

UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN ATTACHING TOOLS TO HANDLES.

Specification forming part of Letters Patent No. **195,152**, dated September 11, 1877; application filed January 30, 1877.

To all whom it may concern :

Be it known that I, THOMAS H. NEAL, of the city of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Attaching Tools to Handles, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figures 1, 2, and 3 are side views of a tool attached to its handle according to my invention. Fig. 4 is a view of the lower side of the tool-head, Fig. 3. Fig. 5 is a transverse section in line *x x*, Fig. 3. Figs. 6 and 7 are sections in lines *y y z z*, Figs. 2 and 3, respectively.

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

My invention consists in attaching a tool to its handle by ears, which, secured to the handle, are adapted to be clamped to the tool by the action of a screw or screws, the joint between the tool and ears being of dovetail or other locking form, whereby the tool will be attached to the handle in a convenient, quickly-operated, reliable, and powerful manner.

Referring to the drawings, A represents the body, blade, or shank of a tool, on the under side or lower face of which is a dovetail tongue or groove, B.

C represents two ears, which are adapted to be secured to the tool-handle on opposite sides thereof, and the upper portions of each ear are formed with a section of a dovetail or other locking groove or tongue, D, the two sections forming a complete groove or tongue, which is adapted to receive or fit the tongue or groove B of the tool, the tongue and groove extending transversely.

Through the two ears C, in the direction at right angle to the tongue and groove, there is passed a screw, E, (one or more,) which may have the usual thread, a right and left thread, or other construction, the object being to draw together the upper ends of the ears or separate them, to allow which said upper ends have a slight play to and from each other in the direction of the length of the screw.

The operation is as follows: When the tool and handle are to be attached, the tongue and groove of the tool and handle are presented to

each other so as to register. Then slide the tool on the handle, or vice versa, until the parts are in position. Now properly rotate the screw, so as to tighten the locking-joint of the tool and handle, and the tool will be tightly clamped to the ears of the handle, the action of the screw being powerful.

In the operation of tightening the said joint the pressure of the ears may be toward each other, as in Fig. 1, or in opposite directions, as in Fig. 2; but the result will be the same in either case.

In Fig. 1 a nut is screwed centrally of the screw, and employed to rotate it, and in Fig. 2 the head of the screw is at one end outside of the ears; but the head or nut may be differently located.

In Fig. 3, I show a stud at the center of the lower side of the tool, and an opening at the center of the upper face of the ears. The contiguous sides of the joint will be segmental, so that by inserting the stud in the opening and partially rotating the tool or handle the two latter will be attached, as in the case where the tool and handle are attached by a lateral motion of one on the other. Then, by operating the screw, the dovetail joint will be tightened, as in the previous cases.

It will be seen that the tool and handle will be connected in a convenient, quickly operated, reliable, and powerful manner, and the tool has no projecting fastenings that are liable to catch, break, loosen, or be lost.

The operation of separating the tool and handle will be readily understood and accomplished by those familiar with the art.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The attachment for a tool and its handle, the same consisting of movable ears, and the body of the tool connected by a locking-joint and clamped by a screw or screws, substantially in the manner and for the purpose set forth.

T. H. NEAL.

Witnesses:

C. M. JOHNSON,
WM. B. NEAL.