No. 634,787. Patented Oct. 10, 1899.

C. M. WILLIS.

ATTACHMENT FOR WATCH LATHES.

(Application filed Jan. 7, 1899.)

(No Model.)

Fig 1

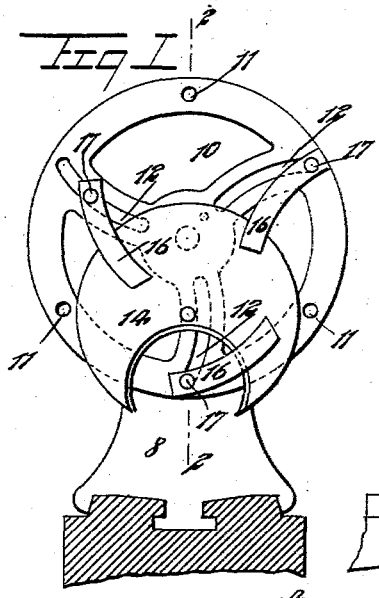


Fig 2

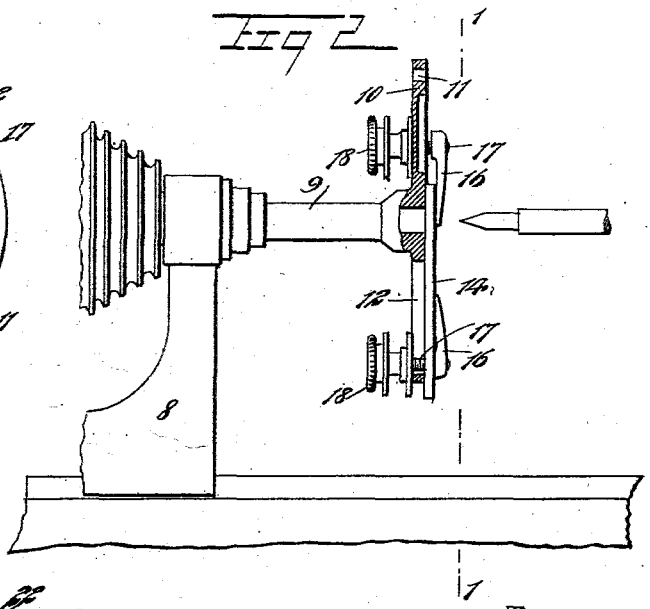


Fig 3

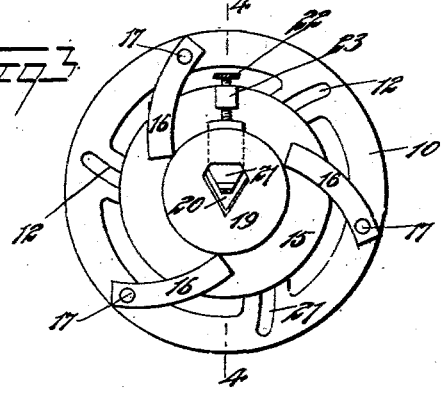


Fig 4

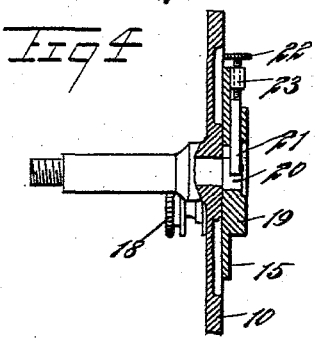


Fig 5

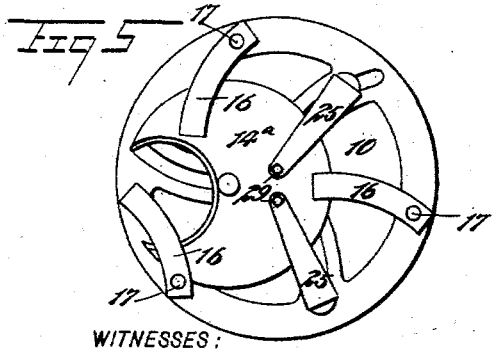


Fig 6

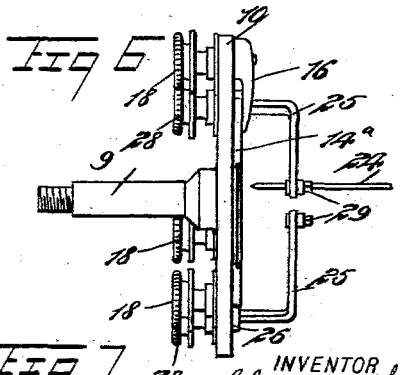
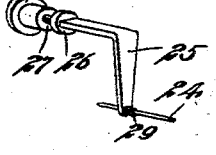


Fig 7



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CHARLES MARSHAL WILLIS, OF BROWNS, ILLINOIS.

ATTACHMENT FOR WATCH-LATHES.

SPECIFICATION forming part of Letters Patent No. 634,787, dated October 10, 1899.

Application filed January 7, 1899. Serial No. 701,487. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MARSHAL WILLIS, of Browns, in the county of Edwards and State of Illinois, have invented a new and Improved Attachment for Watch-Lathes, of which the following is a full, clear, and exact description.

This invention is an attachment for watch-lathes by which various elements of clocks and watches may be effectively held by the lathe for work thereon, the invention serving to take the place of the usual face-plate of the lathe.

This invention is the disclosure of one form of the invention, while the claims define the actual scope thereof.

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

Figure 1 is a front view of the invention, partly in section, on the line 1 1 of Fig. 2. Fig. 2 is a side elevation of the invention, with parts in section, on the line 2 2 of Fig. 1. Fig. 3 is a front view of the invention, showing it applied to a use different from that shown in Fig. 1. Fig. 4 is a sectional view on the line 4 4 of Fig. 3. Fig. 5 is a front view showing certain hereinafter-fully-described attachments to my invention. Fig. 6 is a side elevation of the same, and Fig. 7 is a detail perspective view showing one of the parts illustrated in Figs. 5 and 6 and hereinafter more fully described.

Referring to Figs. 1 and 2, the carriage 8 of the lathe supports a shaft 9, which holds a circular plate or disk 10, provided with three equidistant openings 11 in its outer portion and with three equidistant curved slots 12, extending from the center of the plate outward. The disk 10 may be made to hold either a piece of work 14, as shown in Figs. 1 and 2, or it may be made to carry a work-holder 15, as shown in Figs. 3 and 4. For the purpose of attaching these parts 14 or 15 the disk 10 is provided with clamping-fingers 16, each of which has a screw 17 threaded therein and provided with a head 18. By means of the screws 17 and heads 18 the fingers 16 may be adjustably attached to the plate 10 and clamped against either the work, as in Figs. 1 and 2, or to the work-holder, as in Figs. 3 and 4. When used as in Figs. 1 and 2, the screws 17 should be passed through the slots 12, and when used as in Figs. 3 and 4 the screws 17 should be passed through the openings 11. In other words, the screws may be shifted from the slots to the openings, according to the convenience of the workman. The work held as in Figs. 1 and 2 is thus mounted on the lathe, so that it may be treated in the usual manner.

The work-holder shown in Figs. 3 and 4 consists in a plate or disk with an enlarged or thickened central portion 19, in which is formed an essentially V-shaped opening 20, adapted to receive the work to be held. Working in the thickened portion 19 is a clamping-plate 21, actuated by a screw 22, which is held in a bearing 23, rigid on the disk 15. In using this device it is mounted on the disk 10 in the manner shown in Figs. 3 and 4, and the work is held in the opening 20 by the clamping-plate 21.

My invention also embodies (see Figs. 5, 6, and 7) means for attaching spindles 24 to the disk 10, such spindles serving to hold in position various parts of the work—for example, the wheels of a watch-movement, should such wheels be carried on the piece of work 14ª shown in Figs. 5 and 6. These means referred to consist in angular arms 25, having collars 26 at their bases, which collars bear against the front face of the disk 10. The arms are also provided with screws 27, projecting from the collars and carrying nuts 28, which nuts are adapted to bear against the rear face of the disk 10 to clamp the arms 25 in adjustment on the disk. The spindles 24 (one of which is shown both in Figs. 6 and 7) will be held in passages in the ends of the arms 25 by means of jam-nuts or other securing devices 29.

The invention may be used in a great many connections and for a wide range of work, as will be obvious to a mechanic. The uses here explained do not of course exhaust the possibilities of its practical employment.

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

1. An attachment for lathes, comprising a disk provided with equidistant openings near its periphery, and radial slots between the

openings, and clamping-fingers adapted to be secured to the disk by having their fastening devices passed either through the said openings or slots, whereby provision is made for securing a piece of work or a work-holder to the disk, as set forth.

2. An attachment for lathes, comprising a disk having equidistant openings near its periphery, and curved radial slots between said openings, clamping-fingers, and headed screws for securing the clamping-fingers to the disks by being passed either through the openings or slots, as and for the purpose set forth.

3. In an attachment for lathes, the combination of a disk, of a work-holder, comprising a disk with an enlarged central portion having a V-shaped opening, a clamping-plate slidably held in the said enlarged portion and adapted to engage and hold the work in the said opening, and clamping-fingers carried by the first-named disk and engaging the second disk to hold it on the said first-named disk, substantially as described.

4. In an attachment for lathes, the combination of a disk, a clamping-finger adjustably mounted on the disk, a second disk held on the first disk by the clamping-finger and having a central opening therein, and a clamping-plate movable radially on the second disk and into the opening thereof.

5. In an attachment for lathes, the combination of a disk provided with means for clamping a part thereon, an arm adjustably mounted on the disk, and a spindle carried by the arm and adapted to form a bearing for a part of the work that is held on the disk.

6. In an attachment for lathes, the combination with a disk provided with openings, and clamping-fingers for securing a wheel to the disk, of an angular arm having one member provided with means for securing the arm in an opening in the disk and its other member with means for receiving and holding the spindle of the wheel carried by the disk, substantially as described.

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