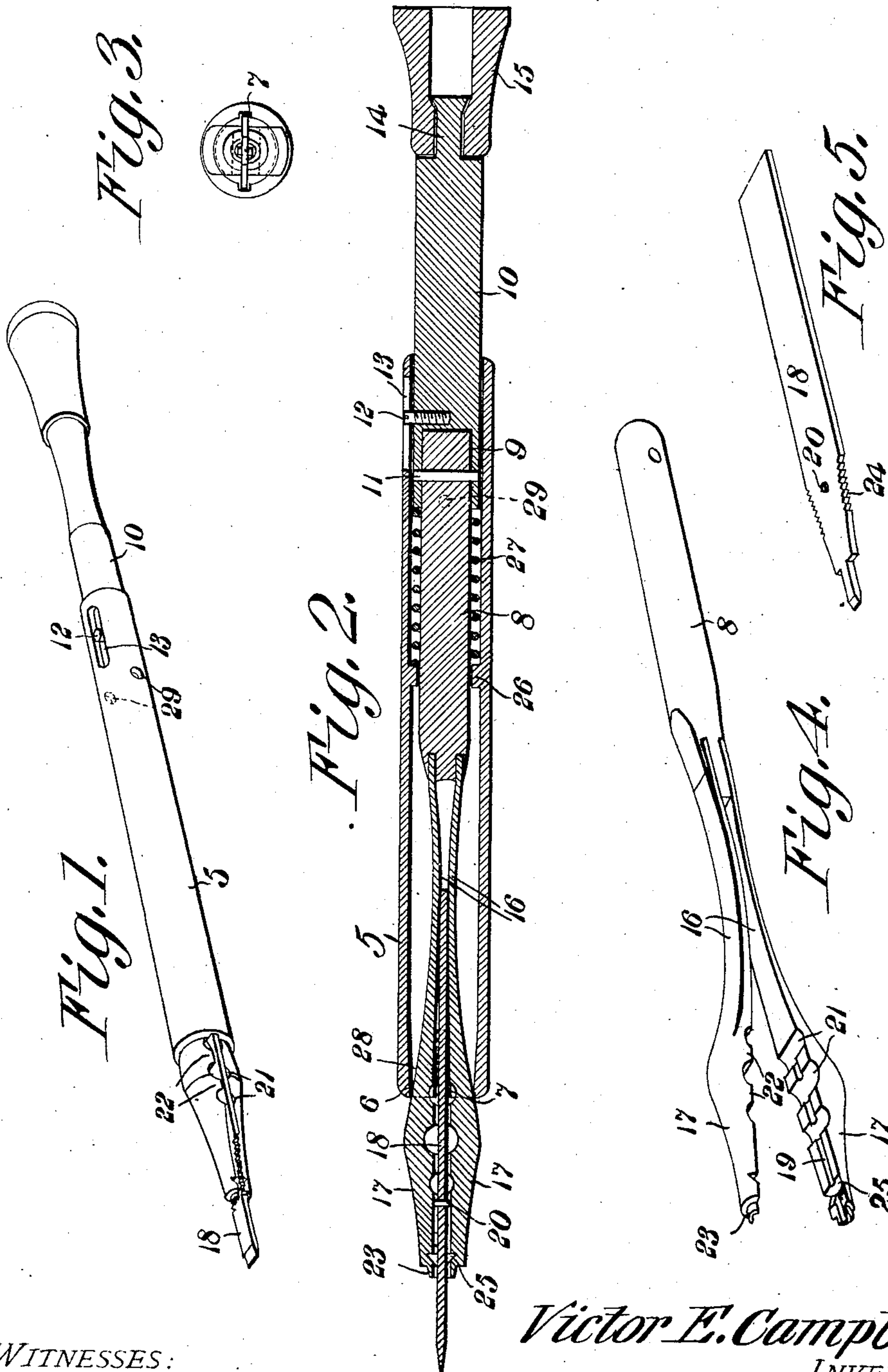


No. 855,280.

PATENTED MAY 28, 1907.

V. E. CAMPBELL.
INTERCHANGEABLE AND ADJUSTABLE SCREW DRIVER AND COMBINED
TOOL HOLDER.

APPLICATION FILED NOV. 14, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

VICTOR E. CAMPBELL, OF PORTLAND, OREGON.

INTERCHANGEABLE AND ADJUSTABLE SCREW-DRIVER AND COMBINED TOOL-HOLDER.

No. 855,280.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed November 14, 1906. Serial No. 343,423.

To all whom it may concern:

Be it known that I, VICTOR E. CAMPBELL, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Interchangeable and Adjustable Screw-Driver and Combined Tool-Holder, of which the following is a specification.

This invention relates to screw-drivers of that general class especially designed for use by jewelers and similar persons and has for its object to provide a comparatively simple and inexpensive tool of this character having a plurality of interchangeable bits or blades whereby the tool may be used for positioning or removing screws of different sizes.

A further object of the invention is to provide a tool having a pair of spring clamping jaws the shanks of which are bowed inwardly thereby to engage the bit or blade and prevent accidental displacement of the same while positioning said blade in the holder.

A further object is to provide a detachable bit or blade having its opposite longitudinal edges serrated or roughened and its side faces provided with laterally extending pins adapted to engage corresponding grooves in the clamping jaws so as to lock the blade against lateral movement.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency as well as to reduce the cost of manufacture.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a perspective view of an implement constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a front elevation of the tool. Fig. 4 is a perspective view of the clamping jaws detached. Fig. 5 is a similar view of one of the removable bits or blades.

Similar numerals of reference indicate cor-

responding parts in all of the figures of the drawings.

The implement consists of a barrel or casing 5 preferably cylindrical in shape, as shown, and having one end thereof provided with an inwardly extending flange 6 having aligned slots or recesses 7 formed therein for the purpose hereinafter referred to.

Slidably mounted within the barrel or casing 5 is a rod or piston 8 one end of which is seated in a recess or socket 9 formed in the adjacent end of a handle 10, said handle and rod being detachably secured together by means of a pin 11 engaging aligned openings formed in the walls of the socket and the adjacent end of the rod, respectively.

Threaded in the handle 10 adjacent the socket 9 is a pin or stud 12 the free end of which engages the walls of an elongated slot 13 formed in the barrel or casing 5 thereby to limit the longitudinal movement of the piston 8.

The free end of the handle 10 is provided with a reduced extension 14 on which is swiveled a finger piece 15 whereby the casing together with the piston may be rotated independently of the finger piece.

Secured in any suitable manner to the rod or piston 8 are the shanks 16 of a pair of spring clamping jaws 17 the latter being adapted to receive and support a removable bit or blade 18.

The clamping jaws 17 are provided with central longitudinally disposed grooves or channels 19 adapted to receive a pin or stud 20 extending laterally from the side faces of the bit 18 thereby to prevent lateral displacement of said bit, there being spaced grooves 21 formed in the adjacent faces of the clamping jaws and defining bearing surfaces 22 adapted to engage the blade, as shown.

The free ends of the clamping jaws are reduced to form an annular flange 23 whereby the jaws may be used for removing the small balance screws of watches and the like when the blade 18 is detached.

Attention is here called to the fact that the intermediate portions of the spring shanks 16 are bowed laterally for engagement with the adjacent end of the blade 18 thereby to assist in preventing accidental displacement of the blade while positioning the same within the holder.

The blades 18 which may be made in different sizes and shapes are each inclined or beveled at their active ends and are provided on their opposite longitudinal edges with serrations or roughened portions 24 thereby to assist in removing the bit from the clamping jaws when the latter are released. The adjacent faces of the clamping jaws 17 are also preferably provided with alined notches or recesses 25 adapted to receive the head of an ordinary screw when the device is used for positioning screws without the employment of the detachable blades.

The interior walls of the casing 5 are provided with an annular shoulder 26 and interposed between said shoulder and the adjacent end of the handle 10 is a coiled spring 27 adapted to force the inclined faces 28 of the jaws in engagement with the flange 6 of said casing and thus clamp the jaws against the blade 18, it being here explained that the notches 7 are for the purpose of guiding the blade between the jaws and within the casing 5.

In using the device a longitudinal pressure is exerted on the finger piece 15 which expands the jaws 17 thus permitting the blade or screw-driver 18 to be positioned between said jaws after which the pressure is removed from the finger piece 15 thus causing the spring 17 to retract the jaws and move the same to closed position in engagement with said blade.

In order to detach the several parts comprising the tool it is merely necessary to remove the screw 12 and move the piston 8 longitudinally and laterally within the casing 5 until the pin 11 registers with alined openings 29 formed in the walls of the casing 5 when the pin may be removed by introducing a suitable tool within the opening and pressing laterally on said pin thus permitting the handle to be detached from the piston and the latter together with the jaws to be withdrawn through the flanged end of the casing.

The blades or screw-drivers 18 may be made in different thickness to accommodate screws of different sizes and if desired other suitable tools such as a milling tool, double edged saw, escapement file or the like may be supported within the clamping jaws in place of the screw-driver shown and described.

While the tool is principally designed for use by jewelers it is obvious that the same may be employed by carpenters and similar persons if desired.

Having thus described the invention what is claimed is:

1. An implement of the class described comprising a casing having one end thereof provided with an inwardly extending flange, clamping jaws carried by the casing and adapted to receive a tool, said clamping jaws being provided with laterally curved spring

shanks adapted to engage the adjacent end of the tool, there being alined recesses formed in the flange for the reception of said tool.

2. An implement of the class described comprising a casing, a rod slidably mounted within the casing and provided with a terminal handle, clamping jaws secured to the rod and having their adjacent faces provided with longitudinal channels, a tool interposed between the jaws and provided with a laterally extending pin adapted to engage the walls of the channel, said jaws being provided with spring shanks having their central portions bowed laterally and adapted to engage the adjacent edge of the tool, and a spring arranged within the casing for holding the rod in retracted position.

3. An implement of the class described comprising a casing having its interior walls formed with an annular shoulder, a rod mounted for longitudinal movement within the casing and provided with a pair of clamping jaws adapted to engage one end of a tool, the intermediate portions of the jaws being curved laterally to form spring shanks adapted to engage the opposite end of the tool, a handle secured to the rod and provided with a terminal finger piece, and a spring interposed between the shoulder and the handle for holding the rod in retracted position.

4. An implement of the class described comprising a casing, a pair of clamping jaws carried by the casing and adapted to engage a tool, said clamping jaws being provided with intermediate laterally curved spring shanks adapted to engage the adjacent end of a tool, the free ends of the jaws being reduced to form a terminal annular flange, a rod slidably mounted within the casing and connected with the shanks of the jaws, a handle secured to the rod and having a finger piece swiveled on the free end thereof, and a spring coiled around the rod for normally holding the same in retracted position.

5. An implement of the class described comprising a casing having an elongated slot formed therein and provided with alined openings, a pair of clamping jaws carried by the casing and adapted to engage a tool, a rod connected with the clamping jaws, a handle having a socket formed in one end thereof for the reception of the rod, a pin connecting the handle and rod and adapted to register with the openings in the casing, a screw carried by the handle and engaging the walls of the slot for limiting the movement of the rod, and a spring coiled around the rod for normally holding the same in retracted position.

6. An implement of the class described including a casing provided at one end with an inwardly extending flange having alined recesses formed therein, spring clamping jaws seated within the casing and having their ad-

5 jacent faces provided with longitudinal channels, a blade interposed between the jaws and seated in said recesses, said blade being provided with oppositely disposed pins adapted to engage the walls of adjacent channels, the longitudinal edges of the blade being serrated thereby to present a roughened gripping surface, and a spring disposed within the casing and operatively connected with the jaws for

yieldably supporting the same in contact with the flange.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

VICTOR E. CAMPBELL.

Witnesses:

N. CAMPBELL,

THOS. E. HUHNE.