(Model.)

L. S. KLING.

JEWELING TOOL.

No. 512,653. Patented Jan. 9, 1894.

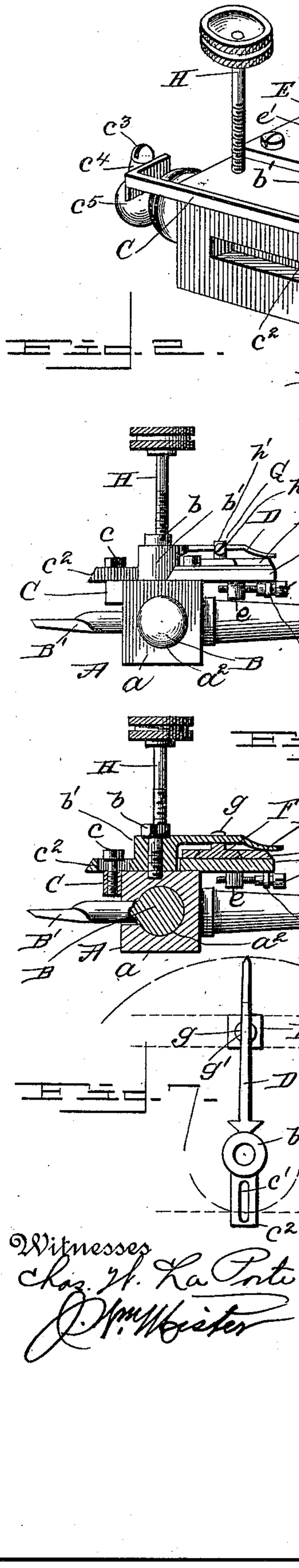

FIG. 1.

FIG. 2.

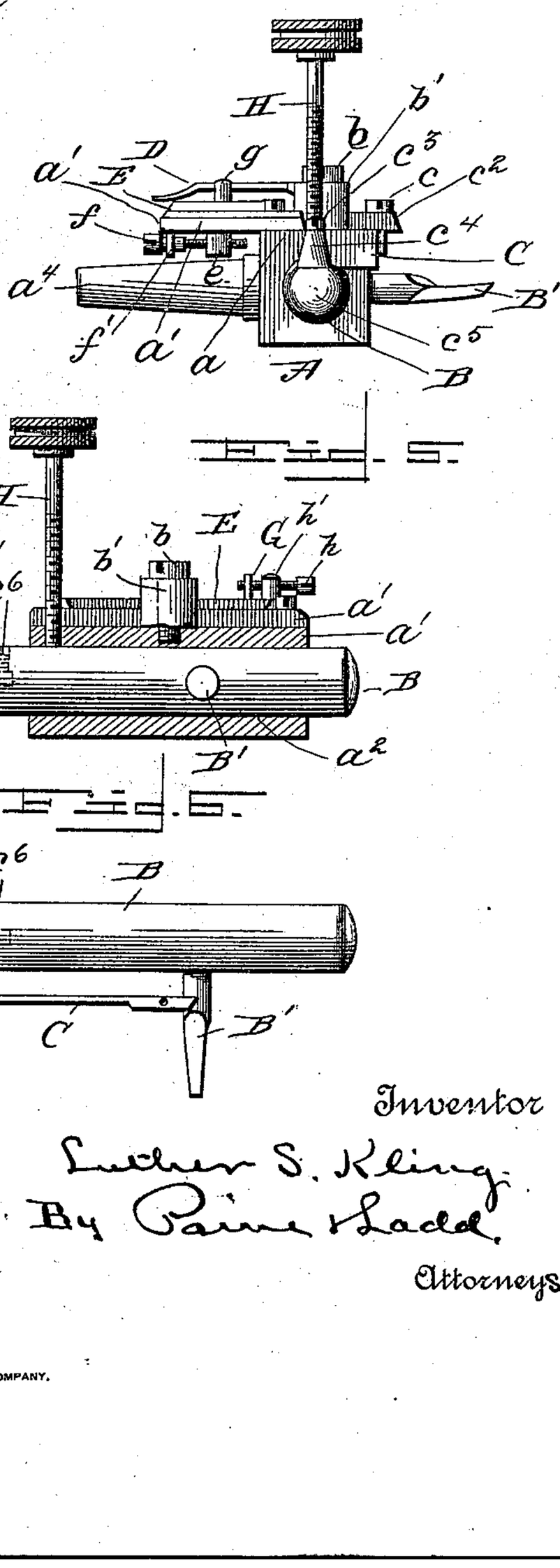

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

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LUTHER S. KLING, OF DUNCANNON, PENNSYLVANIA.

JEWELING-TOOL.

SPECIFICATION forming part of Letters Patent No. 512,653, dated January 9, 1894.

Application filed June 11, 1892. Serial No. 436,379. (No model.)

To all whom it may concern:

Be it known that I, LUTHER S. KLING, a citizen of the United States, residing at Duncannon, in the county of Perry and State of Pennsylvania, have invented certain new and useful Improvements in Jeweling-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved jeweling tool for producing the countersink or setting for jewels in watches with precision and expedition, and to these ends the invention consists in the provision of a carrier or carriage adapted to be held in the tail-stock of a lathe, when it is operated, and carrying a movable cutter holder or slide combined with novel means to provide for sundry adjustments of said cutter holder or slide with its cutter, substantially as hereinafter fully disclosed and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a perspective view of my improved jeweling tool. Figs. 2 and 3 are opposite end views thereof. Fig. 4 is a transverse section, and Fig. 5 a longitudinal section of the same. Fig. 6 is an enlarged detached view, showing more fully the tool or cutter holder, or slide and adjunctive parts; and Fig. 7 is a similar view of the index actuated by said cutter slide or holder, and a follower carried by said index.

In the embodiment of my invention, I employ a carrier or carriage A, preferably of the construction as shown most clearly in Fig. 1, consisting of an oblong portion *a* and a rectangular portion or plate *a'* screwed or otherwise suitably secured at or along one of its longer edges upon the part A. The oblong portion or part *a* of the carrier or carriage A, while preferably square in its external cross section, is tubular, having a cylindric, longitudinal passage a^2 extending wholly through it, from end to end, and has in one side, a longitudinal slot a^3 communicating with said passage and terminating a short distance from each end of the said portion *a*.

From the rear side of the part *a*, about at the center, extends a stem a^4, adapted to connect with the lathe-head, in adjusting the tool for operation or use, the carrier or carriage being held in position in the tail-stock of the lathe.

B is the cutter holder or slide conformed to and fitting exactly, in cross section, the passage a^2 in the part *a* of the carriage A, and carrying, intermediately of its ends, the cutter B' projecting through the slot a^3. The cutter holder or slide B is connected by a right angled link-bar C to an index D pivoted upon the part *a* of the carriage A, by a pivot-screw *b* passing through a hub-like enlargement *b'*, with the upper edge of which is formed said index, while said link has at one end a pivot-screw and slot connection *c*, *c'* with a short arm c^2 projecting from the lower edge of said hub, in alignment with said index. The opposite end of the link bar C has a pivot-screw c^3 passing through a sleeve c^4, formed therewith, and screwed into a preferably spherically headed plug or pin c^5 removably let into one end of the cutter holder B, being held therein by a screw c^6.

E is a finely graduated quadrant or scale superposed upon the part *a'* of the carriage A, with its body or plate portion E' preferably inclined at the sides, making its front straight edge of less width than its rear rounded edge, and having in its center a longitudinal, rectangular, or plain sided slot *d*, the function of which will appear farther on.

The quadrant plate E' has depending therefrom differently diametered studs or posts *e*, *e*, their lesser diametered portions passing through slots *e'* in the plate-portion *a'* of the carriage A, while through their larger diametered portions, below said plate, pass engaging screws *f* having plain or unthreaded shank portions bearing or supported in studs *f'* depending from the under side of said plate. This arrangement permits the movement or adjustment of the quadrant-plate or scale either forward or backward to provide for the increasing or decreasing of the cutting action of the cutter, as will be more fully apparent hereinafter, the screws *f* being turned to the right if the cutter cuts too coarse or large and if it cuts too fine or small they are turned to the left.

F is a follower, slide, or plate having beveled side edges let into the slot *d*, in the quadrant plate E′ having correspondingly beveled or undercut side edges, said follower or slide having a stud *g* upon its upper side, provided with a slot *g′* receiving the index D a short distance inward from its rear, free end, and within which the index is free to move while the slide or follower is free to move in said slot. G is a clamp also let into the slot *d* and conforming at its ends to the beveled or undercut side edges of said slot to prevent its upward displacement, said clamp being adjusted by a screw *h* bearing in a post or stud *h′* fixed to the quadrant plate E′.

H is an upright, preferably milled headed screw working in the part *a* of the carriage A and engaging the cutter holder B to secure it at the required point of adjustment.

The tool or implement being suitably placed in position in the lathe, as above pointed out, and the work also properly juxtaposed therewith, the cutter is adjusted, by suitably manipulating the screw *h*, so as to cause the corner of the cutter to come to center. A cavity is now drilled in the work by actuating the cutter B′ about two-thirds the diameter of the jewel to be accommodated, after which place the jewel in the slot *d* and adjust the index or finger D, after first loosening the screw H, so as to bring the slide or follower F against one side of the jewel, while care is taken to have the other side of the jewel touch the clamp G, and to have the jewel stand centrally of the slot. The screw H is now tightened and the drilling resumed, producing an exact setting or cavity for the jewel, the jewel being removed from the slot D and seated or set as required.

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

1. The combination, with the cutter holder or slide, of an index and quadrant, or scale, and a right-angled link-bar pivotally connected at its ends to said holder and index, respectively, substantially as specified.

2. The combination, with the cutter holder or slide, of an index and a quadrant, and a link-bar having pivotal connection with said holder and index, and also adjustable with relation to said index, substantially as set forth.

3. The combination, with the tool or cutter holder, or slide, of an index, means for connecting them together, a quadrant having a slot, and a follower arranged in said slot and adapted to receive said index, substantially as set forth.

4. The combination with the tool or cutter holder of an index, means for connecting them together, a quadrant having a slot, a follower arranged in said slot and adapted to receive said index, a clamp also arranged in said slot and a holding screw for said cutter holder or slide, substantially as described.

5. The combination with the tool or cutter holder or slide, of an index, means for connecting them together, a quadrant, and a set or adjusting screw adapted to secure said cutter holder fixedly, substantially as set forth.

6. The combination with the cutter holder or slide, of an index connected to said holder or slide, and an adjustable quadrant movably connected with said index, substantially as set forth.

7. The combination with the cutter holder or slide and a carriage, of an index connected to said holder or slide, and a quadrant movably connected with said index and having a set screw and slot connection with said carriage, substantially as specified.

8. The combination with a carriage and the cutter holder or slide, of an index connected to said cutter holder or slide and the quadrant movably connected with said index and having an ajustable clamp adapted to engage a jewel held in said carriage, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

L. S. KLING.

Witnesses:
JNO. J. MCKENNA,
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