A. HOFFMANN.

Planing-Attachment for Metal-Turning Lathes.

No. 163,657. Patented May 25, 1875.

Fig. 1

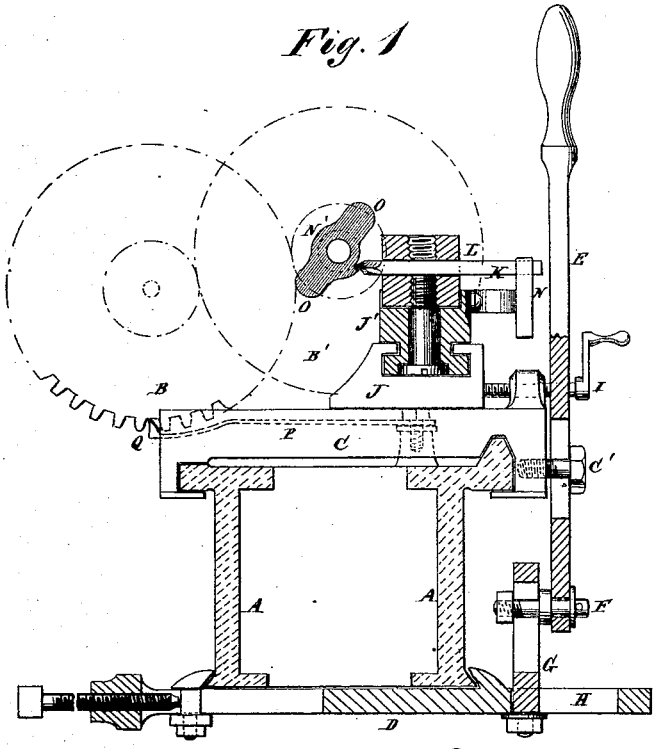

Fig. 3

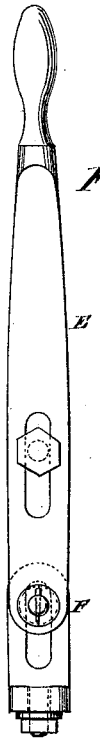

Fig. 2

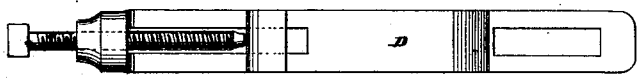

Fig. 4

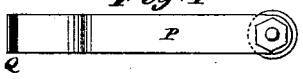

Fig. 6

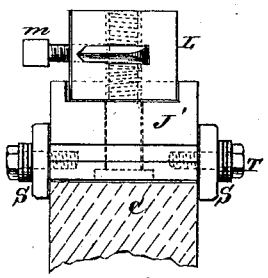

Fig. 5

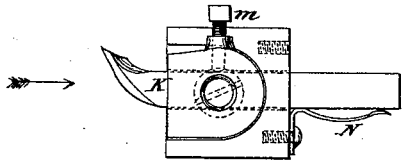

Fig. 7

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UNITED STATES PATENT OFFICE.

AXEL HOFFMANN, OF NEW YORK, N. Y.

IMPROVEMENT IN PLANING ATTACHMENTS FOR METAL-TURNING LATHES.

Specification forming part of Letters Patent No. **163,657**, dated May 25, 1875; application filed March 1, 1875.

To all whom it may concern:

Be it known that I, AXEL HOFFMANN, of the city, county, and State of New York, have invented a new and useful Improvement in Lathe Attachment, of which the following is a specification:

The object of this invention is to attach an apparatus to an engine-lathe, (one calculated for turning iron and other metals,) that will enable the operator to perform various kinds of planing with a lathe which ordinarily works by rotary motion.

Figure 1 is a cross-section of the lathe and of my attachment. Fig. 2 is a top view of the adjustable clamp, by which the attachment is connected with the lathe, (detached.) Fig. 3 is a view of the operating-lever detached. Fig. 4 is a side view of the feed-spring. Fig. 5 is a side view of the tool-holder. Fig. 6 is a face view of the tool-holder, looking in the direction indicated by the arrow at Fig. 5. Fig. 7 is a specimen of the work performed with this planing attachment.

Similar letters of reference indicate corresponding parts.

A represents the ways of the ordinary engine-lathe for turning metals. B B′ are the large gear-wheels of the lathe for giving the feed. C is the bed-plate of the attachment, which is made to slide on the ways of the lathe. D is the adjustable clamp, by means of which the attachment is applied to the lathe. E is the lever, by means of which the slide and tool of the attachment is put in motion. F is the fulcrum-pin of this lever. This pin passes through the slotted arm G, which arm is made fast in the slot H of the clamp D. The lever is attached to the bed-plate C by the screw C′. I is the feed-screw, which works in the slide J of the tool-holder. K is the tool, which is fastened in the holder L by the set-screw *m*. N is a spring attached to the base J′, which bears against the shank end of the tool. When the tool is on the return movement after making a cut, the holder L is allowed a slight rotary movement on the base J′, sufficient to relieve the point of the tool. When the tool leaves the piece which it is cutting, the spring throws it back into position for another cut. N′ is a piece in the lathe, which the tool is cutting. This piece has been turned in the lathe, but is now made stationary for cutting away the surplus metal between the bolt-lugs O O, which work would otherwise have to be done with the chisel and file. The feed of the attachment is given by means of the spring P, which is attached to the bed, as indicated in dotted lines. On the end of this spring is a lip, Q, which is made to engage with the teeth of the gear-wheel B. This spring is operated by hand at every cut of the tool, and the tool and bed are moved the length of each cut by moving the lever back and forth by hand. S S are clamps for holding the tool-holder to the rest by means of the screw T. In Fig. 7 is seen another specimen of the work performed in this lathe by means of this attachment. The reamer R was turned in the lathe, and afterward grooved by the attachment, the feed being regulated by changing the gearing according to the feed required. This is an inexpensive arrangement. It is easily applied or removed, and is essentially a labor-saving attachment. The tool-holder L may be turned over so as to work the other way, if desired, in the same manner.

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

1. A removable planing attachment for turning-lathes, constructed substantially as described—that is, having a clamp, D, lever E, bed C, tool-holder bed J, spring N, and feed-spring P.

2. The arm G, in combination with the adjustable clamp D, lever E, bed C, and lathe-shears A, for the purposes described.

AXEL HOFFMANN.

Witnesses:
T. B. MOSHER,
ALEX. F. ROBERTS.