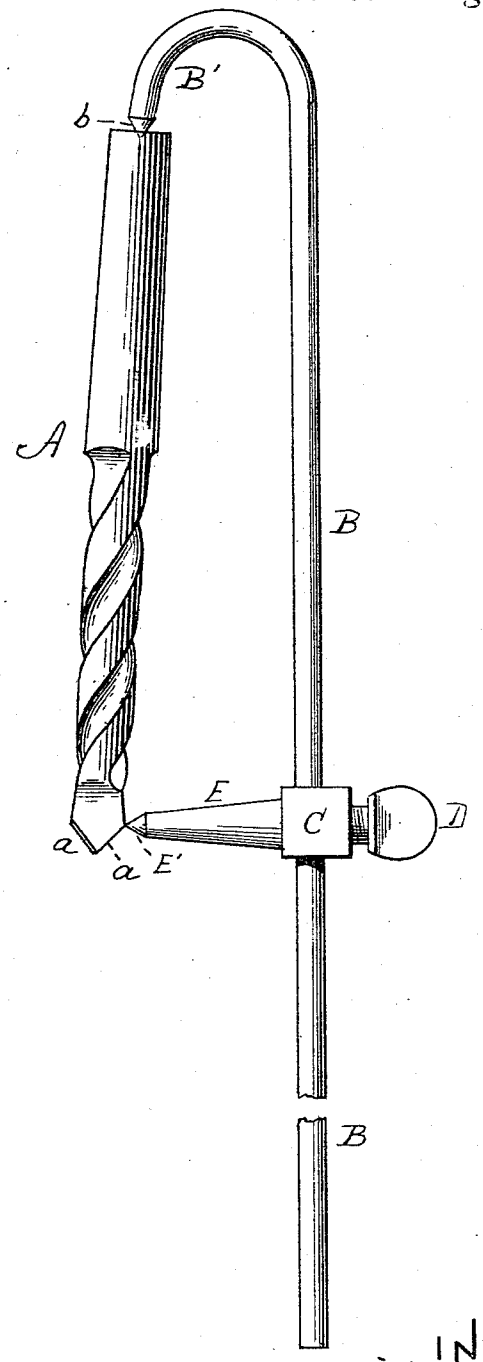
(No Model.)

# W. A. CROPPER & J. A. LONIE.

## DRILL GAGE.

No. 458,359. Patented Aug. 25, 1891.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

WILLIAM A. CROPPER AND JOHN A. LONIE, OF BOSTON, MASSACHUSETTS.

## DRILL-GAGE.

SPECIFICATION forming part of Letters Patent No. 458,359, dated August 25, 1891.

Application filed January 27, 1891. Serial No. 379,254. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM A. CROPPER and JOHN A. LONIE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Gage for Use in Grinding Drills, of which the following is a specification.

In grinding (for sharpening purposes) drills such as are used in drilling metal it is extremely difficult to grind the two lips equally—*i. e.*, so that they are of equal length. As, if the lips are not alike, the hole made by the drill will be too large, owing to the fact that one lip cuts away more stock than the other, it is important that some device should be employed to accurately gage the lips.

The accompanying drawing is a view or elevation showing a drill with our gage applied thereto, a small portion of the latter being broken out.

A represents an ordinary drill, such as is used in operating on metal, and *a a* are the lips, which are ground from time to time as needed.

B is a long metallic rod bent back upon itself at B′, with its upper or hooked end pointed, as shown at *b*.

C is a sliding block perforated to receive the rod B, and held in any desired position on said rod by the set-screw D.

E is an indicating gage or pointer integral with the slide C and extending therefrom at right angles with the rod B and pointed at its outer end E′.

To gage the lips *a*, the drill A is held in one hand and the pointed end *b* dropped into the small depression which is always found in the upper end of a drill By adjusting the block C on the rod D the drill may be turned and the two lips *a* presented in turn to the point E′ of the pointer E and their accuracy tested.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

The herein-described gage for use in grinding drills, consisting of the integral rod B, bent back upon itself at B′ and pointed at its upper end *b* to engage in the depression in the upper end of the drill, and the slide C, provided with the pointer E, pointed at its outer end E′ for gaging the lips of the drill, said slide being adjustably secured to the rod, substantially as set forth.

WILLIAM A. CROPPER.
JOHN A. LONIE.

Witnesses:
HENRY W. WILLIAMS,
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