

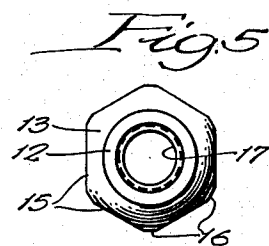
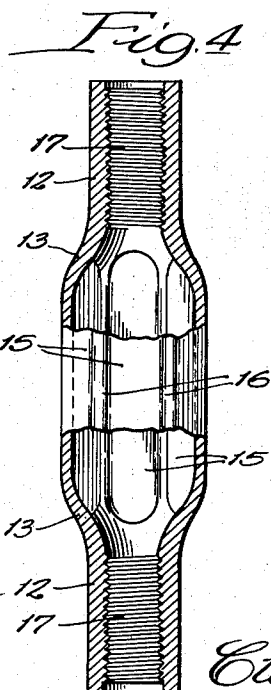
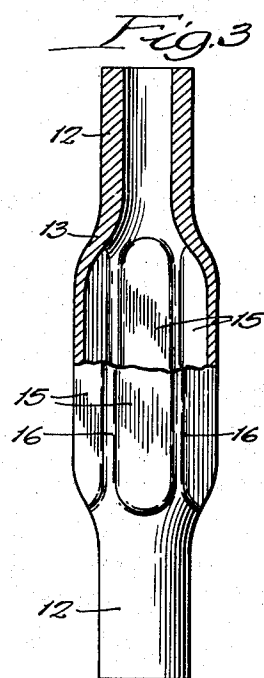
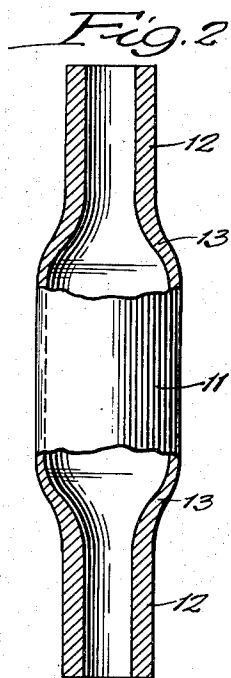
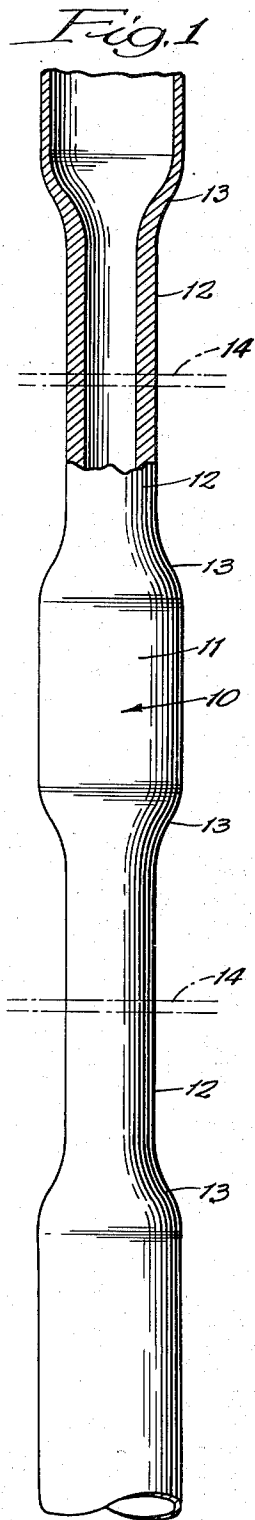
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2,363,050

METHOD OF MAKING TUBULAR TURNBUCKLES

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2,363,050

METHOD OF MAKING TUBULAR
TURNBUCKLES

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Application July 6, 1942, Serial No. 449,913

2 Claims. (Cl. 29—175)

A turnbuckle of the present invention is made from a section of tubing which is preferably configured by the method and mechanism of the Dewey Patent No. 2,265,723, issued December 9, 1941, which is directed to the production, from a continuous section of metallic tubing of units which are externally shaped to the desired configuration and having the metal so distributed as to provide the requisite wall thickness at the required regions within the unit. The continuous tube thus configured is afterwards cut into separate units of the general configuration required in the production of turnbuckles in preparation for further manipulation and the threading required for the completed article.

The Dewey process in and of itself is capable of distributing the metal to the desired degree, but the unit thus produced will be circular in cross section throughout so that additional fabrication is required for flattening the sides of the body to produce a hexagonal or otherwise flat-paneled effect for the purpose of affording flat surfaces adapted to be engaged by a wrench or similar tool.

Further details will appear from a description of the invention in conjunction with the accompanying drawing, wherein—

Figure 1 is a view partly in section of a continuous length of tubing configured by the Dewey process to afford a plurality of units to be fabricated into turnbuckles;

Fig. 2 is a unit section of said tubing before final fabrication;

Fig. 3 is a view showing the unit having the side walls of the body flattened inwardly to produce a hexagonal paneled effect;

Fig. 4 is a sectional view of the same having the neck sections tapped to provide the necessary threads; and

Fig. 5 is an end view of the completed turnbuckle.

In carrying out the method of the present invention, a continuous length of cylindrical tubing of maximum diameter, shown in Fig. 1, is subjected to a configuring operation of the character defined in the Dewey patent aforesaid which has the effect of producing a series of connected units 10 of the character shown in the medial portion of Fig. 1 with portions of adjoining units connected thereto.

Each unit section consists of a unit body portion 11 of full diameter and of the original wall thickness of the tubing, which wall thickness is materially less than the wall thickness of the connected neck portions 12 which are of reduced

overall diameter to afford adequate wall thickness to provide for the threading operation to be afterwards performed.

Each neck portion 12 is connected to the unit body portion by a shoulder portion 13 through which the wall thickness progressively decreases from the thick walled neck portion to the thin walled unit body portion. After a suitable length of tubing has been configured in the manner described, several unit sections are cut through at the middle portion 14 of the adjoining connected neck sections to produce a unit of the form shown in Fig. 2, which, however, at this stage is circular in cross section throughout. The units thus formed can be passed through a hexagonal die block which deforms the metal of the body to form six flat sided panels 15 separated by intervening ridges 16 which retain the diameter and curvature of the original tubing. Although it is preferred to produce the flattening or panelling effect on the individual units, it is possible to run the uncut configured tubing of Fig. 1 through suitable mechanism to produce the flattening of the body portions throughout the entire length of tubing by continuous operation in advance of severing of the tubing in unit lengths.

In addition to the flattening of the body walls to produce the panel effect, it is necessary to provide threads 17 on the interior of each of the necks at the opposite ends of the body, and this operation can be formed either before or after the flattening of the body, although in ordinary practice it may be desirable to flatten the body walls in advance of the threading operation.

It is not intended therefore to limit the claims to the sequential order in which the steps of severing, flattening and threading are recited.

The threads in the companion necks are oppositely pitched so that when the turnbuckle is assembled with threaded rods or similar connections, it will serve in the usual manner as a turnbuckle. By producing turnbuckles in the manner described, it is possible from a continuous length of cylindrical tubing of uniform wall thickness to rapidly and accurately configure a multiplicity of unit sections, each of which will have the metal distributed in such a way as to afford abundant strength with a body configuration of sufficient diameter to readily receive and hold a wrench, and with sufficient strength at all points to resist tensile and torsional strains.

The invention is one which reduces the fabricating operations to a minimum, and at the same time secures uniformity and speed in production, while the enlarged body affords a reservoir for

the reception of oil or grease which may be employed to lubricate the threads and prevent rusting or corrosion thereof.

I claim:

1. The method of producing turnbuckles which consists in subjecting a section of metal tubing of length sufficient to produce at least two units, to a configuring operation, which reduces the diameter and thickens the wall of the intermediate portion and each end portion of each section, severing the intermediate portion to provide two units, each consisting of a medial body of relatively larger diameter and lesser wall thickness, terminating at each end in a neck of relatively lesser diameter and greater wall thickness than the intermediate body, flattening the body to provide angularly related side faces, and threading the interior of each neck.

2. The method of producing turnbuckles which consists in subjecting a section of metal tubing of length sufficient to produce at least two units, to a configuring operation, which reduces the diameter and thickens the wall of the intermediate portion and each end portion of each section, and provides intermediate shoulders converging and progressively increasing in wall thickness toward the reduced intermediate and end portions, severing the intermediate portion to provide two units, each consisting of a medial body of relatively larger diameter and lesser wall thickness, connected through a convergent shoulder with a neck of relatively lesser diameter and greater wall thickness than the intermediate body, flattening the body to provide angularly related side faces, and threading the interior of each neck.

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