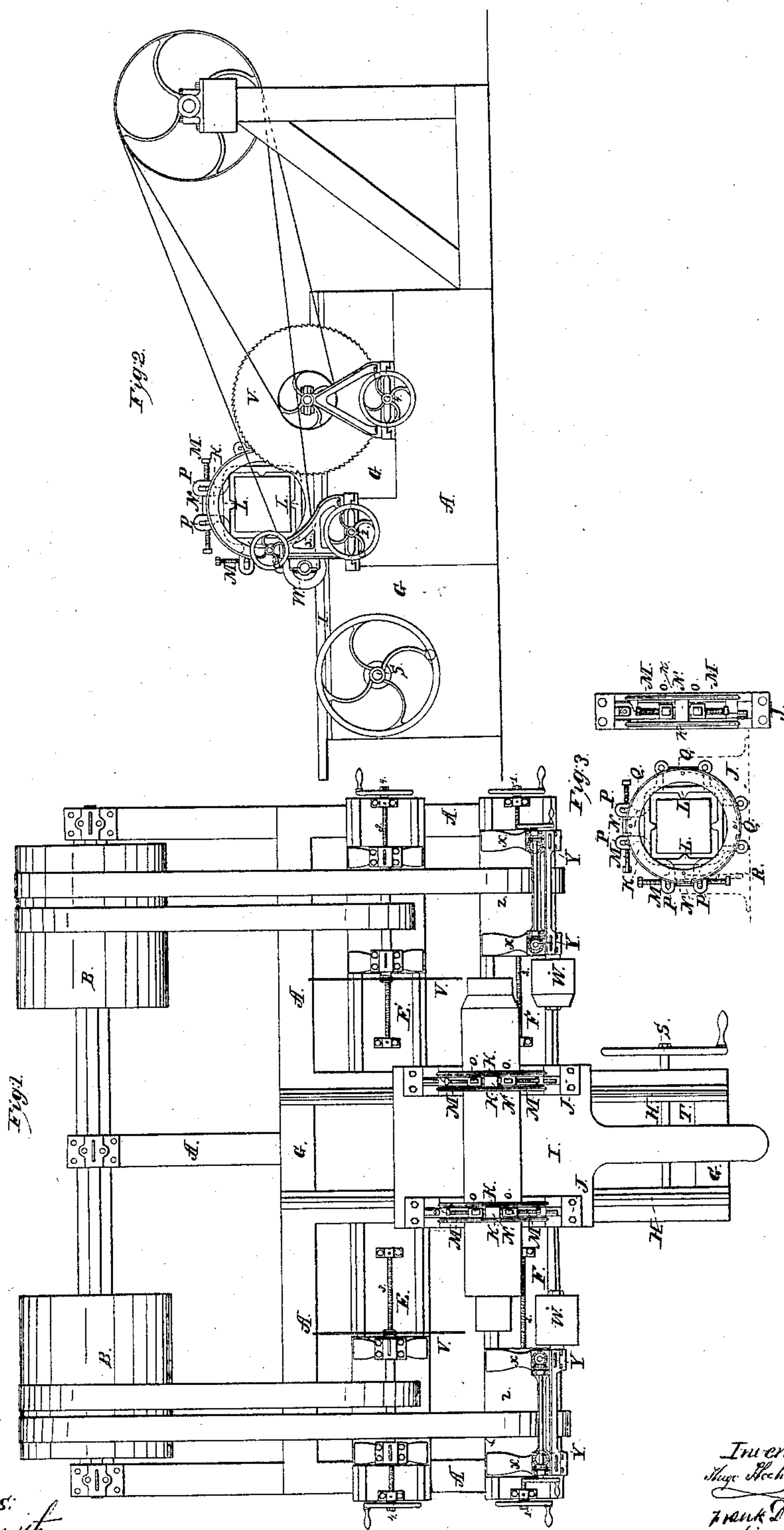


# Hochholzer & Denver, Tenoning Machine.

N<sup>o</sup> 59,605.

Patented Nov. 13, 1866.



Witnesses:  
C. W. Smith  
W. B. Ewer

Inventors:  
Hochholzer & Denver  
By their Attys  
Dewey & Co.



# UNITED STATES PATENT OFFICE.

HUGO HOCHHOLZER AND FRANK DENVER, OF VIRGINIA CITY, NEVADA.

## IMPROVEMENT IN MACHINES FOR TENONING TIMBER.

Specification forming part of Letters Patent No. 59,605, dated November 13, 1866.

*To all whom it may concern:*

Be it known that we, HUGO HOCHHOLZER and FRANK DENVER, of the city of Virginia, county of Storey, State of Nevada, have invented certain new and useful Improvements in Machines for Framing Mining-Timbers; and we hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvements without further invention or experiments.

The nature of our invention consists in the employment of revolving saws and cutters, operated upon sliding frames by set-screws; also, to a device for claspings and turning the timbers while undergoing the operation of framing.

In the drawings, Figure 1 represents a plan of our machine; Fig. 2, a side elevation; Fig. 3, a view of double-jointed clasp and ring.

A A, &c., is a suitable wooden frame to receive the pillow-blocks for counter-shaft, with driving-drums B B', and four stationary iron tables, E E' F F', with ways or Vs.

G represents a wood frame, placed across the center of the main frame between the saws and cutters at right angles, with ways and Vs H H extending a sufficient length for the sliding table I, with double standards J J, having segments in which the double rings K K turn in grooves.

Between each of these rings K K are clamps L L, of double construction, and opening at different quarterings between the two rings, with four projections placed at opposite points, which serve to hold the timber during the operation of framing, being hinged at their respective bases, and relaxing or tightening by means of the set-screws M M, with right and left hand threads attached to each clamp or clasp passing through head-blocks N N, and double lugs O O O O moving up and down in oblong slots P P.

Pin-holes Q Q are made around the outer face of each ring, in which the head of the bent spring R is placed. By this means the timber is held firmly in position in segmented standards.

S represents a hand-wheel, with shaft and pinion, to work the rack T, which is placed under the sliding table.

By this arrangement, should the stick of timber intended for use not be square or of

uniform dimensions, the necessity of first properly centering it with a chalk-line is obviated, and it is placed in the rings K K and clasps L L, where it is adjusted by means of the set-screws, and the rings fastened to the standards by the spring R, confining the whole to the table, to be moved by the rack and pinion.

The forward and back movement is given by the hand-wheel, which carries the timber against the saws V V and returns it to the cutters W W' as often as desired.

The cutters are made in the usual way of planing-knives, the left hand, or W, with the addition of a circular saw about three-sixteenths of an inch larger than the cutter, and is designed for cutting the square shoulders; the other cutter, or W', is beveled, for cutting a beveled shoulder, and is without the saw described in W.

Both of these cutters are confined by a mandrel to a horizontal steel shaft, so arranged in brackets X X that they can be raised and lowered by the wheel and beveled gear Y Y. These brackets are secured to plates Z Z, sliding upon ways on the table, moving right or left, by the hand-wheel 1 and screw 2.

One side of the tenon being cut, the timber is turned ninety degrees, or one-fourth of the circle of the ring in the standards, without its original position in clasps being disturbed. After having cut the four sides of the tenon, the timber is moved forward in the usual way against the circular saws, placed back of the cutters, and operated by the same driving-shaft.

The saws are adjusted by horizontal screws 3 3, hand-wheels 4 4, and are for the purpose of cutting tenons of different lengths and squaring the heads.

We claim—

1. Claspings or clamping and turning the timber or log by the means and in the manner described, substantially as set forth.

2. Holding and presenting the timber or log to be tenoned to the cutters by the means and in the manner substantially as described.

HUGO HOCHHOLZER. [L. S.]

FRANK DENVER. [L. S.]

Witnesses to Hochholzer's signature:

C. W. M. SMITH,  
GUS A. MANTHEY.

Witnesses to Denver's signature:

R. H. TAYLOR,  
H. M. MORGAN.