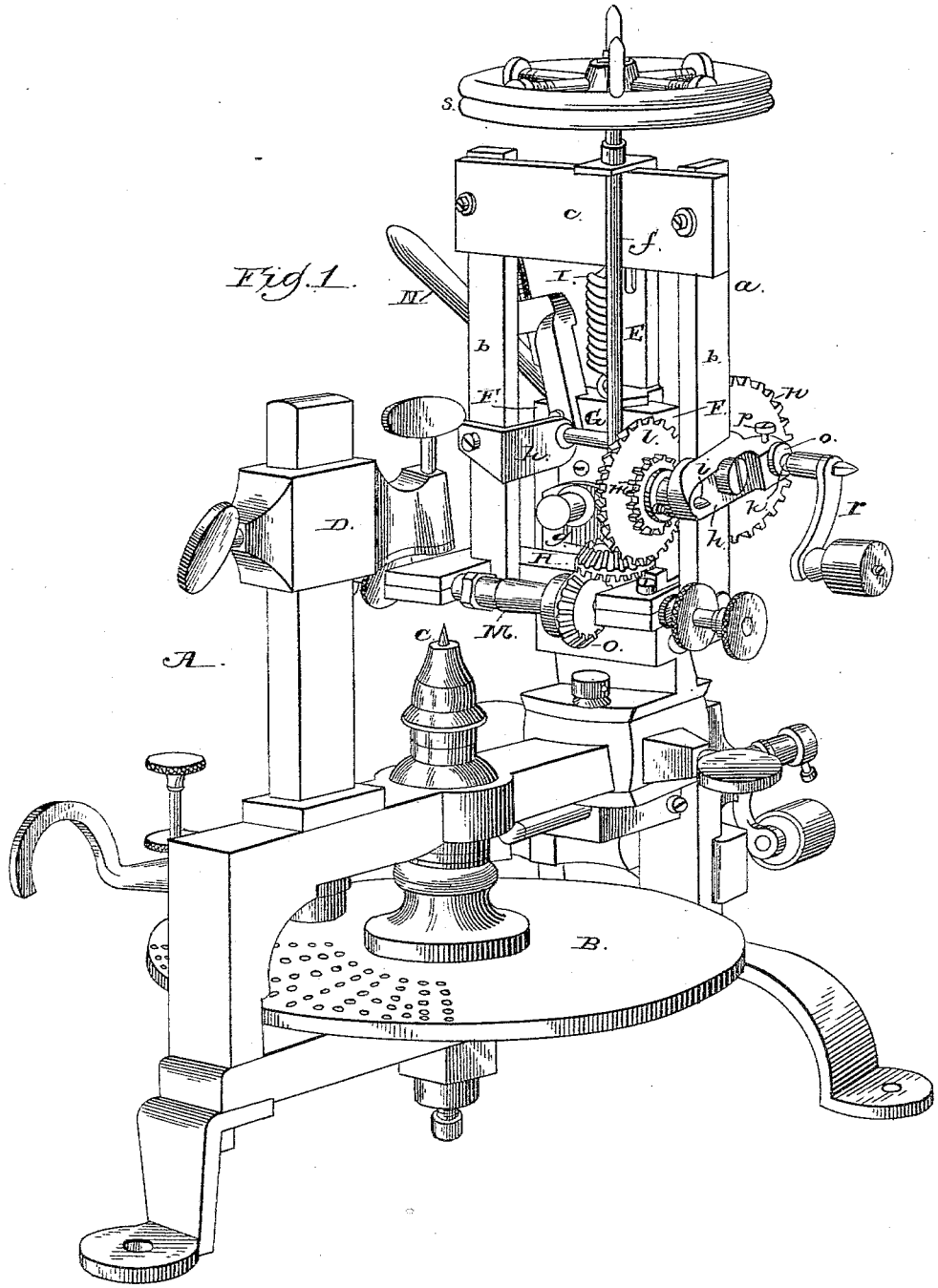
(No Model.) 2 Sheets—Sheet 1.

J. COOK.

WATCH MAKER'S WHEEL CUTTING ENGINE.

No. 319,072. Patented June 2, 1885.



WITNESSES

M. E. Fowler

E. G. Siggers.

INVENTOR

James Cook

By C. A. Snow & Co

His Attorneys

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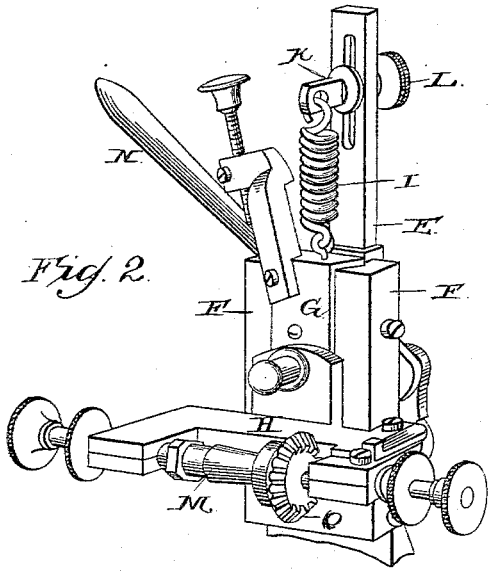

Fig. 2.

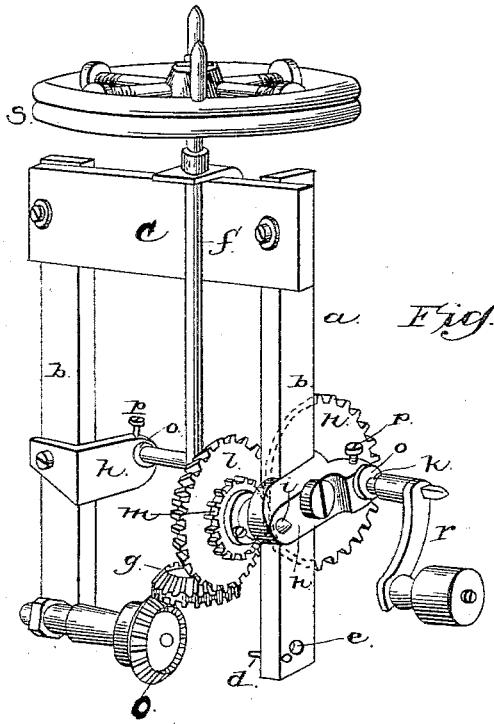

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES COOK, OF CHATTANOOGA, TENNESSEE.

WATCH-MAKER'S WHEEL-CUTTING ENGINE.

SPECIFICATION forming part of Letters Patent No. 319,072, dated June 2, 1885.

Application filed April 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES COOK, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and useful Improvement in Attachments to Watch-Makers' Wheel-Cutting Engines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in attachments for watch-makers' wheel-cutting engines; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a watch-maker's wheel-cutting engine with my improved attachment applied thereto. Fig. 2 is a detailed perspective view of that portion of the lathe to which my attachment is secured. Fig. 3 is a similar view of my improvement.

A represents a watch-maker's wheel-cutting engine of the form now in common use, of which B is the index-wheel; C, the center; D, the vertically-sliding adjusting-arm; E, the vertical standard, having the vertical guides F, in which fits the vertical tongue G of the vertically-movable frame H. This frame is supported by a coiled spring, I, secured to a block, K, that works in a slot in the upper end of the standard E, and controlled by a set-screw, L.

In between the arms of the frame H is journaled a mandrel, M, to which is attached the saw or other instrument to be used in cutting. The frame H is raised or lowered by the hand-lever N.

In applying my improvement to the wheel-cutting engine I substitute a miter-gear wheel, O, on the mandrel in lieu of the grooved pulley or collet.

My improved device consists of a frame, *a*, composed of the vertical bars *b*, the top cross-bar, *c*, being bolted thereto. The lower ends of the bars *b* have dowel-pins *d*, that enter corresponding openings made in the sides of the frame H, and the frame *a* is secured to said frame H by means of screws that pass through the openings *e* and enter the sides of the frame H.

f represents a vertical shaft that is journaled to the frame *a*, as shown. The lower end of this shaft has fixed to it a double miter-gear wheel, *g*, one face of which meshes with the gear-wheel O. Arms *h* are secured to the bars *b* on the outer sides thereof and at a suitable height, and in opposite ends of these arms are journaled shafts *i* and *k*. To the shaft *i* is fixed a large miter-gear wheel, *l*, that meshes with the upper face of the wheel *g*, and on shaft *i* is also a spur-pinion, *m*. To the shaft *k* is fixed a large spur-wheel, *n*, that meshes with the pinion *m*. The shaft *k* is journaled eccentrically in bosses *o*, that fit in circular openings made in the rear ends of the arms *h*, and are provided with set-screws *p*. To one end of the shaft *k* is attached a crank, *r*, or a pulley if the machine is to be actuated by power. By means of the bosses and set-screws the shaft *k* may be moved slightly nearer the shaft *i*, so as to compensate for wear of the gearing. To the upper end of the shaft *f* is fixed a balance-wheel, *s*, for imparting regular motion to the shaft.

Having thus described my invention, I claim—

1. The combination of the frame *a*, the vertical shaft *f*, gear *g*, and fly-wheel *s* on shaft *f*, shaft *i*, journaled in the frame, wheel *l*, fixed to the shaft and meshing with gear *g*, pinion *m* on shaft *i*, shaft *k*, journaled in frame *a*, and having wheel *n*, meshing with pinion *m*, and a crank, the frame *a* being secured to the mandrel-frame of a watch-maker's lathe, and a gear-wheel on the mandrel for meshing with the gear *g*, substantially as described.

2. The combination of the frame *a*, the vertical shaft *f* journaled thereto, gear *g*, and fly-wheel *s* on said shaft, shaft *i*, journaled in the frame, wheel *l*, fixed to the shaft and meshing with gear *g*, pinion *m* on shaft *i*, circular bosses *o*, secured to the frame, set-screws *p* for the bosses, shaft *k*, journaled eccentrically in the bosses, and having wheel *n*, meshing with pinion *m*, and a crank, the frame *a* being secured to the mandrel-frame of a watch-maker's lathe, and a gear-wheel on the mandrel meshing with the gear *g*, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JAMES COOK.

Witnesses:
F. L. KEITH,
T. C. BRIDGMAN.