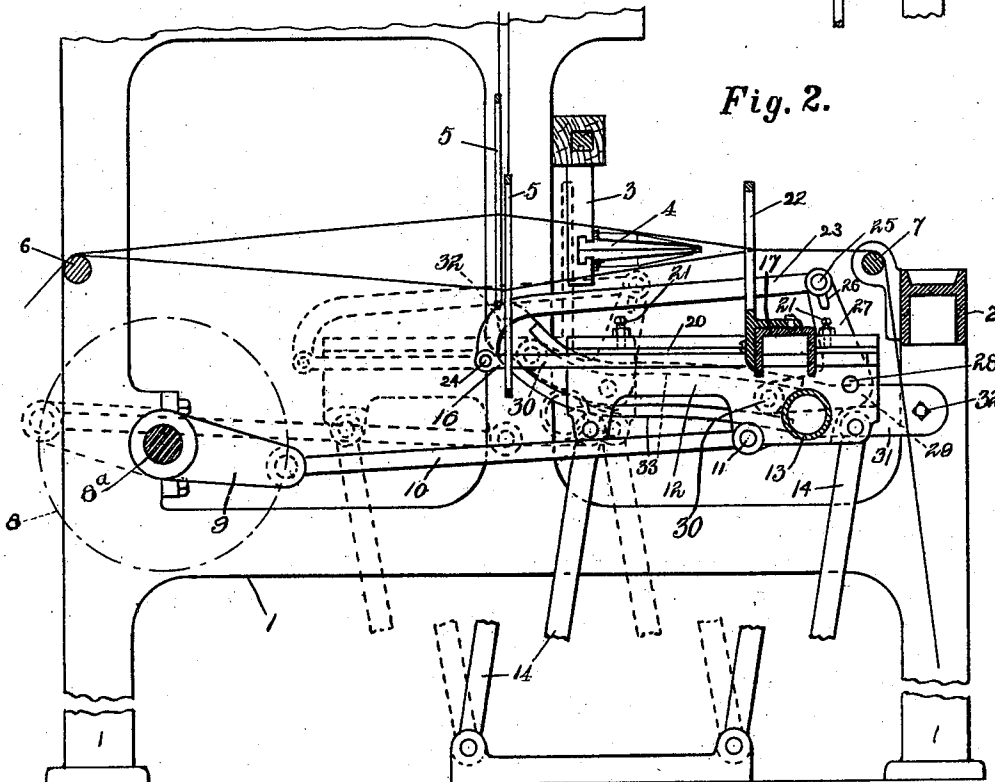
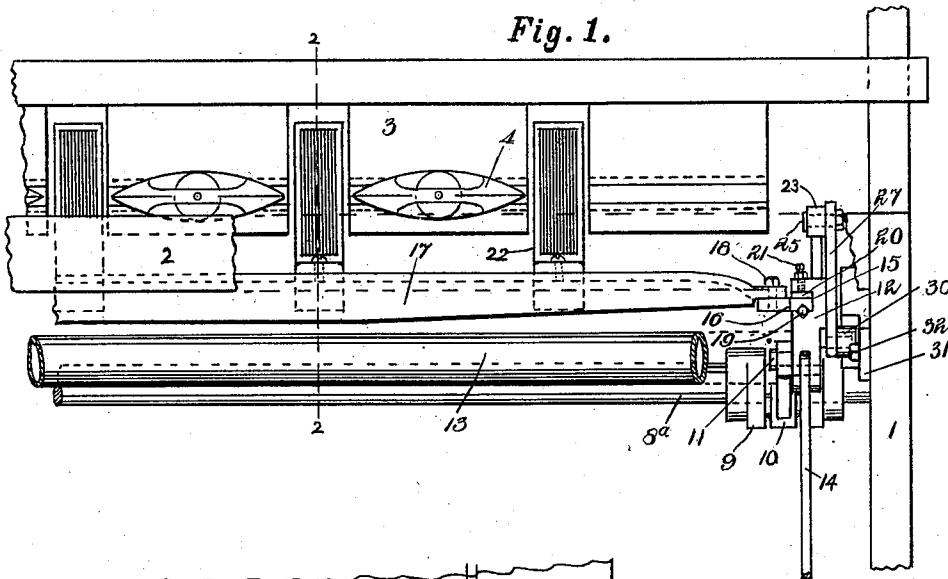


S. KENDRICK.
LOOM ATTACHMENT.
APPLICATION FILED MAR. 29, 1910.

981,656.

Patented Jan. 17, 1911.



WITNESSES:

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LOOM ATTACHMENT.

981,656.

Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed March 29, 1910. Serial No. 552,209.

To all whom it may concern:

Be it known that I, SOLOMON KENDRICK, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Loom Attachments; 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.

This invention relates to improvements in loom attachments.

In Patent No. 919,023 of April 20, 1909, there is shown mechanism whereby the movable batten carries a reed thereon, which reed is movable conjointly with and independently of said batten in such a way that during the initial part of the batten's return stroke the reed remains behind the shuttle race, causing a substantial dwell, during which dwell the shuttle passes through the shed in front of the reed before the reed starts to move forwardly on its return stroke.

In the construction referred to the reed is operated independently of the batten by mechanism comprising a chain of elements leading to a lever and cam driven by the driving wheel, and the object of the present invention is to carry out the same end with a simplified mechanism whereby the reed is operated independently of the batten member by mechanism cooperating with the batten member itself, and not through intervening mechanism leading to the driving wheel. Owing to the fact that the reed is carried by the batten member there is to a certain extent a dependent movement of the reed with the batten, and, of course, by the expression "independent movement of the reed" it will be understood that the movement is an independent movement relatively to the movement of the reed.

The particular features of novelty are pointed out in the appended claims, and it will be understood that the invention is not restricted to the exact details shown and described, although for the purpose of disclosure reference is had to the accompanying drawings, in which like characters designate the same parts in the several views, and in which—

Figure 1 is a view in front elevation partly broken away, and Fig. 2 is a vertical section on the line 2—2 of Fig. 1, the lower portion being partly cut away.

1 designates the loom framework provided with a breast beam 2, shuttle race 3, shuttles 4, heddles 5, warp rolls 6, web bar 7, driving wheel and shaft 8, 8^a, with crank 9 connected by a pitman 10, as at 11, with the batten member or frame 12 having the cross bar 13, which batten member or frame is supported by the swinging legs 14 suitably pivoted at their lower ends.

The foregoing construction is substantially the same as my patent heretofore mentioned, and needs no further description.

The inside faces of the side bars of the batten frame 12 are recessed longitudinally, as at 15, and in these recesses are disposed the inner edges of slide bars 16, to which is secured the reed holding frame 17 by means of the bolts 18, the lower face of the recesses and the underneath faces of the slides being grooved to form a ball bearing raceway 19, 20 designating adjustable slide caps disposed in the recesses between the upper faces thereof and the upper faces of the slides 16 and held by the cap adjusting studs 21, compensating for wear and holding the slide plate 16 against loose action. As many reeds 22 as may be provided for are suitably secured to the reed holding frame 17 carried by the slides 16.

23 designates connecting arms between the slides and bell crank levers, the rear end of said arms being curved downwardly and pivoted, as at 24, to the slides 16, and the forward ends of said arms being provided with a pivot pin 25 riding within a curved slot 26 in the vertical arm 27 of the bell crank levers pivoted, as at 28, to the batten frame, the horizontal arm 29 of said levers being provided with a stud pin 30 engaging cam members 31 secured to the framework of the loom, as at 32, by suitable bolts.

The cams 31 are provided with cam faces 33, which curve downwardly at their forward ends and upwardly at their rear ends, providing an intermediate substantially dead surface, and between the cam faces 33 ride the studs 30 of the bell crank levers.

From the foregoing, and from the position shown by the reeds and the bell crank

levers in Fig. 2, it will be seen that as the batten initially starts rearwardly the studs 30 ride up a slight incline between the cam faces 33, elevating the short arm 29 of the bell crank levers, throwing the long arms 26 slightly forward, and through the connecting arms 23 the slides 16 and the reeds are moved slightly forward to press the last weft thread, or shoot, up against the woven fabric.

Continued rearward movement of the batten will cause the studs 30 to ride along the dead portion of the cam surfaces 33, and hence during this period the batten member and reeds move rearwardly together and immovable relatively to each other, until the studs reach the upwardly curving rear cam faces, whereupon during the latter portion of the batten's rearward stroke the long arms of the bell crank levers are tilted forwardly, shoving the slides 16 and reeds 22 forwardly while the batten is still moving rearwardly.

When the reeds go behind the shuttle race and the batten starts to move forwardly, the studs riding down the rear curved cam faces will throw the long arms of the bell crank levers rearwardly tending to move the reeds rearwardly, but as the batten is going forward the reeds are simply retarded or practically remain stationary relatively to the forwardly moving batten, and during this dwell the heddles or harness is shifted and the shuttles pass through the sheds in the opposite direction, whereupon the studs having reached the dead surfaces of the cams the reeds will move forwardly conjointly with the batten member.

It will be observed that the slots 26 lie in arcs struck from suitable points, in order that as the arms 27 are shifted the arms 23 will not be bound by their two pivotal axes 24 and 25. It will also be understood that while I have described various parts in duplicate, one set on each side of the loom, owing to the fact that the reed holding frame 17 with the slides 16 are supported by ball bearings, it will be possible to employ only one bell crank lever, connecting arm, and cam.

Having thus described the invention, what I claim is:—

1. In a loom, the combination of a batten member, a reed movably mounted thereon, and connections between said batten member and reed, operated relatively to the batten member by the movement of said batten member, to impart motion to said reed independently of said batten member during a portion of the latter's stroke, substantially as described.

2. In a loom, the combination of a batten member, a reed movably mounted thereon, and connecting mechanism between said

reed and batten member and operated relatively to the batten member by said batten member, during the latter's movement, for retarding the movement of said reed while said batten member is moving and while the shuttle is passing laterally forward of said reed, substantially as described.

3. In a loom, the combination of a batten member, a reed carried by said batten member and movable conjointly with and independently thereof, cam mechanism, and mechanism carried by said batten member and forming a connection between said reed and cam mechanism, said connecting mechanism being operated relatively to the batten member by the movement of the batten member coöperating with said cam mechanism, substantially as described.

4. The combination of a batten member, a reed movable conjointly with and independently of said batten member, a stationary cam member, and means carried by said batten member and disposed between said reed and said cam member for operating said reed independently of said batten member by the movement of the latter, substantially as described.

5. The combination of a batten member, a reed movable conjointly with and independently thereof, a stationary cam member, a bell crank lever pivotally mounted on said batten member and provided at one end with a stud engaging said cam member, and connecting mechanism between the other end of said bell crank lever and said reed, substantially as described.

6. The combination of a batten member, a slide carried by said batten member and movable axially independently of said batten member, a reed mounted on said slide, a stationary cam member, and means connected to said slide at one end and coöperating at the other end with said cam for moving said reed independently of said batten member and in directions opposite to the direction of movement of said batten member, substantially as described.

7. The combination of a batten member, an axially movable slide mounted thereon, a reed carried by said slide, a stationary cam member mounted independently of said batten member, a bell crank lever pivoted to said batten member and provided on one arm with a stud engaging said cam, and a connecting lever pivoted to the other arm of said bell crank lever at one end and to one end of said slide, substantially as described.

8. The combination of a batten member comprising a horizontally movable frame the side bars of which are provided with longitudinal recesses on their inside faces, slides mounted in said recesses and projecting inwardly therefrom, adjacent grooves

being formed in said slides and in the wall
of each recess forming a ball bearing race-
way, balls in said raceway, a reed support-
ing member mounted on said slides, means
5 for operating said batten, and means for op-
erating said slides forwardly during the
latter part of said batten's rearward stroke
and rearwardly during the initial part of

said batten's forward stroke, substantially
as described.

In testimony whereof, I affix my signa-
ture, in presence of two witnesses.

SOLOMON KENDRICK.

Witnesses:

KATHRYN C. DRISCOLL,
BERTIE A. LAUER.