

(No Model.)

H. M. POTTER.
WATCH MAKER'S LATHE.

No. 288,854.

Patented Nov. 20, 1883.

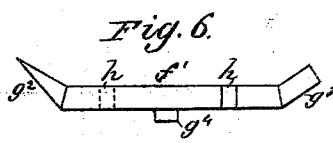
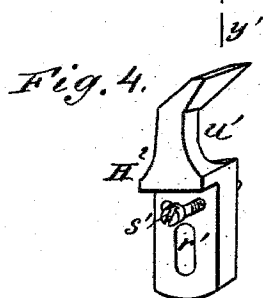
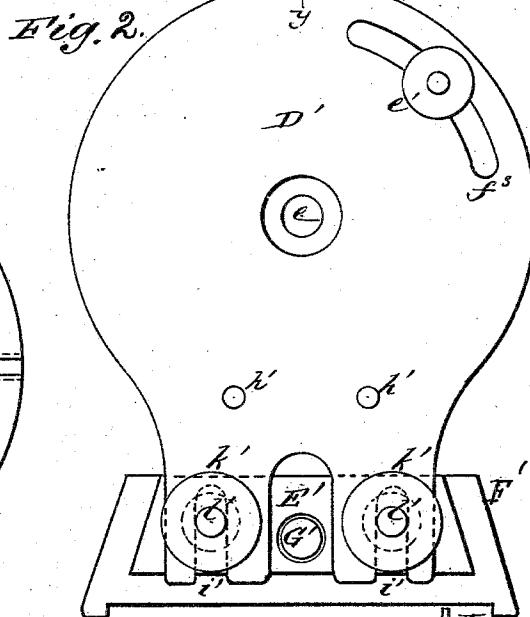
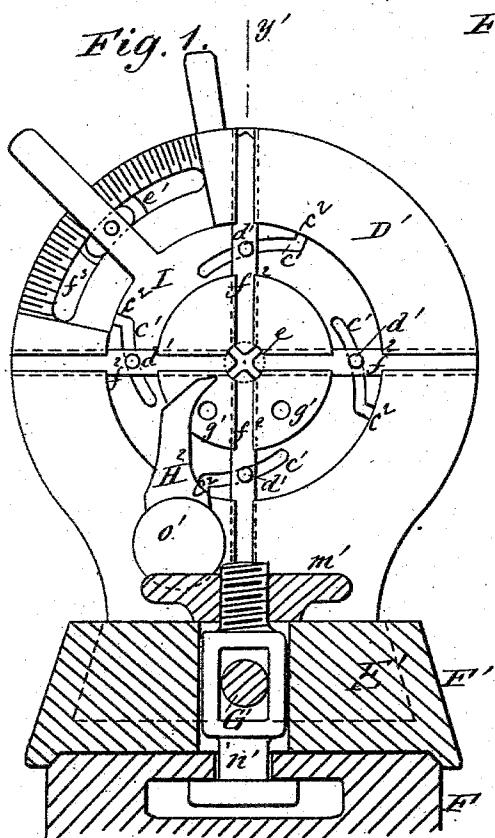
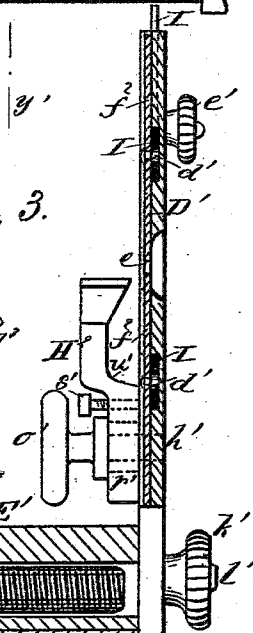


Fig. 3.



WITNESSES:
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Fig. 5.

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UNITED STATES PATENT OFFICE.

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WATCH-MAKER'S LATHE.

SPECIFICATION forming part of Letters Patent No. 288,854, dated November 20, 1883.

Application filed September 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, HERMAN M. POTTER, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Lathe Attachments for Watch-Makers and Others, of which the following is a full, clear, and exact description.

This invention consists in a novel lathe attachment for supporting, steadying, and working various small articles of steel, brass, iron, or other material, and for securing the accurate turning or drilling of the same in any lathe to which the attachment may be applied. Said attachment, which is more particularly designed for watch-makers' or jewelers' use, combines in the one device what may be termed an "adjustable dead-center" and an "adjustable countersunk center," the uses of which, as hereinafter described, are dependent upon the description of work under operation. These centers comprise slides, which, as well as the attachment as a whole, are adjustable to the work or article under operation to support and allow the free rotation of the article without binding.

Among some of the uses to which the attachment may be applied by watch-makers are center-drilling, pivot-turning, staff-turning, pinion-turning, the truing of pinions and staffs, also as a gage for cutting small articles into accurate lengths.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figures 1, 2, 3, and 4 are views, upon an enlarged scale, of the attachment as applied to a lathe-bed and details connected therewith, Fig. 1 being a sectional view on the line $x'x'$ in Fig. 3, showing a front view of the attachment; Fig. 2, a rear view thereof; Fig. 3, a vertical section on the line $y'y'$ in Figs. 1 and 2. Figs. 4 and 5 are perspective views of tool-rests, and Fig. 6 is a view of one form of slide.

In the accompanying drawings, D' represents the body of the lathe attachment, having a center hole or eye, e , and adjustable slides f^2 , arranged radially in the body around said eye, so that the ends of the slides will support the work to be operated on, and passing through

the eye without binding. The slides are operated in and out simultaneously, as follows: The inner ends of the slides f^2 , moving in the radial grooves, are each provided with a V-shaped point having a flattened end, the V-shaped points of the slides flattened at their ends supporting the article to be turned without binding. The body D' has inserted within its face an eccentric slide-adjusting device, I , which consists of a concentric ring having an attached lever or handle, and a series of eccentric slots, c' , within which studs d' on the back of the radial slides f^2 fit, said slides being arranged in front of the device I . The eccentric slots c' have branches c'' at their outer ends, opening outward through the ring or device I , to form outlets for the studs d' on the back of the slides f^2 , when withdrawing or removing said slides from the body D' of the attachment. Accordingly as the lever or handle of said adjusting device I is moved to the right or left will the several slides f^2 be simultaneously and quickly set in or out relatively to the center hole or eye, e , to adjust them to the work to be steadied and guided by the attachment; and after the necessary adjustment has been made the device I is secured in position by a locking-nut, e' , on the back of the body D' , arranged to fit a pin on the device I , passing through a slot, f^3 , in the body D' . The center portion of the body D' of the attachment has screw-holes $g'g'$ to receive and hold ordinary tool-rests. The body D' is secured to the back end of a bottom support or sliding block, E' , by clamping-nuts k' on the back of the body, and arranged to fit screw-pins l' , projecting from the rear end of the block E' and passing through the slots i' in the body. This connection of the body with the block provides for an exact adjustment of the body up or down or about the pins l' . Such connection, too, provides for reversing the body D' , which is countersunk at its eye e on its back, to adapt it to plain or countersunk work, accordingly as its face or back is foremost. The bottom support or block, E' , has beveled sides, and is arranged to fit or slide within a lathe-block, F' , that fits and is capable of adjustment along the lathe-bed F , and is secured in position thereon by a thumb-screw nut and bolt, $m'n'$. G' is an adjusting-screw having a plain col-

lared bearing within the lathe-block F', and fitting a screw-thread in the sliding block E', to provide for the gradual adjustment of the attachment or its body in line with the spindle or work.

The tool-rest H² (shown in Figs. 1, 3, and 4) is secured to the body D' by a thumb-screw, o', arranged to pass through an oblong slot, r', and to enter the screw-hole h'. It is set in or out from the body D' by means of set-screws s'. Said tool-rest, which is applicable to special kinds of work that the other rests are not adapted to, is formed with a hollow, u', on its face, to allow of certain kinds of work passing between it and the body D' of the attachment.

Instead of the adjustable tool-rest H², an adjustable tool-rest, H', as shown in Fig. 5, may be employed on the side of the body D' on which the center-hole, e, is countersunk. This tool-rest H' consists of a plate provided with a slot for the attachment and adjustment of the rest, and a tapering projection, b', at one of its corners, constructed to enter within the countersunk surface of the eye e and to conform thereto.

For countersunk work, slides f', as shown in Fig. 6, are used, which are substituted for the slides f² in the grooves in the body D', and are similarly adjustable by the same means. These slides f' are turned up or out at their ends, the one, g², of which is made beveling in every direction, and is applicable to single-countersunk work, while the opposite end, g³, is of uniform thickness, with its sides beveling, so as to terminate in a flat or blunt extremity, to adapt it to different or double-countersunk work.

g⁴ is the projection on the under face of the slide, adapted to engage with the eccentric slot c'.

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

1. The combination, with the lathe-attachment body D', provided with radial grooves and central hole or eye, e, of the adjustable and reversible slide f', having the bent ends g² g³, substantially as described, and for the purpose set forth.

2. The combination of an attached tool-rest

with a stationary lathe-attachment body D', having a center hole or eye, and adjustable slides arranged radially around said eye, essentially as described.

3. The adjustable and reversible slides f', having their opposite ends, g² g³, bent or turned outward, and one of which, g², is made beveling on its several sides or edges, and the other, g³, made beveling only on its opposite edges and of uniform thickness, essentially as and for the purposes described.

4. The combination, with the body D' of the stationary lathe attachment, said body having a countersunk or flaring centering-eye, e, of the adjustable slotted tool-rest H', provided with a lateral projection, b', constructed to enter within and conform to the countersunk walls of said eye, essentially as specified.

5. The adjustable slotted tool-rest H', provided with the lateral projection b', substantially as described, and for the purpose set forth.

6. The combination of an attached tool-rest with a stationary lathe-attachment body, D', having a center hole or eye and adjustable slides arranged radially around said eye, and provided with the studs d', adjusting-ring I, provided with a handle, and eccentric slots c², opening through the ring I to form outlets for the studs when withdrawing said slides from the body, substantially as described.

7. The combination of the longitudinally-adjusting screw G' with the lathe-block F', the sliding block E', and the body D' of the attachment, provided with radially-adjustable centering-slides f², substantially as specified.

8. The combination of the body D' of the attachment, having slots i' i', the sliding block or bottom support, E', and the clamping-nuts and screw bolts or pins k' l', essentially as and for the purposes herein set forth.

9. The thumb-screw nut and bolt m' n', in combination with the lathe-block F', the sliding block E', the longitudinally-adjusting screw G, and the body D' of the attachment, having radially-adjustable slides f', substantially as described.

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Witnesses:

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