

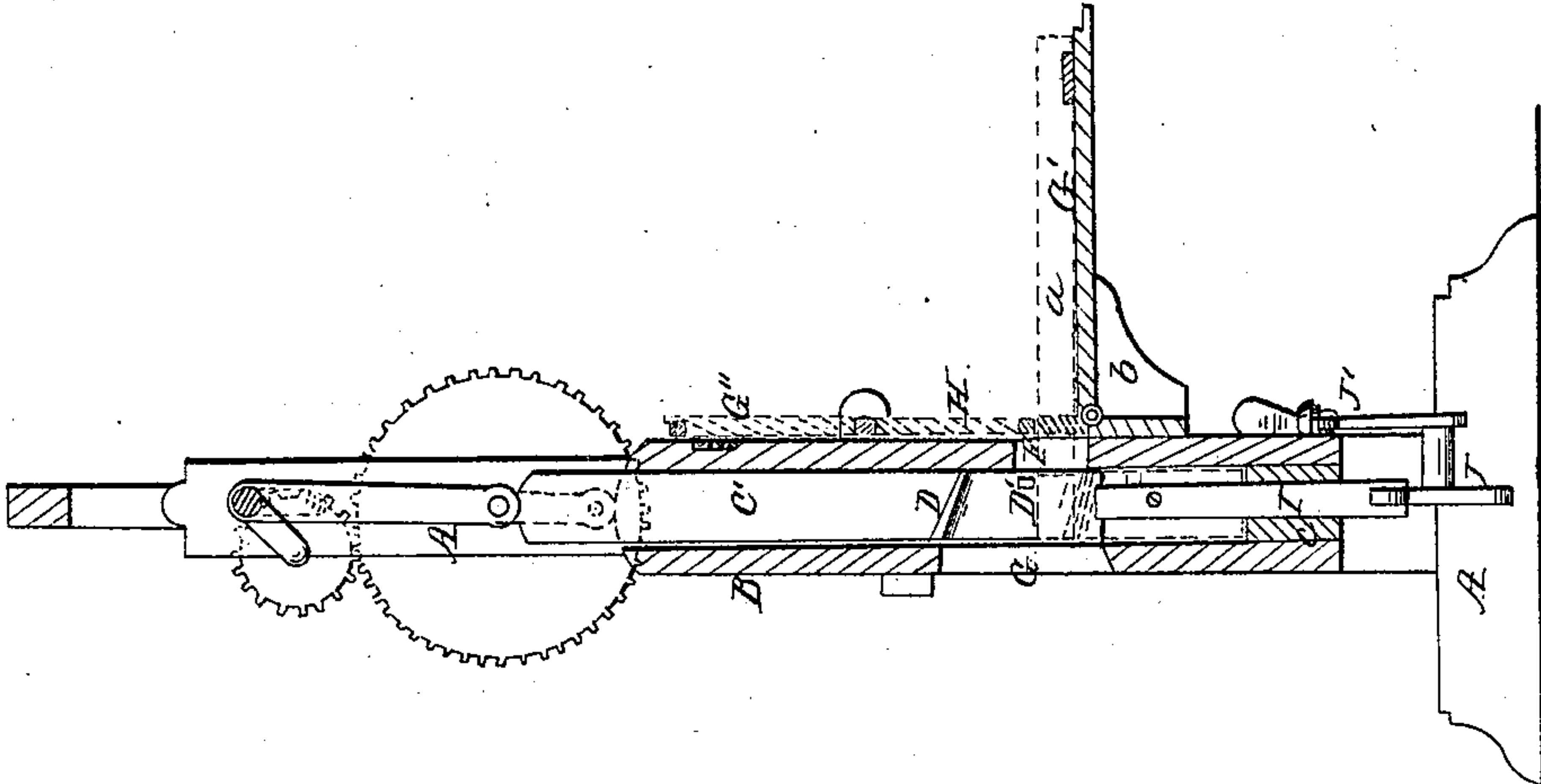
*Sharps & Adriance,*

*Tenoning Machine.*

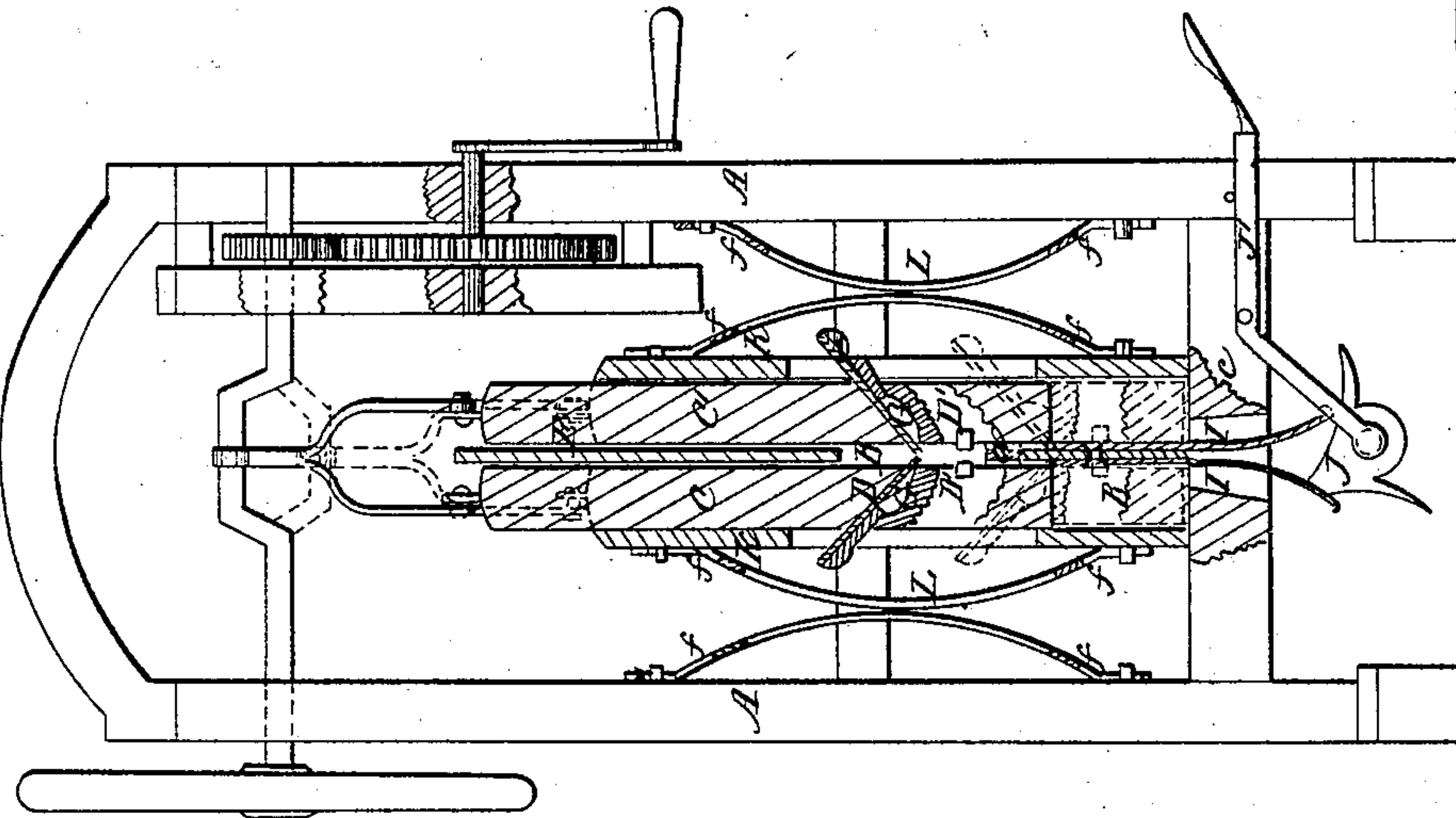
*N<sup>o</sup> 13,049.*

*Patented June 12, 1855.*

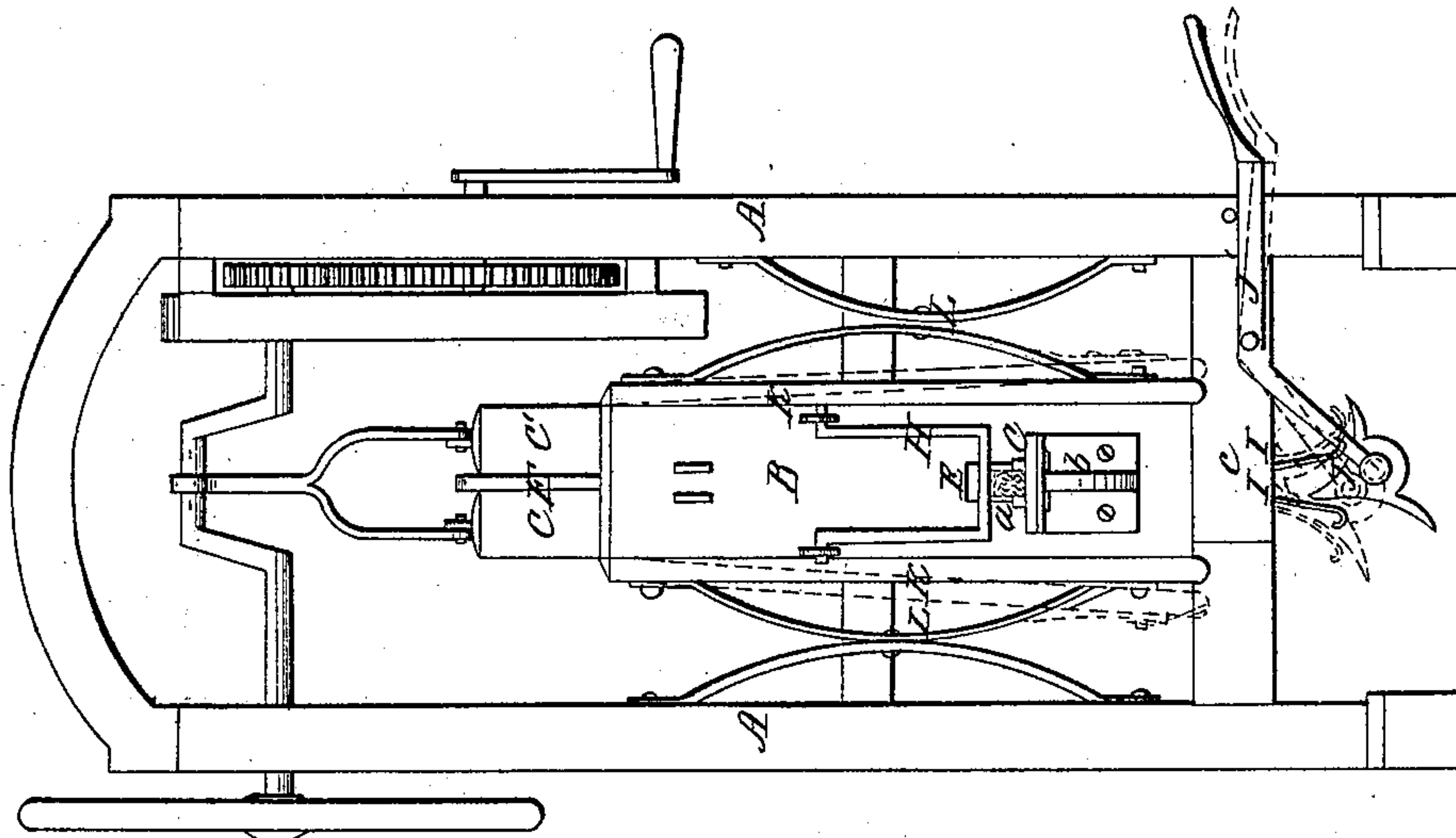
*Fig 3.*



*Fig 2.*



*Fig 1.*





# UNITED STATES PATENT OFFICE.

CHRISTOPHER SHARPS AND GEORGE E. ADRIANCE, OF HECTOR, NEW YORK.

## TENONING-MACHINE.

Specification of Letters Patent No. 13,049, dated June 12, 1855.

*To all whom it may concern:*

Be it known that we, CHRISTOPHER SHARPS and G. E. ADRIANCE, of Hector, in the county of Schuyler and State of New York, have  
5 invented a new and useful Improvement in Machines for Tenoning Spokes, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this  
10 specification, in which—

Figure 1 is a front view of a machine with our improvements. Fig. 2, is a front view and partial section of ditto. Fig. 3, is  
15 a vertical central section of the same.

Similar letters of reference indicate corresponding parts in each of the several figures.

This invention relates to machines for cutting square tenons on the ends of spokes and other articles and is designed to simplify their construction, lessen their liability of getting out of order, reduce their cost to a very great extent, make them light and  
20 portable and capable of being easily and readily operated by hand or steam power and withal capable of performing the tenoning operation in a very rapid, perfect and uniform manner, as will be hereinafter  
25 made evident.

The nature of our improvement consists 1st, in the arrangement and combination of the two planes for cutting the tenon, rest for supporting the spoke, drop or holder for  
35 keeping it down upon the rest while its tenon is being cut and guide box, having a mouth and discharge as hereinafter shown and described.

It consists 2nd: in having the cutter stocks  
40 arranged so as to be adjusted laterally, in combination with the device hereinafter specified for effecting said lateral adjustment.

To enable others skilled in the art to make  
45 and use our invention, we will proceed to describe its construction and operation.

A, represents the frame of the machine.

B, is a long vertical guide box, supported by the cross pieces of the frame A.

50 C, C', are the plane or cutter stocks and D, D', the planes and cutters set in C, C', as shown, so as to stand a little from the face of the stocks, in order to overhang the end of the spoke and in their descent take off  
55 the required amount of wood to cause the shoulder and tenon to be formed on the

spoke. These plane stocks are arranged loosely in the box B, so as to play freely up and down and in and out laterally and are kept the required distance apart by a tongue  
60 E, which is made of the same width as the required width of the tenon to be cut and can be easily removed so as to have another of greater or lesser width take its place according as it is desired to have the tenons  
65 cut, if thick, then a tongue of greater width must be inserted so as to move the planes farther apart and vice versa, if thin. The cutters D', cut at right angles to the planes and form the shoulder on the spoke.  
70 F, is the mouth to receive the end of the spoke, *a*, as shown in red; it is formed in the front part of the box and may be large enough to admit any ordinary sized spoke or article to be tenoned, while the cutting  
75 edges of the planes always must stand out a short distance from the stocks as shown for the purpose of cutting the tenon and shoulder. G, G, are passages at the back of the machine for the escape of chips, etc.  
80 G', is the hinged rest to lay the spoke upon while being tenoned. It is hinged so as to be thrown up against the front of the box and out of the way when not in use, as shown in red. When down it rests on a  
85 standard *b*.

H, is a drop or holder arranged as shown above the rest G' for holding down the spoke and preventing its moving up and down. It is hinged to the box B and can be  
90 thrown up and made to serve for keeping the rest against the front of the box when not in use as shown in red.

I, I, are two springs extending up through a slot in the cross piece *c*, of the frame A.  
95 These springs are to throw the planes apart for the purpose of inserting a spoke or whatever is to be tenoned.

J, is a wedge fitting loosely on a treadle J'. This wedge fits between the lower ends  
100 of the springs I, I, and serves when the treadle is depressed to expand the springs and thereby cause them to act upon the plane stocks and throw them apart.

K, K, are followers bearing forcibly  
105 against and crowding the plane stocks close up to the tongue E, and stuff being tenoned by the aid of springs L, L, as shown. Each of these followers has a slot formed in it for the back end of the plane to play up and  
110 down in as the stocks rise and fall. The springs L, L, are also provided with slots



*f, f, f, f*, so as to allow of the plane stocks being moved farther apart by the treadle and wedge when it is desired to tenon stouter spokes or articles.

5 The operation is as follows: The machine is set in motion; the operator places his foot on the lever attached to the wedge J, throwing the planes apart; then the spoke is inserted and secured by the drop; the operator  
10 then removes his foot, thus letting the planes work up and down gradually until the tenon is finished, when he again places his foot on the treadle, again throwing the planes apart ready for the insertion of another spoke,  
15 when the operation proceeds as before.

These machines can be sold at from \$35 to \$40, and with one of them a man can turn out from twelve to twenty sets of spokes in a day and that too, in a very perfect and  
20 uniform manner.

What we claim as our invention and desire to secure by Letters Patent, is,

1. The arrangement and combination of the two planes and cutters for cutting the tenon, rest for supporting the spoke, drop 25 for keeping it down upon the rest while the tenon is being cut, and guide box B, having a mouth F, and discharge G, substantially as and for the purposes set forth.

2. The combination and arrangement of 30 the plane stocks, with planes, arranged so as to move in and out, slotted springs to allow for said movements, springs I, I and treadle J, J', for causing said expansion, substantially as and for the purposes set forth.

CHRISTOPHER SHARPS.  
GEORGE E. ADRIANCE.

Witnesses:

S. P. BRADFORD,  
I. B. ADRIANCE.