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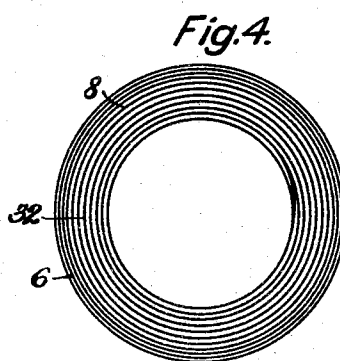
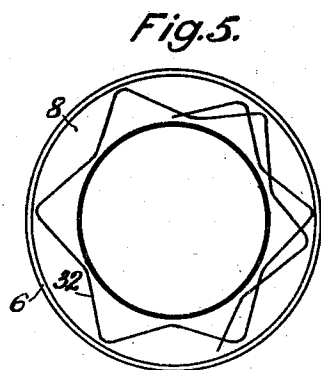
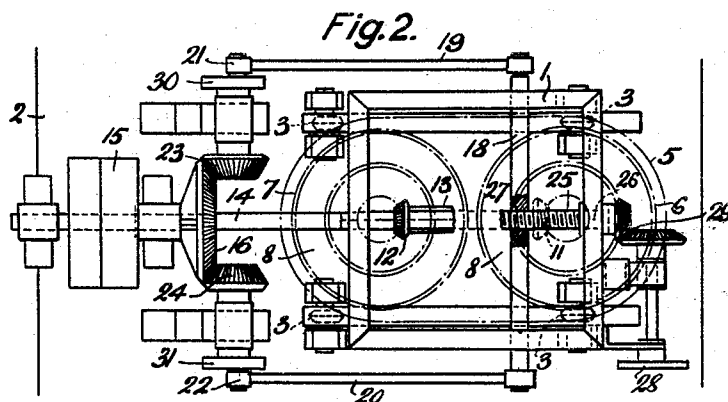
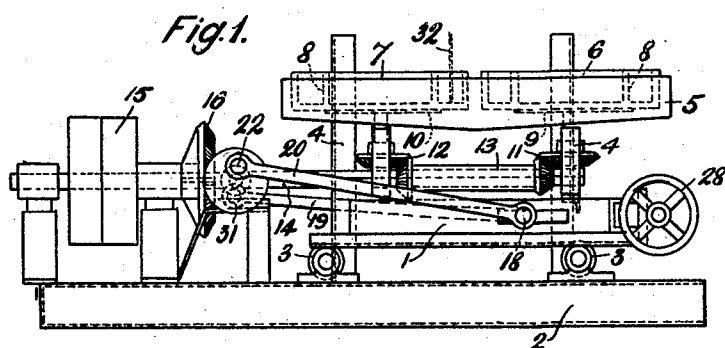
M. DASSONVILLE

1,824,772

METHOD OF AND MEANS FOR COLLECTING ARTIFICIAL WOOL

Filed Sept. 28, 1929

2 Sheets-Sheet 1



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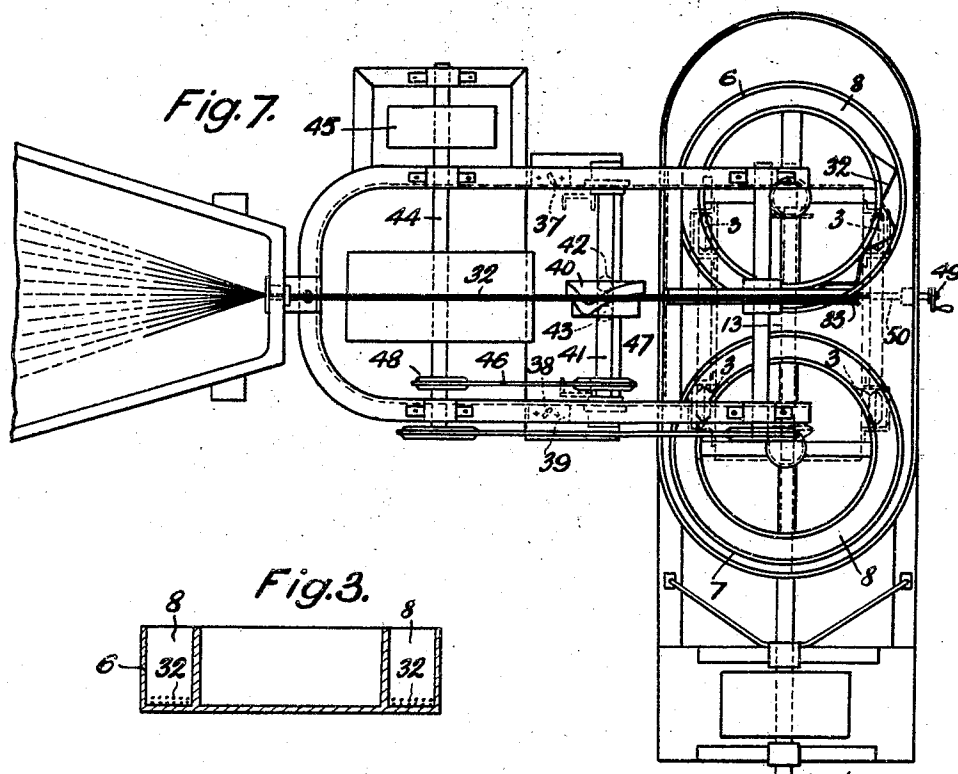
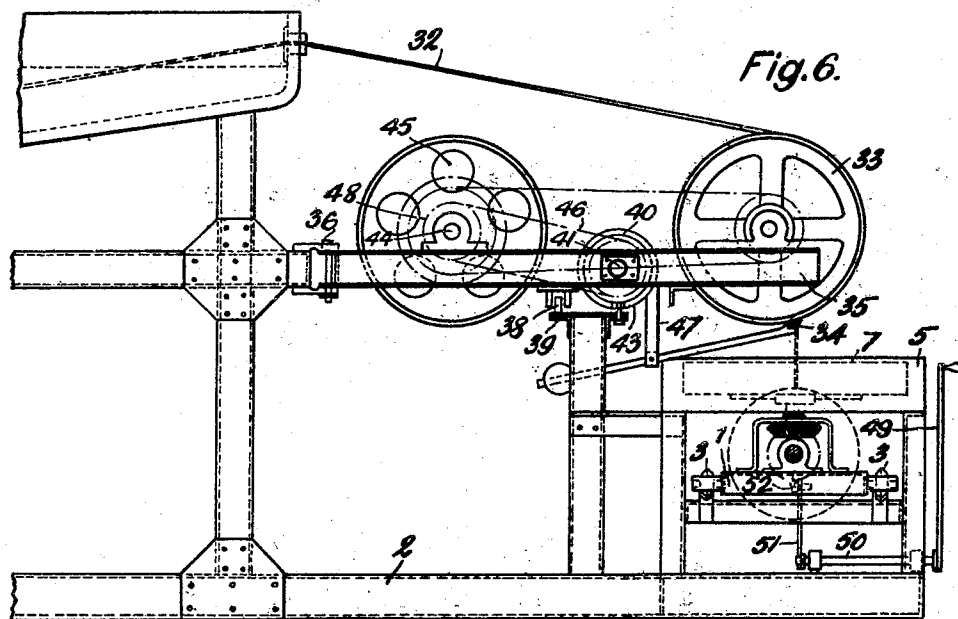
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METHOD OF AND MEANS FOR COLLECTING ARTIFICIAL WOOL

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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METHOD OF AND MEANS FOR COLLECTING ARTIFICIAL WOOL

Application filed September 28, 1929, Serial No. 395,980, and in France February 9, 1929.

The present invention relates to improvements in means for collecting artificial wool as it comes from the spinning machine.

It is already known (British Patent No. 263,727, dated 30th December 1925) to obtain a continuous artificial woolen ribbon by the junction on an endless belt of several staples supplied by a set of machines.

The present invention has for its object to provide means for collecting such continuous ribbon in the form of a hank, in a perforated container in which it remains for the usual washing, bleaching and dyeing. It can then be reeled, cut into lengths, and after being subjected to twisting if necessary, directly used in spinning and weaving processes.

According to the present invention, the continuous ribbon is received as it comes from the spinning machine in a sort of low, ring shaped basket. The ribbon or staple may settle in such basket either in exactly concentric or in crossed or imbricated layers. In order to obtain the latter, the revolving motion of the collecting basket is combined with a linear motion thereof or of the device delivering the woolen ribbon into the said basket. The low annular form of the basket enables a hank to be formed in which condition the staple is best adapted for the subsequent treatments in the basket itself.

Two examples embodying the invention are illustrated in the accompanying drawings.

Figure 1 is a side view of the first example of the receiving apparatus.

Figure 2 is a plan view in which, to afford greater clearness, the baskets for the collection of the woolen ribbon are removed and are only indicated in chain lines.

Figure 3 is a sectional view of a basket of the above mentioned type.

Figures 4 and 5 are plan views of the basket in which the ribbon has been collected either in exactly concentric (Figure 4) or in

highly crossed or imbricated layers (Figure 5).

Figures 6 and 7 are respectively an elevation and a plan view of the second example of the invention.

According to Figures 1 and 2, a carriage 1 is movably supported on a frame 2 by means of rollers 3. The said carriage by means of posts 4 supports a casing 5 in which may revolve two baskets 6 and 7 each of which has an annular receiving groove 8 of rectangular section. The baskets rest upon driving arms 9 and 10 respectively rotated through bevel gears 11 and 12 and a square section socket 13. This socket slides on a corresponding prismatic section of shaft 14 which is driven by the pulley 15. The carriage 1 is provided with a transverse member 18 to the respective ends of which are pivoted connecting rods 19 and 20 actuated by adjustable crank pins 21 and 22 on crank discs 30 and 31 coupled to the pinions 23 and 24 which both mesh with a pinion 16 fast on the shaft 14. The crank pins 21 and 22 may be adjustable in any manner well known for this purpose. The carriage 1 may be slightly shifted with reference to the transverse member 18 by means of a screw 25 which can revolve without axial movement in a bearing 26 on the carriage and which meshes with a tapped hole 27 in the transverse member 18. The screw can be rotated from a hand wheel 28, by means of a bevel gear 29.

The device being arranged in the above described way, the revolving and linear motions of the baskets are both derived from the same pulley 15 and it is clear that, according to the relative speed of both motions, it is possible to obtain either the superposition, or the imbrication of the windings of the artificial woolen staple 32 coming from the spinning machine above the circular groove of one of the baskets.

As soon as one of the baskets is full of wool, or if for any other reason it is desired to col-

lect the wool in another basket, the hand wheel 28 is operated without stopping the machine in order to bring the groove of the other basket below the spot where the woolen staple 5 32 descends. The full basket may be replaced by an empty one and consequently the work can proceed without any interruption.

The width of the undulations of the windings in the baskets depends upon the radius 10 of action of the crank pins 21, 22; should such radius be zero, the windings will be distributed circularly, as shown in Figure 4; the basket may be slowly moved so that the windings gradually cover the whole width 15 of its base.

According to the second example shown in Figures 6 and 7, the reciprocating linear motion is no longer transmitted to the frame carrying the baskets, but is given to the 20 parts delivering the wool as it comes from the spinning machine.

In this construction 33 is the revolving drum which draws the staple of fibres from the coagulation bath and 34 a scraping blade 25 against which the fibres press, the fibres taking an undulating path at the same time as they are detached from the drum.

To this end the drum 33 and the scraping blade 34 are carried upon a frame 35 which 30 can oscillate about a vertical axis 36 located in the median vertical plane of the machine. The frame 35 is supported by two rollers 37 and 38 which move upon a table 39.

The oscillating motion is obtained from a 35 cam 40 fast on a shaft 41 carried by the frame 35. This cam revolves between two rollers 42 and 43 secured on the main frame. The shaft 41 is driven by any suitable means, for instance from a shaft 44 carrying the pulley 40 45 by means of a chain 46 passing over sprockets 47, 48.

The staple detached from the drum 33 by the scraper 34 descends into the groove 8 of one of the baskets 6 or 7. The transfer from 45 one basket to the other can be effected manually by means of a lever 49 fast upon a shaft 50 which also carries a slotted arm 51 embracing a finger 52 fixed to the carriage 1. The bevel wheels 11 and 12 will be carried 50 on a squared sleeve 13 slidable on a corresponding section of shaft 14 to permit this movement of carriage 1, exactly as in Figures 1 and 2.

The illustrated constructions are given only 55 by way of example and many minor features can be modified without departing from the scope of the invention. It is evident, for instance, that the reciprocating linear motion could be directly imparted to the woolen ribbons as it leaves the drum, the latter remain- 60 ing still.

What I claim is:—

1. Apparatus for collecting a fibrous staple 65 comprising means for feeding said staple downwards, an annular receptacle, means for

rotating said receptacle and means for giving said staple a reciprocating motion as it is fed down into said receptacle.

2. Apparatus for collecting a fibrous staple 70 comprising means for feeding said staple downwards, a carriage, a longitudinally stationary mainshaft, a pair of receptacles vertically pivoted in said carriage, sliding means on said shaft for rotating said receptacles and 75 means for sliding said carriage parallel with said shaft to bring either of said receptacles beneath the point of descent of said staple.

3. Apparatus for collecting a fibrous staple 80 comprising means for feeding said staple downwards, a carriage, a mainshaft, a pair of annular receptacles vertically pivoted in said carriage, means on said shaft for rotating said receptacles, means for sliding said 85 carriage parallel with said shaft to bring either of said receptacles beneath the point of descent of said staple, and means for producing a reciprocating motion of said staple with respect to said carriage.

4. Apparatus for collecting artificial wool 90 as it comes from the spinning machine comprising a pivoted frame, a drawing drum on said pivoted frame, a scraping blade for stripping the staple from said drum, cam 95 means for oscillating said pivoted frame, a receptacle for receiving the staple, and means for rotating said receptacle.

5. Apparatus for collecting artificial wool 100 as it comes from the spinning machine comprising a main framework, a frame pivoted to said main framework, a drawing drum on said pivoted frame, a scraping blade for strip- 105 ping the staple from said drum, a rotating shaft on said pivoted frame, a cam fast on said shaft, a cam follower on said main framework coacting with said cam to oscillate said pivoted frame, a receptacle to receive the staple and means for rotating said 110 receptacle.

6. Apparatus for collecting a fibrous staple 110 comprising means for feeding said staple downwards, a carriage, a pair of vertically mounted shafts in said carriage, driving 115 arms on said shafts for supporting receptacles for the fibre, bevel wheels at the lower ends of said shafts, a longitudinally stationary mainshaft, a sleeve slidably splined on said 120 mainshaft, a bevel wheel fast on each end of said sleeve meshing with said first mentioned bevel wheels, and means for sliding said carriage parallel with said shaft to bring either 125 of the receptacles when supported on said driving arms beneath the point of descent of said staple.

7. Apparatus for collecting a fibrous staple 130 comprising means for feeding said staple downwards, a carriage, a mainshaft, a pair of annular receptacles vertically pivoted in said carriage, means on said shaft for rotating said receptacles, a pin on said carriage, a shaft 135 perpendicular to said mainshaft, an arm on

said shaft engaging said pin, and a hand lever on said shaft.

8. Means for the collection of artificial wool as it comes from the spinning machine, comprising the combination of a basket having concentric inner and outer walls forming a low annular space wherein the staple can be given all necessary wet or dry treatment without removal, and means for collecting the staple therein in layers.

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

MICHEL DASSONVILLE.

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