Oct. 2, 1928. 1,686,073

H. D. COLMAN

HEDDLE FRAME

Original Filed Oct. 20, 1924

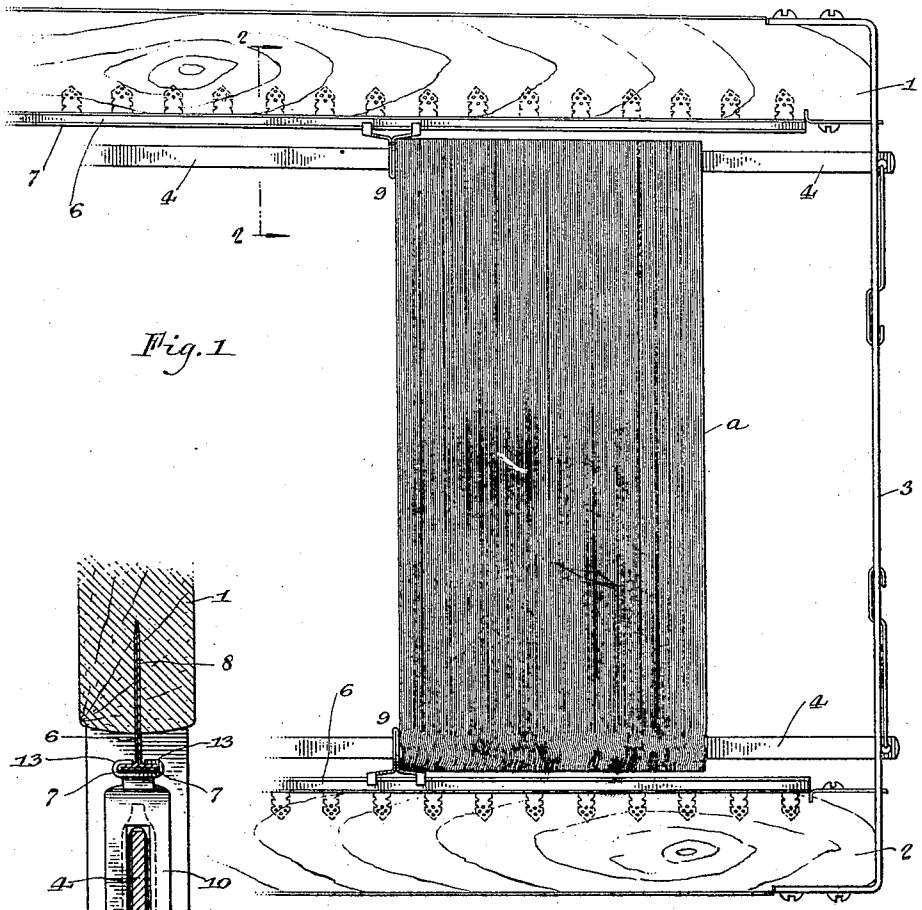

Fig. 1

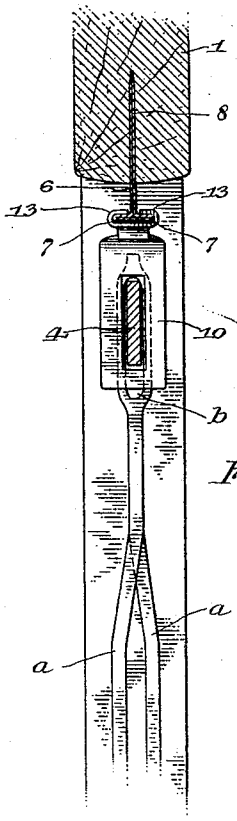

Fig. 2

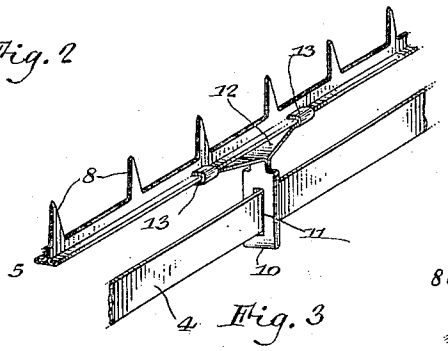

Fig. 3

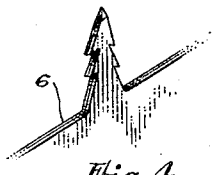

Fig. 4

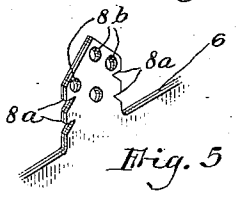

Fig. 5

Inventor;
Howard D. Colman
By Churchill Parker & Carlson
Attys.

Patented Oct. 2, 1928. 1,686,073

UNITED STATES PATENT OFFICE.

HOWARD D. COLMAN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO BARBER-COLMAN COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

HEDDLE FRAME.

Application filed October 20, 1924, Serial No. 744,543. Renewed January 9, 1928.

This invention relates to heddle frames of the general type exemplified in the Kaufmann Patent No. 1,168,308, dated January 18, 1916, and the Hathaway Patent No. 1,246,002 granted November 6, 1917. Such heddle frames are employed in multiple harness looms. Ordinarily each frame contains a relatively small number of heddles. When in use in the loom, the heddles are very unevenly distributed in the heddle frames.

The particular object of the present invention is to improve heddle frames of the type above referred to so that it shall be practicable to place warp threads in the heddles by means of automatic mechanism. Such a warp drawing machine would operate upon a plurality of heddle frames, the frames being fed past the heddle-selecting mechanism and the thread-drawing mechanism. In order to facilitate the selection of individual heddles and the positioning thereof for the drawing-in operation, it is desirable to slide together into one or more compact groups all the heddles in each heddle frame. In the feeding of the heddle frames and in the operation of selecting individual heddles and positioning them for the drawing-in operation, relative movement would have to occur between the heddle bars and the compact groups of heddles. Such compacting and relative movement of the heddles would be difficult or impossible because of the presence of the brackets or other devices commonly used to support the heddle bars intermediate their ends. To overcome this difficulty, I have provided heddle-bar supporting means which is slidable approximately the full length of the heddle frame so that the said supporting means may be slid along the heddle frame to any position required in the compacting, selecting, threading and heddle-frame feeding operations.

In the accompanying drawings, Figure 1 is a fragmental side elevation of a heddle frame embodying the features of the present invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a perspective view illustrating the intermediate support for the heddle bars.

Figs. 4 and 5 are perspective views of alternative constructions.

The heddle frame which has been chosen to illustrate the invention comprises wooden top and bottom frame bars 1 and 2 connected at their ends by metallic bars 3. Mounted in and supported by the end bars 3 are the heddle-supporting bars 4 upon which the steel heddles *a* are mounted. As indicated in Fig. 2 each heddle is provided at its ends with an eye or elongated opening *b* through which the heddle bar 4 extends, the heddles thus being slidable along said bars.

The means for supporting the heddle bars 4 intermediate their ends comprises guide bars 5 (Fig. 3), one for each of the harness bars 1 and 2. The guide bars 5 are of approximately the same length as the bars 1 and 2. Each guide bar 5 is of T-shape in cross-section and comprises a vertical central web 6 and horizontal flanges 7. The vertical web 6 is provided with a suitable number of tangs or points 8 which may be driven into the wooden bars 1 and 2 to secure the guide bars 5 in place. The tangs or points 8 may be of various forms, three different shapes being shown in Figs. 3, 4 and 5. That shown in Fig. 5 is perhaps the preferred form; the edges of the tang are notched to form teeth 8^a which engage the wood and assist to hold the guide bar in place. The tang is also provided with one or more perforations 8^b. Preferably the tangs are coated with shellac or other adhesive material before they are driven into the harness bar, the shellac more or less completely filling the holes 8^b and the side notches and serving to bond or anchor the tangs to the wood.

The guide bars 5 may be formed in any preferred manner, but since low cost of manufacture is important, they may be advantageously made of a piece of sheet metal folded to form webs 6 and 7 and points 8 of double thickness.

On each of the guide bars 5 is slidably mounted a bracket 9 also formed of folded sheet metal and comprising a portion 10 having an opening 11 through which the heddle bar 4 may extend, and a base 12 projecting from opposite sides of the portion 10 and provided with hooks 13 slidably embracing the flanges 7.

It will be seen that the heddle-bar supporting members 9 are freely slidable substantially the full length of the heddle frame and

thus interpose no obstacles to the compacting or sliding of the heddles in the drawing-in operation.

I claim as my invention:

1. A heddle frame comprising a wooden main frame bar, a heddle bar, and means for supporting the heddle bar intermediate its ends, said means comprising a guide bar of substantially the same length as the frame bar and of T-shape in cross-section, said guide bar comprising a vertical central web and horizontal flanges, said web having tangs thereon which are driven into the frame bar to secure the guide bar in place, and a member slidably engaging the heddle bar and slidably mounted upon the horizontal flanges of said guide bar.

2. A heddle frame comprising a main frame bar of wood and a metallic guide bar secured to said frame bar, said guide bar having a plurality of tangs which are driven into the wood, said tangs having notched edges and perforations, and adhesive material securing said tangs to the wood and also contained in the notches and perforations.

3. A heddle frame comprising a main frame bar of wood and a metallic guide bar of T-shape cross-section, said guide bar being made of sheet metal bent to form a vertical flange and two horizontal flanges, said vertical flange having thereon tangs which are driven into the wooden frame bar.

4. A heddle frame comprising a main frame bar of wood and a metallic guide bar of T-shape cross-section, said guide bar being made of sheet metal bent and folded to form a vertical flange and two horizontal flanges, said horizontal flanges being of double thickness, said vertical flange being attached to said wooden frame bar.

In testimony whereof, I have hereunto affixed my signature.

HOWARD D. COLMAN.