J. FULHABER.
PATTERN CHAIN SUPPORT.
(Application filed Mar. 29, 1899.)

(No Model.)

Fig. 1

Fig. 2

Fig. 3

WITNESSES:

INVENTOR
Jerome Fulhaber,
BY
Attorneys

THE WOOLF PETERS CO., WASHINGDON, D.C.
PATENT OFFICE.

JERÔME FULHABER, OF PATERNON, NEW JERSEY, ASSIGNOR TO F. ELIOT LOW & CO., OF SAME PLACE.

PATTERN-CHAIN SUPPORT.

Application filed March 29, 1899. Serial No. 710,889. (No model.)

To all whom it may concern:

Be it known that I, JERÔME FULHABER, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Pattern-Chain Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a support for the pattern-chain of the shedding mechanism of a loom which shall be simple, inexpensive, and durable in construction and effectively operative and whose parts shall be adjustable.

The invention consists in the improved pattern-chain support and in the combination and arrangement of its various parts substantially as will be hereinafter pointed out and finally embodied in the clauses of the claim.

The invention is fully illustrated in the accompanying drawings, wherein—

Figure 1 is a view in side elevation of the end portion of a loom and of my improved pattern-chain support operatively connected therewith. Fig. 2 is an enlarged top plan view of my improved pattern-chain support. Fig. 3 is a view in side elevation, also enlarged, of my invention; and Fig. 4 is a side view of a certain modified form of my invention.

In said drawings, o designates a portion of one end of a loom-frame upon which are carried in the usual manner shuttle-boxes and their operating mechanism b, the batten c and its accessory parts, and the shedding mechanism d, including a pattern-chain cylinder e.

f is the usual rack, employed in a loom of the Knowles pattern for sustaining the device for guiding the pattern-chain clear of certain projecting parts of said loom. Said rack usually consists of a pair of parallel arms f', slightly curved downwardly and connected near their ends by a suitable rod f''

I make use of the above-mentioned rack as a means for partially sustaining my improved pattern-chain support, as will be hereinafter more particularly described.

My improved pattern-chain support may be thus described:

g' g'' are a pair of flat bars or elongated plates which are adapted to be disposed in a relatively parallel arrangement and constituting guides for the pattern-chain, the inner 60 face of each being for this purpose by preference provided with a longitudinal flange h', situated appreciably below the upper edge of said bar or plate.

i designates a hook that is formed at the inner end of each of the bars or plates g' g'', said hook being offset from its respective plate and extending parallel to the same. When the parts are properly assembled, said hooks are closer together than the bars or plates themselves.

In the shank portion of each hook i is formed an orifice j, whereby each bar is fulcrumed upon a bolt j, (shown in dotted lines in Fig. 2) that is adapted to be secured to each arm f' of the rack f, each of said hooks being adapted to engage the rod f', which connects said arms. Each bar or plate g' g'' is therefore adapted to be supported—in case for any reason the supports for their free ends are not in use—by one of the bolts f' and the connecting-rod f'' of the arms of the rack f. As a further means for firmly supporting said bars or plates under the above-mentioned circumstances I provide an integral projection k, that is formed between the end of each bar or plate and its hook i, the under side of said projection being curved and adapted to rest upon the top of the corresponding arm f' of the rack f'. The top side of said projection is also curved for a purpose hereinafter referred to.

The free ends o o', respectively, of the bars or plates g' g'' are turned upwardly, each flange h being correspondingly deflected, as at p. Said flanges are again deflected at p'', thus forming pockets p''. In proximity to the bend of the bend thus formed in each bar or plate an upwardly-projecting stud q is provided, which, with the corresponding stud of the other bar or plate, provides a support for a shaft r, having nuts r' r'' disposed each side of each of said studs.
for firmly and adjustably holding the shaft in position.

$s$ designates sprocket-wheels, which are journalled on said shaft and which carry the pattern-chain.

$t$ denotes a pair of standards having enlargements or heads $t'$ on their upper ends, which are penetrated by the shaft $r$ and which may be secured thereto by nuts $f$. The lower ends of these standards are adjustably sustained upon suitable supports $u$, having slots $u'$, which are penetrated by bolts $u''$ at the lower ends of said standards. These standards constitute the normal support for the free ends of the bars or plates, and it should be remarked that the bars or plates have sufficient pivotal movement about their fulcrums in the bolts $j$ to make material the provision of the feature of adjustability in said standards.

$v$ designates a downwardly-extending projection that is formed with each bar or plate $g$ and from whose outer face projects a pair of lugs $v'$. To these lugs is adapted to be secured an inwardly-projecting guide $w$, having a bifurcated shank $w'$, that receives a bolt $w''$, which extends between said lugs, and thus removably secures said guides in place.

$z'$ are lugs formed upon the bars or plates and projecting upwardly therefrom, said lugs being connected by a rod $z$, whereby the bars or plates are firmly maintained in their proper positions.

$\nu$ denotes the pattern-chain. Said pattern-chain is of the usual construction, some of the rods which connect its links and which are selected at uniform intervals being somewhat longer than the remaining rods.

In the modified form of my invention shown in Fig. 4 the support is not connected to or partially sustained by the loom, but is provided with another standard $f$ for sustaining the end of said support which is adjacent the loom, the upper end of said standard and the two bars or plates of the support being penetrated by a bolt. This standard $f$ is mounted upon a suitable support or base $u''$, with which it has an adjustable connection, as by a slot

$u''$ in said support or base and a bolt $u''$ in the standard and penetrating said slot.

In operation the pattern-chain is fed downwardly from the shedding mechanism onto the upper curved surfaces of the projections $k$ of the pattern-chain support, whereupon that portion thereof which includes its shorter rods gradually falls down between the two bars or plates $g$, while the ends of its longer rods come in contact with and slide down upon the flanges $h$ of said bars or plates, thus forming a series of loops $m$ in the chain. Since the flanges are disposed beneath the upper edges of the bars or plates, the ends of the longer rods are adapted to abut against the inner sides of said bars or plates. Thus provision is made in the bars or plates themselves for guiding the longer rods of the pattern-chain. As fast as the loops are formed the pattern-chain is again fed back to the shedding mechanism, passing over the freely-movable sprocket-wheels $s$. The guides $w$ are especially adapted for use when the shuttle-box structure projects so far outwardly that some means should be provided for preventing the loops of the pattern-chain from coming into engagement therewith.

It will be observed upon reference to the drawings that the standards $t$ are not so high but that there is appreciable inclination in the bars or plates $g$. Owing to this and to the fact that the free ends of said flanged bars or plates are turned upwardly, as fast as the loops are formed they are gathered together in the smallest compass possible by force of gravity.

It will be apparent that the pattern-chain may be fed in a direction reverse to that which I have hereinbefore described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent is:

1. A pattern-chain support consisting of a pair of parallel inclined bars constituting guides and adapted to engage the chain at intervals to form loops therein, means for supporting said bars, and inwardly-projecting parallel guides disposed below, and suspended from, said bars, said last-named guides being adapted to be engaged by the remaining or loop portions of the chain, substantially as described.

2. A pattern-chain support consisting of a pair of parallel inclined bars, means for supporting said bars, said bars having longitudinal flanges disposed upon their adjacent faces appreciably below the top edges thereof and deflected upwardly at their lower ends to form pockets, and inwardly-projecting parallel guides disposed below, and suspended from, said bars, substantially as described.

3. In a loom, the combination, with the frame thereof, of a pattern-chain support having an operative pivotal connection with said frame at one of its ends, and adjustable sustaining means for the other end of said support, substantially as described.

4. In a loom, the combination, with the frame thereof, of a pattern-chain support comprising a pair of inclined parallel bars having flanges on their adjoining faces, said bars having an operative pivotal connection with the loom-frame near one of their ends, and adjustable sustaining means for the other ends of said bars, substantially as described.

5. In a loom, the combination, with the frame thereof and a rack projecting therefrom, of a pattern-chain support comprising a pair of inclined parallel bars having flanges on their adjoining faces, being fulcrumed in said rack and having hooks engaging the same, and adjustable sustaining means for the free ends of said arms, said flanges being upwardly deflected near their outer ends, substantially as described.
6. In a loom, the combination, with the frame thereof and a rack projecting therefrom, of a pattern-chain support comprising a pair of inclined parallel bars having flanges on their adjoining faces, being fulcrumed in said rack and having hooks engaging the same, guides carried by, and suspended from, said bars, and adjustable sustaining means for the free ends of said bars, said flanges being upwardly deflected near their outer ends, substantially as described.

7. In a loom, the combination with a suitably-supported rack comprising parallel inclined arms having their lower extremities curved downwardly and a rod connecting said arms, of a pair of parallel inclined bars pivotally connected to the lower ends of said arms and provided with offset hooks adapted to engage said rod and with projections having curved upper and under faces and adapted to bear upon the curved ends of said arms, said bars having longitudinal flanges disposed upon their adjacent faces appreciably below the top edges thereof and deflected upwardly at their lower ends to form pockets, inwardly-projecting parallel guides disposed below, and suspended from, said bars, a sprocket-wheel journaled in the lower end of each of said bars, and adjustable standards supporting the lower ends of said bars, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of March, 1899.

JERÔME FULHABER. [L. S.]

Witnesses:

JOHN W. STEWARD,
WAYNE DUMONT.