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Europäisches Patentamt
European Patent Office
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11 Publication number:

**0 065 232
B1**

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EUROPEAN PATENT SPECIFICATION

45 Date of publication of patent specification: **13.03.85**

51 Int. Cl.⁴: **D 03 D 47/20**

21 Application number: **82103944.3**

22 Date of filing: **06.05.82**

54 Drawing gripper for looms.

30 Priority: **15.05.81 IT 2173781**

43 Date of publication of application:
24.11.82 Bulletin 82/47

45 Publication of the grant of the patent:
13.03.85 Bulletin 85/11

84 Designated Contracting States:
AT BE CH DE FR GB LI LU NL SE

58 References cited:
DE-A-2 913 858

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Courier Press, Leamington Spa, England.

EP 0 065 232 B1

Description

This invention relates to a drawing gripper for shuttleless looms, designed to prevent or limit to a minimum those cases in which the gripper itself fails to grip the weft yarn at the moment of exchanging said yarn with the carrying gripper at the centre of the shed.

The passage of the weft yarn from the carrying gripper to the drawing gripper at the shed centre is known to be extremely delicate and difficult in all shuttleless looms, because of the insufficiently precise mutual positioning of said grippers at the moment in which the yarn exchange takes place, especially at the increasingly high weaving speeds now in use. The various guide systems which have been studied and adopted so far, on the one hand do not give decisive results and, on the other hand, they form a considerable bulk at the shed centre and cause various inconveniences in the loom operation.

The present invention provides a drawing gripper which, by virtue of its configuration — deriving besides from careful considerations as to the mechanics of the yarn exchange at the shed centre — provides an extremely satisfactory solution to the examined problem.

This gripper, of the type comprising a fixed member with a hook end and a mobile oscillating element the end of which cooperates with said hook in order to retain the yarn, is characterized in that the hook at the end of the fixed member is disposed in a vertical plane and opens downwards.

The invention is described hereinafter, in greater detail, by way of example, with reference to the accompanying drawing which represents a preferred embodiment of the drawing gripper according to the invention, and in which:

Figure 1 is an overall perspective view of the gripper according to the invention;

Figure 2 is a detailed side view of the hook end of the gripper of Figure 1; and

Figure 3 is a side view of the whole end of the gripper.

With reference to the drawings, it can be seen that the drawing gripper according to the invention comprises a fixed member 1 with a hook end 2 and a mobile element 3 mounted oscillating about 4 on the member 1 and designed to cooperate in known manner with the inner part of the hook of the end 2 in order to retain the weft yarn.

According to the invention, the hook 5 of the illustrated gripper is disposed in a vertical plane and open downwards, i.e. towards the sliding plane of the gripper and of the straps which control its movement, as clearly shown in the figures of the drawing and particularly in Figure 2.

This arrangement of the hook 5 is combined, in the gripper according to the invention, with a special structure for protecting the warp yarns, constituted by a simple vertical fin 6 projecting from the member 1 carrying the hook 5, and disposed to the side of this latter.

The downwardly open hook arrangement, adopted by the present invention, results from the fact that most of the inconveniences occurring at the moment of the weft yarn exchange between the carrying gripper and the drawing gripper, are determined by the rotation movements of the carrying gripper about its longitudinal axis such as to lift the side thereof close to the reed, these movements causing a lifting of that portion of weft yarn which has to be gripped by the drawing gripper. It is precisely under such conditions that the upwardly open hooks of conventional grippers, which lie below the weft yarn in order to grip it, are unable to grip said yarn which, if being lifted, tends to escape from the hook. Whereas, with the downwardly open hook arrangement according to the present invention, the grip is always reliable and immediate, because the weft yarn is gripped when the hook is above it, whereby any lifting of the yarn will not allow its escape.

Furthermore, the vertical fin 6 for protecting the warp yarns forms a very efficient obstacle against any penetration of warp yarns towards the hook 5 and simultaneously reduces the overall vertical size of the gripper.

Claims

1. A drawing gripper for shuttleless looms, of the type comprising a fixed member with a hook end and a mobile oscillating element the end of which cooperates with said hook in order to retain the yarn, characterized in that the hook at the end of said fixed member is disposed in a vertical plane and opens downwards.

2. A drawing gripper as in claim 1, wherein a vertical fin projecting from the fixed member and disposed to the side of said hook is provided to protect the warp yarns.

Patentansprüche

1. Übernahmegriffe für schützenlose Webmaschinen, mit einem festen Teil mit einem hakenförmigen Ende und einem beweglichen hin- und hergehenden Element, dessen Ende mit dem Haken zum Festhalten des Garnes zusammenwirkt, dadurch gekennzeichnet, daß das hakenförmige Ende des festen Teiles in einer vertikalen Ebene angeordnet ist und sich nach unten öffnet.

2. Übernahmegriffe nach Anspruch 1, wobei von dem festen Teil ein vertikaler Stübel vorspringt, der an der Seite des Hakens angeordnet ist und zum Schützen der Kettfäden dient.

Revendications

1. Pince de tirage pour métiers à tisser sans navette, du type comportant un organe fixe muni d'une extrémité formant crochet et un élément mobile oscillant dont l'extrémité coopère avec ledit crochet afin de retenir le fil, caractérisée en ce que le crochet situé à l'extrémité dudit organe fixe est disposé dans un plan vertical et s'ouvre vers le bas.

2. Pince de tirage suivant la revendication 1, dans laquelle une ailette verticale faisant saillie à partir de l'organe fixe et disposée sur le cote dudit

crochet est prevue pour protéger les fils de chaîne.

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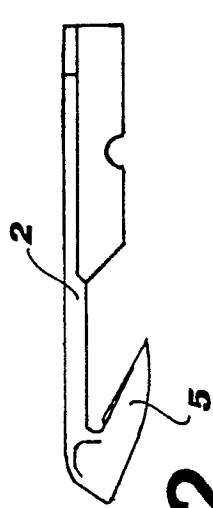


FIG. 2

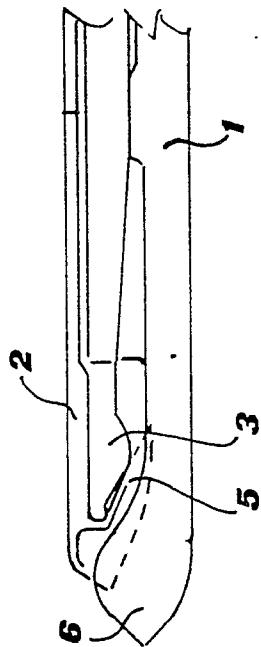


FIG. 3

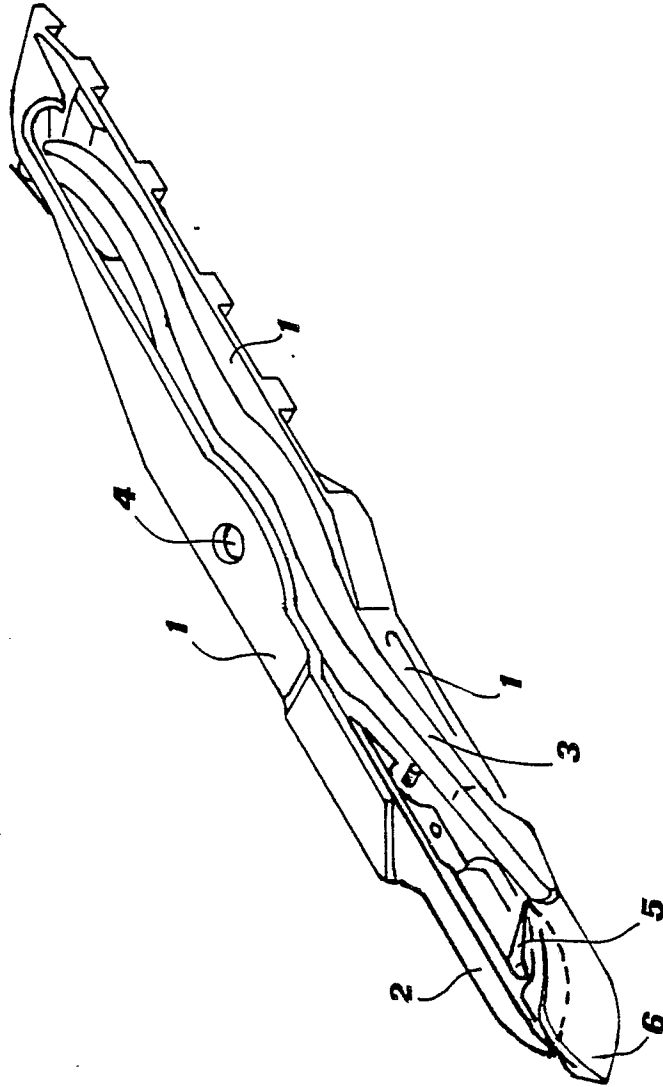


FIG. 1