K. HOVHANNESIAN.

COMBINATION TOOL.

APPLICATION FILED FEB. 19, 1916.

1,239,394.

Patented Sept. 4, 1917.

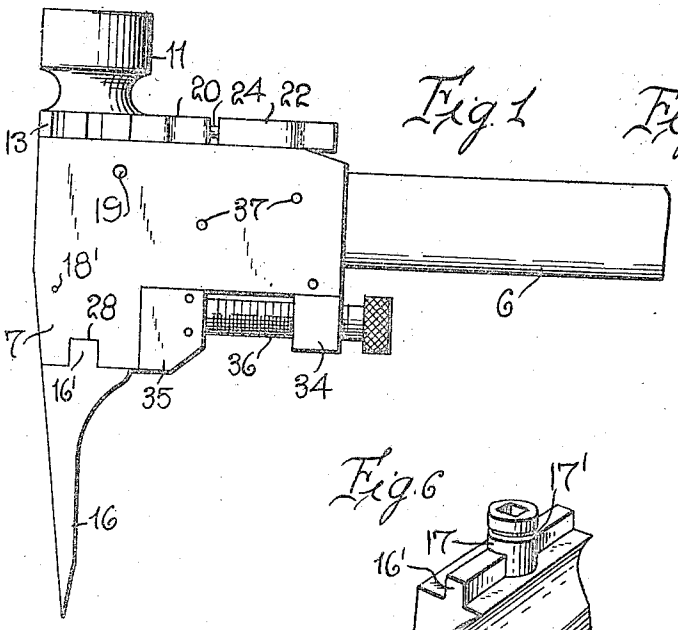


Fig. 1

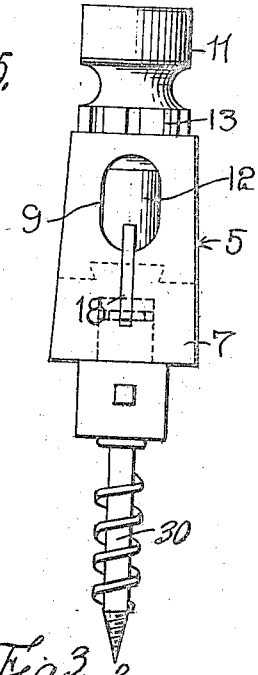


Fig. 5.

Fig. 6

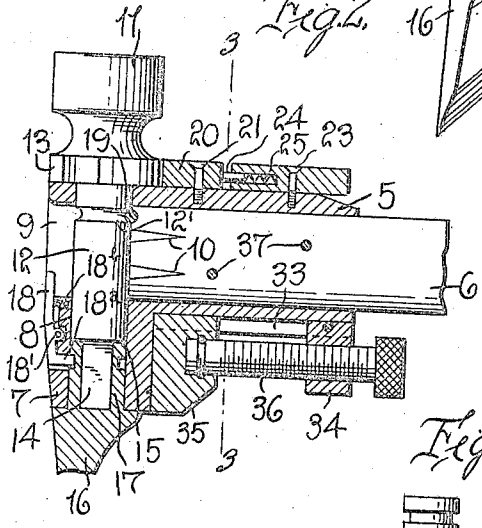


Fig. 2.

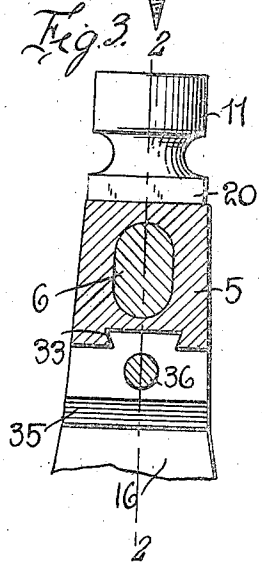


Fig. 3.

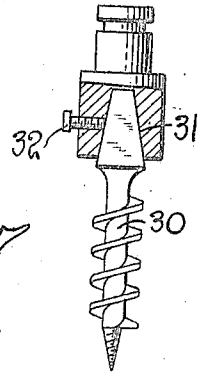


Fig. 8

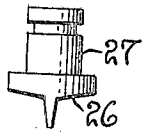


Fig. 7

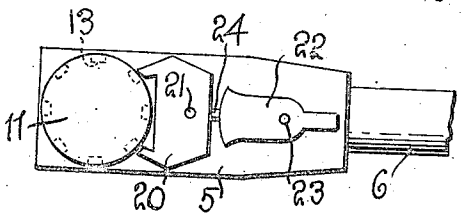


Fig. 4

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UNITED STATES PATENT OFFICE.

KRICOR HOVHANNESIAN, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO HENRY PILIKIAN.

COMBINATION-TOOL.

1,239,394. Specification of Letters Patent. Patented Sept. 4, 1917.

Application filed February 19, 1916. Serial No. 79,387.

To all whom it may concern:

Be it known that I, KRICOR HOVHANNESIAN, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved combination tool and has for its primary object to provide a device which may be serviceably employed for a variety of purposes, but which is relatively simple in its construction and may be manufactured and sold at nominal cost.

It is a more particular object of the invention to provide a tool of the above type including a body, a shank removably and rotatably mounted in said body and provided with a hammer head on one end, means for interchangeably attaching tool elements to the other end of the shank, and means on the tool body for rotating said shank upon an oscillating movement of the tool body.

It is another important object of the invention to provide in a tool of the above character, a wrench including an adjustable jaw slidably mounted upon one side of the tool body and coöperating with a fixed jaw or extension on the body, and an adjusting screw rotatably mounted in the fixed jaw and having threaded engagement in the sliding jaw.

With the above and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,

Figure 1 is a side elevation of a combination tool illustrating the present improvements;

Fig. 2 is a sectional view taken on the line 3—3 of Fig. 3;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2;

Fig. 4 is a plan view illustrating the ratchet mechanism for turning the hammer head and shank;

Fig. 5 is a front elevation of the tool head as shown in Fig. 1 but showing in connection therewith the tool illustrated in Fig. 8;

Fig. 6 is a detail perspective view of one of the interchangeable tool members; and

Figs. 7 and 8 are detail elevations of other tool members.

Referring in detail to the drawing, 5 designates the body of the tool which is in the form of a metal casting and is provided with a longitudinal bore to receive one end of a handle indicated at 6. The forward end of the tool body is provided with a laterally extending jaw 7, and through the body of the tool and the jaw 7 thereof, a transverse opening 8 is bored. The outer end wall of the tool body has an opening 9 formed therein which communicates with the bore 8 and provides means for the insertion of a suitable tool element, whereby sharpened wedges, indicated at 10, may be driven into the end of the handle 6 and said handle spread to force the same into tight frictional engagement against the walls of the handle bore in the tool body 5.

11 designates a detachable hammer head which is formed with a cylindrical shank 12 and an integral toothed flange or ratchet 13 at the juncture of the shank with the head 11. The end of the shank 12 is reduced and rectangularly formed as shown at 14, to provide an annular shoulder 15 thereon. The shank 12 fits snugly within the bore 8 of the tool body and extends entirely through the jaw 7. Various tool elements are adapted to be connected to the reduced end of the shank 12, and in Fig. 6 I have illustrated a cutting or chipping bit 16 provided with a boss 17 provided with a rectangular annular groove or channel 17′. In the front wall of the tool body, a ratchet 18 is fulcrumed as at 18′, and is provided with an angular end portion 18^a projecting through an opening in the body wall. A coil spring, indicated at 18^b is arranged in a socket in the body wall of the tool and bears at one end against the ratchet 18 and acts to yieldingly force the angular end portion 18^a inwardly and into the groove or channel 17′ in the boss 17. As is particularly illustrated in Figs. 2 and 3, the lever 18 is seated within a slot produced in the front wall of the tool body and disposed longitudinally thereof, said lever being substantially normally confined within said slot and having one extremity overlying the outer end of the opening 9 whereby the

requisite rocking movement may be imparted to the lever 18 in order to disengage the portion 18a from within the groove 17'. The chipping bit is provided upon opposite sides of the boss 17 with a longitudinally extending rib 16' which is adapted to fit within recesses or channels 28 formed in the jaw extension 7 on the tool body. Thus, it will be seen that when the chipping bit is fitted upon the rectangular end portion 14 of the shank 12, the lever 18 will hold the same in connection with said shank while the rib 16' will prevent any turning movement of the chipping bit. The shank 12 is formed adjacent to the head thereof with a circumferential groove 12', in one side of which the transverse pin 19, extending through openings in the tool body, is engaged. This pin prevents any longitudinal movement of the shank 12 in the tool body and retains the same in place.

The ratchet disk 13 at the base of the hammer head, rests against one side of the tool body and a double pawl 20 is pivotally mounted intermediate of its ends upon the body 5, as indicated at 21. A plate 22 is also pivoted upon the tool body, as at 23, and in the same a pin 24 is slidably mounted and is normally urged outwardly by a spring 25 into engagement with the adjacent edge of the pawl 20 and in line with the pivot thereof. In Fig. 7, I have illustrated a screw driving bit 26 having a boss 27 thereon to receive the reduced end 14 of the shank 12. This boss 27 is formed in a similar manner to the boss on the chipping bit for engagement in the angular end of the ratchet 18 as above described, whereby the screw driving bit is held in connection with the rectangular end of the shank 12. Thus the bit 26 is connected to the shank 12 for rotation therewith. When the point of the bit is engaged in the groove in the head of the screw, the tool body 5 is oscillated or moved alternately in opposite directions, and in the movement of said body in one direction, the pin 24 bears against one end of the pawl 20 which has locked engagement with the teeth of the ratchet 13 so as to positively rotate the shank 12 and thus turn the screw. When the head is moved in the opposite direction, the plate 22 carrying the spring pressed pin 24 is shifted so that the pin will bear against the pawl in line with its pivot and disengage the pawl from the ratchet teeth, thus permitting the reverse movement of the tool body while the shank 12 remains stationary. In this manner, the screw may be easily and quickly removed or threaded home.

In conjunction with the rotatable shank, a boring bit such as indicated at 30, may also be employed, said bit having a square end adapted to be fitted into a socket member 31 and held by means of the set screw 32. This socket member is provided with a boss in the same manner as the screw driving bit which is adapted to be detachably connected to the square end of the shank 12. This is shown in Fig. 5. Other tools such as a nail extractor, ice pick, etc., may be interchangeably connected to the rotatable shank.

The side wall of the body 5 which is provided on its forward end with the jaw extension 7, has a dove-tail groove or channel 33 cut in its outer face extending longitudinally thereof from the jaw 7 to the inner end of the body. A metal block 34 is keyed or otherwise fixed in the inner end of the channel 33 and a wrench jaw 35 is formed with a dove-tail rib on one end for sliding engagement in the channel 33. To this jaw, one end of an adjusting screw 36 is rotatably connected, said screw having threaded engagement in the block 34. It will be manifest that, by turning this screw in either direction, the slidable jaw 35 may be adjusted either outwardly or inwardly toward or from the fixed stationary jaw 7. Thus, I have provided in a very simple and compact arrangement, an efficient monkey wrench upon one side of the body of the combination tool.

From the foregoing, the construction, manner of operation and several advantages of my improved tool will be clearly and fully understood. The device is exceedingly simple and durable in its construction and highly efficient and convenient in practical use. For the purpose of further securing the handle to the tool body and rendering such connection absolutely rigid, I preferably provide a number of pins or rivets 37 extending transversely through the opposed side walls of the tool body and the end of the handle 6.

While I have above described the preferred form and construction of the several elements of my improved combination tool, it is to be understood that the device is susceptible of considerable modification therein and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

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

1. A tool head having a handle socket or passage, and a bore at right angles thereto, a rotatable member mounted in the bore and having a reduced many sided shank at one end, means for causing the rotation of said member around its axis with the head upon a rotative movement of the head in one direction but permitting the independent rotation of the head in the other direction, the head being provided with a transversely extending groove disposed at one end of the head and intersecting that end of the bore

wherein the reduced end of the shank is disposed.

2. A tool head having a handle, a socket, and a bore at right angles thereto, a rotative member mounted in the bore and having a reduced many sided shank at one end, means for causing the unitary rotation of the head and member around the axis of said member in one direction but permitting the independent rotation of the head in the other direction, a tool having an exteriorly cylindrical boss formed with a many sided socket to receive the many sided shank, and means engaging the boss and detachably holding the tool in engagement with the shank but permitting the rotation of the tool.

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

KRICOR HOVHANNESIAN.

Witnesses:
DANIEL MACDONALD,
T. E. FOLEY.

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