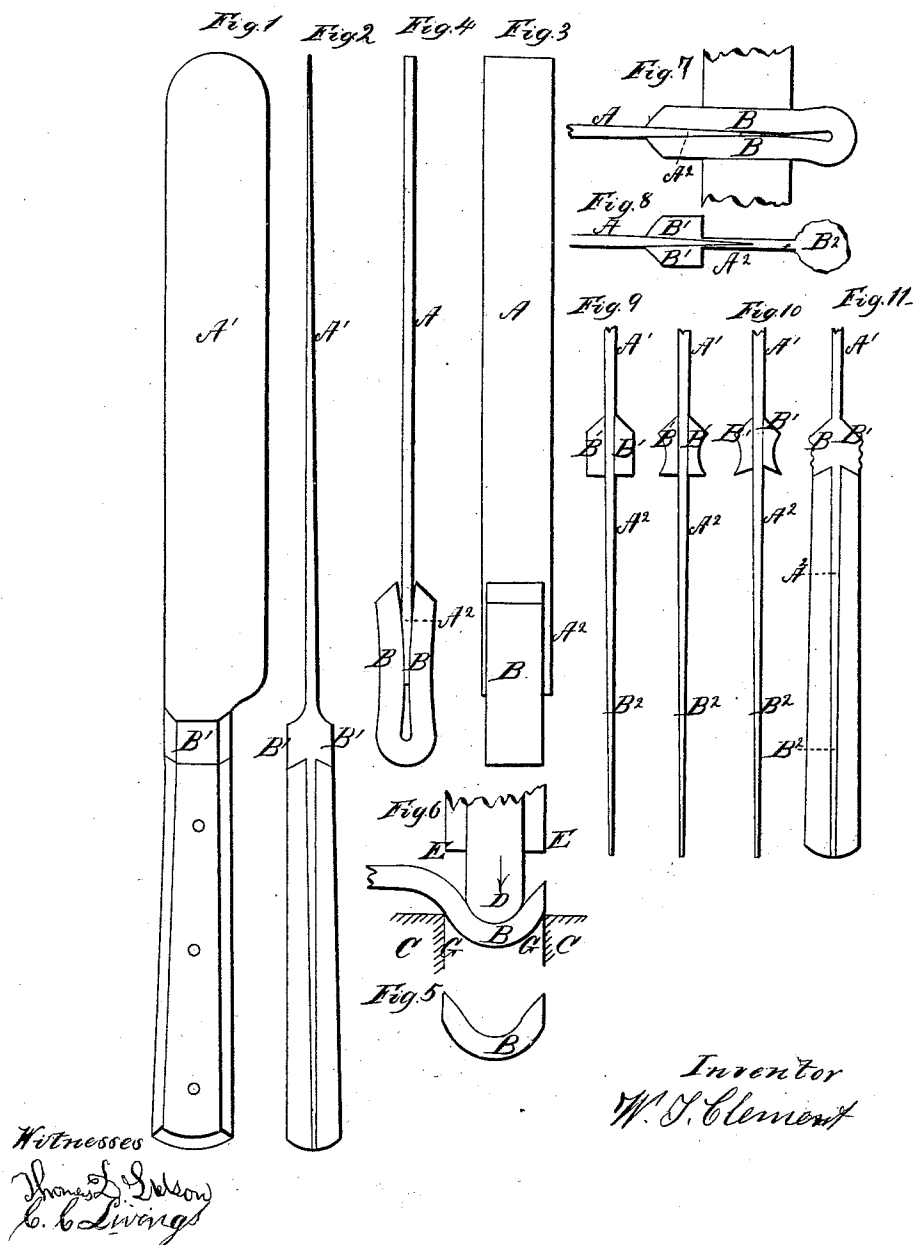


W. T. Clement,
 Table Cutlery.
 N^o 83,831. Patented Nov. 10, 1868.



United States Patent Office.

W. T. CLEMENT, OF NORTHAMPTON, MASSACHUSETTS.

Letters Patent No. 83,831, dated November 10, 1868; antedated October 28, 1868.

IMPROVEMENT IN CUTLERY.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, W. T. CLEMENT, of Northampton, in the county of Hampshire, and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Table-Cutlery and analogous cutlery; and I do hereby declare that the following is a full and exact description thereof.

My improvement is applicable to all that class of cutlery in which the blade is rigidly connected with the handle by a tang, which is held firmly in the material of the handle, or between cheeks which form the same.

I will first describe what I consider the best means of carrying out my invention, and will afterwards designate the point which I believe to be new therein.

The accompanying drawings form a part of this specification.

Figure 1 is a side view, and

Figure 2, a back view of a knife complete.

Figure 3 is a side view, and

Figure 4, an edge view of the material for the blade, tang, and bolster, when applied together in condition for welding.

Figure 5 represents the iron for the bolster and tang when partially prepared for so joining.

Figure 6 represents the means of cutting and bending such pieces of iron from the bar. The red outlines indicates stationary knives or beds, against which the iron is forced and cut.

Figure 7 shows the united iron and steel in the position about to be reduced, to give form to the tang and bolster.

Figure 8 shows the same after these parts have been partially formed.

Figure 9 shows the same still further formed.

Figure 10 shows these parts completely formed.

Figure 11 shows the bolster finished in a little different shape, and the wood or analogous material applied to finish the knife.

It will, of course, be understood that forks can be made in the same manner, and that the exterior of the bolsters may be made in an infinite variety of forms, according as the dies, milling-tools, or other forming-tools are prepared.

Similar letters of reference indicate like parts in all the figures.

Tints are employed to aid in distinguishing material, and are not intended to indicate the true color of the metals. Blue indicates steel, and the pale India ink indicates wrought-iron. All the surfaces exposed should be polished, and the forms of the blade and tang, as also of the handle, and the rivets, &c., may be varied within wide limits.

To make a common table-knife, I take a thin piece of steel, of proper quality, preferably drawn, by rolling, to nearly the size required for the blade, and cut off, by machinery or otherwise, the proper quantity for a blade, and draw it to a wedge-form at one end. I also take a bar of good wrought-iron. I have found

Pennsylvania charcoal-iron to serve extremely well, rolled to a width something less than the steel before referred to, and to a thickness a little in excess of the thickness required for the bolster of the cutlery. By the word "bolster" I mean the considerable mass of metal which projects at each side, at the junction of the blade with the handle, whatever may be its form and proportion. This bar of iron, properly heated, is laid across two strong supports, and is bent, by a blow applied on the unsupported part between, into a form analogous to the letter v. In this condition it is sheared off, the cut being by this means made at an angle, or diagonally across the substance of the bar. This operation may be repeated very rapidly by the aid of machinery, and the bent iron for a great number of knives may be produced at a single heat. The wedge-formed end of the piece of steel for a blade is introduced between the ends of one of these v-shaped pieces of iron, and the ends are then compressed together by hammering, or otherwise, so as to take hold strongly on the steel. The mass of steel and the mass of iron thus slightly joined together, and held together temporarily by the pinching of the iron upon the steel, constitutes the material for the blade, bolster, and tang of a table-knife.

Pulverized borax is now applied to the metal, at and about the points of conjunction, and the iron, and the adjacent part of the steel having been raised to a welding-heat, the united mass is placed properly in a drop-press, and the welding of the iron and steel, and the drawing down, or reduction of the thickness of the principal portion of the iron and steel which forms the tang, are effected simultaneously by one or more blows of the drop. The material is so held under the drop that a portion of the iron which is to form the bolster is left untouched.

Subsequent operations of an ordinary character, by hammering or rolling, draw the blade, and also the end of the tang, to the finally-finished form, and the bolster is also finished by dies, or otherwise, to the symmetrical and tastily-moulded form required.

Referring to fig. 1, A is the steel, which ultimately, as indicated in the succeeding figures, forms the blade A¹, and the steel portion of the tang A². In the same fig. 1, B is the iron, which ultimately becomes, in the succeeding figures, B¹ B¹, the bolster on each side, and B² the iron portion of the tang.

In fig. 6, C C are the fixed supports or anvil. D is the part which bends the iron in the middle, and E E are knives or strong cutters, which, acting in conjunction with fixed knives, G G, cut off the iron diagonally, as indicated.

It will be observed that by giving a just sufficiently diagonal cut to the iron in the first instance, I very materially reduce the labor of giving the desired finished form to the bolster.

My invention is adapted to the production of ordinary table-knives, carving-knives, butcher-knives, and pruning-knives, and all sorts in which a bolster is de-

sired at the junction of the handle with the blade, and also all analogous constructions of forks, knife-sharpeners, and the like. It allows the production of a perfectly-formed bolster of wrought-iron, thoroughly welded, and the production of a strong tang of wrought-iron and steel welded thereto, with less labor and expense than any other means known to me.

Having now fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is as follows:

I claim the within-described method of the manufacture of cutlery, consisting in bending the wrought-iron, B, and bevelling its ends, as represented, and afterwards compressing it together upon the steel, and welding and drawing it, substantially in the manner and for the purposes herein set forth.

W. T. CLEMENT.

Witnesses:

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