METHOD OF MAKING TABLE CUTLERY.

Application filed March 26, 1921. Serial No. 455,865.

To all whom it may concern:

Be it known that I, Austin W. Hawes, a citizen of the United States, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented new and useful Improvements in Methods of Making Table Cutlery, of which the following is a specification.

The present invention pertains to the manufacture of table cutlery, and more particularly table forks, and its object is to provide a novel and improved method of making such cutlery whereby a superior article is obtained with facility and at a reduced cost.

According to the present invention, the finished fork or similar article has all of the physical characteristics required to secure the necessary strength, particularly at the neck or base of the tines, and its surfaces are finished with a hardness and polish which insures serviceable qualities and an attractive appearance, without requiring a plated or other special finish, the improved method which enables these results to be attained involving a sequence of steps or operations all of which conduce to facilitate the manufacture, enhance the physical properties and improve the appearance of the finished article.

Heretofore, it has been proposed to manufacture table cutlery by a method which required heat treatment of the blank after the same had been made, but such a method was unsatisfactory because the heat treatment of the blank produced a scale thereon which it was necessary to remove by subjecting the blank to several expensive hand operations in order to render the appearance of the article satisfactory or practical. Another method heretofore proposed involved a deformation of the blank, but such method is unsatisfactory because it produces a groove or depression in the back of the neck of the finished article, thus not only detracting from the appearance of the article but also rendering the same insanitary or difficult to clean properly.

The improved method herein described obviates both of the objections inherent in the methods heretofore employed and moreover it enables a product to be obtained which is superior in other respects to table cutlery heretofore obtainable.

In the accompanying drawing, which will serve as an aid in outlining the steps or operations comprising the improved method,

Figure 1 is a face view of a fork blank after the cutting thereof has been completed and prior to the final shaping or bending thereof to form the finished article;

Figure 2 is a face view of one of the blanks after it has been punched or otherwise cut from a strip of cold-rolled stock of special cross-section;

Figure 3 is a diagrammatic view showing how the blanks are cut from the strip of stock;

Figure 4 represents a transverse section through the strip of stock on the line 4—4 of Figure 3 showing its special cross-section; and

Figure 5 is a perspective view of a finished table fork made by the improved method.

According to the present invention, a bar of wrought iron or low carbon steel of ordinary commercial size and composition is passed through rolls which reduce it, while hot, to approximately the cross-section shown in Figure 4. This hot-rolled bar, after pickling to remove the scale which is usually produced in consequence of the heating of the original bar, is then rolled while cold to form a strip X having a special transverse cross-section which conforms exactly with the longitudinal cross-section which the finished fork or similar article is to have. The special cross-section of this cold-rolled strip is represented in Figure 4, it having a maximum thickness in the region between the lines \( x, x', x'' \) which region corresponds to the neck or narrowest portion of the fork or finished article and tapering at \( y \) and \( z \) in opposite directions from this point of maximum thickness toward the opposite longitudinal edges of the cold rolled bar or strip, these tapering portions corresponding to the bladed or tined end and the handle end respectively of the finished article.

The cold rolled bar or strip having the
special cross section shown in Figure 4 will possess a desirable degree of hardness and polish, owing to the cold rolling treatment, employed in bringing the bar or strip into this special cross section, and the fork blanks are cut from this cold rolled bar or strip. Preferably, the cutting of the fork blanks is effected by passing this cold rolled bar or strip of special cross section shown in Figure 4 through a series of cutting dies which cut or punch the fork blanks therefrom in substantially the manner outlined in Figure 3, it being noted that the longitudinal axes of the blanks are arranged transversely of the cold rolled bar or strip from which they are cut. Figure 2 represents one of the fork blanks a as it is punched or cut from the cold rolled bar or strip and before the same has been bent or shaped to its final form, the blank having widened end portions b and c from which the tines and handle respectively are to be formed and an intermediate narrowed neck d. Figure 1 shows the tines b' which are formed from the widened end b of the blank and perforations e' through which the rivets or other securing means for the handle may pass.

The next step or operation consists in bending the cut blank in a direction flatwise to finally shape it longitudinally, as, for example, is represented in Figure 5. Any rough edges that may be present may be removed either on an abrading wheel or in a tumbling barrel. The fork or article is now ready to receive its handle, no further treatment or operation being necessary as the fork or article is finished and ready for use.

The improved method hereinafter described possesses the important practical advantages that the stock from which the forks or articles are produced is obtained by rolling operations, that the scale produced as an incident to the first rolling operation may be easily removed prior to the second cold rolling operation, and hence can produce no imperfections in the finished articles, and furthermore, that the cold rolling operation shapes the cross section and also produces a permanently hard and attractive polished finish on the surfaces of the stock which become, without physical or chemical change, the finished surfaces of the completed article, thus eliminating numerous expensive operations which would otherwise become necessary, and particularly avoiding the necessity of plating and its attendant expensive and other objectionable features, although plating or other finish may, if desired, be used. In fact, the finish imparted to the forks or articles by the present invention is unique and it is superior to the finishes heretofore used or obtained. Moreover, the special cross section of the cold-rolled stock from which the forks or articles are obtained, imparts the necessary increased thickness to the neck or narrow part of the finished fork or article, thus affording the requisite physical strength by a simple and inexpensive operation which avoids the presence of an insanitary groove or depression in the neck of the finished article.

I claim as my invention:

1. The hereindescribed method of making table cutlery which comprises cold rolling a bar of wrought iron or steel to impart to the surfaces thereof a hardened and polished finish, cutting blanks for the articles from said strip, and shaping and finishing the blanks to form the completed articles whereby the original surfaces of the blanks become, without change, the finished surfaces of the completed articles.

2. The hereindescribed method of making table cutlery which comprises cold rolling a bar of metal to form a strip having a transverse cross-section which corresponds to the longitudinal cross-section of the completed articles, cutting blanks for the articles from said strip with the longitudinal axes of the blanks arranged transversely of said strip, and shaping and completing the articles from said blanks whereby the transverse cross-section of the blanks becomes, without change, the transverse cross-section of the completed articles.

3. The hereindescribed method of making table cutlery which comprises cold rolling a bar of metal to produce a strip having a transverse cross-section corresponding to the longitudinal cross-section of the finished articles to be made therefrom, cutting blanks for the finished articles from said strip with the longitudinal axes of the blanks arranged transversely of said strip, and finishing the blanks and shaping them on their longitudinal cross-section to form the finished articles the transverse cross-section and finished surfaces of which are produced from the blanks without change.

4. The hereindescribed method of making table cutlery which comprises cold rolling a bar of wrought iron or steel to produce a strip having a transverse cross-section which corresponds to the longitudinal cross-section of the finished articles, cutting blanks for the finished articles from said strip with the longitudinal axes of the blanks arranged transversely of said strip, and shaping and finishing the blanks to form the completed articles whereby the original surfaces and transverse cross-section of the blanks become the finished surfaces and transverse cross-section of the completed articles.

5. The hereindescribed method of making table forks which comprises cold-rolling a bar of wrought iron or steel to produce a strip having hardened and polished surfaces and a cross-section which is of maximum thickness at a point intermediate its width.
and of reduced thickness toward its longitudinal edges, cutting blanks for the forks from said strip with the longitudinal axes of the blanks arranged transversely of the strip, and shaping the blanks longitudinally and completing them whereby the original hardened and polished surfaces of the blanks become, without change, the finished surfaces of the completed articles and the transverse cross-section of the blanks becomes, without change, the transverse cross-section of the completed articles.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

AUSTIN W. HAWES.

Witnesses:
C. E. HAZELTON,
C. W. HIGINBOOTHAM.