

Patented June 20, 1865.

Fig. 2.

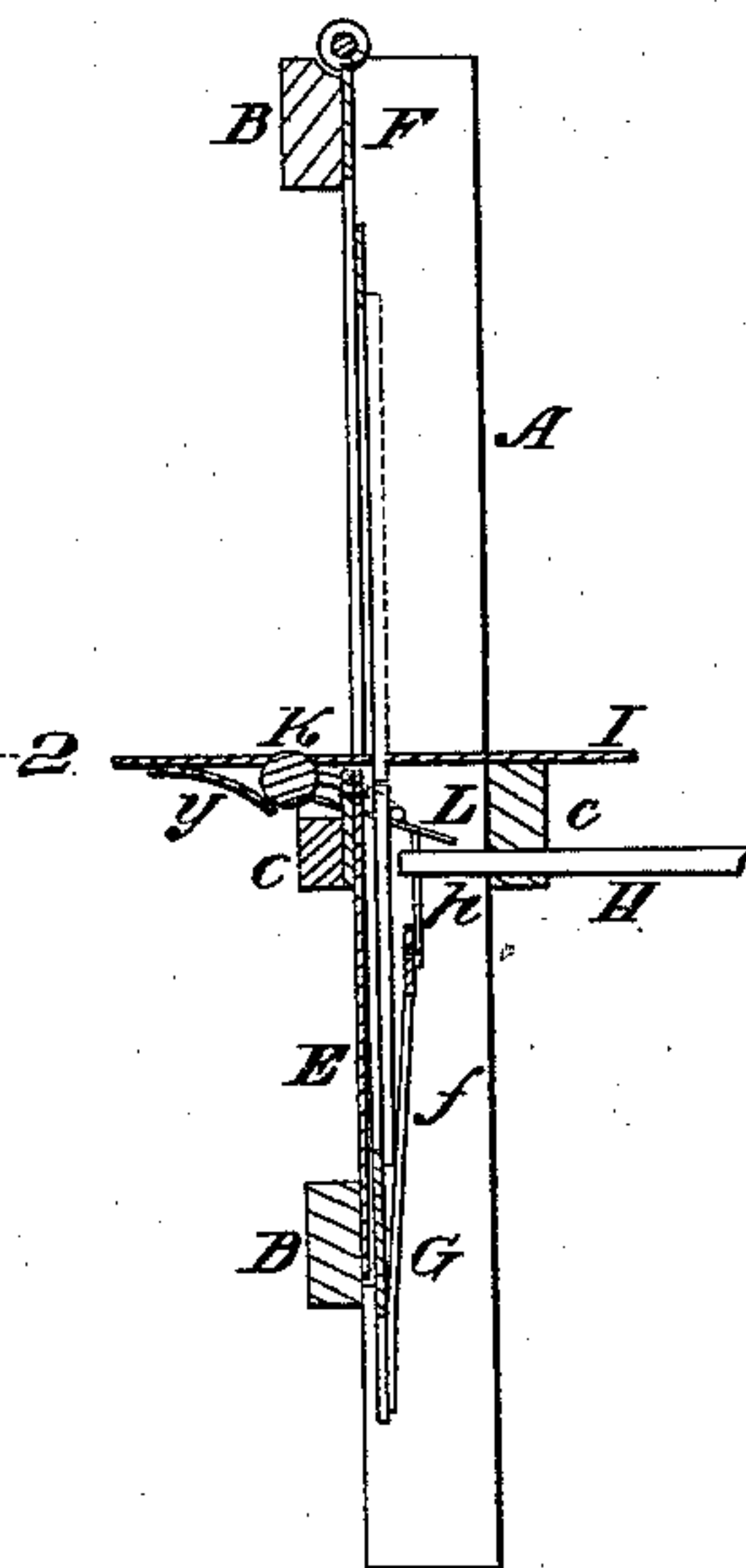


Fig. 4.

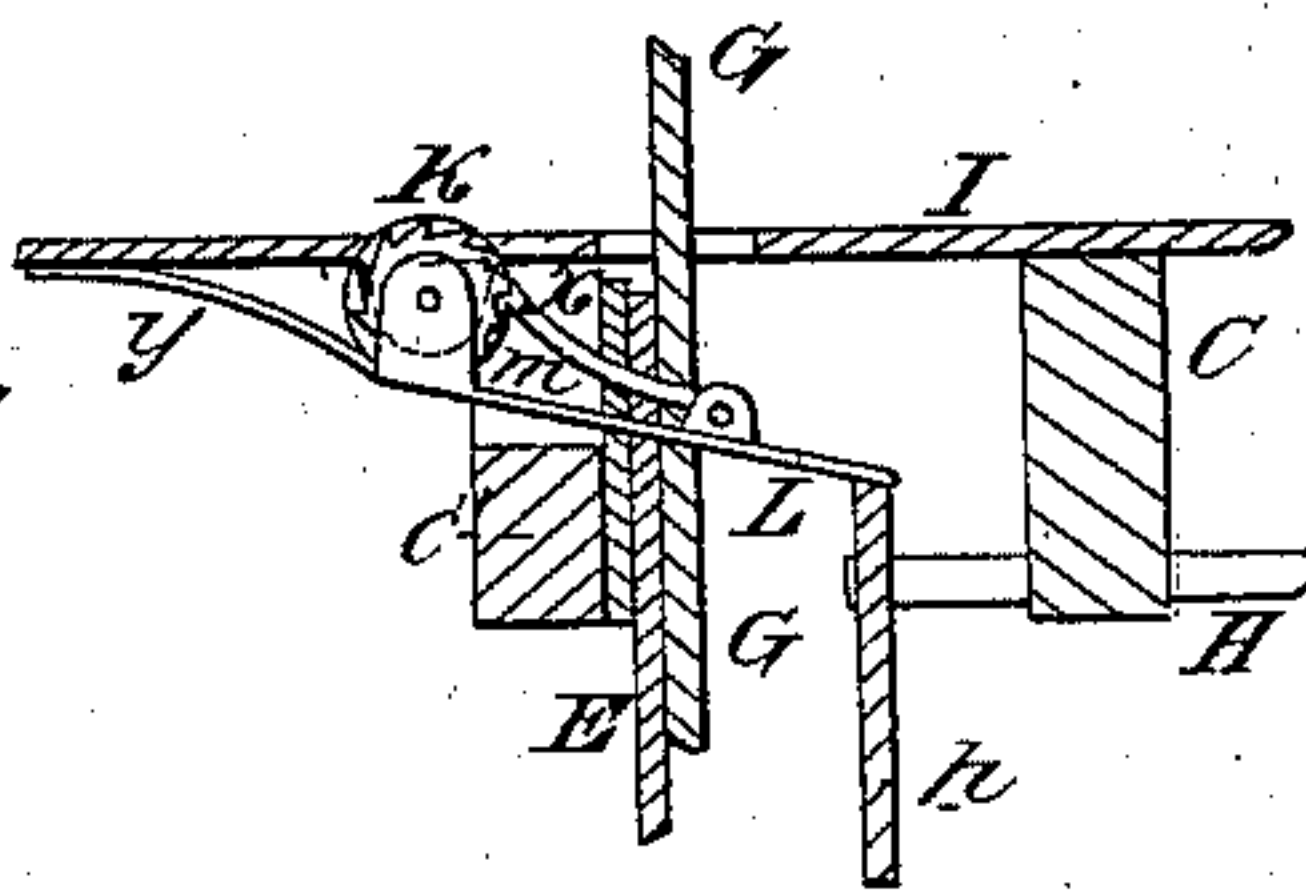
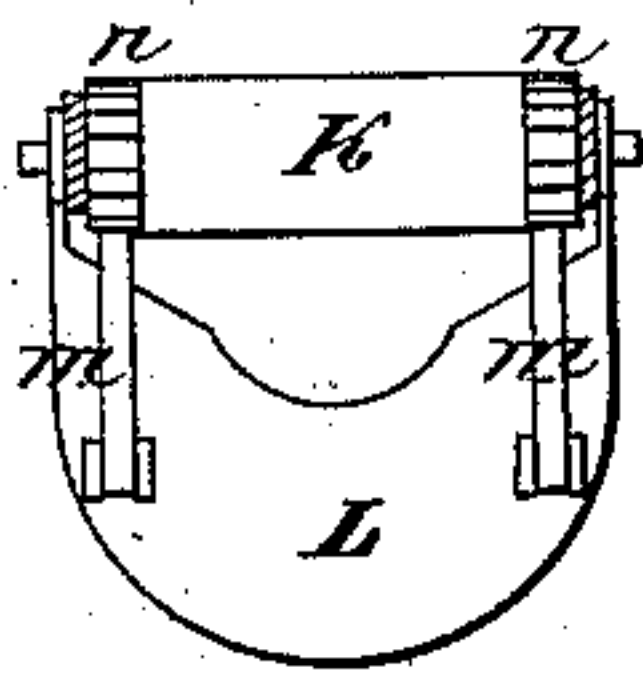


Fig. 5.



Inventor:

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UNITED STATES PATENT OFFICE.

WM. A. WRIGHT AND JAMES MOLYNEUX, OF BORDENTOWN, NEW JERSEY,
ASSIGNORS TO THE BORDENTOWN MACHINE COMPANY.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. 48,349, dated June 20, 1865.

To all whom it may concern:

Be it known that we, WILLIAM A. WRIGHT and JAMES MOLYNEUX, both of Bordentown, Burlington county, New Jersey, have invented an Improved Saw-Mill; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention consists of a saw-mill constructed and operating in the peculiar manner described hereinafter, so as to cut ship-timbers and other irregular forms, the mill being at the same time applicable to plain work.

In order to enable others skilled in this class of machinery to make and use our invention, we will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a front view of our improved saw-mill; Fig. 2, a vertical section; Fig. 3, a sectional plan on the line 1 2; Fig. 4, a vertical section on the line 3 4, Fig. 2, of part of the machine drawn to an enlarged scale; and Fig. 5, an inverted plan view of part of Fig. 4.

Similar letters refer to similar parts throughout the several views.

The stationary frame of the machine consists of the uprights A and A', connected together by the cross-beams B, C, and C' and D, the whole being secured to a suitable foundation.

E is the movable frame of the machine, and is hung at the point *x*, Fig. 1, to the cross-beam C' of the stationary frame. The upper edge of the movable frame E forms part of the circumference of a circle described from the point *x*, and on this upper edge are formed teeth *a*, into which gears the worm *b* on the shaft F, which turns in suitable bearings on the top of the stationary frame. Near each edge of the movable frame E are guides *e e*, in which the saw-frame G is arranged to reciprocate, motion being imparted to this frame through the medium of the pitman *f* and a crank-wheel, *h*, from the shaft H, which turns in the cross-beam C of the stationary frame.

A circular table, I, rests on the cross-beams C and C', and is so confined thereto that it can turn freely, but have no vertical movement, the

surface of this table being as near as possible to the point *x*—that is, to the center of vibration of the frame E. Throughout a portion of the circumference of the table I are teeth into which gear the teeth of a pinion, J, on the vertical shaft *k*, which turns on the stationary frame. A roller, K, the surface of which projects slightly above the surface of the table I, turns in bearings on the under side of the said table, and to the journals of the roller is loosely hung a plate, L, the form of which will be best observed on reference to Fig. 5. The tendency of this plate L, acted on, as it is, by a spring or weight, is to bear upon the periphery of the crank-wheel *h*, Fig. 4.

To the top of the plate L are hung two pawls, *m m*, one engaging into a ratchet-wheel, *n*, at one end of the roller and the other into a similar wheel at the other end of the roller, to which a suitable friction is imparted by a spring, *y*.

The frame G is furnished with a suitable saw, *q*, which passes through the table I.

By turning the shaft F the frame E, with its saw-frame G, may be made to assume any angular position from that shown in Fig. 1 to a reverse position. This movement of the said frame E to any desired angle in no way interferes with the continued reciprocating motion of the saw-frame.

The movable frame may be so adjusted that the saw will cut a piece of timber, R, to the bevel shown in Fig. 1, and if the timber has to be cut at an angle varying from one end to the other, which is frequently required in preparing ships' timbers, the angle of the saw-frame may be gradually changed by turning the shaft F as the operation of the saw continues. The timber to be cut rests on the table I and bears on the roller K, which may be corrugated. As the shaft H revolves a vibrating motion is imparted to the plate L by the crank-wheel *h*, and consequently an intermittent rotary motion is imparted through the pawls *m* and ratchet-wheels *n* to the roller which feeds the timber as it is being acted on by the saw.

In sawing curved pieces of timber, such as ships' ribs, it becomes necessary to turn the table I to such a position that the roller will induce the timber to move in the direction of the desired curve.

It will be seen that the plate L is of such a form and extent that, although moving with the table, it will continue to bear on the crank-wheel *h*, and will therefore continue to perform its duty of operating the roller after the table has been turned in one direction or the other, and in fact during the turning of the table.

It will be evident that the simple saw-mill above described is especially adapted for cutting ship-timbers, which are curved, and which have varying bevels; at the same time it is applicable to any plain work.

We wish it to be understood that we do not desire to claim, broadly, a saw-frame so constructed that it can be moved to different angles without interfering with the reciprocating motion of the saw; but

We claim as our invention and desire to secure by Letters Patent—

1. The frame E, its teeth *a*, the worm *b*, saw-

frame G, pitman *f*, driving-shaft H, crank *h*, the whole being arranged for joint action and in respect to the stationary frame, as and for the purpose herein set forth.

2. The movable table I, with its roller K, in combination with the movable frames E and G.

3. The roller K, its ratchet-wheels, the plate L and pawls *m*, and wheel *h*, or its equivalent, the whole being arranged and operating substantially as and for the purpose herein set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WM. A. WRIGHT.
JAS. MOLYNEUX.

Witnesses:

S. C. FORKER,
J. C. HOWSON.