G. E. BURT.

SAW-TABLE.

No. 186,196. Patented Jan. 16, 1877.

Fig. 1.

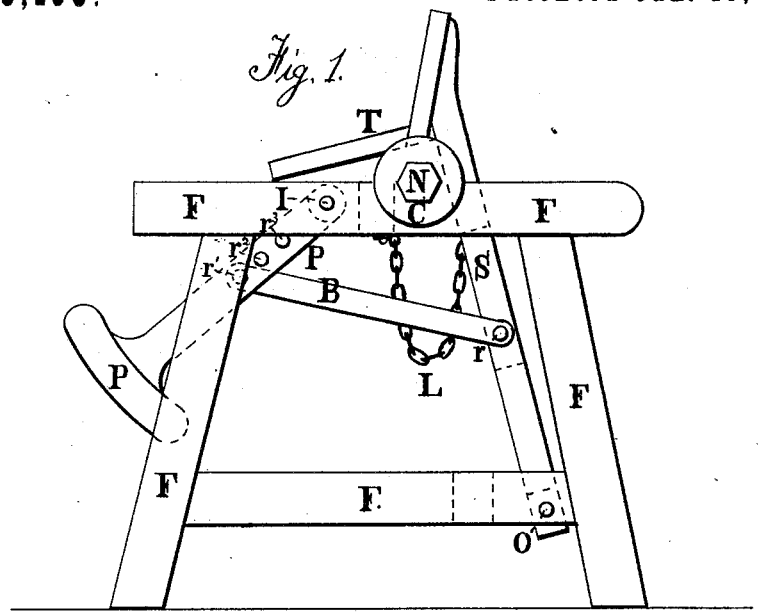
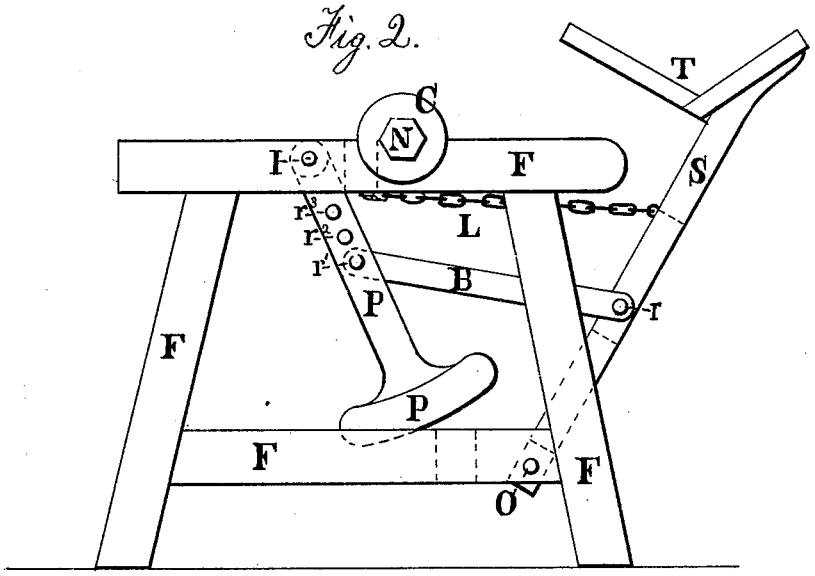


Fig. 2.



Witnesses.

E. A. Hildreth.

A. C. Burt

Inventor.

George E. Burt.

UNITED STATES PATENT OFFICE.

GEORGE E. BURT, OF HARVARD, MASSACHUSETTS.

IMPROVEMENT IN SAW-TABLES.

Specification forming part of Letters Patent No. **186,196**, dated January 16, 1877; application filed June 26, 1875.

To all whom it may concern:

Be it known that I, GEORGE E. BURT, of Harvard, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Saw-Tables, of which the following is a specification:

The nature of this invention consists in constructing and arranging a swinging pendulum-balance, and connecting it with a moving saw-table in such a manner that the action and reaction of swinging the pendulum shall assist in both the forward and backward motion in operating the moving table.

I am aware that springs have been used for this purpose; but it has been found that the constant action of bending the spring both back and forth causes it to break sooner or later, and a less expensive and more durable device has been found in this invention and attachment of the swinging pendulum.

In the accompanying drawings, Figure 1 is a side view of a saw-table with my improvement attached, showing the position of the parts when the table is carried forward over the saw-arbor. Fig. 2 is a side view of same parts shown in previous figure, when the table is drawn back to receive the stick of wood which is to be cut.

Like letters represent like parts in all the figures.

F is the main supporting-frame, which should be constructed of any suitable material, and put together in a firm and substantial manner. T is the moving table, on which the wood to be sawed is placed. S S are the supporting-standards, pivoted to the main frame at O, and fastened above rigidly to the moving table T. The pendulum P is a lever, constructed with a heavy weight—sufficient to balance the table T and standards S S. The pendulum P is pivoted to the main frame at I. B is a connecting-arm, extending from the pendulum P to the standard S, being pivoted to each at *r r*. The pendulum P is provided with a number of seats, r^1 r^2 r^3, to either of which the connecting-arm B can be attached or pivoted, varying the power of the pendulum upon the table to suit the pleasure of the operator. C represents the cheeks of the saw-arbor, in which a common circular saw is placed in the usual manner. N represents the nut and end of the saw-arbor. The arbor is constructed in the usual manner, with cheeks, nut, and pulley, and is held in position in boxes on the main frame. L is a check-chain, extending from the main frame F to a cross-bar between the standards S, and holds the table firmly in position while being loaded with wood. This invention may be applied with the same effect to the common slide-table by hanging the pendulum P in or near the center of the frame F—that is, nearly opposite the middle of the moving table T—and attaching two connecting-arms from the two outer ends of the sliding table to the pendulum. The table will then slide forward alike at both ends as they move on the track, and cannot bind either on the tracks or saw, which is a serious difficulty in common slide-tables; but the double connecting-arms, the pendulum, and pivot on which it turns, will cause both ends of a sliding table to move together.

Operation: It will be seen that, by constructing and arranging the swinging pendulum and the moving table, and connecting them with arms and pivots, as specified, the weight of the pendulum will tend to hold the lever or arm of the pendulum in an upright position, which, by means of the connecting-arm B, will throw the moving table T back from the main frame. This will cause the moving table T to pass the perpendicular line of its pivots to such a point that the weight of the moving table balances the weight of the pendulum, or until the table is checked in its motion by the check-chain L. This is one action of the table and pendulum, and gives the position in which the wood to be sawed is placed upon the table. The operator, having placed the wood upon the table, moves it toward the saw. Just as much of the weight of the pendulum as it took to balance the table now assists in moving the table toward the saw until the supporting-arms S S arrive at the perpendicular line of the table, and the pendulum comes into its perpendicular line. As the operator now crowds the table forward, the pendulum, through the action of the connecting-arm B and pivots *r r*, oscillates still farther beyond its perpendicular line, and the pendulum reacts on the table, to balance it in the other direction as the table passes its

balance on the pivots. If the wood is small this reaction is small, over and above the amount to balance the table; but, if the stick to be sawed is large, the operator must move it farther against the saw, and the reaction on the pendulum is increased. This tends to throw the table back into its original position, and it will be seen that the weight of the wood, having passed the perpendicular line of its action, the weight of the wood and table would tend to tip or move on toward the saw. The pendulum, being connected to the table by the arm B, is made to oscillate; and, as the pendulum-arm rises in its arc, the power or force of the pendulum is increased, and tends to balance the table and wood. This force is very desirable to assist the operator in drawing back the wood and table for another cut, and does not require as much labor to operate the table rapidly as it would without the pendulum thus arranged to balance the table in all its various positions.

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

1. The combination of the moving saw-table, the swinging pendulum, and a connection from the pendulum to the table to assist in operating the table, substantially as described.

2. The combination of the table T, supporting-arms S, pivot O, pendulum P, and connecting-arm B, substantially as described, and for the purpose set forth.

GEORGE E. BURT.

Witnesses:
E. A. HILDRETH,
A. C. BURT.