

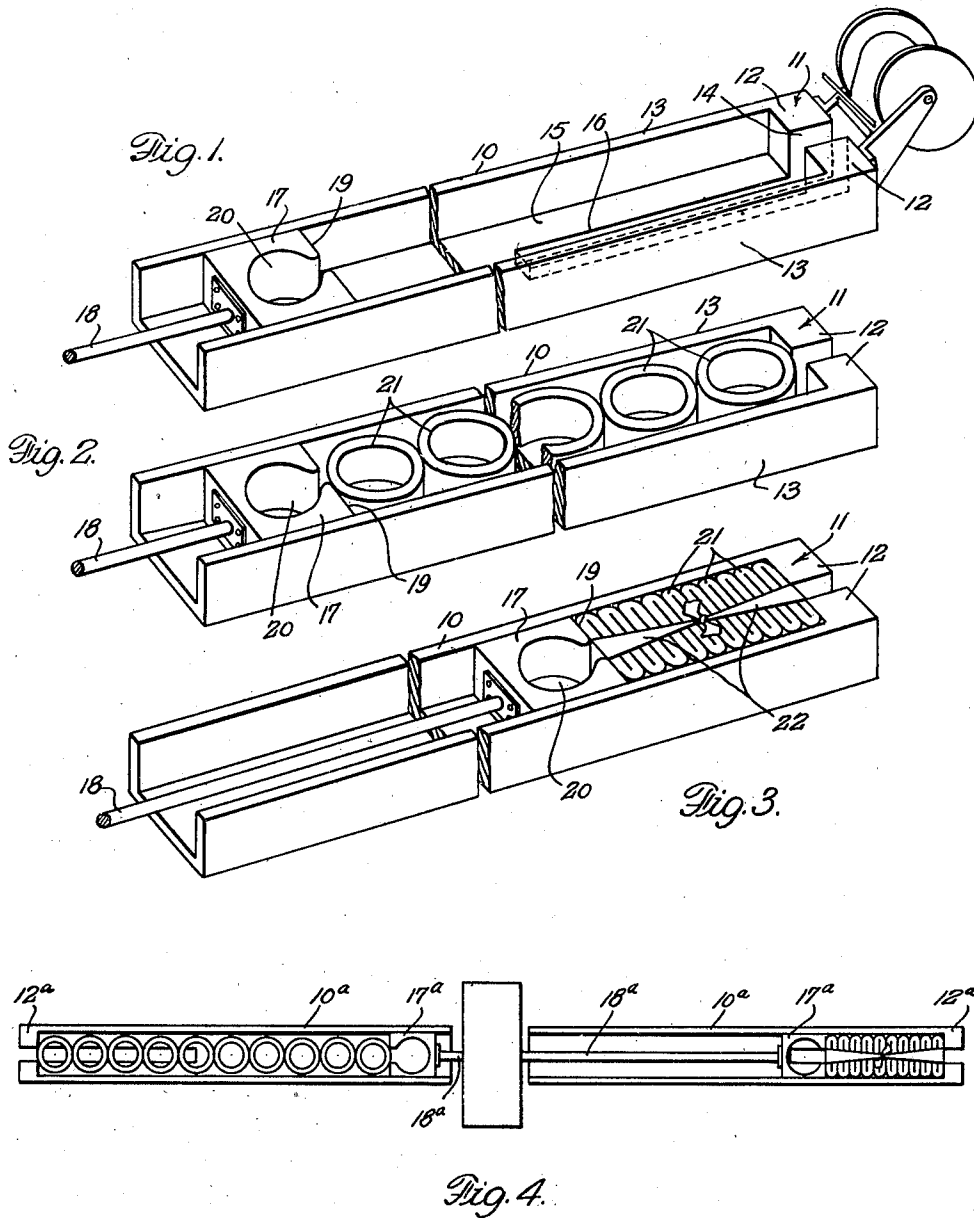
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APPARATUS FOR PACKAGING ARTIFICIAL SILK

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APPARATUS FOR PACKAGING ARTIFICIAL SILK

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1 Claim. (Cl. 100—31)

This invention relates to a device for compacting a plurality of wound bodies or masses of threads, and more particularly to a device for compacting bodies of artificial silk threads in a condition to permit the forming of a unit composed of a plurality of wound bodies or masses of the thread.

In the past difficulty has been encountered in the transportation of uncompacted bodies or masses of artificial silk and the like due to the fact that such bodies or masses are of circular formation and packages thereof were for this reason extremely bulky. Furthermore, packages of such bodies which permit freedom of movement of the threads allow the threads to become somewhat entangled or otherwise damaged.

To overcome the difficulties heretofore encountered it is now quite customary to prepare the artificial silk for shipment by rewinding the threads from the bobbins or cakes into the form of tightly wound cones. However, this practice is objectionable because of the circular formation of the cones and the resultant bulkiness of the packages and for the reason that the additional rewinding step involves the increased handling of the thread and consumes considerable time and labor.

It is an object of the present invention to overcome the difficulties heretofore encountered in the conditioning of wound bodies and masses of artificial silk thread for treatment or shipment.

This invention also contemplates the production of a compact package of artificial silk bodies or masses wherein the threads in the various masses are maintained in a protected condition and do not become entangled.

It is a further object of this invention to provide a device by which a plurality of wound bodies or masses of artificial silk may be compacted.

Other objects and advantages will be apparent from the following detailed description when considered in connection with the accompanying drawing wherein:

Fig. 1 is a perspective view of a device constructed in accordance with this invention for compacting and securing a plurality of wound bodies or masses of artificial silk and the like.

Fig. 2 is a view similar to Fig. 1 illustrating a plurality of the wound bodies or masses arranged within the device in position to be compacted.

Fig. 3 is a view also similar to Fig. 1 showing the wound bodies or masses of the artificial silk compacted in the device and tied in accordance with the present method, and

Fig. 4 is an illustration of a modified form of

the device as illustrated in Fig. 1, in which the compacting portion is duplicated and the power is applied thereto intermediate of these portions.

Now in referring to the drawing in detail, the numeral 10 designates a trough shaped receptacle having an end 11 partially closed by abutments 12 extending from the respective side walls 13 of the trough. This construction, due to the abutments 12 terminating short of contact with each other provides a slot 14 at the end of the trough and the bottom 15 of the trough is also formed with a slot 16 which is in effect an extension of slot 14. The bottom 15 is slotted for only a portion of its length and the trough is given sufficient strength by the solid portion of said bottom.

At the end opposite to the abutments 12, the trough 10 is open, and a pressure plunger 17 is shaped to fit into the trough for movement toward and away from the abutments 12. Pressure plunger 17 is provided with a connecting rod 18 which is adapted to connect the plunger with a source of power (not shown) by means of which the plunger is caused to be moved in the manner set forth.

The pressure plunger 17 has a forward face 19 divided so as to form separated contact surfaces with a slot therebetween corresponding in size and position so as to form a continuity of slot 16 in bottom 15 when the plunger is in position over the slotted portion of the bottom of the trough 10. Behind the face 19 plunger 17 is hollowed out as at 20 for the reason to be hereinafter referred to.

In the construction illustrated in Fig. 4, two troughs 10^a are shown provided with pressure plungers 17^a, and these plungers are joined by common means 18^a for connecting them with the source of power. It will be seen that in the operation of the structure illustrated in Fig. 4, one of the plungers will be moved toward the abutments 12^a of the trough in which it operates while the plunger in the other trough is moved to a position for loading its respective trough.

In practicing the invention according to either device, the pressure plunger in the trough being utilized is retracted and a plurality of circular bodies 21 of artificial silk or the like are placed in the trough in front of the plunger. Power is then applied to cause the plunger to be moved forward and to thereby collapse and compress the bodies 21. When the bodies 21 are compressed, as indicated in Fig. 3, a tie 22, preferably formed from a broad flat piece of binding material, is passed around the bodies and in

contact therewith due to the space provided by the respective slots 14 and 16 and the slot in the plunger, whereupon the tie is knotted and the bodies 21 are adapted to be removed from the
5 trough as a unit.

It will be seen that the hollowed portion of the plunger permits of ease in passing the tie therethrough so that the tying may be practiced quickly and efficiently. As a further convenience, the tie 22 may be drawn from a roll of the binding material arranged above the trough
10 and a cutting device may be provided adjacent thereto, the roll and cutting device being illustrated diagrammatically in Fig. 1 without being
15 otherwise illustrated.

The practicing of the invention as described is similarly carried out in connection with the structure illustrated in Fig. 4 except that one trough is loaded with bodies 21 during the tying of compacted bodies in the other trough, and this operation is repeated by compacting and tying bodies
20 in first one trough and then in the other as they are compacted during the reciprocation of the respective plungers.

The units of tied compacted bodies are preferably prepared for shipment by placing a plurality of the units in a packing case which is lined with paper, sheets of paper also being placed between every two layers of packages within the
25 packing case.
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What I claim is:

An apparatus for flattening collapsible masses of artificial silk and the like to permit the tying thereof into a unit comprising a body portion having a substantially horizontal bottom and side
5 walls extending thereabove acting as a receiver and guide for a plurality of collapsible masses of artificial silk, an abutment at the end of the body against which an end mass is adapted to bear, said
10 abutment being integral with the receiver and entirely divided to provide a freely accessible slot and the body portion being provided with a longitudinal slot adjacent the abutment corresponding to and in alignment and forming a continuation of
15 the slot in the abutment, a hollow pressure plunger also having a slot therein in alignment with the two aforementioned slots and arranged for movement within the body portion and being adapted to be moved to a position wherein the plunger slot
20 forms a continuation of the longitudinal slot and is adapted to collapse the masses of artificial silk and to lie over the slot in the bottom of the body portion when the masses are collapsed, said slots in the abutment, body portion and plunger providing
25 passageways through which a binding tape may be readily passed for securing the mass together while subjected to the force of the pressure plunger.

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