

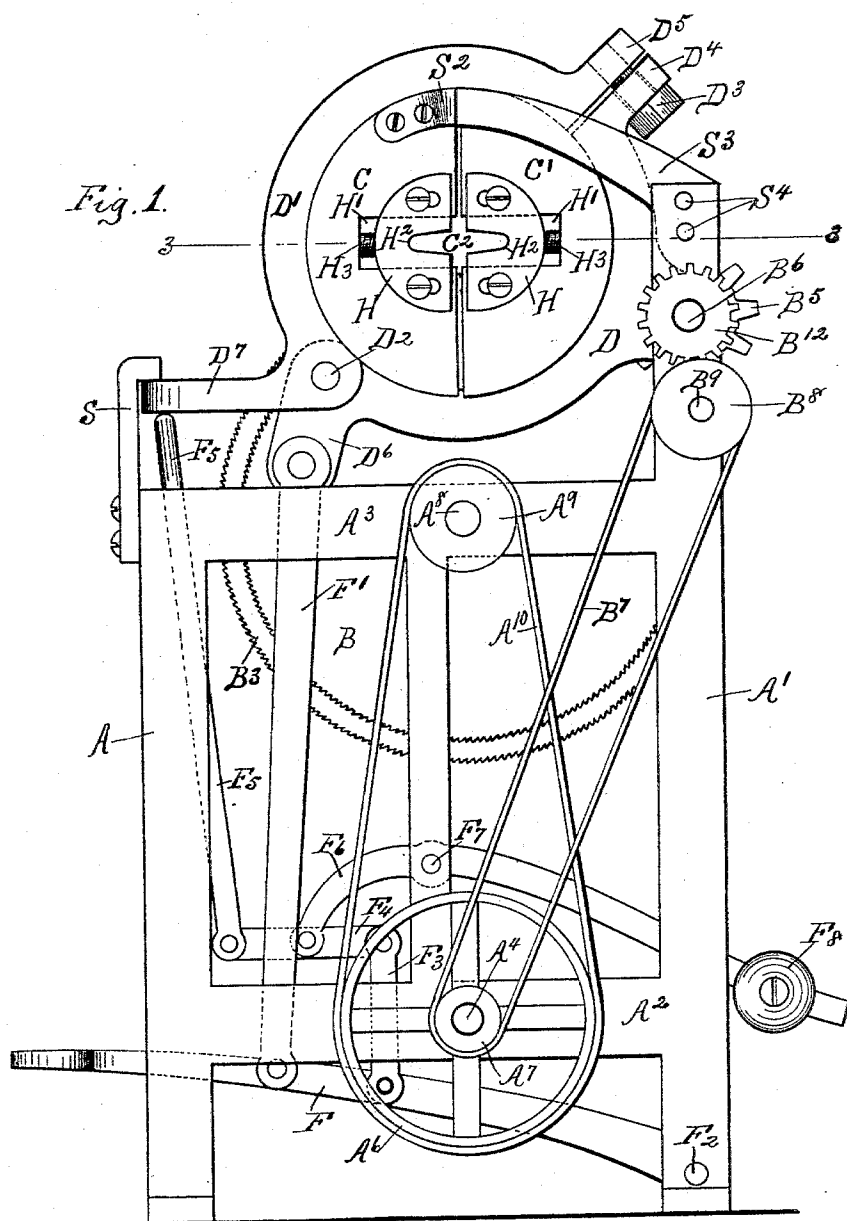
(No Model.)

2 Sheets—Sheet 1.

I. SICOTTE.
TENONING MACHINE.

No. 584,018.

Patented June 8, 1897.



Witnesses:
Frank C. Curtis
A. Delaney

Inventor:
Isaiah Sicotte
by Geo. A. Moshier
att'y.

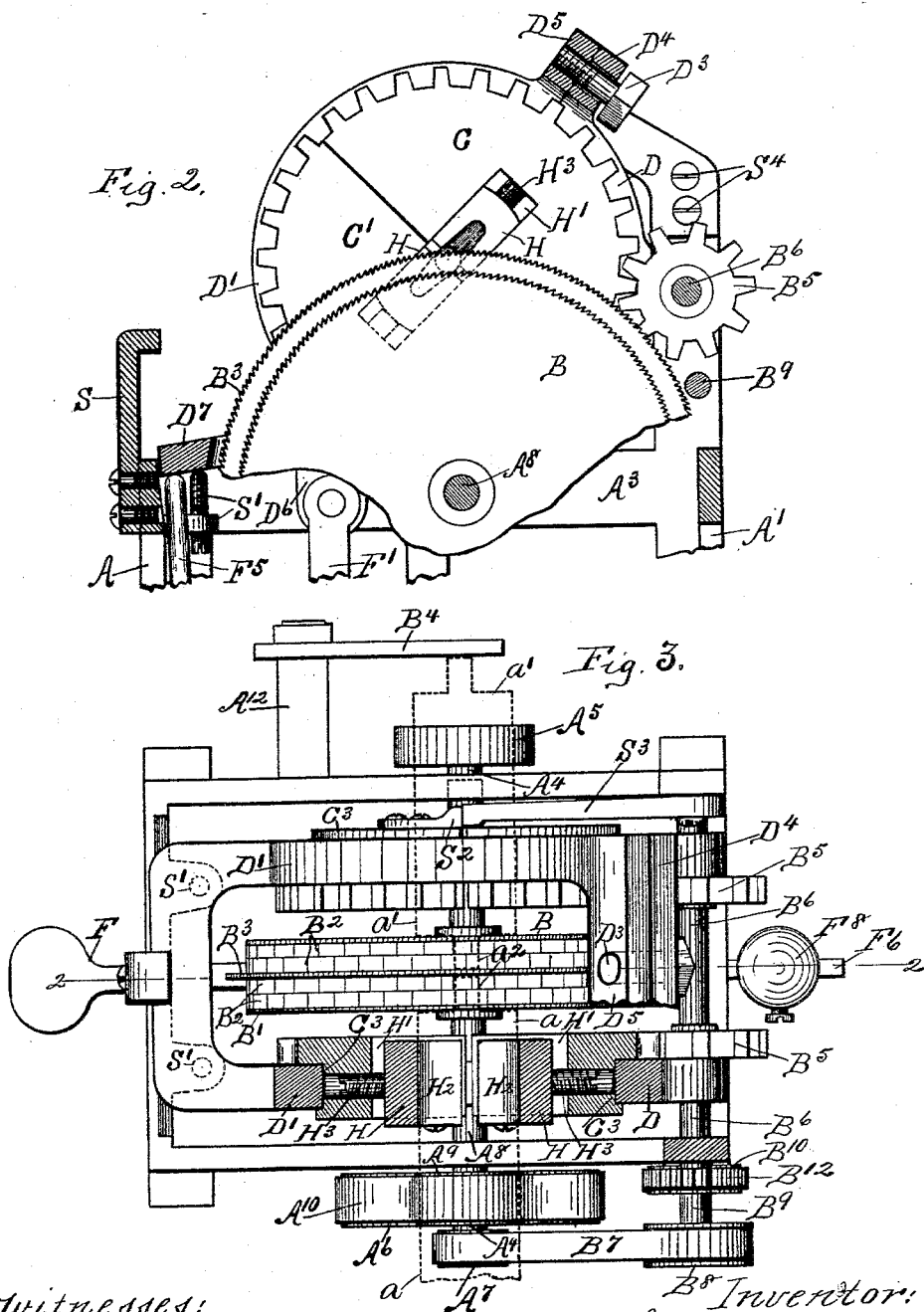
(No Model.)

2 Sheets—Sheet 2.

I. SICOTTE.
TENONING MACHINE.

No. 584,018.

Patented June 8, 1897.



Witnesses:
Frank C. Curtis
A. Delaney

Inventor:
Isaiah Sicotte
by Geo. Amosher
att.

UNITED STATES PATENT OFFICE.

ISALAH SICOTTE, OF COHOES, NEW YORK, ASSIGNOR TO CRAMPTON & BOLDEN, OF GREEN ISLAND, NEW YORK.

TENONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 584,018, dated June 8, 1897.

Application filed May 28, 1892. Serial No. 434,697. (No model.)

To all whom it may concern:

Be it known that I, ISALAH SICOTTE, a citizen of the United States, residing at Cohoes, county of Albany, and State of New York, have invented certain new and useful Improvements in Tenoning-Machines, of which the following is a specification.

My invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a side elevation of my improved tenoning-machine. Fig. 2 is a vertical section taken on the broken line 2 2 in Fig. 3. Fig. 3 is a top plan view of the machine as shown in Fig. 1, partly in section, taken on the broken line 3 3 in Fig. 1.

The main frame of the machine comprises the uprights A A' and the connecting side bars A² A³, one on each side of the frame. The side bars A² support the bearings for the drive-shaft A⁴, upon one end of which is fixed the drive-pulley A⁵ and upon the other end the pulleys A⁶ A⁷. The side bars A³ support the bearings for the cutter-shaft A⁸, provided with a fixed pulley A⁹, connected by belt A¹⁰ with pulley A⁶. The cutter-shaft supports the cutters for forming the tenons, which cutters consist of the two outside saws B B' for forming the ends of the slats, the toothed wheels or planers B² for forming the tenons, and the middle saw B³ for cutting one slat from another by sawing the tenoned portions apart, forming a complete tenon on one end of each of two slats.

The slats are fed to the cutters by hand in the form of a long strip of the uniform cross-sectional form desired for the slat, and the cutters cut away portions of the slat to form the tenons.

I have indicated by the dotted lines *a* in Fig. 3 the form and position of the slat-strip and a slat *a'* just after the latter has been cut from the former by the saw B³. *a*² represents the tenons formed by the cutters. The remov-

able stop or gage B⁴ determines the length of the slat. The stop is pivoted upon the stud A¹², projecting from the main frame.

Heretofore the slat-strip has been forced through a central aperture in a gear or gears provided with yielding seats adapted to press against the slat with sufficient force to firmly clamp and hold the same while the cutter formed the tenons. In such a form of construction the force of a strong man was necessary to push the slat-strip between the yielding seats, which were necessarily very strong to hold the slats. The operation was slow and laborious.

The object of my invention is to provide a more convenient and easily-operated clamp for holding the slat-strip; and the invention comprises a split or sectional gear C C', having a central aperture C² for the slats. The two sections are each provided with gear-teeth adapted to mesh with a driving-pinion B⁵, fixed upon the shaft B⁶. Power is transmitted to this shaft from pulley A⁷ through belt B⁷, pulley B⁸, shaft B⁹, and gear-wheels B¹⁰ and B¹², the gear B¹⁰ being fixed upon shaft B⁹. I prefer to make use of a pair of such sectional gears, one on each of the opposite sides of the cutters, as shown in Fig. 3. The sectional gears are each provided with a comparatively large journal C³, which journals are rotary in bearings in the sectional boxes D D'. The periphery of each gear-journal is provided with an annular groove adapted to receive the inner portion of the sectional boxes, as shown in Fig. 3.

The box-section D is pivoted upon the gear-shaft B⁶ and is pivoted to the section D' at D². On the side of the sectional gear opposite the connection D² the two box-sections are loosely connected by the screw-bolt D³, which passes loosely through an aperture in the ear D⁴ and is screwed into an aperture in the ear D⁵, threaded to receive it. The box-section D is also provided with an arm D⁶, which is connected with treadle F by the link F'. The treadle is pivoted at F² upon the main frame and is connected by link F³ with one end of a lever F⁴, the other end of the lever being pivoted to the rod F⁵. Intermediately of its ends the lever F⁴ is pivoted to the short arm of lever F⁶, pivoted at F⁷. The long arm of this lever

is provided with a weight F^8 , adjustable longitudinally thereon. Secured to the upper part of the main frame is a stop S for limiting the upward movement of the lever-arm D^7 , secured to or forming a part of the box-section D' , also a stop or stops S' (shown in Fig. 2) for limiting the downward movement of the lever D^7 . The gear-section C is also provided with a stop S^3 , adapted to engage with the trip S^3 , bolted to the main frame at S^4 , when the sectional gear and bearing-box are open in a position to support the slat-strip loosely, as shown in Fig. 1.

The operation of the machine is as follows:
 15 The slat-strip is inserted through the central aperture C^2 until the inserted end strikes the stop B^4 , and the treadle is pressed down until the lever D^7 is moved from the position shown in Fig. 1 to that shown in Fig. 2 and strikes
 20 the stop S' , which limits the downward movement. When the several parts occupy the position shown in Fig. 1, the weight F^8 holds the arm D^7 against the stop S and exerts an upward pressure upon the treadle through
 25 link F^3 and upon the bearing-box section D through the treadle-link F' . The upward pressure of section D' is a power applied at connection D^3 to separate the box-sections, the stop S serving as a fulcrum for the lever formed by the arm D^7 and box-section D' . As
 30 soon as a downward movement is communicated to the treadle the box-section D swings downwardly on the shaft B^6 and applies power to the connection D^2 to close the box-sections, the upper end of the rod F^5 then serving as
 35 the fulcrum for the lever formed by arm D^7 and box-section D' . As soon as the fulcrum for such lever is changed from the stop S to rod F^5 the force of the weight is exerted to
 40 close the box-sections, which causes the gear-sections to tightly clamp the inclosed slat-strip and securely hold the same while acted upon by the cutters. As soon as the box and
 45 gear sections close the two box-sections become as one lever fulcrumed upon the shaft B^6 , with the power applied at the link connection with arm D^6 . When the arm D^7 strikes the stop S , the box and gear sections have
 50 carried the slat-strip far enough for the cutters to form the tenon and for the middle cutter or saw B^3 to cut through the tenon and separate a completed slat from the strip, the relative positions of the slat and cutters being
 55 shown in Fig. 2, the exposed end of the slat being indicated by shade lines and the portion behind the cutters by dotted lines.

The sectional gear is prevented from rotating when the sectional bearing-boxes are in the position shown in Fig. 1 by means of the
 60 stop S^2 , in engagement with trip S^3 , but the downwardly-swinging movement of the box-sections causes the stop to slip past the trip, which releases the gear and permits it to be rotated in its bearings by the pinion B^5 until
 65 the tenon is formed and cut off. The treadle is then released, whereupon the weight raises the treadle and other parts to the position

shown in Fig. 1, in which position the stop S^2 engages with the trip to stop and open the sectional gear ready to receive the slat-strip
 70 and allow it to move freely through its central aperture. When the rotary movement of the sectional gear is thus arrested, the belt B^7 slips upon one of its supporting-pulleys, and the rotary movement of the cutters continues. 75
 When desired, the gear-sections may each be provided with an adjustable slat-seat consisting of a clamping-block H , movable in a radial slideway H' in the gear-section and provided with a seat H^2 in its face adapted to receive one edge of the slat. The blocks are
 80 movable radially of the sectional gear and can be secured in different positions by the adjusting-screws H^3 to accommodate the size of the central aperture C^2 to varying widths or
 85 slats.

The sectional gears can be easily inserted in and removed from the boxes by removing the bolt D^3 and opening the sections.

By giving the slat aperture and seats the desired form my improved sectional gear and sectional bearing-box are well adapted for use
 90 in all kinds of tenoning-machines having a revoluble or rotary cutter.

By the term "slat" I include any strip adapted to receive a rounded tenon. 95

What I claim as new, and desire to secure by Letters Patent, is—

1. In a tenoning-machine, the combination with a rotary cutter; of a rotary sectional gear having a central slat-aperture; means for
 100 opening and closing the gear-sections; and means for varying the positions of the cutter-bearings and gear-bearings, relatively to each other, substantially as described. 105

2. In a tenoning-machine, the combination with a rotary cutter of a sectional gear having a central slat-aperture; a sectional box containing the bearings for the gear; means for
 110 opening and closing the box-sections for clamping the gear-sections upon the slat; and means for varying the position relatively to each other of the cutter-bearings and gear-bearings, substantially as described.

3. In a tenoning-machine, having a rotary cutter, a sectional gear having a central slat-aperture and an adjustable slat-seat in each
 115 section of the gear, substantially as described.

4. In a tenoning-machine, the combination with a rotary cutter; of the sectional gear, C ,
 120 C' , having a central slat-aperture; a sectional bearing-box for the gear; a pivot connection, B^6 , between one section of the box and a fixed support; a pivot connection, D^2 , between the two box-sections; and means substantially as
 125 shown and described for oscillating the sections upon their pivots.

In testimony whereof I have hereunto set my hand this 16th day of May, 1892.

ISAIAH SICOTTE.

Witnesses:

GEO. A. MOSHER,
 FRANK C. CURTIS.