

No. 622,257.

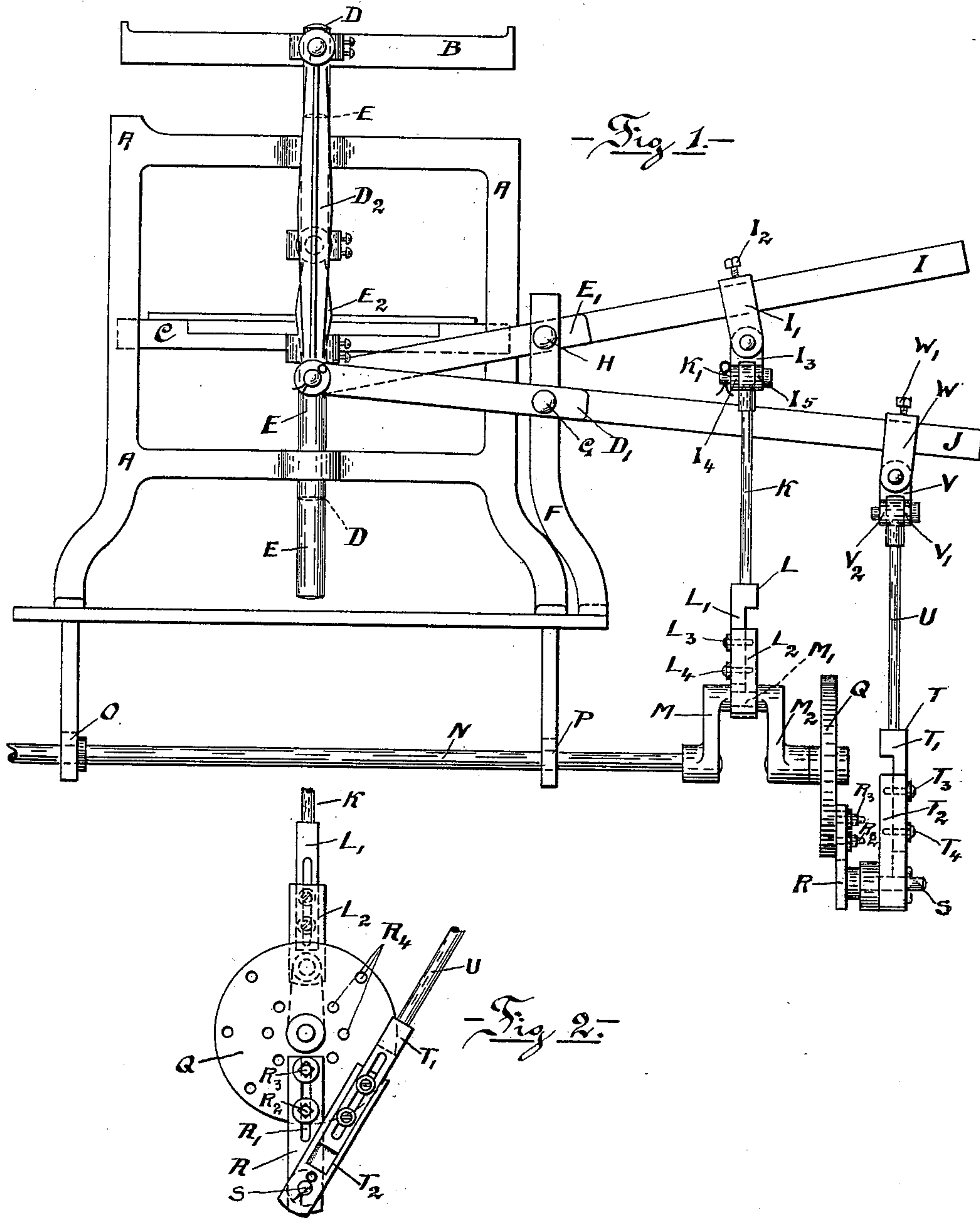
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G. PAVIA.

JACQUARD MECHANISM FOR LOOMS.

(Application filed Sept. 11, 1897.)

(No Model.)



- Witnesses -

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— Inventor —

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- by his Attorney -

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UNITED STATES PATENT OFFICE.

GIUSEPPE PAVIA, OF PATERSON, NEW JERSEY, ASSIGNOR TO JAMES JACKSON & SONS, OF SAME PLACE.

JACQUARD MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 622,257, dated April 4, 1899.

Application filed September 11, 1897. Serial No. 651,320. (No model.)

To all whom it may concern:

Be it known that I, GIUSEPPE PAVIA, a citizen of the Kingdom of Italy, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Jacquard Mechanisms for Looms; 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.

My invention relates to improving the means for moving the upper and lower grates or griffs in a rise-and-fall jacquard to and from each other. In order to accomplish this object, I apply the well-known eccentric principle as it is used in any double-acting engine, where a simultaneous up-and-down motion is required and created by having two double cranks and by making the second double crank a single crank, inasmuch as in this instance there are only two levers requiring motion. It will, however, readily be understood that a third lever and corresponding crank could be added, which would be only a multiplication of my original idea.

In describing my invention I shall call attention to the accompanying drawings, wherein like letters of reference indicate corresponding parts in the different views, and wherein—

Figure 1 shows a side view of a jacquard mechanism with only the necessary elements shown to embody my invention, and Fig. 2 an end view of part of Fig. 1.

A indicates in Fig. 1 the frame of the jacquard; B, the upper grate or griff; C, the lower grate or griff; D, one of the upper-griff vertical elevating-bars; E, one of the lower-griff vertical elevating-bars; D', the upper-griff motion-lever; D², one of the upper-griff connecting-rods; E', the lower-griff motion-lever, and E² one of the lower-griff connecting-rods, each of which pairs of connecting-rods D² D² and E² E² being by suitable mechanical means connected, respectively, with the motion-levers and the upper and lower grates. The motion-levers D' and E' are pivoted in the standard F

at the fulcrums G and H, and the means, furnishing them with the required up-and-down motion, which, on account of the said fulcrums located in the standard, will be transmitted to the respective griffs with which they are connected, I shall now describe.

Attached to the arm I of the motion-lever E' is an adjustable clamp I', secured to the arm by a set-screw I². Pivoted to this clamp is a knuckle-joint I³, which between its two arms I⁴ and I⁵ has a connecting-rod K, pivoted on the pin K'. Said connecting-rod K is furnished at its other end with a strap L, that connects the rod K with the crank-pin M' of the crank M on the shaft N. The strap L is formed of two parts L' and L², of which L' has the connecting-rod K attached to it and is constructed so as to be able to perform a telescopic movement in combination with L²—that is, slide up and down in a guideway cut out in L², to which part it is attached by screws L³ and L⁴. This telescopic adjustment will easily be recognized as permitting a shortening or lengthening of the up-and-down movement of the arm I, and consequently also of the lower griff C. The shaft N, which is mounted in appropriate bearings at O and P, has secured to it, as before stated, the double crank M, having a crank-pin M', of which the arm M² has a disk Q secured to it. Attached to said disk is an arm R, having a slot R', through which slot pass bolts R² and R³, which bolts, passing through any of the desired holes R⁴ in the disk Q for that purpose made and provided, secure the arm R to the disk Q. It will be seen that by means of the slot R' furnished in the arm R and the holes R⁴ in the disk Q the eccentricity of a pin S, attached to the arm R, can be increased or decreased, as required. The said pin S represents the free pin of the second crank, as alluded to in my preamble above, and virtually represents, in connection with the arm R and the disk Q, an adjustable eccentric motion. This motion is transmitted to the arm J of the motion-lever D' in substantially the same manner as the motion from the crank M is transmitted to the arm I of the motion-lever E'. The strap T can regulate the length of the up-and-down movement of the motion-lever J by being composed

of two pieces T' and T^2 , T' being able to slide in T^2 and being secured to it by screws T^3 and T^4 , as in the instance of the strap L. The connecting-rod U has one end attached to the part T' and the other end pivoted between the arms V' and V^2 of the knuckle-joint V, which is pivoted to the clamp W, attached to the arm J by the set-screw W' .

When the necessary revolving motion is finally given to the shaft N by appropriate mechanical means, the movement will, through the above-described means, be transferred to the upper and lower griffs and can by the adjustable means formed at different points easily be regulated, so that the herein-described double and single crank motion as applied to a jacquard will be found practical and time and labor saving, which was the desired object I had in view.

Various elements, such as the straps L and T and the combination of the disk Q and the crank-arm R attached thereto, can be modified by a different construction in detail without disturbing the principle of my invention, for—

What I claim, and desire to secure protection for by Letters Patent, is—

1. The combination in a rise-and-fall jacquard mechanism of the upper and lower griff frames, the vertical elevating-bars attached to said griffs, the motion-levers, the connecting-links attaching the respective motion-le-

vers to the vertical griff-elevating bars, with a crank-shaft having a double and single crank, a perforated disk having an adjustable arm attached forming the single crank-arm with a crank-pin attached thereto, telescopic straps secured to the crank-pins, connecting-rods, pivotal knuckle-joints and clamps connecting the crank-pins with their respective motion-levers for the purposes set forth, substantially as described.

2. The combination in a rise-and-fall jacquard mechanism of the upper and lower griff frames, the vertical elevating-bars attached to said griffs, the motion-levers, the connecting-links attaching the respective motion-levers to the vertical griff-elevating bars; with a crank-arm having its pin connected to one of the said motion-levers; an arm connected to the other motion-lever, means for adjusting said arm to different positions around the axis of the crank-pin and for securing it in position after adjustment all for the purposes as set forth, substantially as described and illustrated.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of September, 1897.

GIUSEPPE PAVIA.

Witnesses:

AUGUST M. TRESCHOW,
CESARE CASARICO.