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R. J. RUDALL ET AL.
TOOL HANDLE FASTENING,
FILED JAN. 5, 1921.

Fig. 1.

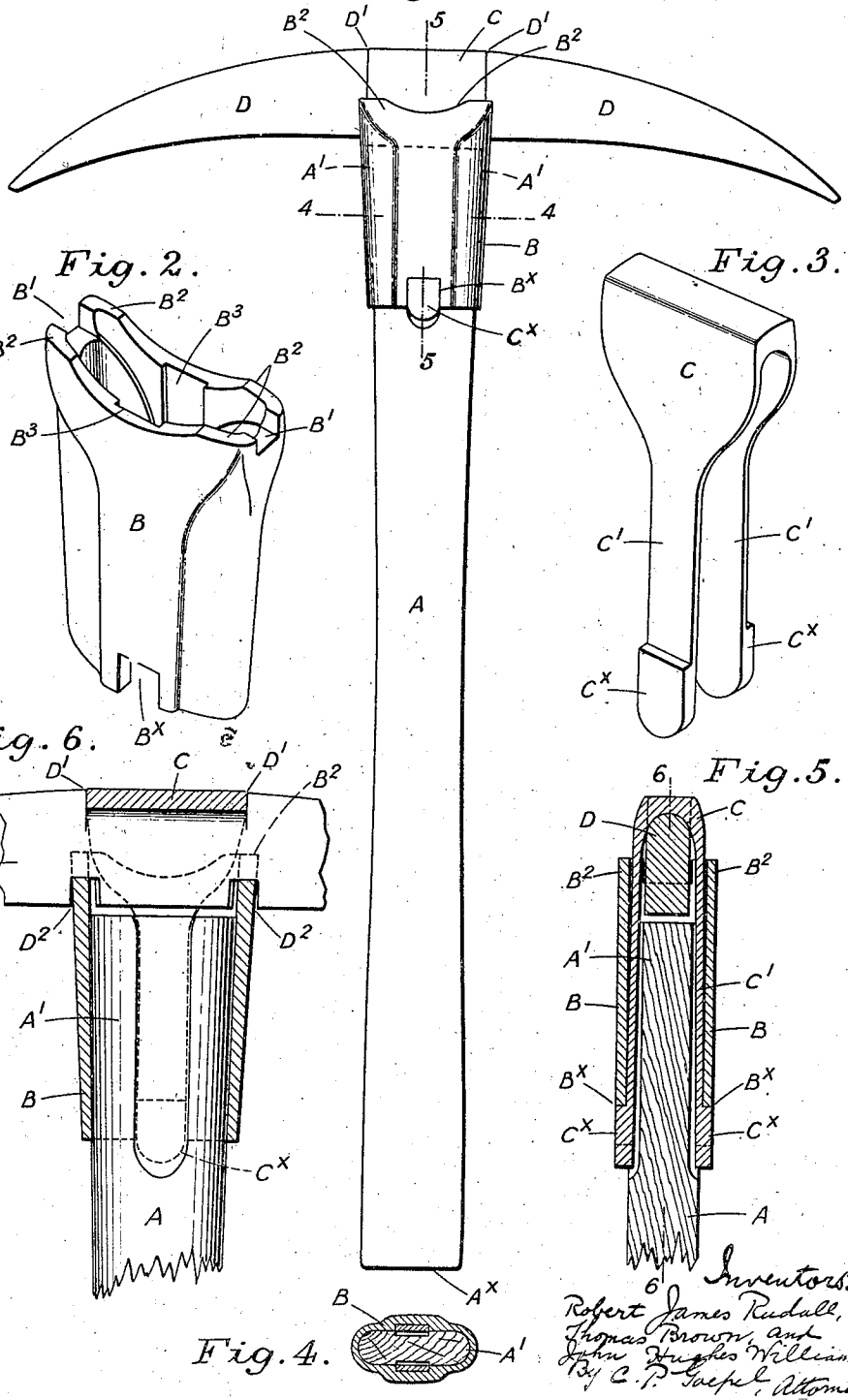


Fig. 2.

Fig. 3.

Fig. 6.

Fig. 5.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ROBERT JAMES RUDALL AND THOMAS BROWN, OF LLANELLY, AND JOHN HUGHES WILLIAMS, OF BYNES, NEAR LLANELLY, WALES.

TOOL-HANDLE FASTENING.

Application filed January 5, 1921. Serial No. 435,148.

To all whom it may concern:

Be it known that we, ROBERT JAMES RUDALL, patternmaker, residing at 31 Cambrian Street, Llanelly, Carmarthenshire, Wales, and THOMAS BROWN, fitter, residing at 3 Glanmoor Terrace, Llanelly, aforesaid, and JOHN HUGHES WILLIAMS, bootmaker, residing at Liverpool House, Bynes, near Llanelly aforesaid, all subjects of the King of Great Britain, have invented a Tool-Handle Fastening, of which the following is a specification.

This invention relates to an improved method of and means for securing handles or shafts to the head of picks, hammers, and the like.

According to this invention the handle or shaft (hereinafter referred to as the handle) is provided with an enlarged head end or formed larger at one end, and is adapted to fit in a stout metal socket having the bore or interior thereof tapered or shouldered or otherwise formed larger at one end than at the other end; and the head end of the handle is fitted in this socket so as to become wedged therein and is advantageously made to fit accurately in this socket; and the head of the pickaxe or hammer or the like is then placed across the larger end of the socket with the handle wedged therein and is secured thereto by a clip of U-shape or equivalent which embraces the head and fits in a recess therein to receive same, while the arms of the U-shaped clip extends down each side of the head end of the handle inside the socket (i. e. between the exterior of the enlarged head end of the handle and the interior wall of the socket) and are securely locked to said socket for example by an enlargement or stud on the end of each arm engaging (by outward spring action) in a slot formed to receive same in the socket; and thus the whole of the parts are locked together and the head of the pick hammer or the like thereby firmly secured to the handle.

Furthermore this invention comprises other features and details all of which will be hereinafter fully described with reference to the accompanying drawings and finally pointed out in the claims.

In the accompanying drawings we have illustrated the present invention as carried into practice for securing the head of a pick to the handle therefor.

Fig. 1 is a side view in elevation of a pick-axe—such as used in coal mines—having the head secured to the handle in accordance with the present invention.

Fig. 2 is a perspective view of the socket alone.

Fig. 3 is a perspective view of the U-shaped clip alone.

Fig. 4 is a cross sectional view on the line 4—4 Fig. 1.

Fig. 5 is a local vertical sectional view—on a somewhat enlarged scale—on the line 5—5 Fig. 1; and

Fig. 6 is a vertical sectional view on the line 6—6 Fig. 5.

A is the handle to which the head of the pick is secured according to this invention; such handle being provided with an enlarged tapering head end A^1.

B is the stout metal socket the interior bore of which is tapered correspondingly to the tapered enlarged end A^1 of the handle.

C is the U-shaped clip, the spring arms C^1 of which pass down inside the socket B and are each provided with an enlarged end C^x adapted to engage in the recess B^x formed on each side of the lower end of the socket B.

These recesses B^x are formed opposite to one another in the opposite side faces of the socket B; while at the top end of the socket B same is slotted vertically at B^1 to permit the underside of the head D of the pick to fit in said slot so that said under part of said head is embraced or lies between the front and back top side edges B^2 of the socket B.

The outer edge of the head D of the pick as shown is provided with a centrally located recess D^1 for the bent portion of the U-shaped clip C to seat or fit in said recess and thus lock and hold the head end against endwise displacement of said head.

The underside edge of said pick is provided with two separate slots or recesses D^2 (see Fig. 6) adapted to engage and fit down over the top edge of the socket B (when slotted at B^1) as shown in Fig. 6.

The interior wall of the socket B is provided with oppositely disposed vertical grooves B^3 Fig. 2 and the enlarged head end A^1 of the handle is provided with corre-

sponding grooves to permit the arms C^1 of the clip C to be passed down inside the socket B between the interior thereof and the exterior of the head end A^1 of the handle A.

The parts are fitted together as follows:—

The smaller end A^x of the handle A is passed into the larger end of the socket B and the handle A passed through said socket until the larger end A^1 becomes wedged in the interior of said socket as shown in Fig. 6.

The head D of the pick is then centrally placed transversely across the larger end of the socket B with handle A therein, as shown in Figs. 1 and 6 and the arms C^1 of the clip C are then passed down each side of the head D and threaded down the aforesaid grooves inside of the socket B on each side of the head A^1 of the handle A (i. e. between the head A^1 and the inside wall of the socket B) until the enlarged head end C^x of each arm C^1 springs outwardly into and engages in the slots B^x, whereupon the whole of the parts are securely attached together and thus the head D of the pick is firmly secured to the handle A.

If it be desired, incident to probable shrinkage of the handle A, the socket B may be secured to the handle by a rivet, screw, nail or other suitable device, which may pass in an edgewise direction through the socket and handle to insure the retention of the socket in place.

It will be obvious that various modifications could be made without departing from the scope of this invention; for example the socket B could be made without the slots B^x therein in which case the arms C^1 of the spring clips C would then be made longer and the enlarged head ends C^x engage the bottom edge of the socket B. If desired the head end of the handle could be fastened by any suitable means to the socket instead of or in addition to being a tight fit but always in suchwise that the head end of said handle cannot be drawn through the said socket.

What we claim is:—

1. The herein described means for securing the head of a pick, hammer, or the like to the handle therefor; comprising a handle having the head end thereof tapered and said tapered portion being larger in cross-sectional area than the remaining part of said handle, a stout metal socket having the bore thereof tapered as a counterpart to said tapered head end of the handle, a tool head having slots on the underside thereof adapted to engage with and fit down over the top edge of the aforesaid socket at opposite sides thereof, said head of the tool having a recess in the top edge thereof, a spring clip of inverted U-shape adapted to embrace said head and fit down in said recess therein and the arms of said clip adapted to pass down the opposite sides of the head of the handle inside said socket, said socket having oppositely disposed grooves extending lengthwise thereof to receive the arms of said clip, and means on the outside of the end of each of the arms of said clip adapted to pass down said grooves inside said socket and to engage the lower end of said socket and thereby lock and hold all the aforesaid components in position.

2. The herein described means for securing the head of a tool to the handle therefor, comprising a handle having the head end thereof tapered and said tapered portion being larger in cross-sectional area than the remaining part of said handle, a stout metal socket having the bore or interior thereof tapered as a counterpart to said tapered head end of the handle, said metal socket having oppositely disposed slots in the top edge of the larger end thereof located in such wise as to permit the underside edge of the head of the tool to fit in said oppositely disposed slots so that the top end of the socket will embrace the side faces of said head when all the component parts are assembled and fixed in position, a tool head having slots on the underside thereof adapted to engage with and fit down over the top edge of the aforesaid socket at opposite sides thereof, said tool head having a recess on the top edge thereof, a spring clip of inverted U-shape adapted to embrace said head and fit down in said recess therein and the arms of said clip adapted to pass down the opposite sides of the head of the handle inside said socket, said socket having oppositely disposed grooves extending lengthwise thereof to receive the arms of said clip, and means on the outside of the end of each of the arms of said clip adapted to pass down said grooves inside said pocket and to engage the lower end of said socket for locking and holding all the aforesaid components in position.

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