Dec. 11, 1928. 1,694,559

J. L. OSGOOD

TOOL HANDLE

Filed Dec. 26, 1925

Fig. 1.

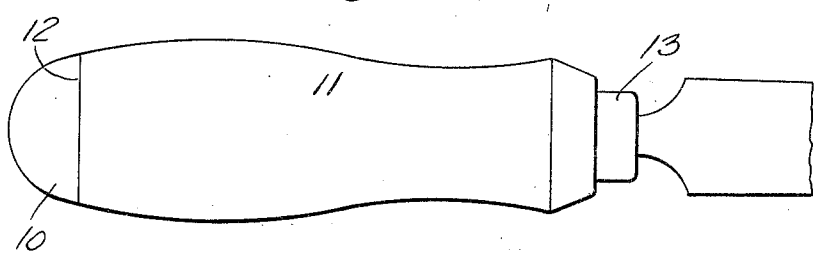


Fig. 2.

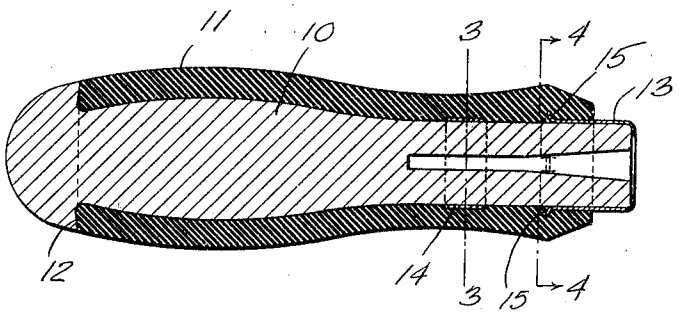


Fig. 3.

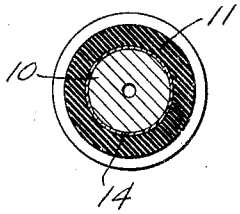


Fig. 4.

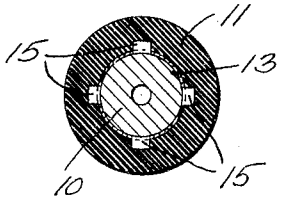
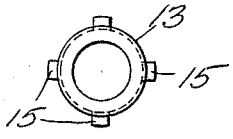


Fig. 5.



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TOOL HANDLE.

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This invention relates to tool handles, and more particularly to tool handles of that kind, ordinarily made of wood, which are used for files and analogous tools which are provided at one end with a tang or stem which is adapted to be driven into an axial hole in one end of the handle for securing the handle on the tool. In such constructions, the handle is retained on the tool by the wedging of the tang in the hole or the frictional grip of the wood of the handle on the tang, and it is customary to drive or force the tang further into the handle from time to time when the handle works loose in the use of the tool, in order to tighten the tang in the handle. This repeated driving of the tang further into the handle results in splitting the handle or enlarging the tang hole to such an extent that the handle will no longer be held firmly on the tool unless provision is made to prevent these results.

The handles of this character commonly considered the most satisfactory are made of bass wood, because that wood is tough, does not readily splinter or split, and at the same time its character is such as to provide a surface for the handle which is soft or comfortable to the touch and affords a firm, secure grip in the hand. It has been found in practice, however, that because of peculiar characteristics of bass wood, it is impractical to turn bass wood handles on automatic machinery, so that it has been customary to turn the better grade bass wood handles by hand. This, added to the cost of the wood, makes the handles relatively expensive to produce.

The objects of my present invention are to produce a strong, durable and desirable handle for files and analogous tools which has a surface or grip portion that ensures a firm, comfortable grip of the handle in the hand, and which has other advantages and characteristics, including preferably the usual shape, of high grade wooden handles of the sort mentioned, but which nevertheless is of such construction that the handle can be made from less expensive wood, of a character adapted to be turned on automatic machinery, thereby reducing the cost of production of the handles; and also to improve the construction of tool handles in the other respects hereinafter described and set forth in the claims.

In the accompanying drawings:

Fig. 1 is a side elevation of a portion of a file or analogous hand tool provided with a handle embodying my invention.

Fig. 2 is a longitudinal section of the handle.

Figs. 3 and 4 are transverse sections of the handle on lines 3—3 and 4—4, respectively, Fig. 2.

Fig. 5 is an end view of the metal ferrule, detached.

The handle comprises a wooden core 10 and a grip or outer portion 11 made of rubber or analogous resilient material which surrounds the wooden core and is firmly and permanently secured on the core. The core 10 can be made of any suitable kind of wood, but because of the construction of the handle hereinafter described, the core, as above stated, can be made of a less expensive wood than is ordinarily employed for high grade handles. This core preferably for the greater portion of its length, is made of smaller diameter than the usual handle, so that with the surrounding resilient, grip portion, the handle will be externally of substantially the usual size, and preferably the core and the grip portion are shaped so that the handle will have the external form usual in handles for files and analogous tools.

As shown, the wooden core has a rounded or semi-spherical, outer or rear end which is of larger diameter than the remainder of the core, thus forming near the outer end of the handle a shoulder 12 against which the resilient grip portion 11 abuts, and preferably, the grip portion 11 extends from this shoulder 12 nearly to the opposite or inner end of the handle, with the outer surface of the resilient grip portion flush with the outer surface of the enlarged rear end portion of the core. The resilient grip portion 11 is preferably formed by molding the rubber or composition while in a plastic condition on the wooden core and vulcanizing the composition on the core so that it is securely and permanently attached to and forms a practically integral, yielding surface or grip on the core. In applying the resilient grip to the core, the surface of the wooden core which is to be covered by the grip portion has applied thereto a cement or a coating of a character adapted to insure a very firm and permanent bond be-

tween the wood and the composition when the latter is vulcanized. The wooden core with the cement or adhesive coating is then placed in a mold of the required form and the plastic rubber or composition is introduced into the mold around the reduced portion of the wooden core, after which the rubber is vulcanized in the usual manner. If desired, the mold can be made to form surface grooves or serrations on the resilient grip to insure a still surer hold of the handle in the hand.

As above indicated, the wooden core is of smaller diameter than the usual wooden handle, and since the rubber surrounding the core is elastic and would not of itself prevent the expansion and splitting of the wooden core, by the wedging action incident to driving the tang of the tool into the handle, provision is made for strengthening or reinforcing the core, to prevent such splitting. For this purpose, a ferrule 13 is preferably provided surrounding the tool-end of the wooden core, and in addition, a metal reinforcing ring or sleeve 14 also surrounds the core, preferably at a point between the ends of the tang hole or adjacent the inner end thereof. This ring 14 is embedded in or covered and hidden by the rubber grip portion, and the inner end of the ferrule 13 also preferably extends into the adjacent end portion of the rubber grip so as to be covered by the rubber. The metal ferrule 13 is shown as being provided at its inner end with out-bent lugs or portions 15 which are embedded in the body of rubber so that the rubber which is vulcanized and securely attached to the wooden core, the metal ring 14 and the ferrule, acts to securely retain the ferrule and the reinforcing ring in position on the handle core. Furthermore, this construction gives the accustomed appearance to the handle and prevents contact of the hand with the metal ferrule. The lugs 15 on the ferrule can be readily formed by slitting the inner end of the ferrule and bending outwardly the portions of the ferrule between the slits. In making the handle, the reinforced ring 14 and the ferrule 13 can be simply slipped onto the wooden core before the latter is placed in the mold, so that when the rubber is introduced into the mold and vulcanized, the rubber will become securely and permanently attached to the reinforcing ring and ferrule as well as to the wooden core of the handle. The rubber thus serves to retain the reinforcing ring and ferrule in place, and it is not necessary to otherwise secure these parts or to provide any additional securing means for the ring and ferrule.

The handle constructed as described is preferably similar in size and external shape to the usual wooden handle and has the advantages of the latter as to shape, but it provides a resilient and desirable gripping surface. In addition, the handle has the advantages of the all-wood handles of the same type, in which the tang of the tool is adapted to be driven into a tang hole in the wood of the handle for securing the tool in place.

I claim as my invention:

1. A tool handle comprising a core of wood or the like provided at one end with a longitudinal hole to receive the tang of a tool, and a resilient grip portion which surrounds and is permanently attached to the core, and a metal reinforcing ring surrounding said core between the same and said resilient grip portion, said grip portion being securely attached to said core and to said reinforcing ring and covering the latter.

2. A tool handle comprising a core of wood or the like provided at one end with a longitudinal hole to receive the tang of a tool, and a resilient grip portion which surrounds and is permanently attached to the core, a reinforcing ring, and a ferrule surrounding the portion of the core in which the tang hole is located between the core and said resilient grip portion, said grip portion covering said reinforcing ring and also the inner end of said ferrule, and said grip portion being securely attached to the core and to said reinforcing ring and ferrule.

3. A tool handle comprising a core of wood or the like provided at one end with a longitudinal hole to receive the tang of a tool, and a resilient grip portion which surrounds and is permanently attached to the core, and a metal ferrule surrounding the end of the core in which the tang hole is located, said ferrule having its inner portion extending into said resilient grip portion and having projections at its inner end embedded in and securely attached to said resilient grip portion.

4. A tool handle comprising a wooden core provided at one end with a longitudinal hole to receive the tang of a tool and adapted to be expanded by a tapering tang driven into said hole, and an elastic rubber grip portion which surrounds and is vulcanized and permanently attached to the wooden core and reinforcing means covered and hidden by said rubber grip portion for preventing the wooden core from being split by the tang of the tool, said wooden core having an enlarged end portion forming a shoulder against which the rubber grip portion abuts, and the external surface of the rubber grip portion being flush with the external surface of said enlarged end portion of the wooden core.

5. A tool handle comprising a core of wood or the like provided at one end with a longitudinal hole to receive the tang of a tool, and a resilient grip portion which surrounds and is permanently attached to the core, and a metal reinforcing ring surrounding said core between the same and said resilient grip portion, said grip portion being vulcanized and

permanently attached to said core and to said reinforcing ring and covering the latter.

6. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a separate grip section applied over and secured to said core and surrounding said ring.

7. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a separate grip section applied over and secured to said core and surrounding said ring and ferrule and confining them against endwise movement on said core.

8. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a separate grip section applied over and secured to said core and surrounding said ring and ferrule, the periphery of said ferrule which is engaged by said grip section having portions mechanically interlocking with the inner surface of the grip section, whereby movement of the ferrule along the core will be resisted by said grip section.

9. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a separate grip section applied over and adherently secured to said core at both ends of said ring and confining it against endwise movement along said core.

10. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a separate grip section applied over and secured to said core and surrounding said ring and ferrule, the inner end of said ferrule having tongues bent outwardly in a lateral direction and mechanically interlocking with the inner surface of said grip section.

11. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole, and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a grip of plastic material moulded over said core and ring and secured to said core by hardening.

12. A tool handle comprising a core of wood or the like having a tang-receiving hole extending in a lengthwise direction from one end, a reinforcing ring surrounding said core at a point over said hole and spaced inwardly from said one end, a ferrule surrounding said core at said one end and extending along said core for some distance, and a grip of plastic material moulded over said core, ring, and inner end of said ferrule, and secured to said core by hardening, the inner end of said ferrule at its periphery having abutments over which said material is moulded to mechanically interlock said ferrule to said grip.

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