

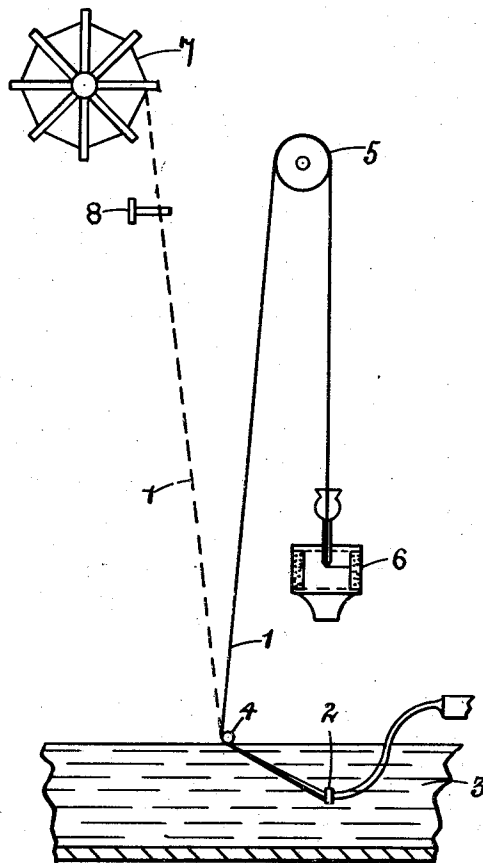
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MANUFACTURE OF ARTIFICIAL SILK AND THE LIKE

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MANUFACTURE OF ARTIFICIAL SILK AND THE LIKE

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In the ordinary operations of wet spinning and particularly where the centrifugal method is adopted, there is a considerable loss of time of spinning while the centrifugal boxes are being changed. There is also the accompanying difficulty and loss of time in restarting the jets when a fresh centrifugal box is brought into action. According to my invention this loss in time and waste of material is practically eliminated and at the same time an almost continuous spinning is effected in the following manner.

In my method of continuous spinning I find it more advantageous to work in the following manner, so producing mostly a twisted fibre which is collected in a centrifugal box, and alternately during the period of doffing the thread is transferred by hand to a reel or bobbin, being led thereto through a traversing guide so as to collect an untwisted thread suitable for cutting up into staple fibre, or which may be subsequently twisted up into an artificial silk yarn.

Somewhere on the spinning frame, on which the jets, centrifugal boxes, and precipitating bath are located, I suitably attach or fix a conveniently sized collecting reel or bobbin or a number of them, working with a transverse guider before each reel or bobbin which travels and spreads the yarn on the same when this is collected in the manner to be described. At the end of the required time spinning into the centrifugal box, the yarn flowing into the same is broken at a selected and convenient place and the end leading from the jet is at once led along the bath, or over suitable guiders to a collecting reel or bobbin and is wound on to the same at a suitable and pre-determined rate. This operation is continued while the centrifugal box containing the collected material is replaced by a fresh one, and is ready to receive a strand of filaments. The strand is again broken and immediately led to the godet and then down to the funnel guider in the normal manner, and ordinary centrifugal spinning is resumed.

By working on this double type of spinning machine spinning operations become practically continuous. This greatly facilitates the

smooth working of the jet and prevents waste of solution, and consequently an increased output of filaments is obtained. This extra material spun onto the skein reel or bobbin may be subsequently treated in any desired manner so that either artificial silk or staple fibre is obtained from the same as desired.

One reel or bobbin may be utilized to collect the strands of filaments from more than one jet while changing operations are in progress, when the product is to be staple fibre, or when a relatively coarse yarn is desired. The rate of winding onto the skein holder or bobbin may also be the same as that utilized for spinning into the centrifugal boxes, or it may be varied when this is desired. A convenient position for the said reel or bobbin, especially when more than one strand is collected on the same is at the end of the precipitating bath, especially when the godet is no longer used to draw off the strand of filaments or strands. In this case the reel or bobbin or reels or bobbins may be mounted for instance on the said end of the precipitating bath, the transverse guider which is preferably used to suitably spread or distribute the yarn on the bobbin or reel being also suitably mounted on the same end and suitably shaped guiders may be placed at suitable intervals along the precipitating bath, or along a section of it, when this is too long for collecting the filaments in this way or for convenient working. The surplus solution from the filaments may drain back into the precipitating bath or be collected separately. Or even the reel or bobbin may be made to rotate conveniently in a separate bath or solution.

The accompanying drawing illustrates diagrammatically the apparatus for carrying out the invention.

The strand of filaments 1 issuing from the jet 2 in the precipitating bath 3 pass over a strand guider 4 and godet 5 into the centrifugal box 6.

When the centrifugal box 6 with its reciprocating funnel guider is filled and whilst it is being replaced by a fresh one, the strand of filaments 1 is broken at any convenient place and the free end attached to the jet 2

is then temporarily led through a transverse guider 8 on to the skein-holder 7 as shown in dotted lines in the drawing thus giving a process of continuous spinning during the time of doffing the centrifugal box.

5 Any desired length of immersion in the spinning bath may be arranged by the aid of the said guiders and where the strand or strands of filaments are made to pass over
10 the godet on their way to the secondary reel or bobbin suitable arrangements are made to effect this. This process of continuous spinning is facilitated when the precipitating solution or another suitable solution is passed
15 down the funnel guider as then a more rapid and regular restarting of spinning operations can be effected.

I claim:

1. In combination with a centrifugal box
20 for spinning artificial silk, an apparatus for practically continuous spinning comprising a skein winder for receiving the strand of filaments during the time of changing the centrifugal boxes, said strand of filaments
25 attached to the jet being led onto the said skein winder.

2. In combination with a centrifugal box for spinning artificial silk, an apparatus for practically continuous spinning comprising a
30 skein winder for receiving the strand of filaments during the time of changing of the centrifugal boxes, said strand of filaments broken and the free end attached to the jet being led by hand to the skein winder and
35 a transverse guider associated with each winder spreading the strand of filaments collected thereon.

In testimony whereof I affix my signature.
WILLIAM PORTER DREAPER.