This invention relates to a universal garden tool.

The chief object of this invention is to provide a holder, as it were, for tool means, which holder is of the handle supportable type and which is adapted to support the tool means in a plurality of positions and retain the tool means in the selected position.

The chief feature of the invention resides in providing a tool holder of the character described with a pair of crossing bores, same terminating at one end at the surface of the holder and the bores being substantially similar, the holder being provided with a tool means lock disposed to selectively lock the shank of the tool means when bored seated regardless of which bore is shank occupied.

Other objects and features of the invention will be set forth more fully hereinafter.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Fig. 1 is a plan view of the holder and lock. Fig. 2 is a side view thereof. Fig. 3 is an end view thereof. Fig. 4 is a longitudinal sectional view. Fig. 5 is a side elevation of a blade type tool and the handle, parts being broken away to show the same in section.

Fig. 6 is a front view of a blade type tool and a central sectional view of a handle mounting the same, the position of the tool with respect to the handle being substantially at 90° to that illustrated in Fig. 5.

Fig. 7 is an end elevation of a rake type tool.

In Figs. 1, 2, and 4 10 indicates an elongated body portion which (see Fig. 4) is provided with a socket 11 for reception of the tapered end of a handle and the same may be wedge fitted therein or may be pinned or otherwise anchored, for which purpose the hole 12 is provided (see Fig. 2).

This holder has a head portion 13 and this head portion herein terminates in two transversely disposed faces 14 and 15. Extending inwardly from each face is a cylindrical bore 16 and 17 respectively. The bore 16 is longitudinally disposed and the bore 17 may extend entirely through the head portion as shown (see Figs. 1 and 3).

The two bores intersect or cross each other as illustrated. The head portion 13 adjacent the crossing or communication is provided with a smaller bore 18 and radially therein is a pin member 20. Adjacent the surface of the head portion 13 is a cap or head member 21 and the two parts 20-21 have rigid connection, as a screw thread connection indicated generally by the numeral 22. Between the two parts there is disposed a leaf spring member 23, same being aperture at 24 near one end and anchored at 25 to the head portion 13.

The spring 23 normally constrains this push button or latch inwardly into the communication or crossing of the two bores. Herein each face 14 or 15 respectively is provided with equally spaced, radially directed diametrically paired slots or grooves 26 and 27 respectively, see Figs. 2 and 3.

Reference will now be had to Figs. 5 and 6. Herein a single bladed element is shown in the form of a hoe blade 28 and the tool means includes a shank 29 having a frusto-conical end 30 remote from the tool portion. The shank 29 is provided with a tapered enlargement 31 that re-enforces the blade 28. The latter may have a sharpened edge 32 and its upper edge 33 opposite therefrom. It will be noted, terminates above or is spaced from the shoulder portion 34 of the portion 31. Hence shoulder 34 bears against face 14 or 15, while edge 33 forms a tongue that is seatable in a pair of aligned or diametrically arranged slots 26 or 27, as the case may be.

The shank 29 includes a peripheral groove or channel 35 and the same is so positioned that the channel registers with the crossing communication or intersection of the two body portion bores when the shank is mounted in the body portion.

Thus, regardless of which bore is occupied by the shank, the latch pin 28 will seat in the groove or channel 35, thus positively locking the shank in and to the holder. Pivoting, since the bore and shank are cylindrical, is prevented by the tongue 33 and groove 26—27 or tongue and shoulder association shown.

In Figs. 5 and 6 the tool is illustrated as of the hoe type, that is, the blade is disposed at right angles to the longitudinal axis of the holder and the handle. It will be obvious that the tool means, including the blade and the shank, can be inserted in the longitudinal bore 16 and in any desired, adjusted position determined by the slots 26. Regardless of which bore is occupied by the shank and regardless of which position the tool means is placed with respect to that bore, the lock 20 holds the shank and consequently the tool to the holder as described and as desired.

The axe blade can be similar to the hoe blade
and when positioned as shown in Figs. 5 and 6 such axe blade constitutes a broad axe. When pivotally disposed it can serve in a certain sense as a cutting or slide bar. When the hoe blade shown in Figs. 5 and 6 is pivotally disposed there is provided a tool that in addition to being a scrapper or lawn edger can also be utilized as a spade.

Reference will now be had to Figs. 7 and 8. Herein there is provided a toothed tool element having the back portion 44 and the times 36.

Extending centrally therefrom and coplanar therewith is the shank 37 and said shank includes the collar portion 33 and the wing or plate portion 39, all being suitably secured together as by the weld 40. The shank 37 is provided with the peripheral groove 41 and the opposite end may be of frusto-conical type as indicated at 42. When this tool element is applied to the socket in the same position as shown in Fig. 5 it will be obvious that there results a rake formation.

However, when the tool is applied with the shank longitudinally disposed there results a short tined fork. The dotted lines 43 in Figs. 7 and 8 merely indicate extended outlines of a rake structure and such a rake when longitudinally disposed may readily serve as a pitch fork.

With respect to the rake structure shown in Figs. 7 and 8, it is to be borne in mind that the shank is applied to the socket as in Fig. 5 so that the handle or holder is pulled toward the left. It will also be noted that the rake can be adjusted to different angles because the blade or wing structure 39 seats in a pair of diametrically aligned grooves as desired whenever the shank is properly seated in either of the bores in the holder. When so seated the lock 28 retains the shank to the holder and turning (since the shank and bores are cylindrical) is prevented by the last mentioned interlock between the wings and radial grooves.

In all forms the chamfered end of the shank facilitates entrance thereof into the selected bore. The so-called transverse bore by extending entirely through head 13 facilitates bore cleaning when necessary.

While the invention has been illustrated and described in great detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character.

The several modifications described herein, as well as others which will readily suggest themselves to persons skilled in this art, all are considered to be within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. In a universal garden type tool having an elongated body portion adapted at one end for connection to a handle substantially longitudinally aligned therewith and a tool having an anchorable shank portion, the combination thereof of a socket formation at the other end of said body portion, a second socket formation disposed substantially transversely of the first socket formation, the two sockets intersecting, the sockets being substantially identical in cross-section and of cylindrical character, the face of each formation having a plurality of diametral notch formations therein; each being of parallel wall character, the shank being of cylindrical type and of a length greater than the length of the sockets from the notched face to the point of intersection, the shank having a cylindrical reduced neck portion registering with the said socket intersection when the shank is seated in either socket, diametrically disposed tongues on said tool adjacent said shank and simultaneously sealable in a diametral notch for locking the tool against rotation in the selected socket, and a storable locking member disposed in a bore transverse to both sockets and having a socket exposed end sealable in the neck portion to prevent shank withdrawal from the selected socket.

2. A tool as defined by claim 1, characterized by a leaf spring anchored at one end to the body portion upon the exterior thereof and having its other operatively connected to a body portion exposed end of the said locking member, and normally-constraining said inwardly into the sockets, said locking member terminating in an exposed finger-engageable portion.

FREDICK W. COFFING.

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