

G. AMBORN.
LATHE CLAMP OR THE LIKE.
APPLICATION FILED FEB. 8, 1912.

1,057,610.

Patented Apr. 1, 1913.

Fig. 1.

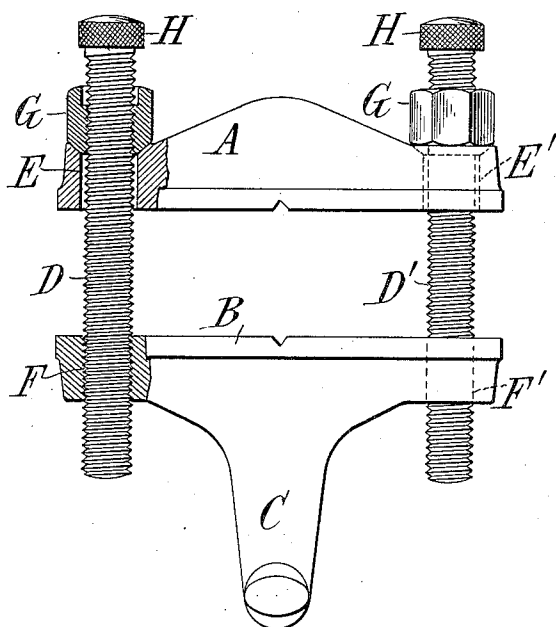


Fig. 3.

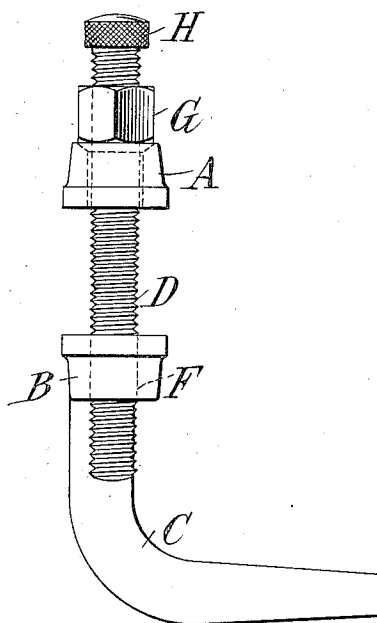
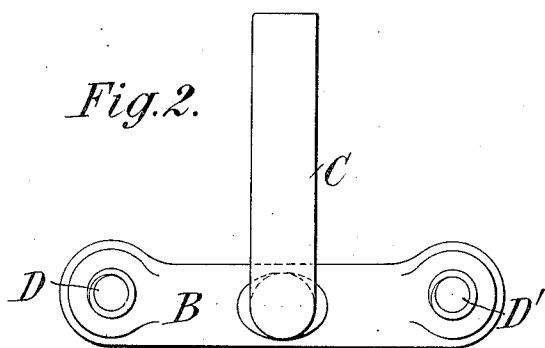


Fig. 2.



WITNESSES:

Rene Gruene
Ired White

INVENTOR :

George Amborn,

By Attorneys,

Thayer, Turtel & Myles

UNITED STATES PATENT OFFICE.

GEORGE AMBORN, OF CHAPINVILLE, CONNECTICUT, ASSIGNOR TO J. H. WILLIAMS & CO., OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

LATHE-CLAMP OR THE LIKE.

1,057,610.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed February 8, 1912. Serial No. 676,412.

To all whom it may concern:

Be it known that I, GEORGE AMBORN, a citizen of the United States, residing in Chapinville, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Lathe-Clamps or the Like, of which the following is a specification.

This invention relates to lathe clamps or the like, and aims to provide certain improvements therein. In devices of this type two clamping members are provided, one of which usually carries a shank or tail by which the clamp is connected with a lathe or other machine. In the type of clamp commonly employed the clamping members are held in engagement with the work by a pair of screw-threaded bolts which pass through smooth bores or holes in one of the clamping members and have a screw-threaded connection with the other member. The result of this construction is that when the clamp is used on thin work the screw-threaded bolts project for the major portion of their length a considerable distance beyond one of the members. When the work is mounted concentrically in a lathe or other rotating tool, the screws move in a circular path which is of relatively large diameter and this frequently results in accidents to the workmen, particularly when the work is being filed or finished by hand tools. Efforts have been made to minimize this disadvantage by constructing the screws with right and left threads, but this has necessitated the provision of wrench or other turning tool faces between the clamps. With this construction when the work is wide the wrench faces are not easily accessible so that it is difficult to tighten the clamp. The construction also introduced complications in shape which are necessary on account of the space taken up by the wrench faces.

According to the present invention I provide a clamp of this type in which when the clamp is used for thin work both ends of the screws may extend equi-distantly beyond the clamps so that the circle described by the entire tool is much reduced in diameter. In the accompanying drawings which illustrate one form of the invention,—Figure 1 is a side elevation, partly in section, of the preferred form of the invention. Fig. 2 is a bottom or under side view of Fig. 1.

Fig. 3 is an elevation at right angles to Fig. 1.

Referring to the drawings, let A B represent the clamp plates, one of which as B is provided with a shank or tail C, usually curved, so that its end extends at right angles to the body of the clamp. The clamps are adjusted to and from each other by members D D' which are best made as screw-threaded bolts adapted to pass through unthreaded holes E E' in one of the members as for instance A, and to engage screw-threaded holes F F' in the opposite member. Each of the bolts D D' is provided with a nut or equivalent device G which in the construction illustrated is located on the outer side of the member A. Preferably also the bolts are formed with provisions by which they may be turned either by hand or by a suitable tool. These provisions preferably comprise knurled heads H located at the ends of the bolts which project from the member A, although they may be located elsewhere as at the opposite ends if desired. The construction shown is preferred for the reason that the heads constitute stops which prevent the unscrewing of the nuts G off the bolts, so that they can not be lost or misplaced.

In the use of the tool the workman gages the thickness of the work and rotates the screw bolts by hand to such position that the ends of the bolts extend beyond the clamp B to about the same extent that they extend beyond the opposite clamp, whereupon the nuts G are tightened by the use of a wrench until the work is firmly clamped. By this means the parts of the clamp extend as little as possible beyond the center of the work, so that the circle described by the clamp is reduced to the minimum. Furthermore, the nuts G or equivalent adjusting devices are located beyond the working faces of the clamps so that the work, no matter what its dimensions, does not interfere with the accessibility of the nuts. Moreover, the working faces of the clamps may be straight, flat, or of other simple shape, since the necessity of intervening wrench faces on the bolts is avoided.

While I have shown in detail the preferred construction of the invention, it will be understood that I do not wish to be limited thereto, as various changes can be made

therein without departing from the invention.

What I claim is:—

1. In a lathe clamp or the like, the combination of a pair of clamp plates, and means for adjusting the distance of each of said clamp-plates from a fixed center, said means comprising bolts adjustable with relation to one of said clamps, and means for adjusting the other of said clamp plates upon said bolt so that the ends of said bolts may extend substantially equi-distantly beyond both the clamp plates.

2. In a lathe clamp or the like, the combination of a pair of clamp plates, and means for adjusting the distance of each of said clamp-plates from a fixed center, said means comprising bolts for adjusting said clamp plates, said bolts each having a threaded engagement with one of said plates,

and a loose engagement with the other of said clamp plates, and nuts on said bolts engaging said other clamp plates and adapted to sustain the pull of said bolts on said clamp plates.

3. In a lathe clamp or the like, the combination of a pair of clamp plates, bolts each having a threaded engagement with one of said plates and a loose engagement with the other of said plates, nuts on said bolts beyond the clamp plate which is loosely engaged by said bolts, and heads beyond said nuts.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE AMBORN.

Witnesses:

CHARLES B. HARRIS,
WILLIAM G. COLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."