(No Model.) 2 Sheets—Sheet 1.

R. T. MARKEE.

JACQUARD HARNESS EVENING MECHANISM FOR LOOMS.

No. 492,038. Patented Feb. 21, 1893.

Fig. 1.

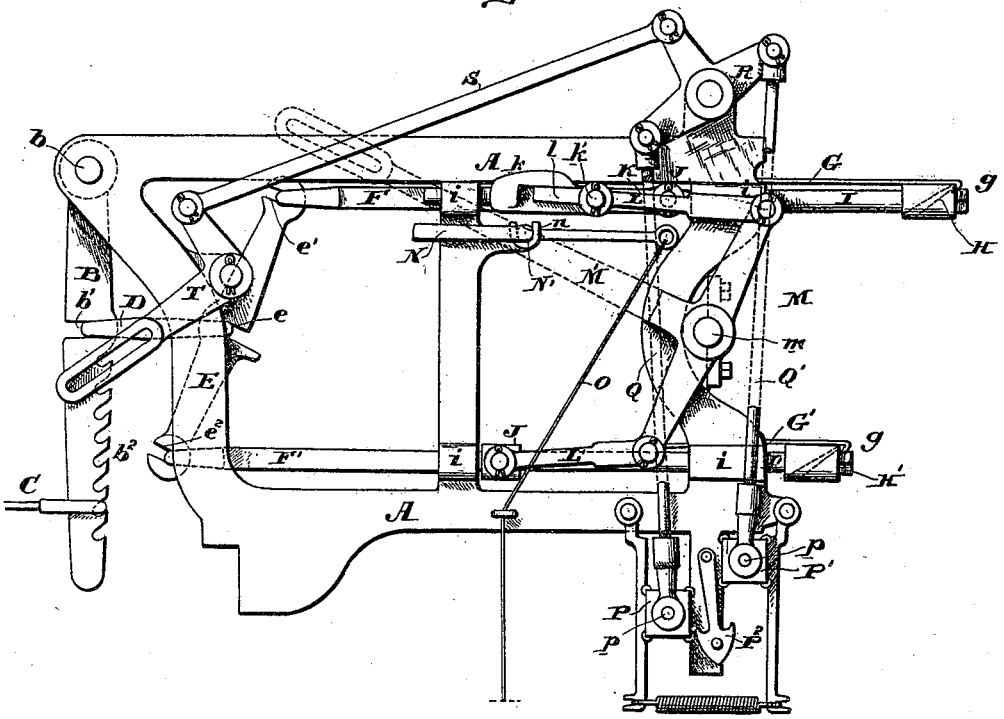
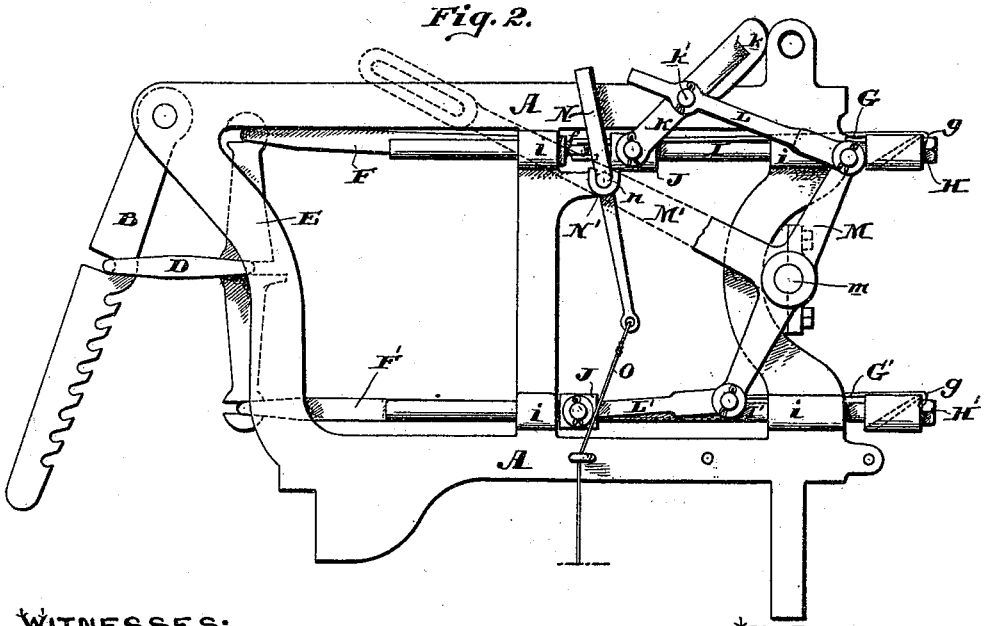


Fig. 2.



WITNESSES:
David S. Williams.
H. F. Graybill

INVENTOR:
Reuel T. Markee
by his attorney
Francis T. Chambers

(No Model.) 2 Sheets—Sheet 2.

R. T. MARKEE.

JACQUARD HARNESS EVENING MECHANISM FOR LOOMS.

No. 492,038. Patented Feb. 21, 1893.

Fig. 3.

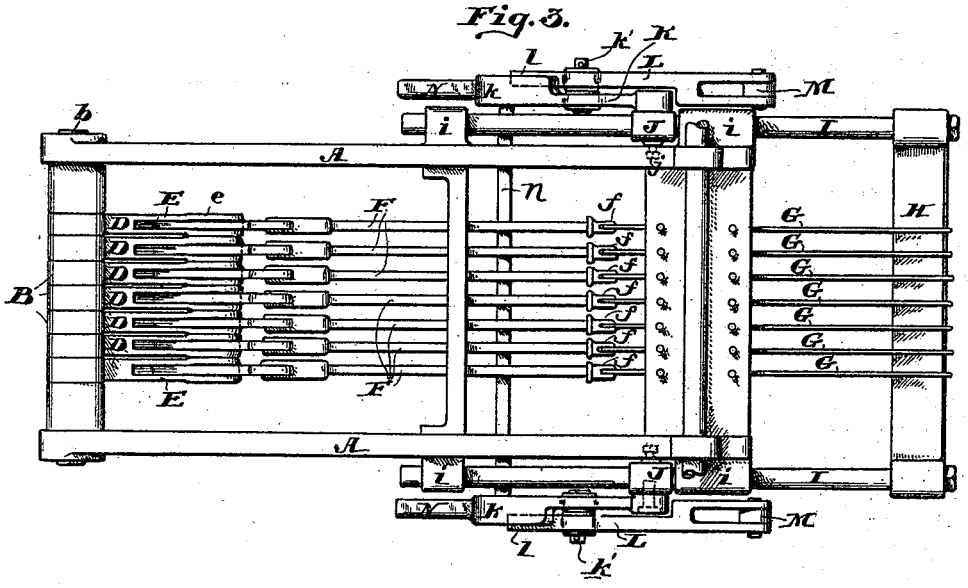
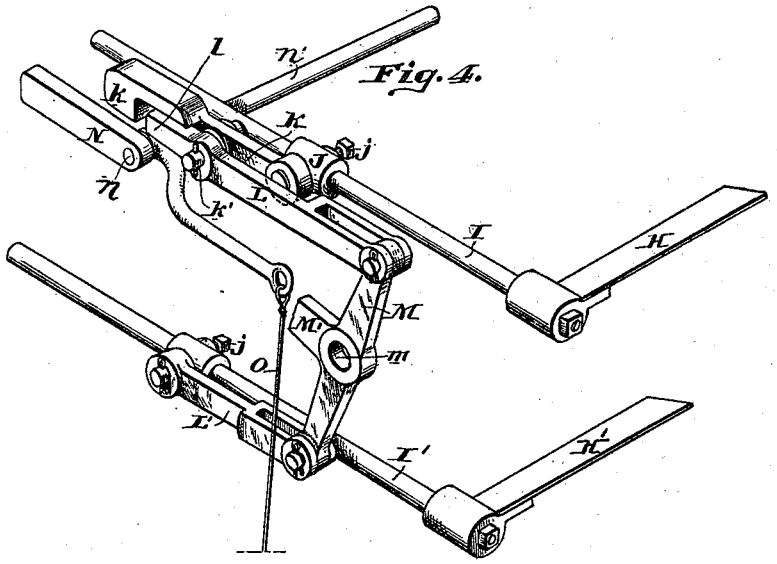


Fig. 4.



WITNESSES:

David D. Williams

H. F. Graybill

INVENTOR:

Reuel T. Markee

by his attorney

Francis T. Chambers

UNITED STATES PATENT OFFICE.

REUEL T. MARKEE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO SCHAUM & UHLINGER, OF SAME PLACE.

JACQUARD HARNESS-EVENING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 492,038, dated February 21, 1893.

Application filed May 20, 1890. Serial No. 352,459. (No model.)

To all whom it may concern:

Be it known that I, REUEL T. MARKEE, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented a certain new and useful Improvement in Jacquard Harness-Evening Mechanism for Looms, of which the following is a true and accurate description, reference being had to the drawings which form a part of this specification.

My invention relates to dobbies and Jacquard machines for looms, and has for its object to provide a novel construction whereby the griff frames of a double lift machine shall have in addition to their ordinary reciprocating motion a capacity for being thrown out of operative connection with their actuating mechanism so that both sets of hooks can be lowered at the same time and to the same level; this capacity being desirable in adjusting the machine for work. I accomplish this by interposing in the mechanism which operates the griff frame an adjustable connection which normally forms simply a device for communicating motion to the griff frame, but by moving which the actuating mechanism is thrown out of operative connection with the frame.

The nature of my invention will be best understood as described in connection with the drawings in which I have illustrated my improved device in the form which I believe to be best adapted for practical use.

In the drawings Figure 1 is a side elevation showing my device in connection with the parts of the machine adjacent thereto; Fig. 2 is a similar side elevation showing how my improved device operates in disconnecting one of the griff frames from operative connection with the actuating mechanism; Fig. 3 is a plan view of the machine, and Fig. 4 a perspective view of my improved device in its preferred form.

A is the frame of the machine; B the harness operating lever pivoted to the frame at b and having notches b^2 in which the harness connection C is adjustable.

D is a link pivoted to the lever B at b' and to the centrally pivoted lever E at e.

F and F′ are rods pivoted to the lever E at e' and e^2, and connected with the hooked rods G G′.

All of the above parts exist in the machine in any desired number; Fig. 3 of the drawings showing seven of them arranged side by side.

H and H′ are the griffs over which the hooked ends g of the rods G G′ engage.

I I I′ I′ are the griff frames rigidly connected with the griffs H and H′, and, as shown, sliding in bearings i i &c. formed on the frame A.

M is the double bell crank lever pivoted to the frame at m and actuated by some convenient connection from the driving shaft, the motion of which is communicated to the griff frames to give them a reciprocating movement in their bearings.

L L′ are links or connecting rods pivoted at the ends of the lever M and which in ordinary machines of a similar kind are also pivoted directly to the griff frame, or rather to a pin secured to said frame.

The chief feature of my invention consists in interposing in the griff operating mechanism an adjustable device which in normal position will enable the operating lever to communicate its motion to the griff frame as usual, and which can be adjusted so as to break the operative connection between the said lever and said frame. This is most conveniently done in the way shown in the drawings, where, instead of pivoting the connecting rods L to the griff frame they are each pivoted at k' to a link K which in turn is pivoted to the griff frame at J; the pivotal connection there shown being one consisting of a pin attached to a sleeve and clamped upon one of the rods I by a set screw j. The normal operative position of the link K is as shown in Figs. 1, 3, and 4; that is, extending out substantially in line with the griff frame, and it is prevented from falling below its normal operative position by means of a stop which may be secured in any convenient place, but is most conveniently provided by having the said link rest upon the end of the connecting link L or an extension therefrom. Care must be taken in the construction and arrangement of the parts that the line connecting the pivots of the links L when in operative position shall fall below the pivotal connection of the link K with the griff frame.

In this way the pull of the connecting link L tends to hold the link K in operative position, while if the said line connecting the pivots came above the pivotal connection J the pull of the connecting link would tend to raise the link K, and it would be necessary to provide some positive fastening to hold it in place. Preferably, I pivot the link L to the link K at a point k' intermediate the ends of the link K, and I weight the projecting end of the said link K as indicated at k; and preferably also I extend the end of the link L beyond its pivotal connection at k', as indicated at l, and form the end k of the link K so that it will rest upon the said projecting end l, which thus serves as a stop to hold the link K in normal operative position.

While, of course, the link K can be thrown out of operative position by hand, it is convenient to have some device in the nature of a trip by which it can be thrown up when desired. Any convenient trip device can be used for this purpose, but preferably I employ a lever N pivoted to a bracket N′ extending from the frame A; n indicating the pivot rod, which in the construction shown is common to two levers N placed one at each side of the machine. One end of this lever, or the levers, is placed beneath the end k of the link K, and to the other end is attached a cord O, by drawing down upon which the lever N is thrown into the position indicated in Fig. 2, and the link K pushed upward so as to throw the pivotal connection k' above the pivotal connection J, in which case the backward movement of the link L simply draws the link K into the position shown in Fig. 2 without moving the griff frame I I or the griff H carried thereby. The forward movement of the links L pushes the links K forward, and at the end of this stroke of the connecting links L the links K are again in their normal operative position.

The rest of the machine shown in the drawings is of ordinary and well understood construction.

P and P′ are the cylinders; P^2 a hook device by which the cylinders are rotated as they reciprocate on the ends of the rods Q and Q′, which rods are attached to a double bell crank lever R actuated by the connections S and T as shown.

An important use for the lever N is to serve to catch the griff frame as it falls and prevent too violent a shock. The clamp holding pivot pin J, for instance, strikes against the lever N and the operator holding the cord O regulates the final speed of the griff frame as it falls back.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a griff frame, a link K pivoted thereon, and the operating link and levers connected to said link K, all substantially as shown and described and so that by moving the link K the operating lever and link may move independently of the griff frame.

2. In combination with a griff frame, a link K pivoted thereon, a stop placed to hold the link K in its normal position substantially in line with the frame, an actuating lever M, and operating link, L, pivoted to link K and to the actuating lever M so that the line between the pivots of link L will pass below the pivotal connection of link K and the griff frame when said link K is in normal operative position.

3. In combination with a griff frame, a link K pivoted thereon, a stop placed to hold link K in its normal position substantially in line with the frame, an actuating lever M, a link L pivoted to link K and to the operating lever so that the line between its pivotal points will fall below the pivot of the link K on the frame, when said link is in normal operative position and a trip, as N, arranged to throw the end of the link K up as and for the purpose specified.

4. In combination with a griff frame, a link K pivoted thereon, a stop placed to hold link K in its normal position substantially in line with the frame, an actuating lever M, a link L pivoted to the link K intermediate of its ends and to the operating lever so that the line between its pivotal points will fall below the pivot of the connected link K on the frame when said link is in normal operative position and a pivoted trip lever N arranged to act on the projecting end of link K and throw it up as and for the purpose specified.

5. In combination with a griff frame, a link K pivoted thereon, an actuating lever, a link L pivoted to link K intermediate of its ends and to the operating lever, said link L having a projecting end l extending beneath the end k of link K and serving as a stop to hold said link in normal operative position, all substantially as and for the purpose specified.

REUEL T. MARKEE.

Witnesses:
GEORGE E. HOUSE,
FRANCIS T. CHAMBERS.