J. F. LEMON & A. WARNER.

SHEET METAL CURTAIN ROLLER.

APPLICATION FILED FEB. 25, 1915.

1,207,943. Patented Dec. 12, 1916.

Fig. 1.

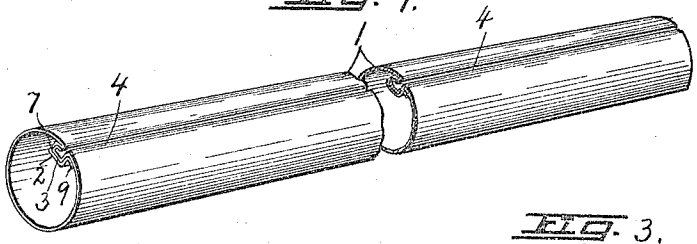



Fig. 2.

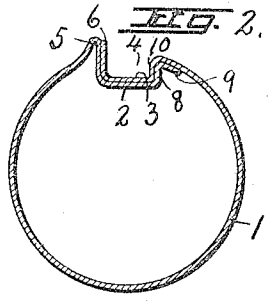



Fig. 3.

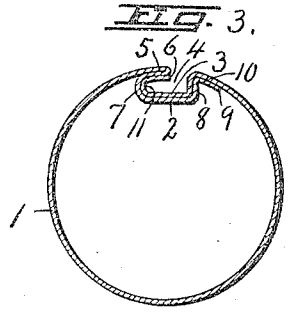



Fig. 4.

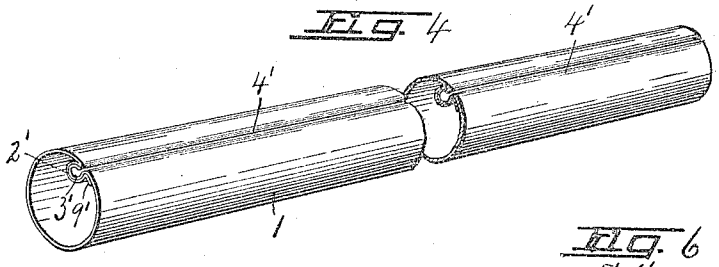



Fig. 5.

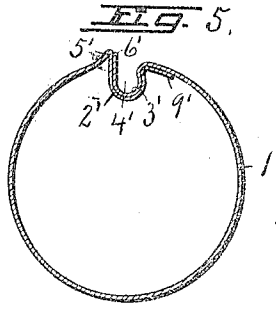
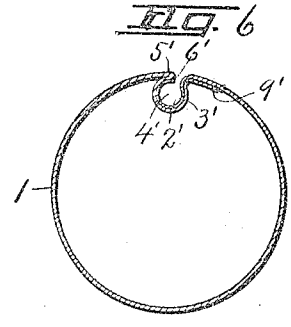



Fig. 6.




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## SHEET-METAL CURTAIN-ROLLER.

1,207,943. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed February 25, 1915. Serial No. 10,466.

*To all whom it may concern:*

Be it known that we, JAMES F. LEMON and AUGUST WARNER, residents of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Sheet-Metal Curtain-Rollers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in sheet metal curtain rollers made from a single piece of sheet metal into substantially cylindrical form and having its longitudinal meeting edges interlocked to form a lengthwise groove for receiving suitable curtain-attaching means, not shown, and refers more particularly to the manner of interlocking the meeting edges.

The main object is to connect these meeting edges in such manner as to form the desired groove for the curtain-attaching rod or bracket, and at the same time to preserve the cylindrical symmetry of the roller and prevent accidental disengagement of the interlocking connections. In other words, we have sought to provide an interlocking connection between the meeting edges wholly within the periphery of the roller and of such character that it will not only stiffen the roller against transverse compression, but will absolutely prevent any possibility of loosening of the joint by radial or circumferential pressure.

In the drawings Figure 1 is a perspective view partly broken away of a sheet metal roller showing one form of our improved joint. Fig. 2 is an enlarged transverse sectional view of the same roller as it appears just before the final operation of overturning the portions at one side of the groove partially across said groove. Fig. 3 is an enlarged transverse sectional view of said roller complete or after the final operation mentioned in the description of Fig. 2. Fig. 4 is a perspective view of a similar roller partly broken away showing a slightly modified form of joint. Figs. 5 and 6 are enlarged transverse sectional views of the roller shown in Fig. 4, the joint in Fig. 5 showing the position of the interlocking parts just before the final operation, while Fig. 6 shows the completed roller.

The roller, as —1—, shown in Figs. 1, 2 and 3 is made from a single flat piece of sheet metal of substantially the same length as but of greater width than the circumference of the completed roller so that when rolled into substantially cylindrical form, its longitudinal edges will overlap. These overlapping portions are depressed inwardly to form depressed channeled ribs —2— and —3— fitting closely one within the other to form a lengthwise channel —4— running the entire length of the roller and open at the periphery, the overlapping portions at one side of the channel being overturned partially across said channel to form interengaging flanges —5— and —6— of substantially the same circumferential length and spaced apart from the overlapping portions of the base of the channel so that the channel extends circumferentially from its open side under said flanges, as shown in Fig. 3. In other words, the junction of the channeled rib —2— with the main body is bent upon itself transversely or circumferentially and forms a return bend —7— at one side of the channel, the base of the rib —2— being extended across and to the opposite side of the channel where it is turned outwardly at —8— and then deflected laterally or circumferentially at the opposite side of the channel to form a flange —9— bearing against the inner face of the main body at the opposite side of said channel to reinforce this portion of the main body. The portion of the channeled rib —3— at one side of its channel where it joins with the main body is bent inwardly at —10— against the outturned portion —8—, while the portion at the opposite side of the channel is returned at —11— against the inner face of the return bend —7— and its free edge lies against the inner face of the flange —5— so that the interengaging portions —8— and —10— and return bends —7— and —11— firmly hold the overlapping portions of the roller against relative lateral movement, while the interengaging flanges —5— and —6— together with the interengaging base portions of the channeled ribs —2— and —3— prevent relative radial movement of the overlapping portions, thereby establishing a firm and positive joint-lock to brace and stiffen the roller against radial compression.

The construction shown in Figs. 4, 5 and 6 is similar to that shown in Figs. 1, 2 and 3,

except that the channeled ribs, as —2′— and —3′—, are made circular in cross section to produce a circular channel —4′— instead of the flat channel shown in Figs. 1, 2 and 3, but otherwise the elements and functions of the interlocking overlapping portions are identical in both forms. That is, this joint is provided with the inner flange —9′— at one side of the channel and with the flanges —5′— and —6′— at the opposite side of the channel performing the same functions as the like parts shown in Figs. 1, 2 and 3.

What we claim is:

1. In a curtain roller, a sheet metal strip rolled into substantially cylindrical form and having overlapping portions depressed within the periphery of the roller to form lengthwise channeled ribs seated one within the other, the lonigtudinal edge of the innermost rib being deflected circumferentially to form a reinforcing flange, as 9, abutting against the inner face of the main body of the roller at one side of both ribs, and the outer portions of the opposite side of the ribs returned partially across the open side of the channel.

2. A curtain roller consisting of a cylindrical sheet metal tube having overlapping longitudinal edges depressed inwardly to form channeled ribs nested one within the other, one side of the innermost rib extending across the inner side of the outermost rib and provided with a reinforcing flange abutting against the inner face of the main body of the roller, the side of the ribs opposite the reinforcing flange being extended laterally toward said flange partially across the base of the channel to reduce the peripheral width of the mouth of the channel and to lock the ribs against relative radial movement.

In witness whereof we have hereunto set our hands this 22nd day of February, 1915.

JAMES F. LEMON.
AUGUST WARNER.

Witnesses:
H. E. CHASE,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."