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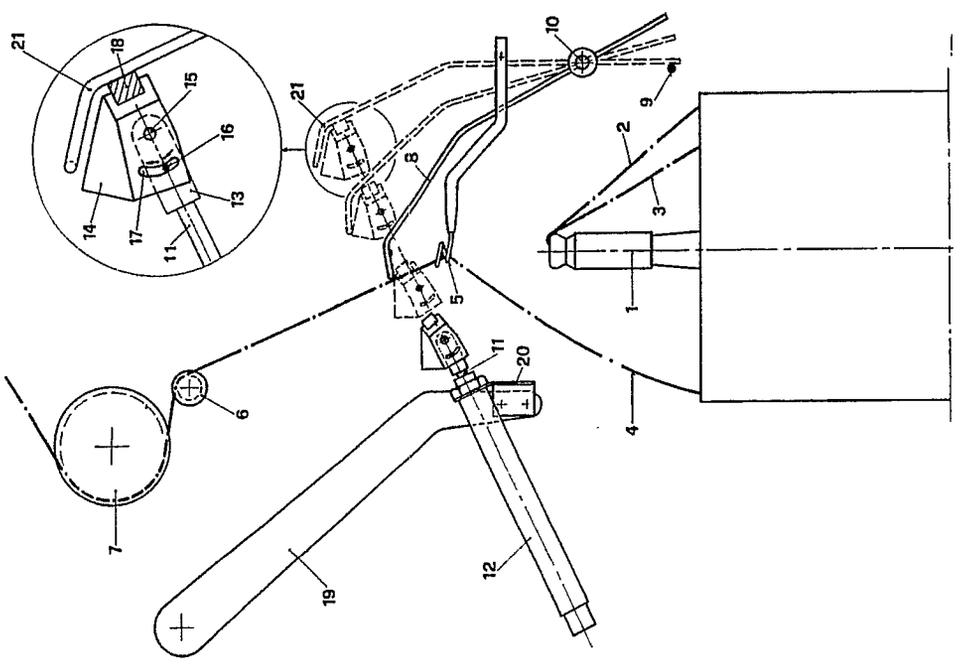
(54) Automatic device for resetting a mechanical yarn feeler in a textile machine.

(57) An automatic device for resetting a mechanical yarn feeler (8) so that it bears against a yarn (4), consisting of an extendable arm (11) provided with a magnet (18) which comes into engagement with the yarn feeler (8) and causes it to rotate while adhering to itself through a limited arc of rotation, to then carry it simply resting on itself until it bears against the yarn (4).



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This invention relates to a device for resetting a mechanical yarn feeler in a textile machine, and in particular for automatically repositioning a yarn feeler delicately and accurately so as to prevent any impact with and stressing of the yarn.

The present invention is described with reference to a twisting station, but can also be advantageously applied to other processes and machines for yarn production, or in the textile industry generally.

The figure shows that part of a two-for-one twisting station comprising the unwinding head 1 fed with yarns 2 and 3 from underlying feed bobbins, the double twisted yarn 4 passing from the yarn guide ring 5 to the deviator roller 6 and draw-off cylinder 7.

The yarn feeler 8 is shown in its rest position against the stop 9. It is pivoted at 10 and its terminal L-shaped part has to be brought to bear against the yarn 4 just above the ring 5 and with its horizontal part orthogonal to the figure.

In twisting stations the yarn feeler 8 halts the twisting operations by falling downwards whenever the yarn breaks. In resetting the yarn the yarn feeler 8 is returned to the indicated rest position, to be returned to its working position on restarting. The yarn feeler 8 generally has a certain weight, and by allowing it to fall under its own weight onto the yarn it could damage the yarn or indeed bounce back to its rest position.

The purpose of the device according to the invention is to return the yarn feeler 8 into contact with the yarn 4 accurately and delicately.

The device according to the invention consists of an extendable arm 11 which emerges from and retracts into a cylinder 12 acting as a guide and profiled in such a manner as to prevent the arm 11 rotating about its axis, for example by being of square cross-section, or by the use of an external supplementary rod, it being operated pneumatically, hydraulically or mechanically, and carries at its end 13 a magnetic engagement member, shown enlarged in the detailed view. This consists of a plate 14 able to undergo limited rotation in the plane of the figure by being pivoted on the pivot 15 and comprising a pin 16 which is rigid with the end 13 to allow the plate 14 to swivel through a limited range defined by the slot 17. A magnet member 18 is positioned on the end of the plate 14.

The cylinder 12 can be supported by a further presentation arm 19 by means of the bracket 20.

To reset the yarn feeler 8 the extendable arm 11 is extended until it causes the magnet 18 to make contact with the body of the yarn feeler 8.

The plate 14 positions itself such as to allow the magnet 18 to adhere over its entire length.

The arm 11 is then retracted to pull the yarn feeler 8 with it, and as the yarn feeler rotates about its pivot 10 the magnet 18 and the plates 14 rotate about the pivot 15 as allowed by the pin 16 which slides in the slot 17.

When the allowable rotation has been totally undergone, the magnet 18 is forced to separate from the yarn feeler as the horizontal part of this latter rests and is levered on the appropriately inclined surface of the plate 14. The yarn feeler 8 is still supported by the plate 14 because its horizontal arm slides on the upper face of the plate 14. The slot 17 is sized preferably so that the magnet separates well before the final resting position of the horizontal part of the yarn feeler 8 on the yarn is reached.

As the retraction of the arm 11 withdraws the plate 14 beyond the yarn 4, the horizontal part of the L-shaped yarn feeler 8 comes to rest softly against the yarn.

The device according to the invention can also be formed without pivoting the plate 14, by giving the magnetic member 18 a curved outer surface to adapt to the curve 21 sliding along it over a portion of the rotary movement of the yarn feeler 8 which enables it to overcome the top dead centre position and then proceed in its movement towards the yarn 4 by simply resting on the body of the plate 14.

Claims

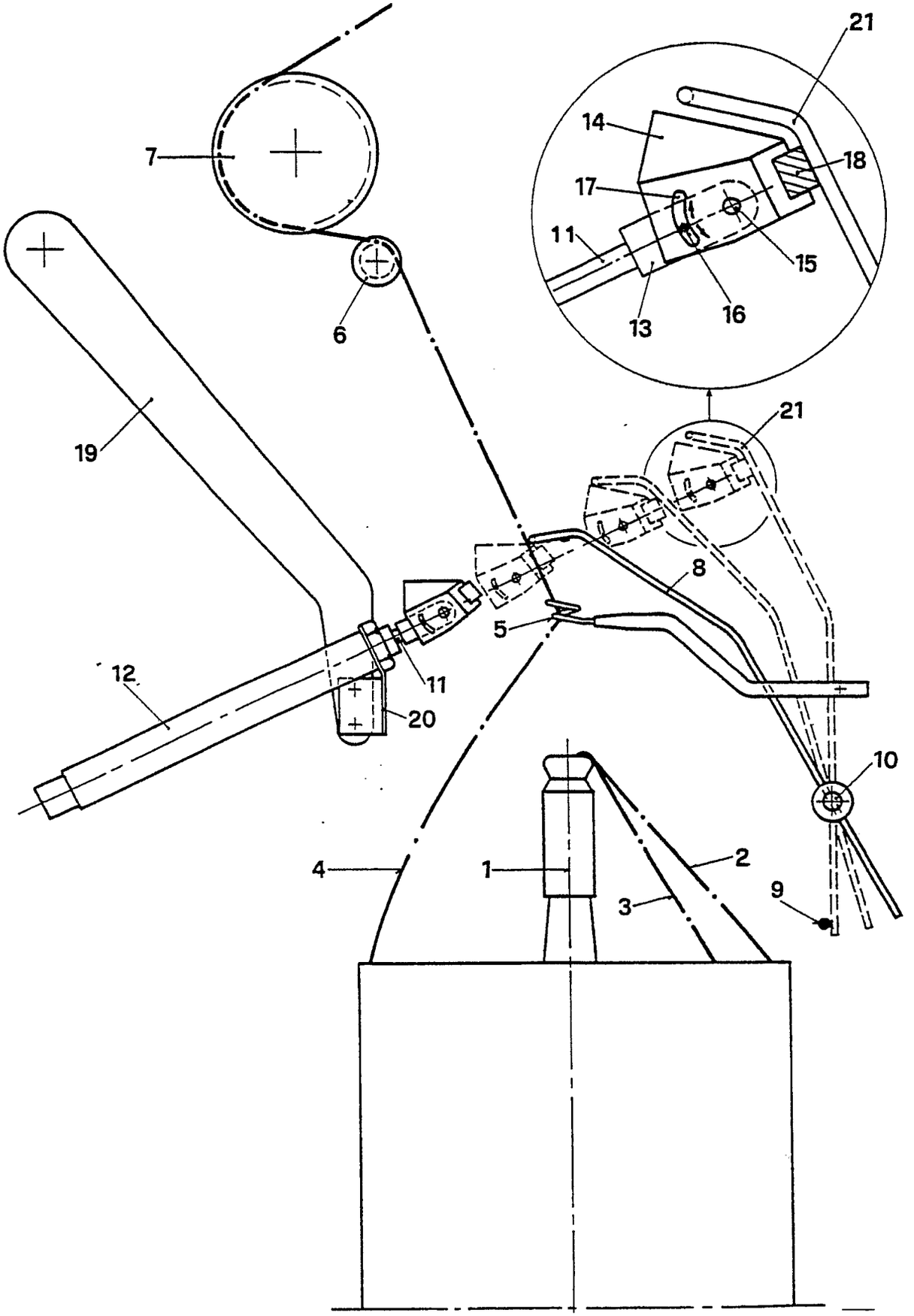
1. An automatic device for resetting a mechanical yarn feeler in a textile machine which moves the L-shaped yarn feeler from a rest position to a working position in which it bears against the yarn by means of its L-shaped end part, caracterised by consisting of an extendable arm 11 carrying a support plate 14 for a magnet 18 which comes into engagement with the body of the yarn feeler and causes it to rotate while adhering to itself through a limited arc of rotation, to then release it and carry it resting on the non-magnetic part of the plate 14 during the remaining part of the rotation until it bears against the yarn 4.

2. An automatic device for resetting a mechanical yarn feeler in a textile machine as claimed in claim 1, characterised in that the plate 14 is pivoted to the extendable arm 11 to undergo a limited rotation enabled by a slot 17 traversed by a pin 16.

3. An automatic device for resetting a mechanical yarn feeler in a textile machine as claimed in claim 2, characterised in that the arc through which the yarn feeler 8 rotates while adhering to the magnet 18 is determined by the angular width of the slot 17.

4. An automatic device for resetting a mechanical yarn feeler in a textile machine as claimed in claim 1, characterised in that the magnet 18 has a curved external profile such that it enters into en-

gagement along the corresponding curvature of the yarn feeler 8 and remains adhering to it along a limited arc of rotation.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EUROPEAN SEARCH REPORT

Application Number

EP 90 20 0935

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	FR-A-2362223 (F. UND H. STAHLECKER) * page 5, line 5 - page 7, line 5; figures 2-4 * ---	1	D01H13/16 D01H13/14
A	FR-A-2333880 (F. UND H. STAHLECKER) * page 4, line 33 - page 5, line 14 * -----	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

D01H
B65H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18 JULY 1990	HOEFER W.D.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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