W. D. BANES.

INSTRUMENT HANDLE CONNECTION.

APPLICATION FILED MAR. 2, 1915.

1,167,252.

Patented Jan. 4, 1916.

Fig. 4.

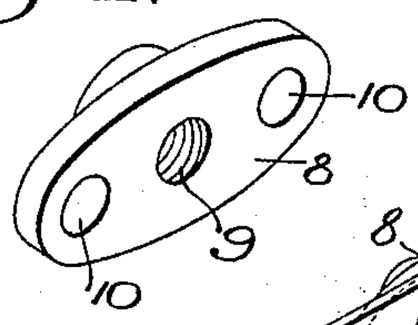


Fig. 2.

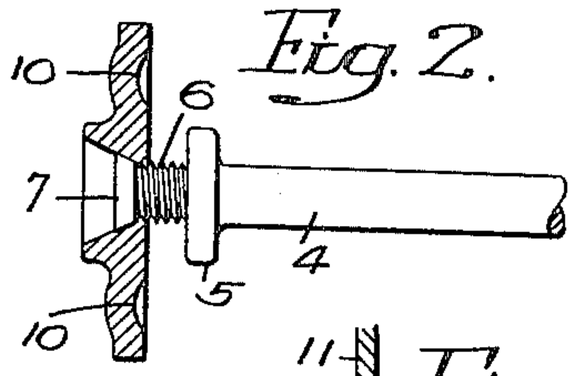


Fig. 3.

Fig. 1.

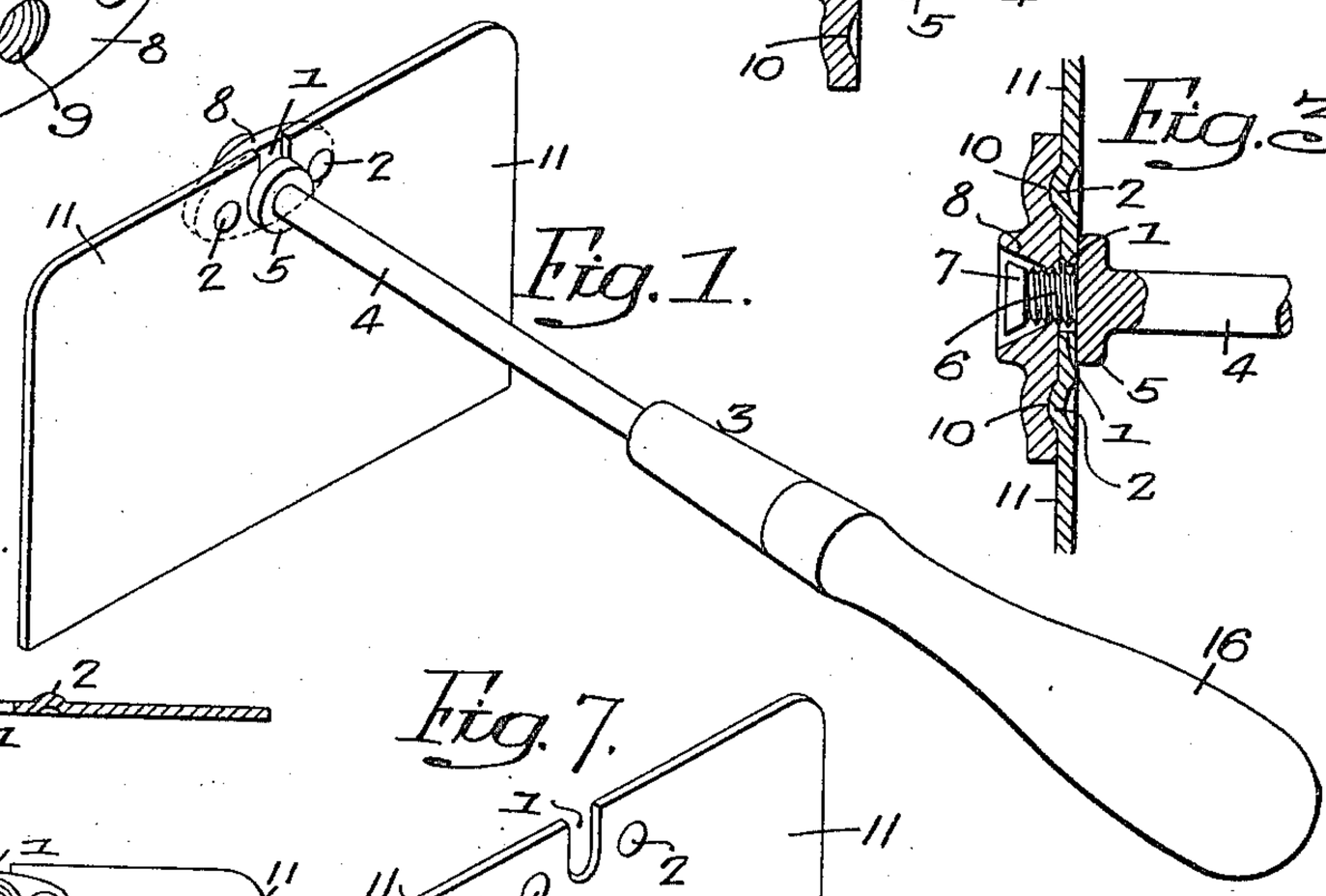


Fig. 5.

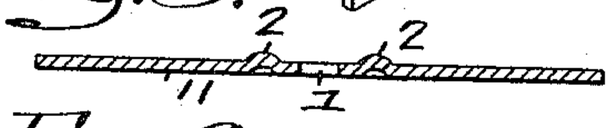


Fig. 6.

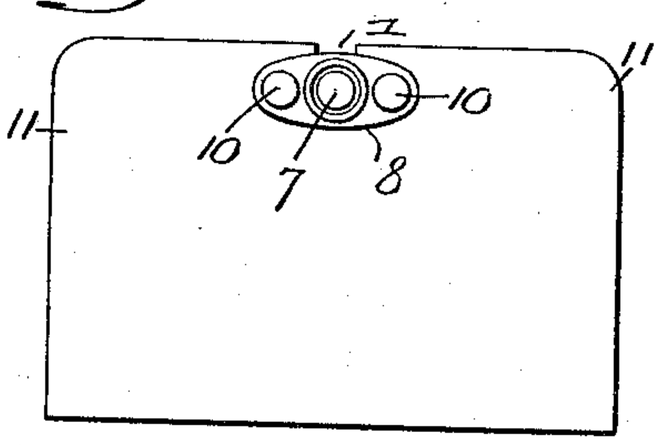


Fig. 7.

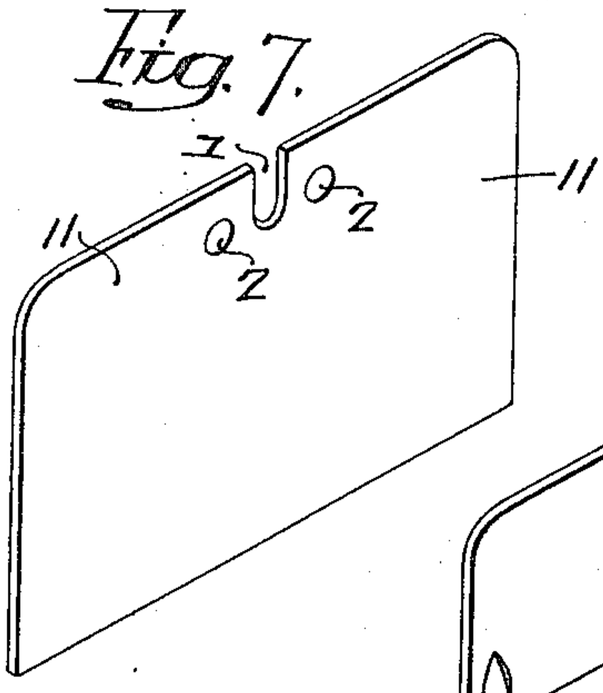


Fig. 11.

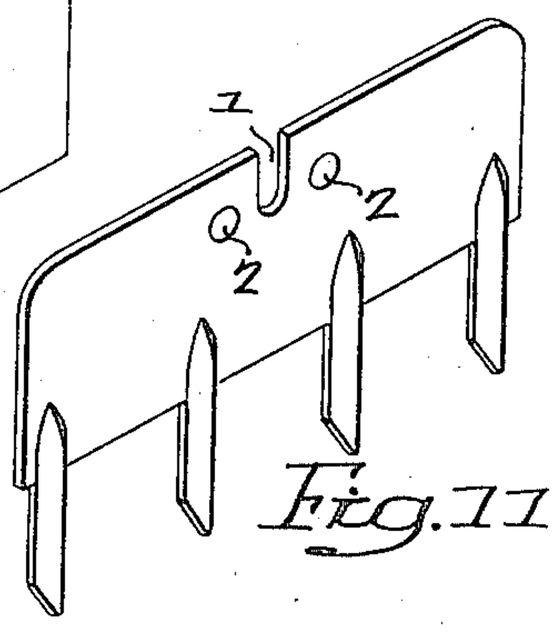


Fig. 8.

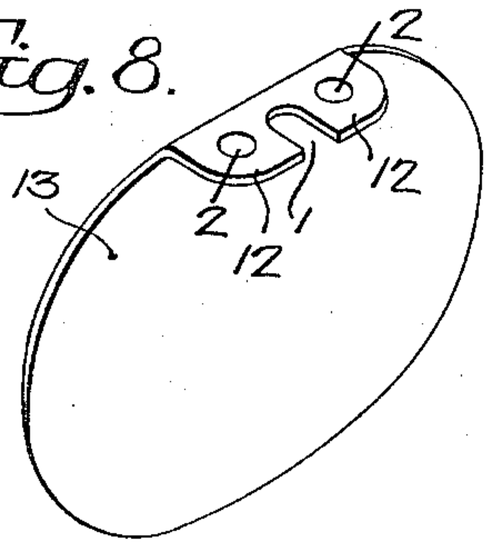


Fig. 9.

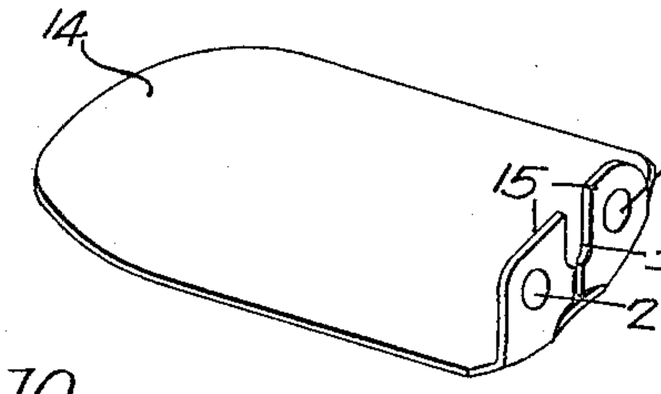
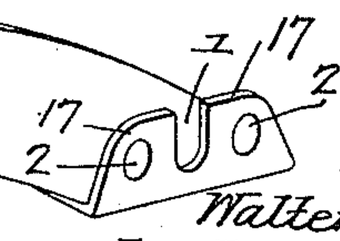


Fig. 10.



Witnesses.-
Charles H. York.
Wills & Burroughs.

Inventor.-
Walter D. Banes.
by his Attorneys.-
Howson & Howson

UNITED STATES PATENT OFFICE.

WALTER D. BANES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO T. L. HACKER, ONE-FOURTH TO M. F. OEBBECKE, ONE-FOURTH TO STEWART MURRAY, AND ONE-FOURTH TO C. E. ROLFE, 2D, ALL OF PHILADELPHIA, PENNSYLVANIA.

INSTRUMENT-HANDLE CONNECTION.

1,167,252. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed March 2, 1915. Serial No. 11,604.

To all whom it may concern:

Be it known that I, WALTER D. BANES, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Instrument-Handle Connections, of which the following is a specification.

One object of my invention is to provide a simple, inexpensive, and easily operated device or combination of parts for detachably securing a handle to any of a number of tools or operating members such as garden implements, the arrangement and construction of the adjustable element of said handle being such that it preferably cannot be separated from the part on which it is mounted.

It is further desired to provide novel means for connecting a single handle to any of a number of instruments and which shall be of such design as to permit of the connection of any of said members to the handle or their separation from the same in a minimum of time, but which shall nevertheless be capable of rigidly holding said instruments or operating members to the handle.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which,

Figure 1 is a perspective view of my invention showing the handle as connected to a hoe-blade; Fig. 2 is a side elevation partly in section illustrating the construction of one end of the handle with its adjustable head; Fig. 3 is a section similar to Fig. 2 but illustrating the parts as adjusted to hold a tool to the handle; Fig. 4 is a perspective view of the adjustable head; Figs. 5 and 6 are respectively a horizontal section and an elevation of a hoe-blade constructed for use in connection with my invention, the latter figure showing also the adjustable head in position; and Figs. 7 to 11 inclusive are perspective views illustrating various forms of garden implements adapted for use according to my invention.

In the above drawings, 3 represents a handle of suitable length and form, having a wooden gripping portion 16 and a metallic shank 4 in the form of an elongated rod threaded at its outer end 6 and enlarged at its extremity 7. Between its main portion and said threaded end it is provided with a fixed and preferably integral abutment in the form of a collar 5, while a head 8 in the shape of an elliptical plate is centrally threaded so as to be adjustable on the threaded part 6 of the handle. Obviously, this head may be of other forms without departing from my invention but in any case would be provided with at least one and preferably two depressions or cavities 10 in that face adjacent the collar 5, on opposite sides of the central opening 9 for the reception of the handle end.

The various implements or tools for use in connection with my invention are each provided, as in Figs. 6 and 7, with a slot 1 and two projections or lugs 2 on opposite sides thereof. These lugs are the same distance apart as the depressions or cavities 10 in the head 8 so that when it is desired to couple the hoe-blade 11, for example, to the handle, the rod 4 is placed in the slot 1 with the collar 5 on one side of the blade and the head 8 on the other side thereof. Said blade is then moved toward the head so that its lugs or projections 2 enter the cavities and while held in this position the handle 3 is rotated so that the end 6 is screwed through the head 8 and the collar 5 ultimately brought into gripping engagement with the adjacent face of the blade or implement 11. At this time the various parts occupy the positions indicated in Fig. 3, so that obviously accidental relative movement of the handle and blade is effectually prevented, the frictional hold of the collar and blade being sufficient to stop other than intentional rotation of the handle.

Obviously the handle 3 may be applied to various forms of blades or other implements merely by providing these with slotted portions having opposite faces adapted for engagement with the head 8 and collar 5 and provided with lugs or projections spaced to fit into the cavities 10 of said head. In the case of the edging tool 13 shown in Fig. 8, I provide an integral extension 12 preferably at right angles to its plane and as before, form this with a slot 1 and two lugs 2 on opposite sides thereof at such a distance apart as to fit into the cavities 10 of the head. Similarly the shovel or trowel blade 14 may be formed with the pair of exten-

sions 15 turned at right angles to its central line so as to lie in the same plane and having their adjacent ends cut away to provide the slot 1 for the reception of part 4 of the handle 3. Each of these extensions is formed with a projection 2 designed to enter one of the cavities 10.

The grass-hook shown in Fig. 10 has the blunt end of its blade turned up as indicated at 17 and formed with the slot 1 and lugs 2 in the same manner as described in connection with the corresponding parts of the edging tool shown in Fig. 8. Similarly the rake head illustrated in Fig. 11 has a slot 1 and a pair of projections 2 formed and designed for use as described in connection with Fig. 7.

While the invention is particularly designed for use in connecting the bodies of garden implements with a handle, it is obvious that it may be employed to connect any of a number of members to a single member regardless of their primary functions or construction, and while the various parts are preferably designed as illustrated, it is immaterial whether the cavities 10 are formed in the head 8 or in the members to be secured thereto, so that said members are provided with a recess-and-projection connection having parts so designed as to fit into or receive complementary parts of the head.

I claim:—

1. The combination of a handle having a threaded portion, a relatively fixed abutment, and a permanently fixed enlargement at its extremity; a head adjustable on the threaded portion between the enlargement and the abutment; a member slotted to receive that part of the handle between the head and the abutment; and means for preventing movement of the member relatively to the handle after said member has been gripped between the head and the abutment.

2. The combination of a member having a slot; a handle having a portion removably passing through said slot and provided with an abutment frictionally engaging one face of said member; with a head threaded on the handle and having a cavity in its face adjacent said member, there being a projection on said member fitting the cavity of said head; with means for permanently retaining said head on the handle while permitting its adjustment.

3. The combination of a handle having a collar, an enlarged extremity, and a threaded portion between said enlarged extremity and the collar; a head adjustable on said threaded portion and having cavities on opposite sides thereof; and a member having a slot extending inwardly from one edge for the reception of the handle between the collar and the head, said member being provided with projections on opposite sides of said slot placed to fit the cavities of the head.

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

WALTER D. BANES.

Witnesses:
WM. A. BARR,
WILLIAM E. BRADLEY.