

J. L. THRALLS.

Machines for Sawing Spokes.

No. 142,749.

Patented September 9, 1873.

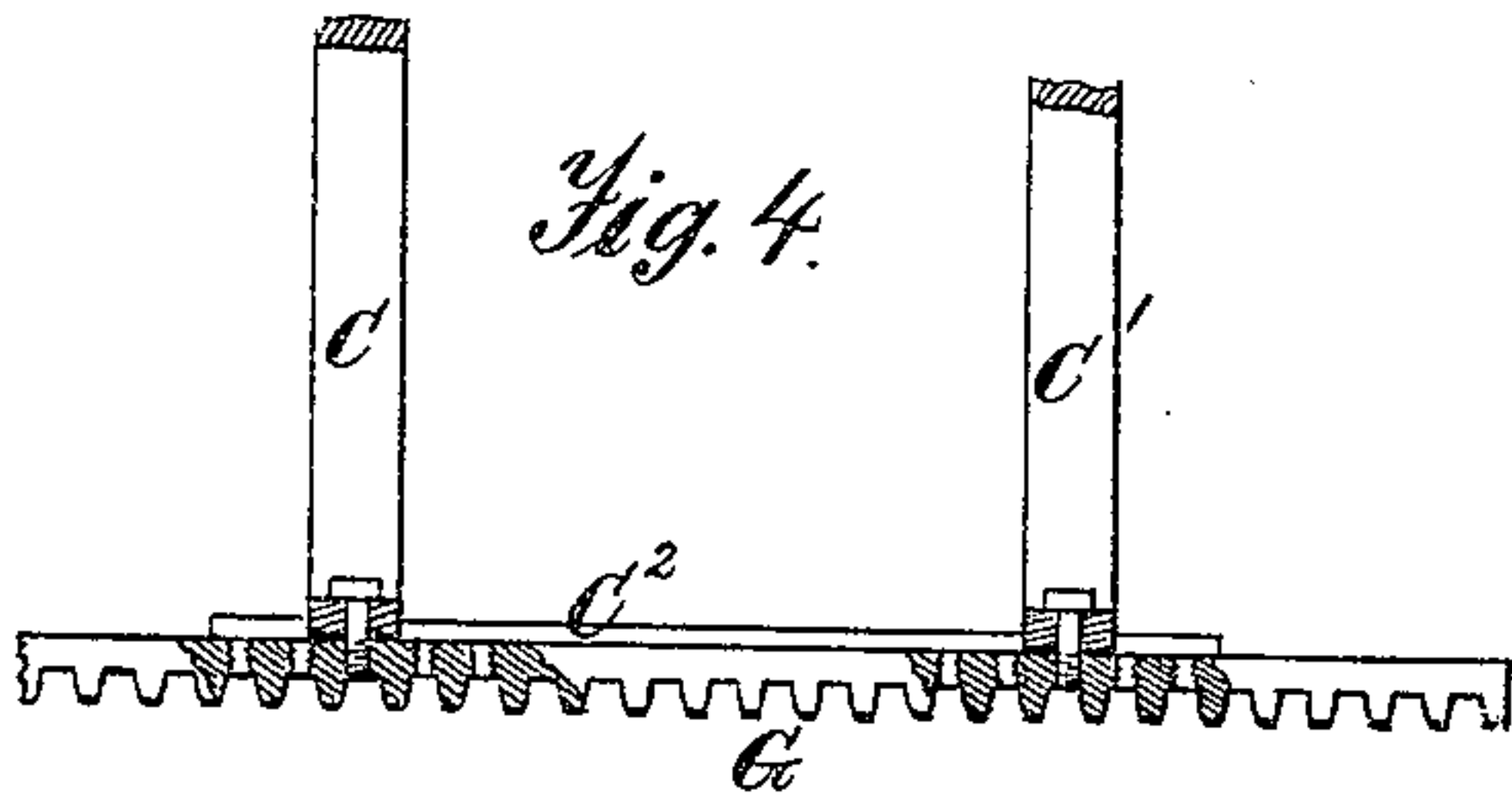


Fig. 1.

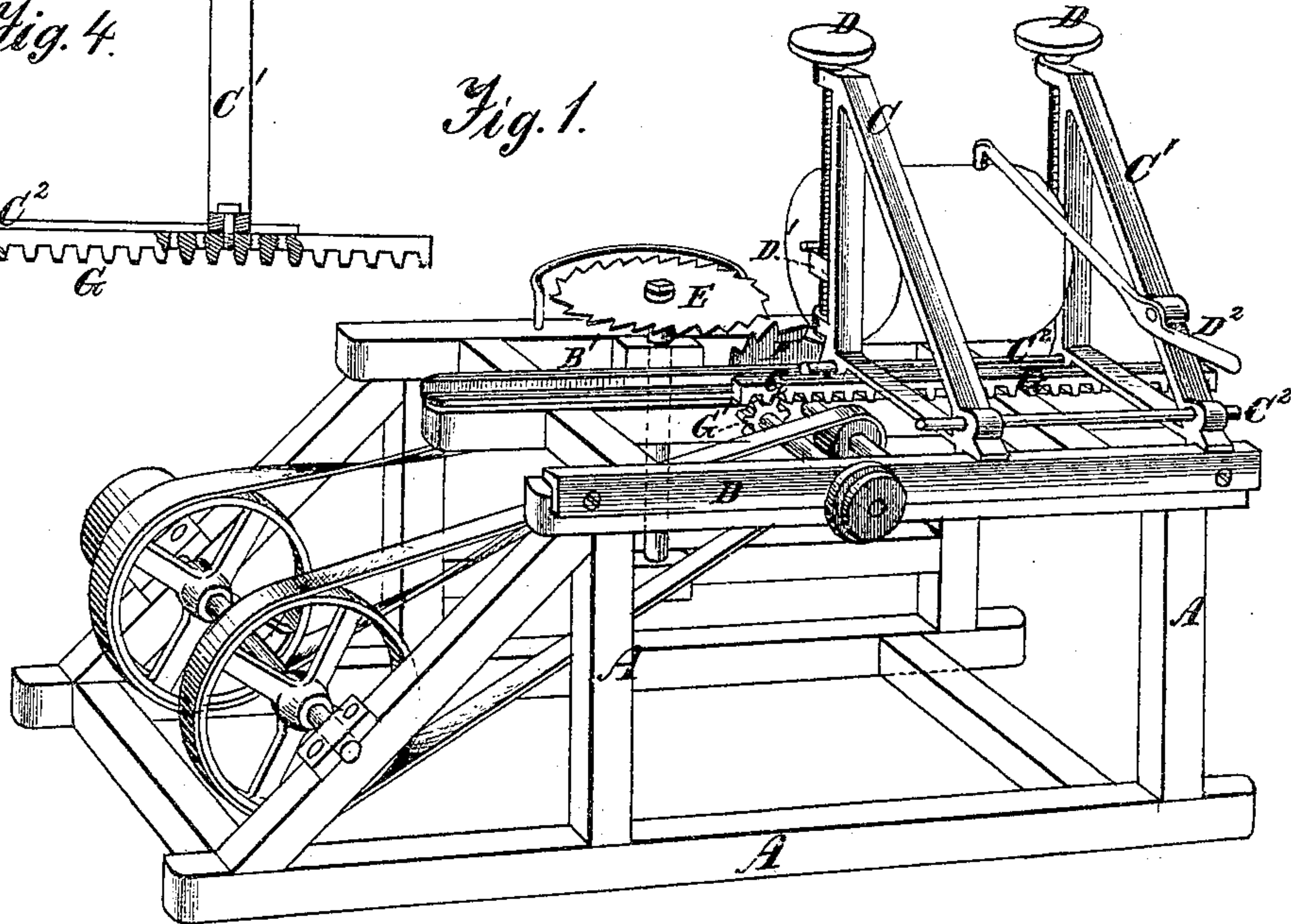


Fig. 3.

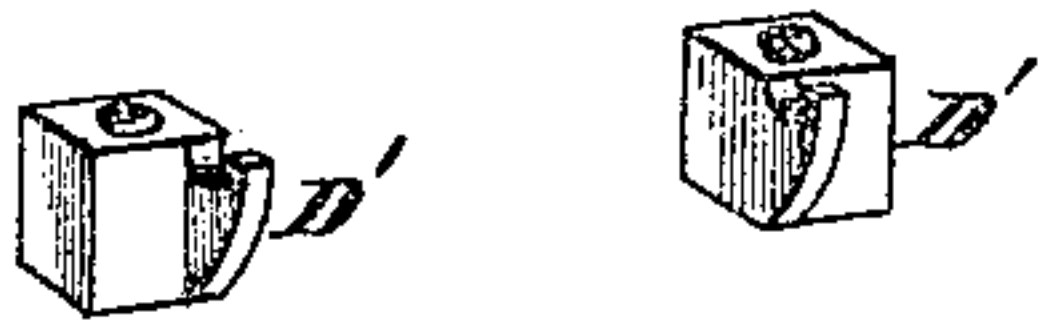
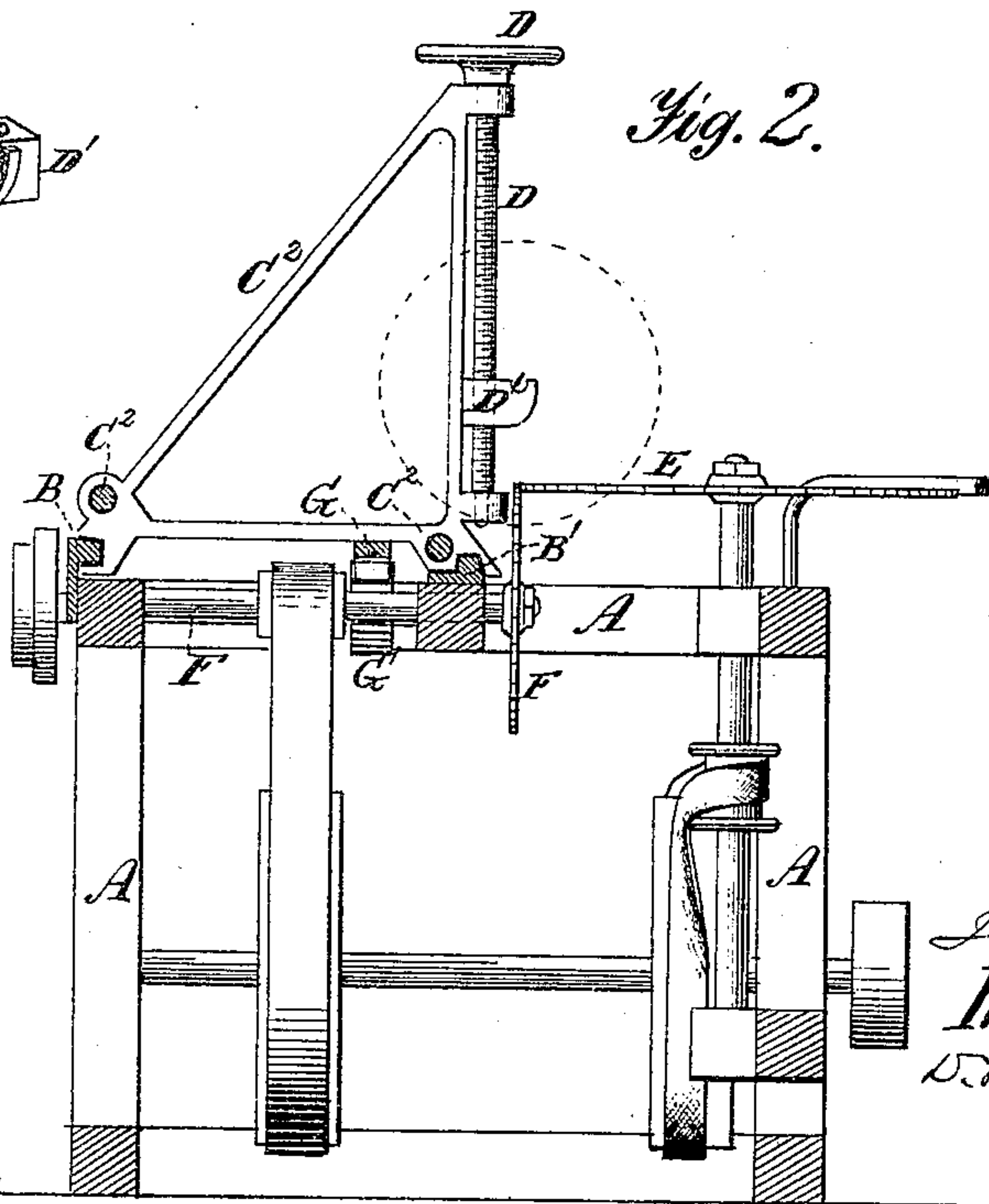


Fig. 2.



Witnesses.
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JOSEPH L. THRALLS, OF WARSAW, INDIANA.

IMPROVEMENT IN MACHINES FOR SAWING SPOKES.

Specification forming part of Letters Patent No. **142,749**, dated September 9, 1873; application filed January 4, 1873.

To all whom it may concern:

Be it known that I, JOSEPH L. THRALLS, of Warsaw, in the county of Kosciusko and State of Indiana, have invented certain Improvements in Machines for Sawing Spokes, of which the following is a specification:

Figure 1 is a perspective view of my improved machine, showing the driving mechanism, the position of the saws, the adjustable head-block, the vertical feed-screws, the horizontal feed mechanism, and the dog for holding the bolt in position. Fig. 2 is an end view of the machine, showing the driving-belts and the supports for the bolts to be sawed. Fig. 3 is a perspective view of the nuts and their projections for holding the bolts in position; and Fig. 4 is a sectional elevation of the rack and a portion of the head or carriage, showing the means for lengthening and shortening the carriage to adapt it to different lengths of spokes.

This invention relates that class of machines for manufacturing blank spokes, which consist in the main of two circular saws, cutting at right angles to each other on the same line, and a carriage, which supports the bolt on its temporary journals in adjustable boxes arranged about vertical above the line of cut, the bolt being gradually sawed up into blank spokes by successively turning it and lowering its supporting journal-boxes. My improvement consists in adding to the ordinary vertical adjustment of the journal-boxes means for also adjusting them horizontally to and from each other to adapt the machine for sawing blank-spokes of varying lengths.

In constructing machines of this character I use a frame, A, of any suitable material, and of such form and dimensions as will adapt it to receive and support, in their proper position, the other parts of the machine. Upon the upper surface of two of the longitudinal beams of the frame A there are placed ways B B', the one marked B being the farthest removed from the saws, it consisting of a bar of metal, which is secured to the frame A, and has a flange projecting inwardly for the purpose of allowing the foot of the adjustable head to embrace it, and thus prevent said head from being moved.

The other way, which is designated by the

letter B', consists of a bar of metal, having an upwardly-projecting way upon it, upon and against which the other feet of the head rest. These ways serve as a track upon which the head travels, and also as guides for directing the movements of said head. The adjustable head above alluded to consists of two brackets or end pieces, C C', adjusting-screws D D, nuts D¹ D¹, and a dog, D², the brackets being of the form shown or of any other suitable form, their lower ends or feet being fitted to slide upon the ways B B', as clearly shown in Fig. 2 of the drawings. The vertical portion of these brackets rises sufficiently high to allow the adjusting-screws D D to be of sufficient length to enable them to properly adjust any required size of bolt with reference to the saws, they being provided with projections for such screws to pass through. Upon the screws D D are placed nuts D¹ D¹, which have upon them projections which form boxes for the pins that are inserted into ends of bolts to turn in. The dog D² is pivoted to one of the brackets, as shown in Fig. 1, it being so arranged that when the bolt is in position its hooked end can be driven into said bolt to prevent it from turning while the saws are acting upon it.

The arrangement of the above-described parts is such that when a bolt of the proper length has been placed in the machine, as shown in Fig. 1, it may be moved to and past two saws, E and F, the one lettered E being placed upon a vertical shaft, and so arranged that its surface is somewhat above the lower ends of the adjusting-screws D, and so that its periphery shall extend inwardly to, or about to, the outer surface of the one designated by the letter F, which is placed upon a horizontal shaft, F', having its bearings in the frame A, they being so placed that the periphery of the saw shall be about on a line with the upper surface of E, so that as the bolt is placed in the position shown in Fig. 2, and is moved past the saws, a portion of said bolt is cut out and allowed to drop to the floor, and so that by detaching the dog and turning the bolt the proper distance, and then dogging it again, the carriage may be moved in the opposite direction, and a blank, of the proper form for a carriage-spoke, sawed from the bolt, when,

by again turning the bolt and reversing the movements of the head or carriage another blank will be cut; and so the operation can be repeated until the bolt has been reduced to such dimensions as will prohibit the cutting of more blanks therefrom.

The saws are driven by belts, which pass over pulleys placed upon a shaft which is located upon the frame A, and the head, which serves as a carriage for the bolt is moved forward and backward by means of a rack, G, which is secured to the under side of the brackets C C', and meshes into a pinion, G', placed upon a shaft, which extends transversely across a portion of the frame A, and is supplied with a cone of pulleys upon its outer end, which may derive their motion from any mechanism which can have its movement reversed as the movement of the head or carriage is to be changed. In order that the head or carriage may be adjusted to the different lengths of spokes which are to be cut, rods C² C² are made to pass through the lower portions of the brackets C C', which may be held in position by means of set-screws or in any other suitable manner, and the rack G is pro-

vided with holes, into which the bolts which secures it to the brackets pass, so that when it becomes necessary to place a longer or shorter bolt in the machine these bolts are removed, and the brackets are placed farther apart, and the bolts replaced, they passing through other holes in the rack, the rods serving to keep the two brackets parallel with each other when the rack is unbolted.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The horizontally-adjustable brackets C C' of the carriage, in combination with the screws D D, vertically-adjustable combined nuts and boxes D¹ D¹, and saws E and F, constituting a mechanism for sawing blank spokes of various lengths from bolts of timber, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH L. THRALLS.

Witnesses:

P. L. RUNYAN, Jr.,
N. N. BOYDSTON.