March 28, 1967 R. D. JOY 3,310,933

METHOD AND APPARATUS FOR MAKING A DECORATIVE YARN WITH SLUBS THEREIN

Filed June 18, 1965 3 Sheets-Sheet 1

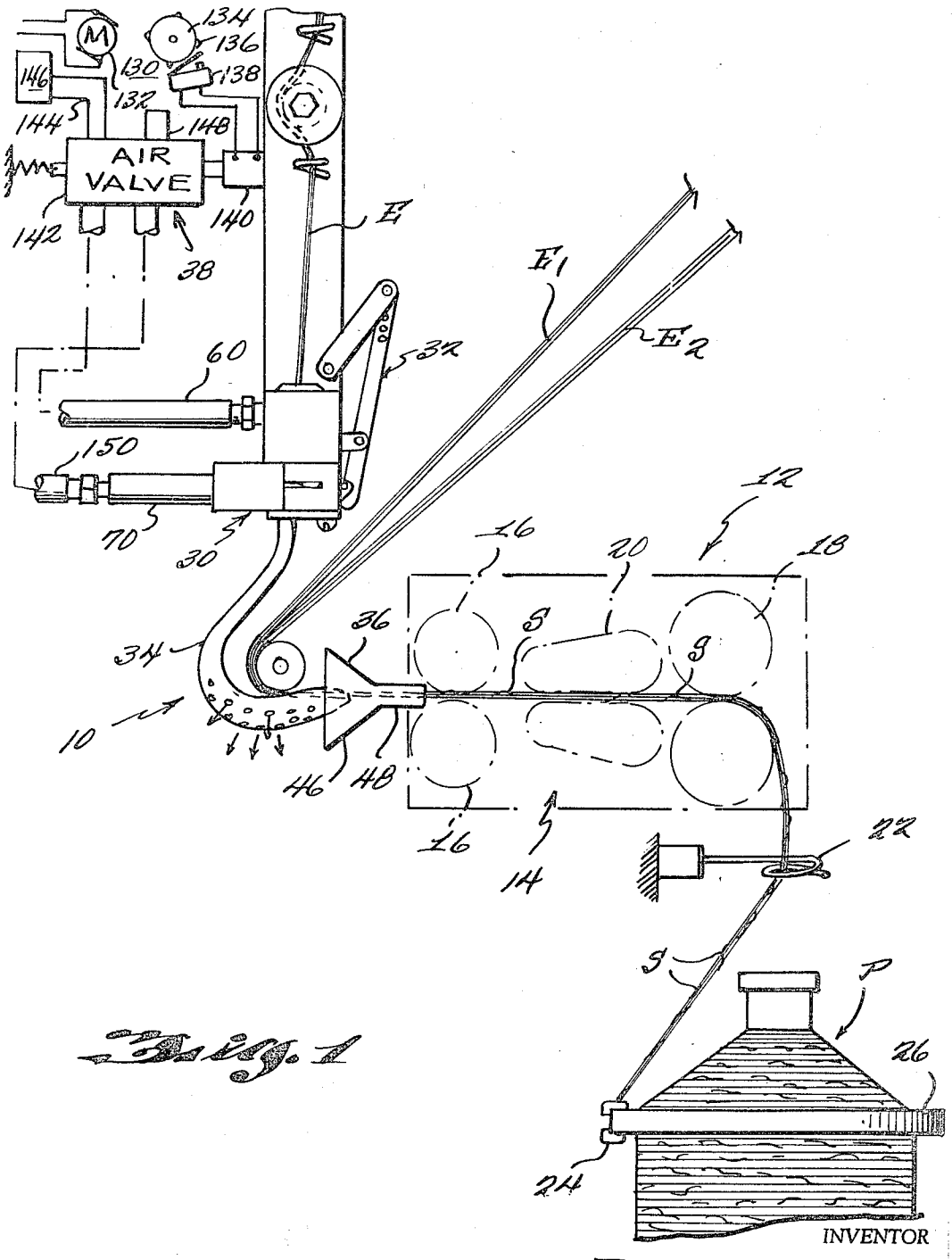


Fig. 1

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Filed June 18, 1965 3 Sheets-Sheet 2

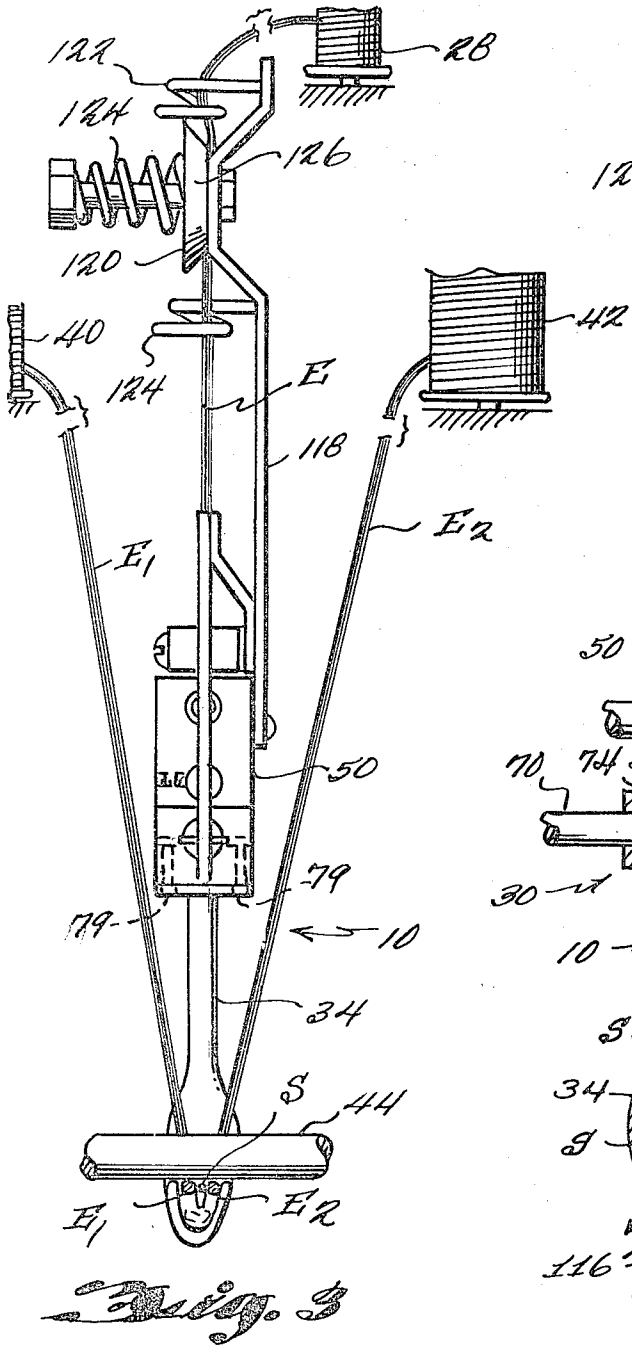


Fig. 3

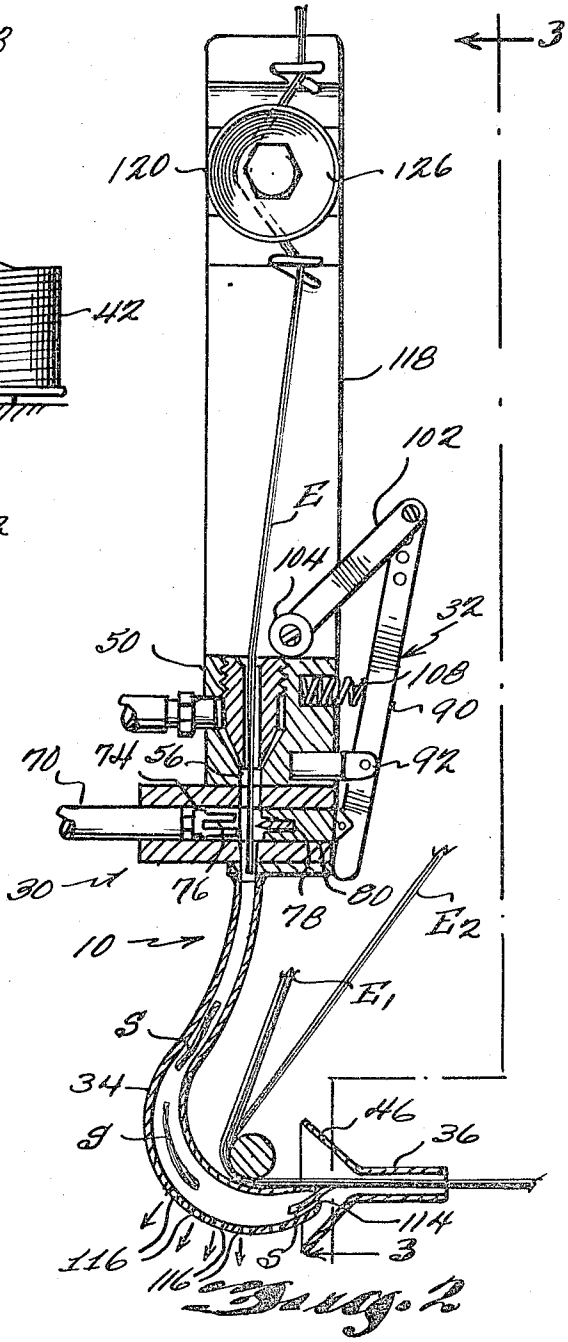


Fig. 2

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Filed June 18, 1965 3 Sheets-Sheet 3

Fig. 4

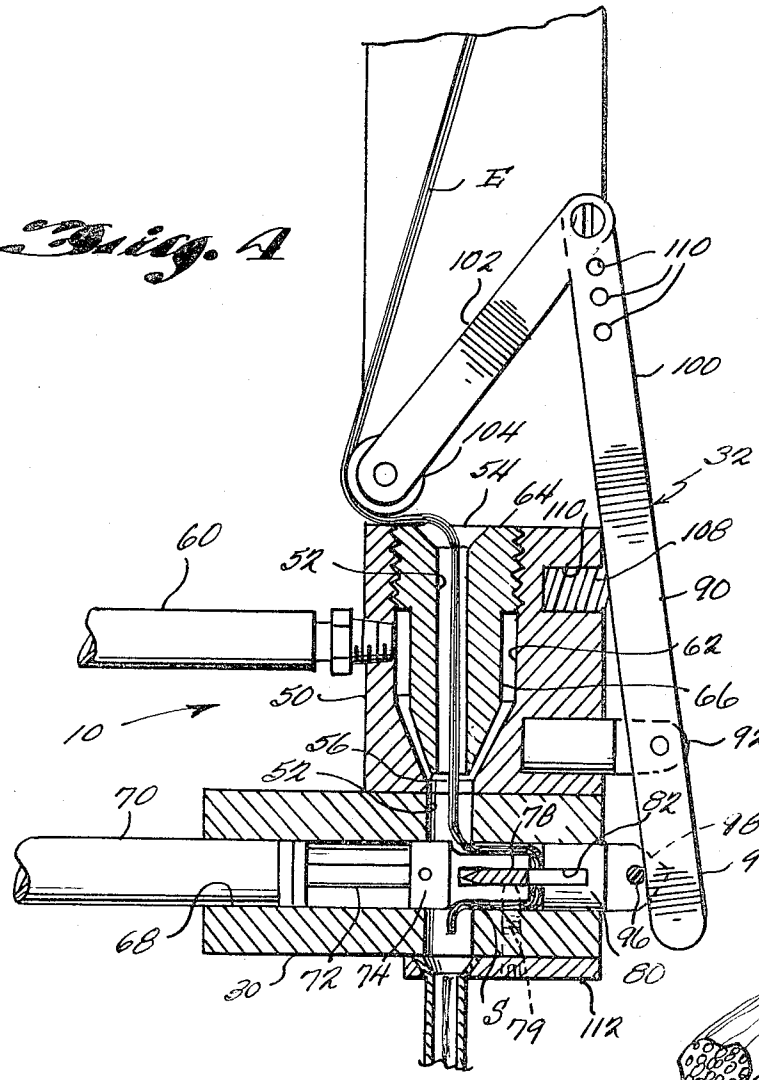
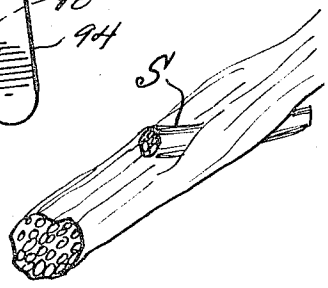


Fig. 5



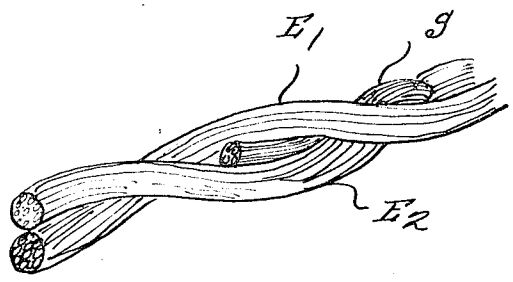


Fig. 6

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3,310,933

METHOD AND APPARATUS FOR MAKING A DECORATIVE YARN WITH SLUBS THEREIN

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Filed June 18, 1965, Ser. No. 465,137
20 Claims. (Cl. 57—36)

The present invention relates to a method and apparatus for making a decorative yarn and, more particularly, to a method and apparatus for making a yarn with slubs discriminately inserted between single or multi strand yarns prior to the drafting and/or spinning of the yarns.

Throughout the specification the word "end" is used to define an individual strand of sliver, roving or yarn. While the invention is primarily applicable to the insertion of slubs between two or more rovings prior to the spinning of the rovings into a single or multi strand yarn, it will also be appreciated by those skilled in the art that the present invention is quite capable of use in the insertion of slubs between individual strands of sliver prior to being spun into roving or yarn or between individual yarns prior to the individual yarns being spun into a multi ply yarn. The slub, as referred to in the specification, is a short length of sliver, roving, or yarn cut from an end.

Heretofore, slub yarns have been made by opening a sliver or roving into a web like form and then inlaying slubs across the width of the web and along the length of the web and then drafting the sliver or roving back into a strand. The sliver or roving is then further processed into strands of yarn and the strands may then be made up into a multi ply yarn wherein at least one of the strands has the slubs inlaid therein. Other processes have been used for making slub yarn wherein short pieces of filamentary material are dropped upon a carrier strand as it is cranked and twisted with the result that the short lengths of filamentary material are wound tightly about the carrier strand at spaced sections along the length of the strand. Oftentimes in these prior processes, the final strand or the final yarn, regardless of whether it is a single strand yarn or a multi ply yarn, is weakened before and after the slub. Further, such prior processes require complicated apparatus for accomplishing the slub effect in the final yarn produced, the apparatus oftentimes requiring the drafting or spinning frame to be substantially modified.

An important object of the present invention is to provide a method of and an apparatus for making a decorative slub yarn from a plurality of ends, the slubs being accurately and firmly positioned between the ends prior to the ends being twisted or spun into either a decorative yarn of single ply or of multi ply.

Another object of the present invention is to provide an improved method and apparatus in which at least two continuously fed ends of the same fibers or of different fibers have slubs inserted and accurately positioned therebetween, the slubs being of the same or different fibers as well as colors whereby a wide range of decorative yarn can be produced.

Still another object of the present invention is to provide a method and apparatus for making a slub yarn in which the yarn is not weakened before or after the slub and further in which the slub itself does not affect the twist or spinning of the strand.

A further object of the present invention is to provide an improved slubbing apparatus capable of use with or being applied to conventional frames of the type for drafting and/or spinning yarn without materially changing the frame.

Yet still another object of the present invention is to provide a slubbing apparatus in which the size and length of the slub may be adjusted and accurately controlled, and in which the spacing between slubs may be adjusted and accurately controlled.

These and other objects of the present invention will become more apparent from the following specification, claims, and from the drawings in which:

FIGURE 1 is a diagrammatic side view of the apparatus of the present invention utilized with a typical draft zone of a frame for drafting or spinning yarn;

FIGURE 2 is a fragmentary vertical sectional view partly in elevation of the slub forming and positioning apparatus, the view illustrating cut slubs being pneumatically conveyed to and positioned between at least two ends, the view further illustrating the feeding of an end into position for cutting a slub therefrom;

FIGURE 3 is a sectional view taken substantially on the line 3—3 of FIGURE 2, the view eliminating the trumpet guide and the end supply packages for the purpose of clarity;

FIGURE 4 is a still further enlarged fragmentary vertical sectional view through the slub forming apparatus, the view illustrating the apparatus holding the end and cutting a slub therefrom and further illustrating the actuation of the end feeding mechanism for drawing a predetermined length of end from its supply package;

FIGURE 5 is a fragmentary perspective view of a piece of yarn made according to the present invention from two or more continuous ends of sliver and roving with slub twisted therein; and

FIGURE 6 is a fragmentary perspective view similar to FIGURE 5 but illustrating a multi ply yarn made from two continuous individual ends of yarn spun with a slub positioned therebetween.

Referring now to the drawings wherein like character and reference numerals represent like or similar parts, there is disclosed a slubbing apparatus of the present invention generally designated by the numeral **10**, the slubbing apparatus being disclosed in association with a conventional type of frame diagrammatically shown at **12**. The frame **12**, which may be a roving frame or a spinning frame, includes a drafting zone **14** having rear draft rolls **16**, front draft rolls **18**, and an intermediate draft apron **20**. The frame **12**, if the same is a spinning frame rather than just a roving frame, is provided with a pigtail guide **22** for receiving the drawn and twisted strand delivered therefrom, the pigtail guide **22** directing the strand through a traveller **24** rotating about a traversing ring **26** as the strand is being wound on the package P.

In the method or process of the present invention an end E fed from a package **28** (FIGURE 2) is received in the slubbing apparatus **10** wherein slubs are cut therefrom. The slubs S cut from the end E are conveyed to a zone or area between converging ends E_1 and E_2, respectively, the ends E_1 and E_2 being then immediately and directly fed into the drafting zone **14** with the slub S pinched or caught between the same. In more detail, the process involves the cutting of the slubs S from end E and maintaining control over the slubs S from the time of cutting until the same are accurately positioned between the continuous moving ends E_1 and E_2 when the latter are travelling in side by side contiguous relationship. Positive control is then maintained over the ends E_1 and E_2 with the slubs S caught therebetween until the same pass into the rear draft rolls **16** of frame **12**.

For the purposes of describing this invention, the ends E_1 and E_2 are individual strands of sliver, roving or yarn in any combination. The fibers of the particular ends E_1 and E_2 may be natural fibers or synthetic fibers in any desired combination or blend and in addition the ends

may be monofilaments or multifilaments. By the selection of any desired combination of fibers in any proportions or by selection of sliver, roving or yarns, many different types of slub yarns may be made. Additionally, by suitable adjustment of the slubbing apparatus **10** as will be described in more detail later in the specification, the size of the slub and the relative position of the slubs with respect to one another in the final yarn may be accurately controlled to produce different effects on the decorative yarns. The end E which is used for cutting the slubs S therefrom may be a strand of sliver, roving or yarn. Preferably, it is roving or yarn and, of course, it may be of different fibers or even different colors than ends E_1 and E_2.

Referring now to FIGURE 1, the slubbing device **10** includes a cutter assembly or means **30** for receiving the end E from the supply package **28**, a feed mechanism **32** for pulling a desired length of end E from the supply package **28**, a slub dispensing tube **34** connected to and receiving slubs from cutter means **30**, and a trumpet guide **36** positioned adjacent to the outlet of and receiving slubs from the tube **34**. Control means generally designated at **38** control in synchronism the actuation of the cutter means **30**, feed mechanism **32** and the conveying of the slub S through the slub dispensing tube **34**.

The ends E_1 and E_2 are continuously fed from supply packages **40** and **42**, respectively, which are diagrammatically shown in FIGURE 2. Ends E_1 and E_2 converge toward one another and pass over a yarn guide bar **44** suitably positioned in front of the mouth of the trumpet guide **36**. Trumpet guide **36** has a flared inlet portion **46** which tapers downwardly into an elongated generally cylindrical reduced outlet portion **48**. The end of the outlet portion **48** of trumpet guide **36** is positioned immediately adjacent the back draft rolls **16** of drafting zone **14** at the nip of the same as shown in FIGURE 1. As will now be understood, from a reference to FIGURES 1, 2, and 3, the slubs S cut from the end E are conveyed through an enclosed path defined by the slub dispensing tube **34** to the nip or area between the converging ends E_1 and E_2 at the flared inlet **46** of the trumpet guide **36**. Since the length of the slub S is traveling in the same general direction as the ends E_1 and E_2 when the same are in the trumpet guide **36**, the slubs S will be accurately positioned in a plane between the ends E_1 and E_2 and because the ends E_1 and E_2 are traveling in a confined space and thus are generally contiguous with one another, the slubs are actually pinched or caught between the ends E_1 and E_2 as the ends come into contiguous relationship with each other and are positively held thereby until the ends enter the nip of the back draft rolls **16** where a twist is initiated on the ends E_1 and E_2 to further anchor the slubs S therebetween. The resulting strand of ends E_1 and E_2 depending on the character of the frame **12** tightly hold the slubs S depending upon the amount of twist given thereto.

Referring now specifically to FIGURES 2 and 4, the cutter assembly or means **30** includes a nozzle member **50** having a passageway **52** therethrough. The passageway **52** below its inlet **54** is provided with an air jet orifice **56** arranged to receive air from an air line **60**. In more detail, the nozzle member **50** is provided in the upper portion thereof with an enlarged chamber **62** arranged to threadedly receive a member **64** having a portion of the passage **52** therein, the member **64** having a reduced lower end portion **66** which defines air jet orifice **56** and a manifold or air chamber for air received through the air line **60** communicating therewith.

The lower portion of the nozzle member **50** is provided with a transverse bore **68** therethrough, the bore **68** extending transversely across the passageway **52**. An air cylinder **70** is supported in one end of bore **68**, the air cylinder **70** having a spring return piston therein, the piston (not shown) having a piston rod **72** which in turn is connected to a clamp member **74** slidable in the bore. Clamp member **74**, as best shown in FIGURE 2, is provided with an open-ended slot **76** for receiving a knife **78** which is fixedly supported in a stationary position in the lower portion of the nozzle member **50**. The knife **78** extends transversely across the bore **68** with its blade edge positioned closely adjacent the edge of the passageway **52** through the nozzle member **50**. Set screws **79**, or other suitable means, detachably support the knife **78** in its stationary position in the nozzle member **50**.

A movable anvil member **80** slidable in the bore **68** is provided with a cut-out or slot **82** for receiving the knife **78** when the anvil member is in the position shown in FIGURE 2. The clamp member **74**, when the piston of air cylinder **70** is extended is arranged to pinch or clamp the end E on opposite sides of the knife **78** to the anvil **80**. Further extension of the piston of the air cylinder **70** causes the clamp member **74** and anvil **80** to move as a unit to the right of FIGURE 2 to a position shown in FIGURE 4, so that the end E is moved laterally across the blade of the knife **78** to cut the slub S.

The end E is pulled off of the supply package **28** in predetermined lengths by means of the feed mechanism **32** which includes a lever **90** pivoted to a lug **92** supported by the nozzle member **50**. An end portion **94** of the lever **90** rides on a bar or pin **96** provided in the forked outer end **98** of the anvil **80**. The opposite end portion **100** of lever **90** has pivoted thereto an arm **102** provided with a roller **104** on its free end. A spring **108** having one end bottomed in a bore **110** provided in the nozzle member **50** and its other end engaging the portion **100** of lever **90** normally urges the lever **90** in a clockwise direction as shown in FIGURES 2 and 4. It will now be evident by referring to FIGURES 2 and 4 that when the piston of the air cylinder **70** is extended for the purpose of causing a slug S to be cut from the end E, the clamp member **74** engages the anvil **80** on either side of the blade of knife **78** and cuts the slub S therefrom as the clamp member **74** moves further to the right as viewed in FIGURES 2 and 4, it will cause the anvil **80** to move to the right, thus pivoting the lever **90** in a counterclockwise direction causing the roller **104** to move from the position shown in FIGURE 2 to the position shown in FIGURE 4 where it has engaged the end E and drawn a predetermined amount of this end from the supply package **28**. Also, it will be understood that the spring **108** exerts a sufficient pressure against the arm **90** which causes anvil **80** cooperating with the clamp member **74** to tightly clamp end E during the cutting action and during the end feeding action. By providing a plurality of holes **110** spaced longitudinally along the lever **90**, the pivot point of the arm **102** with respect to the lever **90** can be varied and, thus, the travel of roller **104** may be varied to vary the length of end E removed from the package **28**.

A plate **112** suitably secured to the bottom of the nozzle member **50** and having a hole therethrough for alignment with passageway **52** is arranged to support the upper end of the closed curved slub dispensing tube **34**. It will be noted by reference to FIGURE 2 that the slub dispensing tube **34** is provided at its free end with a slub dispensing hole **114** positioned within the flared inlet **46** of the trumpet guide **36**. The opening **114** also is centrally positioned with respect to the converging ends E_1 and E_2 respectively at substantially the same area or nip where the ends E_1 and E_2 converge. The slub dispensing tube **34** has a plurality of air dispensing orifices **116** positioned adjacent to but slightly upstream of the slub dispensing hole or opening **114**. The purpose of orifices **116** is to dissipate a major portion of the air flowing through the slub dispensing tube **34** and used to convey the slub S so that the same is not discharged into the trumpet guide **36** where it might interfere with the feeding of and the clamping action

of the ends E_1 and E_2 on the slubs S delivered therebetween.

Mounted immediately above the nozzle member **50** on a suitable vertically extending bracket **118** is a disc tension device **120** through which the end E is fed from the package **28** supported on a creel (not shown) to the nozzle member **50**. Suitable pigtail guides **122** and **124** may be provided above and below the disc tension device **120**. Disc tension device **120** is provided with the usual spring means **124** which applies adjustable forces to a disc **126** acting on a surface **127** of bracket **118** depending upon the particular end E fed therethrough. The purpose of the tensioning device **120** is to cooperate with the feed mechanism **32** so that desired control may be maintained of the end E during the time it is being pulled intermittently from the package **28** by feed mechanism **32** and fed into the nozzle member **50**.

Referring now specifically to FIGURE 1, the control means **38** for synchronizing actuation of the cutter means **30** and the blast of conveying air through the jet orifice **56** is disclosed. In more detail, the control means comprises an electrical timer **130** including a motor **132** rotating a timer wheel **134** having lugs **136** selectively spaced thereon. The lugs **136** are arranged to intermittently close a normally open microswitch **138**. The microswitch **138** when opened and closed selectively operates a solenoid **140** which in turn actuates a four-way air valve **142** which may be of the spool type or the like. The air valve **142** has a line **144** connected thereto from a suitable source of compressed air **146**. Additionally, the air valve has an outlet **148** to atmosphere. The other lines are connected to the air valve **142**, namely, the previously mentioned air line **60** and a second air line **150** which in turn is connected at its other end to the air cylinder **70**.

When the frame **12** is started and ends E_1 and E_2 are continuously supplied thereto from their respective supply packages **40** and **42** mounted on a suitable creel (not shown), the motor **132** is also started. The motor **132** will continuously rotate the timer wheel **134** causing it to periodically open and close the microswitch **138**. When the microswitch **138** is closed, the solenoid **140** is energized and moves the air valve **142** to a position where air under pressure from the source of supply **146** is transferred through the air valve **142** directly to the air line **60** into the chamber in nozzle member **50** where it is discharged through the jet orifices **56** in a downward direction as viewed in FIGURE 2. When the air valve **142** has moved to the aforementioned described position, the line **150** of the air cylinder **70** is placed in communication with the outlet **148** to atmosphere so that a spring in the air cylinder returns the piston to a position where the clamp member **74** is retracted as shown in FIGURE 2. The anvil **80** is simultaneously returned to the position shown in FIGURE 2 as the spring **108** will move the lever **90** clockwise.

When the clamp member **76** and the anvil **80** are in the position shown in FIGURE 2, the slub S just previously cut will be blown downwardly through the slub dispensing tube **34** and discharged between the ends E_1 and E_2. Also, the end E which has slack in the same between the disc tension device **120** and the inlet **54** to the passageway **52** is blown downwardly through the passageway to a position where the next slub S can be cut therefrom.

After the above operation, the timer **130** then opens the microswitch **138** de-energizing the solenoid **140** so that the air valve **142** moves to a second position wherein the air line **60** is open to atmosphere through the outlet **148** and the air line **150** to the air cylinder **70** is placed in communication with the source of compresed air **146**. This causes the air cylinder **70** to be actuated so that its piston moves to the left of FIGURE 4 thus moving with it the clamp member **74** which cooperates with the anvil **80** to cause the end E to have the slub S cut therefrom as shown in FIGURE 4. Simultaneously with this action, the movement of the anvil **80** towards the right of FIGURE 4 causes the lever **90** to be pivoted counterclockwise about its pivot **92** against the action of spring **108**. This movement of lever **90** causes the arm **102** with its roller **104** to pull a predetermined length of end E through the disc tensioning device **120** from the supply package **28**. The operations previously described are alternately repeated during the process of making the slub yarn of the present invention.

If it is desired to increase or decrease the distance between slubs S in the final slub yarn wound on the package P, it is merely necessary to adjust the timer **130** so that the interval of time between the opening and closing of microswitch **138** is changed. This may be accomplished by replacing the timer wheel **134** with another wheel having a different number or arrangement of lugs thereon. It will now be obvious to those skilled in the art that the programming may be varied considerably to give different effects and appearance to the slub yarn. On the other hand, if the length of the individual slubs is desired to be changed, the pivot point of the arm **102** on the lever **90** can be readily adjusted to any of the longitudinally spaced adjustment holes **110**. This adjustment will vary the travel of roller **104** against the end W.

Referring now to FIGURE 5, there is disclosed in perspective a fragmentary portion of yarn made when using rovings for the ends E_1 and E_2. It will be noted that the yarn in FIGURE 5 is substantially a single ply yarn as the rovings E_1 and E_2 when passing through the drafting zone **14** are twisted into a substantially integrated yarn strand with the slub S tightly twisted therein. Because there has been no reduction of fibers before or after the slub S, the yarn strand has substantially the same strength as if it had been made without the insertion of the short lengths of slub S.

Referring now to FIGURE 6, there is disclosed a multi ply yarn in which the ends E_1 and E_2 were strands of yarn rather than strands of roving when they were fed into the frame **12**. In this modification the multi ply yarn resulting still locks the slub S between the yarn ends E_1 and E_2 although the yarn ends E_1 and E_2 are not particularly integrated with each other but yet have a tight twist with one another.

The method and apparatus heretofore described and illustrated in the drawings fully and effectively accomplishes the advantages of the present invention. It will be realized, however, that the foregoing specific embodiments have been shown and described only for the purpose of illustrating the principles of this invention and are subject to some changes without departing from such principles.

Therefore, the terminology used in the specification is for the purpose of description and not limitation, the spirit and scope of the invention being defined in the claims.

What is claimed is:

1. The method of making a decorative yarn having short individual lengths of slubs therein comprising the steps of: feeding at least one end to a cutting zone and cutting the same into predetermined lengths of slub; feeding at least two continuous ends in a converging path toward and into a confined space where the continuous ends travel parallel to each other and in a generally contiguous relationship; feeding the slubs to the confined space at predetermined intervals and positioning the same between the continuous ends with the length of the slubs lying in a plane generally parallel to the direction of travel of the continuous ends in the confined space; and then spinning the yarn with the slubs.

2. The method as claimed in claim 1 in which the slubs are fed by an air current to the nip between the converging continuous ends with the air current being dissipated adjacent the nip area.

3. The method as claimed in claim 1 in which the

feeding of the at least one end to the cutting zone is accomplished intermittently whereas the feeding of the at least two continuous ends to the confined space and the yarn spinning operation is continuous.

4. The method as claimed in claim 3 in which the feeding of the slubs from the cutting zone to the confined space is accomplished by intermittent air currents.

5. The method of making a decorative yarn having short individual lengths of slubs therein comprising the steps of: feeding at least one end to a cutting zone and cutting slubs from the same of predetermined lengths; feeding at least two continuous ends in a converging path toward and into a confined space where the continuous ends are traveling parallel to each other and in a generally contiguous relationship; feeding the slubs to the confined space at predetermined intervals and positioning the same between the continuous ends with the length of each of the slubs lying in a plane generally parallel to the direction of travel of the continuous ends in the confined space; directly and immediately feeding the continuous ends with the slubs therebetween from the confined space to the nip of the back rolls of a drafting zone and then through the drafting zone to the nip of front rows where the continuous ends are drafted and at least slightly twisted with the slubs being caught and twisted therebetween.

6. The method as claimed in claim 5 including the step of further twisting the continuous ends and the slubs therebetween after the same leaves the front rolls.

7. The method as claimed in claim 5 in which the slubs are fed in a confined path by an air current to the nip between the converging continuous ends, the air current being dissipated immediately adjacent the nip area of the converging continuous ends.

8. The method as claimed in claim 5 in which the feeding of the at least one end to the cutting zone is occomplished intermittently in step by step increments synchronized with the cutting of the slubs whereas the feeding of the at least two continuous ends to the confined space and the drafting of the at least two continuous ends is continuous.

9. The method as claimed in claim 8 in which the feeding of the slubs from the cutting zone to the confined space is accomplished by intermittent air currents synchronized with the cutting of the slubs from the at least one end.

10. In a slubbing apparatus for use with a frame having back rolls for spinning yarn, the improvement comprising: a trumpet guide having a flared inlet converging into a reduced outlet portion terminating adjacent the nip of said back rolls of the frame, said trumpet guide being arranged to receive at least two continuous ends converging toward each other and to direct the continuous ends in side by side generally contiguous relationship to the nip of the back rolls; and a slub dispensing tube having an inlet arranged to receive slubs and air for conveying the slubs therethrough and a slub discharge outlet positioned adjacent the flared inlet of said trumpet guide and between the converging continuous ends whereby slubs delivered from the slub discharge outlet of said tube are positioned between the continuous ends converging in the trumpet guide, the slubs being positioned with their length in a plane generally parallel to the direction of travel of and between the continuous ends passing through the trumpet guide.

11. The slubbing apparatus as claimed in claim 10 in which said slub dispensing tube is provided with a plurality of air dissipating orifices adjacent to but upstream of its slub discharge outlet whereby air is discharged externally of the tube forward of the trumpet guide.

12. In a slubbing apparatus for use with a frame having back rolls for spinning yarn, the combination comprising: a nozzle member having a passageway therethrough for receiving an end; means for supplying the end to the passageway; cutter means on said nozzle member cooperating with the passageway therein for cutting slubs of predetermined length from the end fed therethrough; a trumpet guide having a flared inlet converging into a reduced outlet portion terminating adjacent the nip of said back rolls of the frame, said trumpet guide being arranged to receive at least two continuous ends converging toward each other and to direct the continuous ends in side by side generally contiguous relationship to the nip of said back rolls; and an enclosed slub dispensing tube having an inlet arranged to receive slubs from the passageway in said nozzle member and a slub discharge outlet positioned adjacent the inlet of said trumpet guide and between the converging continuous ends whereby slubs delivered through said tube from said nozzle member are positioned between the continuous ends with their length in a plane generally parallel to the direction of travel of and between the continuous ends passing through the trumpet guide.

13. The slubbing apparatus as claimed in claim 12 including means for supplying air through said slub dispensing tube to convey the slubs therethrough and air dissipating orifices in said slub dispensing tube adjacent its slub discharge outlet for dissipating air from the tube externally of the trumpet guide.

14. The slubbing apparatus as claimed in claim 12 in which said cutter means includes a stationary knife carried by said nozzle member, a movable anvil having a slot therein for straddling said knife, a clamp member movable transversely across said passageway for clamping the end therein to said anvil on opposite sides of said knife and for moving the end across said knife to cut the same.

15. The slubbing apparatus as claimed in claim 14 in which said feed means for feeding the end from a source of supply to the passageway of said nozzle member includes a lever pivoted to said nozzle member and having one end spring urged into engagement with and movement by said anvil, an arm pivotally connected to the other end of said lever and having a roller at its free end for engaging the end entering said nozzle member and pulling the same from the source of supply while the end is held by said anvil and said clamp member.

16. In a slubbing apparatus for use with a frame having back rolls for spinning yarn, the combination comprising: a nozzle member having a passageway therethrough for receiving an end from a source of supply; means operatively connected to said passageway for supplying air thereto to move the end therethrough; cutter means on said nozzle member including a stationary knife having its cutting edge positioned adjacent the end in said passageway, a movable anvil straddling said stationary knife, and a clamp member movable transversely across said passageway for clamping the end therein to said anvil on opposite sides of said knife and for moving the end across said knife to cut the same; means for moving said clamping member, said means including an air cylinder having a piston therein operatively connected to said clamp member; control means for controlling the air to said cylinder and to said means for supplying air to said passageway, said control means being operable to supply air to said cylinder to actuate said clamp member when the air supply means to said passageway is vented to atmosphere and vice versa; a slub dispensing tube connected to said nozzle member at the discharge end of said passageway; a trumpet guide having a flared inlet converging into a reduced outlet portion terminating adjacent the nip of said back rolls of the frame, said trumpet guide being arranged to receive at least two continuous ends converging toward each other and to direct the continuous ends into side by side generally contiguous relationship as they are transferred to the nip of the back rolls, said dispensing tube having its slub discharge outlet positioned substantially centrally of the flared inlet so that the slubs discharged therefrom are positioned between the converging continuous ends in the trumpet guide.

17. The slubbing apparatus as claimed in claim 16 in which said slub dispensing tube has a plurality of air dissipating orifices positioned upstream of its slub discharge outlet whereby air received therein from the passageway of said nozzle member and carrying the slubs is substantially dissipated from the tube upstream of the inlet of said trumpet guide.

18. The slubbing apparatus as claimed in claim 16 including means actuated by said anvil when said clamp member clamps the end in said nozzle member to said anvil for pulling a predetermined amount of end from its source of supply.

19. The slubbing apparatus as claimed in claim 18 in which said last-mentioned means includes a lever pivoted to said nozzle member and having one end spring urged into engagement with and movement by said anvil, an arm pivotally connected to the other end of said lever and having a roller at its free end for engaging the end entering said nozzle member and pulling the same from the source of supply.

20. The slubbing apparatus as claimed in claim 16 in which said control means includes a four-way valve operatively connected to said air cylinder, said air supply means for said passageway, a source of air under pressure and atmosphere, a solenoid operatively connected to said valve, a switch to energize said solenoid and a timer unit to actuate said switch at predetermined intervals.

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