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(71) Applicant: **SOMET SOCIETA' MECCANICA TESSILE S.p.A.**
Provinciale Valseriana Km. 23
I-24020 Colzate-Bergamo(IT)

(72) Inventor: **Viscardi, Ettore**
Via Rossini, 12
I-24027 Nembro (Bergamo)(IT)

(74) Representative: **Vatti, Paolo, Dr. Ing. et al**
Fumero - Studio Consulenza Brevetti
Widenmayerstrasse 4/I
D-8000 München 22(DE)

(54) Pair of weft grippers for looms.

(57) In a pair of weft grippers (1, 2) for looms having gripper bodies whose base is fixedly connected to the straps (3, 4) causing the motion thereof, said bodies are outwardly inclined in respect of the plane perpendicular to the sliding surface of the bases (1A, 2A) of said bodies and of said straps.

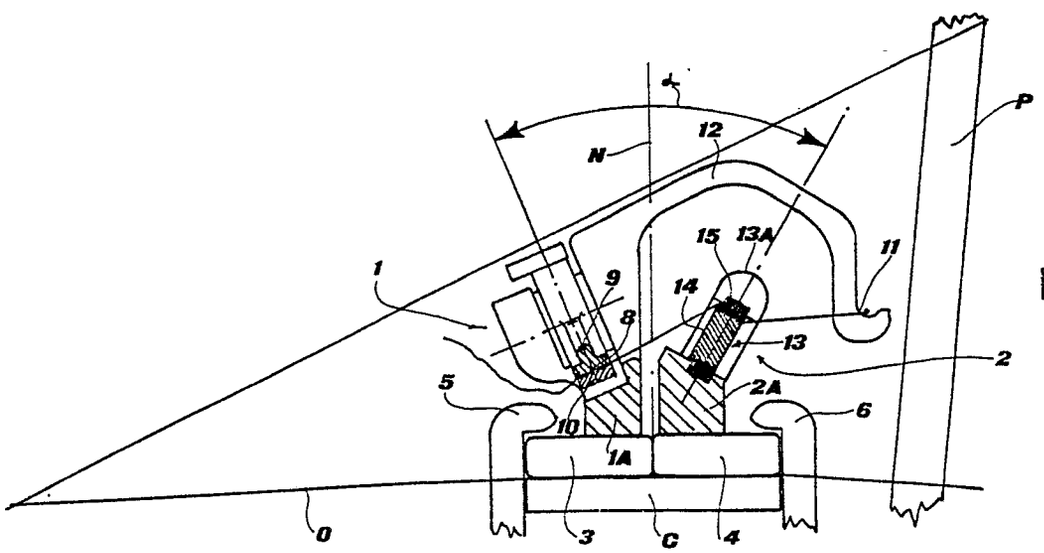

FIG.3

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PAIR OF WEFT GRIPPERS FOR LOOMS

The present invention concerns a pair of grippers conveying the weft into the shed of a loom.

It is known that one of the most delicate steps in the working of gripper looms is the exchange of the weft yarn between the carrying gripper (which grips the yarn from the weft presenting device at one end of the loom and carries it to the center of the shed) and the drawing gripper (which draws the weft yarn from the carrying gripper and conveys it to the end of the loom opposite to the feeding end). In fact, when weft exchange takes place, it is either possible for the weft yarn to be missed - if the drawing gripper fails to grip it, or the carrying gripper drops it - or for it to get torn or broken, due to the shearing effect produced by the grippers when crossing each other, with consequent loss of yarn or irreparable damage thereto.

Attempts have thus been made by constructors to improve, with the most disparate means, the operation of weft yarn exchange between the grippers in a gripper loom.

This problem is also faced by the present invention, which supplies a fully new and original solution thereof, by providing a pair of grippers of the type having gripper bodies whose base is fixedly conected to the straps causing the motion thereof, characterized in that the bodies of the two grippers are outwardly inclined in respect of the plane perpendicular to the sliding surface of the bases of said bodies and of said straps.

The invention is now described in further detail, with reference to the accompanying drawing, which shows a preferred embodiment thereof and in which:

Fig. 1 is a bottom view of the two grippers of the pair of weft grippers according to the invention, substantially aligned and as they mutually approach;

Fig. 2 is a similar top view of the pair of grippers of fig. 1; and

Fig. 3 is a section view, on an enlarged scale, along the line III of Fig. 2.

With reference to the drawing, the two grippers 1 and 2, according to the invention, are shown inside the shed of a loom in a substantially aligned position of mutual approach, just before weft yarn exchange. They are moved, in known manner, by straps 3 and 4 guided in the loom (of which, part of the sley C and of the reed P can be seen in fig. 3), also in known manner, by hook guide elements 5 and 6.

The drawing shows the weft yarn f to be conveyed through the shed, coming from the loom feeding means (not shown) and with its free leading end 7, cut in the previous cycle. The yarn f is retained in 8 into the carrying gripper 1 by a lever 9 fulcrumed onto the gripper body and pressed by a spring against an elastic plate 10. On account of the motion of the gripper 1, the yarn f is stretched between the retention point 8 and a guiding point 11 of the warp guard 12 of the gripper 1. In correspondence of point 11 is released the reaction pull T to the force of inertia between the gripper and the weft feeding means.

As weft yarn exchange takes place, the front hook part 13 of the drawing gripper 2 moves to the side of the front part of the gripper 1 retaining the yarn f and penetrates between the same and the warp guard 12; at the same time, the length of weft yarn f stretched between points 8 and 11 has to move beyond the surface 13A of the hook 13 of the gripper 2 in order to penetrate into the retaining wedge 14 thereof.

Once inserted into the wedge 14, the yarn f is efficiently retained in 15 in the drawing gripper which, after having reversed its motion, can thus convey it to the end of the loom opposite to the weft feeding end.

In order to give the yarn full possibilities to bend during exchange, and to prevent the two grippers 1 and 2 - when crossing each other and producing a shearing effect - from causing tears or damage to the yarn, the invention provides to form a certain angle α between the retention surfaces of the two grippers. For this purpose, both bodies of the grippers 1 and 2 are formed outwardly inclined to an equal extent (fig. 3) in respect of the plane N perpendicular to the sliding surface 0 of the bases 1A and 2A thereof and of the straps 3 and 4 onto the sley.

This solution (clearly illustrated in fig. 3 of the drawing) allows to obtain, according to the invention, a distance between the yarn retention points 8 and 15 in the two grippers 1 and 2 which is almost equal to the distance between the retention point 15 in the drawing gripper 2 and the guiding point 11 on the warp guard of the carrying gripper 1, onto which is released the tension of the yarn; this allows to make the best use of the elastic characteristics of the weft.

Claims

1) Pair of weft grippers for looms, of the type having gripper bodies whose base is fixedly connected to the straps causing the motion thereof, characterized in that the bodies of the two grippers are outwardly inclined in respect of the plane perpendicular to the sliding surface of the bases of

said bodies and of said straps.

2) Pair of weft grippers as in claim 1), wherein the bodies of the two grippers have the same inclination in respect of said plane.

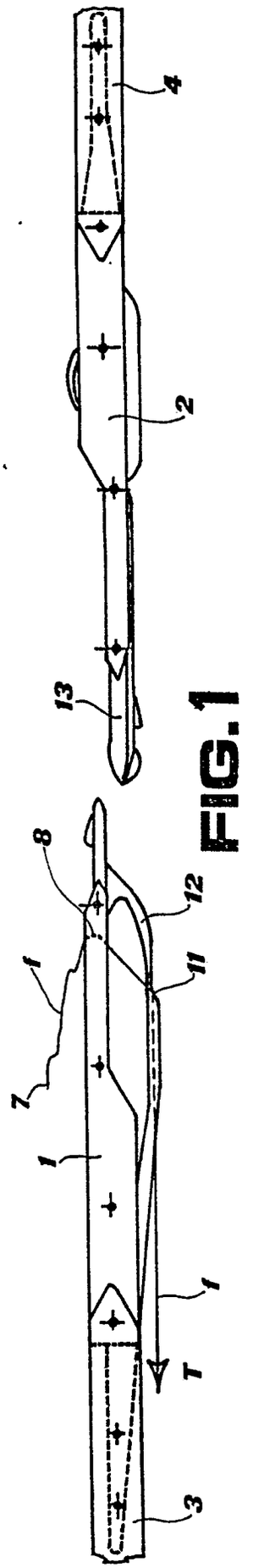

FIG.1

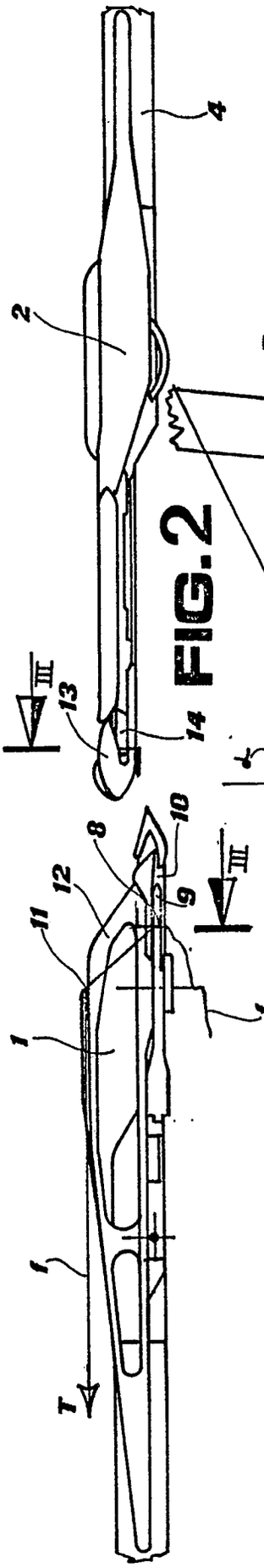

FIG.2

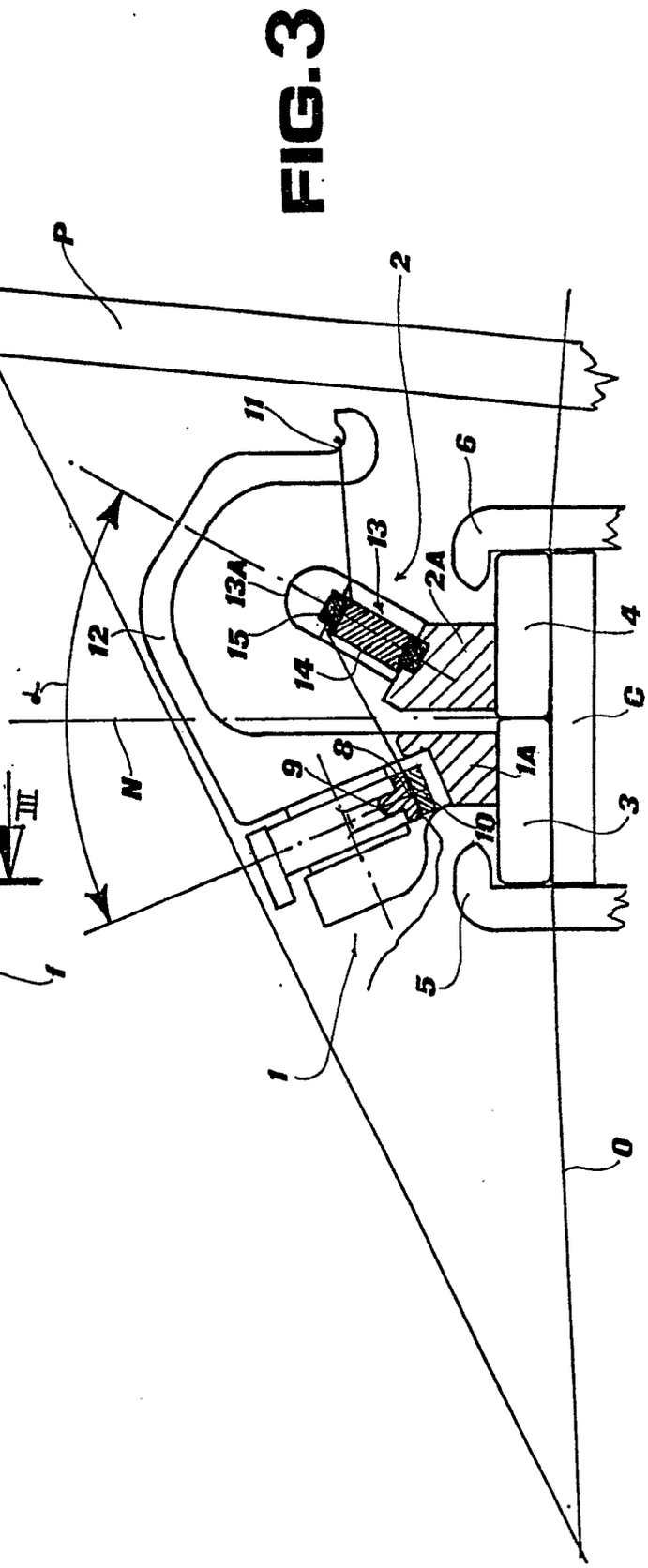

FIG.3

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EUROPEAN SEARCH REPORT

Application Number

EP 89 11 4553

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-2048284 (LINDAUER-DORNIER) * figure 7 *		D03D47/20
A	NL-A-7806084 (ALBATEX) * figure 1 *		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

D03D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	30 NOVEMBER 1989	BOUTELEGIER C.H.H.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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