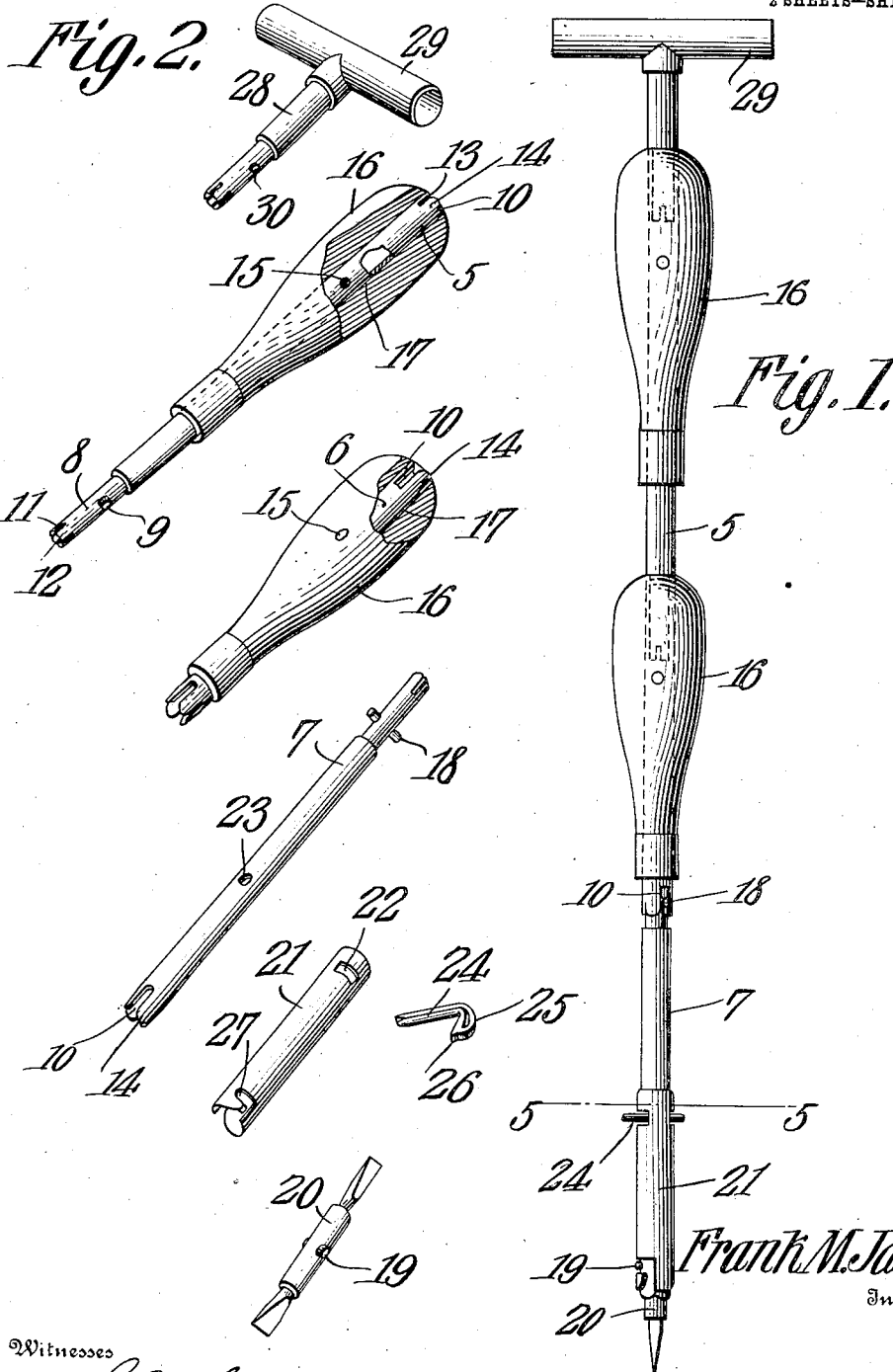


F. M. JACOBS.
DETACHABLE EXTENSION HANDLE FOR TOOLS.
APPLICATION FILED OCT. 25, 1907.

921,840.

Patented May 18, 1909.

2 SHEETS-SHEET 1.



Frank M. Jacobs
Inventor

Witnesses
E. J. Stewart
L. H. Tucker

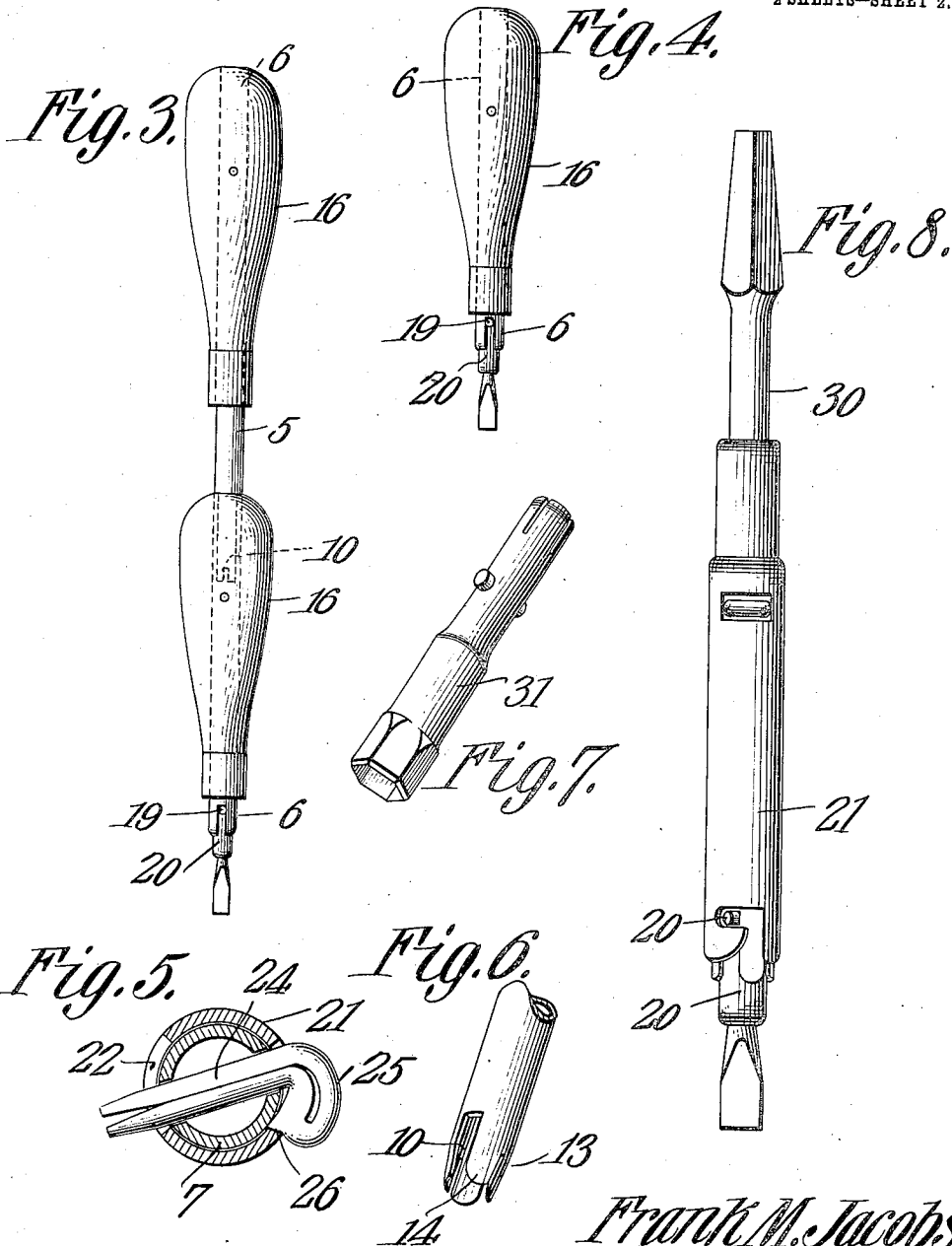
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UNITED STATES PATENT OFFICE.

FRANK M. JACOBS, OF WAYNESBURG, PENNSYLVANIA.

DETACHABLE EXTENSION-HANDLE FOR TOOLS.

No. 921,840.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed October 25, 1907. Serial No. 399,154.

To all whom it may concern:

Be it known that I, FRANK M. JACOBS, a citizen of the United States, residing at Waynesburg, in the county of Greene and State of Pennsylvania, have invented a new and useful Detachable Extension-Handle for Tools, of which the following is a specification.

This invention relates to detachable extension handles for screw drivers, gimlets, awls, and similar tools and has for its object to provide a comparatively simple and inexpensive device of this character for attachment to different kinds of tool bits so that the same may be conveniently manipulated without the necessity of employing individual handles for said tool bits.

A further object of the invention is to provide an extension handle comprising a plurality of detachable sections having interengaging parts and capable of being readily united to lengthen or shorten a tool and which may be quickly disconnected so as to permit the several sections to be compactly assembled in a small compass for transportation or shipment.

A further object is to provide means for locking the tool bits in engagement with the tubular sections, and means for locking one handle in engagement with an adjacent handle thereby to produce a double hand grip.

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.

Further objects and advantages will appear in the following description, 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 side elevation of a tool handle constructed in accordance with my invention showing the several sections comprising the handle detachably united to form a relatively long shank. Fig. 2 is a perspective view showing the several sections comprising the handle disconnected. Fig. 3 is a side elevation showing two of the sections united to form a double hand grip. Fig. 4 is a similar view showing a tool bit in position on one of the handles. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1. 6 is

an enlarged detail perspective view of one end of one of the tubular members. Fig. 7 is a perspective view of a detachable wrench socket for use in connection with the extension handle. Fig. 8 is a side elevation of a bit stock showing a detachable bit in position thereon.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved device forming the subject matter of the present invention comprises a plurality of detachable sections 5, 6 and 7, said sections being tubular in cross section and formed of metal or other suitable material.

One end of the section 5 is provided with a reduced portion 8 and is adapted to engage the interior walls of the adjacent section 6, said reduced portion being provided with a transverse locking pin 9 which engages correspondingly shaped slots 10 formed in the adjacent end of the section 6 when said sections are united.

The metal forming the terminal portion of the extension 8 is cut or slit longitudinally at 11 to form a plurality of spring fingers 12 adapted to yieldably engage the interior walls of the member 6 and thus assist in preventing accidental displacement of the sections.

The metal on each side of the slots 10 is also slit longitudinally at 13 to produce spring fingers 14 the terminals of which are curved or rounded and deflected inwardly so as to exert a spring clamping action on the adjacent section. Secured to the sections 5 and 6 in any suitable manner as by transverse pins 15 are hand grips 16 each provided with a longitudinal bore 17 for the reception of the adjacent tubular section, as shown.

The upper or enlarged end of each handle 16 is curved or rounded and terminates flush with the adjacent end of the tubular member or section so that when a single hand grip is employed a smooth exterior surface will be presented to the hand of the operator.

The section 7 is used in connection with either or both of the hand grips 16 in order to lengthen the tool so that the latter may be employed for positioning screws or performing other work where an ordinary screw driver would prove inadequate.

One end of the section 7 is provided with a transverse locking pin 18 similar in construction to the locking pin 9 of the section 5 while the opposite end thereof is provided

with terminal slots and spring fingers similar in construction to the slots and spring fingers on the section 5.

The slots 10 of the several tubular members or sections are designed to receive the locking pins 9 or similar pins 19 formed on a removable tool bit 20. As a means for locking the tool bit 20 in engagement with the free end of the section 7 the latter is provided with a tubular member or sleeve 21 which is slidably mounted on the exterior walls of the section 7 and is provided with oppositely disposed transverse slots 22 adapted to register with an opening or perforation 23 formed in said section for the reception of a locking pin 24. The locking pin 24 extends transversely through the aperture 23 and is provided with an enlarged head 25 adapted to be seated in the adjacent transverse slot 22, said head being formed with a shoulder 26 for engagement with the adjacent wall of the slot 22 thereby to prevent rotation of the locking member or sleeve 21. The lower end of the sleeve or locking member 21 is formed with oppositely disposed bayonet slots 27 adapted to accommodate the pins 19 on the bit 20 thereby to assist in preventing withdrawal of the bit from the section 7. It will thus be seen that by moving the head 25 of the locking pin laterally until the shoulder 26 clears the adjacent wall of the locking member 21 said member may be rotated until the mouth of each bayonet slot registers with the adjacent end of the pin 19 when the bit 20 may be withdrawn from the tubular member 7.

In order to lock the bit in position on the section 7 it is merely necessary to rotate the tubular member 21 in the opposite direction and force the pin 25 laterally until the shoulder 26 engages the adjacent wall of the slot 22 when the tubular member will be locked against rotation with the walls of the bayonet slot extended in the path of movement of the pins 19 so as to effectually prevent accidental displacement of said bit.

Combined with the tubular sections 5, 6 and 7 is an auxiliary section or handle 28 having a T shaped hand grip 29 and provided with a locking pin 30 adapted to engage the slots 10 of any one of the detachable sections.

When it is desired to form an extra long handle the tubular sections 5, 6 and 7 are assembled with the locking pin of one section engaging the slots of the adjacent section after which the desired tool bit is placed in position on the section 7 and fastened thereon by means of the sleeve 21 and locking key 24.

When the several sections are combined in this manner the handles 16 afford a double hand grip so as to facilitate manipulating the tool.

When an additional grip is desired, however, the auxiliary handle 28 is inserted in

the adjacent end of the tubular member 5, as best shown in Fig. 1 of the drawings.

If it is desired to shorten the tool the auxiliary handle 28 and tubular member 7 are disconnected by exerting a longitudinal pull on the same and the bit 20 inserted in the lower end of the section 6 with the locking pins 19 engaging the walls of the adjacent slots 10, as best shown in Fig. 3 of the drawings.

In some classes of work it is desirable to employ a tool having a single operating handle or hand grip and a device of this character is illustrated in Fig. 4 of the drawings in which the bit 20 is supported in the end of the tubular member or section 6.

In Fig. 8 of the drawings there is illustrated a bit stock 30 the shank of which may be provided with a hand grip or inserted in an ordinary brace in the usual manner.

A suitable form of tool may be used in connection with the bit stock 30 such as an auger, drill bit and the like, the bit 20 being shown by way of illustration in connection with the stock or shank 30 and locked in position thereon by a tubular member or sleeve similar in construction to the sleeve shown in Fig. 1 of the drawing.

A detachable wrench socket 31 is shown in Fig. 7 of the drawings for attachment to any one of the tubular sections comprising the extensible handle.

It will thus be seen that by connecting or disconnecting the several sections comprising the handle the latter may be lengthened or shortened at will so that the same may be used for different purposes.

It will also be noted that by forming the handle of a plurality of detachable sections said sections may be readily disconnected and compactly folded in a small compass for transportation or storage.

The several sections are interchangeable and reversible and may be readily assembled or disconnected by an unskilled person.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive and efficient device admirably adapted for the attainment of the ends in view.

Having thus described the invention what is claimed is:

1. A tool including a plurality of detachable sections having interlocking parts and each provided with a hand grip; a tubular extension detachably secured to one of the hand grips and provided with a transverse aperture, means carried by the extension for engagement with a tool bit, a locking member mounted for rotation on the tubular extension and adapted to engage the tool bit, and a locking pin extending through the locking member and said aperture.

2. A tool including a plurality of tubular sections provided with interengaging parts,

a tubular extension secured to one of said sections and provided with oppositely disposed slots defining spring fingers, a tool bit having a laterally extending pin adapted to engage said slots, a locking member slidably mounted on the tubular extension and provided with bayonet slots adapted to receive the pins on the tool bit, and a locking key extending through the locking member and tubular extension.

3. A tool including terminal sections each having one end thereof provided with a laterally extending locking pin and its opposite end formed with spaced longitudinal slots, there being spring fingers disposed between the slots, and an intermediate section having its opposite ends formed with longitudinal slots adapted to receive the locking pins of the adjacent terminal sections.

4. A tool including terminal sections each having one end thereof provided with a laterally extending pin and spaced spring fingers, the opposite ends of said sections being formed with longitudinal slots, an intermediate section having its opposite ends provided with oppositely disposed slots adapted to receive the pins of the terminal sections, and hand grips carried by the intermediate section and one of the terminal sections.

5. A tool including terminal sections each having one end thereof provided with a transverse pin and its opposite end formed with longitudinal slots defining spring fingers, an intermediate section having oppositely disposed slots for engagement with the transverse pins, there being an aperture extending transversely through one of the terminal sections, a bit having laterally extending locking pins adapted to engage the slots in one of the terminal sections, a locking member mounted for rotation on said section and provided with bayonet slots adapted to receive pins of the tool bit, there being transverse slots formed in the locking member, and a locking key extending through the slots in the locking member and the aperture in the adjacent terminal section and provided with a shoulder adapted to engage the adjacent wall of the transverse slot of said locking member for preventing rotation of the latter.

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

FRANK M. JACOBS.

Witnesses:

JERRY E. DEBOLT,
J. WARREN JACOBS.