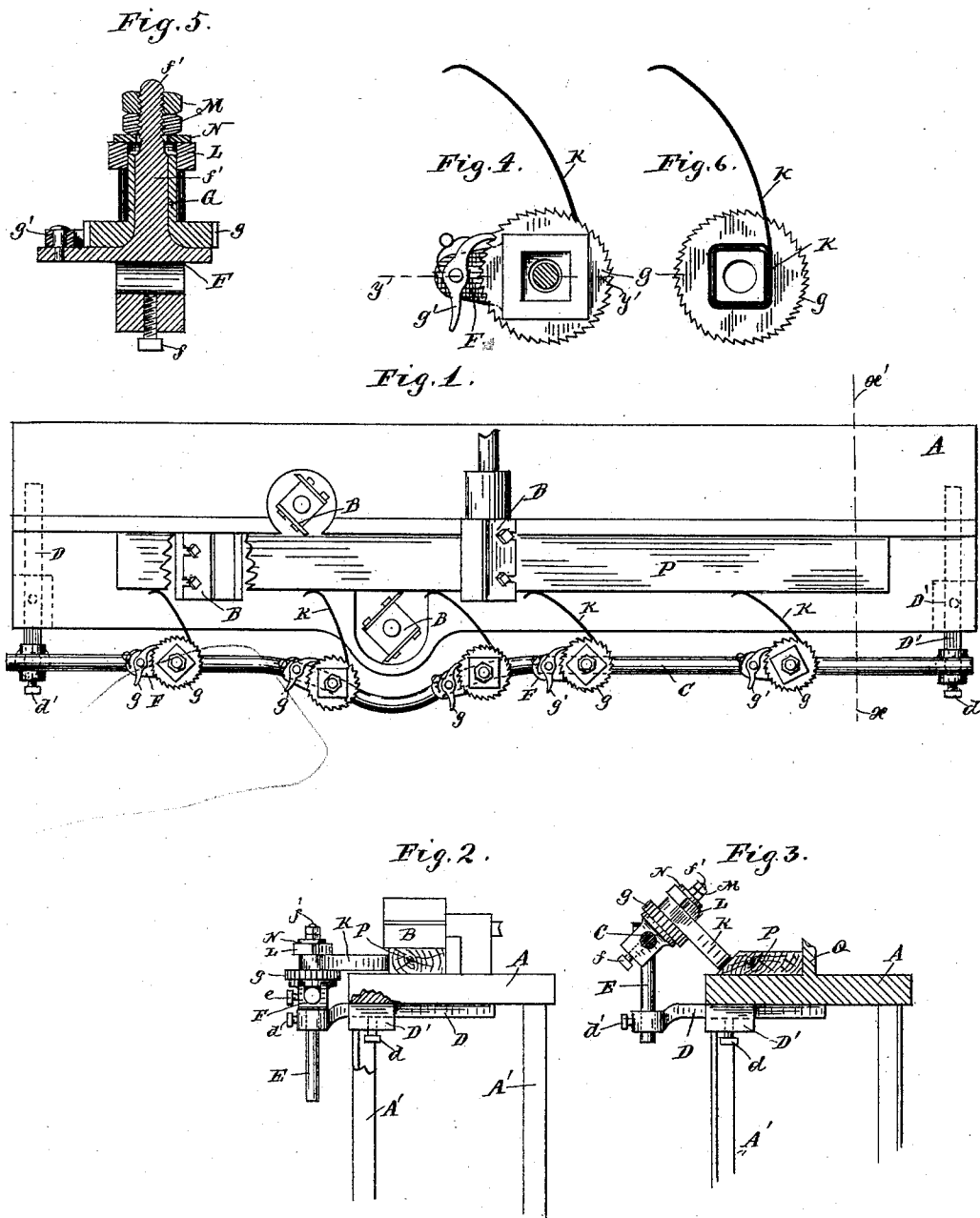


(No Model.)

L. LUGER.
WOOD WORKING MACHINE.

No. 475,782.

Patented May 31, 1892.



Witnesses
A. H. Opsahl
Frank D. Merchant,

Inventor.
Louis Luger
By his Attorney.
Jas. P. Williamson

UNITED STATES PATENT OFFICE.

LOUIS LUGER, OF NORTH ST. PAUL, MINNESOTA.

WOOD-WORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 475,782, dated May 31, 1892.

Application filed August 3, 1891. Serial No. 401,474. (No model.)

To all whom it may concern:

Be it known that I, LOUIS LUGER, a citizen of the United States, residing at North St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Wood-Working Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wood-working machines, and is in the nature of an improvement in the devices for clamping and securing the material under spring-tension in its proper position while being fed through the cutters.

The device is illustrated in the accompanying drawings, wherein, like letters referring to like parts throughout—

Figure 1 is a plan view of a molding-machine embodying my invention. Fig. 2 is a front end elevation of the same, some parts being broken away. Fig. 3 is a transverse vertical section on the line X X' of Fig. 1, and Figs. 4, 5, and 6 are details of the spring-holder or tension-head.

A represents the bed-plate, A' the supporting-legs or standards, and B the cutters, of an ordinary molder or similar wood-working machine.

C is a guide-rod arranged lengthwise of the line of feed and extending the entire length of the bed-plate. The guide-rod is supported at each end by a laterally-adjustable slide D and a vertically-adjustable post or bracket E, mounted in the slide D. The slides D work through keepers D', fixed to the under side of the bed-plate, and may be secured in any position by a set-screw *d*, working in said keeper. The vertically-adjustable post E works through a perforation in the outer end of the slide D and is securable in any position by a set-screw *d'*. The upper end of the post or bracket E is forked or bifurcated to form the seat for the guide-rod and provided with a set-screw *e*, working through one prong of the fork for securing the guide-rod thereto in its seat.

F is a swiveled head perforated to fit the guide-rod and provided with a set-screw *f* and a screw-threaded stud or post *f'*. On the

post *f'* is sleeved a hub G, square on its exterior surface and provided with a ratchet *g*, which is normally engaged by a spring-held pawl *g'*, pivoted to a projecting lug of the swiveled head.

Wound about the square shank of the hub G and secured thereto at one end is the tension-spring K, having its free end or spring-finger projecting therefrom on a slight curve and turned backward at its tip.

L is a square nut fitting the shank of the hub G and adapted to be screwed down against the part of the tension-spring surrounding the shank of the hub and there held by the nuts M, working against the washer N, or in any other suitable way. By means of the nuts M the hub G may be clamped to any desired tension on the swivel-head F. By means of the square nut or wrench-head L, fitting the square shank of the hub G, the hub may be turned at will to give an increased tension on the spring-finger K when in working position against the blank of wood and be there held by the ratchet and pawl. The devices just described and shown in Fig. 5, taken as an entirety, may be called the "tension-head." A series of these tension-heads is mounted on the guide-rod C and is capable of both pivotal and longitudinal adjustment thereon, each head being securable in whatever position it may be set by the set-screw *f*. The series of tension-heads may therefore be adjusted with reference to each other lengthwise of the guide-rod to bring the same closer together or farther apart, as may be required, and each head may be swung on the shaft to give the required angular adjustment. The guide-rod itself is vertically adjustable by means of the post E and is laterally adjustable with reference to the bed-plate by means of the slides D. Hence the tension-head or spring-fingers K are capable of a universal adjustment. This renders them adaptable to all conditions of work. The devices are shown in one of their working positions in Figs. 1 and 2 in action on the blank material P, holding the same under spring-tension against the back-guide Q while being fed through the cutters.

It should be noted that by making the swiveled head F of the requisite length the spring-fingers could be made to overhang the

top of the blank material, so that some of them could be used for side and others for top tension, if this should be desirable.

5 The general advantage of this improved device has already been indicated. By actual usage I have found the same to be very efficient on molding, shaping, and other wood-working machines.

10 What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a wood-working machine, the combination, with the bed-plate and cutters, of a laterally and vertically adjustable support, one or more head-blocks mounted on the said support with pivotal adjustment in a plane transverse to the line of feed, and spring-fingers carried by the said heads with pivotal adjustment in a plane parallel to the said line of feed, for the purpose set forth.

20 2. In a wood-working machine, the combination, with the bed-plate and cutters, of a laterally and vertically adjustable guide arranged lengthwise of the line of feed and a series of heads provided with spring-fingers for holding the material under tension, pivotally mounted on said guide and adjustable lengthwise of the same.

3. A tension-head comprising a head-block provided with a stud projecting therefrom, a hub sleeved on the said stud and having an annular ratchet formed therewith, a spring-finger secured to the said hub at one end, a locking-pawl engaging the said annular ratchet, means for setting the said hub under
35 a frictional tension with the said head-block,

and means for turning the same against the said friction to set the said ratchet against the said locking-pawl.

4. The tension-head comprising the swiveled head-block with screw-threaded stud, the hub sleeved on the said stud and having the annular ratchet formed therewith, the spring-finger secured to the said hub at one end, the jam-nuts for tightening the said hub on the said head, the spring-held locking-pawl engaging the said annular ratchet, and means for setting the said ratchet and hub against the said pawl, substantially as and for the purpose set forth.

5. The tension-head comprising the swiveled head-block with screw-threaded stud, the hub sleeved on the said stud and having angular faces, the annular ratchet formed on the said hub, the spring-finger wound about the shank of the said hub and fixed thereto at one end, the angular-faced wrench-nut fitting over the shank of the said hub, the jam-nuts for tightening the said hub on the head, and the spring-held locking-pawl engaging the said ratchet for holding the hub in whatever position it may be set relative to the swiveled head, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS LUGER.

Witnesses:

FRANK D. MERCHANT,
HOWARD P. WARE.