

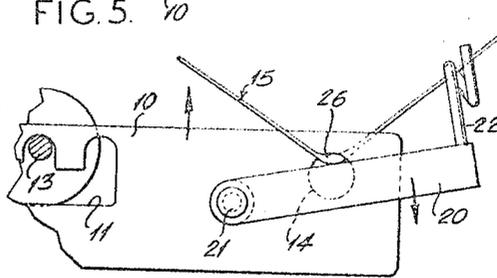
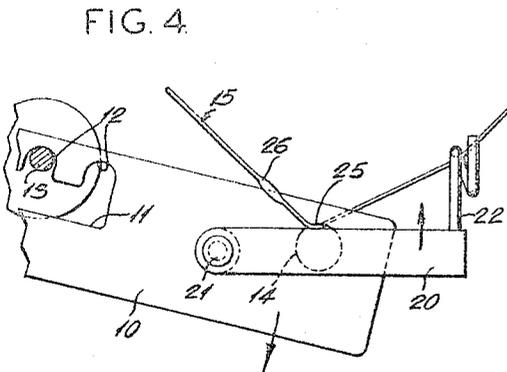
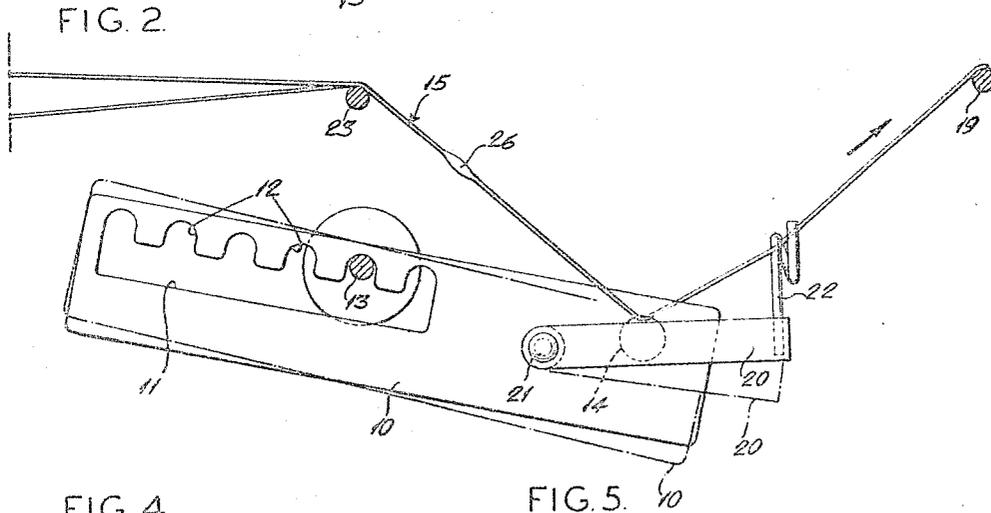
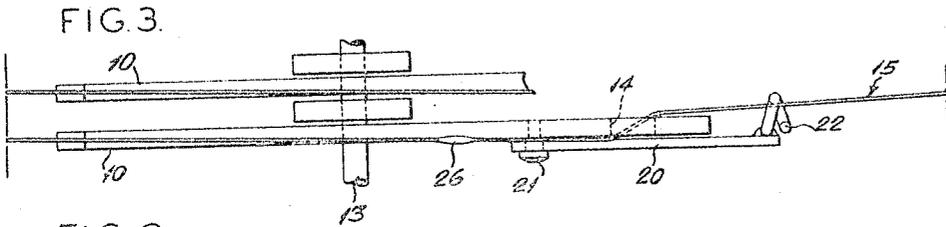
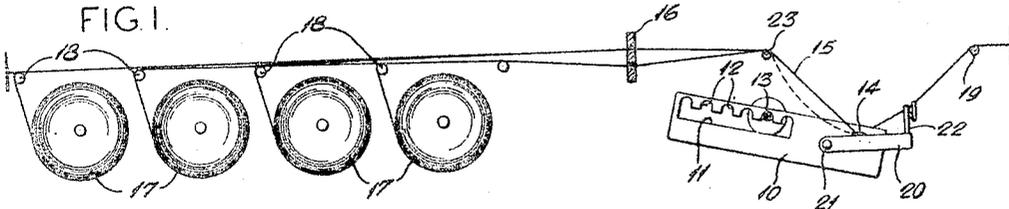
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YARN TENSIONING DEVICE FOR CREELS AND THE LIKE

Filed June 7, 1960



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1

2,995,316
**YARN TENSIONING DEVICE FOR
CREELS AND THE LIKE**

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This invention relates to yarn tensioning devices and
more particularly to a tension weight for yarn creels
which provides a relatively constant tension over a wide
range of operating conditions.

A primary object of the present invention is to provide
an improved tensioning weight for yarn ends running
from a yarn supply preferably a creel which maintains
the predetermined weight on the yarn even though exces-
sive slack occurs.

A further object of the invention is to provide a snub-
ber for a creel tension weight which clamps the yarn
end to maintain a constant tension when the weight
drops to a predetermined angle.

A further object of the invention is to provide an im-
proved yarn tension device which permits knots and slubs
to pass through the device without breaking.

Further objects will be apparent from the specification
and drawings in which:

FIGURE 1 is a side view of my improved yarn tension-
ing device installed on a creel,

FIGURE 2 is an enlarged detail showing the device in
operation,

FIGURE 3 is a top view of the structure of FIGURE 2,
and

FIGURES 4 and 5 are details showing the manner in
which a knot or slub is permitted to pass through the
tensioning device.

The conventional creel tension weight comprises a
rectangular metal plate 10 having a slot 11 adjacent one
end thereof and with a series of indentations 12 in the
slot on which the weight 10 may be pivoted at 13. The
lever arm from pivot 13 to the eye 14 of the weight is
proportional to the weight of tension developed in the
weight. Positioning of the weight in the desired indenta-
tion 12 therefore adjusts the weight to which each of the
yarns 15 may be subjected. The yarns are fed through
a guide 16 and are supplied from yarn packages 17, 17
on the creel. The individual yarn ends may be run around
a series of guides 18 which, if desired, may be constant
tensioning devices employed in addition to weight 10.
After passing through the eye 14 in the weight 10 the
yarns 15 pass over a guide 19 and thence to the loom or
other textile apparatus.

2

In order to prevent undue pivoting of the tension
weight 10 on pin 13 which would effectively reduce the
angle of the weight with respect to the yarn, I provide a
snubber arm 20 which is pivoted to the weight body at 21
and which also carries a pigtail yarn guide 22 at the
opposite end. If the tension in yarn 15 between guides
19 and 23 decreases so that the weight 10 continues to
drop, lever 20 is pivoted in counterclockwise by action
of the yarn in pigtail guide 22 so that the yarn is snubbed
at 25 with the result that no further downward pivoting
of the guide takes place even though an excessive slack
condition shown in dotted lines in FIG. 1 should occur
in the yarn between the eye 14 and the package 17. In
this way the effective leverage of the weight is main-
tained within fairly close limits so that the mass applied
to the yarn between eye 14 and guide 19 is substantially
constant under all operating conditions.

In the event a knot or slub 26 occurs in the yarn as
shown in FIGURE 2, it can still pass through the tension-
ing device because when it reaches the eye 14 the ob-
struction automatically raises the weight 10 as shown by
the arrow in FIGURE 5 thus permitting the arm 20 to
drop and expose a larger area of the eye 14 and thereby
allow free passage of the slub or knot 26. As soon as
the knot has cleared the eye 14 the weight pivots in a
clockwise direction as shown in FIGURE 4 until the
yarn is snubbed by the arm 20 and when increased tension
in the loom occurs the lever pivots upward in a counter-
clockwise position sufficiently to permit the yarn to run.
The present yarn tensioning device is highly efficient
and solves an important difficulty in the use of pivoting
creel tension weights since it maintains a constant tension
on the yarns at all times between the tension devices and
the loom or tufting machine. Contrary to most other
tension devices, a variation is permitted so that knots
pass freely and thus undesired yarn breakage is avoided.

Having thus described my invention, I claim:

1. A pivoting yarn tension device for creels and the
like comprising a flat weight having an eye near one end
thereof, a pivot for supporting the weight at the other
end thereof, an arm pivoted to the weight and positioned
to cover the eye in one pivoted position, and a yarn guide
secured to the arm at the end opposite the pivot.
2. Apparatus in accordance with claim 1 in which the
yarn guide on the arm is a pigtail guide.
3. Apparatus in accordance with claim 2 in which the
eye in the weight is located substantially midway between
the pigtail yarn guide and the arm pivot.

References Cited in the file of this patent

UNITED STATES PATENTS

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