

E. A. WARREN.
Combined Quoins and Chases.

No. 146,967.

Patented Jan. 27, 1874.

Fig: 1

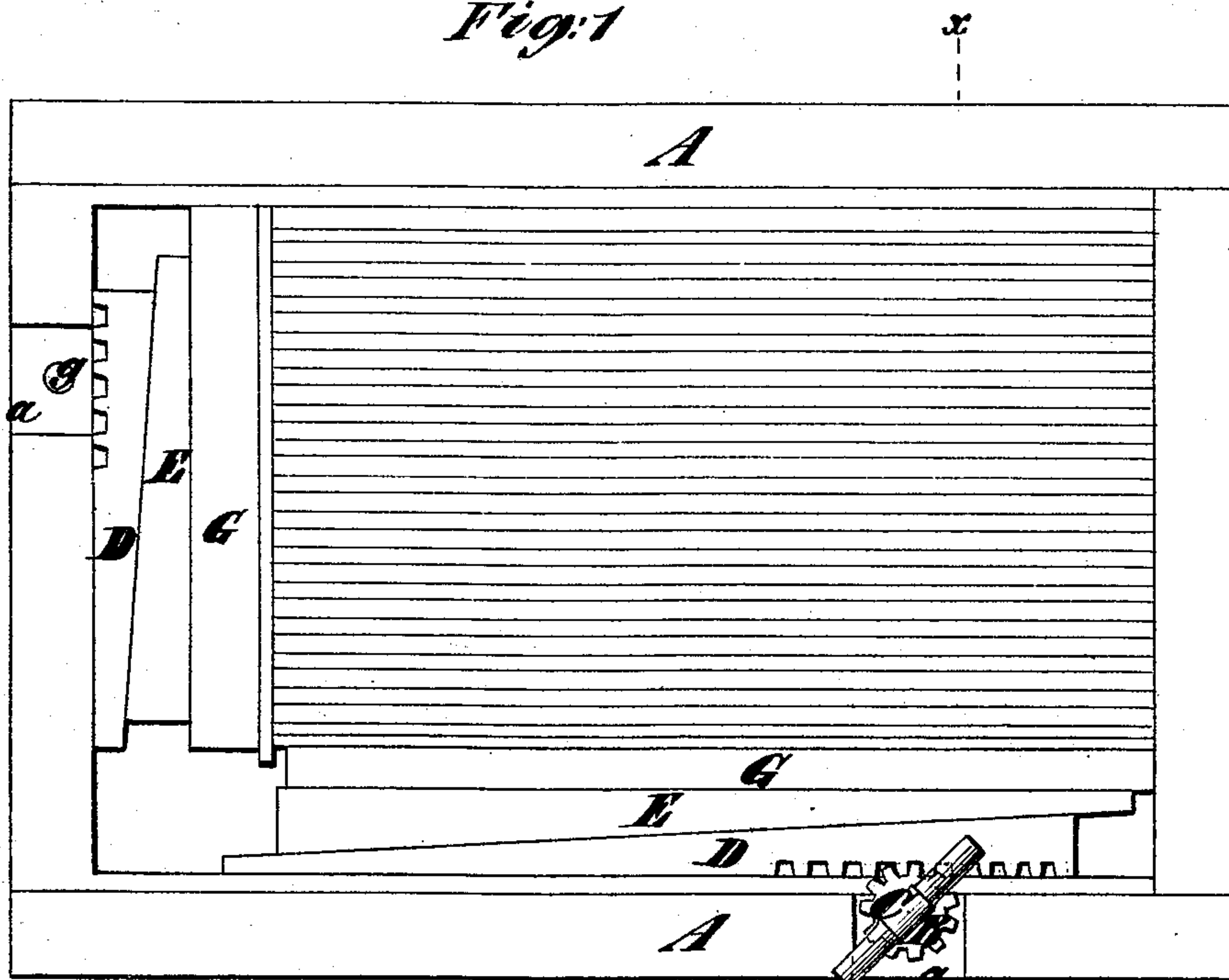


Fig: 2

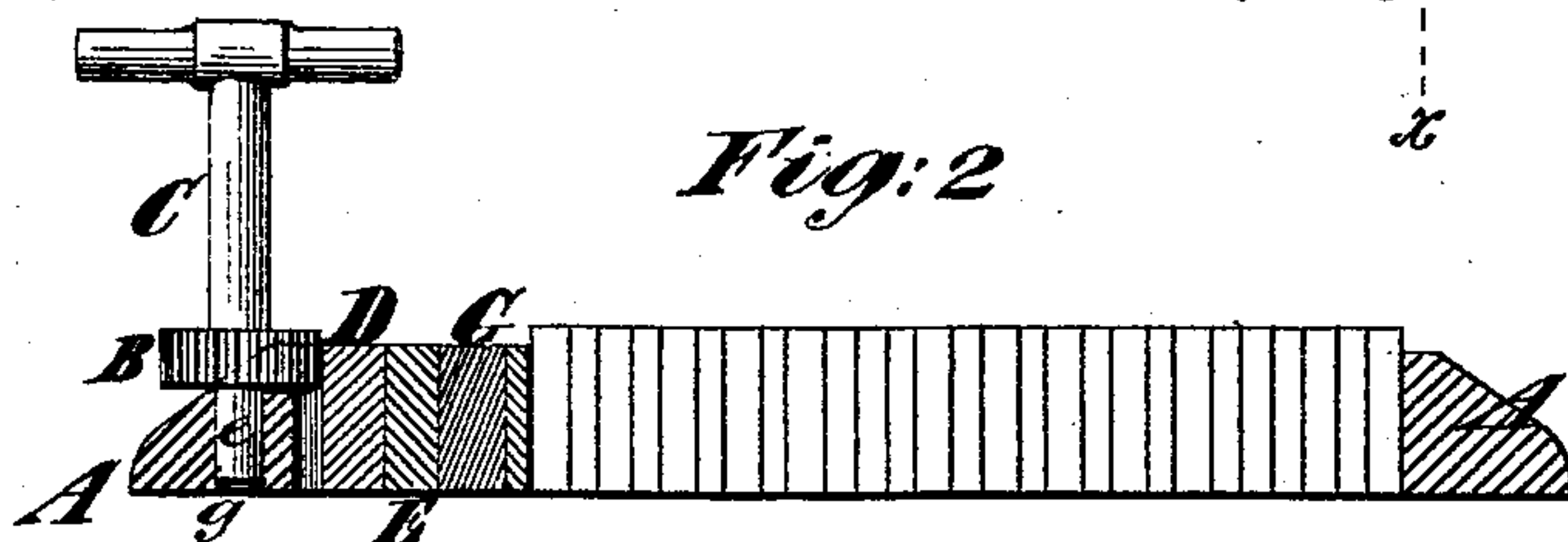
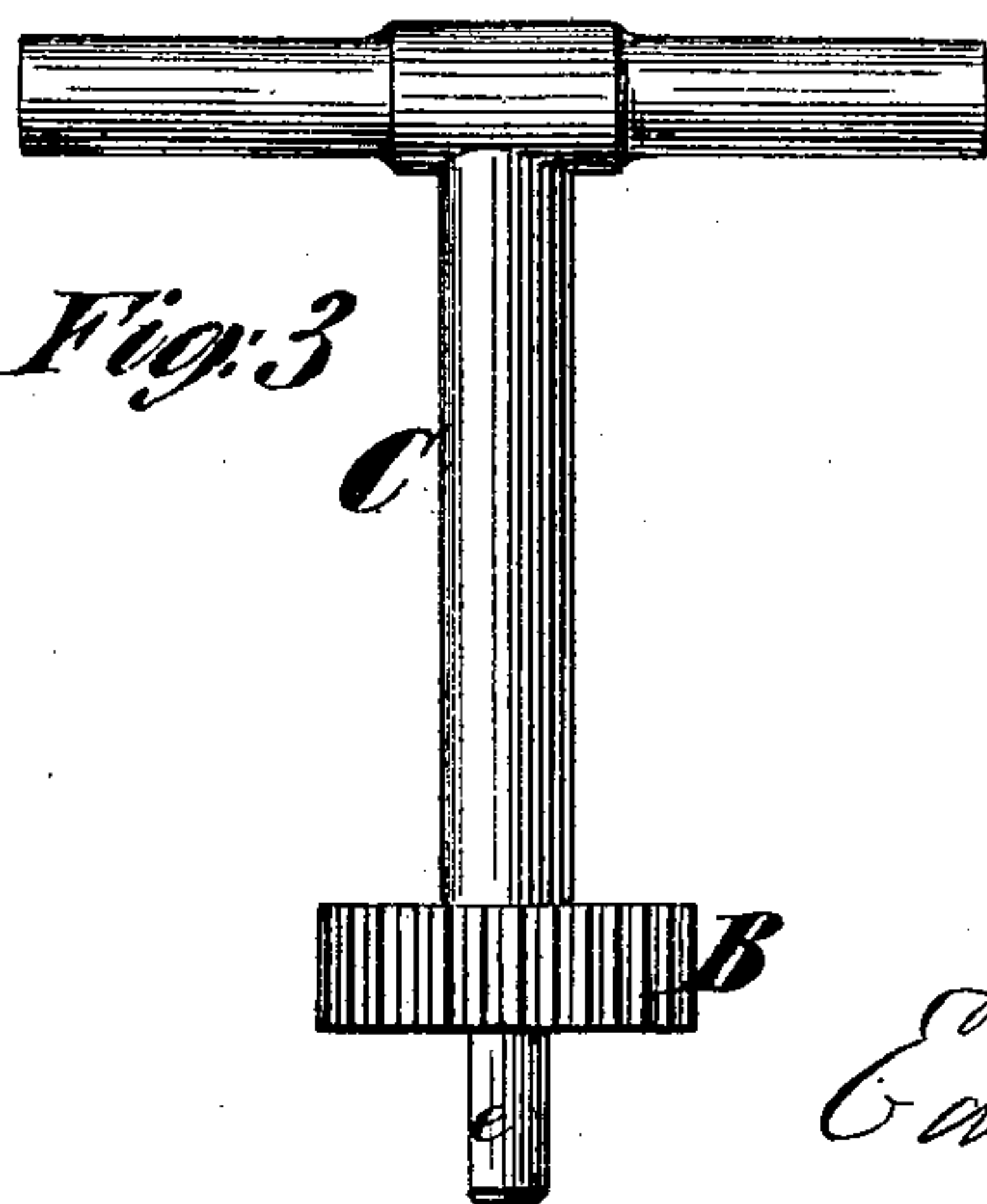


Fig: 3



Witnesses:

Michael Ryan
Fred Harper

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UNITED STATES PATENT OFFICE.

EDMOND A. WARREN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COMBINED QUOINS AND CHASES.

Specification forming part of Letters Patent No. **146,967**, dated January 27, 1874; application filed October 17, 1873.

To all whom it may concern:

Be it known that I, EDMOND A. WARREN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Combined Quoin and Chase, of which the following is a specification:

This invention consists in a novel and improved application of gearing to operate the quoins of printers' chases, whereby greater efficiency is obtained than is practicable in other applications of gearing, and a single pinion is made to serve for the entire chase, thereby obtaining also greater simplicity.

Figure 1 in the accompanying drawing is a plan or face view of a chase having gearing applied to operate its quoins. Fig. 2 is a transverse section of the same taken at the dotted line *xx* in Fig. 1; and Fig. 3 is an enlarged view of the wrench or key used to operate the toothed quoins.

Similar letters of reference indicate corresponding parts in all the figures.

A is the chase, which is made in the ordinary way, save that in each of two contiguous sides there is formed in its upper face a recess, *a*, which is wide enough to accommodate a pinion, B, on the wrench or key C, by which the quoins are operated. In the center of each recess *a* there is a hole, *g*, which receives and forms the bearing for a pivot or journal on the end of the wrench and maintains the implement in place. The quoins D D are of the usual wedge shape, and the furniture E and G is of suitable shape to enable the quoins to act on the type. On the outer side of each quoin there is a series of teeth, which are for the pinion on the wrench to engage with, for the purpose of working the quoins. These teeth are near the broad end of the quoins, and extend only along a short portion of the length thereof, so that the bearings of the quoins in the chase are very slightly impaired by the teeth, being only interrupted opposite the spaces between the teeth and not at the tops of the teeth. The wrench or key C consists of a short shaft

with a T-head or handle, and constructed at its lower end with a journal, *e*, to fit the bearing *g* in the chase, and furnished above this journal with a pinion, B, of such size that it will gear with the teeth of a quoin when its journal is in one of the bearings *g*.

To operate either quoin, the wrench C is applied to the chase with its pinion in one of the bearings *g*, and it is then turned to force the quoin forward to wedge up the type. When one quoin is thus wedged up, the wrench is removed from that part of the chase adjacent to it, and is inserted into the bearing *g* opposite the other quoin, which is then wedged up like its fellow.

In previous applications of gearing to work the quoins of printers' chases, teeth have been provided all along or nearly all along the sides of the quoins; and the pinions which have been used to operate them have been attached to rollers which rolled along the interior of the chase. The bearings of the quoins, being afforded only by the pinions, are only at a series of points, and nothing like continuous. Moreover, the large number of pinions used increases the expense of the chase very considerably, and makes a number of pieces which are liable to be mislaid.

By my improved application of the gearing, abundant bearing for the quoins is afforded, and but a single pinion is requisite to operate both quoins; therefore the expense of applying gearing to chases is much reduced, and the operation is rendered much more handy.

What I claim as my invention is—

The toothed quoins having a bearing directly against the interior of the chase, in combination with the wrench C, its single pinion B, and journal *e*, and the bearing *g* in the chase, all substantially as herein described.

EDMOND A. WARREN.

Witnesses:

MICHAEL RYAN,
FRED HAYNES.