

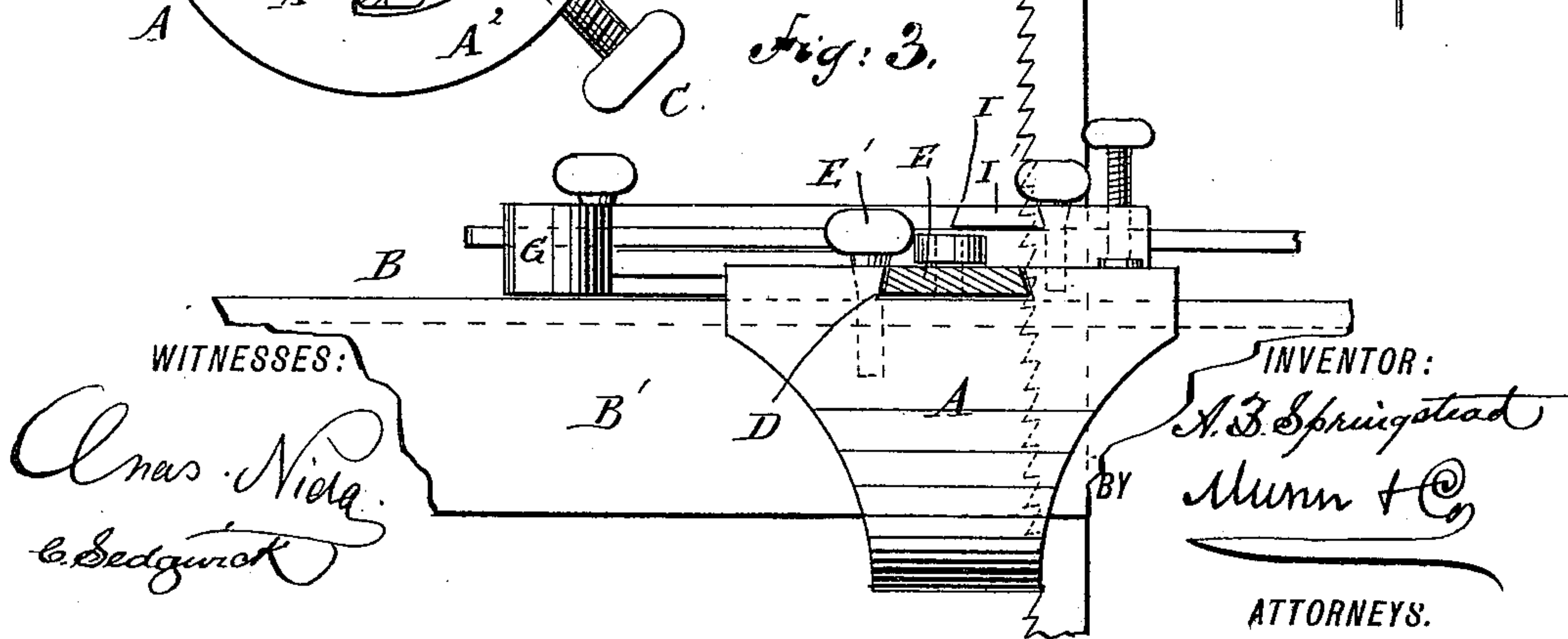
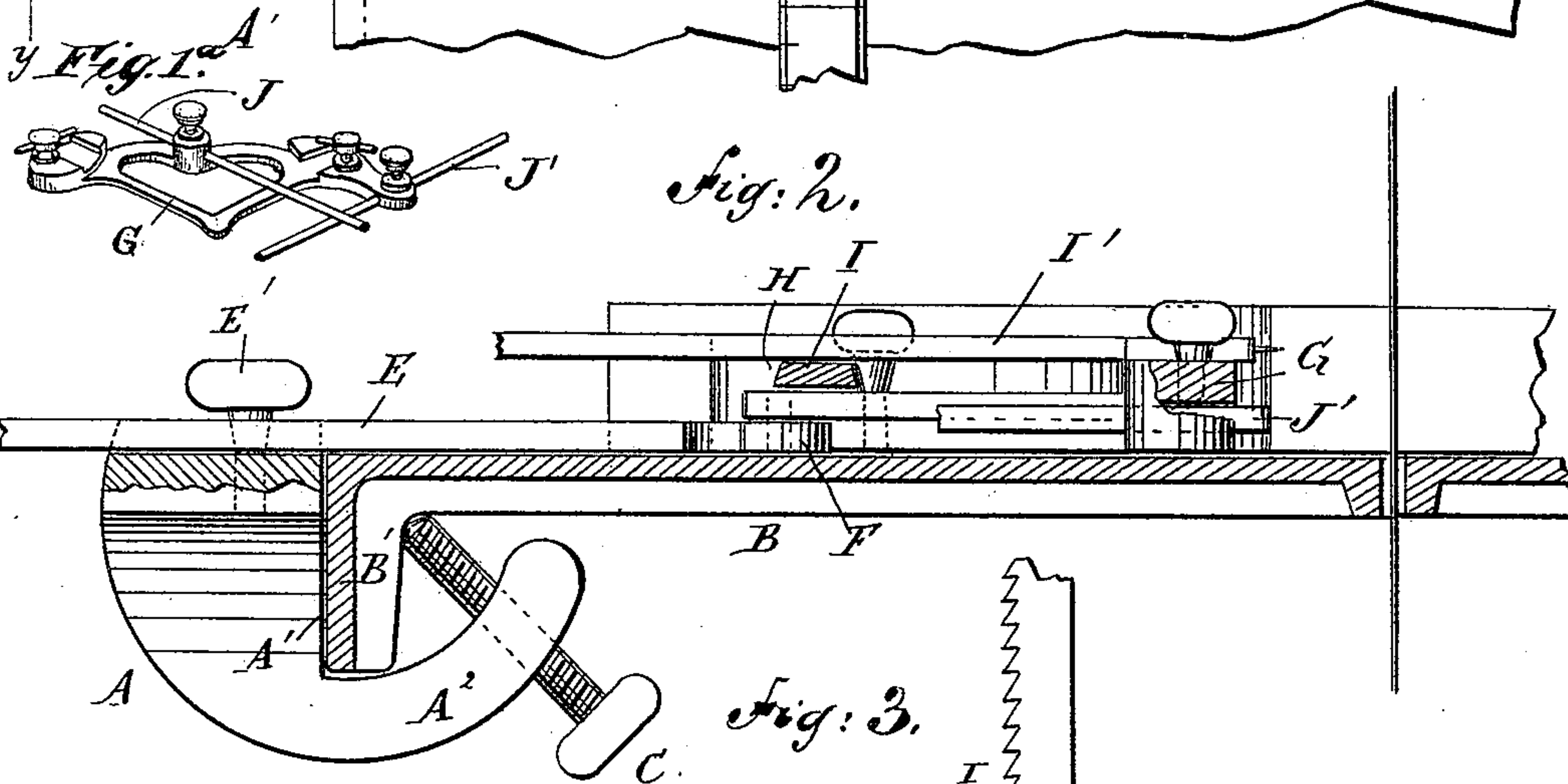
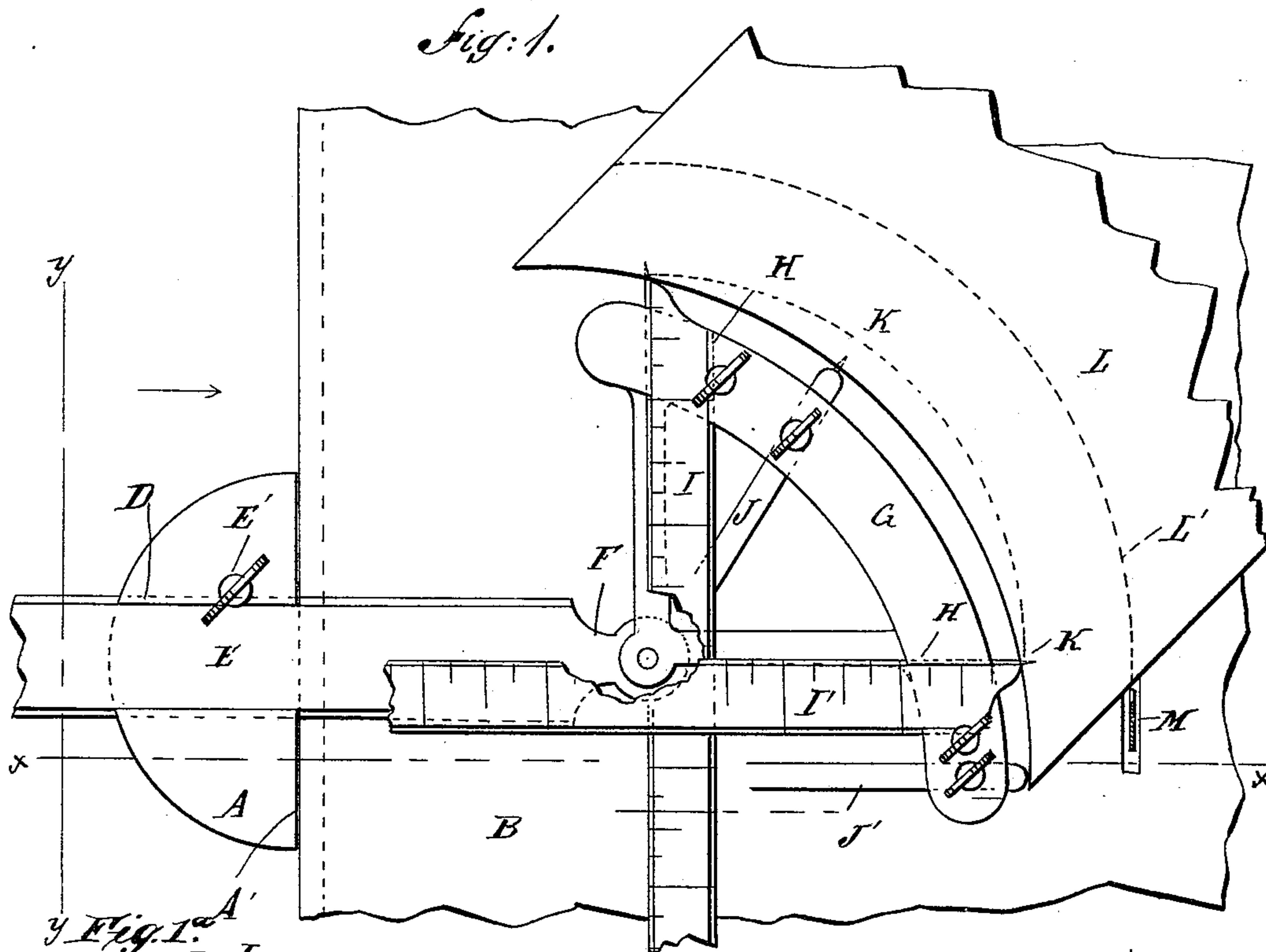
(No Model.)

2 Sheets—Sheet 1.

A. B. SPRINGSTEAD.
WORK FEEDER FOR BAND SAWS.

No. 403,618.

Patented May 21, 1889.



WITNESSES:

Charles Nicola
C. Sedgwick

INVENTOR:

A. B. Springstead
BY *Munn & Co*

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 4.

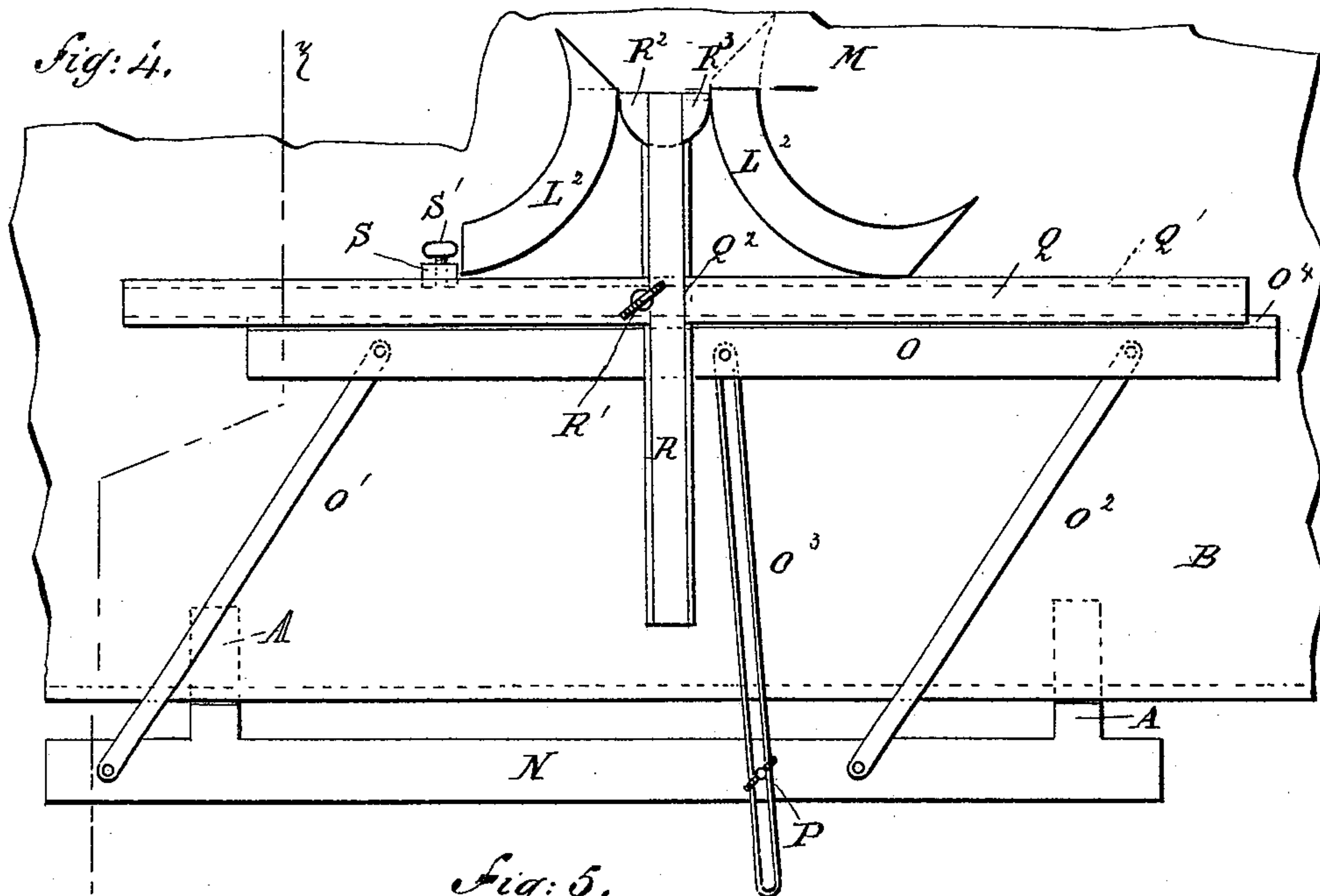


Fig: 5.

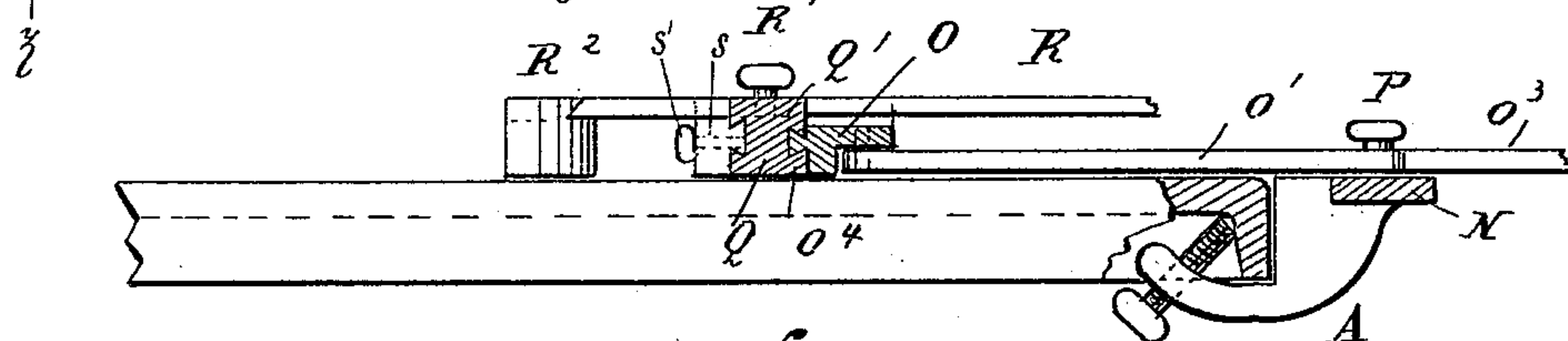
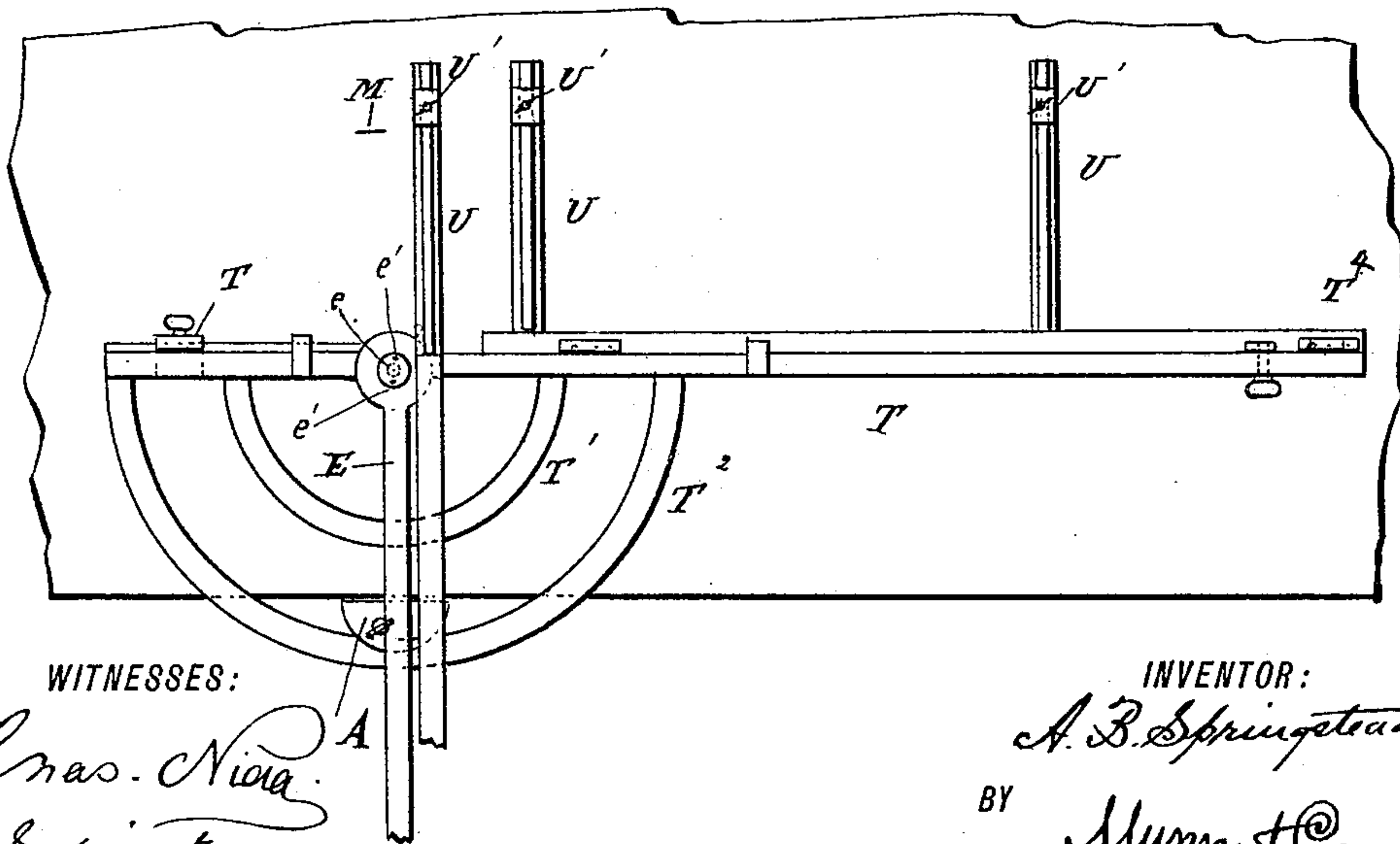


Fig: 6.



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UNITED STATES PATENT OFFICE.

ABRAM B. SPRINGSTEAD, OF KALAMAZOO, MICHIGAN.

WORK-FEEDER FOR BAND-SAWS.

SPECIFICATION forming part of Letters Patent No. 403,618, dated May 21, 1889.

Application filed September 12, 1888. Serial No. 285,257. (No model.)

To all whom it may concern:

Be it known that I, ABRAM B. SPRINGSTEAD, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Work-Feeders for Band-Saws, of which the following is a full, clear, and exact description.

This invention relates to means for gaging and feeding work to band-saws; and the object of the invention is to provide a simple, efficient, and convenient device for attachment to the work-table of a band-saw, whereby annular or wheel segments of any desired radius may be readily cut from the stuff worked and the ends of the stuff rounded to any desired curve.

The invention comprises various novel features of construction and combinations of parts.

And in order that the invention may be best understood, I will first describe in detail an apparatus embodying my invention, and then point out the distinctive features of the invention in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved work-feeder for use in forming curved stuff, applied to the work-table of a band-saw. Fig. 1^a is a perspective view of the segmental frame and certain adjustable arms detached from the other parts of the gage. Fig. 2 is a cross-sectional view of the same on the line x , Fig. 1. Fig. 3 is a side elevation of the same, partly in section, on the line $y y$, Fig. 1. Fig. 4 is a plan view of my improved work-feeder for use in gaging and trimming the ends of annular or wheel segments, applied to the band-saw table. Fig. 5 is a cross-sectional view of the same on the line $z z$, Fig. 4. Fig. 6 is a plan view of my improved work-feeder for use in rounding the ends of boards and other stuff, also applied to the saw-table.

In the form of work-feeder shown in Figs. 1, 2, and 3 a base-clamp, A, is formed with a vertical inner shoulder, A', to fit against and project above the depending rim B' of the saw-table B, and with an arm, A², which curves inward and upward inside the rim B' and carries a diagonal clamp-screw, C, arranged to

bear against the angle between the table B and its rim B' for holding the base-clamp securely but detachably to the table. In the top of the base-clamp projecting above the table is formed a dovetail slot, D, transverse to the edge of the table, in which slot is arranged to slide an adjustable bar, E, of dovetail cross-section, over the top of the table, and to be locked in its adjustment by a set-screw, E', which has a conical shank corresponding in taper to the dovetail, and is screwed into the base-clamp at the side of the base, so that its tapering shank will engage the beveled edge of the bar E. The inner end of the bar E, lying on the table, is formed with an eye-lug, F, to and upon which is pivoted at the center of curvature a segmental frame, G, which can thus swing freely in the horizontal plane.

In dovetail slots H, formed in the outer part of the frame G, are mounted corresponding radially-adjustable arms, I I', at right angles to each other, having diminished outer ends ninety degrees apart and provided with scales for measuring the distance of said outer ends from the pivotal center of the swinging frame G. In transverse holes formed in the outer part of the frame G between the two measuring-arms I I' and outside the arm I', respectively, are also mounted to slide radially-adjustable arms J J', respectively, also having diminished outer ends.

The outer ends of the arms J and I' are provided with spurs K for engaging and holding the stuff while being sawed. Thus in Fig. 1 the points or spurs of both sets of arms I I' J J' are shown as engaged and the stuff is placed in proper position for the saw M to begin the first cut, which is along the dotted outer curved line, L'. This cut is made by swinging the frame G on its pivot. Then the arms I I' are slid backward out of the way, the arms J J' remaining engaged with the piece thus sawed off. Then the said piece is sawed along the inner curved line, which is parallel to the outer one, thus producing an untrimmed wheel-segment, whose beveled ends require to be cut off to prepare it for insertion in a wheel. To accomplish this the improved feeder shown in Figs. 4 and 5 is designed. In the arrangement of this feeder a straight bar, N, is provided with two base-

clamps, A, like that previously described, for securing the bar N rigidly to and parallel with the edge of the saw-table B. Another bar, O, is mounted adjustably on the top of the table B and is connected to the fixed bar N by two parallel pivotal connecting-rods, O' O², of equal length, and by a slotted locking-bar, O³, which is pivoted to the bar O and is arranged to be locked in any position to the bar N by a set-screw, P, so that the bar O can be adjusted laterally with respect to the bar N, but will always be parallel therewith. A longitudinal dovetail tongue, O⁴, is formed in the outer edge of the bar O, which tongue is mounted to slide in a corresponding groove, Q', of a bar, Q, which can thus slide parallel with and on the bar O, and in a dovetail cross-slot, Q², formed in the bar Q, is mounted to slide an adjustable transverse bar, R, provided with a conical set-screw, R', like that previously described for locking it to the bar Q, and on its outer end with oppositely-projecting stops R² R³. On the outer edge of the bar Q is also mounted by a dovetail slide-joint, a longitudinally-adjustable stop, S, provided with a set-screw, S', for locking it to the bar Q.

In use the stop R³ on the bar R is adjusted a distance from the bar Q equal to the radius of the curve of the segment L², the ends of segment L² rested against the bar Q and the stop R³, and the bar O adjusted to bring the base of the outer untrimmed end of the segment in line with the band-saw M, when on sliding the work-carrier formed of the bars Q and R toward the saw the end of the segment L² will be cut off squarely. The stop S is then adjusted a distance from the line of the stop R² equal to the radius of the segment, the squared end of the segment placed against the stop S, and the other untrimmed end against the stop R², when on again sliding the work-carrier forward the saw M will cut off the remaining untrimmed end and form a perfect quarter-segment.

In the device shown in Fig. 6 for rounding the ends of boards and the like the center bar, E, is mounted to slide on a base-clamp, A, attached to the table as before, the said bar being provided with a pivoted center, e, having spurs e', which enter the board when the latter is pressed down thereon. Se-

cured to the bar E is the board-carrying frame, which is constructed of a longitudinally-extensible bar, T, having semicircular guides T' T², working in the bar E. An adjustable stop, T³, is provided on one end of the bar T, against which the end of the board to be rounded off is placed, a stop, T⁴, being provided on the other end of bar T, against which stop the rounded end of the board is placed in gaging the opposite unrounded end preparatory to rounding the latter. Laterally-extending arms U, provided with adjustable stops U', are provided, against which stops the longitudinal edge of the board is placed. The board having been properly located by means of the stops above described, it is turned with the revolving center e, so that its end is rounded by the saw M.

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

1. In a work-feeder for band-saws, the combination, with the base-clamp, of a horizontal bar which slides in the grooved upper portion of said clamp, a frame or work-carrier, G, which is pivoted to and swings horizontally on the outer end of said bar, and horizontal arms which slide in said work-carrier and are provided with spurs for engaging the stuff to be sawed, all substantially as shown and described, to operate as specified.

2. In a work-feeder for band-saws, the combination, with the saw-table, of a detachable clamp, A, a transverse bar, E, adjustable on the clamp over the table, a carrier-frame, G, fastened to the bar E, and radially-adjustable arms on the said carrier-frame having stops on their outer ends, substantially as described.

3. In a work-feeder for band-saws, the combination, with the saw-table, of a clamp, A, a transverse bar, E, adjustable on the clamp A, a segmental frame, G, pivoted to the bar E and provided with radial dovetail slots and holes, and radially-adjustable stop-arms J J' and scaled measuring-arms I I', adjustable in said holes and slots, substantially as described.

ABRAM B. SPRINGSTEAD.

Witnesses:

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WM. A. LUBY.