(No Model.)

S. JEFFS.

GAGE FOR SCREW CUTTING LATHES.

No. 470,142. Patented Mar. 1, 1892.

Fig. 1.

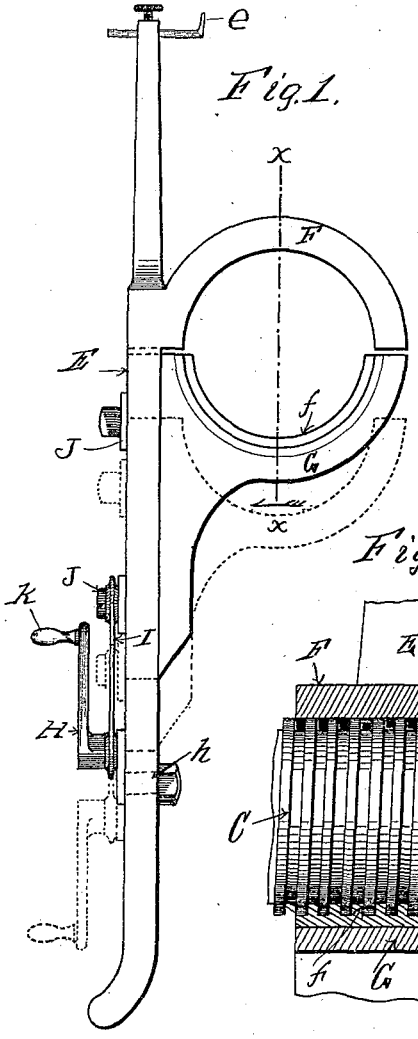


Fig. 2.

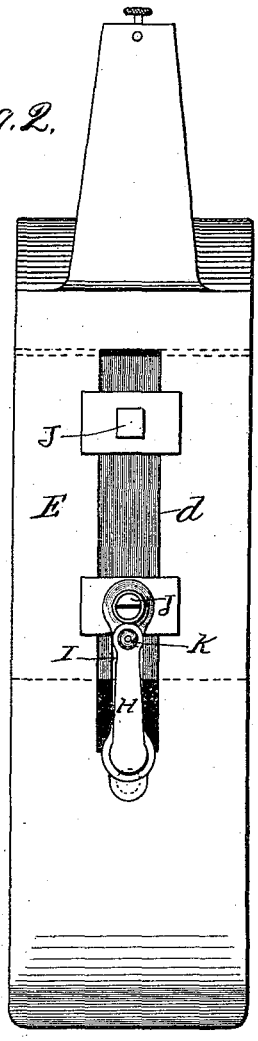
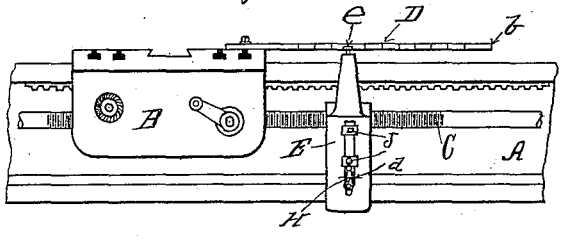


Fig. 4.

Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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GAGE FOR SCREW-CUTTING LATHES.

SPECIFICATION forming part of Letters Patent No. 470,142, dated March 1, 1892.

Application filed September 4, 1891. Serial No. 404,775. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL JEFFS, a citizen of England, residing at the city of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Screw-Cutting Gages for Engine-Lathes; 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 the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in screw-cutting gages for engine-lathes hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of my improved screw-cutting gage detached from the lathe. Fig. 2 is a front elevation of the same. Fig. 3 is a front elevation of a section of an engine-lathe with my improved screw-cutting gage thereon. Fig. 4 is a detail view on line *x x* in Fig. 1.

In the construction shown in the drawings of my improved screw-cutting gage, A is a section of the bed of an engine-lathe, B the tool-carriage, and C the feed-screw of the same. To the carriage B, I secure a detachable horizontal scale D, preferably divided into inches, half-inches, &c., in the usual manner. On the feed-screw C, I place the traveling portion of my device, consisting of a vertical bar E, having on the inside face thereof a semicircular arm F, which projects over the upper half of the screw C and rests thereon. The upper end of the bar E is also provided with a pointer *e*, which travels close to the horizontal scale D. In the vertical bar E below the arm F, I cut a vertical slot *d*, in which an inwardly-projecting arm G, which encircles the lower half of the screw C, is secured so as to move vertically in the slot *d*. This arm G is provided with a screw-thread *f*, which is adapted to engage with the screw C when raised up into contact therewith, as illustrated in Fig. 4. On the outside of the upright bar E, I mount a double crank H on a bearing *h* just below the lower end of the slot *d*, and from the crank H a connecting-rod I extends upward and is pivoted to one of the lugs J on the arm G, operating in the slot *d*, and by means whereof it is movably secured to the upright bar E, so that when the handle K of the crank H is raised to a vertical position it raises the arm G up into contact with the screw C and when the crank H is turned downward the arm G is moved downward out of contact with the feed-screw C, as illustrated by the dotted lines in Fig. 1. By this means the upright bar E can be detached from the feed-screw C and moved longitudinally thereon, as desired, and also thrown into engagement therewith at any point desired.

In operation the upright bar E is moved away from the carriage toward the end *b* of the scale D and engaged with the feed-screw C when the pointer *e* is opposite one of the division-marks on the scale D. The tool secured on the carriage B being then started into the thread to be cut travels the length thereof, the carriage being then released and moved back to the commencement of the thread, and again started into the thread when the pointer *e* is opposite one of the divisions on the scale D, this process being repeated until the thread to be cut is completed. In case, however, during the completion of the thread the bar E has traveled far enough on the screw C to contact with the carriage B before the thread is fully completed then the vertical bar E is detached from the screw C and moved back toward the end *b* of the scale and again engaged therewith when the pointer is opposite one of the divisions thereof, when the work is again proceeded with, as before. The scale D can be with equal facility secured to the opposite side of the carriage and the traveling upright bar E then placed on the screw C at the opposite side of the carriage B with equal facility, if desired.

Having thus fully described my invention, so as to enable others to construct and operate the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a screw-cutting gage for engine-lathes, of a longitudinal scale secured to the tool-carriage of the lathe, with a traveling vertical bar having a pointer on the

upper end thereof detachably secured to the feed-screw of the lathe, substantially as and for the purpose set forth.

2. The combination, in a screw-cutting gage for engine-lathes, of a longitudinal scale secured to the tool-carriage of the lathe, a vertical bar carrying a pointer on the upper end thereof and having an arm thereon adapted to encircle the upper half of the feed-screw of the lathe, with a vertically-movable arm on the upright bar, having a screw-thread therein adapted to encircle the lower half of the feed-screw and be engaged therewith, substantially as and for the purpose set forth.

3. The combination, in a screw-cutting gage for engine-lathes, of a vertical bar, as E, having a pointer, as *e*, thereon, and an upwardly-projecting arm, as F, on said vertical bar E, adapted to encircle the upper half of the feed-screw of an engine-lathe and be supported thereon, with a movable arm, as G, mounted in a vertical slot in the upright bar E and having a screw-thread adapted to encircle the lower half of the lathe feed-screw and engage therewith, and crank mechanism, as H, for moving the arm G into and out of engagement with the feed-screw of the lathe, substantially as and for the purpose set forth.

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

SAMUEL JEFFS.

Witnesses:
S. C. LONG,
WM. P. HAYES.