(No Model.)

T. HALTON.

JACQUARD MECHANISM FOR LOOMS.

No. 577,744. Patented Feb. 23, 1897.

FIG. 1.

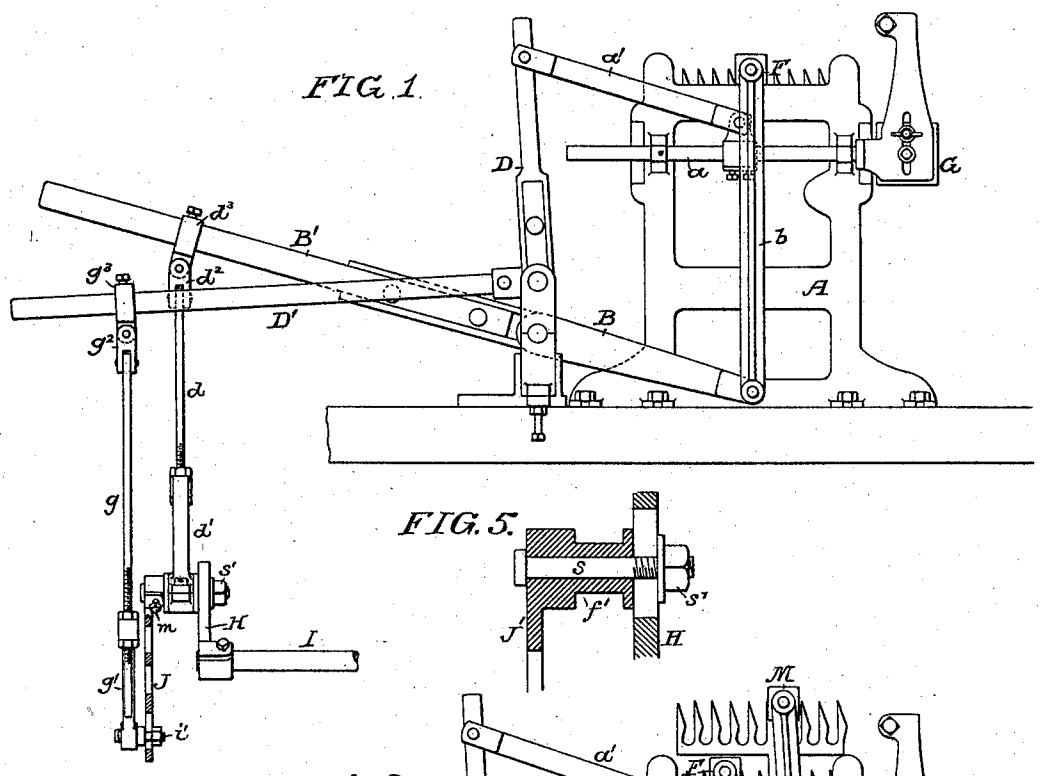


FIG. 5.

FIG. 2.

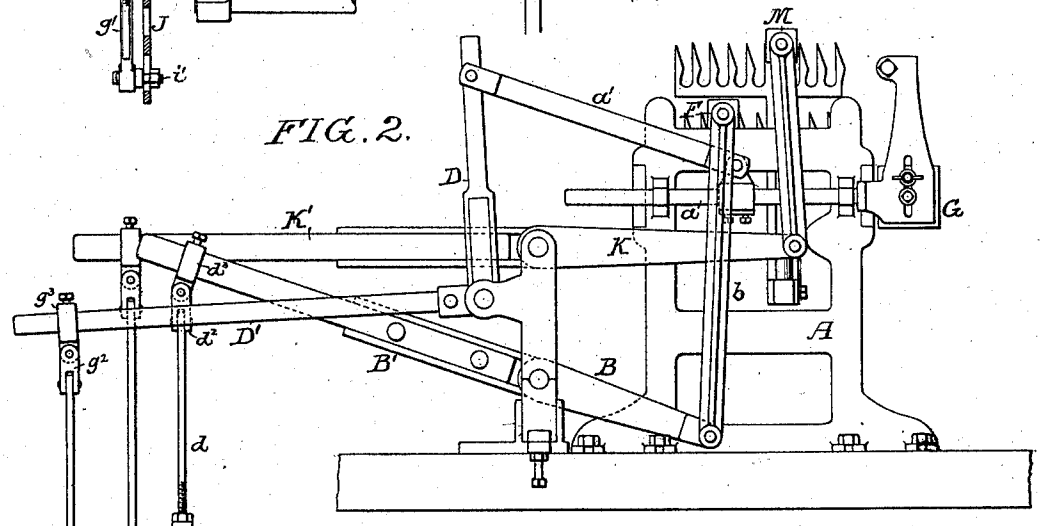


FIG. 4.

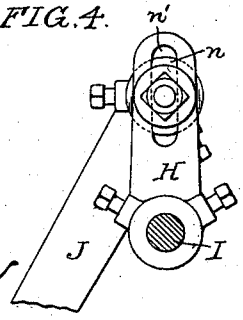
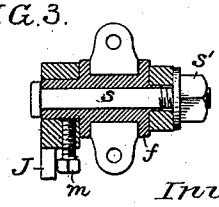


FIG. 3.



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JACQUARD MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 577,744, dated February 23, 1897.

Application filed February 17, 1896. Serial No. 579,552. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HALTON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Jacquard Mechanism for Looms, of which the following is a specification.

The object of my invention is to operate the griff frame or frames and Jacquard cylinder of a Jacquard machine from the same shaft, but independently, and to provide for varying the time of one part in respect to the other to accord with practical requirements. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of sufficient of a "single lift" Jacquard machine to illustrate the application of my invention thereto. Fig. 2 is a similar view illustrating the application of my invention to a "rise-and-fall shed" Jacquard machine. Fig. 3 is an enlarged transverse section of that part of the device to which my invention particularly relates. Fig. 4 is a side view of the same, and Fig. 5 is a sectional view illustrating a modification of part of the invention.

In Fig. 1, A represents part of the frame of a Jacquard machine; F, the griff-frame; B B′, the operating-lever therefor; G, the card-cylinder, and D D′ the operating-lever therefor. The card-cylinder is carried by the usual guided rods a, connected to the arms D of the operating-lever by links a', while the griff-frame is connected to the arms B of its lever by links b.

The arm B′ of the griff-frame-operating lever is connected by a rod $d\ d'$ to a crank-pin f, carried by a crank-arm H on the operating-shaft I, the latter being any available rotating shaft of the loom. The portion d' of the connecting-rod has a two-part bearing for the reception of the crank-pin and the portion d of the rod is threaded and provided with nuts whereby it can be adjusted longitudinally in respect to the portion d', the outer end of said portion d of the rod being connected by a universal link d^2 to an adjustable block d^3 on the arm B′. In like manner the arm D′ of the operating-lever for the card-cylinder is connected by means of a rod $g\ g'$, link g^2, and block g^3 to a pin i on an arm J, which is rotatably mounted upon a projecting portion of the crank-pin f, so that it can be adjusted on said pin, a set-screw m serving to secure it in position after such adjustment.

The crank-pin f may be adjusted radially on and secured to the crank-arm H in any available manner. In the present instance a flattened lug n on the crank-pin is adapted to a slot n' in the arm H, and a bolt s passes through the crank-pin and has a nut s', whereby the crank-pin may be secured in any position after adjustment.

It will be evident that by this construction the movement of the card-cylinder in respect to that of the griff-frame may be regulated to any desired extent. For instance, if the arm J is turned so as to be directly in line with the arm H the movement of the griff and cylinder levers will be exactly the reverse of each other, the cylinder being at its extreme outward position when the griff-frame is fully raised and in its extreme inward position when the griff-frame is fully lowered, while by shifting the arm J in one direction or the other the movement of the card-cylinder may be caused to lead or follow that of the griff-frame to any desired extent.

The same principle of operation attends the use of my invention in connection with the rise-and-fall machine shown in Fig. 2, the adjustable arm J in this case being hung to the crank-pin, which is carried by the outer crank-arm H′ and receives the operating connection for the lever K K′, which operates the second griff-frame M.

It will be manifest that the connections shown in Fig. 1 may be reversed, if desired, without affecting the purpose of my invention, that is to say, the griff-frame-operating lever might be actuated by the pin of the arm J and the cylinder-operating lever by the pin of the arm H, and it is further manifest that the arm J might be secured permanently to or form part of the crank-pin if said pin is capable of turning around its axis and susceptible of being secured to the arm which carries it in any position of adjustment, as shown, for instance, in Fig. 5, where an arm J′ is shown as forming part of a pin f'.

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

1. The combination of the griff-frame and card-cylinder of a Jacquard machine, the operating-levers therefor, an operating crank-arm having a pin connected to one of said levers, an arm connected to the other lever and carried by said pin, and means for adjusting said arm to different positions around the axis of the crank-pin, substantially as specified.

2. The combination of the griff-frame and card-cylinder of a Jacquard machine, the operating-levers therefor, a crank-arm having a pin connected to one of said levers, an arm connected to the other lever and rotatably mounted upon said pin, and means for securing said arm in position after adjustment, substantially as specified.

3. The combination of the two griff-frames and the card-cylinder of a rise-and-fall Jacquard machine, the operating-levers therefor, a double crank having two pins, one connected to one of the griff-frame-operating levers, and the other to the other of said levers, an arm connected to the card-cylinder-operating lever and carried by the crank-pin of one of the griff-frame-operating levers, and means for adjusting said arm to different positions around the axis of said pin, substantially as specified.

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

THOMAS HALTON.

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