Oct. 8, 1929. G. D. ATWOOD 1,731,219

SPOOL

Original Filed July 2, 1924

Fig. 1.

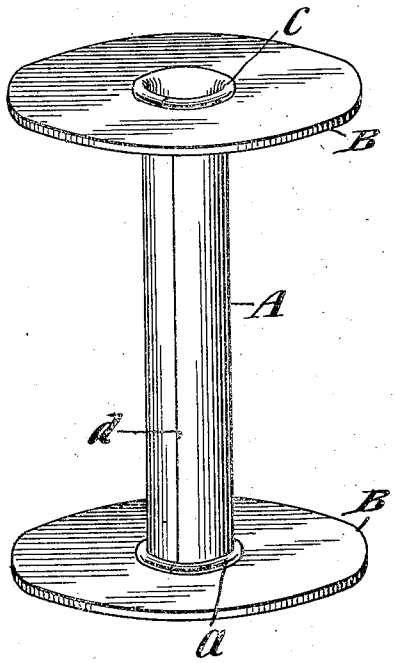


Fig. 2.

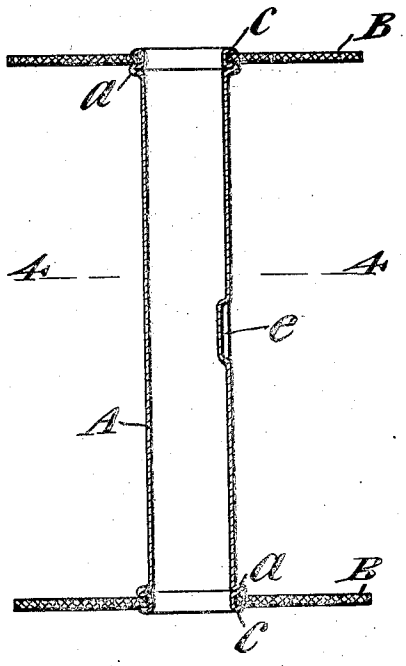


Fig. 3.

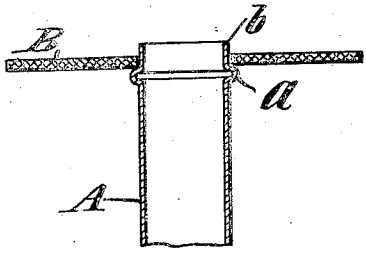
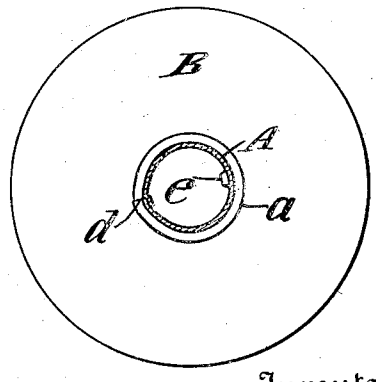


Fig. 4.



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UNITED STATES PATENT OFFICE

GEORGE D. ATWOOD, OF BROOKLYN, NEW YORK

SPOOL

Application filed July 2, 1924, Serial No. 723,616. Renewed February 28, 1929.

This invention relates to improvements in spools.

One of the objects of the invention is to provide a spool, the barrel of which is formed from a blank of sheet metal bent to circular shape in cross-section and with its longitudinal edges overlapping instead of abutting.

As heretofore constructed, sheet metal barrels were supposed to have longitudinal edges of the bent sheet metal abutting, but the edges did not always abut, with the result that gaps or openings occurred between them along the barrel proper and also at its ends outside the spool flanges. These gaps presented sharp cutting edges which were liable to injure the hands of the users, particularly at the ends of the barrel. This difficulty is overcome, according to the present invention, by the overlapping of the longitudinal edges of the barrel.

Another object of the invention is to provide the sheet metal barrel of the spool with an inward projection adapted, when the spool is slid onto a winding spindle, to be engaged by a tooth or projection on the spindle so as to positively rotate therewith.

The advantage of this over spools as heretofore constructed is that a number of these spools may be slid on to the same winding spindle, a projection on which will then, as the spindle rotates, "pick up" all of the spools thereon by engagement with the inward projections on the spool spindle, so that all of the spools on the spindle will, with certainty, have wound upon them equal measured quantities of the metal to be wound.

A further object of the invention is to provide a spool having a sheet metal barrel and flanges of fibrous material, secured to the barrel by the provision of shoulders near the ends thereof, which will engage the inner faces of the flanges, and crimped or inwardly bent portions at the ends of the barrel, which will engage the outer faces of the flanges and, coacting with these shoulders, rigidly secure the flanges to the barrel.

In the accompanying drawing—

Fig. 1 is a perspective view illustrating a spool embodying the present improvements.

Fig. 2 is a vertical section thereof;

Fig. 3 is a vertical section of one end of the spool, showing particularly the shoulder on the barrel for engaging the inner face of the flange and the outwardly projecting end of the barrel which is to be crimped or bent downwardly in the engagement with the outer face thereof; and

Fig. 4 is a horizontal section of the spool taken on the line 4—4 of Fig. 2.

Referring to said drawings A represents the spool barrel and B B the flanges of the spool. The spool barrel is of sheet metal bent to circular form in cross-section. It is provided near its ends with shoulders *a* which engage the inner faces of the flanges and it is also provided at each end with an extension *b* which passes through the opening of the flanges and is then crimped or bent downwardly so as to form an outer shoulder *c* engaging the outer face of the flange and indented therein and, with the other shoulder *a*, locking the flange securely to the barrel.

Heretofore, as before stated, it has been the custom to make sheet metal spool barrels with their longitudinal edges abutting, but it frequently happens that the edges do not actually abut but are separated along the body of the barrel and, of greater importance, at the ends of the barrel outside the flanges. These separated portions present sharp cutting edges which are liable to injure the hands of the users. In the present case, however, the longitudinal edges of the barrel do not abut and are not separated, but on the contrary overlap, as shown at *d* Fig. 4, both along the body of the barrel as well as at its ends outside the flanges, so that these objectionable sharp cutting edges are avoided.

The barrel A is also provided with an inwardly bent portion *e* providing a projection adapted, when the spool is slid onto a winding spindle, to be engaged by a projection on the latter so as to positively rotate therewith for the winding of thread or other material upon the spool.

The flanges B, instead of being of metal, are of fibrous material, such as heavy paper stock. This greatly reduces the cost of manu-

facture, particularly in the case of large size spools. Furthermore, material of this kind lends itself perfectly to obtaining a tight or rigid connection between the flange and spool because when the ends of the barrel are crimped or bent inwardly to form the shoulders *c*, they may, without injury to the flange or spool as a whole, be slightly embedded in such material.

What I claim is:

A spool comprising a barrel of sheet metal, bent to circular form in cross section with its longitudinal edges overlapping throughout their entire length, said barrel having shoulders near its ends, and a pair of flanges of fibrous material at either end of the barrel and abutting the shoulders, the extreme ends of the barrel with their longitudinal edges overlapping being crimped inwardly to form shoulders and indented in the fibrous material of the flanges.

In testimony whereof, I have hereunto set my hand.

GEO. D. ATWOOD.