

Feb. 5, 1929.

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H. C. STUHLMANN
SPOOL FOR WINDING YARNS, ARTIFICIAL SILK,
HORSEHAIR, BANDS, AND THE LIKE
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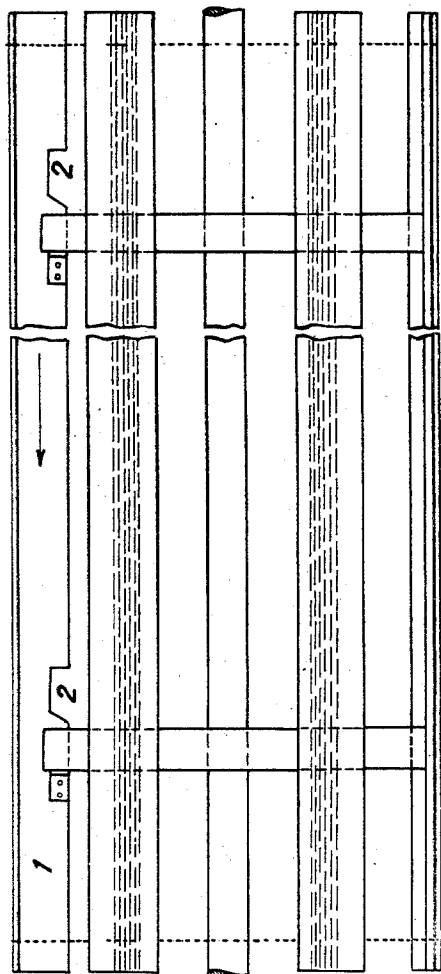


Fig. 2.

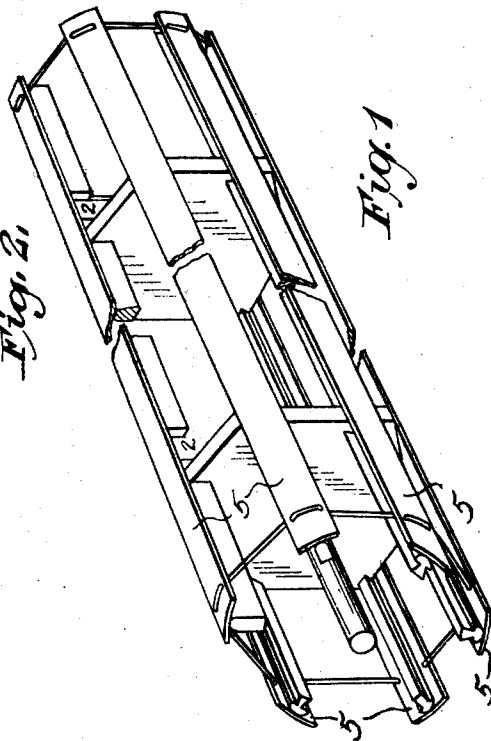


Fig. 1

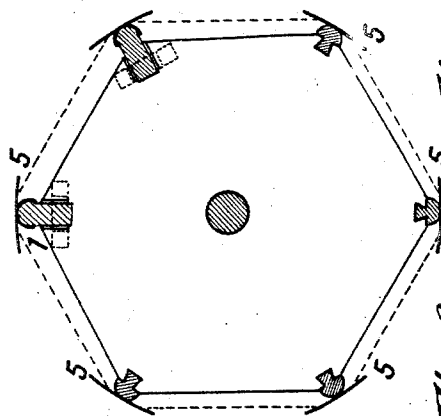


Fig. 3.

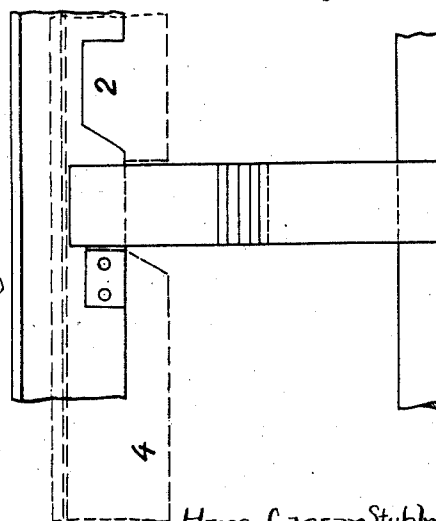


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SPOOL FOR WINDING YARNS, ARTIFICIAL SILK, HORSEHAIR, BANDS, AND THE LIKE.

Application filed August 10, 1925, Serial No. 49,430, and in Germany September 22, 1924.

In the textile industry there are a number of operations, in which fibrous material and the like has to be wound on in such a state that in the strands as they are formed, whether the thread has a twist or not or whether it is wound on the spool in a dry or moist state, owing to the tension to which it is subjected during winding, more particularly in the moist state, the drawing off of the strands from the spool entails a certain degree of inconvenience in handling the spool and the fibrous material. This is more particularly the case, when, as in winding on freshly precipitated threads from solutions of cellulose or cellulose compounds, the wound-on strand has corrosive chemicals adhering to it.

The object of the invention is to provide a spool, with which the inconvenience of handling referred to is obviated and which enables the yarn to be taken off the reel in a manner which is neither inconvenient for the worker nor detrimental to the fibrous material.

This is effected according to the present invention by the reel which is in the main of rigid construction being surrounded by a member for the reception of the fibrous material, which member, after having the thread wound on it, is drawn together with the latter off the reel in the longitudinal direction, the said receiving member being so constructed that, after being drawn off the reel, it can be readily bent, slid or folded together; whereby the receiving member can be readily withdrawn from the interior of the closed strands which are for this purpose held by a rod pushed through them.

It is in this case only necessary slightly to slacken the tension of the strands on the reel before withdrawing them and to make the friction surfaces between the rails of the spool and the reception member as smooth as possible, by making these surfaces either of hard rubber, celluloid, cellon or some other suitable material.

For producing the slight slackening of the tension it is sufficient, if one or more of the rails are so arranged that by a slight longitudinal displacement, say by a light blow, they are caused to slip into slots provided for the purpose, moving radially towards the axis by the depth of the slots.

In the accompanying drawings a constructional example of the reel according to the present invention is shown in which

Fig. 1 is a perspective view of the improved spool.

Fig. 2 is a side elevation thereof.

Fig. 3 is a transverse section of the spool.

Fig. 4 is a large fragmentary elevation of the spool showing the two positions of the displaceable rail.

Referring to the drawing it will be seen that the rail 1 may be caused by a slight movement in the direction of the arrow to slip into the slots 2, whereby it is approached by the depth of the slots towards the axis of the spool. The same object is obtained, where the fibrous material is under great tension, by making one or more additional rails collapsible.

In Fig. 4 such a displaceable rail is shown in the reeling position 3 and next to it in broken lines in the withdrawal position.

The receiving member itself may either be made of a foil of any suitable material that is capable of being rolled or folded together or, as shown in the drawing in the form of a "corseti", the separate blades of which are held together by two or more elastic girths, for instance in the manner shown in perspective.

The invention is of course only applicable to reels which are capable of being swung one way about a joint out of the operative position or by being removed completely out of this position.

The invention is thus based on the fact that the hanks are not wound directly as has hitherto been the case on the rails, which are either fixed to the reel or mounted thereon so as to be capable of being collapsed, but on an intermediate member capable of being slid on and off the rigid reel.

The peculiar advantage of this reel consists in this, that hanks of all kinds may be drawn off the reel with as little damage to the fibrous material and deformation of the cheese as possible, while the manipulation by the workman is made particularly easy.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A reel of acid proof material for winding artificial silk in hanks, comprising a plurality of rails on the said reel and an intermediate member for the reception of the yarn, extending over the entire length of the rails and capable of being withdrawn from the reel together with the wound-on yarn,

means coacting with the intermediate member permitting the latter to move inwardly toward the axis of the wheel incident to the withdrawal of said member, as and for the purpose set forth.

5 2. A metal reel coated with acid proof material for winding untwisted spun artificial silk thread in hanks, a plurality of rails on the said reel and an intermediate member for
10 the reception of the silk thread, extending over the entire length of the rails and capa-

ble of being withdrawn from the reel together with the wound-on silk thread, means coacting with the intermediate member permitting the latter to move inwardly toward the axis of the wheel incident to the withdrawal of said member, as and for the purpose set forth. 15

In testimony whereof I have signed my name to this specification.

DR. HANS CAESAR STUHLMANN.