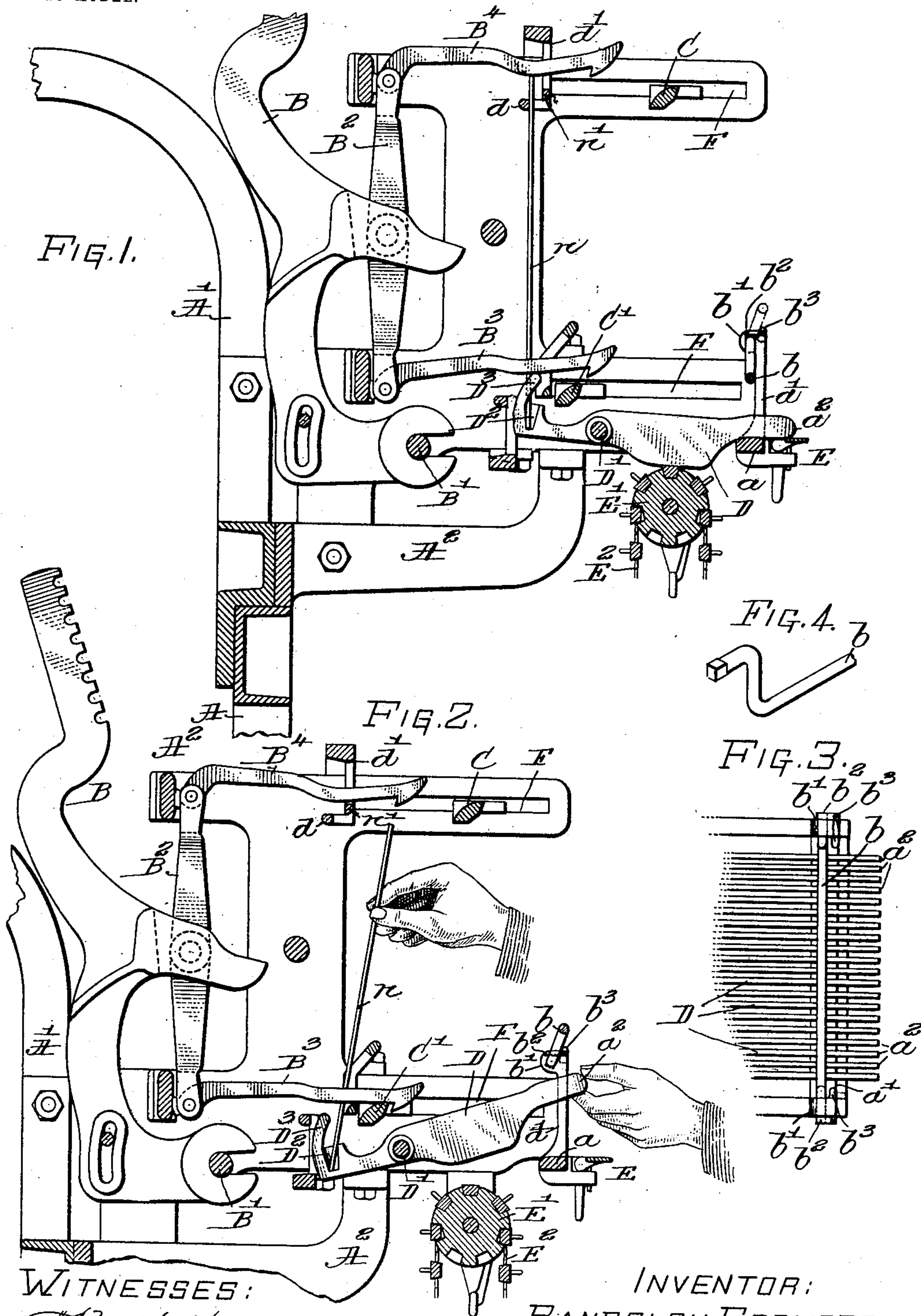


No. 771,462.

PATENTED OCT. 4, 1904.

R. CROMPTON.
DOBBY HEAD MOTION.
APPLICATION FILED JAN. 11, 1904.

NO MODEL.



WITNESSES:

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 RANDOLPH CROMPTON, GEORGE CROMPTON, EDWARD D. THAYER, AND
 WILLIAM B. SCOFIELD, OF WORCESTER, MASSACHUSETTS, DOING BUSI-
 NESS UNDER THE FIRM-NAME OF CROMPTON-THAYER LOOM COM-
 PANY, OF WORCESTER, MASSACHUSETTS.

DOBBY HEAD-MOTION.

SPECIFICATION forming part of Letters Patent No. 771,462, dated October 4, 1904.

Application filed January 11, 1904. Serial No. 188,462. (No model.)

To all whom it may concern:

Be it known that I, RANDOLPH CROMPTON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented an Improvement in Dobby Head-Motions, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the head-motion of a dobbie-loom, whereby the needles sustaining the upper hooked jacks may be easily removed from the head.

Figure 1, in section, shows a sufficient portion of a dobbie-head with my improvements added to enable my invention to be understood. Fig. 2 is a view of substantially the same parts, the needle being shown in the act of being removed. Fig. 3 is a detail to be referred to, and Fig. 4 is an enlarged detail showing one end of the finger-stop and means for sustaining and holding the same in either of its two extreme positions.

In the drawings, A represents a portion of the loom-frame, on which is erected the arches A', sustaining the dobbie-head frame A².

The harness-levers B, having their fulcrum on a rod B', the upright levers B², pivoted on the harness-levers and having connected to their opposite ends hooked jacks B³ and B⁴, the knives C C' for engaging and moving said hooked jacks, the fingers D, having their fulcrum on a cross-rod D' and having at their inner ends a socket D² and a projection D³, the rest E for lifting all the fingers simultaneously by hand when required, and the pattern-surface E', shown as carrying a pattern-chain E², having usual lags provided with pins, are and may be all as usual in dobbie-loom, and in practice the knives will be moved in the slots F by any usual means common to dobbie-loom. The outer ends of the fingers when an indicator is absent from the lag of a pattern-chain, as in Fig. 1, will be sustained

on a bar *a*, forming part of a comb *a'* or a slotted casting having a series of slots in which the outer ends *a*² of the fingers D may rise and fall.

In accordance with my invention I have added to the parts above referred to, all of which are old in dobbie head-motions, a finger stop or device, whereby the extent of the tipping movement of the fingers D on their fulcrum may be limited during the running of the loom to thus maintain the operative parts of the head-motion in their proper working relations, said stop being easily movable into its inoperative position, as when the fingers are to be turned into an abnormal position to enable the inner ends of the fingers to descend far enough to remove their upper ends from the control of a finger-stop *b*. The comb *a'*, as herein shown, has two ears *b'*, notched to receive the outturned opposite ends of the finger-stop *b*, that crosses the fingers D, said finger-stop when in its operative position (see full lines, Fig. 1) restricting the extent of movement of the fingers by the pattern-surface and preventing such undue movement of said fingers D either in the regular working of the pattern-surface or by some accidental blow which would lower the upper ends of the needles *n* below the needle-stop *n'*. The finger-stop is herein shown as a bar having its ends offset and outturned, one of said outturned ends being squared, as shown in Fig. 4, said end being acted upon by a spring *b*², which locks the finger-stop in its operative position, full lines, Fig. 1, and also when said stop is moved into a position (see dotted lines, said figure) to enable the fingers to be put into their abnormal position, as shown in Fig. 2, in which position the upper ends of the needles sustained by said levers are lowered below the needle-stop *n'*, when said needles may be engaged by hand and be tipped forwardly and lifted from their usual sockets in the fingers, thus enabling any needle to be readily changed after only removing the finger-stop from its oper-

ative position. The upper ends of the needles act directly on the under sides of the upper jacks B⁴, and these needles are guided between a cross-bar *d* and the needle-stop *n'*. The upper hooked jacks are guided in slots of a comb, and when the needles are lowered for removal the jack rests on, as herein represented, the needle-stop *n'*.

I believe that I am the first to provide a dobby head-motion with a finger-stop which in its operative position restricts the extent of tipping movement of the fingers, said stop being, however, capable of being readily moved out of its operative position to permit said fingers to be put into an abnormal position to enable needles sustained by the fingers to be readily changed, and hence my invention is not limited to the exact manner shown for sustaining said finger-stop, so long as it may be moved out of its operative position when necessity requires that a needle be changed. I also believe that I am the first to provide the head-motion with a needle-stop that when the fingers occupy their operative position restrains the outward movement and withdrawal of the needles from the head-motion; but when said fingers occupy their abnormal position the upper end of the needles may be tipped freely outwardly and removed from the sockets of the fingers.

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

1. In a dobby head-motion a series of hooked jacks, a series of needle-sustaining fingers, and a finger-stop to restrict the tipping movement of the fingers, said stop being capable of being moved to permit a finger to be put into an abnormal position that a needle may be withdrawn from the head-motion.

2. In a dobby-loom, a series of hooked jacks, a series of fingers, a series of needles intermediate said fingers and hooked jacks, the upper ends of said needles sustaining said jacks, a finger-stop to restrict the tipping movement of said fingers, said stop being capable of being moved to permit the fingers to be tipped into abnormal position to enable a needle to be readily changed.

3. In a head-motion, a series of needles, a series of fingers sustaining said needles, a pattern-surface to move said fingers, and a finger-stop removably sustained at each end above said fingers and means to hold said stop in its working position for the purposes set forth.

4. In a head-motion, a pattern-surface, a series of hooked jacks, a series of pivoted fingers moved by said pattern-surface, a series of needles supported at the inner ends of said fingers and sustaining said jacks, a needle-stop, and a movable finger-stop occupying normally a position to prevent the fingers moving far enough to place the upper ends of said needles out of the control of the needle-stop, the movement of said finger-stop out of its normal operative position permitting said fingers to be tipped about their pivots farther than they could be moved by the pattern-surface to effect the lowering of the needles for a distance to place their upper ends below the needle-stop that said needles may be removed when desired.

5. In a dobby, a hooked jack, a finger adapted to be moved by a pattern-surface, a needle intermediate said finger and hooked jack, said needle sustaining the weight of said jack, a comb in which the outer end of said finger is movable, and a movable finger-stop to control the extent of tipping movement of the finger for the purpose described.

6. In a dobby having two series of hooked jacks, a series of fingers, a pattern-surface to move said fingers, a series of headless needles sustained at their lower ends by said fingers and supporting at their upper ends the upper set of hooked jacks, means to prevent outward tipping of the upper ends of said needles in the regular operation of the dobby, and a manually-controlled finger-stop, change of position of which enables the fingers to be moved into an abnormal position to effect the withdrawal of a needle.

7. In a head-motion, a series of fingers, a series of headless needles sustained by said fingers, a series of hooked jacks supported by the headless ends of said needles, a pattern-surface to move said fingers, and a removable finger-stop crossing said fingers, said stop when in its inoperative position enabling the fingers to be turned and the headless needles to be lowered that they may be tipped outwardly from under the hooked jacks sustained by them.

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

RANDOLPH CROMPTON.

Witnesses:

GEO. W. GREGORY,
GEORGE CROMPTON.