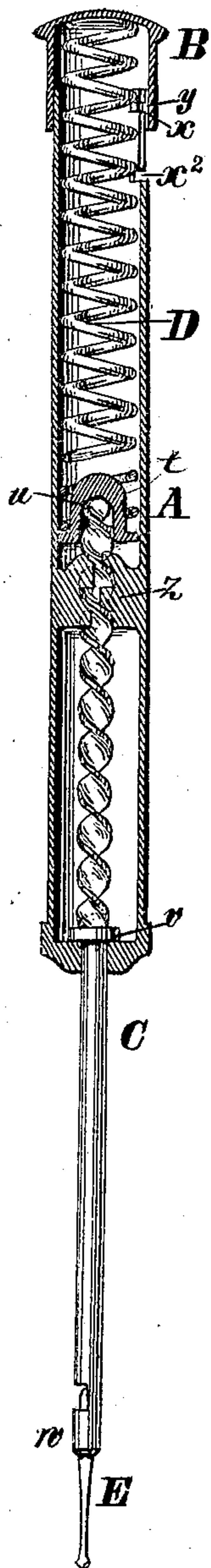


**J. K. LAUDERMILCH.**  
**Jewelers' Drilling Devices.**

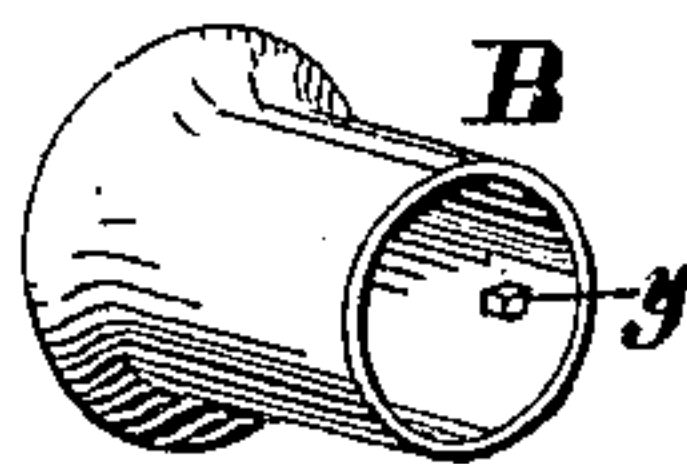
No. 143,084.

Patented September 23, 1873.

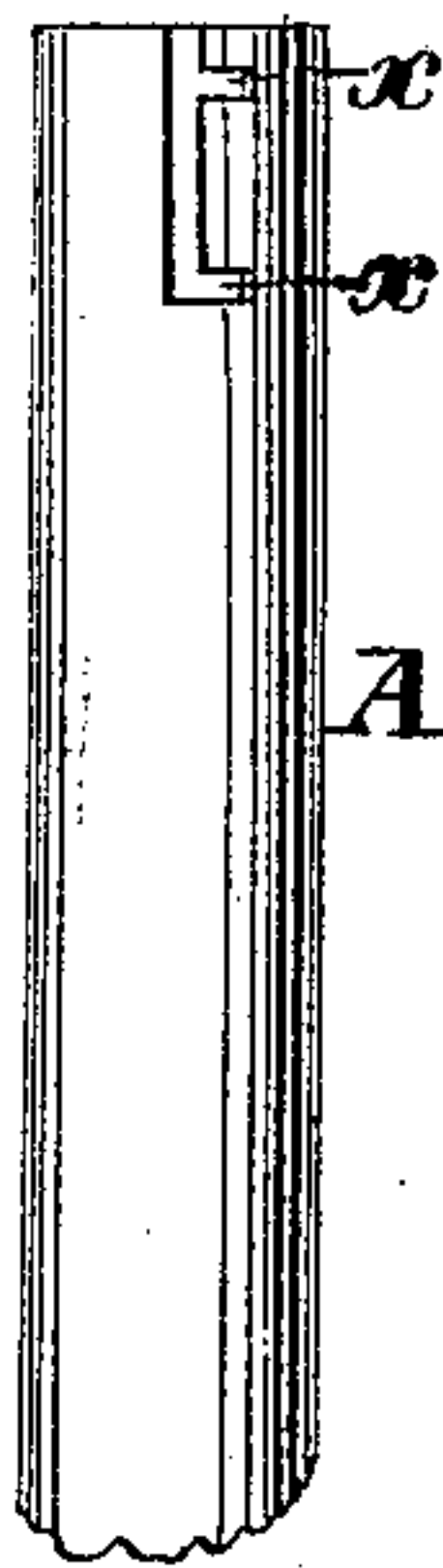
**FIG. 1.**



**FIG. 3.**



**FIG. 2.**



WITNESSES:

*Geo. L. Cwin*  
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INVENTOR:

*John K. Laudermilch*  
 By *Knight Bros.* Attorneys.

# UNITED STATES PATENT OFFICE.

JOHN K. LAUDERMILCH, OF LEBANON, PENNSYLVANIA.

## IMPROVEMENT IN JEWELER'S DRILLING DEVICES.

Specification forming part of Letters Patent No. **143,084**, dated September 23, 1873; application filed July 24, 1873.

*To all whom it may concern:*

Be it known that I, JOHN K. LAUDERMILCH, of the city and county of Lebanon, in the State of Pennsylvania, have invented a new and useful Improvement in Drill-Stocks, of which the following is a specification:

This invention relates primarily to jeweler's drills; and consists in certain improved means for applying motion to the bit, and for regulating the pressure thereon. The bit is held to its work by a long spiral spring within a tubular handle. The handle is grasped so as not to rotate, and is reciprocated longitudinally by the alternate pressure of the hand and the reaction of the spring. This movement of the handle rotates the bit back and forth by means of a fixed nut in the handle, traversing a twisted section of the bit-spindle. An adjustable cap is provided for regulating the action of the bit.

Figure 1 is a longitudinal section of a jeweler's drill illustrating this invention. Fig. 2 is an elevation of the upper part of the tubular handle of the same. Fig. 3 is a perspective view of the adjustable handle-cap detached.

The improved drill-stock consists of a tubular handle, A, an adjustable cap, B, therefor, a bit-spindle, C, and a long spiral wire spring, D. The interior of the handle is divided into two compartments by a transverse diaphragm, *z*, and in the upper compartment the spring D is arranged. The cap B is secured by an internal lug or projection, *y*, and lateral notches *x x'*, in the side of a longitudinal slot in the handle, to receive the same. The cap compresses the spring, more or less, as one or the other of these notches is used. The lower end of the spindle C is cylindrical, and terminates in a socket, *w*, to receive changeable bits E. The projection of the spindle is limited by a collar, *v*, engaging with the inner surface of the closed bottom of the handle. The upper portion *u* of the spindle, above this collar, is twisted, and extends through the diaphragm *z* in the handle, which has a corresponding

perforation. The upper end of the spindle is rounded, and occupies a bearing-cup, *t*, attached to the lower end of the spring D.

The several parts may be constructed of suitable metals, in any approved manner.

A proper bit, E, having been applied, and the tension of the spring D regulated, if necessary, by adjusting the cap B, the handle A is grasped so as not to rotate, and the point of the bit is applied where the hole is to be drilled. The handle is then reciprocated longitudinally by the alternate pressure of the hand and reaction of the spring. This motion rotates the bit back and forth, while the spring renders the pressure on the bit elastic, and regulates its force. The power is applied with great directness, and every motion of the handle is utilized.

The operating devices are wholly inclosed, and may consequently be kept well lubricated without gathering dust or soiling the hands of the operator.

The principles on which this improved drill-stock operate are known to be old; as also the general features of the means by which the same are carried into effect. This much of the present invention is therefore disclaimed.

The following is claimed as new:

1. The spindle C constructed with the twisted portion *u*, the traversing-nut *z* conformed to said twisted portion, and the spring D having the bearing-cup *t* attached thereto, in combination with the tubular handle A B, as herein shown and described, for the purpose specified.

2. The tubular handle A and its cap B, constructed with the notches *x x'* and lug *y*, as represented, in combination with the spring D and bit-spindle C, operating as herein described, for regulating the tension of the spring.

J. K. LAUDERMILCH.

Witnesses:

C. M. BOWMAN,  
D. S. RABER.