(No Model.)

B. BRONSON.

SWINGING SAW.

No. 422,332. Patented Feb. 25, 1890.

Fig. 1.

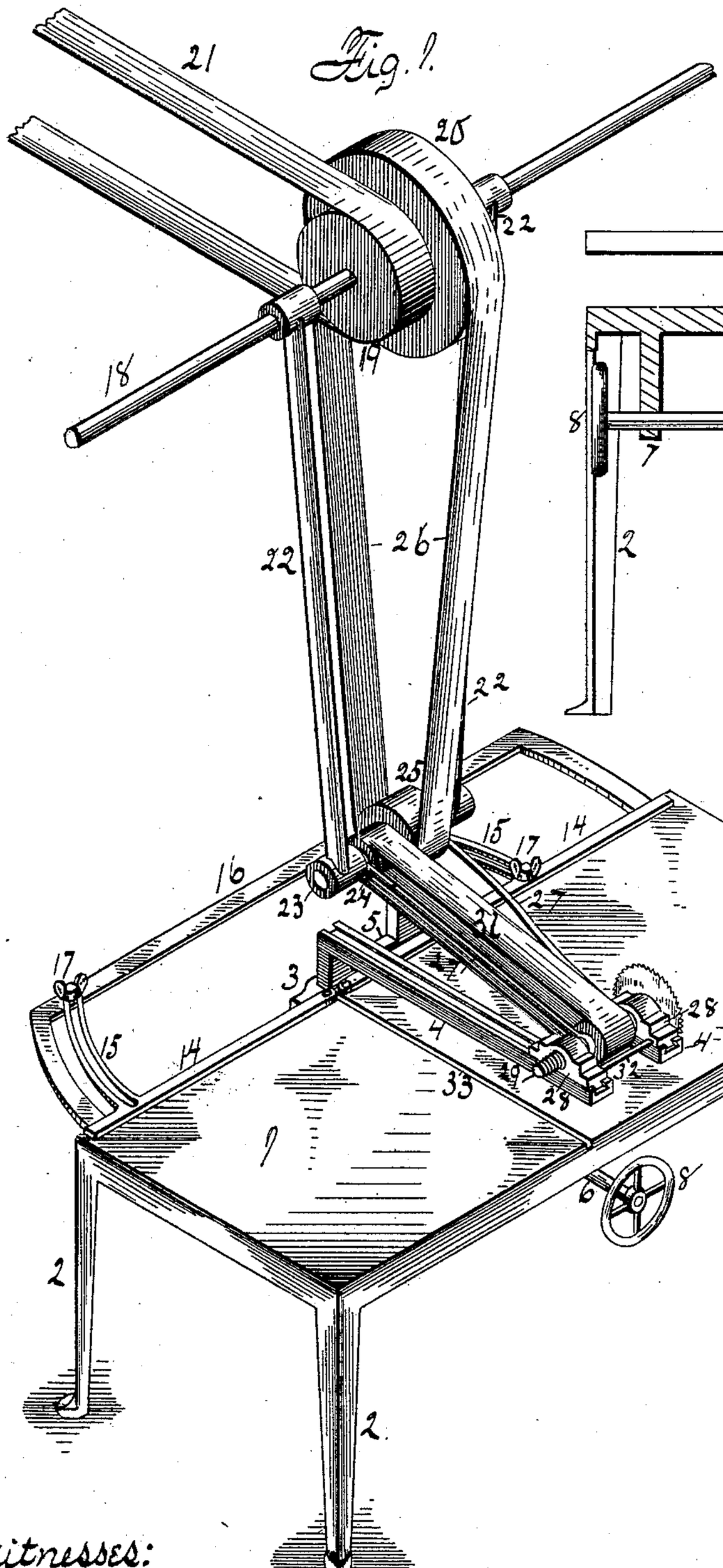
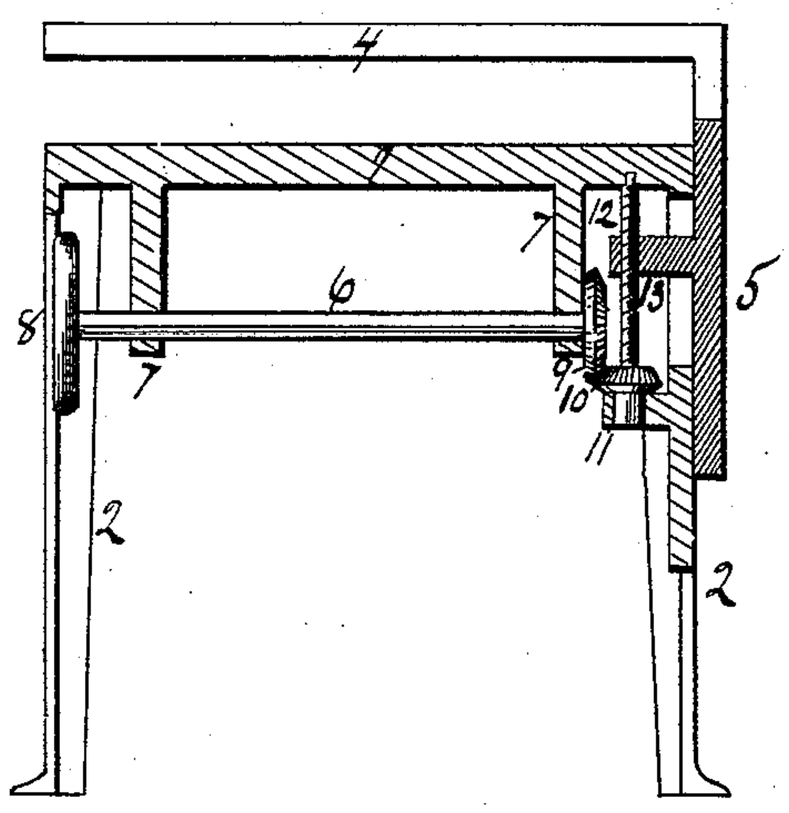


Fig. 2.



Witnesses:
E. Behel.
Josie Southworth

Inventor:
Benjamin Bronson.
By. A. O. Behel
Atty.

UNITED STATES PATENT OFFICE.

BENJAMIN BRONSON, OF BELOIT, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO THOMAS PURVES AND ERNEST LIPMAN, BOTH OF SAME PLACE.

SWINGING SAW.

SPECIFICATION forming part of Letters Patent No. 422,332, dated February 25, 1890.

Application filed July 8, 1889. Serial No. 316,781. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN BRONSON, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Swinging Saws, of which the following is a specification.

My invention relates to swinging saws; and it consists in certain features of construction and combination of parts, as will be hereinafter set forth.

In the accompanying drawings, Figure 1 is an isometrical representation of a machine embodying my invention. Fig. 2 is a transverse central section showing the mechanism for adjusting the guideways.

The bed 1 of the machine herein represented may be of any material, but preferably of iron, having a planed upper surface and provided with supporting-legs 2. To the rear side of the bed are secured guideways 3, in which slide vertically overhanging arms 4 by their depending rear portions 5, fitted to the guideways. The upper face of the overhanging arms 4 are grooved in the form shown, for a purpose to appear hereinafter.

The mechanism for raising and lowering the overhanging arms consists of a horizontal shaft 6, supported in bearings 7 depending from the under side of the bed. A hand-wheel 8 is secured to one end of the shaft and a bevel gear-wheel 9 at its other end, which engages with a bevel gear-wheel 10, supported by a bearing 11 at its lower end. From the upper face of the wheel 10 rises a screw-threaded rod 12, having its upper end fitted in the under side of the bed. The overhanging arms 4 have a connection with the screw-threaded rod 12 by a screw-threaded projection 13, through which the rod 12 passes. By means of the hand-wheel a rotary motion is imparted to the screw-threaded rod 12, through the medium of the bevel gear-wheel connection, and by reason of the screw-threaded rod having a connection with the projection 13 the overhanging arms are raised or lowered, depending upon the direction in which the rod is rotated. By locating the arms 4 over and above the table an unobstructed space is formed beneath the overhanging arms for the stock to be operated upon.

Upon the upper face of the bed are pivoted gages composed of the arms 14, having slotted extensions 15, for regulating the angle at which they may be set. A rear extension 16 from the bed supports the arms when they are adjusted in rear of the bed, and by means of thumb-screws 17 are held when adjusted.

Upon the counter-shaft 18 is supported a swinging frame and pulleys 19 and 20. A belt 21 connects with the line-shafting. The swinging frame is composed of arms 22, journaled at their upper ends around the center shaft 18, and their lower ends support a shaft 23, carrying two pulleys 24 and 25. A belt 26 connects pulleys 20 and 25, to transmit motion from the counter-shaft to the pulley 25, supported by the arms 22.

The saw-frame proper is an auxiliary frame connected to the swinging frame by rods 27, having their ends in eye form, so that the shaft in the lower end of the swinging frame acts as the pivot upon which they swing.

Heads 28 are fitted to slide in the grooves of the overhanging arms 4, and are transversely bored in box form to support a shaft 29, so that it may revolve therein. Upon this shaft and between the heads is supported a pulley 30, which is connected with the pulley 24 by a bolt 31. The rods 27 are connected with the heads by surrounding the shaft 29, between the pulley and heads. By means of a handle 32 connecting the heads the operator can move the heads in the grooved overhanging arms.

Upon the projecting screw-threaded ends of the shaft 29, a saw, dado, rotary cutter, or any tool capable of use in such position may be employed.

When a cut-off saw is employed, I prefer to use it on the end of the shaft over the transverse slot 33 in the table.

From the above description and an inspection of the drawings, it will be seen that motion will be transmitted to the saw-shaft through the belt connection with the line-shafting, and as the sliding heads are moved across the bed the swinging frame will move backward, but the belt connection will always

remain the same, and by this arrangement I adjust the saw instead of the table, and move the saw to the work instead of the work to the saw.

I claim as my invention—

1. In combination, a bed-plate, guides secured at the rear of the bed-plate in vertical adjustment, and extending forward over the table, leaving an unobstructed space for stock between them and the table, a carriage having a forward and backward sliding movement on the guides, an arbor mounted in the carriage, a swinging frame connected with the carriage and driving mechanism connected with the arbor, substantially as set forth.

2. In combination, a bed-plate, guides provided at their rear ends with depending portions, and extending forwardly over the bed-plate, leaving an unobstructed space between them and the bed-plate, guideways at the rear of the bed-plate in which the depending portions of the guides have a vertically-sliding movement, a screw engaged with the depending portions of the guides, gear for operating the screw to elevate and lower the guides, a carriage having a forward and backward sliding movement on the guides, an arbor mounted in the carriage, and a swinging frame and driving mechanism connected with the arbor, substantially as set forth.

BENJAMIN BRONSON.

Witnesses:

C. L. SOUTHWORTH,

A. O. BEHEL.