

No. 744,307.

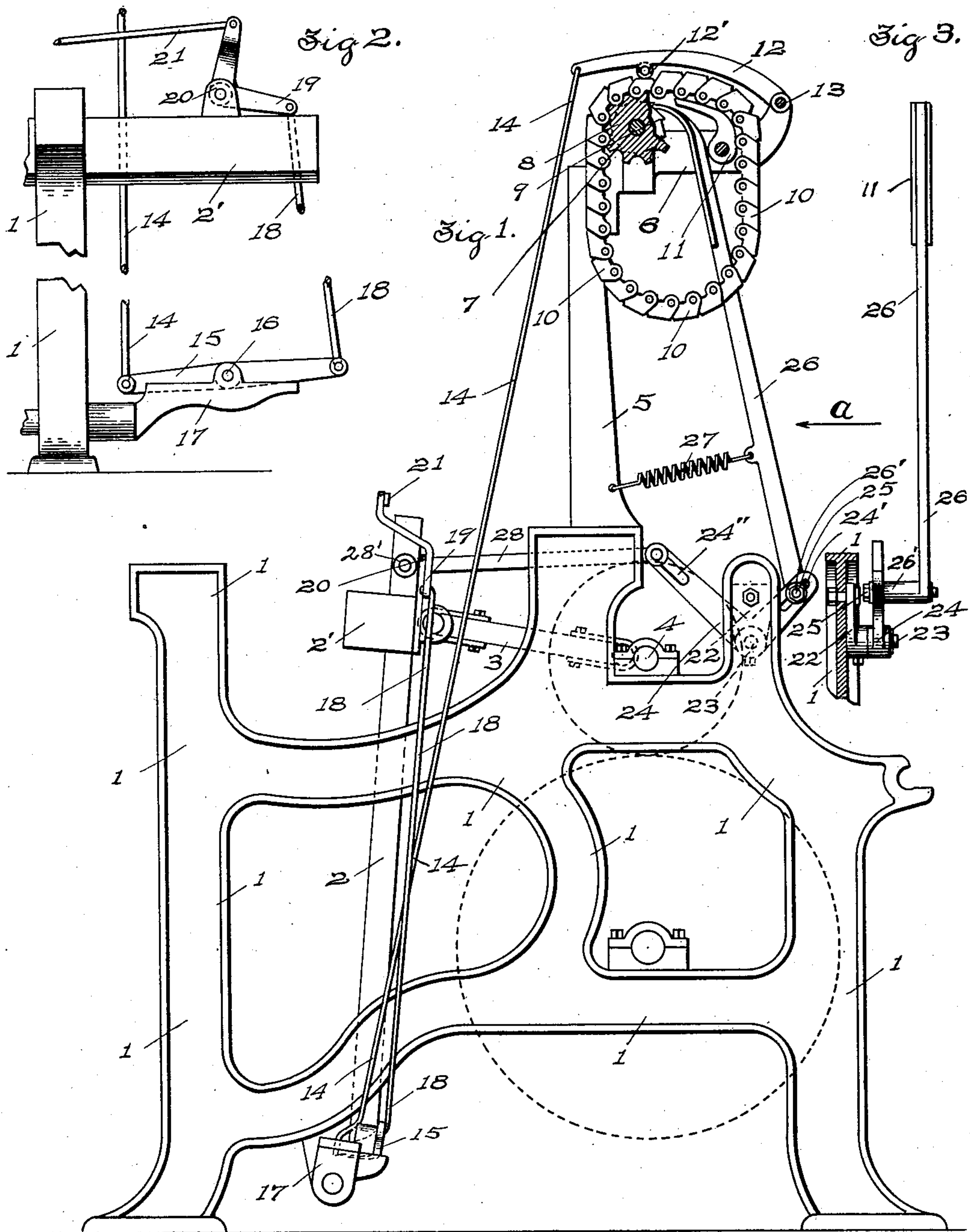
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LAPPET LOOM.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## LAPPET-LOOM.

SPECIFICATION forming part of Letters Patent No. 744,307, dated November 17, 1903.

Application filed April 16, 1903. Serial No. 152,837. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERIC JAMES DEARDEN, a subject of the King of Great Britain, and GEORGE S. SHARP, a citizen of the United States, both residing at New Bedford, in the county of Bristol and State of Massachusetts, have jointly invented certain new and useful Improvements in Lappet-Looms, of which the following is a specification:

Our invention relates to lappet-loom or looms for weaving lappet fabrics by means of needles in the well-known way; and our invention more particularly relates to improvements in the construction of the lappet-pattern-chain-operating mechanism.

The object of our invention is to do away with the cam-motion ordinarily used for intermittently rotating the cylinder of the lappet-pattern chain and to rotate said cylinder directly from the lay through intermediate connections, so that the movement of said cylinder and the lappet-pattern chain will always be in unison with the movement of the lay, and consequently the lappet-pattern indicated by the lappet-pattern chain will be accurately obtained.

Our invention consists in certain novel features of construction of our improvements, as will be hereinafter fully described.

We have only shown in the drawings sufficient portions of a lappet-loom with our improvements applied thereto to enable those skilled in the art to which our invention belongs to make and use the same.

Referring to the drawings, Figure 1 is an end elevation of a lappet-loom with our improvements applied thereto. The lappet-pattern-chain cylinder is shown in section and partially broken away. Fig. 2 is a detached detail showing the operating-levers and the connections to the needle-bars; and Fig. 3 is an edge view of the operating-pawl and connections looking in the direction of arrow *a*, Fig. 1.

In the accompanying drawings, 1 is the loom-frame; 2, the lay-sword pivotally supported at its lower end; 2', the lay; 3, the connector from the lay to the crank-shaft 4.

5 is a stand supported on the loom-frame 1

and carrying at its upper end a frame 6, on which are bearings for the shaft 7 of the lappet-pattern-chain cylinder 8 and the ratchet-wheel 9, fast on the shaft 7 or attached to the cylinder 8. 10 is a lappet-pattern chain which is supported on the guide 11 and the pattern-chain cylinder 8 and has a rotary motion thereon. Extending over the lappet-pattern chain 10 is a lever 12, pivoted at one end on a stud 13 on the frame 6. The lever 12 carries a roll 12', which rides on the pattern-chain 10. The other end of the lever 12 is connected by a rod or wire 14 with one end of a lever 15, centrally pivoted on a stud 16 on a stand 17. (See Fig. 2.) The other end of the lever 15 is connected by a rod or connector 18 with one arm of an angle-lever 19, pivoted on a stand 20 on the lay 2'. The other arm of the lever 19 is connected by a link or wire 21 with the needle-bar (not shown) carrying the lappet-needles.

All of the above parts may be of the usual and well-known construction ordinarily employed in lappet-loom.

We will now describe our improvements.

To the loom side or frame 1 at the rear portion and upon the inner side is in this instance bolted a plate 22, carrying a stud 23, on which is pivotally mounted an angle-lever 24, preferably having longitudinal slots 24' and 24'', one at the outer end of each arm. In the slot 24' is adjustably secured a bolt 25, on which is mounted the hub 26' of the actuating-pawl 26, the upper end of which is adapted to engage the ratchet-wheel 9 of the lappet-pattern-chain cylinder 8. A spring 27, attached to the pawl 26 and to the stand 5, holds the pawl 26 in engagement with said ratchet-wheel 9. In the slot 24'' in the angle-lever 24 is adjustably secured one end of a link or connector 28. The other end of said link 28 is pivotally secured to the upper end of the lay-sword 2 at 28'. The forward movement of the lay, through the link 28 and the angle-lever 24, communicates an upward motion to the pawl 26 to rotate the ratchet-wheel 9, the pattern-cylinder 8, and the lappet-pattern chain 10 in unison with the movement of the lay. The rearward movement of the lay, through the link 28 and angle-lever 24,



moves down the pawl 26 and leaves the ratchet-wheel 9, the pattern-chain cylinder 8, and the lappet-pattern chain 10 stationary. It will thus be seen that the intermittent motion of the lappet-pattern chain is communicated directly from the lay and in unison with the movement of the lay, thus insuring greater accuracy in the pattern produced on the fabric by the lappet-needles.

10 It will be understood that the details of construction of our improvements may be varied, if desired.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. In a lappet-loom, the combination with the lay, the lappet-pattern-chain cylinder, and the actuating-pawl therefor, of connections intermediate said pawl and the lay to communicate a reciprocating movement to said pawl

from the rocking movement of the lay, said connections comprising a pivoted angle-lever connected with the pawl, and a link or connector connected with said lever and with the lay, substantially as shown and described. 25

2. In a lappet-loom, the combination with the lay, the lappet-pattern-chain cylinder, and the actuating-pawl therefor, of connections intermediate said pawl and the lay, comprising a pivoted angle-lever, adjustably connected to said pawl at one end, and adjustably connected at its other end to a link or connector to the lay, and said link or connector, substantially as shown and described. 30

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