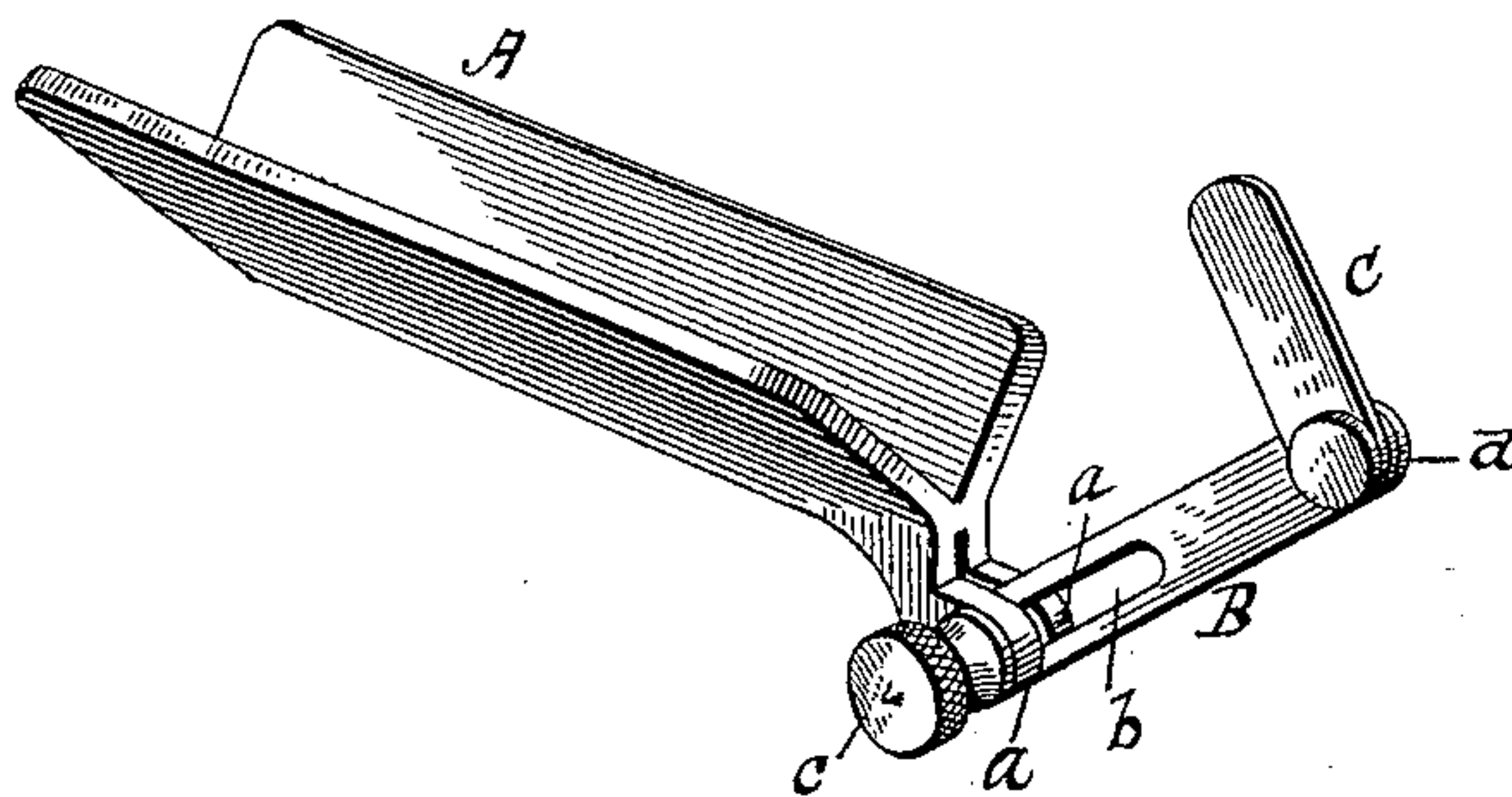


(No Model.)

I. CULVER.
DRILL GAGE.

No. 403,740.

Patented May 21 1889.



WITNESSES

Edwin L. Yewell.
Well A. Pike

INVENTOR

Ira Culver
by Charles Bailey
Attorney

UNITED STATES PATENT OFFICE.

IRA CULVER, OF CLEVELAND, OHIO.

DRILL-GAGE.

SPECIFICATION forming part of Letters Patent No. 403,740, dated May 21, 1889.

Application filed August 9, 1888. Serial No. 282,373. (No model.)

To all whom it may concern:

Be it known that I, IRA CULVER, of Cleveland, in the State of Ohio, have invented a new and useful Improvement in Drill-Gages, of which the following is a specification.

My improved drill-gage is one which is adapted to gage the points of twist or flat drills of varying sizes and varying angles of inclination.

Heretofore a drill has been guided concentrically beneath a stationary gage-blade by means of a V-shaped guide, a stationary gage-blade has been attached to said guide, and said V-shaped guide has also been combined with a stationary non-adjustable blade fixed to it, and a traverse-blade attached at a definite angle to the stationary blade and movable up and down the latter always at the same angle, the last-named construction being shown in Letters Patent No. 51,248 of November 28, 1865. I claim none of these things. I combine with the guide two blades; but each of these blades is individually adjustable with relation to the other and to the guide, so that the angle at which these blades stand to each other and to the guide can be varied at will, and I also prefer to so form the joints that the apex of the angle formed by the blades may be raised or lowered with reference to the guide. In this way I am enabled to adapt my gage to drills of various shapes and having points of different slope or inclination.

The accompanying drawing is a perspective view of a drill-gage embodying my invention in its preferred form.

A is the V-guide for the drill. B is what I shall call the "main gage-blade," and C is what I shall call the "auxiliary gage-blade." The main blade B is jointed to the guide, being for this purpose hung between ears *a* on the trough, through which and a longitudinal slot, *b*, in the blade passes the set-screw *c*. By this construction the blade B can be set at various angles, and also raised and lowered with respect to the guide A, and can be held firmly in its adjusted position by tightening the set or binding screw *c*. To the upper end of the main gage-blade B is hinged at *d* the

auxiliary gage-blade C. The joint *d* enables the auxiliary blade to be set at varying angles with respect to blade B. The joint *d* is a friction-joint, sufficient under ordinary conditions to hold the arm C in its adjusted position. Still, if desired, a set or binding screw (similar to *c*) may be employed at this point also.

The object of providing a slot-and-set-screw connection for the blade B is to permit the elbow or apex of the angle formed by the two blades to be raised or lowered with reference to the guide A. Manifestly for this purpose the blade C might be jointed to the blade B by a set-screw passing through a slot in the upper end of arm B, thus permitting C not only to be tilted with reference to B, but to move up and down bodily thereon, in which event the arm B could be united to the guide A by a simple friction-joint, such as *d*. This reversal of the position of the two joints referred to I have not deemed it necessary to illustrate, since it is the obvious equivalent of what is already illustrated in the drawing.

What I claim herein as new is—

1. The combination of the drill-guide, a main gage-blade jointed to the guide, and an auxiliary gage-blade jointed to the main gage-blade, substantially as hereinbefore set forth.

2. The combination of the drill-guide and the two gage-blades adjustably connected to each other and to the guide, substantially in the manner set forth, so that the angle at which the blades stand to each other and to the guide can be varied at will, and the elbow or apex of the angle formed by said blade can be raised or lowered with reference to the guide.

3. The drill-gage consisting of the V-guide A, the main gage-blade jointed to the guide by a slot-and-set-screw connection, and the auxiliary gage-blade C, jointed to the main gage-blade, as set forth.

In testimony whereof I have hereunto set my hand.

IRA CULVER.

Witnesses:

M. A. LAUDER,
C. C. LOWE.