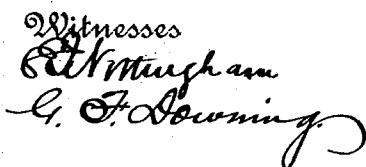


G. B. DURELL,
TOOL.

Patented June 3, 1890.



Inventor
George B. Duell
By his Attorney
H. A. Seymour

UNITED STATES PATENT OFFICE.

GEORGE B. DURELL, OF CHATTANOOGA, TENNESSEE.

TOOL.

SPECIFICATION forming part of Letters Patent No. 429,118, dated June 3, 1890.

Application filed September 28, 1889. Serial No. 325,380. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. DURELL, of Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain
5 new and useful Improvements in Tools; 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
10 same.

My invention relates to an improvement in devices for preventing the tangs or shanks of tools, hooks, pins, bolts, or other articles which are driven into wood from being pulled out;
15 and the object is to provide a very simple and effectual means especially applicable to preventing the tangs of hoes, rakes, potato-drags, bush-hooks, sickles, drawing-knives, whiffletree and breeching hooks, and all other
20 tools or articles having a tang or shank thereon for insertion into a handle from being pulled out or from working loose in the sockets.

With this end in view my invention consists in a U-shaped staple or similar device
25 made of spring-wire or its equivalent and provided with barbs or not, as the case may be, in combination with the tang of a tool or other article to which the staple is connected
30 and with which it is driven into the handle, where the tang is securely held by the points of the staple embedding themselves in the handle.

It further consists in certain novel features
35 of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view through the end of a hoe-handle and ferrule, showing the tang and staple therein for securing the tang within the handle; and Figs. 2 and 3 are views of
40 modified constructions.

A represents the handle, and B is a socket
45 formed therein. The tang 1 of a hoe or other tool or article is adapted to be inserted in this socket in the usual manner by driving or screwing; but, in addition to this, means is employed for retaining the tang in the
50 handle, and this means constitutes my present invention. It consists in a U-shaped spring-metal staple 2. The latter is inserted

in a hole in the end of the tang or shank, and the end of the tang is preferably flattened or provided with depressions at its sides to receive the ends of the staples while the latter
55 are being forced into the socket. As the ends of this staple incline outwardly, they constitute double barbs, which penetrate the sides of the socket the instant the tang is
60 pulled outward, and the more the tang is pulled the greater the resistance caused by the staple. This staple may be plain and simply pointed at the ends, or, as shown in the drawings, may have several barbs or points
65 3 3 along its sides, all of which combine with the ends to grip the wall of the socket and prevent the withdrawal of the tang.

Although the preferred mode of attaching the staple is by inserting it through the perforation in the tang, it might be provided
70 with a perforation to receive the tang, as shown in Fig. 2, or it might be welded to it as shown in Fig. 3.

I do not limit myself to any particular form
75 of staple or in the application of my improvement to different tools, as it is evident that it may be employed on any article having a tang adapted to be secured in a handle, either by screwing or driving it, and the
80 spring staple or barb may be flat or round or affixed in various ways to the tang; hence, as such changes come entirely within the spirit and scope of my invention, I do not wish to limit myself to the particular construction
85 herein set forth; but,

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

1. A device for securing the shanks of
90 tools or other articles in their handles, consisting of a spring-barb carried by the tool-shank and projecting in a direction away from the inner end of the shank and provided with a sharp-pointed outer end adapted
95 to enter the wood handle and prevent the withdrawal of the shank, substantially as set forth.

2. The combination, with a handle having a recess or socket in the end, of a tang or
100 shank and a U-shaped staple of spring metal connected with the tang, substantially as set forth.

3. The combination, with a handle having

a recess or socket in one end, of a tang and a U-shaped staple of spring metal, said staple having barbs on its sides, substantially as set forth.

- 5 4. The combination, with a handle having a socket therein, of a tang flattened at one end and having a hole in said flattened portion, and a U-shaped piece of spring metal passed through the hole, said spring metal

having barbs on its sides, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE B. DURELL.

Witnesses:

E. W. MATTSON,
FREDERICK GIDDINGS.