UNITED STATES PATENT OFFICE.

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AUTOMATIC-RECOIL AWL-HAFT.

1,008,226.


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To all whom it may concern:

Be it known that I, ALPHONSE WANLIN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Automatic-Recoil Awl-Hafts, 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 pertains to make and use the same.

This invention relates to improvements in awls, and has for an object the arrangement of improved means for automatically withdrawing the awl.

A further object of the invention is the arrangement in an awl of improved means, including a spring, an awl holding and guiding member, and a handle structure for guiding the awl in its movement, and for automatically withdrawing the awl after each insertion.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation of an embodiment of the invention. Fig. 2 is a longitudinal vertical section through the structure shown in Fig. 1. Fig. 3 is a section through Fig. 2 on line 3-3. Fig. 4 is a side view of the awl holder. Fig. 5 is an end view of the awl holder. Fig. 6 is a top plan view of the tension nut for the awl holder. Fig. 7 is a side view of the structure shown in Fig. 6.

In constructing an embodiment of the invention a housing is provided in which is arranged a reciprocating member which projects beyond the housing. An awl of any desired kind is clamped to the reciprocating member in the housing and is normally held withdrawn or positioned principally in the housing, but may be forced from the housing by a proper movement of the reciprocating member in one direction, which movement will be caused by pressure from the hand or a blow from a hammer or other desired source. A reverse movement or withdrawal of the awl is caused by a suitable spring arranged in the housing so that in operation the housing is grasped by the hand and moved to the desired place, and then the reciprocating member operated or moved for forcing the awl forward. After the awl has been forced into the article the same will be automatically withdrawn by the spring in the housing immediately that the pressure on the awl holding member is removed.

In order that the invention may be more clearly understood an embodiment of the same is shown in the accompanying drawings in which 1 indicates a housing made of any desired shape and provided with a shouldered portion 2. The shouldered portion 2 has pressing against the same a spring 3 which also presses against washer 4 surrounding a reciprocating shaft 5 pressing against an enlargement 6 of the reciprocating shaft. A cap 7 is threaded onto the upper end of housing 1 for acting as a guide to the upper part of shaft 5 which projects beyond the housing and has a squared portion 8 at its upper end over which is placed a handle member 9 preferably of leather, which handle member may be operated by the hand or may be struck with a hammer for moving shaft 5 in one direction. The lower part of housing 1 is formed with a flattened portion 10 which accommodates the flattened portion 11 of shaft 5 in order that shaft 5 will not rotate independent of housing 1. The lower end of shaft 5 merges into an awl gripping member 12 which is beveled on the exterior and threaded for accommodating a clamping member 13 which is formed with a flattened portion 14 for accommodating the flattened portion 10 of housing 1. The lower part of the clamping member 13 is formed with a squared portion for receiving a wrench for applying and removing the clamping member. The awl gripping member 12 is preferably divided into four parts and is designed to accommodate awls of various sizes. The awl 15 shown in Figs. 1 and 5 is arranged to extend slightly below point 16 of housing 1 in order to be properly placed when the device is in use. A cut away portion 17 is provided in order to disclose a considerable portion of the awl for sighting the device for permitting a proper placing of the awl during its operation. When the awl has been moved forward or lowered by a blow or otherwise on member 9 the housing 1 moves down until point 16 engages the article, and then stops, but the awl continues its movement until the article has been pierced or until the end of member 12 engages the article, whereupon it will immediately move back-
ward and away from the article if the pressure on member 9 has been removed.

What I claim is:

1. In a device of the character described, a housing formed with a bore extending longitudinally of the housing for part the distance thereof, and a second bore of smaller size extending from said first mentioned bore to the end of the housing, said second bore being formed with a flattened side, a shaft mounted in said housing and projecting therefrom at one end and at the other end projecting into said smaller bore, a spring engaging the walls of the housing at the lower end of said first mentioned bore and acting on said shaft for yieldingly resisting movement of said shaft in one direction and for returning said shaft after having been moved toward said second mentioned bore, a plurality of spaced fingers arranged on the end of said shaft which enters said second mentioned bore, and a nut threaded and tapered interiorly fitting over said fingers and designed to draw the same together, said nut being flattened on one side for fitting the flat side of said second mentioned bore, whereby said nut is prevented from rotation, and a piercing tool positioned between said fingers and clamped firmly against removal by said nut.

2. In a device of the character described, a housing formed with a bore extending longitudinally thereof for part of the length of the housing, a second bore of smaller size extending from said first mentioned bore to the end of said housing, said second mentioned bore being formed flat on one side for the full length thereof, a shaft mounted in said housing and projecting therefrom at one end and at the other end projecting into said second mentioned bore, said shaft being formed with an enlargement normally positioned at one end of said first mentioned bore but movable lengthwise thereof when said shaft is depressed, the part of said shaft entering said second mentioned bore being flattened on one side for registering with the flattened side of the bore, whereby the shaft is permitted a free reciprocation but prevented from rotating, a spring arranged in said first mentioned bore and pressing against the walls of the housing at the lower end of said first mentioned bore and against said enlargement on said shaft for yieldingly resisting movement of said shaft in one direction and for returning said shaft in the opposite direction, a pressure receiving member connected with the end of said shaft which projects beyond said housing, and an awl clamping device arranged in said second mentioned bore, said device comprising a plurality of externally threaded resilient fingers projecting from said shaft, and an internally threaded and tapered nut engaging said fingers for clamping the same upon a tool positioned therein, said nut being formed with a flattened portion for engaging the flattened portion of said second mentioned bore, whereby the nut is prevented from rotation.

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

ALPHONSE WANLIN.

Witnesses:

G. WARD KEMP,
Ed M. BAYLESS.

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