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A. G. VOGT

2,316,031

TENSIONING DEVICE FOR YARN, THREAD OR THE LIKE

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Fig. 1

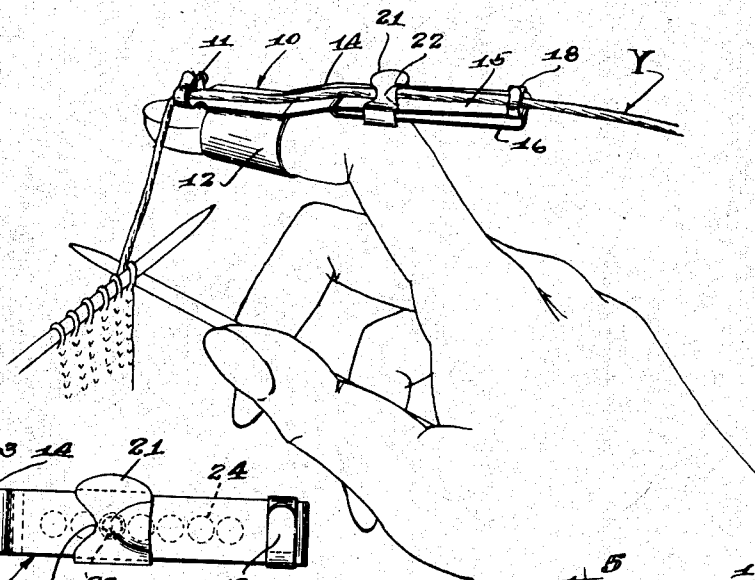


Fig. 2

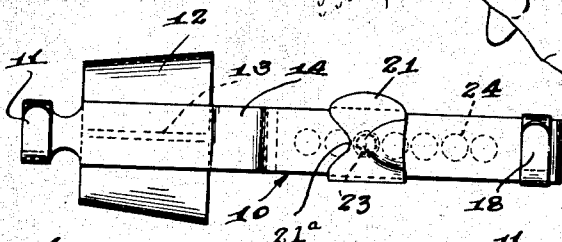


Fig. 5

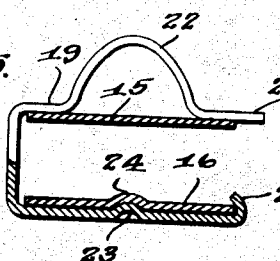


Fig. 3

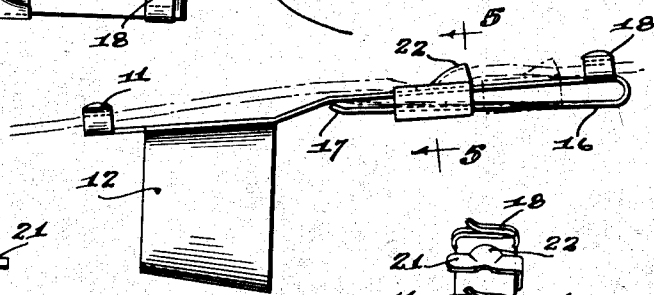


Fig. 4

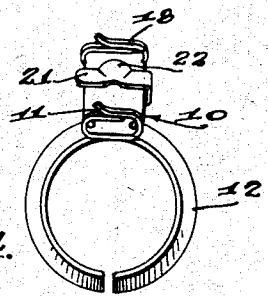


Fig. 6

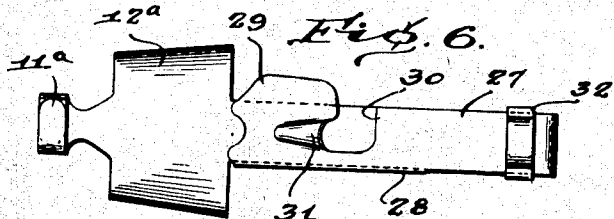


Fig. 7

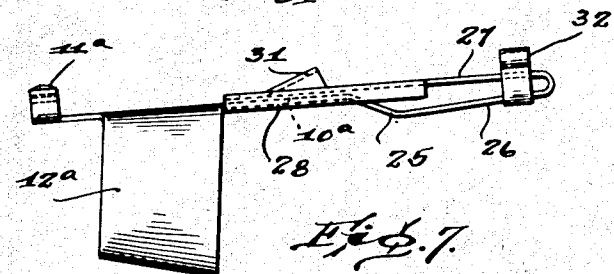
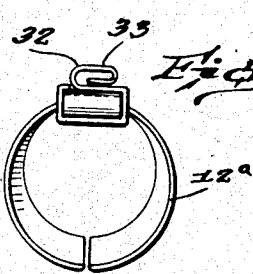


Fig. 8



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TENSIONING DEVICE FOR YARN, THREAD,
OR THE LIKE

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10 Claims. (Cl. 242-149)

This invention relates to a device for use in knitting or crocheting for the purpose of maintaining a substantially uniform tension on the yarn or thread, and an object is to produce a new and improved device of this character by which the yarn or thread passing to the knitting or crocheting needles, is at all times maintained under uniform tension so that the work is more even or uniform throughout.

Other objects and advantages of the invention will hereinafter appear and for purposes of illustration but not of limitation, embodiments of the invention are shown on the accompanying drawing in which

Figure 1 is a side elevation showing the device attached to a hand;

Figure 2 is a top plan view of the device shown in Figure 1;

Figure 3 is a side elevation of the device;

Figure 4 is a top perspective view of the device looking at the front end thereof;

Figure 5 is an enlarged sectional view substantially on the line 5-5 of Figure 3;

Figure 6 is a top plan view of an alternate form of tensioning device;

Figure 7 is a side elevation of the device shown on Figure 6; and

Figure 8 is a rear end elevation of the device shown on Figures 6 and 7.

The illustrated embodiment shown on Figures 1 to 5 comprises a relatively flat elongate arm 10, at the front end of which are integral ears which are bent over to form a guide 11. Attached in any suitable manner to the under side of the arm 10 rearwardly of the guide 11 is a truncated cone 12 with the larger end opening rearwardly to receive a finger preferably the forefinger. The cone 12 which may be termed a thimble, is split as indicated at 13, to afford a certain degree of adjustability. Rearwardly of the thimble or attaching part 12, the arm inclines slightly upwardly as indicated at 14 and then merges with a portion 15 which is substantially parallel with the portion to which the thimble 12 is attached. The rear end portion of the arm 10 is folded upon itself to provide a spring finger 16 which inclines upwardly to the main portion of the arm, the free end of the finger being bent slightly upwardly as indicated at 17. A guide 18 also in the form of a pair of integral ears which are bent upwardly and inwardly, is provided at the rear end of the arm 10.

Embracing the relatively straight portion 15 of the arm 10 and the spring finger 16, is a clamp or guide element 19 which is generally U-shaped

in cross section at the lower free edge portion bent inwardly as indicated at 20, and with a laterally projecting portion 21 on the upper arm of the clamp. The part of the clamp which engages the flat arm portion 15 has a rearwardly extending mouth or arched portion 22 and the yarn passes first through the rear guide 18, then through the arched mouth 22 and then between the arm portion 15 and flat portion of the clamp 19 and finally through the front guide 11 and down to the knitting needles or crochet hook as the case may be. In the front portion of the clamp 19 is a substantially V-shaped notch 21a which serves to guide the yarn or thread when pulled rearwardly or away from the work and to prevent it from slipping out of the clamp.

It will be manifest that as the clamp 19 is slid rearwardly, the tension imposed upon the yarn Y is increased and on the other hand, movement of the clamp 19 toward the front guide 11 decreases the tension imposed upon the yarn. In this manner, the desired tension is imposed on the yarn at all times and as a consequence, the work, whether it be knitting or crocheting, is much more even and uniform throughout thus eliminating the objection of having a certain portion of the work under greater tension than other portions.

The laterally extending piece 21 enables the yarn to be readily slipped into place and similarly the form of the guides 11 and 18 are such that the yarn or thread can be slipped into place readily and conveniently. The device is preferably attached to the forefinger of the right hand and fitting preferably over the first joint of the finger and with the arm portion 10 inclined slightly toward the thumb. In this position the yarn or thread can be directed straight down to the needles.

In this instance, the lower arm of the clamp 19 is provided with an upwardly projecting portion 23 to fit in one of a series of detents 24 provided in the under side of the spring finger 16. This enables the clamp to be moved to the desired position and retained in the position of adjustment. As a consequence, when the desired tension on the yarn or thread is obtained, the clamp 19 will remain in the selected position.

In the form of the invention shown on Figures 6 to 8, the front guide 11a and truncated cone or thimble 12a are similar to that above described. However, in this form, the arm 10a extends rearwardly of the thimble, then inclines downwardly and rearwardly as indicated at 25, then inclines upwardly as indicated at 26. The arm is then

bent upon itself to provide an upper spring finger 27. The finger 27 has a flange 28 which embraces a portion of the arm 10a on one side and on the opposite side there is a laterally projecting portion 29. A cut-out 30 is formed in the arm 27 and a similar arched mouth portion 31 is provided adjacent the cut-out 30 to direct the yarn or thread to the contacting portions between the forward end of the finger 27 and the arm 10a.

Embracing the inclined arm portion 26 and the finger 27 is an adjusting and guiding device 32, the guide portion 33 thereof being formed by bending over a portion of the material into loop form and in such manner that the yarn or thread can be slipped into the guide conveniently. It will be manifest that by forcing the member 32 toward the thimble part 12a, increased friction will be imposed upon the thread or yarn passing through the arched mouth 31 and movement in the opposite direction gradually reduces the friction imparted to the yarn. As above explained, the yarn is slipped beneath the laterally projecting flange 29 into the desired position.

In both forms of the invention above described, not only is friction imparted to the yarn but also the arched tapered mouth portion and the flat engagement between the finger and arm flattens or irons out the yarn and thereby renders the yarn in better condition for knitting. That is an important reason for having the yarn pass between the two flat surfaces which are clamped together with the desired amount of pressure.

The device hereinabove described may be made of any suitable material such, for example, as sheet metal, plastics or the like. It is to be understood that although I have described embodiments which are the best forms known to me at the present time, changes in details of construction, arrangement and choice of materials may be effected without departing from the spirit of the invention especially as defined in the appended claims.

What I claim is:

1. Yarn tensioning device comprising a pair of arms, one being movable resiliently toward the other, a finger attaching part on one arm, a clamp embracing said arms providing a guide for yarn between the clamp and one of the arms, and means for causing said clamp to impose greater or lesser tension on the yarn passing through said yarn guide.

2. Yarn tensioning device comprising a pair of arms arranged in side by side relationship and integrally joined at one end, said arms having a spring action relative to each other, an attaching member on one arm for attachment to a hand, a yarn guide embracing said arms providing a restricted space for passage of the yarn between the guide and one of the arms, and means for causing said guide to impose varying tension on the yarn passing therethrough.

3. Yarn tensioning device comprising a pair of arms arranged in side by side relationship and integrally joined at one end, said arms having a spring action relative to each other, an attaching member on one arm for attachment to a hand, a yarn guide embracing said arms providing a restricted space for passage of the yarn between the guide and one of the arms, said guide being slidable along said arms, and one arm being inclined relative to the other to cause variable tension to be imposed on the yarn according to the position assumed by the guide.

4. A device of the class described comprising

a finger attaching part, an arm on said attaching device, a guide at the forward end of said arm for yarn or the like, the rearward end portion of the arm being bent upon itself to provide an inclined spring finger, and a yarn tensioning clamp slidable on said arms and having a constricted yarn guide for causing the yarn to engage said first arm and also said guide.

5. A device of the class described comprising a finger attaching part, an arm on said part and extending rearwardly thereof, the end portion of said arm being bent upon itself to provide a spring finger, and a clamp engaging said arm and finger and having provision for varying the tension of the clamp relative to said arm, said clamp having a guide for yarn or the like for guiding the yarn between the clamp and the arm, thereby to vary the friction imposed on the yarn passing through said clamp.

6. Yarn tensioning device comprising an elongate flat arm, a yarn guide at one end of said arm, a thimble on said arm spaced rearwardly from said guide, the end portion of said arm being bent upon itself to provide an inclined spring finger, a guide embracing said finger and arm and having the upper portion formed with a yarn passage arranged to cause the yarn to be intimately engaged between the guide and arm, said second guide being slidable for varying the tension imposed by said guide upon the yarn.

7. Yarn tensioning device comprising an elongate flat arm, a yarn guide at one end of said arm, a thimble on said arm spaced rearwardly from said guide, the intermediate portion of said arm being bent upon itself to provide an inclined spring finger, a guide embracing said finger and arm and having the upper portion formed with a yarn passage arranged to cause the yarn to be intimately engaged between the guide and arm, said second guide being slidable for varying the tension imposed by said guide upon the yarn, and means for retaining said second guide in one of a series of positions.

8. Yarn tensioning device comprising an elongate flat arm, a yarn guide at one end of said arm, a thimble on said arm spaced rearwardly from said guide, the intermediate portion of said arm being bent upon itself to provide an inclined spring finger, a guide embracing said finger and arm, said arm being inclinedly disposed relative to said finger so that sliding movement of said guide causes said finger to press more or less tightly against the arm according to the position thereof, said finger having a cut-out and an arched guideway to direct the yarn between the finger and arm as it travels to said first guide, whereby movement of said second guide toward or away from said first guide imposes variable friction on the yarn.

9. Yarn tensioning device comprising a pair of arms arranged generally in parallel relationship and integrally joined at one end, said arms having a spring action relatively to each other, means on one arm for attaching the device to the operator's hand, a yarn guide embracing said arms providing the restricted space for passage of yarn between the guide and one of said arms, a substantially V-shaped notch at one end of said guide through which the yarn passes thereby militating against the yarn slipping out of engagement with the guide, and means for causing said guide to impose varying tension on the yarn passing therethrough.

10. Yarn tensioning device comprising a pair of arms arranged generally in parallel relation-

ship and integrally joined at one end, said arms having a spring action relatively to each other, means on one arm for attaching the device to the operator's hand, a yarn guide embracing said arms providing the restricted space for passage of yarn between the guide and one of said arms, a substantially V-shaped notch at one end of said guide through which the yarn passes thereby

5 militating against the yarn slipping out of engagement with the guide, means in opposed relation to said notch for preventing lateral slippage of the yarn during movement of the latter along said guide, and means for causing said guide to impose varying tension on the yarn passing therethrough.

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