W. H. BRAINARD.

Improvement in Clamp-Mills for Turning Metals.

No. 129,092. Patented July 16, 1872.

Fig: 1

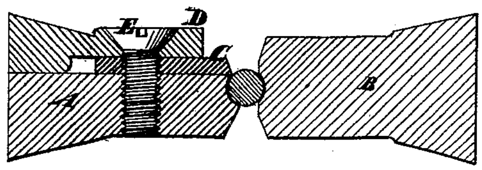


Fig: 2

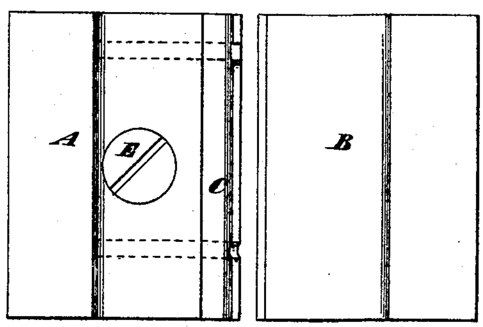
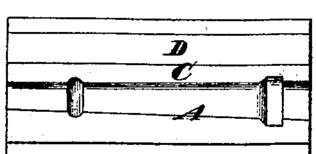


Fig: 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM H. BRAINARD, OF BRANFORD, CONNECTICUT.

IMPROVEMENT IN CLAMP-MILLS FOR TURNING METALS.

Specification forming part of Letters Patent No. 129,092, dated July 16, 1872.

Specification describing an Improvement in Clamp-Mills for Turning Metals, invented by WILLIAM H. BRAINARD, of Branford, in the county of New Haven and State of Connecticut.

The ordinary clamp-mills used in pairs for turning key-shanks and other slender articles consist each of a block of steel having in its face a cavity whose longitudinal profile corresponds with that of the article to be produced, and at the sides thereof the face is ground to produce a cutting-edge. As the edge becomes dull the face has to be ground for the purpose of sharpening it, and in a short time, after repeated sharpenings, the cavity in the block becomes so reduced that it has to be recut by a "cherry," preparatory to which it is requisite to previously anneal the block, which, by repeated annealing and rehardening, has the quality of the steel so impaired as to render it worthless. The object of this invention is to obviate the necessity of grinding away the mill and consequent reduction of the cavity; and to this end the invention consists in novel combination and arrangement of an adjustable and removable cutter, secured by a clamp, and main blocks or clamps, so that when the edge of the cutter is blunted it may be removed and ground without drawing the temper, and afterward replaced and adjusted.

In the accompanying drawing, Figure 1 is a transverse section of a clamping-mill constructed according to my invention. Fig 2 is a plan of the same, and Fig. 3 is a face view of one of the mills.

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

A and B are the two mills, the latter of which is of ordinary construction, and the former is formed in the usual way, except one side is planed off to the edge of its cavity *a*, leaving no face on that side of the latter. C is the adjustable and removable cutter, consisting of a piece of hardened and tempered steel plate, which fits against the planed-off side of the mill A, and is ground at its outer edge to a suitable bevel. The inner face of this cutter, which is placed next the mill, is made to correspond, like the bottom of the cavity of the mill, with the longitudinal profile of the article to be produced. D is a clamping-plate, which bears against the outer side of the cutter C, and, by means of a screw, E, screwing into a tapped hole in the mill, is made to clamp the latter, and thereby secure it in place. By this means the adjustment of the plate C is provided for. The outer portion of this plate is made to fit the stock in which the mill is secured. When the edge of the mill-cutter becomes dulled the clamping-plate D is detached and the former removed and sharpened, and afterwards replaced.

Instead of making the cutter C straight, as represented, it may be made of the form of a portion of a ring, as it is much easier to turn such a cutter to the requisite profile in a lathe than to plane up a flat cutter to such profile.

Both mills of a pair may be constructed according to my invention.

Claim.

The combination, with the clamps A B, of the adjustable cutter C and its clamp D, all arranged as shown and described, for the purpose specified.

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Witnesses:

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