

966,443.

2 SHEETS--SHEET 1.

Fig. 1 is a schematic diagram of a mechanical device, likely a pump or engine component. The device features a central chamber (23) with internal components (21a, 21b). It is mounted on a frame (1) and includes various valves (15, 16, 20, 26) and pipes (9, 25, 27). A control mechanism (5) is shown on the right side. The diagram illustrates the internal structure and flow paths of the device.

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 LOOM HARNESS STOP MOTION.
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2 SHEETS—SHEET 2.

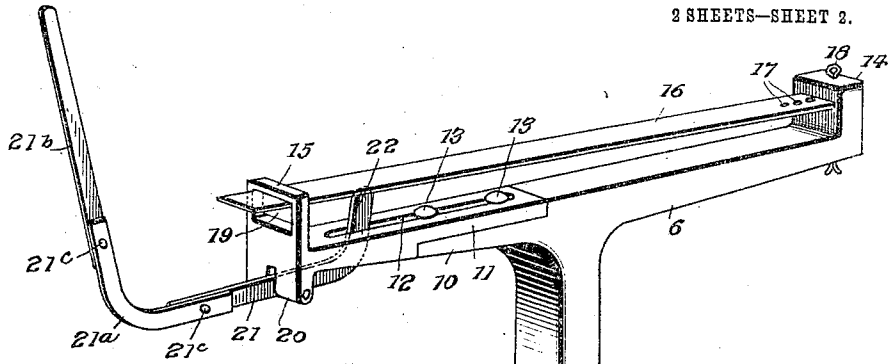


Fig. 2.

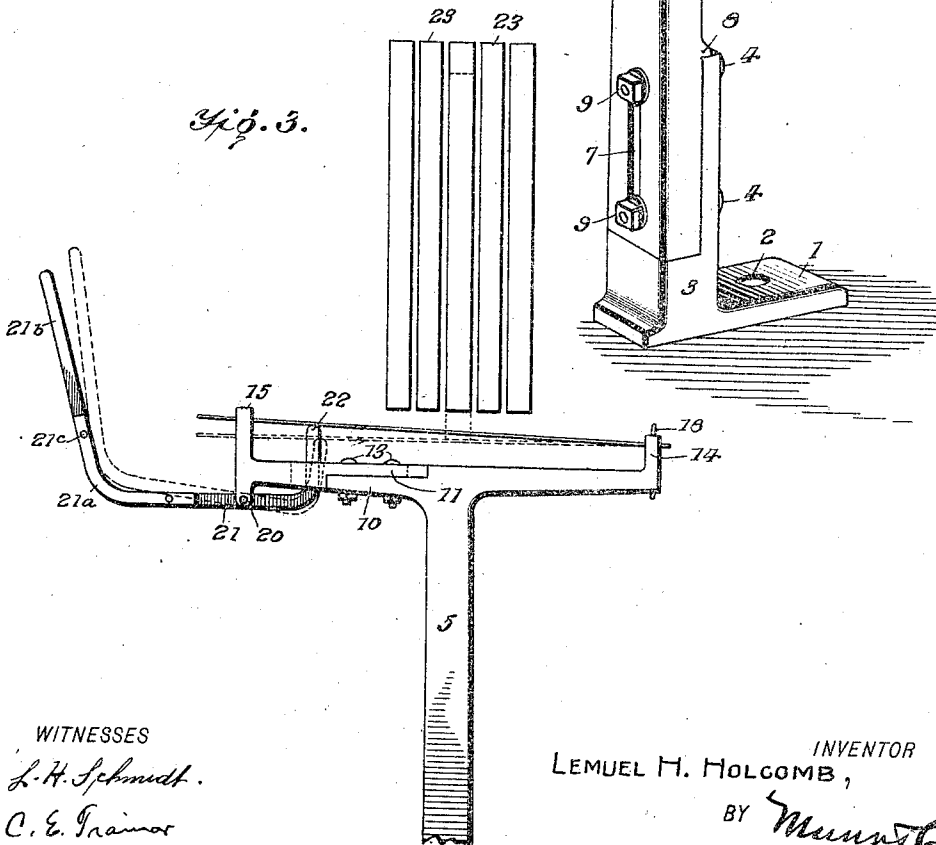


Fig. 3.

WITNESSES
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LEMUEL H. HOLCOMB, OF KNOXVILLE, TENNESSEE, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

LOOM HARNESS STOP-MOTION.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEMUEL H. HOLCOMB, a citizen of the United States, and a resident of Knoxville, in the county of Knox and State of Tennessee, have invented certain new and useful Improvements in Loom Harness Stop-Motions, of which the following is a specification.

My invention is an improvement in loom harness stop motion and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide a mechanism to be used in connection with a warp-stop-motion mechanism, to operate said mechanism by the dropping of a harness, from the breaking of a supporting strap, hook, wire or jack.

Referring to the drawings forming a part hereof Figure 1 is an end view of the loom provided with the improvement. Fig. 2 is a perspective view of the improvement detached from the loom. Fig. 3 is an end view of the improvement with the harness in position, and Fig. 4 is a similar view of a modified form.

The present embodiment of my invention comprises a base 1, provided with an opening 2 therethrough, whereby it may be secured to the floor, the base being provided with an upright 3, having one side thereof cut-away, and provided with a slot for receiving the bolts 4.

A bracket comprising a vertical portion 5 and a horizontal portion 6 to be presently described, is connected with the upright, the vertical portion being provided at its lower end with a slot 7, for receiving the bolts 4, and with a shoulder 8, for engaging the top of the upright, the parts being secured in place by nuts 9.

The horizontal portion 6, is in the shape of a T, and one end of the T is extensible consisting of two sections, one of the sections 10 being provided with a recess for receiving the end of the other section 11, and both of the sections are provided with slots 12, through which pass bolts 13, adjustably securing the parts together. The ends of the horizontal portion are provided with lugs 14, 15, the lug 14 having a transverse slot therethrough, for receiving the end of a spring plate 16, the said plate being provided with a plurality of perforations 17, for permitting the passage of a cotter pin

18, which traverses the lug and one of the openings for securing the spring in place. The other lug 15 is provided with an opening 19, through which passes the free end portion of the spring plate, and the said lug is extended below the horizontal portion to form a bearing 20, in which is journaled an elbow lever, one of the arms 22 of the elbow lever being normally in engagement with the spring plate as shown in Fig. 2. The elbow lever is adjustable in length, comprising three sections 21, 21^a, 21^b, the said sections being connected by slip joints 21^c, as shown in Fig. 2.

The brackets 5, are arranged preferably one at each side of the loom, longitudinally thereof, and directly below the harness 23, which is supported by the usual straps 24. As shown in Fig. 1, one of the brackets is secured directly to the side of the loom, as at 25, an adjustable joint 26 being interposed in the length of the bracket.

It will be evident from the description, that should a strap 24 break as shown at 27, in Fig. 1, permitting one end 23^a, of a harness to drop, the said harness 23, as shown in Fig. 3 will engage the spring plate, depressing the free end thereof, and swinging the elbow lever into the position shown in dotted lines in Fig. 3, thus interposing the free end 21^b thereof, between the vibrating feeler 28 of the warp-stop-motion, and the flat bars 29, 30, which guide the drop members 31, which are longitudinally slotted as at 32, to receive the warp threads 33.

The feeler 28 is vibrated by any suitable mechanism and when impeded in its free rocking movement by the interposition of a drop member, or the free end of the elbow lever, a bunter connected therewith, is held in the path of and is engaged by a tappet cam not shown, which through suitable mechanism releases the shipping lever stopping the loom.

Since the warp-stop-motion forms no parts of the invention it is not necessary to further describe the same.

In Fig. 4 the bracket 5 is provided at each end of the horizontal portion 6 with lugs 40, to one of which is secured one end of the spring plate 41, by means of a screw 42, the spring plate being arranged beneath the harness 23. The free end of the spring plate is provided with an opening through which passes a link 43, the end thereof being

provided with a head 44, and the other end of the link is pivoted to one arm 45 of a rock lever journaled to a bracket 46, the free end 47 thereof being adapted to be interposed between the vibrating feeler 28, and the guide bar 30.

The operation of the modified form is precisely the same as before described, the depression of the spring 41 by a falling harness acting to depress the free end thereof, and to rock the elbow lever by means of the link 43, whereby to interpose the free end 47 thereof between the vibrating feeler 28 and the guide bar 30.

It will be evident from the description of the constructions of the brackets 5, and the elbow lever, that the attachment may be adjusted to different sized looms, and may be used with different forms of warp-stop-motions, being applicable to any type of warp-stop-motion, making use of a movable feeler.

I claim:

1. In a loom, the combination with the harnesses, and the vibrating feeler of the warp-stop-motion, of a bracket comprising a horizontal portion arranged beneath the harness and provided at each end with a lug, one of said lugs being slotted, and the other provided with an opening, a spring plate having one end adjustably secured in the slot, and the other projecting through the opening, said plate being directly below the harness, an elbow lever journaled adjacent to the lug, provided with the opening, one end of said lever being normally in contact with the lower surface of the spring plate, and the other being arranged adjacent to the feeler of the warp-stop-motion, and adapted to be interposed in the path of movement of said feeler when the spring plate is depressed.

2. In a loom, the combination with the harnesses, and the vibrating feeler of the warp-stop-motion, of a bracket having a horizontal portion arranged below the harness, a spring plate having one end secured to the horizontal portion, an elbow lever journaled in the bracket, and having one arm arranged adjacent to the feeler of the warp-stop-motion, and the other end normally in contact with the spring plate for the purpose set forth.

3. In a loom, the combination with the harnesses and the vibrating feeler of the warp-stop-motion, of a spring plate supported beneath the harness, an elbow lever having one end in contact with the lower surface of the plate, and the other end arranged adjacent to the feeler of the warp-stop-motion, and adapted to be interposed in the path of movement thereof, when the spring plate is depressed.

4. In a loom, the combination with the harnesses, and the vibrating feeler of the warp-stop-motion, of an elbow lever having

one end arranged adjacent to the feeler, and adapted to be interposed in the path of movement thereof, when the elbow lever is rocked, and a spring plate supported beneath the harness, and in contact with the other end of the elbow lever for the purpose set forth.

5. In a loom, the combination with the harnesses and the vibrating feeler of the warp-stop-motion, of an elbow lever having one arm arranged adjacent to the feeler and adapted to be interposed in the path of movement thereof when the lever is rocked, and means beneath the harness and connected with the other arm of the lever for swinging the same when the harness falls.

6. In a loom, the combination with the harnesses, and the vibrating feeler of the warp-stop-motion, of a spring plate supported beneath the harness, and means in connection with the plate adapted to be interposed in the path of movement of the feeler to impede its movement when the plate is depressed, whereby to operate the stop motion.

7. In a loom, the combination with the harnesses, and the vibrating feeler of the warp stop motion, of a bracket having a horizontal portion arranged below the harness, a spring plate having one end secured to the horizontal portion, an elbow lever journaled in the bracket, and having one arm arranged adjacent to the feeler of the warp stop motion, and the other end normally in contact with the spring plate, and means for varying the height of the bracket, and the length of the horizontal portion.

8. In a loom, the combination with the harnesses, and a warp stop motion, of means intermediate said warp stop motion and said harnesses to cooperate with a normally moving part of said warp stop motion to automatically stop the loom, upon the falling of a harness upon a portion of said means.

9. In a loom, the combination with the harnesses, and the vibrating feeler of a warp stop motion, of a lever arranged adjacent to said feeler and adapted to be interposed in the path of movement thereof when said lever is rocked, and means beneath said harnesses and connected with said lever for swinging the same when a harness falls.

10. In a loom, the combination with the harnesses, and the vibrating feeler of a warp stop motion, of a plate supported beneath said harnesses, and means in connection with said plate adapted to be interposed in the path of movement of said feeler to impede its movement when the plate is depressed by the fall of a harness, whereby to operate the stop motion.

11. In a loom, the combination with a plurality of reciprocating harness-frames, and overhead supports for the same, of 1

means adapted to effect the operation of a loom-stopping instrumentality upon breakage of an overhead support, said means including a stop moved into abnormal position by any harness-frame of the series, through breakage of an overhead support therefor, and a normally reciprocating feeler to engage and be arrested by said stop, when positioned abnormally.

10 12. In a loom, a series of reciprocating harness members, means, including overhead suspending connections for each harness member, to effect reciprocation of said members, a warp-stop-motion mechanism,

including a series of detectors, and a normally vibrating member to be arrested by engagement with a released detector and a separate instrumentality to effect the operation of the warp stop motion mechanism, said instrumentality including a controlling member moved into abnormal operative position by descent of any harness member, due to breakage of its overhead connection.

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Witnesses:

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