April 28, 1959 A. R. ANDREWS ET AL 2,883,824

TWISTING MEANS FOR TEXTILE MACHINES

Filed July 30, 1957

Fig. 1

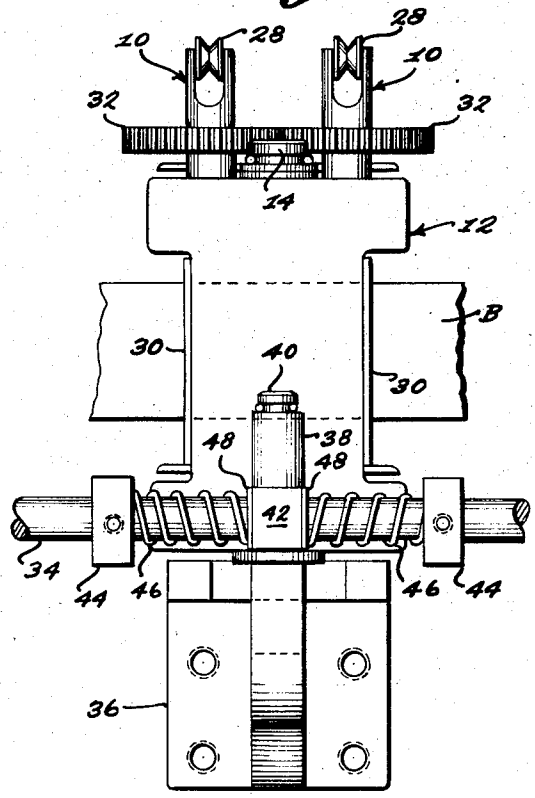


Fig. 3

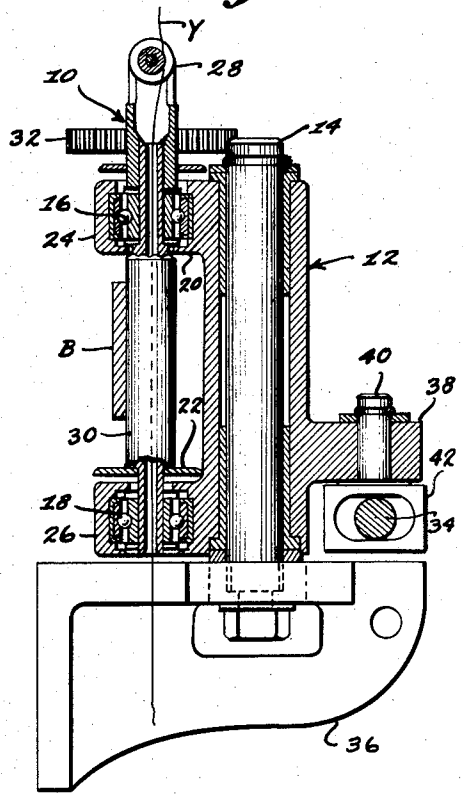


Fig. 2

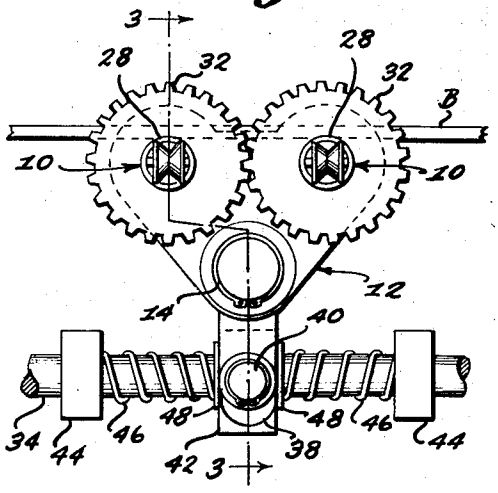
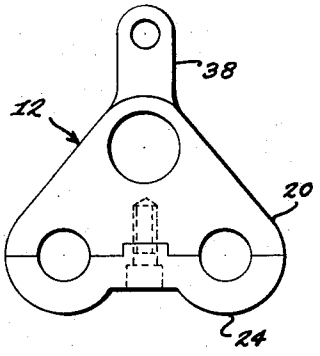


Fig. 4



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TWISTING MEANS FOR TEXTILE MACHINES

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Application July 30, 1957, Serial No. 675,086

3 Claims. (Cl. 57—77.45)

This invention relates to twisting means for textile machines, and more particularly to an improved twisting means arrangement by which the twisting direction can be changed readily in a variety of ways to provide for twisting different yarn ends, or successive lengths of each yarn end, oppositely on the same machine, or to allow twisting of all yarn ends on a machine in either direction.

Briefly described, the twisting means of the present invention is characterized by a unit comprising a pair of spindle tubes fitted with false twisting elements, a bracket structure rotatably carrying the spindle tubes in spaced parallel relation, and means for connecting the spindle tubes as carried on the bracket structure so that either spindle tube may be caused to rotate in the direction opposite to the rotating direction in which the other is driven, together with means for selectively driving either of the spindle tubes, all as described in further detail below in connection with the accompanying drawings, in which:

Fig. 1 is a fragmentary elevation detail of a twisting means unit arranged in accordance with the present invention;

Fig. 2 is a top plan detail corresponding generally to Fig. 1;

Fig. 3 is a sectional detail taken substantially on the line 3—3 in Fig. 2; and

Fig. 4 is a plan detail of the spindle tube supporting bracket employed in the twisting means unit illustrated in Figs. 1, 2 and 3.

Referring now in detail to the drawings, the reference numeral **10** designates generally the spindle tubes that that are provided in the twisting means unit illustrated, a pair of these spindle tubes **10** being carried for rotation in spaced parallel relation by a bracket structure **12**, which is in turn pivotally mounted on a pivot post **14** in symmetrical and axially parallel relation with respect to the pair of spindle tubes **10**.

Each spindle tube **10** is fitted with upper and lower bearing units **16** and **18** (see Fig. 3) at which it is clamped in place on upper and lower arm portions **20** and **22** of the bracket structure **12** by cap members **24** and **26** in essentially the same manner as is disclosed in copending application Serial No. 675,122, filed July 30, 1957. Each spindle tube **10** is further fitted at its upper end with a false twisting element **28** arranged to have a yarn end Y wrapped thereon and trained through the spindle tube **10** as indicated in Fig. 3. In addition, the bracket structure arm portions **20** and **22** are spaced so as to present an intermediate portion **30** of each spindle tube **10** for contact with a driving belt B, and these intermediate spindle tube portions **30** are preferably of enlarged diameter for effective driving contact with the belt B, this enlarged diameter being readily accommodated by the above noted mounting arrangement on the bracket structure **12** without requiring any complication in structure or installation of the spindle tubes **10**.

A pair of mating gears **32** are also respectively carried by the pair of spindle tubes **10**, according to the present invention, for engagement to cause rotation of either of the spindle tubes **10** in the direction opposite to the direction in which the other is rotated, and means is provided for selectively pivoting the bracket structure **12** about pivot post **14** in either direction from a neutral position with respect to driving belt B (see Fig. 2) to a position at which the driving belt B is applied to only one of the spindle tubes **10** for rotating it.

The means provided for this latter purpose comprises a traverse bar **34** arranged to extend lengthwise of the machine past a spaced series of the above described twisting means units supported in properly spaced relation by mounting brackets **36** on which the pivot posts **14** are fixed. The bracket structure **12** carrying the spindle tubes **10** at arm portions **20** and **22** has a further oppositely extending arm portion **38** at which a pivot stud **40** is carried to dispose a collar block **42** thereon with the traverse bar **34** running therethrough. The traverse bar **34** is in turn fitted with pairs of collars **44** fixed thereon in spaced relation to maintain springs **46** bearing oppositely on washer elements **48** at each side of each collar block **42**.

By this arrangement, the positioning of the twisting means units is made responsive to reciprocation of the traverse bar **34** which may be readily arranged through suitable cam or gear connections (not shown) at one end of the machine, or elsewhere, to reciprocate in accordance with any selective positioning of the twisting means units desired.

As seen in Fig. 2, reciprocating movement of traverse bar **34** to the right would result in applying the driving belt B selectively to the right hand spindle tube **10** for rotating it in one direction and causing reverse rotation of the left hand spindle tube **10** through mating gears **32**. If this positioning, or the reverse, were maintained, each twisting means unit would operate to produce right-hand twist at one spindle tube **10** and left-hand twist at the other.

Alternatively, the traverse rod **34** might be actuated to reciprocate periodically so as to reverse the positioning of the bracket structures **12** at intervals and thereby reverse the twist produced by each spindle tube **10** at successive lengths of a yarn end Y passed therethrough; right hand twist being produced by one spindle tube **10** of each pair and left hand twist by the other at one pivoted position of the bracket structures **12**, a zone of no twist resulting as the spindle tubes **10** pass through the neutral position shown in Fig. 2 in the course of pivoting the bracket structures **12** to their oppositely pivoted position, and the twist produced by each spindle tube **10** being reversed upon reaching this oppositely pivoted bracket structure position.

In addition, the bracket structures **12** may set in the neutral Fig. 2 position and one of the mating gears **32** removed from each twisting means unit to allow rotation of all of the spindle tubes **10** from the driving belt B and thereby produce the same direction of twist at each spindle tube **10** whenever desired.

The present invention has been described in detail above for purposes of illustration only and is not intended to be limited by this description or otherwise except as defined in the appended claims.

We claim:

1. Twisting means of the character described comprising a pair of spindle tubes fitted with false twisting elements, a bracket structure rotatably carrying said spindle tubes in spaced parallel relation, means connecting said spindle tubes as carried on said bracket structure for causing either of said spindle tubes to rotate in the direction opposite to the rotating direction in which the other is

driven, and means for selectively driving either of said spindle tubes.

2. Twisting means of the character described comprising a pair of spindle tubes fitted with false twisting elements, a bracket structure rotatably carrying said spindle tubes in spaced parallel relation, a pivot post on which said bracket structure is pivotally mounted in symmetrical and axially parallel relation with respect to said spindle tubes, means connecting said spindle tubes as carried on said bracket structure for causing either of said spindle tubes to rotate in the direction opposite to the direction in which the other is rotated, means for rotating either of said spindle tubes, and means for pivoting said bracket structure about said pivot post in either direction for selectively applying said rotating means to one of said spindle tubes.

3. Twisting means of the character described com-

prising a pair of spindle tubes fitted with false twisting elements, a pivot post, a bracket structure pivotally mounted on said pivot post and arranged to carry said spindle tubes rotatably spaced in parallel relation with respect to each other and similarly spaced symmetrically in relation to said pivot post, a pair of mating gears carried respectively by said pair of spindle tubes for engagement to cause rotation of either of said spindle tubes in the direction opposite to the direction in which the other is rotated, a driving belt for rotating said spindle tubes, and means for pivoting said bracket structure about said pivot post in either direction from a neutral position with respect to said driving belt to a position at which said driving belt is applied to only one of said spindle tubes for rotating it.

No references cited.