Nov. 1, 1960 J. A. JONES 2,958,562

SELF LOCKING WEDGE

Filed Aug. 20, 1959

Fig. 1.

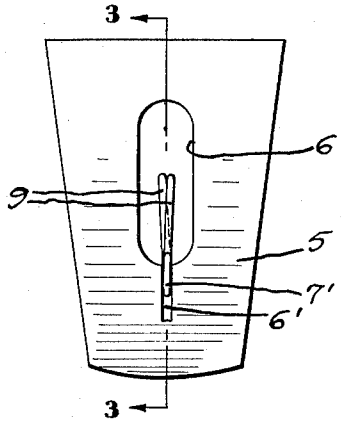


Fig. 2.

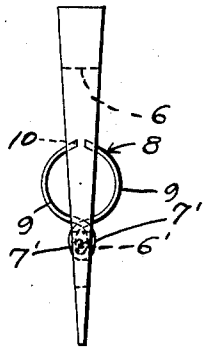
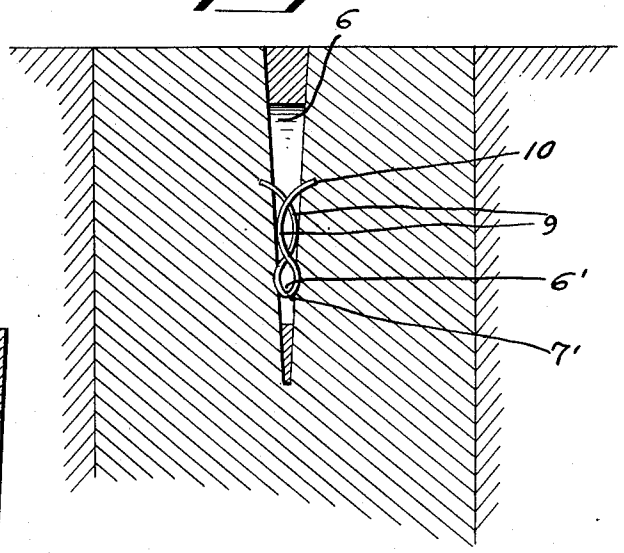


Fig. 3.



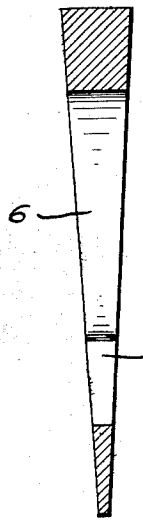


Fig. 4.

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SELF LOCKING WEDGE

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4 Claims. (Cl. 306—33)

This invention relates to wedges used in securing tool heads such as hammer, axes or the like, tool heads to their handles, and aims to improve generally the construction of the tool wedges as set forth in my Patent No. 2,407,427.

By way of background, it might be stated that self locking wedges such as commonly used, are provided with spring arms which are mounted within an opening of the wedge, the pointed ends of the arms extending beyond the side faces of the wedge, which ends frequently injure the hands of the person using the wedges, and become tangled with each other when placed in a container for storage prior to positioning the wedges in a tool handle.

It is therefore the primary object of the present invention to provide a self locking wedge wherein the spring arms which automatically lock the wedge in position within a tool handle, are guarded under normal conditions, so that the pointed or piercing ends thereof lie within the confines of the opening of the wedge where they are protected against becoming interlocked or tangled with the locking arms of other wedges during storing or positioning of the wedges in the handle ends of tools.

Another important object of the invention is to provide spring locking arms which are curved in such a way that while the piercing ends thereof are guarded, the major portions of the arms extend beyond the side faces of the wedge to cause the piercing ends of the arms to be directed laterally beyond the side faces of the wedge when driven into an axe or hammer handle to secure the head to the handle.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangements of parts without departing from the spirit of the invention as claimed.

Referring to the drawings:

Figure 1 is a side elevational view of the wedge constructed in accordance with the invention.

Figure 2 is an edge elevational view thereof.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is a vertical sectional view through the wedge with the locking arms removed.

Referring to the drawing in detail, the device, which is constructed of malleable iron or other suitable material, is indicated generally by the reference character **5**, and is wedge shaped, and provided with an opening **6** disposed centrally of the wedge, the opening **6** having a contracted portion or slot **6'** disposed along the longitudinal axis of the slot.

The reference character **7** indicates a length of heavy wire material of sufficient strength and resiliency to be forced laterally from the wedge and bite into the wood or other material in which the wedge is driven to lock the head of the tool to the handle.

As better shown by Figure 3 of the drawing, the length of wire material **7** is formed with an offset portion **7'** which is secured within the slot **6'** at a point intermediate the ends of said wire by frictional contact with the walls of the slot which are pressed into contact with the wire, providing curved arms **8** with the curved portions **9** thereof extending beyond the side faces of the wedge proper, as better shown by Figure 2 of the drawing, with the piercing end portions **10** of the arms **8** normally lying within the confines of opening **6** between the outer surfaces of the wedge proper. Thus it will be obvious that as the wedge is driven into the end of a handle in securing the handle to the head of the tool, the piercing ends or spurs **10** are forced outwardly beyond the side faces of the wedge proper at opposite sides of the wedge, biting into the wooden handle of the tool, securely locking the wedge within the wooden handle, and spreading the handle to lock the head of the tool in position against accidental displacement.

From the foregoing it will be seen that when the wedge is out of use, the piercing ends **10** are confined within the opening **6** of the wedge and are out of the way so that the piercing ends cannot injure the hands of the operator in handling the wedges to position the same.

It will further be seen that because of the normal location of the piercing ends of the arms **9**, the ends of locking arms of wedges which may be positioned in a container, cannot become entangled with other wedges during storing, since the ends of the spring arms are concealed within the wedge itself as shown, and because of this structure and positioning, the hooking result of the wedges is eliminated.

It will further be seen that when a wedge equipped with locking arms as shown and described in the present application, is driven into the end of a tool handle, the outwardly curved portions of the spring arms contacting the handle in advance of the end portions of the arms, forces the sharp or piercing ends of the arms outwardly in the opposite sides of the wedge to embed themselves in the wooden handle, under the full resiliency of the spring, thus preventing the wedge from becoming accidentally displaced or backing out of the opening formed by driving the wedge into the end of the handle.

From the foregoing it will now be seen that due to the construction shown and described, I have provided a wedge wherein the spring arms which automatically lock the wedge in the handle of a tool, are guarded so that the piercing ends thereof cannot interfere with the handling or storing of the wedges.

Having thus described the invention, what I claim is:

1. A device for securing a tool head to its handle, comprising a wedge shaped body having an elongated opening extending therethrough, a locking member embodying spring arms having piercing ends, secured within said opening, said spring arms being curved in opposite directions, the piercing ends of said arms being normally disposed within the confines of said opening, guarded by the edges of said opening the curved portions of said arms adapted to cross each other with said piercing ends extending beyond the sides of said body adapted to be forced inwardly extending the piercing ends of said arms laterally beyond the side faces of said wedge, embedding said sharp ends in the handle locking the head to said handle.

2. A device for securing a tool head to its handle, comprising a wedge shaped body having a central opening, locking arms having piercing ends secured within said opening, portions of said arms extending beyond the sides of said body with the piercing ends normally lying within the confines of said opening, the piercing ends of said arms being extended beyond the sides of said body and embedded in a tool handle in which said wedge is driven.

3. A device for securing a tool head to its handle, com-

prising a wedge shaped metallic body having an elongated opening formed centrally thereof, a locking member embodying spring arms, secured within said opening, said arms being curved in opposite directions in the arc of a circle, normally extending beyond the side faces of said body, said arms having piercing ends normally lying within the confines of said opening, said piercing ends adapted to be extended laterally beyond the side faces of said body and embedded in the tool handle in which the wedge is driven, locking the tool head to said handle.

4. A device for securing a tool head to its handle, comprising a wedge shaped metallic body having an elongated opening located centrally of said body, a locking member embodying a length of spring wire material having

piercing ends, the length of spring wire material being secured intermediate its ends, adjacent to one end wall of said opening, securing the locking member within the opening, said arms being curved in the arc of a circle normally extended beyond the side surfaces of said body with the piercing ends of said arms normally lying within the confines of said opening, the piercing ends of said arms adapted to be extended beyond the side faces of said wedge and embedded in the handle in which the wedge is driven, locking the tool head to said handle.

References Cited in the file of this patent

UNITED STATES PATENTS

2,407,427 Jones ---------- Sept. 10, 1946