

JOHN GUNN.

Improvement in Combined Taps and Cutters.

No. 124,570.

Patented March 12, 1872.

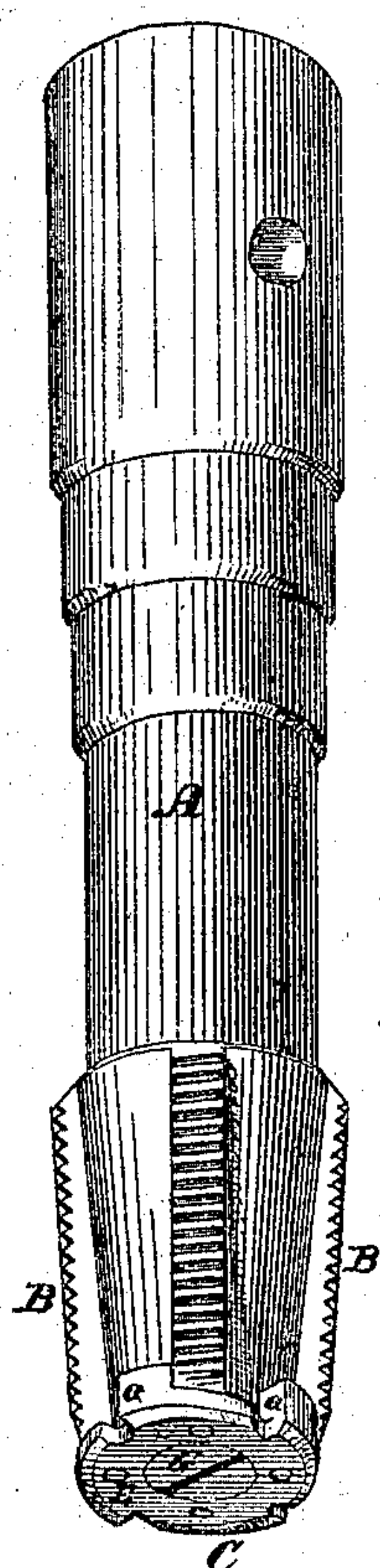


FIG. 1

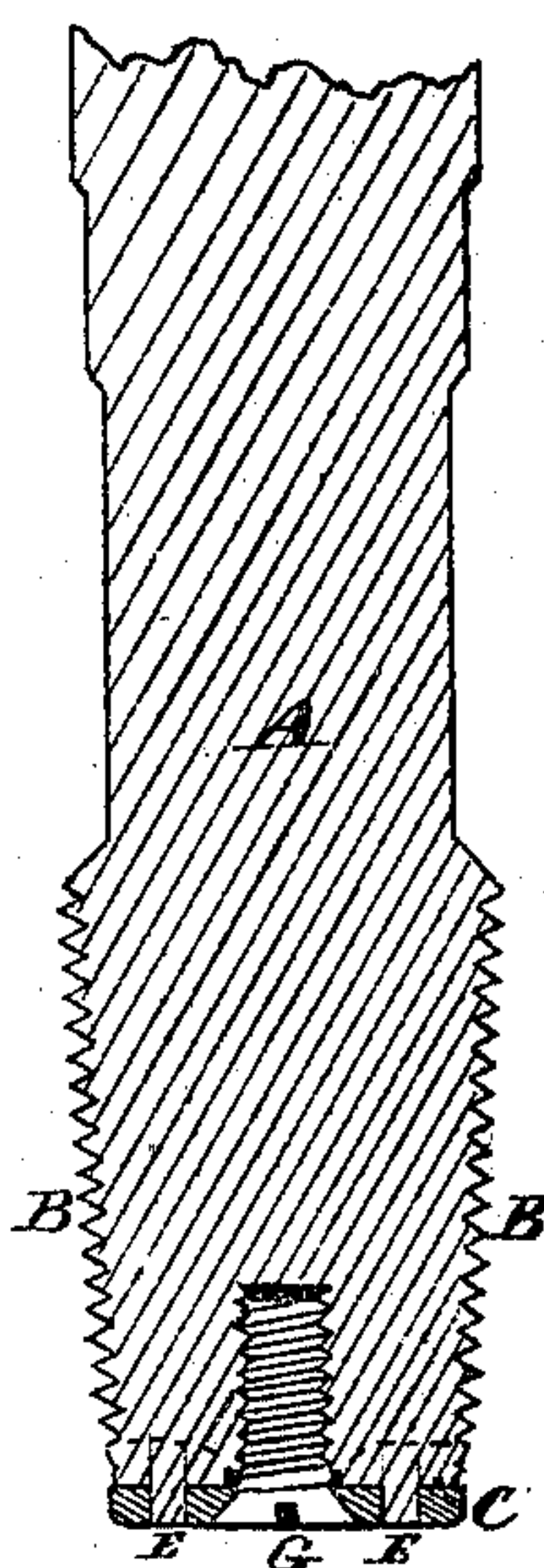


FIG. 3



FIG. 6

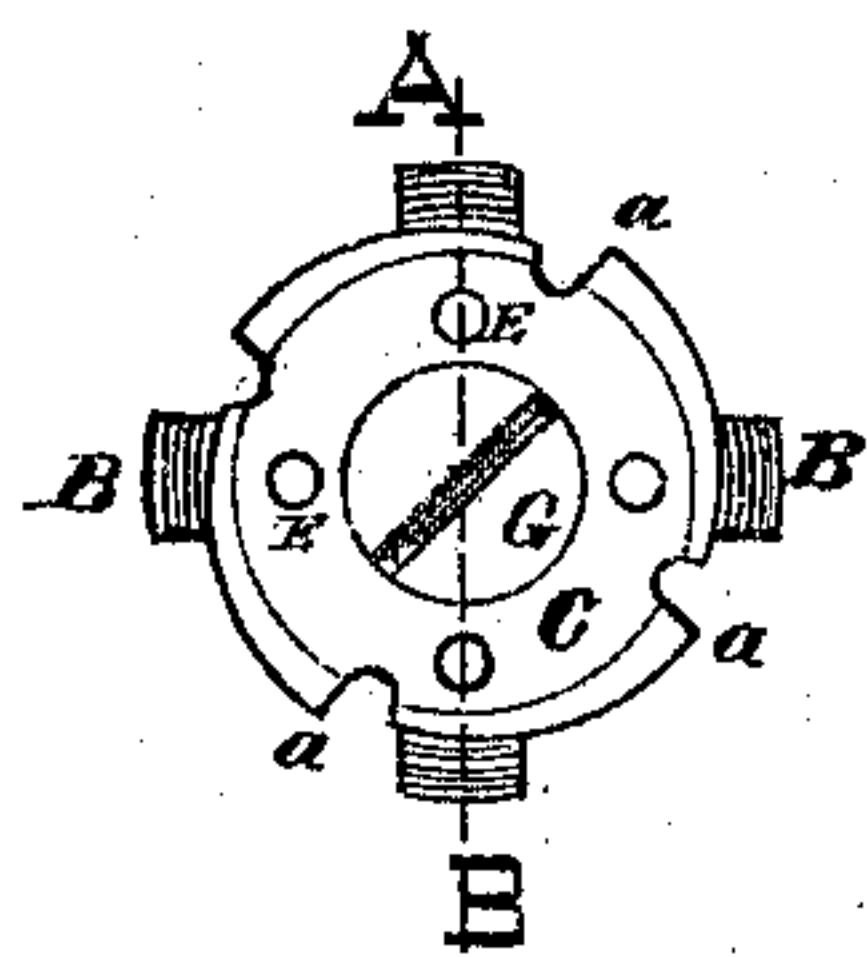


FIG. 2

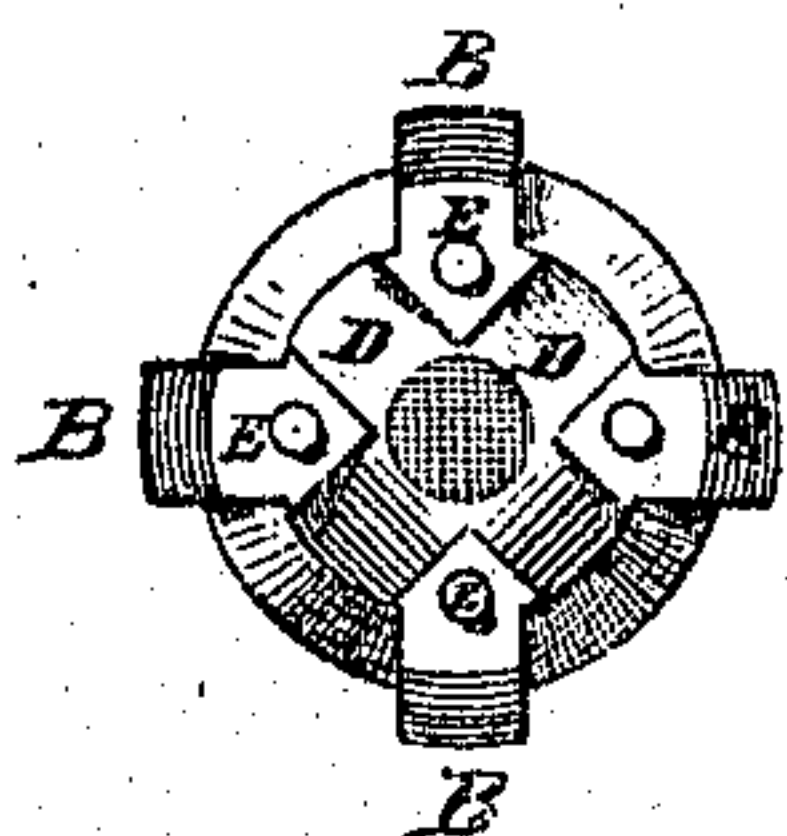


FIG. 4

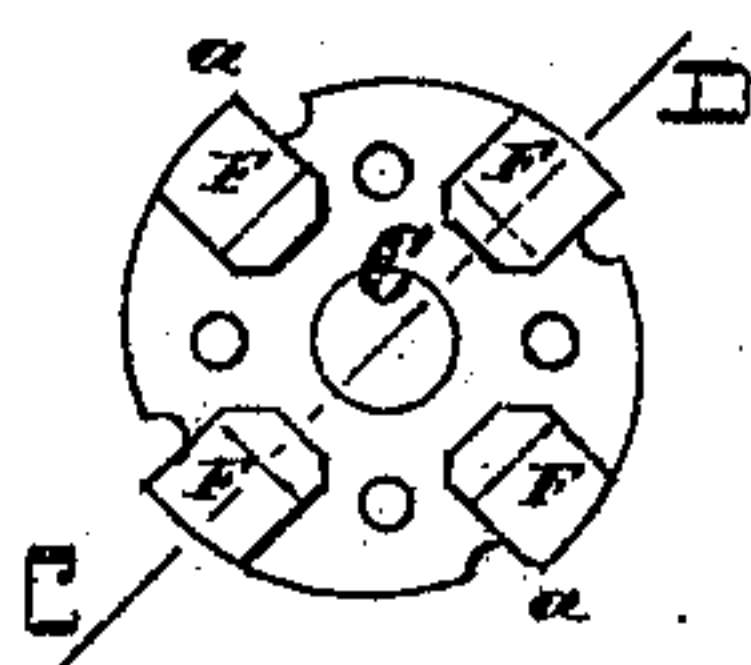


FIG. 5

Witnesses

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JOHN GUNN, OF WEBSTER, MASSACHUSETTS.

IMPROVEMENT IN COMBINED TAPS AND CUTTERS.

Specification forming part of Letters Patent No. 124,570, dated March 12, 1872.

To all whom it may concern:

Be it known that I, JOHN GUNN, of Webster, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Combined Tap and Cutter; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, and in which—

Figure represents a perspective view of my combined tap and cutter. Fig. 2 represents an end view of the same. Fig. 3 represents a central longitudinal section of the same at line A B, Fig. 2. Fig. 4 represents a view of the end of the tap with the cutter removed. Fig. 5 represents a view of the back of the cutter, and Fig. 6 represents a central section of the cutter at line C D, Fig. 5.

The nature of my invention consists in the combination, with a tap, of a removable cutter secured to the end of the same in the manner and by the means substantially as hereinafter described.

In the drawing the parts marked A indicate the spindle or body of the tap. B indicates the screw-cutting teeth, and C the detachable boring-cutter. The screw-thread cutting-teeth B may be formed upon or combined with the body of the tap in any suitable manner, as best adapted to the work upon which they are designed to operate. The end of the tap is, in this instance, provided with grooves D D, cut across it in the manner shown in Fig. 4, and also with projecting pins or studs E, which project from the end of the tap in a direction parallel with its axis, and the length of which equals the thickness of the cutter-disk. The cutter C is made in the form of a circular disk, having suitable cutting-teeth or edges *a a a* formed on its periphery, as indicated. This disk is pierced with holes to correspond with the pins or studs E, and is provided with lugs or flanges F, formed upon its back, to correspond with and fit into the grooves D. The cutter C is secured to the end of the tap A by means of a holding-screw, G, which passes through the center of the cutter-disk C and screws into the ends of the tap, and the cutter is prevented from turning by

means of the flanges or lugs F and the pins E, all of which is fully indicated in the drawing.

The cutting-edges *a* of the disk C are arranged so as to set alternately with the screw-cutting teeth B of the tap, thus allowing sufficient space for the clearance of the chips as they are formed.

This combined tap and cutter is especially designed for use in tapping out castings in which the openings are formed by means of a core, such as steam and gas pipe fittings, and similar work. This class of work requires to be bored out in order to give a uniform circular aperture to insure the proper operation of the taps, and it has heretofore been the custom to bore out the openings with a suitable drill or reamer and afterward to cut the thread with the tap, thus requiring two operations, while with my combined tap and cutter the opening is bored and tapped at a single operation, the cutter C boring out and clearing the opening in advance of the screw-cutting teeth B of the tap A, thus performing the operation with nearly one-half of the labor and in one-half of the time required by the ordinary method, while, at the same time, especially upon steam and gas pipe fittings, the boring and tapping is done in a more perfect and accurate manner than can be done when the work is removed from the holding-vise between the two operations, thus producing steam and gas pipe fittings far superior to those bored and tapped in the ordinary manner.

The cutter C may be made with a greater or less number of lugs or flanges F, and may be fitted to the tap with the flanges alone, without the use of the pins or studs E; or, if preferred, the pins E may be used without the flanges F. I consider, however, the one construction to be substantially the same as the other, the former, perhaps, being better adapted to small-sized taps, and the latter for those of large size.

This invention has been put to a practical test and is found to operate in a very perfect and satisfactory manner.

Having described my improved combined tap and cutter, what I claim therein as new,

and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the tap A, of the removable cutter C, connected with said tap by means of the grooves D and lugs or flanges F, or the equivalent of the same, substantially as and for the purposes herein shown and described.

2. The combination, with the tap A and cutter C, of the holding-screw G, substantially as shown and described.

JOHN GUNN.

Witnesses:

CHAS. H. BURLEIGH,
THOS. H. DODGE.