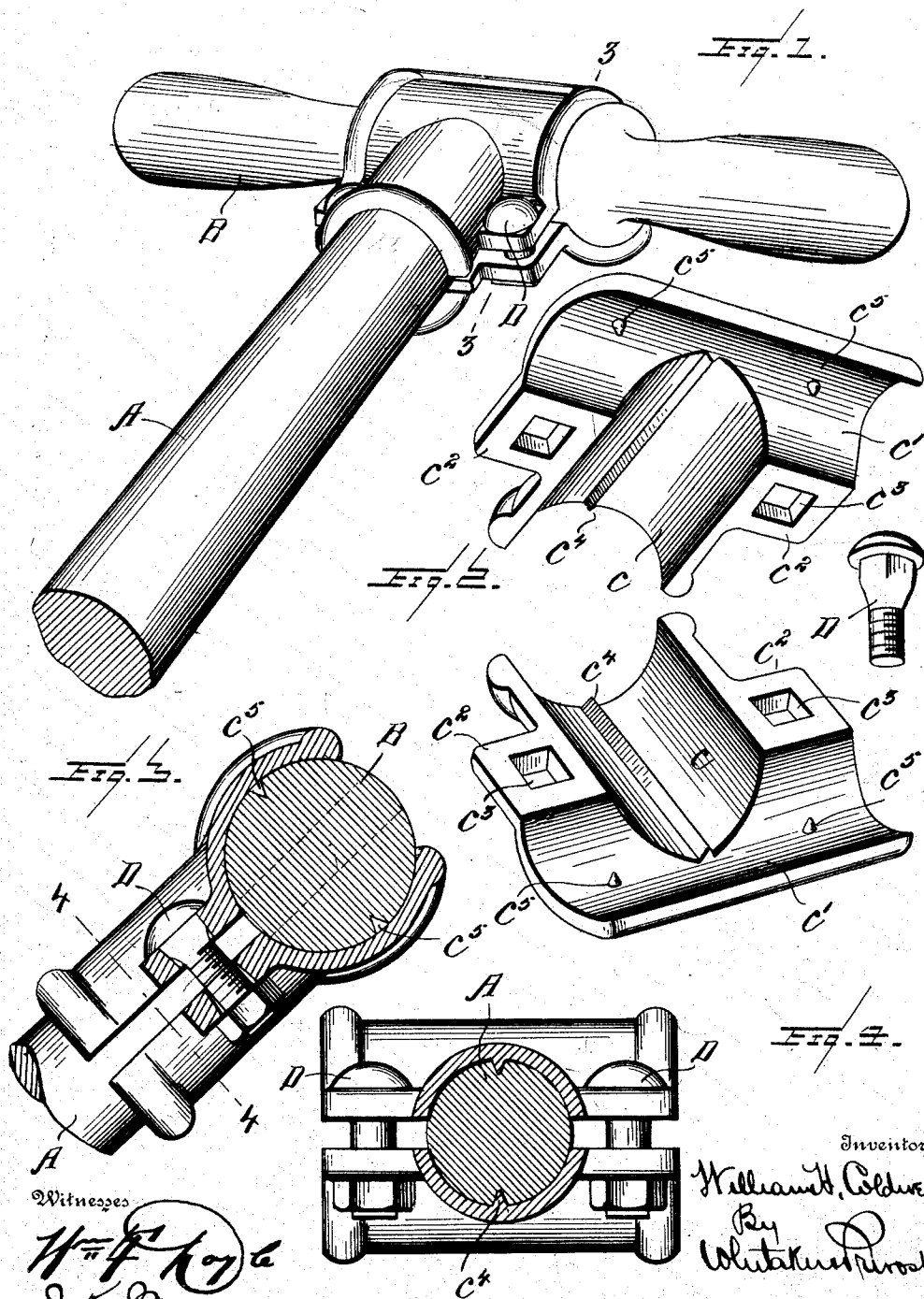


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W. H. COLDWELL.
HANDLE BRACE.
APPLICATION FILED MAY 11, 1907.



Witnesses

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HANDLE-BRACE.

No. 878,867.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. COLDWELL, citizen of the United States, residing at Newburgh, in the county of Orange and State of New York, have invented certain new and useful Improvements in Handle-Braces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in the novel features hereinafter described, reference being had to the accompanying drawing which illustrates one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

The object of my invention is to provide a metallic brace for wooden handles, such as are used on lawn mowers and other devices, wherein a transversely extending hand bar is provided at the end of a main bar, such brace comprising two metal clamping plates having portions fitting the main bar and portions fitting the transverse bar, and means for connecting the plates outside of both bars without making any holes in the wooden parts, and thus avoiding weakening them. That portion of each plate which fits upon the main bar is preferably provided with a central longitudinal web or rib which is embedded into the bar, when the plates are clamped together, and those portions which fit the hand bar are preferably provided with separated lugs or projections which are embedded into the same to hold the wooden parts more rigidly, and prevent any play of one with respect to each other.

In the accompanying drawings, Figure 1 represents a perspective view of a portion of a handle showing my invention applied thereto. Fig. 2 represents the two clamping plates separated and shows one of the connecting nuts. Fig. 3 represents a sectional view on line 3—3 of Fig. 1. Fig. 4 represents a section on line 4—4 of Fig. 3.

In the drawings A represents the main bar and B the hand bar of a handle, such as is commonly used on lawn mowers and similar devices. The two parts are usually made of wood and connected by a mortise and tenon, and unless additionally braced or secured the joint soon begins to work loose and the utility of the handle is destroyed. For the purpose of increasing the strength and dura-

bility of such handles, I provide a pair of clamping plates C, C, made exactly alike, each having a curved portion *c* adapted to fit over the main bar A, and a transversely disposed curved portion *c'* constructed to fit over portions of the transverse hand bar B, on each side of the main bar A. Each of said plates is provided on each side with the laterally extending securing webs or flanges *c²*, preferably square in form and provided with the square (or other polygonal shaped) bolt holes *c³* to receive the squared (or other polygonal shaped) head of a bolt D, such as is shown in Fig. 2, to prevent the bolt from turning when the nut is screwed up. The part *c* of each plate is provided on the inner side with one or more longitudinal ribs *c⁴* (one such rib being shown) and the part *c'* is provided on the inner side and on opposite sides of the center with a projection or projections *c⁵*.

The clamping plates C, C are placed in engagement with the hand bar B and main bar A, and are then compressed upon the wooden parts, preferably by placing the handle and plates C, C in a vise, thereby forcing the ribs *c⁴* and projections *c⁵* into the wood, and fixing them permanently in relation to each other and preventing the possibility of any vibration or movement between them. Bolts D D are then passed through the flanges *c²* and nuts are screwed upon the bolts to hold the clamping plates firmly in engagement with the wooden parts. No preparation of the wooden parts to receive the webs *c⁴* and projections *c⁵* is necessary or desirable as the forcing of the clamping plates upon the wooden parts embeds the projections *c⁴*, *c⁵* therein and causes them to interlock with the self formed recesses in the wood in a manner which cannot be obtained by preparing recesses in the wood to receive such parts. This intimate interlocking of the projections *c⁴* and *c⁵* with the wood secures the parts against any possible movement in the joint. As the bolts D pass outside of the wooden parts, the latter are not weakened as would be the case if holes were bored therein for the passage of bolts there-through.

It is also to be noted that, as clearly shown in the drawing, the inner face of the curved portions of each of the clamping plates are concentric with the portions of the handle which they engage and are less than half cylinders, or in other words, such curved

portions are less than semi-circular in cross section. It follows obviously from such construction, that the two plates cannot be drawn into contact when the bolts and nuts or screws are screwed up, as clearly shown in the drawings. It also follows from this construction that should the wood shrink at any time the brace may be tightened thereon by simply turning up the bolts and nuts, or screws employed to draw the clamping plates together, and thus making the handle as firm and strong as it was originally.

What I claim and desire to secure by Letters Patent is:—

1. A handle brace comprising a pair of clamping plates each having curved portions arranged transversely to each other for engaging the main handle bar and a transversely disposed bar at their intersection, said curved portions of said plates being less than semi-circular in cross section, and adapted to fit upon the said bars without bringing their edges together, said plates having the inner faces of said curved portions provided with projections adapted to be forced into said bars, and clamping devices, engaging said plates laterally of said curved portions, whereby said plates may be clamped upon said bars without previous preparation of the bars, substantially as described.

2. A handle brace comprising a pair of

clamping plates, each having curved portions disposed transversely to each other, one of said curved portions having a longitudinal rib on its inner face, and the other curved portion having projections on its inner face on opposite sides of its center, and securing devices for connecting said plates, engaging the same laterally of the said curved portions, substantially as described.

3. The combination with a handle comprising a main bar, and a transverse bar of circular cross section connected thereto by a mortise and tenon, the portion of the main bar adjacent to the transverse bar being also circular in cross section, of a brace comprising two metal plates each having curved portions arranged transversely to each other for frictionally engaging the adjacent portions of the main bar and transverse bar, said curved portions being less than semi-circular in cross section, and having interior projections adapted to be embedded in the said bars, and clamping devices connecting said plates laterally of said bars, and forming the sole connections between said plates and bars, substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses.

WILLIAM H. COLDWELL.

Witnesses:

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C. L. WARING.