

# H. F. Sharv, Scroll Sawing Machine

N<sup>o</sup> 19,534.

Patented Mar. 2, 1858.

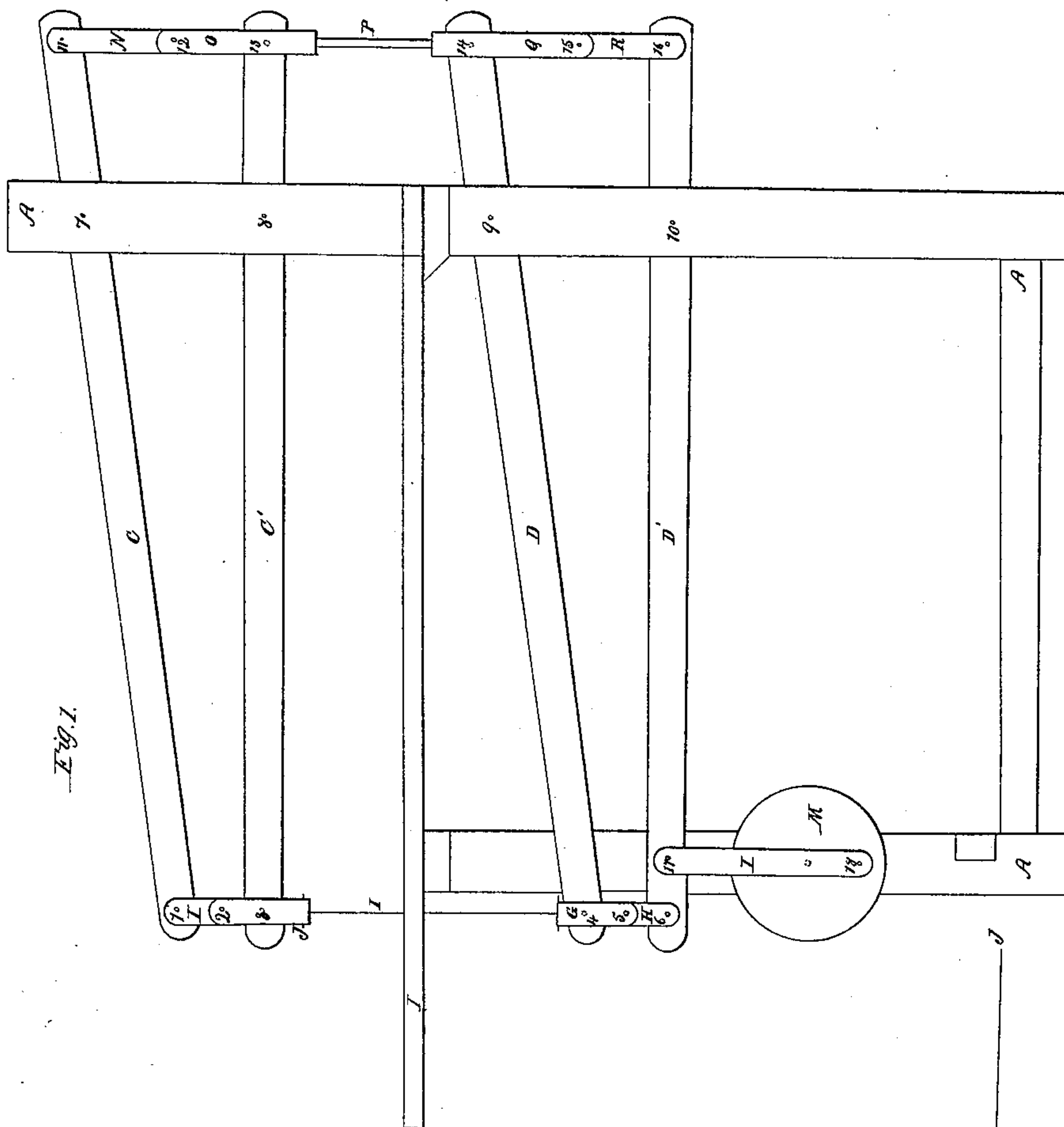


Fig. 1.

Fig. 3.

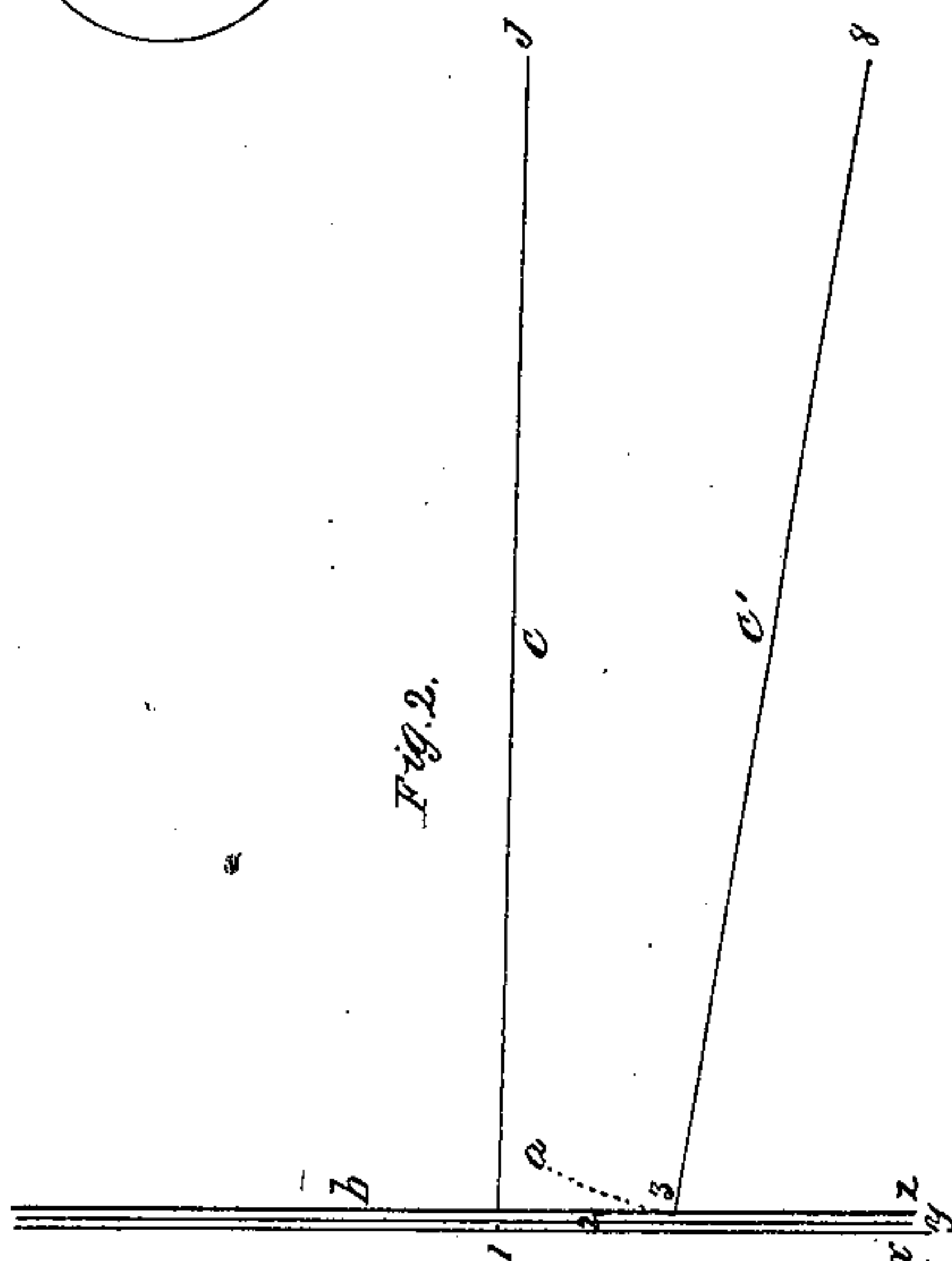
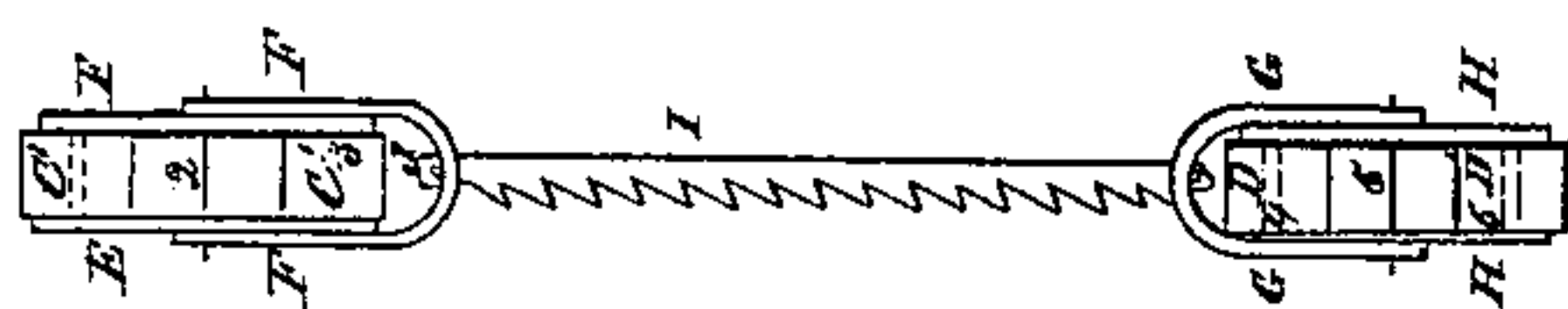


Fig. 2.

# UNITED STATES PATENT OFFICE.

HENRY F. SHAW, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND MOSES H. GREGG, OF SAME PLACE.

## METHOD OF OPERATING SCROLL-SAWS.

Specification of Letters Patent No. 19,534, dated March 2, 1858.

*To all whom it may concern:*

Be it known that I, HENRY F. SHAW, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented  
5 a new and useful Improvement in Gig-Saws; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying  
10 drawings, forming a part of this specification.

The nature of my invention consists in the use of two sets of double arms, and attaching the two ends of the saw to the centers of the strips which unite the extremities  
15 of said arms;—by means of which arrangement the saw is carried up and down in a vertical line, or as nearly vertical as can be desired.

20 To enable others, skilled in the art, to make and use my invention, I will now proceed to describe its construction and operation.

Figure 1 represents a side view of the  
25 whole machine; Fig. 2, lines and points, showing the operation of the double arms in producing a vertical motion of the saw; and Fig. 3, a front view of the double arms and saw.

30 Like parts are indicated by the same letters and figures of reference in all the drawings.

A is the frame.

B is the table.

35 C C', and D D', are arms of wood, or metal, passing through slots in the stud or upright part of the frame, and moving on the fulcrum pins, 7, 8, 9, 10.

40 E E, are strips of metal (see Figs. 1 and 3) uniting the arms C C', by means of pins, 1 and 3. H H are similar strips uniting the arms, D D', by means of pins, 4 and 6.

45 F F, is a strip of metal, bent as seen in Fig. 3, and united at its upper ends, to the center of the strips, E E, by means of the pin 2. G G, is another strip similar to F, and united to the center of the strips, H H, by means of the pin, 5.

50 I is the saw, fastened at each extremity to the strips, F and G, by the pins, J and K, as seen in Figs. 1 and 3.

N and R are strips of metal uniting the back ends of the arms, C C', and D D', by means of the pins, 11, 13, 14 and 16.

O is a strip of metal, bent like F Fig. 3, 55 and united to the center of N by means of pin, 12.

Q is a strip, similar to O, united to the center of R by means of pin, 15.

P is the connecting rod of O and Q; the 60 upper end of said rod being provided with a screw and nut by which any desired amount of tension may be given to the saw.

M is a pulley to which a rapid motion is communicated in the usual manner. 65

L is a pitman the upper end of which is connected to the arm, D', by pin 17, and the lower end to the pulley M by pin, 18.

As pulley M, rotates, it is obvious that the two sets of double arms will be moved carry- 70 ing the saw up and down the distance required, and with a very small amount of friction.

By glancing at Fig. 2, it will be seen in what manner the pin, 2, (from which the 75 upper end of the saw is virtually suspended) is made to move in the vertical line,  $y$ , or so nearly in it as to be practically all that can be desired. Pin 1 describes the arc,  $b$ , (represented by the dotted line); and pin 3 80 describes the arc,  $a$ . We will now suppose the arms, C, C', to be moving in the direction of the arrow, when it is clear from inspection that as fast as pin 1 recedes from line  $x$  toward  $y$ , the pin 3 recedes from line  $z$  to- 85 ward  $y$ , so that pin 2 will always be kept in, or nearly in, the vertical line  $y$ .

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

90 The use of the two sets of double arms, C C', and D D', constructed substantially as described, and attaching the two ends of the saw to the centers of the strips, E and H, which unite the extremities of said arms, substantially as set forth and for the objects 95 specified.

HENRY F. SHAW.

Witnesses:

JOHN WARREN,  
N. AMES.