(No Model.) 2 Sheets—Sheet 1.

H. SARTORIUS.

WHEEL CUTTING ATTACHMENT TO WATCHMAKER'S LATHES.

No. 247,951. Patented Oct. 4, 1881.

Fig. 1.

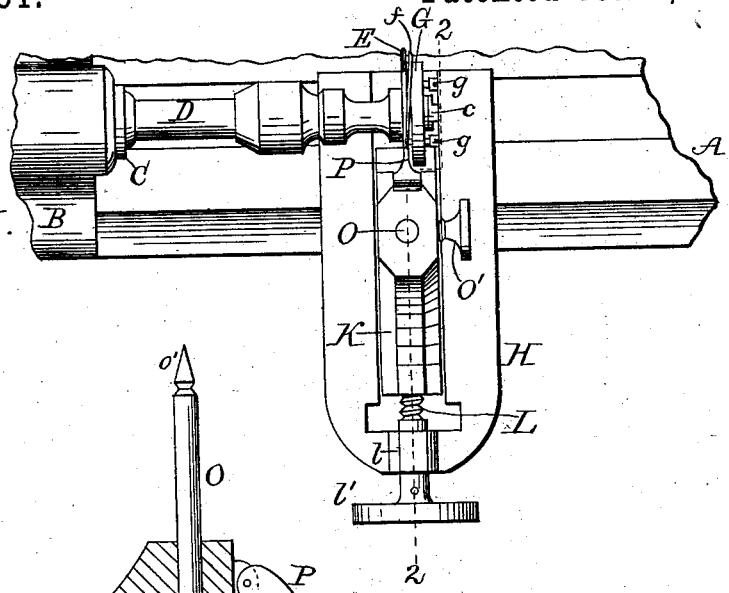
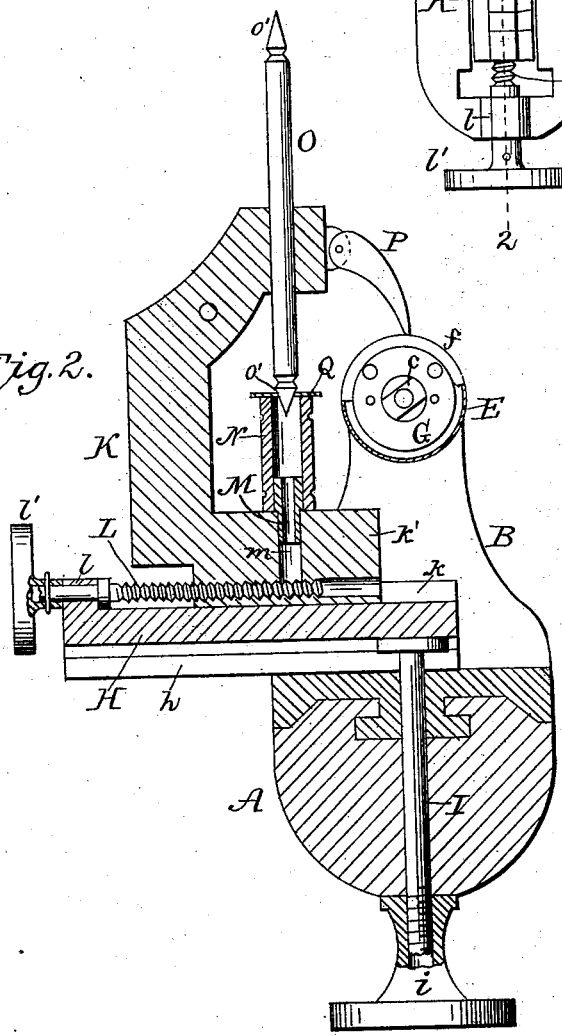


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

H. SARTORIUS.

WHEEL CUTTING ATTACHMENT TO WATCHMAKER'S LATHES.

No. 247,951. Patented Oct. 4, 1881.

Fig. 3.

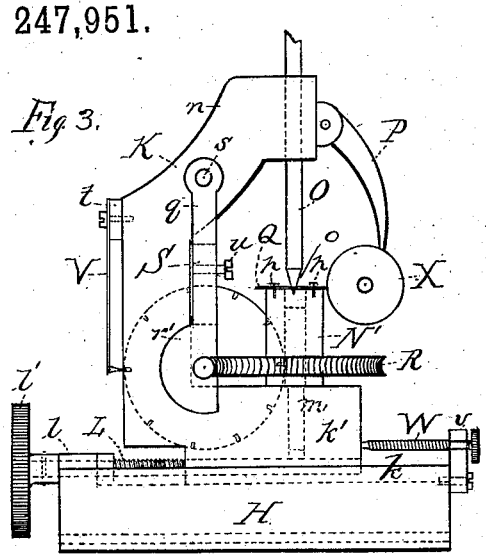


Fig. 4.

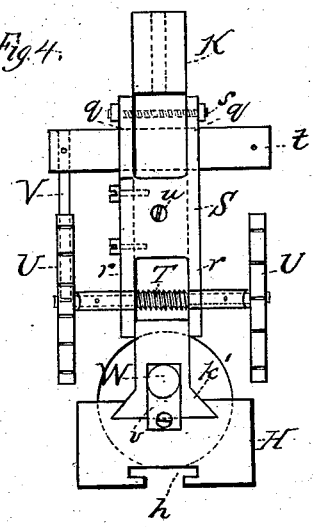
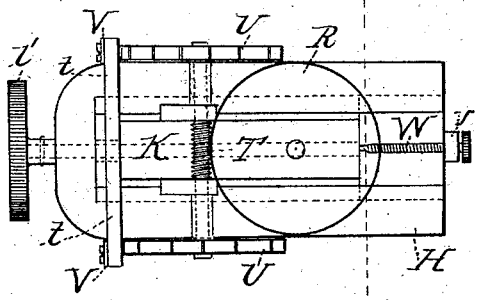


Fig. 5.



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INVENTOR—
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UNITED STATES PATENT OFFICE.

HENRY SARTORIUS, OF CHICAGO, ILLINOIS.

WHEEL-CUTTING ATTACHMENT TO WATCH-MAKERS' LATHES.

SPECIFICATION forming part of Letters Patent No. 247,951, dated October 4, 1881.

Application filed March 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY SARTORIUS, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Wheel-Cutting Attachment for Watch-Makers' Lathes, of which the following is a specification.

The object I have in view is to produce a simple and efficient attachment for watch-makers' lathes by which the teeth of the wheels of watches as they come from the manufacturer can be cut previous to shaping them or by the same operation, and the expense of the extra machine heretofore required for this purpose by every watch-maker can be saved.

My invention consists in the peculiar devices employed by me to accomplish the above object, as fully hereinafter explained, and pointed out by the claims.

In the accompanying drawings, forming a part hereof, Figure 1 is a top view of a portion of a watch-maker's lathe with my attachment applied thereto; Fig. 2, a vertical section of the same on line 2 2; Fig. 3, a side elevation of the attachment arranged for cutting teeth; Fig. 4, an end view of the same, and Fig. 5 a top view of the same.

H is the base-block of the attachment having the longitudinal T-groove *h* on its lower side, which receives the head of a clamping-bolt extending down through a slot in the bed of the lathe and having a nut, *i*, on its lower end. The base-block H is provided on its top with a longitudinal dovetail groove, *k*, in which slides the correspondingly-formed foot *k'* of the standard K. This standard is adjusted back and forth on the base-block H by means of a screw, L, which is held by a lug, *l*, rising from the outer end of the base-block, and engages with a screw-threaded hole in the foot of the standard. The screw L is turned by a milled head, *l'*. The foot *k'* of the standard K has a vertical hole or socket in its upper side, in which is set a post. This post is nicely fitted to the hole so that it has no lateral play therein, but it can be easily removed when it is desired to substitute a post with a head of different size or length. A sleeve, N', surrounds the post, fitting the same closely, and rests upon the foot *k'* of the standard. The upper end, *n*, of the standard K extends forward over this sleeve N', and has a vertical hole made through it in line with the hole *m*, for receiving the centering and holding staff O. This staff is a round rod provided with tapered ends *o o'*, and is held in the upper end, *n*, of the standard K by a set-screw or other suitable means. The standard K is also provided with a finger, P, pivoted to the center of its upper end, which finger is used to bring the center of the attachment exactly opposite the edge of the cutter, and is then thrown up out of the way. The watch-wheel Q, which is to have its teeth cut, is placed on the upper end of the sleeve N', and is centered and held by the staff O, such sleeve being also held down by said staff. The base-block H is then adjusted with its center opposite the cutter, and is placed at the desired angle and clamped by a bolt passing up through the bed of the lathe or otherwise. The standard K is then advanced by the screw L until one slot of the watch-wheel is properly engaged with the cutter-head X. The standard K is retracted by turning back the screw L, and a new wheel is secured in position on the sleeve N'. The wheel Q is secured to the sleeve N', so as to turn therewith, by two small screws, *p*, whose heads clamp the spokes of the wheel. Instead of securing the wheel in this manner to the sleeve N', it can be held by a single central screw turning into the top of the sleeve N', the head of which screw will be provided with an indentation, to receive the point of the staff O.

A vertical frame, S, having arms *q*, which embrace the upper end of the standard K, and arms *r*, embracing the foot of the standard, is pivoted to such standard by a pin, *s*, and hangs down on the inner side of the same. The arms *r* of the frame S carry a horizontal worm, T, engaging with the wheel R, and having on each end a notched wheel, U. Two springs, V, carried by a plate, *t*, secured by a screw to the standard K, engage with the wheels U and hold them at any point of adjustment. The arms *q* and *r* of the frame S hold it steady and prevent lateral motion.

The frame S is provided with a screw, *u*, setting against the inner side of the standard K, which screw throws the frame S outwardly and takes up all lost motion in the working of the worm

T and wheel R. To the end of the base-block H, opposite the screw L, is secured a small block, *v*, carrying a screw, W, which is intended to gage the depth of the teeth and to limit the advance of the standard K.

X is the saw or cutter, which is mounted in the lathe. It may be shaped so as to cut the teeth out square or it can be formed to round the teeth at the same time.

What I claim as my invention is—

1. In an attachment for watch-makers' lathes for the purpose set forth, the combination, with the adjustable standard K, of the sleeve N′, having worm-wheel R and the frame S, carrying worm T and pivoted to such standard, substantially as described and shown.

2. In an attachment for watch-makers' lathes, for the purpose set forth, the combination, with the adjustable standard K, the sleeve N′, and worm-wheel R, of the frame S, carrying worm T, and having pivoting and guiding arms *q r*, and the set-screw *u*, substantially as described and shown.

HENRY SARTORIUS.

Witnesses:
F. W. KASEHAGEN,
OLIVER W. MARBLE.