UNITED STATES PATENT OFFICE

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METHOD OF MAKING REELS

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1. In the French Patent No. 794,883 of December 4, 1934, for "Drum for wires, ropes, cables and others and its method of manufacture" a description was given of a drum of which each individual cheek is obtained by the corrugation of a straight rectangular strip of metal sheet.

Its method of manufacture consists of an uneven corrugation of the metal sheets from one end to the other. The working of this method, however, requires an expensive outlay in equipment and calls for a high degree of accuracy in its performance.

Now, to carry into effect the method of fabrication of cheeks for drums, wheels and others, that forms the object of the present invention, a start is made with a plate of metal sheet that is comparatively stiff, and this is then corrugated so that it may be twisted into shape to get the particular part wanted.

In this method, the first step is to cut out a strip of straight sheet, then to make regularly spaced parallel cross-folds that go from one edge to the other, to fasten to a piece of iron, preferably flat, one of its long edges, to curve around a mandrel the edging, provided with the iron, of the corrugated strip so as to thus open out the folds in a continuous way from the centre towards the periphery, to fix rigidly with one another the two opposite cross-edges of the corrugated strip so as to thus open out the folds in a continuous way from the centre towards the periphery, to fix rigidly with one another the two opposite cross-edges of the corrugated strip that have been brought together by the bending operation, finally to cap the peripheral longitudinal edge with an iron piece, of U-shape for instance, acting as a runway.

The accompanying diagrammatic drawings show by way of an example a method for carrying out the invention in the case of a drum.

In said drawings:
Figure 1 is a plan view of a metal sheet before corrugating.

Figure 2 is a perspective view showing it after the corrugation has been effected.

Figures 3 and 4 are perspective views showing the flat iron fastened against one of the long edges of the metal-sheet strip corrugated respectively with the inner surface and outer surface uppermost.

Figure 5 demonstrates a way of working the curving of the corrugated strip of metal sheet of which the long edges are provided with a strengthening iron bar for fixing the folds.

Figures 6 and 7 show a cable drum respectively in front elevation and in cross-section through line 1—1 of Figure 6.

As shown in the drawings, a strip of straight sheet 2 (Figure 1) is first of all cut out, its length being a function of the diameter of the cheek of the drum to be obtained and its height that of the cheeks.

This strip is then corrugated evenly with parallel folds 3 (Figure 2), that are spaced at equal distances apart, and are all just the same and of the same depth throughout their whole length. This strip thus corrugated and kept straight, is brazed to a piece of rectangular flat iron 4 (Figures 3 and 4) that, in the case of a drum, projects beyond the inner surface to act as support for the drum.

Then the piece thus obtained is curved on a mandrel 5 while the flat iron serves as a bearing 4 (Figure 5). During this operation, the folds 3 open out in the manner of a fan to a sufficient extent to form a circle through their outer ends. The parts to be connected are then brazed or welded.

At the same time as the folds or ribs open out, their projection gets less and less from the centre 6 towards the outer edge 7 and assumes a flatter shape.

The periphery 1 of the ring of corrugated sheet thus obtained is then capped with a U-shaped iron 8 of which the back acts as the runway for the drum assembly when it rotates. But, depending on the use to which the drum is to be put, it will be practicable to fasten on this periphery an iron of any other contour or, if it is U-shaped, its flanges may be headed outwards.

This ring is then provided with arms 9 carrying a boss or hub 11.

To assemble a drum of which the cheeks or flanges have been obtained and fitted up in this way, all that has to be done is to insert between them a drum body 12, of which the ends 13 rest on the inner edge 14 of the curved flat iron 4 of each cheek.

The assembly of the drum 12 and its two cheeks can be done by brazing, by bolts and nuts distributed round the circumference of the flat iron, by a central bolt or any other means.

Obviously, the invention is not restricted only to the making of cheeks for drums but it also takes in its scope that of any circular member or of a member of other shape that assumes the shape of a collar or ring and has to stand up to diametrical thrusts, such as wheels, pulleys, bends and the like, for instance.

At the same time, without any modification
In the principle of the invention and with a view to certain adaptations, more particularly for the manufacture of wheels, pulleys and structural curves or arches, for instance, it may be assumed that:

1. The folds are not made always on the same side of the metal sheet, but may alternate from one surface to the other.
2. The curving of the corrugated strip may be effected by starting either from one side, or from the middle and towards the two sides at one and the same time.
3. This curving of the strip may be carried out on a mandrel of any desired contour.

What I claim is:

1. A method for producing cheeks for reels, chiefly reels carrying wound cables and the like consisting in cutting a sheet of flat substantially rigid material to form a straight member, folding said member at regular intervals to obtain on one side of its plane a plurality of narrow parallel transversal folds of constant breadth extending throughout the breadth of said member and separated by comparatively wide flat elements, securing transversely of the folds a flat member along a longitudinal edge of the folded member to extend throughout at least the height of the folds in the first member, bending the edge of the folded member rigid with said transverse flat member round a mandrel to open fanwise the folds in a continuous manner from the edge considered towards the opposite edge, rigidly connecting the two terminal edges of the associated flat and folded member with one another and capping the peripheral outer edge of the incurved flat member with a shaped raceway.

2. A method for producing cheeks for reels, chiefly reels carrying wound cables and the like consisting in cutting a sheet of flat substantially rigid material to form a straight member, folding said member at regular intervals to one side to obtain, on one side of its plane, a plurality of narrow parallel transverse folds of constant breadth extending throughout the breadth of said member and separated by comparatively wide flat elements, all said folds being similar to one another, securing transversely of the folds a flat member along a longitudinal edge of the folded member to extend beyond the height of the folds in the first member, bending the edge of the folded member rigid with said transverse flat member round a mandrel to open fanwise the folds in a continuous manner from the edge considered towards the opposite edge, rigidly connecting the two terminal sides of the first mentioned folded member and of the associated member thereof with one another and capping the peripheral outer edge of the incurved flat member with a shaped raceway.

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