April 29, 1969 M. PERACCA ET AL 3,441,061

WEFT PULL AND RELEASE DEVICE FOR WEAVING LOOMS HAVING NO SHUTTLES

Filed June 8, 1967

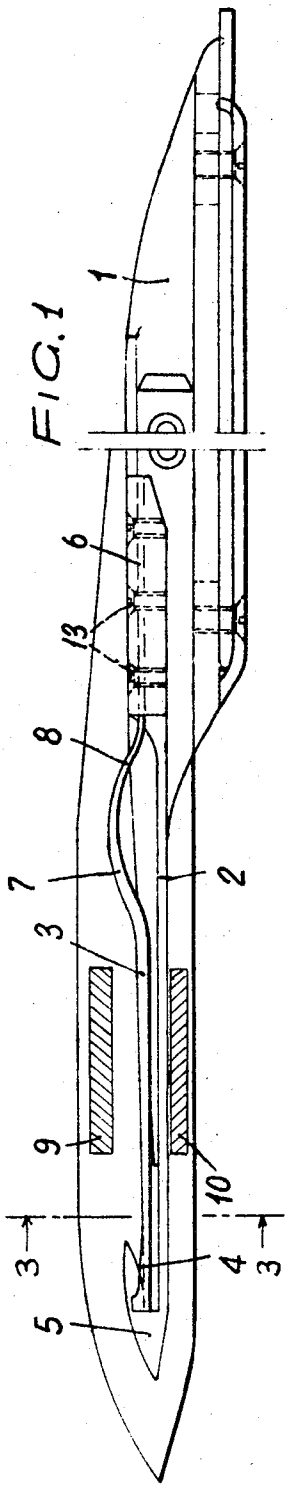


FIG. 1

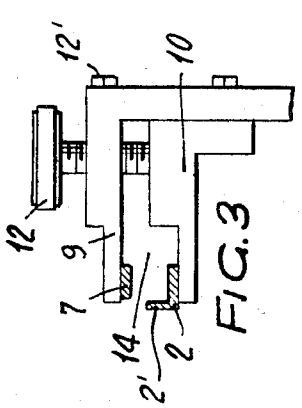


FIG. 3

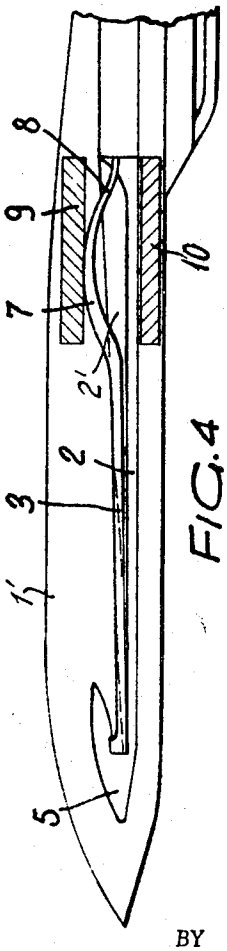


FIG. 4

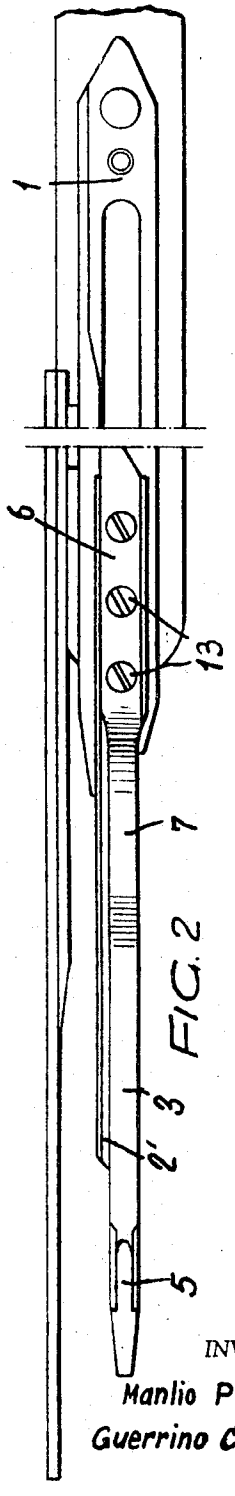


FIG. 2

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WEFT PULL AND RELEASE DEVICE FOR WEAVING LOOMS HAVING NO SHUTTLES

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Int. Cl. D03d *47/16*
U.S. Cl. 139—122 2 Claims

ABSTRACT OF THE DISCLOSURE

A weft pull and release device for shuttleless looms comprising adjustably spaced upper and lower stationary guide elements at one side of the loom and a pair of weft gripping and releasing blades, one rigid and the other resilient, reciprocable through the restricted space between the guide elements to grip, pull and release the weft.

The invention relates to a novel weft pulling and releasing device for shuttleless looms in which a reciprocating weft gripper and releaser is actuated from one side of the loom to move into and out of the shed of warp threads to pull the weft thread into the shed and release it during each reciprocation of the gripper. The invention will now be described more in detail with reference to the drawing wherein:

FIGURE 1 is a side view of the reciprocating gripper with the guide elements shown in cross section;

FIGURE 2 is a plan view of the gripper;

FIGURE 3 is a transverse section through the gripper during its passage through the guide elements; and

FIGURE 4 is a fragmentary side view of the gripper during its passage through the guide elements to release the weft.

The gripper comprises a body **1** to one side of which an elongated plate **1'** is secured to serve as a needle for entering the shed of warp threads and clearing the passageway for the gripper blades comprising a lower rigid blade **2** and an upper resilient blade **3** whose rear ends are superimposed and secured by screws **13** to the body **1**. The front end of the rigid blade **2** is provided with a terminal hook **5** which is normally engaged on its lower side at **4** by the free end of the resilient blade to grip the weft thread and pull it into the shed of warp threads. The lower blade **2** is preferably L-shaped throughout the greater portion of its length to provide it with a vertical flange **2'** along one edge for rigidity.

To render the upper blade **3** slightly resilient it can be tapered to a reduced thickness near its rear end in the region **8**, and immediately in front of this tapered portion it is bent upwardly to provide a hump to be engaged by a

stationary member during reciprocation of the device to disengage the free end of blade **3** from the lower side of the hook to release the weft thread at the outer end of the reciprocatory movement.

To exert the necessary pressure on the upper blade for this purpose, a restricted guideway is provided between stationary members **9** and **10** at the side of the loom opposite the side where the spool of weft thread is located. The distance between the members **9** and **10** is accurately adjustable by means of an adjusting screw **12** and clamping screws **12'** so that at the outer end of the reciprocatory movement the upper guide member **9** will be encountered by the hump **7** with sufficient force to disengage the free end of the resilient member **3** from the hook **5** sufficiently to release the weft thread which has been clamped between the ends of the two blades, the operation being similar to the operation of the device shown in U.S. Patent 3,312,252.

What is claimed is:

1. A weft inserting device for a shuttleless loom, said device comprising an elongated body (**1**) adapted to be reciprocated longitudinally into and out of a shed of warp threads, a rigid lower blade (**2**) having its rear end secured to the body (**1**) in alignment therewith and equipped with a rearwardly and upwardly projecting hook (**5**) at its front end adapted to catch a weft thread, a resilient upper blade (**3**) having its rear end secured on top of the rear end of the lower blade and with its front end normally bearing against the lower side (**4**) of the hook but adapted to retain a weft thread in position between itself and the hook, and a pair of stationary guide elements (**9**, **10**) positioned respectively above and below the path of movement of the two blades, the lower guide element (**10**) remaining normally in engagement with the lower surface of the rigid blade (**2**) while the upper guide element is in position to engage the upper surface of the resilient blade (**3**) to disengage the latter from the hook so as to release the weft thread near the end of the reciprocatory movement.

2. The device of claim **1** in which the resilient blade (**3**) is rigid throughout the greater portion of its length but tapers at (**7**) into an upwardly humped flexible portion (**8**) in position to engage the guide element (**9**) near the end of the reciprocation.

References Cited

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HENRY S. JAUDON, *Primary Examiner.*