HENDERSON & LADD.

GAGE FOR TURNING CLOCK WORK.

No. 110,460. Patented Dec. 27, 1870.

Fig. 1.

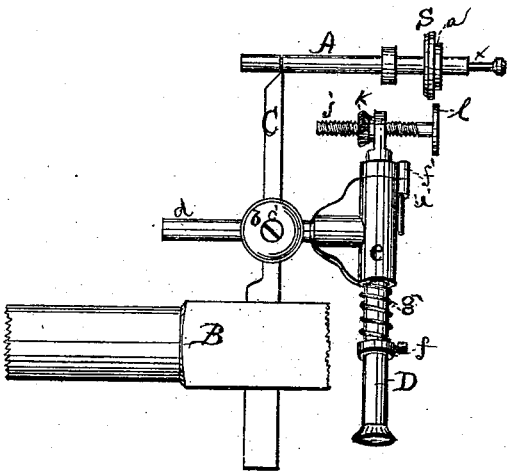


Fig. 2.

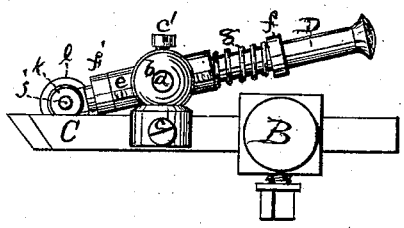
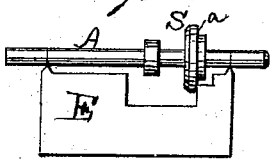


Fig. 3.



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HARRY F. HENDERSON AND JAMES E. LADD, OF BRISTOL, CONNECTICUT.

Letters Patent No. 110,460, dated December 27, 1870; antedated December 24, 1870.

IMPROVEMENT IN GAUGES FOR TURNING CLOCK-WORK.

The Schedule referred to in these Letters Patent and making part of the same.

We, HARRY F. HENDERSON and JAMES E. LADD, of Bristol, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Gauges for Turning Clock-Work, of which the following is a specification.

Our invention consists of a circular gauge, mounted on a shaft and provided with adjusting mechanism, and a clamp for securing the same to the turning-tool of an ordinary clock-turner's lathe, as hereinafter fully described.

In the accompanying drawing—

Figure 1 is a top view of our invention;

Figure 2, a side elevation of the same; and

Figure 3, a top view of the ordinary marking-gauge.

A designates a shaft, usually termed a clock-pinion, which is provided with two collets for the insertion of the needles which form the lantern-pinion.

The wheel-collet S is provided with a tenon, *a*, to which a wheel is to be secured.

These collets are always the first part of the work to be turned, when the shoulders formed by the bearings, (one of which is represented at *x* in fig. 1,) on each end of said shaft are gauged from the tenon *a*, so as to bring the wheel in its proper position between the shoulders, and, consequently, between the two plates of the clock-movement.

B designates a portion of the usual slide-gauge used by clock-turners, which gauge governs and holds the chisel C.

b designates a post, the under side of which is slotted to receive the chisel C, and is secured thereto by set-screw *c*.

The post *b* is provided with a socket and set-screw, *c'*, for adjusting and securing the shaft *d*.

On the end of shaft *d* is a tube, *e*, in which slides the shaft D.

By suitable set-screws, two collars, *f f'* are secured to the shaft D, the collar *f* retaining the spiral spring *g* in place, while the collar *f'* is provided with a pin, which slides in an arm, *i*, of the tube *e*, and prevents the turning of said collar, and, if its set-screw is tightened, prevents the turning of the shaft D.

One end of the shaft D has a threaded hole, in which is a screw, *j*, which screw is provided with a set-nut, *k*.

l designates a disk attached to the end of screw *j*, and which disk constitutes the gauge *l*.

This gauge *l* might be of other form, in which case the hole through the end of the shaft D should be large enough to allow the free passage of the screw *j*, which should be held in place by two set-nuts, so that the screw may be adjusted laterally without revolving the gauge *l*.

The operation is as follows:

The shaft A is revolved in an ordinary clock-turner's lathe. For turning the bearing on the left-hand end of the shaft A, the chisel is placed on its usual supports in front of the work, the gauge *l* being previously adjusted to the desired distance from the point of the chisel, and the whole of the gauging device secured to the chisel, so that the gauge *l* (as thrown back by the spring *g*) will pass the wheel-collet S without contact with it, when the operation compresses the spring *g* by pressure on the end of shaft D, thus throwing said shaft and the gauge *l* forward until it engages with the shoulder of the tenon *a*, and the chisel-point enters the shaft A at the juncture of the bearing and shaft, when the pressure on the end of the shaft D is released, and the spring *g* withdraws the gauge *l* from the wheel-collet S, as shown in fig. 1, and allows it to pass the same when the chisel is moved to the left, and a bearing turned similar to the bearing shown at *x*.

For turning the bearing on the right-hand end of shaft A, the sliding shaft D may be dispensed with, as there are no obstructions between the starting-point of the gauge *l*, and the point to which it moves in turning the bearing.

If desired, the shaft D might be arranged to slide through the slide-gauge B, instead of the tube *e*, when its operation would be the same.

Ordinarily, the shoulders formed by the bearings are governed by first marking the shaft with a tool, which consists of a flat piece of steel, E, fig. 3, having two points and a slot to admit the collets.

The shoulder in plate E formed by one side of the slot is placed on the tenon-shoulder *a*, when the points scratch or mark the position of the shoulders for the bearings.

The turner then turns the bearings to the marks as near as he can, but more or less difference, even with the best of turners, is always the result.

By our invention the labor of marking previous to turning is dispensed with, while the work is much more accurate than ordinary work, which enables the movements to be put together at a reduced cost.

We claim as our invention—

The improved gauging-tool herein described, consisting essentially of the shafts D *d*, socketed post *b*, tube *e*, collars *f f'*, spring *g*, screw and nut *j k*, and gauge-disk *l*, constructed and combined substantially as herein described.

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