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PILE WIRE AND KNIFE HOLDER THEREFOR

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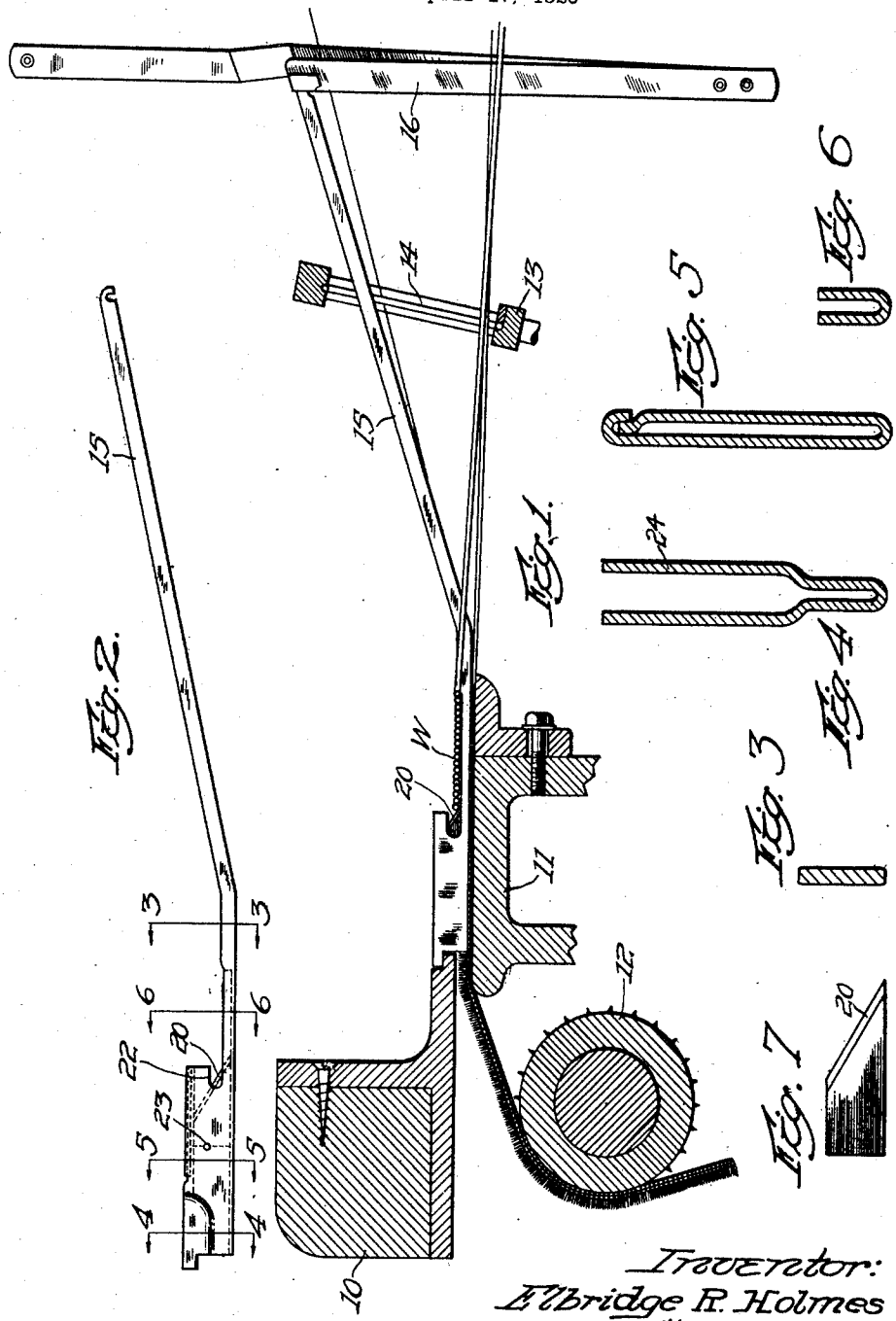


Fig. 2.

Fig. 1.

Fig. 5

Fig. 6

Fig. 4

Fig. 3

Fig. 7

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PILE WIRE AND KNIFE HOLDER THEREFOR.

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This invention pertains to a longitudinal pile wire, such as is used in certain types of carpet looms, and relates more particularly to improvements in the casing or support for holding a knife on such a wire.

In my prior application, Serial No. 702,-152, filed by me March 26, 1924, I have shown a construction in which a thin detachable knife blade is held in a support or casing formed on a portion of a longitudinal pile wire. The knife blade was fully enclosed and protected by the casing except in the actual cutting zone.

It is the object of my preesnt invention to improve the construction shown in my prior application, by providing a simple form of casing which possesses increased strength and rigidity, and by also providing spacing devices on the knife holders or casings by which devices the pile wires and knives will be held in correct spaced relation, corresponding to the spacing of the reed dents. My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which—

Fig. 1 is a sectional side elevation of parts of a loom, supporting my improved pile wire and knife holder;

Fig. 2 is a side elevation of the pile wire and knife holder;

Figs. 3, 4, 5 and 6 are detail sectional elevations taken along the lines 3—3, 4—4, 5—5 and 6—6 in Fig. 2 respectively; and

Fig. 7 is a side elevation of the cutting knife or blade.

Referring to the drawings, I have indicated certain parts of a loom including a breast beam 10, a fabric-supporting structure 11, a take-up roll 12, and a lay 13 having a reed 14 mounted therein. Longitudinal pile wires 15 rest upon the structure 11 and at their rearward ends are positioned by guides 16. All of these parts are in general of the usual type and my invention relates to the specific structure of the pile wires 15.

A pile cutting knife 20 is mounted on each pile wire in position to sever the loops of pile warps W as they are gradually drawn forward against the knives by the take-up roll 12, the warp-threads being looped back and forth over the pile wires 15 and being alternately bound down on opposite sides thereof.

The knife-holding portion of the pile wire 15 is in general of a U-shaped section, as shown in Figs. 4, 5 and 6. This portion of the wires is preferably formed from sheet material bent to the shape indicated, and thereafter secured to the long narrow rearward portion of the pile wire by welding or brazing or in any other convenient manner.

At the point indicated by the line 6—6, the U-shaped section is of limited height. In the portion indicated by the line 5—5, the sides of the holder are upwardly extended and their upper ends are offset and overlapped to firmly secure them together and to provide a strong and rigid holder or pocket to receive the knife 20. The cutting edge of the knife is entirely protected by the holder except at the exact point where the cutting occurs, at which point the holder is recessed, as indicated at 22, to admit the pile loops. A cross pin 23 limits forward movement of the knife blade in the holder.

At the extreme front portion of the holder, marked by the section line 4—4, the sides of the holder are preferably displaced outwardly at 24 to provide a width over-all corresponding to the reed spaces. In this way the adjacent knife blades and wires are held in correct spaced relation, which may be varied by providing a separate set of pile wires for each different reed spacing.

It will be noted that the middle portion of the holder is closed and firmly secured at the top to protect the blade, while the narrow rear portion is open to permit the knife to be readily inserted, and the front portion is spaced apart for the purpose described. All parts of the holder are accurately proportioned for their respective purposes, and the holder may be quickly and easily manufactured from suitable sheet metal.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed otherwise than set forth in the claims, but what I claim is:—

1. In a loom, a longitudinal pile wire

comprising a pile-supporting portion, and a knife-holding portion, said knife-holding portion having parts thereof outwardly offset to engage offset portions of adjacent pile wires and thus laterally space and position the wires and knives in the loom.

2. In a loom, a longitudinal pile wire comprising a pile-supporting portion, and a knife-holding portion, said latter portion being of U-shaped section, with open upturned sides at its front and rear parts and with an integral and intermediate part of one side folded over the other side to secure said parts together and to limit separation thereof.

3. In a loom, a longitudinal pile wire comprising a pile-supporting portion, and a knife-holding portion, said latter portion being of U-shaped section with up-turned sides, and portions of said sides being outwardly displaced to form spacing abutments for the pile wires.

4. In a loom, a longitudinal pile wire comprising a pile-supporting portion, and a knife-holding portion, said latter portion being U-shaped in section and having a portion of one side wall offset inwardly and the corresponding portion of the other side wall bent around said offset portion to lock the side walls together and form a pocket for the knife.

In testimony whereof I have hereunto affixed my signature.

ELBRIDGE R. HOLMES.