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A. C. HOPKINS

1,706,118

MECHANISM FOR MAKING FLANGED SPOOLS

Original Filed April 18, 1924

Fig. 1.

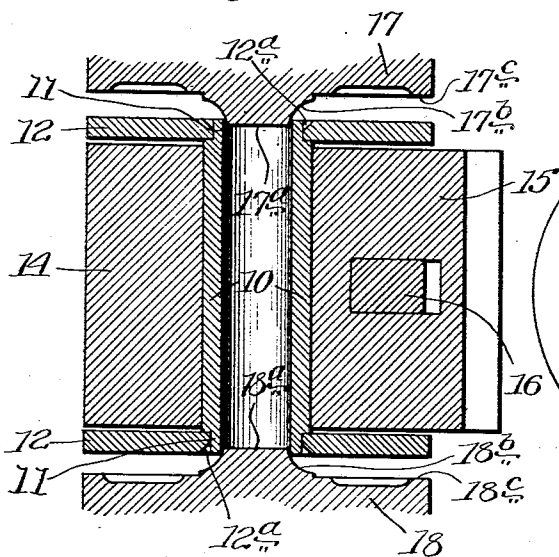


Fig. 2.

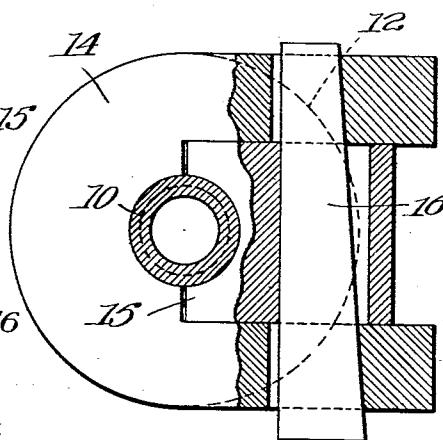


Fig. 3.

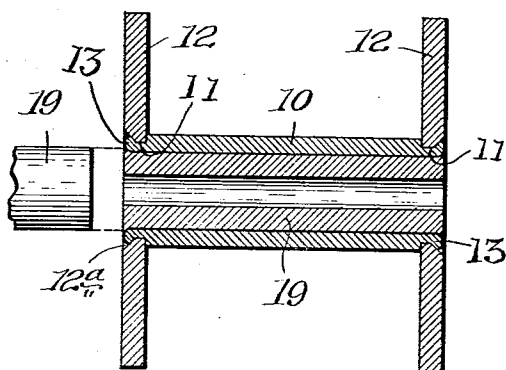
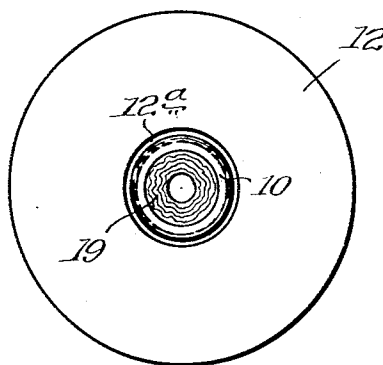


Fig. 4.



Inventor:
Arthur C. Hopkins,
By Dyrenforth, Lee, Crittenden & Niles,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR C. HOPKINS, OF NILES, MICHIGAN, ASSIGNOR TO NATIONAL STANDARD COMPANY, OF NILES, MICHIGAN, A CORPORATION OF MICHIGAN.

MECHANISM FOR MAKING FLANGED SPOOLS.

Original application filed April 18, 1924, Serial No. 707,393. Divided and this application filed March 31, 1927. Serial No. 179,874.

This invention relates to spools particularly such as are used in wire braiding machines, and to mechanism for making the same, and is fully described in the following specification and shown in the accompanying drawings, in which:

Figure 1 is a longitudinal section through a spool showing the dies and tools for forming the same;

Fig. 2 is a plan view partly in section showing the means for supporting the tube during the pressing operation;

Fig. 3 is a longitudinal section through a completed spool; and

Fig. 4 is an end view of the same.

This is a division of my pending application Serial No. 707,393, filed April 18, 1924.

The embodiment of the invention illustrated comprises a spool as shown in Figs. 3 and 4 having a tube 10 having reduced ends 11 which extend through the end plates 12 and which are riveted or spun over at 13.

In assembling, the tube 10 is held between clamping members 14 and 15 which are reduced to closely fit the tube, the members being secured upon the tube by means of a wedge 16. The members 14 and 15 are slightly shorter than the distance between the shoulders on the original tube as shown by Fig. 1 and act as stop means for limiting the distance the plates 12 are pressed in as will later be explained.

The end plates 12 have central openings adapted to fit over the ends 11 of the tube and are countersunk at 12^a on the outside to receive the riveted over ends 13 of the tube. With the end plates assembled on the reduced ends of the tube and the clamping members 14 and 15 in place as shown, the spool is placed between dies 17 and 18 which have centers 17^a and 18^a which extend into the ends of the tube and curved annular portions 17^b and 18^b for rounding the ends of the tube and forcing them back into the countersunk portions 12^a as the dies are forced inwardly, thereby having these ends flush with the outer faces of the end plates.

As the outer ends of the tube 10 are forced outwardly they cause an outward dishing of the end plates 12 and as the dies 17 and 18 continue to move inwardly they encounter the dished plates 12 and force them back

toward the members 14 and 15, thereby causing them to resume their flat shape.

At the same time the tube is shortened by the heavy pressure of the dies but is prevented from buckling by the members 14 and 15 which also serve to limit the inward movement of the plates 12, the outer edges of which are held between these members and the annular shoulders 17^c and 18^c of the members 17 and 18.

After the pressing operation, the dies 17 and 18 are removed, the wedge 16 is withdrawn and the members 14 and 15 removed.

It will be noted that the inner ends of the tube 10 are outwardly rounded and this assists in pressing therein a core 19 of wood or the like, which is slightly larger than the internal diameter of the tube 10, as shown in Fig. 3, so that after being pressed in the core is so firmly held that it will not loosen even when subjected to oil for long periods.

While I have shown and described but a single embodiment of my invention, it is to be understood that it is capable of many modifications. Changes therefore in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as possible in view of the prior art.

I claim:

1. Mechanism for pressing centrally perforated end plates on shouldered tubes to form spools, said mechanism comprising means for supporting the tube to prevent it from buckling under end pressure, and dies for forcing the ends of the tubes outwardly against the end plates, said means comprising a U-shaped body having an opening in one side terminating in a semicylindrical portion, a member adapted to fit in said opening and having a semicylindrical portion facing the first mentioned semicylindrical portion, and means for forcing said body and member toward each other to hold a tube between said semicylindrical portions.

2. Mechanism for pressing centrally perforated end plates on shouldered tubes to form spools, said mechanism comprising

means for supporting the tube to prevent it from buckling under end pressure, dies for forcing the ends of the tubes outwardly against the end plates, said means comprising a U-shaped body having an opening in one side terminating in a semicylindrical portion, a member adapted to fit in said opening and having a semicylindrical por-

tion facing the first mentioned semicylindrical portion, and a wedge for forcing said body and member toward each other to hold a tube between said semicylindrical portions. 10

In testimony whereof I have hereunto set my hand and seal this 28th day of March, 1927.

ARTHUR C. HOPKINS.