Oct. 27, 1942. T. A. BROWN 2,300,197

HEDDLE FRAME

Filed July 28, 1941

FIG. 1

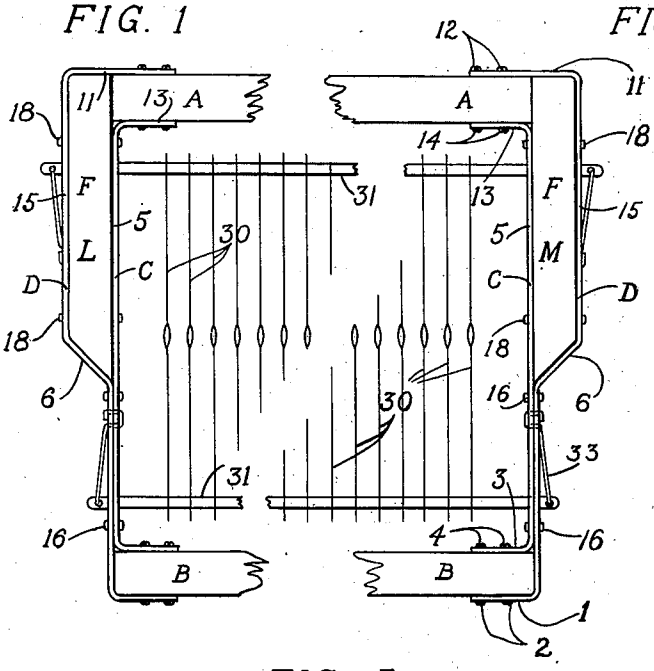


FIG. 2

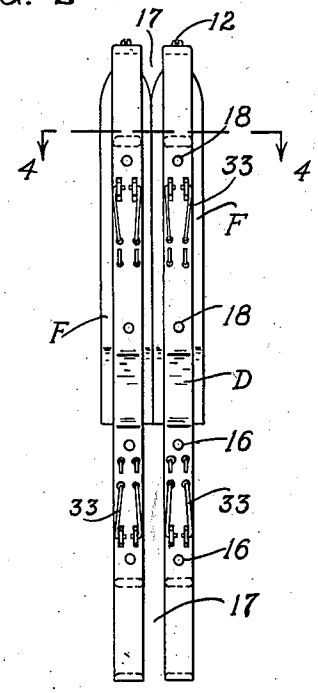


FIG. 3

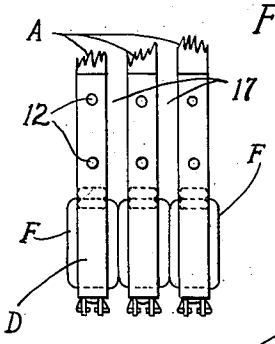
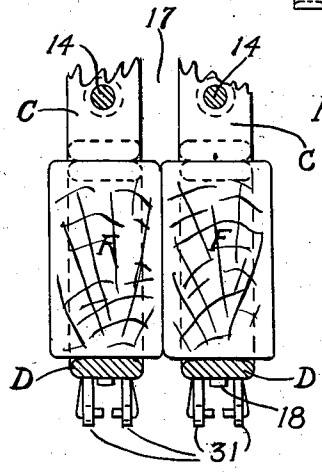


FIG. 4



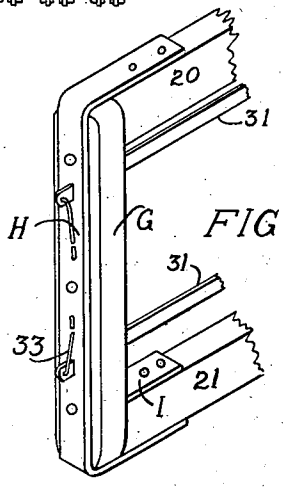


FIG 5

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UNITED STATES PATENT OFFICE

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HEDDLE FRAME

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Application July 28, 1941, Serial No. 404,312

1 Claim. (Cl. 139—91)

This invention relates to the frames of harnesses used in weaving in which the heddles are mounted on supporting bars carried by the ends of the frame and supported sometimes by bar locks carried by the top and bottom shafts or rails.

Such frames may be made entirely of metal but metal frames are apt to bend unless they are made undesirably heavy. Harness frames are now made with top and bottom shafts or rails of wood and end members which are made of wood, of metal or of wood and metal strips.

These strips are usually bent inward and also support top and bottom rails which are also preferably of wood.

Especially in looms where there are a large number of harnesses, the frames must be very carefully set so that as each frame moves up and down, it will not strike an adjoining frame. If the setting is carefully done and the top and bottom rails do not bend, there is no trouble but if a top or bottom rail bends so as to strike an adjoining rail, it may cause a jam or break or, if they are of metal, a spark may be struck thus causing a fire.

There are times when it is desirable or necessary for the weaver to reach down between two adjoining harnesses and in some looms there are two selvage units which are to some extent small harness frames carrying some extra heddles at each end for the purpose of forming a selvage and a space somewhere for such purposes is desirable between the harnesses.

This harness frame is made with end members each of which comprises two metal strips, one strip on the outside extending the height of the frame and being bent over and inward at top and bottom and the other strip being on the inside and extending between the top and bottom rails, which are of wood, and being bent inward at each end.

The top and bottom shafts or rails are substantially the thickness of the width of the metal strips and are fastened to the bent inward portions of them by screws in a well known manner.

In my preferred construction, between the top part of the metal strips at each end I place a spacing strip of wood or other suitable material such as fibre or plastic, this spacing strip being of greater thickness from front to back than the thickness of the rails and greater than the width of the metal end strips.

In a preferred form of the device, the spacing strips extend only part way from the top to the bottom or from the bottom to the top, whereby there is left a space at the bottom ends of the harnesses, or if desired at the top ends of the harnesses for other devices such as are sometimes used in looms or if no devices are used, this leaves a space through which the weaver can reach and can see without affecting the operation of the harnesses.

With this construction, the wood spacing and stiffening strips may rub against each other without doing any damage and without danger of causing a fire.

These spacing and stiffening strips may be of wood, fibre, plastic or other suitable non-metallic material, and may extend practically the entire height of the harness abutting against the ends of the top and bottom rails but being of greater thickness or they may extend part way.

In the drawing,

Fig. 1 is an elevation of a heddle frame of my construction with parts broken away and with the heddles shown diagrammatically for clearness.

Fig. 2 is an end elevation of two adjoining heddle frames of my construction on a somewhat larger scale than Fig. 1.

Fig. 3 is a plan view showing the ends of three adjoining heddle frames.

Fig. 4 is a horizontal sectional view on a larger scale looking down on the line 4—4 of Fig. 2.

Fig. 5 is a diagrammatic isometric view of one end of a modified form of my heddle frame, the heddles being omitted.

In the drawing, A and B represent the top and bottom rails which, as shown, are of wood.

The end members L and M, as shown, are made up of strips C and D of suitable metal such as steel which at the ends are bent over as arms 1 and 11, 3 and 13, which are secured to the rails A and B as by screws 2, 12, 4 and 14.

As shown in Figs. 1 to 4 at one end, usually the bottom, the metallic strips C and D are fastened together as by rivets 16, 16, and toward the middle at 6, the outer strip D extends outward and thence at 15 parallel with the corresponding part 5 of strip C. Between these parts 5, 15, 6, and 11, I insert a wooden spacing and stiffening strip F which as shown in Figs. 2 and 3 is thicker than the rails A or B and the strips C and D. Rivets 18, 18 hold strips D, L and C together.

This spacing strip F therefore bears against an adjoining strip of the same type on the next harness frame, as shown in Fig. 3, thereby keeping the top rail A of each harness separated from

rails A, A, on the adjoining harnesses by a space 17 and taking up whatever frictional wear there is.

These top spacing strips, F, F, also maintain a space similar to 17 between the bottom rails B, B.

As shown in Fig. 5, there may be a spacing strip G, which extends the whole length of an outside metallic strip H and beyond an inside strip I. This strip G is thicker than either rail 20 or 21 and than either strip H or I.

The spacing strips should be of wood, fibre, plastic or other non-metallic material which can rub without heating or sparking.

The heddles are indicated by 30, 30, supporting bars by 31, 31, and holding catches by 33, 33.

I claim:

The combination in a heddle frame for looms; of top and bottom wooden rails of substantially the same thickness; with end members comprising metal strips of substantially the same width as the thickness of the rails, the ends of said strips being bent over and secured to the ends of the top and bottom rails, each outside metal strip being fastened directly to an inside strip along part of their length and being separated from such inside strip the rest of their length by a wooden spacing strip of greater thickness than the top and bottom rails.

THOMAS A. BROWN.