(No Model.)

2 Sheets—Sheet 1.

W. S. LEONARD.

SHEATHING LATH MACHINE.

No. 367,644. Patented Aug. 2, 1887.

Fig. 1.

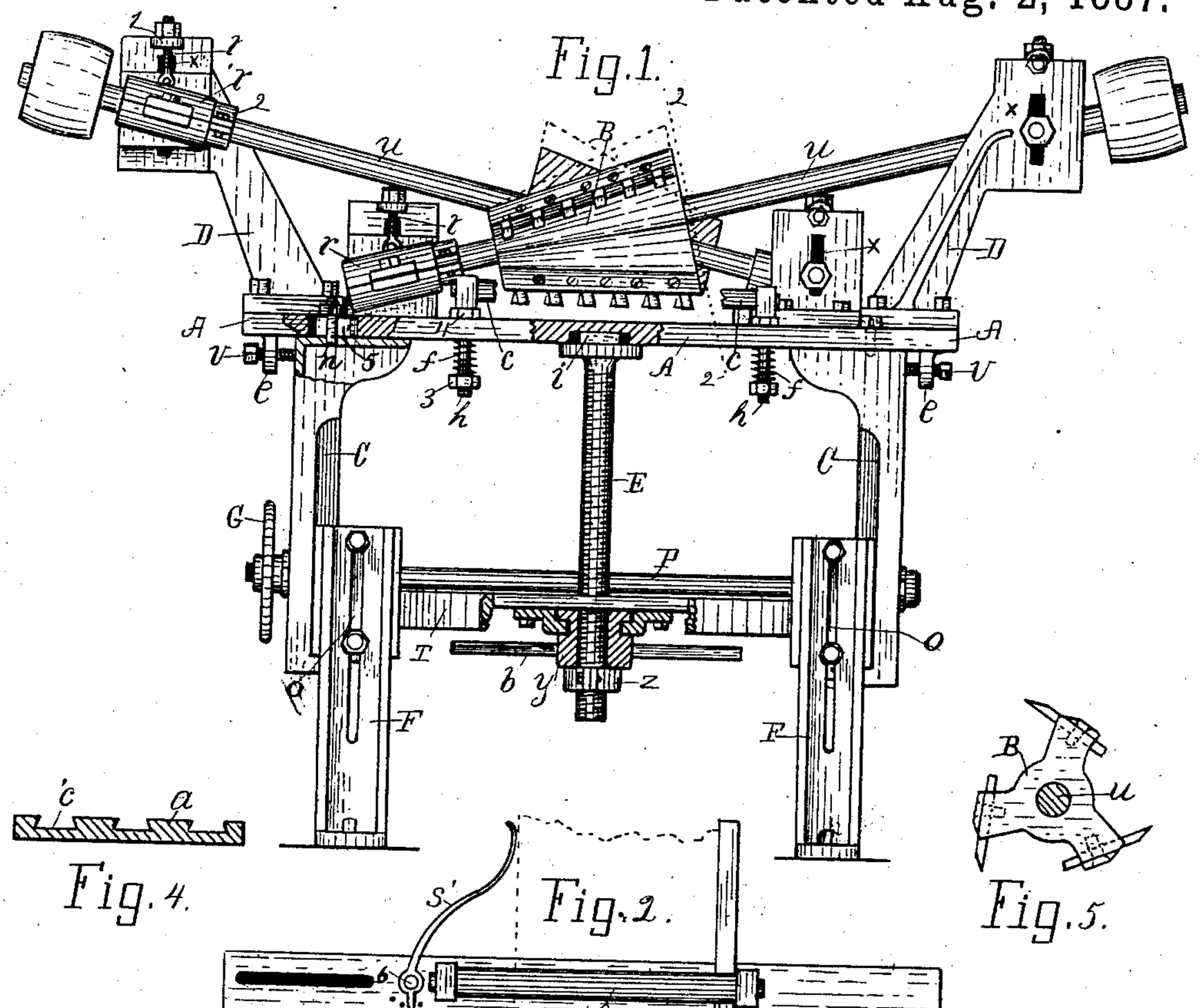
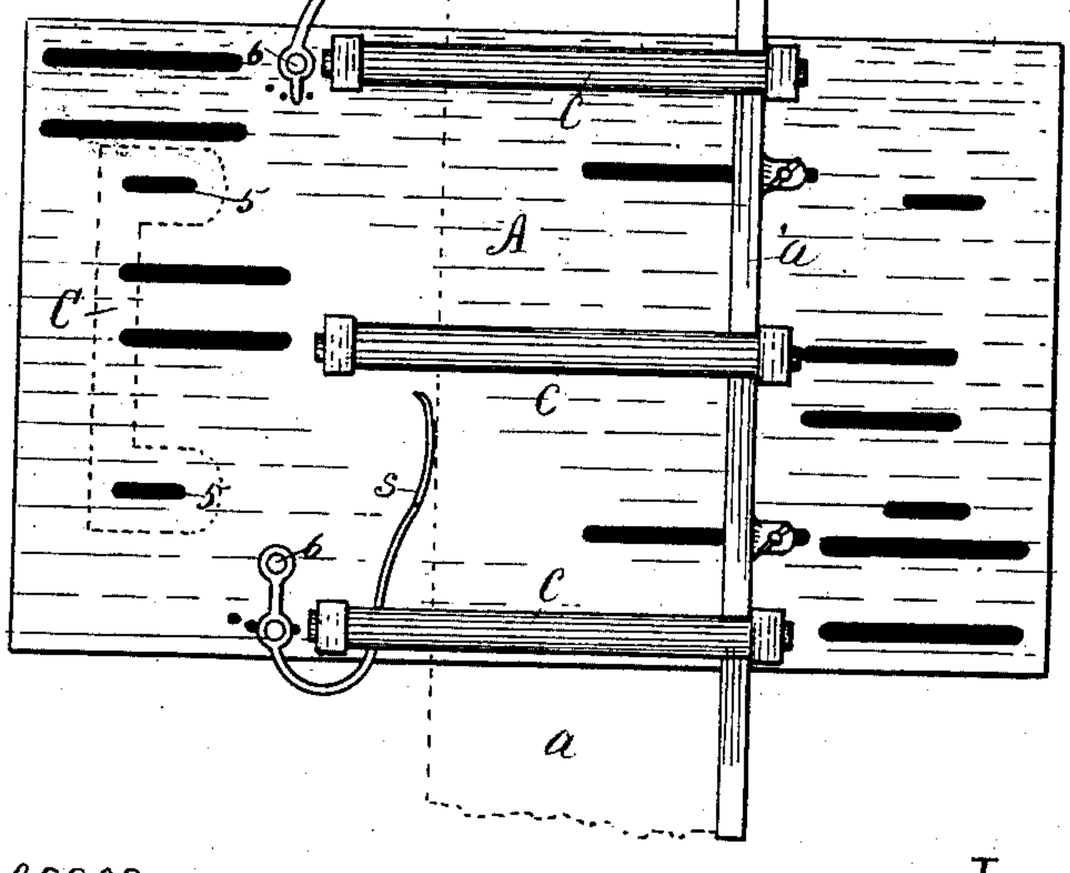


Fig. 4.

Fig. 5.

Fig. 2.



Witnesses.

John C. Perkins.

Stephen D. O'Brien.

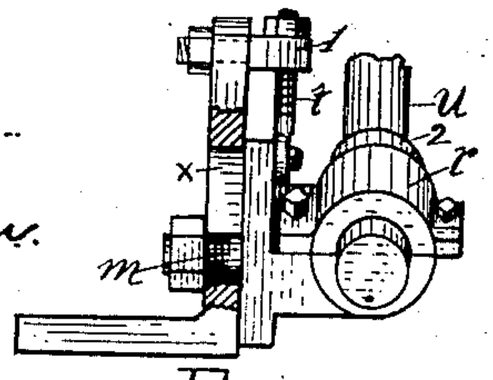


Fig. 3.

Inventor.

William S. Leonard

By Lucius C. Hart

Atty.

(No Model.)

2 Sheets—Sheet 2.

W. S. LEONARD.

SHEATHING LATH MACHINE.

No. 367,644. Patented Aug. 2, 1887.

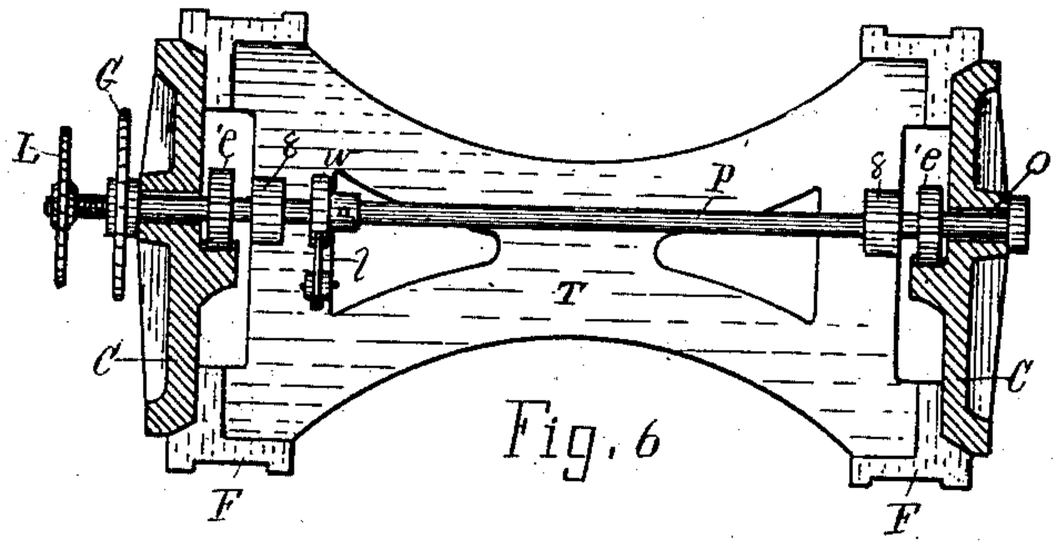


Fig. 6

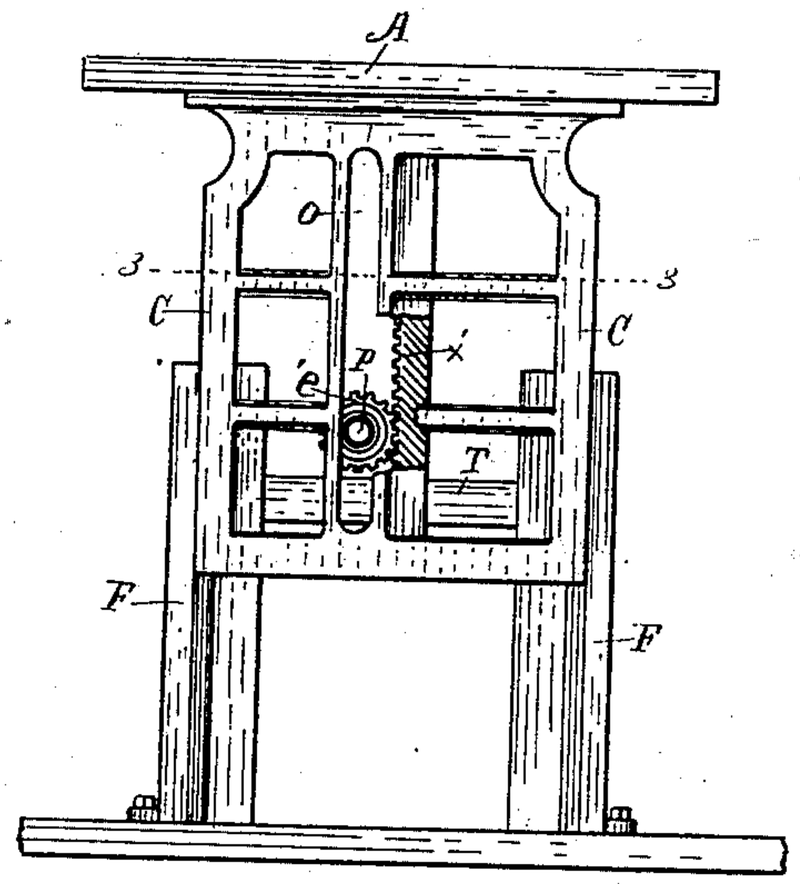


Fig. 7

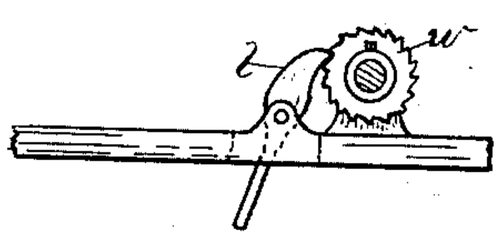


Fig. 8

Witnesses.
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Stephen D. O'Brien.

Inventor.
William S. Leonard
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UNITED STATES PATENT OFFICE.

WILLIAM S. LEONARD, OF BATTLE CREEK, MICHIGAN.

SHEATHING-LATH MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,644, dated August 2, 1887.

Application filed March 21, 1887. Serial No. 231,775. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. LEONARD, a citizen of the United States, residing at Battle Creek, county of Calhoun, State of Michigan, have invented a new and useful Sheathing-Lath Machine, of which the following is a specification.

This invention relates to that class of sheathing-lath machines in which oppositely-inclined shafts bearing grooving-saws are employed; and it more particularly relates to an invention of which I am the assignee and upon which an application is now pending in the Patent Office, Serial No. 212,789, filed September 6, 1886, and in which application solid tapered cutter-heads having grooves in which independent cutters are detachably and adjustably secured are described.

The object of the present invention consists in certain detailed improvements relating to the shaft-bearings, the adjustable table, lumber-guides, &c., substantially as below described and claimed.

Referring to the drawings forming a part of this specification, Figure 1 is an elevation; Fig. 2, a plan of lettered parts; Fig. 3, a broken perspective of lettered details in Fig. 1, enlarged; Fig. 4, an end view of sheathing-lath; Fig. 5, an end view of cutter-head, with shaft in section on line 2 2 in Fig. 1; Fig. 6, a section on line 3 3 in Fig. 7, showing changes from Fig. 1; Fig. 7, an elevation of parts in Figs. 6 and 1, below explained; and Fig. 8 shows lettered details from Fig. 6, looking from a point at the right, with the shaft P in section.

The table A, brackets D, and shafts *u u*, with cutter-heads B, are somewhat similar to those shown in the application above referred to. It will be understood that owing to the oppositely-inclined position of the shafts *u* and cutter-heads B, and also to the fact that the cutters revolve in planes which are at right angles to the plane of the shafts (hence the ends of the cutters are in a given row on the same horizontal plane) the cutters will cut grooves like those shown at *c'* in the board *a*, Fig. 4.

It is the design of this machine, as in the above application named, that it shall stand at the rear of a planing-machine and receive the lumber delivered therefrom; but this machine is fastened to the mill-floor and not to the bed-plate of the planing-machine. With this understanding and reference to said prior application I will proceed to point out the present improvements.

The shafts *u* are mounted in bearings *r*, which have an integrally-cast stud, *m*, projecting laterally therefrom through the vertically-elongated slot *x*, and is provided with a clamping-nut on its threaded end. (See Fig. 3.) Above the slot *x* the bracket D has a perforated lug, 1. A hanger, *t*, is pivotally attached to the casting of the bearing *r*, and is provided with a threaded end passed up through the pivoted lug 1. By loosening the nuts of stud *m* and lug 1 and screwing down the nut on top of the hanger *t*, (observing to first loosen the collars 2 on the shafts *u*,) the bearings and shafts can be raised and lowered at either or all ends, and the bearings will tilt to conform to the incline of the shafts during the operation of said adjustment. Of course it will be understood that the object of said adjustment is to conform to the thickness of the lumber *a* and the peculiar shape, width, &c., of the grooves *c'*.

The rollers *c*, beneath which the lumber is passed, are not new with me; but I have provided their supports *h* with a nut, 3, below the spring *f*, and with a nut, 4, above the table A. With the nut 4, I control the height of the rollers, or the space between them and the table, and by means of the nuts 3, I tension the springs *f*, making them stiffer or the reverse, as the needs demand.

The table A has pendent lugs *e* on each side, said lugs being provided with screw-threaded holes, into which holes the adjusting screws *v* are passed. The ends of these screws contact with the table-legs C at the upper end. By turning one of the screws inward and the other outward the table-top is adjusted laterally in accordance with the exact position of the planing-machine from which the lumber is delivered. Bolts *n* pass up through the upper flange of the legs C and elongated slots 5 in the table A, Fig. 2. These slots permit the said adjustment by loosening the nuts of the bolts *n*.

Referring to Fig. 2, *a'* is a laterally-adjustable guide-bar between the table A and rollers *c*. This guide-bar extends beyond the table at each end. On the other side are

springs *s s'*, having free ends to contact one edge of the board *a*. The other edge of the board, of course, slides against the guide-bar *a'*. The springs *s s'* will yield to let wide or narrow boards pass through. These springs may be rigidly attached to the table or pivoted, as at 6, so as to be swung in or out on said pivots to change the distance between them and the guide-bar *a'*. A series of holes in a curve are shown in the table, into which a bolt or stud is inserted to secure the springs at given positions.

In Fig. 1, T is a bridge having vertical channels at the ends, in which the legs C are clamped by means of the binding-rod P. Fig. 6 will serve to illustrate this; but there are changes in said figure, hereinafter described. The legs C are slotted, as at *o*, and the binding-rod passes through said slots and through lugs 8 of the bridge T. The rod P has a head at one end and a screw-threaded hand-wheel, G, at the other threaded end. The screw E is passed up through the bridge T and has a square head, *i*, inserted in an elongated slot in the under side of the table A. The square head prevents the screw from turning, and the laterally-elongated slot allows the table to be laterally adjusted without cramping of the slot against the head of the screw. Fig. 1 shows a portion of the table broken out, showing said head and slot.

Below the bridge T is a nut, *y*, on the end of screw E. By turning said nut by handle *b*, observing first to loosen the hand-wheel G, the table is raised and lowered in exact accordance with the height of the planing-machine.

The collar *z* below nut *y* may be adjusted to stop the table at any required height. By raising the table above the plane of the planer-bed when the planer is dressing other lumber than lath material, and by tightening the hand-wheel G' to hold the table in said raised position, the screw E can be run down out of the way, so as to allow lumber to pass from the planer beneath the table A in case it were desired so to do, because the head *i* of the screw E is detachable in its slot; or the table may be lowered to allow the lumber to pass over the cutter-heads.

To the bridge T, at each end, on the sides, the lower legs, F, are adjustably attached by bolts in the vertical slots of the lower legs, F. By this means the approximate height of the table required with given planing-machines may be adjusted, and then an accurate adjustment be effected by the screw E, as above explained; or the legs F may be integral or rigidly connected with the bridge, as in Figs. 6 and 7. In these figures the legs C, near slot *o*, have a rack, *x'*, meshing with pinions *e'* on the binding-rod P. When thus constructed, the rod P has a hand-wheel, L, at the end to revolve said rod by. Thus by loosening the hand-wheel G and turning the wheel L (properly a crank-wheel) the table is raised and lowered by the engagement of the racks *x'* and pinions *e'*.

At *w l*, Figs. 6 and 8, is a ratchet and pawl to prevent the table lowering suddenly in case the hands slipped from the wheel L. The mode of raising in Fig. 1 or that in Figs. 6 and 7 may be adopted.

Having thus described my invention, what I claim is—

1. The combination of the inclined shafts bearing the cutter-heads, the slotted brackets, each having a lateral lug at the upper end, the shaft-bearings, each having the lateral threaded stud arranged to move in the slot in the bracket and pivoting the bearing to the bracket, the removable collars on the shafts, and the threaded hangers passing through the bracket-lugs and pivoted at the lower end to the casting of the bearings, substantially as set forth.

2. The combination of the table, the rollers, one at each end of the table, or nearly so, the supports to said rollers, loosely passed through the table, the springs on the supports, beneath the table, a nut on the supports, above the table and below the rollers, for adjusting the latter, a nut on the supports, below the springs, to tension the latter, and the two tapered cutter-heads bearing the cutters between said rollers, substantially as set forth.

3. The combination of the table and the cutter-heads supported thereby, the legs, bolts passed up through the upper flange of the legs and elongated slots in the table, the screw-threaded lugs pendent from the table, and the set-screws in said lugs to effect a lateral adjustment of the table and of the cutter-heads supported by said table, substantially as set forth.

4. The combination of the table bearing the cutting mechanism, the bridge having the end channels, the legs fitting said channels and having the vertical slots, the binding-rod suspending said bridge and passed through said slots, the binding screw-wheel on end of said rod, and means for raising and lowering the table when the said wheel is loosened, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

WILLIAM S. LEONARD.

Witnesses:
SCOTT FIELD,
FRED WELLS.