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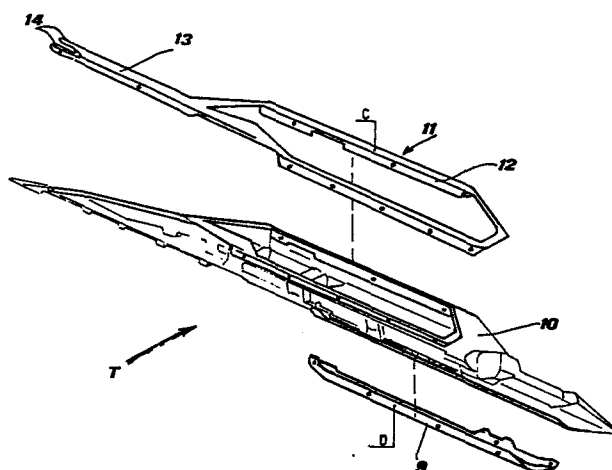
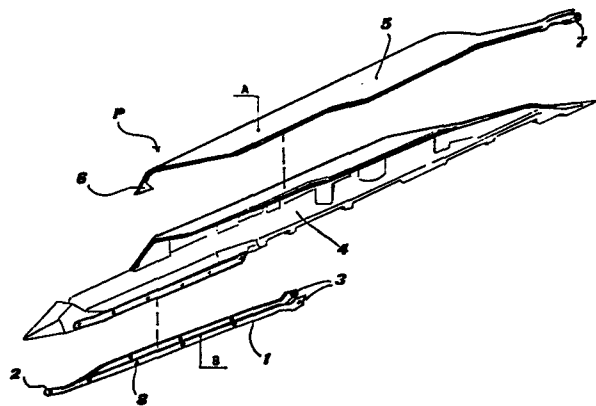
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⑤④ **Weft-carrying grippers for shuttleless weaving looms.**

⑤⑦ In a pair of weft carrying grippers for shuttleless weaving looms, each gripper is formed of a composite structure consisting of two metal shells, stiffly connected with a central body of synthetic plastic material, wherein said metal shells are partially incorporated.



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"WEFT CARRYING GRIPPERS FOR SHUTTLELESS WEAVING LOOMS"

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5 The present invention concerns important improvements in the weft carrying grippers for shuttleless weaving looms, namely in those members by which the weft yarns are inserted at one end of the loom and are carried to the opposite end thereof through the warp shed.

10 Up to date, said grippers have always been made either of metal or of synthetic plastic material, suffering in the first case from an excess of weight while involving considerable costs, and in the second case from scarce stiffness. The efforts of designers and constructors have always aimed at reducing said defects, by acting separately on both types of grippers. Thus, improvements have been gradually introduced in each type of gripper, generally concerning the configuration of the gripper itself, said improvements intending - in the case of metal grippers - to reduce the weights and simplify their structure and the methods adopted for the construction thereof, and - in the case of plastic grippers - to stiffen the structure thereof.

20 In spite of the progress achieved, the metal grippers as well as those of plastic material are still, to date, not quite satisfactory, especially if having to equip the modern looms working at very high speeds.

25 The present invention faces the problem of constructing the members carrying the weft yarn through the shed in a fully original way, by taking advantage of the positive aspects of the specific characteristics of the two types of grippers known so far, while eliminating the defects of both.

30 For this purpose, the pair of grippers according to the invention is substantially characterized in that, each gripper is formed of a composite structure consisting of two metal shells, stiffly connected with a central body of synthetic plastic

material, wherein said metal shells are partially incorporated.

Preferably, said shells are provided with hooks, projections, recesses, or like, for anchorage to the central body of plastic material.

5 The invention will now be described in further detail, with reference to a preferred embodiment thereof, illustrated in the accompanying drawings, in which:

 Fig. 1 is an exploded perspective view of the carrying gripper forming the pair of grippers according to the invention;
10 and

 Fig. 2 is an exploded perspective view of the drawing gripper forming the pair of grippers according to the invention.

 With reference to figure 1 of the drawings, the carrying gripper P is shown to be formed of a lower metal shell 1, having a
15 V-shaped section with the sides joining into a single element 2 at the front and parting into two ears 3 rearwardly, of a central body 4 of synthetic plastic material, and of an upper metal shell 5, in the form of a warp guard for the body 4 and having a front hook end 6 and a rear forked end 7.

20 According to the invention, the gripper P has its structure formed by the stiff connection - obtained by injection molding of the body 4 between the metal shells 1 and 5 - of the three component elements. Thanks to the shape of the ends of the shells 1 and 5, and to the presence therein of other coupling elements,
25 as recesses 8 or projections, the connection between said elements is most efficiently achieved. The shells 1 and 5 are moreover substantially incorporated into the central body 4 and, once assembled, the structure of the gripper appears as a very compact unit.

30 The same result is obtained in the drawing gripper T of figure 2, which is formed of a lower metal shell 9, having a shape which is fairly similar to that of the shell 1 of the carrying

gripper P, of a central body 10 of synthetic plastic material, and of an upper shell 11, comprising a frame portion 12 and an extension or tail 13 ending with ears 14.

5 It is understood that, besides the one described and illustrated by mere way of example, there may be other practical embodiments of the invention falling within the protection scope of the same.

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CLAIMS

5 1) A pair of weft carrying grippers for shuttleless weaving looms, characterized in that, each gripper is formed of a composite structure consisting of two metal shells, stiffly connected with a central body of synthetic plastic material, wherein said metal shells are partially incorporated.

 2) A pair of weft carrying grippers as in claim 1), wherein said shells are provided with hooks, projections, recesses, or like, for anchorage to the central body of plastic material.

10 3) A pair of weft carrying grippers as in claim 1), wherein said composite structure of the grippers is obtained by injection molding of synthetic plastic material between said shells.

