A. RUSH.

Depthing Tools.

No. 45,348. Patented Dec. 6, 1864.

Fig. 1.

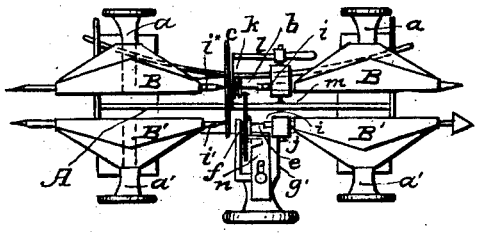
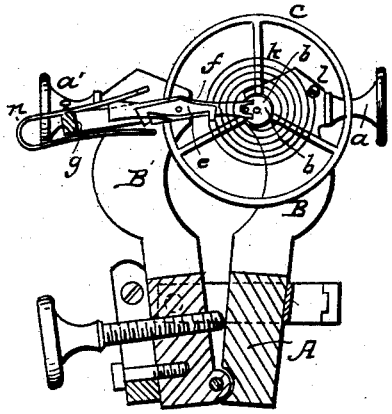


Fig. 2.



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UNITED STATES PATENT OFFICE.

ARTEMUS RUSH, OF FAIRFIELD, IOWA.

IMPROVEMENT IN DEPTHING-TOOLS.

Specification forming part of Letters Patent No. **45,348**, dated December 6, 1864.

To all whom it may concern:

Be it known that I, ARTEMUS RUSH, of Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Depthing-Tools; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of my invention. Fig. 2 is a transverse vertical section of the same in a larger scale than the previous figure.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in that class of tools which are used by watchmakers to determine the correct position or "depth" of the lever in relation to the balance. An ordinary tool of this description is provided with two sets of centers, placed side by side, one set to take in the arbor of the balance and the other to take in the lever-staff, so that the correct position of the lever in regard to the balance can be determined. In such tools one of the centers intended to take in the lever-staff passes through the balance, and the arms of the latter, by striking said center, prevent the mechanism from being set in motion until it is taken from the depthing-tool and adjusted in the watch, and the final adjustment of the depth has to be accomplished with great difficulty and loss of time. These disadvantages are overcome by the improvement which forms the subject of this invention, and which consists in the application to one of the centers intended to sustain one end of the lever-staff of a U-shaped supporting-bar provided with a suitable center to take in the outer or loose end of the lever-staff in such a manner that the entire mechanism, while being supported in the depthing-tool, can be set in motion precisely in the same manner as if the same is placed in the watch, and the lever can be adjusted to the correct depth with ease and facility.

The invention consists, further, in the combination, with the U-shaped supporting-bar, of an adjustable spring with projections on the ends for the banking-pins in such a manner that the motion of the lever is confined between certain limits and the motion of the lever-watch is imitated.

The invention consists, finally, in the employment or use of a movable post or stud attached to one of the centers, intended to take in the arbor of the escapement-wheel in such a manner that the loose end of the hair-spring can be conveniently held, and all the parts of the mechanism adjusted in the depthing-tool in precisely the same relation toward each other as in the watch.

A represents the bed of the depthing-tool, constructed in the usual manner. From the end of this bed rise two pairs of heads, B B′, which form the bearings for the centers *i i* i′ i′**, and these centers are adjustable by clamping-screws *a a′*, according to the length of the arbors or staffs to be held between them. The centers *i i** are intended to take in the arbor *b* of the balance *c*, and the staff *e* of the lever *f* is placed with one end in one of the centers, *i′**, and with its opposite end in a suitable center in the U-shaped bar *g*, which is attached to said center *i′** by means of a set-screw, *j*, or in any other suitable manner. The center *i′*, which otherwise would interfere with the rotary motion of the balance *c*, is not required to support the lever *f*, and the various parts of the escapement can be adjusted to the proper position without difficulty. The loose end of the hair-spring *k* is secured in a stud, *l*, which is secured to the center *i*, being adjustable thereon by means of a set-screw, *m*. The U-shaped bar *g* bears the spring *n*, with projections or pins on the ends, to take the place of the banking-pins that have to be used in an ordinary lever watch.

By means of my depthing-tool the lever can be adjusted to the correct depth without placing it in the watch, and the entire operation can be performed while all the parts of the mechanism are plainly visible, whereas if the lever and balance have to be placed in the watch in order to finally adjust the depth, much valuable time is lost in taking the lever out and placing it in, and the several parts of the mechanism are partially concealed, so that the operation is rendered difficult.

What I claim as new, and desire to secure by Letters Patent, is—

1. The U-shaped bar *g*, in combination with

the centers i i^* i'^* of a depthing-tool, constructed and operating in the manner and for the purpose substantially as herein shown and described.

2. The adjustable spring n, with projections or pins on the ends to serve in place of the banking-pins, and applied in combination with the U-shaped bar g, substantially as and for the purpose specified.

3. The adjustable hair-spring stud l, in combination with the center i of the depthing-tool, constructed and operating in the manner and for the purpose substantially as set forth.

ARTEMUS RUSH.

Witnesses:
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