

(No Model.)

S. E. JERALDS & E. R. LAWTON.

MANUFACTURE OF HANDLES FOR CUTLERY.

No. 341,915.

Patented May 18, 1886.

Fig. 1



Fig. 2



Fig. 3

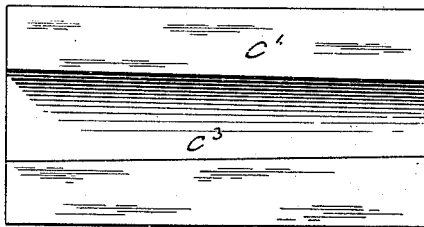


Fig. 4

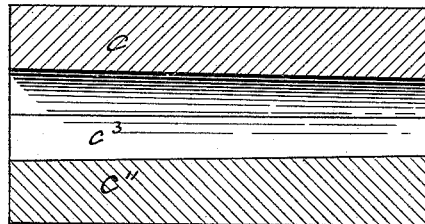


Fig. 5

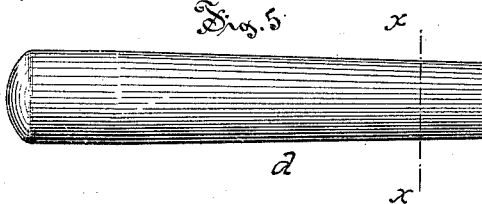


Fig. 6



Fig. 7

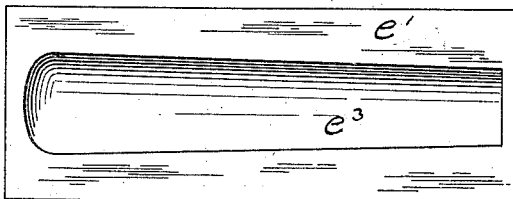


Fig. 8

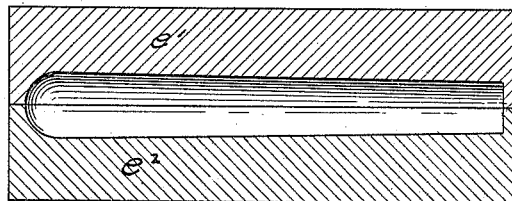


Fig. 9

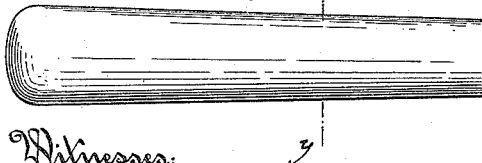


Fig. 10



Fig. 11



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MANUFACTURE OF HANDLES FOR CUTLERY.

SPECIFICATION forming part of Letters Patent No. 341,915, dated May 18, 1886.

Original application filed March 10, 1884, Serial No. 123,575. Divided and this application filed September 3, 1885. Serial No. 176,063. (No model.)

To all whom it may concern:

Be it known that we, SILAS E. JERALDS and EDWIN R. LAWTON, both of Cheshire, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement Pertaining to the Manufacture of Handles for Cutlery and the like, of which the following is a description, reference being had to the accompanying drawings, 10 where—

Figure 1 is a view in longitudinal central section of a tubular blank with closed end. Fig. 2 is an end view of the same, showing its outline in cross-section. Fig. 3 is a face view 15 of one of the taper-forming dies used in the practice of our invention. Fig. 4 is a view in central longitudinal section of the taper-forming dies closed together. Figure 5 is a side view of the blank after it has been tapered. 20 Figure 6 is a view in cross-section of this blank on plane denoted by line *xx* of Fig. 5. Fig. 7 is a face view of one of the finishing-dies. Fig. 8 is a view in vertical central longitudinal section through the finishing-dies. Fig. 25 9 is a side view of a handle. Fig. 10 is a view of the butt-end of a handle. Fig. 11 is a view in cross-section of the handle on plane denoted by line *yy* of Fig. 9.

Our improvement relates to the special class 30 of handles adapted for use in table-cutlery and the like, which handles, as herein described, form a specific branch of our manufacturing business, and no further step toward the adaptation of the handle to its intended use, when 35 combined with a blade or tool, is at present done by us.

As relates to our improved process or method of making the within-described handle, a specific advantage over the prior art is that by 40 this method a handle is formed of a hollow seamless tube of sheet metal with closed end, which handle is tapered and formed to the desired shape as to outline in cross-section without the aid of a mandrel of any kind or material. 45

The article produced by the practice of our improved method has important advantages over articles for a similar use in the prior art in that it is of the peculiar configuration that 50 enables it to be used for handles in the high-

est-priced and most desirable class of goods that are put upon the market. Such a handle includes in the highest degree the advantages of exact adaptation of weight and thickness 55 of metal to the strength required in the completed article. It is formed of one piece without joint, break, or seam. It therefore presents a uniform surface of one and the same metal, upon which any plate may be deposited with superior results in uniformity of finish. 60

In the accompanying drawings, the letter *a* denotes what may be termed a "tubular blank," having one closed end, *b*, and the other end, *b'*, open. These blanks are drawn from a metallic disk in any well-known manner, and are purchased by us from those making a specialty of such work as a distinct article of manufacture. This blank is of substantially uniform circular cross-section from end to end, and in the practice of the first 70 step in our method of making a handle it is held in a suitable tool, and while rotated upon its longitudinal axis is fed by degrees between the body parts *c' c''* of the taper-forming dies *c*. In Fig. 3 is shown a front face view of one 75 of these dies having the tapered groove *c³* extending completely across the die. A corresponding groove is formed in the body-half *c''* of the taper-forming die, and these dies are secured in a hammer or drop and are brought 80 together in quick succession, striking upon the blank, which is tapered to any desired extent toward the open end, as shown in Fig. 5, as it is fed between the dies. An alternate method of forming this taper is to subject the 85 cylindrical blank to compression between rolls that lie lengthwise of the tubular blank, or which receive it crosswise of the rolls in grooves or dies borne by them.

As the next step in the practice of our improved method, the tapered blank *d* is subjected to pressure, or formed by repeated blows in the finishing-dies *e*. These dies, consisting of body-halves *e' e''*, have in their meeting faces a chamber, *e³*, in which, when the dies are 95 forcibly united, the tapered blank is compressed so that it conforms substantially to the walls of the chamber on all sides.

The resulting outline of the completed handle is shown in Figs. 9, 10, and 11. 100

It is evident that our method of making the within-described article is applicable without regard to the specific thickness of metal, the outline and the configuration of the exterior surface, and the details as to the length and section of the handle are matters limited only by the specific use to which the finished article is to be put. This oval handle in the last step in the process is formed from the tapered cylindrical blank without the aid of a mandrel or interior resisting core of any kind, advantage being taken of the resistance of the curved shell of the tube to any change that tends to flatten it, which causes it to fill out the mold in all parts. This is the most important step in our process, as it is a saving in labor and material over methods in which a fusible core is used, and such a handle cannot be produced by the use of a sectional mandrel.

The article produced by our within-described process is not claimed herein, as it forms the subject-matter of our application (of which this is a division) filed March 10, 1884, Serial No. 123,575, and reference is hereby made and attention called to our said application.

We claim as our invention—

1. The process of forming hollow seamless cutlery-handles having a smaller area of cross-section at the blade end than at or near the butt, which consists in compressing hollow seamless shells of thin metal to the desired

shape in dies, the resisting properties of the empty shell causing its exterior surface to conform substantially to the interior shape of the forming-dies, all substantially as described. 35

2. The within-described method of making tapered and seamless hollow articles of metal, as knife-handles and the like, which consists in first forming a cylindrical tubular blank, closed at one end and without joint or seam, then tapering such empty blank by compression or percussion, and then forming such tapered blank to the desired shape in cross-section in a closed chamber between the dies, the resisting properties of the walls of the empty shell causing its exterior surface to conform substantially to the interior shape of the forming-dies, all substantially as described. 40 45

3. The method or process of forming a hollow tapered metallic tube with closed end into an oval shape in cross-section, which consists in subjecting said hollow tube to pressure in a closed chamber between dies, the resisting properties of the walls of the empty shell causing its exterior surface to conform substantially to the interior shape of the forming-dies, all substantially as described. 50 55

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