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71 Applicant: **Michele Ratti S.p.A.**  
**Via Fornara 5**  
**I-21016 Luino (VA) (IT)**

72 Inventor: **Ratti, Arturo**  
**Via Roccio 8**  
**I-21016 Luino (VA) (IT)**

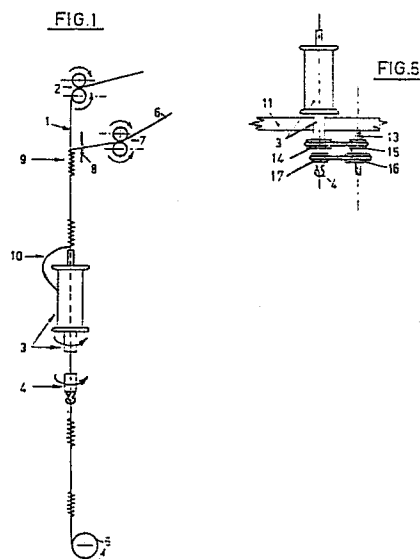
74 Representative: **Baggiolini, Raimondo et al**  
**Patent Attorneys Fiammenghi-Fiammenghi-Racheli Via**  
**San Gottardo 15**  
**CH-6900 Lugano (CH)**

54 **Device for production of fancy effect yarns.**

57 The device for production of fancy effect yarns comprises a hollow rotating spindle (3) driven by a belt (11) and a false twist spindle (4) driven at an angular speed that is adjustable relative to that of hollow rotating spindle (3).

The rotary movement of the false twist spindle (4) originates from that of hollow rotating spindle (3) by means for varying the angular speed of false twist spindle (4) relative to that of said hollow rotating spindle (3).

Said means preferably comprise a countershaft (13) and interchangeable pulleys (14, 15, 16, 17) of different diameter inserted: (14) on hollow rotating spindle (3), (15 and 16) on countershaft (13) and (17) on false twist spindle (4).



## Description

## Device for production of fancy effect yarns

For the production of fancy effect yarns, i.e., knots, curls, flames, spaced from one another at irregular intervals, devices exist today with which the effect is obtained by a rotating drilled spindle solid with a yarn reel that binds the effect and a false twist that generates the effect. The device in question represents a notable improvement thereof.

-- In fig. 1 is shown a device of known type working according to the principle set forth above.

-- In figures 2, 3, 4 some variants are shown still of devices of known type.

-- In fig. 5 a preferred nonlimiting embodiment of the device according to the invention is given.

With reference to fig. 1:

a yarn called a "core" 1 flows from a feeder 2, goes into the axial hollow of a rotating spindle 3, reaches a false twist spindle 4 and is wound on a spool 5 which has the same peripheral speed as feeder 2.

Another effect yarn (or several yarns) 6 flows (flow) from a feeder 7 (or from several feeders), is guided through a device that promotes the union of the yarns called "slub" 8 and meets yarn 1, winding around it by the (false) twist effect generated by spindle 4 on yarn 1 itself.

By varying the relative speed between yarn 1 and yarn 6 a certain effect 9 is generated on the yarn. This effect would disappear after spindle 4 if binding yarn 10 did not cover yarns 1 and 6 permanently binding effect 9 obtained thanks to false twist.

Fig. 2 indicates a variant, still of known type, in which rotating spindle 3 and that of false twist 4 are solid on the same axis of spindle 3, i.e., 4 rotates with 3. All the spindles like 3 mounted on the machine are driven by a single belt 11 which receives the movement from a single motor (not shown).

Obviously the angular speeds of 3 and 4 cannot be different and therefore the number of obtainable effects is limited

Fig. 3 represents a further known variant in which the unit of spindles 3 and 4 is mechanically disconnected, i.e., all spindles 3 are driven by a single belt 11 and all spindles 4 are driven by another single belt 12: the speed of 11 and 12 therefore can be different, which makes it possible to achieve a greater number of effects.

Fig. 4 indicates another known variant in which each individual unit made up of 3 and 4 can be driven by an auxiliary motor 18, by which the speeds and 4 can be different as in the case of fig. 3.

The object of this invention is shown in fig. 5 in which false twist spindle 4 is coaxial with the axis of hollow spindle 3 but spindle 4 rotates independently of spindle 3, with different angular speed thanks to countershaft 13 and to interchangeable pulleys 14, 15, 16, 17 of different diameters.

As appears from the drawing, pulley 14 is solid with the follow shaft of 3, 15 and 16 rotate on countershaft 13 and 17 is solid with false twist spindle 4.

The whole unit is driven by a single belt 15 which drives hollow rotating spindle 3, then the rotary movement of false twist spindle 4 originates from that of hollow rotating spindle 3.

And this is the basic principle of this invention which makes it possible to achieve what is obtained with the known devices in figures 1, 3, and 4 with much simpler and efficient means, avoiding the complications of two belts (fig. 3) or an auxiliary motor 12 (fig. 4) and further obtaining the following notable advantage: in case of figures 3 and 4, when the speed of hollow rotating spindle 3 is varied it is necessary to calculate each time what speed should be given to belt 12 (fig.3) or motor 18 (fig. 4) to obtain a determined effect, which causes a notable loss of time.

But with the device according to the invention (fig. 5) by varying the speed of spindle 3 the speed of spindle 4 will also be automatically and correspondingly varied, since the latter is derived directly from the first, with notable saving of time and without any difficulty.

It is provided that countershaft 13 and interchangeable pulleys 14, 15, 16, 17 can be replaced by equivalent known means without going outside the scope of protection of the invention.

## Claims

1. Device for the production of fancy effect yarns comprising a hollow rotating spindle (3) driven by a belt (11) and a false twist spindle (4) driven with angular speed adjustable relative to that of hollow rotating spindle (3), characterized in that the rotary movement of the false twist spindle (4) originates from that of hollow rotating spindle (3) by means to vary the angular speed of false twist spindle (4) relative to that of said hollow rotating spindle (3).

2. Device according to claim 1, wherein said means to vary the angular speed of the false twist spindle (4) relative to that of hollow rotating spindle (3) comprise a countershaft (13) and interchangeable pulleys (14, 15, 16, 17), of different diameter inserted: (14) on hollow rotating spindle (3), (15 and 16) on countershaft (13) and (17) on false twist spindle (4).

FIG.1

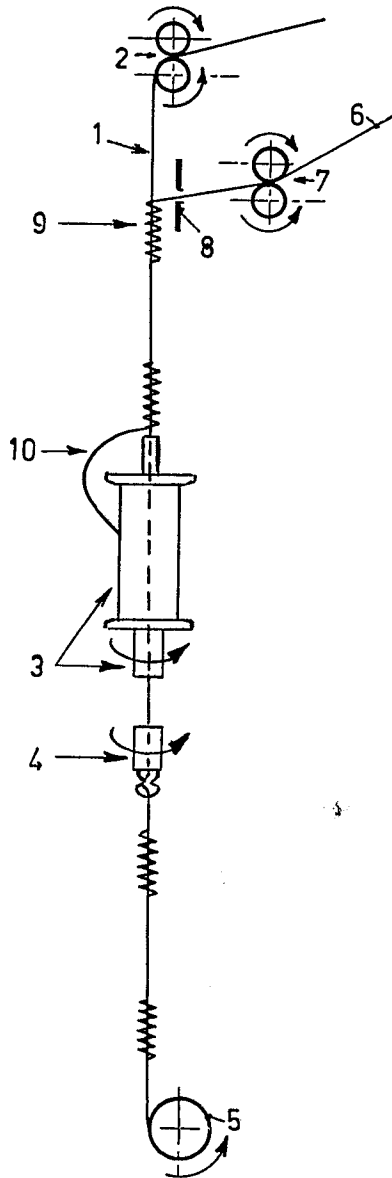


FIG.2

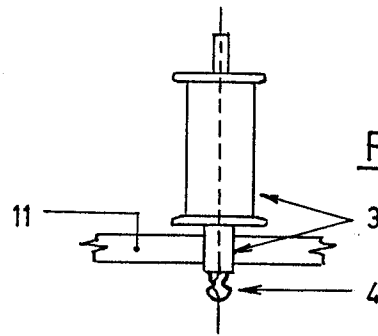


FIG.3

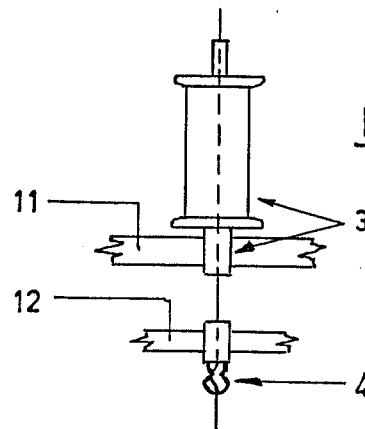


FIG.4

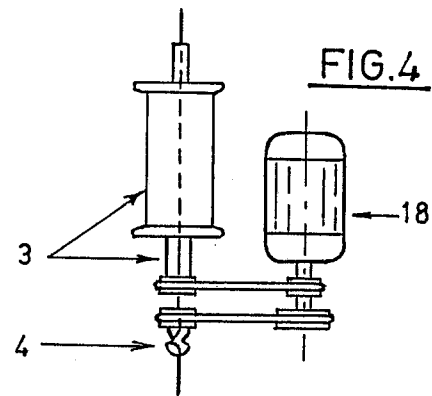


FIG.5

