This invention relates to tools and machinery of the character used about the farm and other places where equipment is needed and it is desirable to obtain maximum service from a relatively small amount of equipment.

The invention is directed particularly to handles for tools, which handles may be employed in a plurality of positions for more convenient operation of the tools to which the handles are applied. It is an object of the invention to provide a handle having relatively movable portions which can be disposed in different positions while being held at the proper degree of angularity relative to the axis of the tool or structure to which the handle is attached.

Another object of the invention is to provide a handle which can be readily attached and removed with relatively movable gripping and attaching portions fastened together in a manner that may be quickly adjusted without the use of tools or the like and which can also be restored to their original positions with equal facility. A further object of the invention is to provide a handle of few parts which is relatively easy, simple and inexpensive to produce.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a side elevation illustrating one application of the invention in connection with a saw blade with the attaching and gripping parts disposed substantially at right angles, that is, the attaching portion being substantially in alignment with the axis of the saw blade and the gripping portion being disposed substantially at right angles thereto;

Fig. 2, a similar view but with the gripping portion of the handle disposed in a position substantially in alignment with the axis of the saw blade;

Fig. 3, a longitudinal section through the handle of Fig. 1, exposing the connection between the parts of the handle;

Fig. 4, a similar fragmentary view illustrating the relation of the parts during the adjusting of the gripping portion of the handle relative to the attaching portion; and

Figs. 5 and 6, sections respectively on the line 5—5 and 6—6 of Fig. 3.

Briefly stated, the invention comprises a handle for a saw blade or other implement which handle has a portion for attachment directly to the blade and a gripping portion by means of which the saw or implement can be operated. The attaching and gripping portions of the handle are separate members joined along a line disposed at an angle of substantially 45° to the axis, of the device to which the handle is attached so that the gripping portion of the handle can either be disposed axially or transversely to the axis of the implement. The portions of the handle are provided with cooperating rib and groove structures for maintaining the parts in the proper relative positions with a bolt or stud forming the pivot or connection between the parts being movable axially in one of the handle portions by compression of a helical spring confined between the head of the bolt and a fixed portion of the handle. Tension on the bolt is variable by means of a nut threaded on the end of the stud opposite to that on which the spring is carried. Thus the gripping portion of the handle may be adjusted to a number of angular positions four of which are illustrated in Fig. 5.

The grooves receive the single rib of Fig. 6 in any desired position.

With continued reference to the drawings, the handle may be applied to a piece of equipment of any desired character, for example, to a saw blade 10, having a reduced portion 11 with a notch 12 and an opening 13 to facilitate the attachment of a manipulating handle thereto. The handle of the present invention comprises an attaching member 14, and a hand grip or gripping portion 15, by means of which sawing or operation of the implement can be accomplished. The attaching portion 14 includes a slot or bifurcation 16, a fixed rivet 17 and a clamping about which a stud 18 with a wing nut 19 on the end of the same for clamping the parts in assembled relation or at least to permit the handle to be detached from the implement.

The attaching portion 14 of the handle is provided with a shoulder 20 against which pressure can be applied during the use of the implement, and the configuration of this and the adjacent portion of the handle along with the portion that is adapted to be gripped is of a shape to accommodate itself to the hand of the operator.

With the structure disclosed in Fig. 1, the portion of the handle adapted to be gripped is substantially at right angles to the remaining portion of the handle and the saw blade. It is sometimes desirable to have this member disposed substantially in alignment with the attaching portion of the saw blade or other implement or in a different position substantially at right angles thereto, in order to accomplish this the attaching and gripping portions of the handle are joined along a line 21 substantially at an angle of 45° to the axis of the respective portions of the handle and the implement to which the handle is adapted to be applied and a pivot or connection is employed about which the parts of the handle are resiliently held in assembled relation.

The attaching portion 14 is provided with a cylindrical cavity or well 22 which extends to the joint 21 between the parts also the gripping portion 15 is provided with a similar well or cavity 23, and a reduced bore or opening 24. The 45° surfaces of the attaching and gripping portions of the handle are provided respectively with sockets 25 and 26 in which are disposed blocking plates 27 and 28 for maintaining the parts in a definite position with pressure applied to the plates maintaining them in contact one with the other. The plate 27 is provided with longitudinal, diagonal and transverse grooves 29, 30 and 31 respectively and the plate 28 is provided with a rib 32 for location in either of said grooves. In order to maintain the plates 27 and 28 in intimate contact with the rib 32 in one of the grooves 29, 30, and 31, a stud or bolt 33 is employed having an enlarged head 34 on one end and having a threaded nut 35 on its opposite end. The plates 27 and 28 are attached by means of screws 36 and a helical spring 37 is confined between the large head 34 of the stud or bolt so that the parts are held together by the action of this spring. The adjustment of the nut 35 serves to vary the tension.

From the above it will be understood that the invention is a handle capable of being used with tools or implements of various kinds in which different angle
positions of the handles are sometimes desired and obtainable. Furthermore, the handle can be easily attached or removed and adjustment of the parts made by simple compression of the spring and relative rotation of the parts to the desired position.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited to that which is shown in the drawing and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. An L-shaped handle for application to a tool comprising an attaching portion, a gripping portion and an intermediate curved portion, means to attach one end of the attaching portion to a tool, said attaching portion and gripping portion being separated at the intermediate portion by circular abutting substantially flat surfaces arranged at approximately 45° to the length of said attaching portion and said gripping portion respectively, each handle portion having holes substantially at the center of said circular abutting surfaces with a pivot pin extending through said holes, an enlarged opening in one handle portion into which one end of said pivot pin extends, shoulders formed on the walls of the opening at the point where the pivot pin enters said opening, a spring mounted around the end of the pivot pin and abutting said shoulders and an abutment means formed on the end of the pivot pin, means for holding the opposite end of the pivot pin in the hole formed in the other handle portion, said spring holding the two handle portions resiliently together, radial grooves on one of said circular abutting surfaces, and a radial rib on the other of said circular abutting surfaces to fit in the grooves for locking said attaching portion and gripping portion in various angular relations including approximately a right angle relation and approximately a straight line relation whereby the handle may be used in limited space.

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