(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 388 007 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90301479.3**

(51) Int. Cl.[5]: **B25B 15/00**

(22) Date of filing: **12.02.90**

(30) Priority: **11.02.89 GB 8903127**

(43) Date of publication of application:
19.09.90 Bulletin 90/38

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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(54) A Hand Tool.

(57) The present specification discloses a hand tool such as a screwdriver or chisel. Such tools are required in different sizes for different jobs, requiring the handyman to purchase a number of different tools to cover all eventualities.

The present invention overcomes the above problem by providing a hand tool comprising a handle (1) to which a working head (5) is attached, the working head (5) having a number of radially projecting tool heads (7), which tool heads (7) can be of different sizes and type, as desired. The working head (5) is rotatable to any one of a number of positions and lockable in any selected position so that the selected tool head (7) is an axial extension of the handle (1) and available for use.

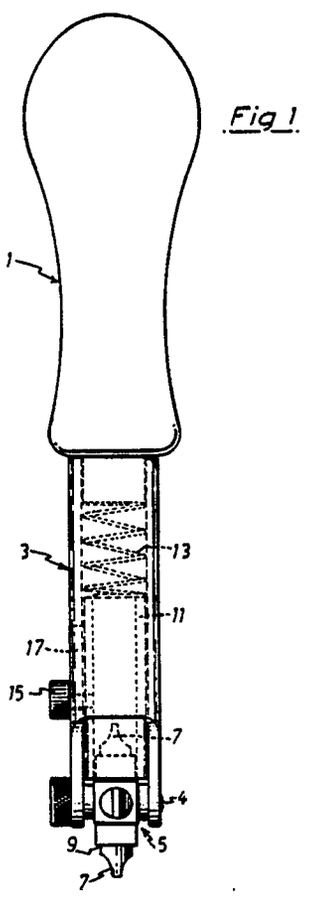

Fig 1.

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A HAND TOOL

The present invention relates to a hand tool.

In particular the present invention relates to a hand tool of the screwdriver or chisel type. As will be appreciated different size screwdrivers are required to cater for different sizes of screws and also different sizes of chisel are required to complete different jobs. The provision of a range of sizes of screwdrivers and/or chisels is expensive and also cumbersome for both storage and if all of the tools have to be carried to different work locations. This problem has previously been noted, especially with regard to screwdrivers, the solution being to provide a single handle to which any one of a number of different size screwdriver heads can be simply detachably attached. However such relatively small screwdriver heads can be easily mislaid or lost.

The aim of the present invention is to provide a versatile hand tool of the screwdriver or chisel type, which obviates the possibility of loss of the working head.

According to the present invention there is provided a hand tool comprising a handle to which a working head is attatched, the working head having a number of radially projecting tool heads and being rotatable to any one of a number of positions and lockable in any selected position.

The present invention will hereinafter be described, for the sake of simplicity, solely with reference to a screwdriver. However it must be appreciated that the present invention is equally applicable to a chisel or any other hand tool of similar type.

In a prefered embodiment of the present invention the tool has a handle which is secured to one end region of an elongate, square section, hollow tubular member, a working head being mounted at the other end region of the tubular member, for rotation about an axis transverse to the longitudinal axis of said tubular member. The working head has four different screwdriver tool heads projecting like spokes of a wheel normally relative to said rotational axis and at right angles to each other. Thus the working head may be rotated to a position where a selected screwdriver tool head is projecting along the longitudinal axis of the tubular member, away from the handle. To lock the working head in the selected position and enable the tool to be used, a further elongate, square cross-section, tubular member is axially slidably located within said tubular member. This further tubular member can be axially moved within said tubular member to engage part of the working head and lock the working head in the selected rotational position. To facilitate movement of the further tubular member, a lateral projection may extend from the further tubular member through an axially extending elongate slot in the said hollow tubular member. Further, said elongate tubular member is preferably spring biased to the locked position so that it is retracted against the spring only when the working head has to be rotated to select an alternative tool head for use. Alternative locking means may of course be substituted.

The present invention will now be further described, by way of example, with reference to the accompanying drawings, in which:-

Fig.1 is a partially cutaway view of a preferred embodiment of the present invention;

Fig.2 is a partially cutaway view of part of the embodiment of Fig.1, taken at right angles to Fig. 1; and

Fig. 3 is an exploded view of an alternative locking arrangement for the working head.

The preferred embodiment of the present invention illustrated in the acccompanying drawings is a screwdriver comprising a handle 1 which is secured to one end region of an elongate, square cross-section, hollow tubular member 3. A working head 5 is mounted at the other end region of the tubular member 3, for rotation about an axis 4 which is transverse to the longitudinal axis of said tubular member 3. The working head 5 is generally cross-shaped with four different screwdriver tool heads 7 projecting normally to the said rotational axis, one from each of the four end faces 9 of the arms 10 of generally cross-shaped working head 5. Thus the working head 5 can be rotated to a position where a selected screwdriver tool head 7 is projecting along the longitudinal axis of the tubular member 3, away from the handle 1.

To lock the working head 5 in a selected rotational position and enable the tool to be used, a further elongate, square cross-section, tubular member 11 is axially slidably located within said tubular member 3 and is biassed by a spring 13 against part an arm 10 of the working head 5. To release the working head 5 so that it can be rotated to select another tool head 7, said further tubular member 11 can be manually moved by sliding a lateral projection 15 of said further tubular member 11 along a slot 17 in the wall of said tubular member 3, against the force of spring 13. Alternative means can of course be substituted for holding the working head 3 in a selected rotational position. For example, a U-shaped member 19 (see Fig. 3) can be mounted on a bolt 21 together with a spring 23, the bolt 21 forming the rotational axle for a generally cuboid working head 5. The bolt 21 has a knurled head 25 so that it can be easily rotated

manually. Thus the bolt 21 can be tightened to compress spring 23 and move U-shaped member 19 into engagement around the cuboid working head 5, the working head 5 being thus locked in the selected rotational position. By slackening the bolt 21 the spring 23 moves the U-shaped member 19 out of engagement with the working head 5 and allows the working head to be rotated to another desired position.

As previously mentioned, whilst the above refers to a screwdriver, the present invention is equally applicable to other hand tools of similar type, e.g. a chisel.

The present invention thus provides a hand tool which has a number of different tool heads, any one of which can be selected and all of which are not detachable and therfore cannot be mislaid.

Claims

1. A hand tool comprising a handle (1) to which a working head (5) is attached, characterised in that the working head (5) has a number of radially projecting tool heads (7) and is rotatable to any one of a number of positions and lockable in any selected position.

2. A hand tool as claimed in claim 1, in which the handle (1) is secured to one end region of an elongate member (3), the working head (5) being mounted at the other end region of the elongate member (3) for rotation about an axis (4) transverse to the longitudinal axis of said elongate member (3).

3. A hand tool as claimed in claim 2, in which the working head (5) has four different screwdriver tool heads (7) projecting like spokes of a wheel normally relative to the rotational axis (4), with adjacent tool heads (7) being at right angles to each other.

4. A hand tool as claimed in claim 2 or 3, in which a further elongate member (11) is slidable along said elongate member (3) to engage part of the working head (5) and lock the working head (5) in the selected rotational position.

5. A hand tool as claimed in claim 2, in which the elongate member (3) is a hollow tubular member, with a further elongate tubular member (11) being axially slidable therein to engage the working head (5) and thus lock the working head (5) in a selected rotational position.

6. A hand tool as claimed in claim 5, in which the further elongate member (11) has a lateral projection (15) which extends through an axially extending elongate slot (17) in the said hollow tubular member (3), to facilitate movement of the further elongate member (11) relative to said hollow tubular member (3).

7. A hand tool as claimed in any one of claims 4 to 6, in which a spring (13) biasses the said elongate member (3) and the further elongate mbmer (11) to a relative position wherein the working head (5) is locked in a selected rotational position.

8. A hand tool as claimed in any one of claims 4 to 7, in which a screw threaded means (21,25) is provided for securing the working head (5) in a selected rotational position.

Fig 1

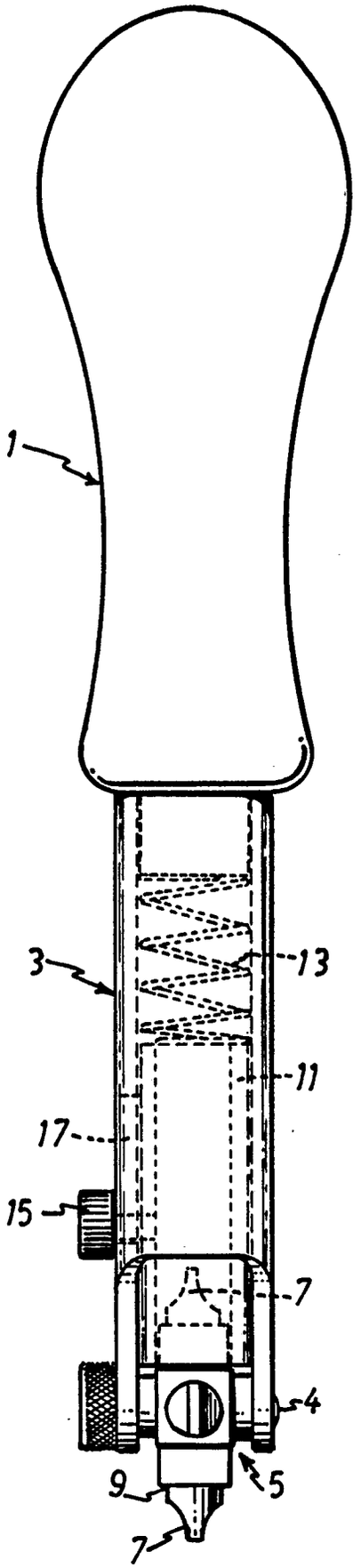
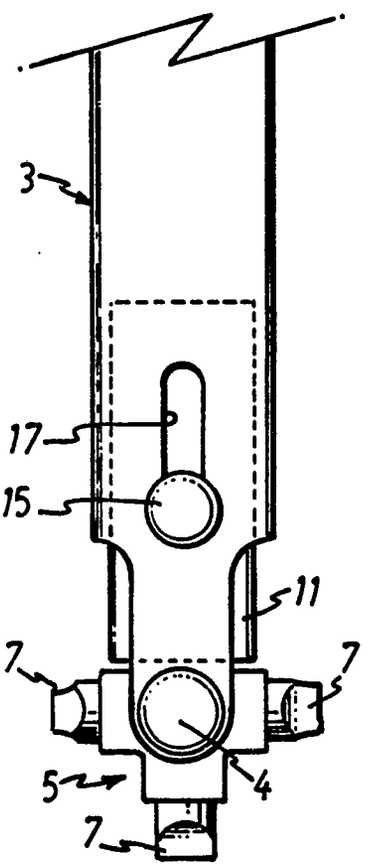


Fig 2



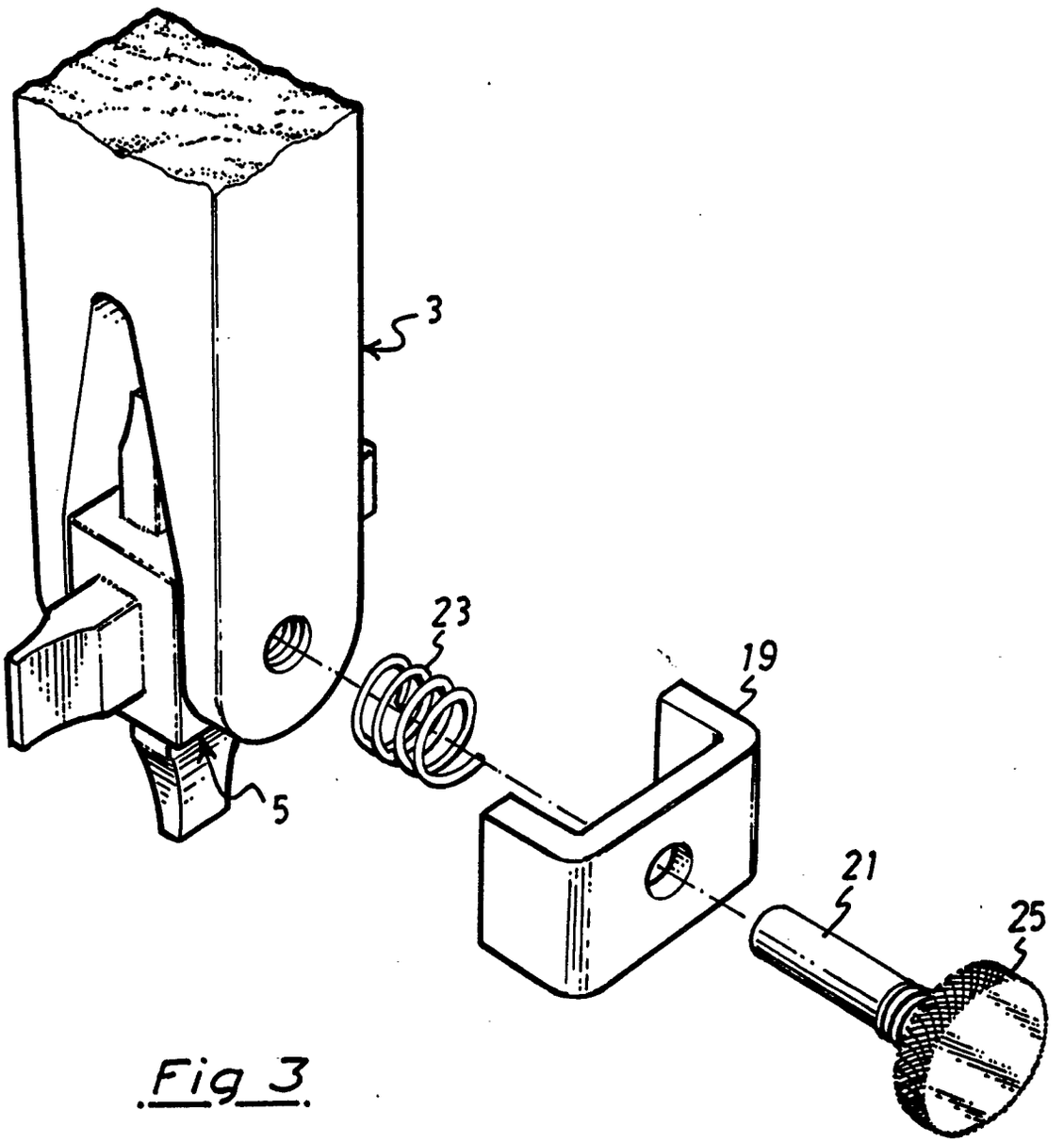


Fig 3

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EUROPEAN SEARCH REPORT

Application number

EP 90301479.3

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int Cl 5)
X	GB - A - 297 584 (ALTENBACH) * Fig. 1 * --	1-3	B 25 B 15/00
X	US - A - 687 871 (BESSETTE) * Fig. 2 * --	1-3,8	
X	US - A - 750 182 (FURBISH) * Fig. 2,3 * ----	1,2, 4-7	

TECHNICAL FIELDS SEARCHED (Int Cl 5)

B 25 B 15/00
B 25 F 1/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	02-05-1990	BENCZE

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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