

W. FEHR & J. KAUFMANN.  
HEDDLE FRAME.  
APPLICATION FILED NOV. 27, 1908.

952,563.

Patented Mar. 22, 1910.

Fig. 1.

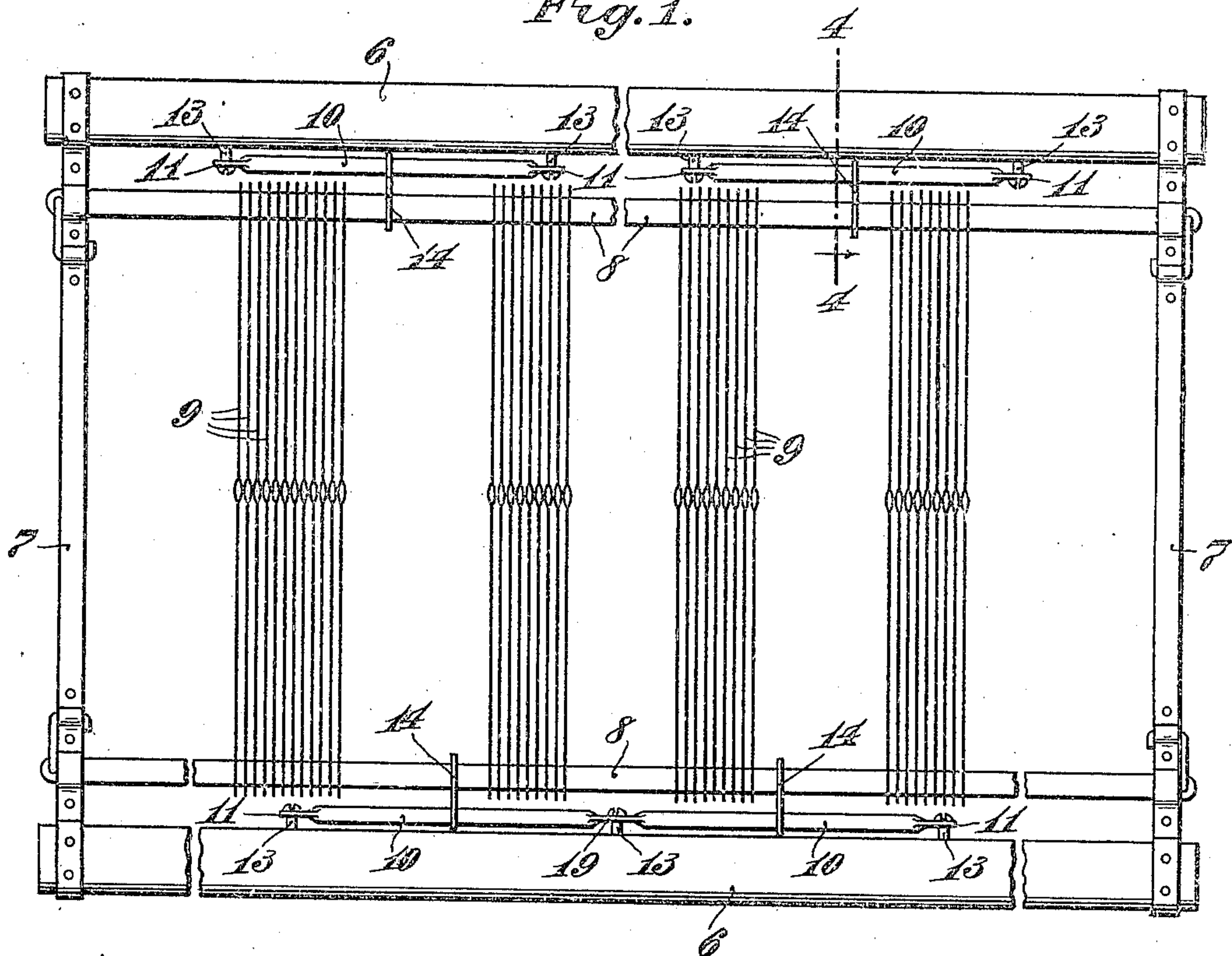


Fig. 2.

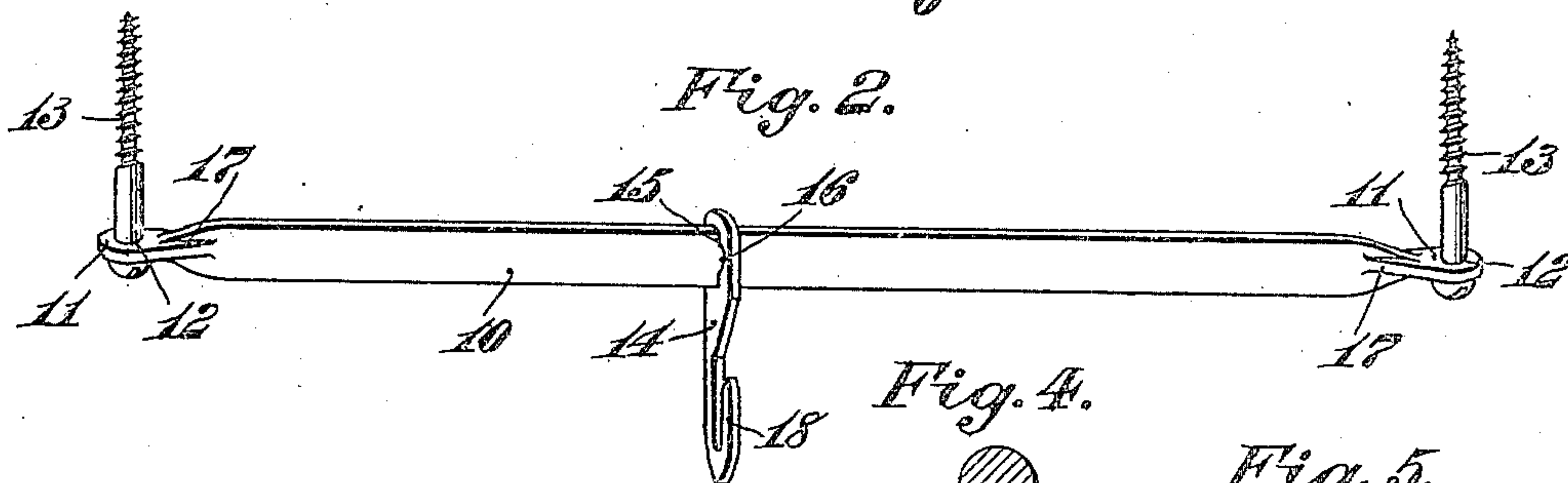


Fig. 3.



WITNESSES:

*Perceval N. Reed.*  
*John P. Taylor*

Fig. 4.

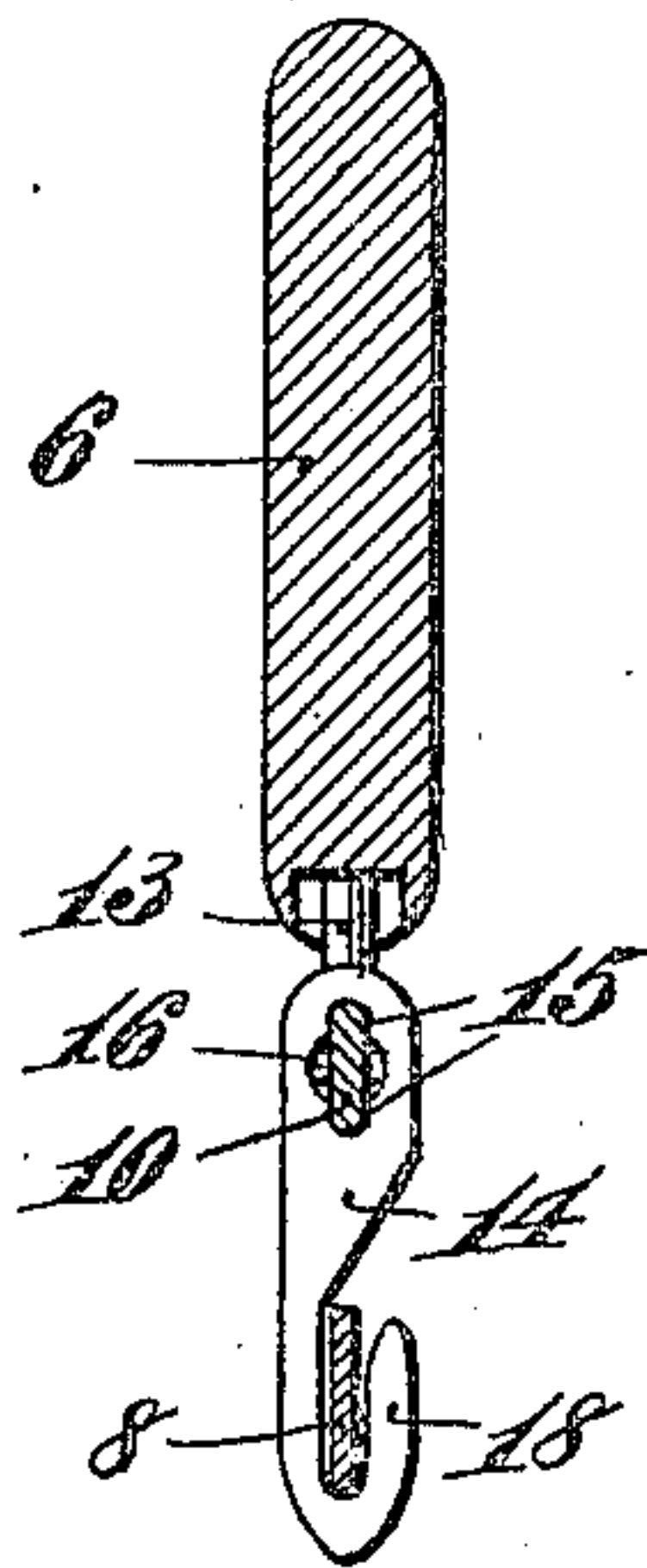
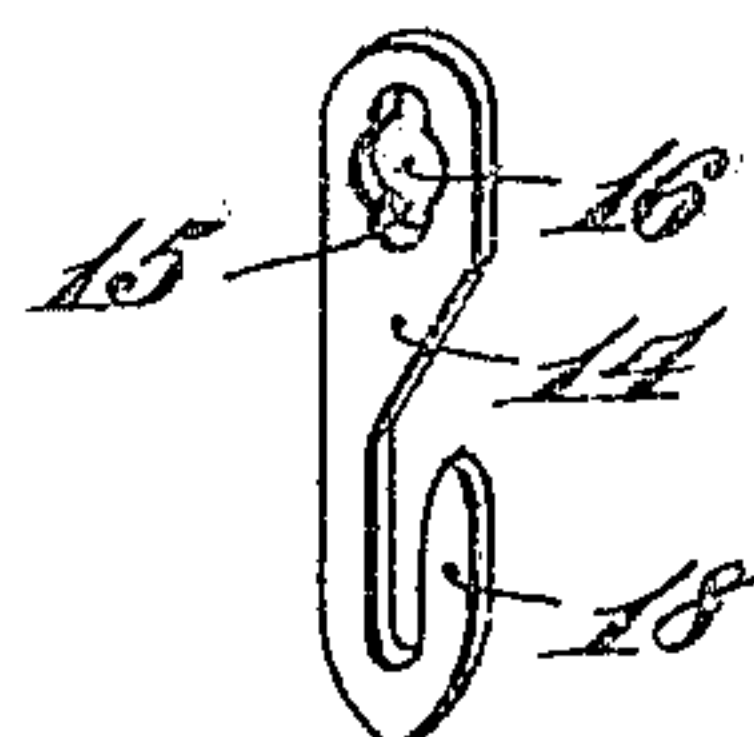


Fig. 5.



INVENTORS,  
*William Fehr, and*  
*Jacob Kaufmann,*  
BY  
*Jan C. Woburnith*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

WILLIAM FEHR AND JACOB KAUFMANN, OF PHILADELPHIA, PENNSYLVANIA, AS-  
SIGNORS TO STEEL HEDDLE MANUFACTURING COMPANY, OF PHILADELPHIA,  
PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## HEDDLE-FRAME.

952,563.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed November 27, 1908. Serial No. 464,593.

*To all whom it may concern:*

Be it known that we, WILLIAM FEHR and JACOB KAUFMANN, both citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have jointly invented certain new and useful Improvements in Heddle-Frames, of which the following is a specification.

Our invention relates to heddle frames for looms and it has particular relation to the means of supporting the heddle bars intermediate their ends.

The principal object of our invention is to provide a means of supporting the heddle bars intermediate their ends which will be simple, durable and efficient, and which will be capable of being readily assembled or taken apart.

Heretofore various means have been employed to support the heddle bars intermediate their ends to prevent their displacement or distortion, one form of such devices which is well known consisting of a hook member rigidly secured in the frame and the heddle bar being supported by the hook; this device having the disadvantage of not permitting a free sidewise movement of the heddles on the heddle bar. To overcome this disadvantage certain other forms of supporting devices have been devised, which however each have faults peculiar to their particular design, either not permitting the ready assembling of the structure or not affording the proper support against displacement of the heddle bars out of the plane of the heddle frame.

The nature and characteristic feature of our invention will be more readily understood from the following description taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is an elevational view of a heddle frame embodying the main features of our invention, Fig. 2 is a perspective view of a supporting bar and hook and attaching means, detached, the same constituting one embodiment of the principal novel elements of our present invention, Fig. 3 is a perspective view of a portion of a supporting bar, showing a manner of forming the same when it is desired to secure the same at points intermediate the ends thereof, Fig. 4 is a sectional view enlarged, taken on the line 4—4

of Fig. 1, and Fig. 5 is a perspective view of the supporting hook detached.

Referring to the drawings, the heddle frame there shown consists of the top and bottom bars 6, connected at their ends by means of the side straps 7. Extending from end to end of the heddle frame, and arranged near the top and bottom in the usual manner are the heddle bars 8 upon which the heddles 9 are mounted. The supporting bars 10 are substantially rectangular in cross section, the longer axis being disposed vertically to secure the greatest strength. At each end of the supporting bar 10 is formed an ear 11, the longer transverse axis of which is disposed horizontally, the ear 11 being perforated as at 12 for the purpose of securing the bar 10 to the heddle frame, the securing means in the present instance consisting of screws 13 which pass through the perforations 12 and are screwed into the bars 6 of the heddle frame. Slidably mounted on the supporting bar 10 is the hook member 14, which is provided with a slot 15, the top and bottom of which corresponds to the shape of the bar 10, so that the hook member 14 while free to move longitudinally on the supporting bar 10 is prevented from twisting or rotating thereon.

The central portion of the slot 15 of the hook member 14 is enlarged as at 16 to permit the hook member to be mounted on the bar 10 by first holding the hook member horizontal as it is slipped over one of the ears 11 and then turning the same to its normal vertical position as it passes on to the main or central portion of the bar 10, the enlarged portion 16 of the slot 15 permitting the hook member to be turned at the point 17 where the ear 11 of bar 10 merges into the main or central portion of the bar. It should of course be understood that the transverse dimensions of the ears should at no point exceed those of the bar proper as otherwise the hook member could not be placed on the bar, unless the slot of said hook member was of such shape or dimensions as to be too loose to be efficient in the normal location of the hook member on the supporting bar. The lower end of the hook member (see Figs. 2, 4 and 5) is provided with a hook 18 of a usual form in which the heddle bars 8 are mounted and supported.



Where it is desired to secure the supporting bar 10 at points intermediate the ends of the same, the bar is formed as shown in Fig. 3 into an intermediate ear 19 having its greater transverse axis arranged horizontally in similar manner to the ears 11 at the ends of the bar. In this instance the hook member 14 can be passed from one side of the ear 19 to the other on the bar by turning the same in similar manner, as at the ends of the bar, as it passes the points 20 where the intermediate ear 19 merges into the main portion of the bar 10. The intermediate ear 19 is also provided with a perforation 12 for the passage of a screw 13 or other securing means.

It will thus be seen that the foregoing structure affords a means of supporting the heddle bar intermediate its ends which will prevent displacement of the same in all undesired directions and which can be readily assembled or taken apart when required, for example, when it is desired to change the arrangement or number of the heddles in the frame, the supporting device also allowing a free sidewise movement of the heddles on the heddle bar.

What we claim as new and desire to secure by Letters Patent is:

1. In a heddle frame, the means for supporting the heddle bars intermediate their ends comprising a supporting bar having its longer transverse axis disposed vertically and having securing ears having transverse dimensions not exceeding the bar but the longer transverse axis of each of which is

disposed horizontally, said ears and the bar merging into each other, and a hook member in which the heddle bars are supported, said hook member being provided with a slot for mounting the same on the supporting bar, the slot being so shaped as to engage the bar at the top and bottom and having an enlarged central portion to enable the hook member when being placed on the supporting bar to pass the point where the ears merge into the bar.

2. In a heddle frame, the means for supporting the heddle bars intermediate their ends comprising a supporting bar having its longer transverse axis disposed vertically and having securing ears having transverse dimensions not exceeding the bar but the longer transverse axis of each of which is disposed horizontally, said ears and the bar merging into each other and the ears being perforated, screws passing through the perforations of the securing ears and into the heddle frame, and a removable hook member in which the heddle bars are supported, said hook member being slidably mounted on the supporting bar and having means to permit the hook member to pass the point where the ears merge into the bar.

In testimony whereof we have hereunto signed our names in the presence of two witnesses.

WILLIAM FEHR.  
JACOB KAUFMANN.

Witnesses:

HOWARD S. OKIE,  
PERCIVAL K. REED.