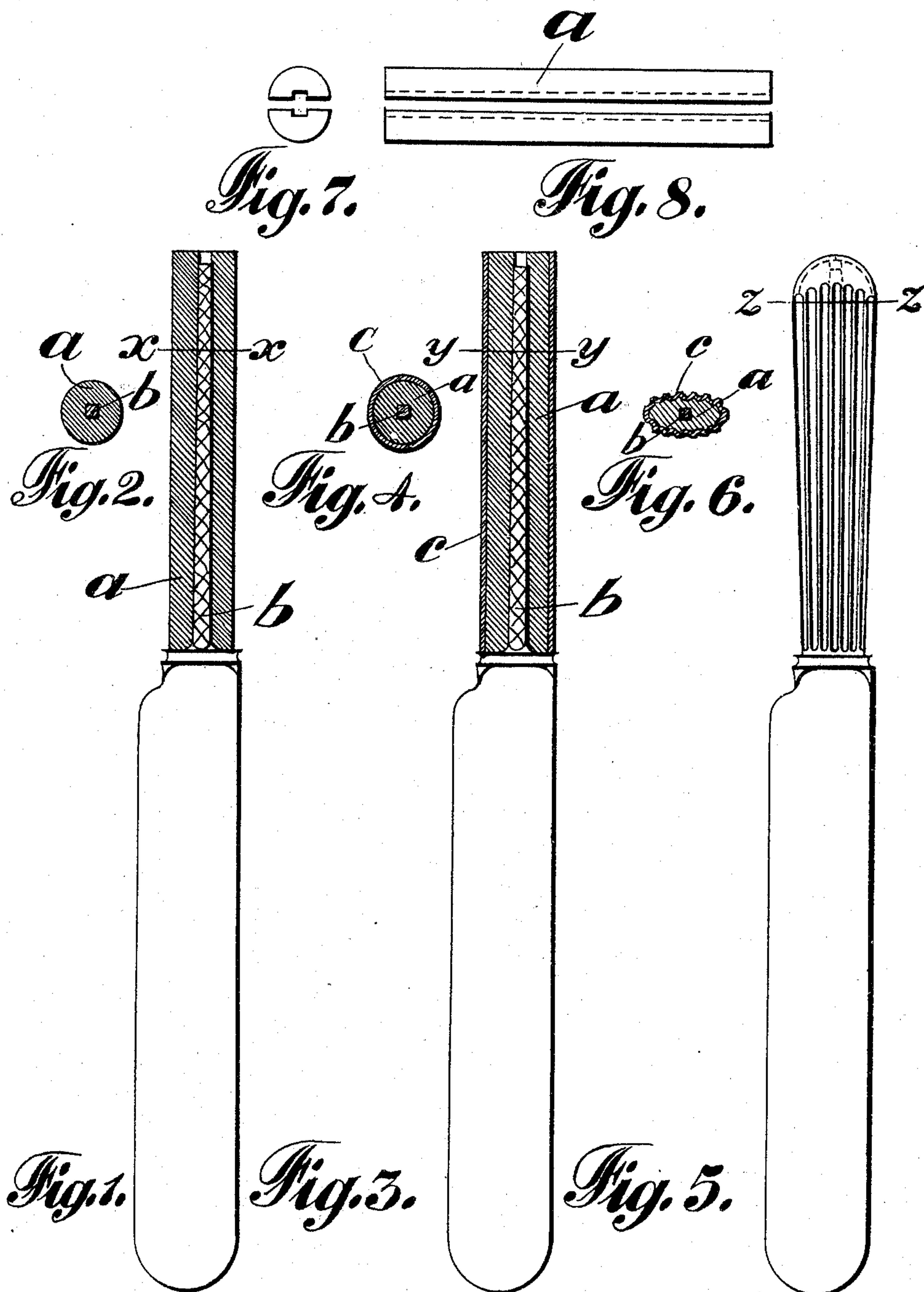


W. B. HATFIELD.
METAL HANDLE FOR TABLE CUTLERY.
APPLICATION FILED OCT. 16, 1908.

928,515.

Patented July 20, 1909.

2 SHEETS—SHEET 1.



Witnesses.
Charles Norris
Matthias Triffin.

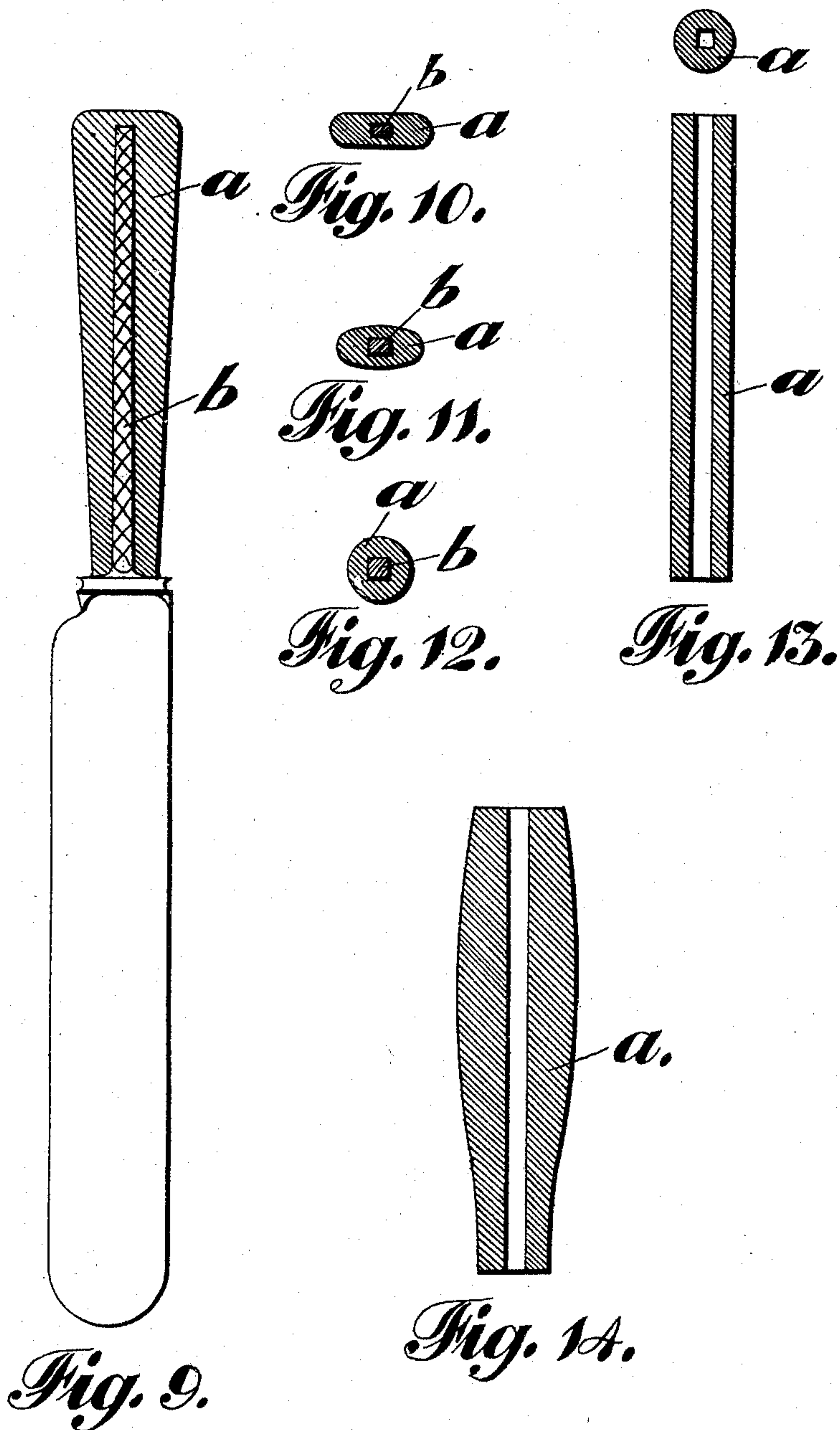
Inventor.
William Barker Hatfield
By his Attorney, *W. B. Hatfield*

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Witnesses
Charles E. Norris
Matthew Griffin

Inventor.
William Barber Hatfield
By his Attorney. M. M. Allen

UNITED STATES PATENT OFFICE.

WILLIAM BARKER HATFIELD, OF SHEFFIELD, ENGLAND.

METAL HANDLE FOR TABLE-CUTLERY.

No. 928,515.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed October 16, 1908. Serial No. 458,125.

To all whom it may concern:

Be it known that I, WILLIAM BARKER HATFIELD, a subject of the King of Great Britain and Ireland, and resident of Sheffield, Yorkshire, England, have invented certain new and useful Improvements in and Relating to Metal Handles for Table-Cutlery and other Like Handles, of which the following is a specification.

This invention relates to the metal handles of cutlery, including the handles of forks, swords, daggers, bayonets and the like, and also the handles of surgical instruments and other and like objects with which a metal handle is required.

It also refers to metal handles which, for the sake of cheapness and lightness, are made hollow, and its object is to provide means for more readily forming and fixing such handles than heretofore, and, in the case of knives, to effect the attachment of the handles without affecting the temper of the blades.

According to the invention use is made of a tube of aluminium or like metal approximating in length to the length of handle required and in cross sectional area equal to the cross section of the handle required. Such tube, ready made, is placed in a cold state upon the tang of the knife or other object to which the handle is applied. To avoid repetition the expression knife tang wherever used throughout this specification will be understood to include the tang of any of the objects aforesaid to which the invention is capable of being applied. Over the said aluminium tube, before or after being applied to the knife tang, is placed a thin tube or sleeve of German silver or the like, of which the handle proper is to be made. This sleeve is slightly longer than the tube of aluminium and the aluminium tube is slightly longer than the tang. The sleeve and tube thus applied to the tang are then placed between dies and by such dies the tube is caused to flatten and tightly fix itself to the knife tang and the sleeve is also caused to flatten and form the desired shape of handle, the fixing and forming of the handle being thus performed at one operation.

The dies are so proportioned as to close in the open end of the sleeve and afford a neat finish to the outer end of the handle and they also are so proportioned in relation to the cross-sectional area of the tube to pro-

duce a handle of equal cross sectional area at all points in the length of the handle, thus avoiding any thinning of the outer sleeve, and insuring of a very solid construction of handle.

The invention is illustrated upon the accompanying drawing, in which,

Figure 1 illustrates an ordinary knife blade, this latter having applied to its tang a tube of soft compressible metal. Fig. 2 illustrates a cross section of Fig. 1 on line $x-x$. Fig. 3 illustrates the same knife blade, tang and soft metal tube, with the metal of the intended handle placed upon the tube in the form of a sleeve of German silver or like metal. Fig. 4 illustrates a cross section of Fig. 3 on line $y-y$. Fig. 5 illustrates the completed handle, while Fig. 6 illustrates a cross section of the same on line $z-z$. Figs. 7 and 8 illustrate end and side views of a modification. Fig. 9 illustrates how the compressible tube may serve as the handle proper and the outer sleeve be dispensed with. Figs. 10, 11 and 12 illustrate cross sections of different parts of the handle shown in Fig. 9. Figs. 13 and 14 illustrate two different examples of the compressible metal tube prior to being applied to a tang.

As shown in Figs. 1 and 13, a is the soft compressible aluminium tube which is parallel sided and which is made ready for threading on to the tang b . Such tang is roughened in order to insure of the soft metal becoming firmly fixed to it when compressed. c is the sleeve of German silver or the like which closely fits the tube a . After placing the sleeve c on the tube a , the tang is placed between dies by which the final shape is given to the handle, the pressure causing the sleeve c to take the form of the dies and the soft metal a to spread out within the sleeve c , and, by following the contour of the sleeve, firmly fixing it to itself and to the tang. The end of the sleeve farthest from the knife blade will be closed in by the dies, the metal being sufficiently thin. Any surplus edges at the end of the handle are afterward ground off. The handle may be plain, or it may be formed with any suitable pattern, the indentations of the pattern further helping to fix it to the tube a , see Fig. 6. The tube a will preferably be made in long lengths and cut up into the short lengths as required. Instead of being in one piece the sleeve may be formed in two longitudinal half-parts, see Figs. 7 and 8, each

half-part having a recess to enable it to fit the tang and, when applied to the tang, held thereto by the sleeve *c*. The cross-section of the dies will be practically the same circumference at all points thereby equally distributing the metal and insuring of a solid handle. By omitting the sleeve *c* the tube *a* itself may form the handle, see Fig. 9, the metal being placed on to the tang and then pressed into the desired shape of handle and simultaneously fixed to the tang by the dies. Figs. 10, 11 and 12 show the cross-section of the handle at three different points, the circumferences of the several sections being practically equal to each other.

Fig. 14 shows one of the more common shapes of handles the tube *a* in all cases being so proportioned as to entirely fill the dies at all points, which are made to suit the shape of handle required.

What I claim is:—

1. In simultaneously forming and fixing the metal handles of cutlery and like handles, applying a tube of aluminium or like metal in a cold state to the tang like part of the article to which the handle is to be applied, the tube being slightly longer than the tang; then applying the metal of which the handle is to be made in the form of a thin sleeve to the said tube, the sleeve being slightly longer

than the tube; and then subjecting the tube and sleeve to pressure between dies which thereby give the final form to the handle and simultaneously cause the tube of aluminium to become spread out within the sleeve and thus fix the sleeve to the tang, the tube, sleeve and the dies being of such proportions as to insure of a solid handle and a uniformity of cross section at all points of the handle and being also such as to insure of the open end of the sleeve being closed, substantially as herein set forth.

2. For forming and fixing cutlery handles and the like, applying a tube of aluminium or like metal in a cold state to the tang or like part of the article to which the handle is to be applied, the tube being slightly longer than the tang, and then subjecting the tube to pressure between dies, which thereby simultaneously give the final form to the handle and fix the tube to the tang, the tube and dies being of such proportions as to insure of a solid handle at all points, substantially as herein set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM BARKER HATFIELD.

Witnesses:

CHAS. GUEST NORRIS,
MATTHIAS GRIFFIN.