

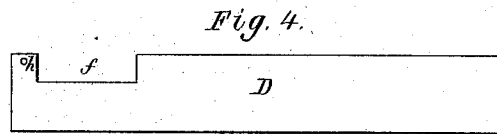
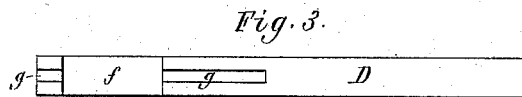
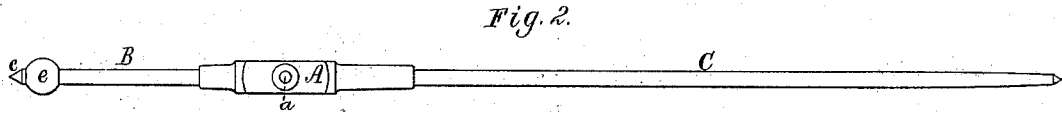
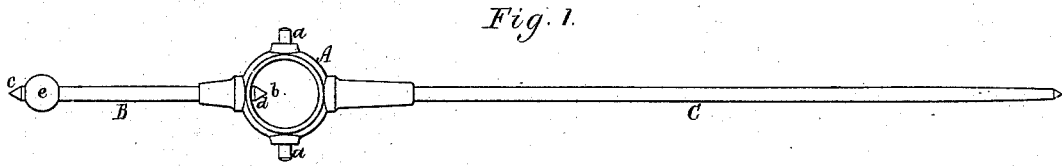
(No Model.)

L. H. WATTLES.

DEVICE FOR CENTRALIZING.

No. 272,107.

Patented Feb. 13, 1883.



Witnesses.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR CENTRALIZING.

SPECIFICATION forming part of Letters Patent No. 272,107, dated February 13, 1883.

Application filed September 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, LUTHER H. WATTLES, of the city and county of Providence, of the State of Rhode Island, have invented a new and useful Improvement in Mechanism for Centralizing in a Lathe an Object to be Turned or Bored; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 a side elevation, of mechanism embodying my invention, the nature of which is defined in the claims hereinafter presented. Fig. 3 is a top view, and Fig. 4 a side elevation, of the centralizer support-bar, to be described.

In the said drawings, A denotes an annulus provided with two journals, *a a*, extending from it in opposite directions. At right angles to the axial line of such journals there extend in opposite directions from the annulus, and in one straight line with each other, two arms, B C, the shorter of which projects a little distance within the opening *b* of the annulus and terminates at its two ends in conical points *c d*. It also has fixed upon it concentrically over its outer end a small sphere, *e*. The longer arm C is pointed at its outer end. The article composed of the journaled annulus and the two arms B C, I term the "centralizer." Its supporting-bar (shown at D) is near its outer end recessed or notched, as shown at *f*, and is grooved lengthwise in its upper surface and across the notch in manner as shown at *g g*. Furthermore, there is in one side of the bar D, near its front end, a small conical pivotal hole, *h*, to receive the pivot *d* of the arm B, as occasion may require. The journals of the annulus are to rest in the groove when the said annulus is within the notch of the bar D, such bar, when in use, being supported by the cutter-rest of the lathe.

If, now, we suppose an article to be turned or faced to have been chucked to the arbor of a turning-lathe, and we desire to centralize such article, or bring a certain part of it in range or line with the axis of the arbor, we first punch in the article at the point required a small hole, and insert therein the outer end of the arm B,

after which we move the bar D so as to cause the inner end of the arm B to enter the hole *h* of the said bar and clamp the bar in position. Under these circumstances, if we revolve the arbor with the article held by it, the small hole that may receive the arm B, if out of center with the arbor, will cause the centralizer to vibrate more or less. By adjusting the article so that there will be no vibration of the centralizer while the article may be in revolution, the hole of the article in which the centralizer may be will be accurately centralized. If in the article a cylindrical hole is to be centralized with the arbor, and such hole have a diameter greater than the sphere near the outer end of the arm B, such sphere is to be inserted in the hole and is to bear against its upper surface, the annulus being at the time in the notch of the bar, and the journals of the annulus in the bearing-grooves *g* extending from the said notch. On revolving the arbor with the article, should the hole not be concentric with the axis of the arbor produced, the centralizer will be vibrated more or less in a vertical plane; but should it be still, the article will be duly centralized. The longer arm, C, of the centralizer, being about three times the length of the shorter arm, B, serves to readily indicate any vibration that may take place by reason of the vibrator being "out of center."

I claim—

1. The combination of the notched and grooved bearing-bar with the centralizer consisting of the annulus and two arms, arranged and constructed substantially as described.

2. The centralizer consisting of the journaled annulus and its two arms, as described, arranged as set forth.

3. The bearing-bar provided with the notch, groove or grooves, and pivotal hole, arranged in it as set forth, in combination with the centralizer consisting of the journaled annulus and the two arms, the shorter arm having the sphere, all constructed, arranged, and operating as shown and described.

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Witnesses:

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