No. 780,925. PATENTED JAN. 24, 1905.

A. WEIMAR.

PATTERN CHAIN.

APPLICATION FILED MAY 12, 1903.

Fig. 1.

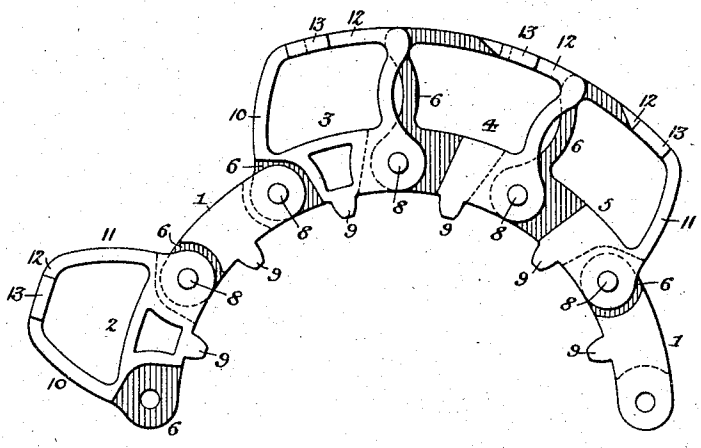


Fig. 3.

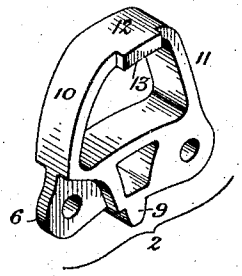


Fig. 2.

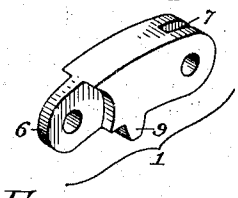


Fig. 4.

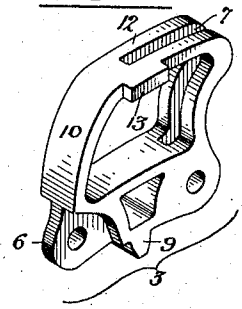


Fig. 5.

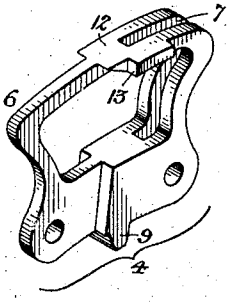
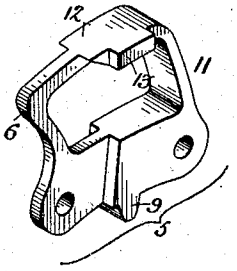


Fig. 6.



Witnesses:-

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by his Attorneys:

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 780,925. Patented January 24, 1905

UNITED STATES PATENT OFFICE.

ANDREW WEIMAR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM D. WEIMAR, OF PHILADELPHIA, PENNSYLVANIA.

PATTERN-CHAIN.

SPECIFICATION forming part of Letters Patent No. 780,925, dated January 24, 1905.

Original application filed October 1, 1901, Serial No. 77,239. Divided and this application filed May 12, 1903, Serial No. 156,811.

To all whom it may concern:

Be it known that I, ANDREW WEIMAR, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Pattern-Chains, of which the following is a specification.

My invention consists of a pattern-chain for use in connection with a loom for the purpose of operating the heddles of the same—as, for instance, in the manner set forth in my application for patent, Serial No. 77,239, filed October 1, 1901, of which application this is a division.

The peculiar construction of the chain permits of a continuous movement of the same by providing proper support for the levers in either extreme position of adjustment of the same during the time that the shed of warp-threads has to be held open for the passage of the shuttle.

In the accompanying drawings, Figure 1 is a side view of part of the pattern-chain; and Figs. 2, 3, 4, 5, and 6 are perspective views of the different links of which the chain is composed.

The chain is composed of five different forms of link—namely, the low link 1, the single lift-link 2, and the three group-links 3, 4, and 5. Each link has a base or coupling portion with tongue 6 at one end and a slot 7 at the opposite end, the tongue of one link fitting into the slot of the adjoining link and being coupled thereto by means of a pin 8, and each link also has a downwardly-projecting tooth 9 for engagement with the sprocket-wheel, whereby the movement of the chain is effected. The single lift-link 2 has a riser 10, a dropper 11, and an elevated dwell portion 12, connecting said riser and dropper. The group-link 3, which serves as the lifter member of a group, has a riser 10 and an elevated dwell portion 12; but the opposite end of said link has the slot 7 carried up into the elevated dwell portion 12 for the reception of the correspondingly-elevated portion of the tongue 6 of the following group-link, the dwell portion of the link extending, it will be observed, at the front and rear to a line drawn radially through the pivot-pin of the link from the center of the curve presented by the periphery of the link, so that any two of the links of the group will overlap and provide a continuous elevated surface throughout the extent of the group. The group-links 4 serve as carrier-links, and each of these links has the projecting tongue 6 at the front and the slot 7 at the rear carried up into the elevated dwell portion of the link. Each dropper-link 5 has its tongue 6 carried up into the dwell portion of the link, but at the rear is provided with a dropper 11. Each of the high links has upon its elevated tread portion 12 a laterally-projecting lug 13, which by contact with a laterally-adjoining link will serve to prevent lateral turning or twisting of either link, and thus preserve the entire series of links in proper lateral position and prevent any strain upon either link or upon the pivot-pins due to lateral pressure upon the links.

By inserting between the riser and dropper links of a group more or less of the carrier-links a dwell of any desired duration in one position of the heddle can be effected, and any desired length of dwell in the other position of the heddle may be effected by the use in succession of more or less of the low links.

The rise or drop portion of each link only extends throughout about one-half as many degrees of arc as the dwell, so that even in the case of a single lift-link an open shed is maintained for a sufficient length of time to permit of the proper insertion of the weft-shoot without necessitating intermittent movement of the chain.

The dwell portion of each link of the chain is of the same width as the base portion, so as to impart to the link the strength necessary to enable it to resist the thrust upon it and provide a broad surface for the support of the rollers upon which the pattern-chain acts, thereby preventing the cutting or grooving of the latter.

I have shown the links as provided with slots for receiving the tongues of the follow-

ing links; but simple recesses may be used, if desired, and such recesses are considered to be the equivalent of the slots.

Having thus described my invention, I claim and desire to secure by Letters Patent–

1. A pattern-chain link having a base portion and an elevated dwell portion, the base portion having a forward tongue and a rear slot for the reception of the tongue of the next link, and the elevated dwell portion being of the same width as the base portion, substantially as specified.

2. A pattern-chain link having a base portion and an elevated dwell portion, the base portion having a forward tongue and a rear slot for the reception of the tongue of the next link, and the elevated dwell portion being of the same width as the base portion and having the forward tongue of said base portion carried up into it, substantially as specified.

3. A pattern-chain link having a base portion and an elevated dwell portion, the base portion having a forward tongue and a rear slot for the reception of the tongue of the next link, and the elevated dwell portion being of the same width as the base portion, and having the rear slot of said base portion carried up into it, substantially as specified.

4. A pattern-chain link having a base portion and an elevated dwell portion, the base portion having a forward tongue and a rear slot for the reception of the tongue of the next link and the elevated dwell portion being of the same width as the base portion, and having both the forward tongue and the rear slot of said base portion carried up into it, substantially as specified.

5. A pattern-chain having high links with laterally-projecting lugs on their high portions for contact with adjoining links to prevent lateral deflection, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANDREW WEIMAR.

Witnesses:
FRANK E. BECHTOLD,
JOS. H. KLEIN.