ABSTRACT: The yarn cake wrapping device comprises a tubular member passing through an arm which is pivotally mounted near one end so that it can be swung from one side of the mount to the other. A rigid tubular cake wrapper is placed in the tubular member and a cake of yarn is disposed about the tubular member and wrapper while the arm is in the load position. The upper end of the wrapper is drawn down about the cake and the arm is swung to a horizontal position on the other side of the mount to discharge the cake. The free end of the wrapper is then drawn over the second end of the cake.
CAKE WRAPPING DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention
The invention relates to a simple device for wrapping cakes of yarn to protect them during subsequent processing and shipment.

2. Description of the Prior Art
Annular yarn packages, in particular cakes of freshly spun rayon yarn produced by the pot or bucket process, are covered with wrappers to protect them during the wet processing steps and shipment. The wrappers may be applied by hand or with the assistance of various devices. With one type of device a tubular wrapper is placed over a cylindrical stock and its base member, a cake of yarn is placed on the stock and the free ends of the wrapper are drawn about the cake. Other devices employ means for passing the tubular wrapper through the annular member of the cake. Difficulties may occur during subsequent processing if the wrappers are creased or overlap.

SUMMARY OF THE INVENTION
It is an object of the present invention to provide a simple mechanical device for wrapping annular cakes of yarn. It is another object of the invention to provide a device for inserting a tubular wrapper through the annular member of the cake. It is a further object of the invention to provide a device for inserting a tubular wrapper through the annular member of a cake of yarn, drawing the wrapper over the upper end and the outside of the cake and then discharging the cake in order that the wrapping may be completed.

Other objects and advantages of the present invention will be apparent from following detailed description taken in conjunction with the accompanying drawings.

The cake wrapping device comprises a base with an upright member, an arm pivotally mounted at the upper end of the upright member and adapted to be swung from one side of the upright member to the other. A tubular member passes through the arm, extending above and below the arm for distances on one side at least not exceeding the height of the cake to be wrapped.

A rigid tubular wrapper is inserted into the tubular member, a cake of yarn to be wrapped is placed on the device so that the tubular member passes through the opening of the cake, and the free end of the wrapper is drawn over the top of the cake and down the outside. The arm is then swung to the other side of the upright member to discharge the cake. The remaining free end of the tubular wrapper is then drawn over the end and the outside of the cake.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the device and the tubular wrapper.
FIG. 2 shows the device in the load position with a cake of yarn and tubular wrapper in place.
FIG. 3 shows the wrapper drawn over the upper end and the side of the cake.
FIG. 4 shows the device swung to the discharge position and the discharged cake. FIG. 5 shows the completion of the wrapping of the cake. FIG. 6 shows a completely wrapped cake.
FIG. 7 shows a similar cake with the outside not completely covered.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The cake wrapper shown in the drawings comprises a base member 1 and an upright member 2 with arm 3 attached to the upright member by pivotal mounting 4. The ends of the upright member 2 and arm 3 are cut at an angle of about 45° at 5 and 6, respectively, to limit movement of the pivoted arm in one direction. Brace or stop 7 limits movement of the arm in the other direction.

Tubular member 8 passes through arm 3, extending outwardly from the arm on each side a distance equal to or somewhat less than the height of the cake to be wrapped. The outside diameter of the tubular member is slightly less than the diameter of the annular member of the cake to be wrapped. By dictionary definition a tubular member is a hollow cylinder.

With arm 3 in the position shown in FIG. 1 a rigid tubular cake wrapper 9, which may be of the pleated or the corrugated type, is inserted into tubular member 8. The arm is swung to the load position shown in FIG. 2. The wrapper is positioned in the tubular member so that when yarn cake 10 is placed on arm 3 with tubular member 8 extending through the annular member of the cake, as shown in FIG. 2, the portion of the tubular wrapper extending above the top of the cake is sufficient to cover the top and a portion of the outside of the cake when that portion of the tubular wrapper is folded down as shown in FIG. 3. Arm 3 is then swung to the release position to discharge the partly wrapped cake as shown in FIG. 4 and the free end of the tubular wrapper is folded down to completely cover the cake as shown in FIGS. 5 and 6.

If it is desired to cover only the ends of the cake a tubular wrapper of appropriate length may be used to produce the wrapped cake shown in FIG. 7.

If desired, a roll of tubular wrapping material may be positioned on base member 1 below tubular member 8 when it is in the position shown in FIG. 1. Suitable lengths of tubular wrapper, which may be perforated to permit tearing instead of cutting, may be drawn off from the roll and inserted into tubular member 8 and the remainder of the process carried out as described above.

It is to be understood that changes and variations may be made in the present invention by one skilled in the art without departing from the spirit and scope thereof as defined in the appended claims.

1 claim:

1. A device to aid in the manual wrapping of an annular cake of yarn comprising an arm pivotally connected with an upright member, a hollow cylindrical member passing through said arm said cylindrical member being adapted to receive a cake wrapper and further being adapted to extend into the opening of a cake of yarn, and means limiting the swing of said arm about either side of said pivot.

2. A device to aid in the manual wrapping of an annular cake of yarn comprising an arm pivotally connected with the upper end of said upright member, means limiting the downward travel of said arm on either side of said upright member, and a hollow cylindrical member passing through said arm said cylindrical member being adapted to receive a cake wrapper and further being adapted to extend into the opening of a cake of yarn.

3. A device to aid in the manual wrapping of an annular cake of yarn according to claim 1 wherein said hollow cylindrical member extends outwardly from at least one side of said arm a distance not exceeding the height of the cake of yarn to be wrapped thereon.

4. A device to aid in the manual wrapping of an annular cake of yarn comprising a base member, a member extending upwardly from said base member, an arm pivotally connected with the upper end of said upright member, means limiting the downward travel of said arm on either side of said upright member, and a hollow cylindrical member passing through said arm said cylindrical member being adapted to receive a cake wrapper and further being adapted to extend into the opening of a cake of yarn.

5. A device to aid in the manual wrapping of an annular cake of yarn according to claim 4 wherein said hollow cylindrical member extends outwardly from at least one side of said arm a distance not exceeding the height of the cake of yarn to be wrapped thereon.