W. W. DUTCHER.

LOOM-TEMPLE.

No. 177,227. Patented May 9, 1876.

Fig: 1.

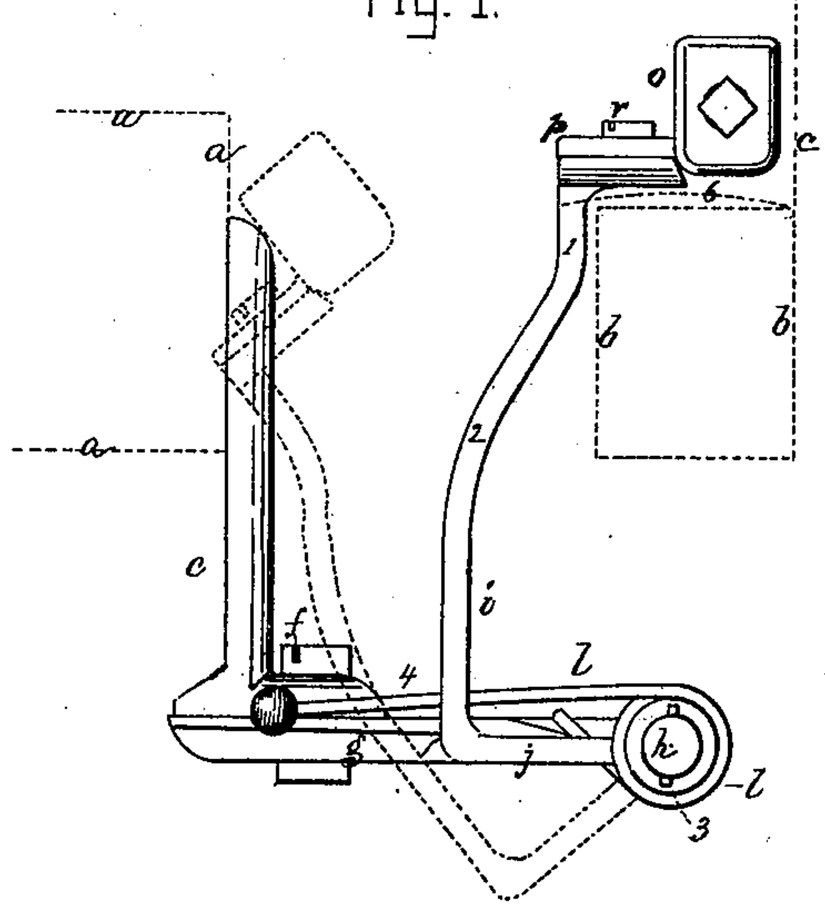
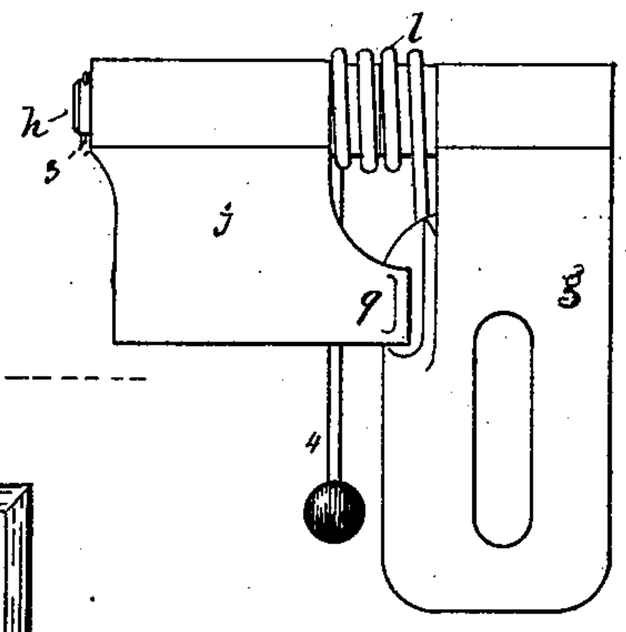


Fig: 3.

Fig: 2.

Fig: 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

WARREN W. DUTCHER, OF MILFORD, MASSACHUSETTS.

IMPROVEMENT IN LOOM-TEMPLES.

Specification forming part of Letters Patent No. **177,227**, dated May 9, 1876; application filed March 10, 1876.

To all whom it may concern:

Be it known that I, WARREN W. DUTCHER, of Milford, in the county of Worcester and State of Massachusetts, have invented an Improvement in Loom-Temples, of which the following is a specification:

This invention relates to improvements in loom-temples, and is shown as applied to a temple having the carrier for the trough and roller pivoted to a bracket or hanger connected with the inner face of the breast-beam, as in United States Letters Patent No. 99,287, on which this present invention is an improvement; and the invention consists in a carrier adapted to turn on a pivot substantially under the middle of the race-beam of the lay when in its forward position or nearest the breast-beam, whereby the temple-roller and trough are permitted to move over and very close to the race-board, and without injuriously lifting and straining the selvage-warps, as is apt to be the case with a temple on a vibrating carrier pivoted near the breast-beam.

With this temple and about its pivot is arranged a strong spring, connected at one end with the carrier and acting to hold the roller and trough and its cover forward toward and to grasp the woven fabric close up to the reed, and so that the carrier will be struck and moved back by the lay as usual at each forward beat, and this spring is made readily removable from engagement with the carrier, to permit the temple to be turned back toward the breast-beam to correct mispicks or other imperfections in the weaving.

Figure 1 represents this invention in side view and shown as applied to a breast-beam; Fig. 2, a front view looking at the temple from the lay. Fig. 3 is a detail of the holding notch in the carrier, and Fig. 4 a partial under-side view.

In Fig. 1 the dotted lines *a* represent the breast-beam; those *b*, the race of the lay, and *c* the reed. On the inner side of the breast-beam is adjustably attached the stand *c*, slotted at *d* for the reception of a screw, *e*, and for vertical adjustment of the device, and to the lower end of this stand, by a screw-bolt, *f*, is adjustably attached the pivot-plate *g* of the temple, slotted for adjustment horizontally with relation to the stand and the breast-beam and lay, and this pivot-plate *g* carries the pivot *h*.

The carrier *i* supports on its upper end the ordinary roller temple-head *o*, composed of the toothed roller, trough, and removable cap, and is shaped as shown in Fig. 1. The part 1 is arranged to be struck by the lay, the part 2 is bent backward so as not to interfere with the protector or other rods commonly carried by the lay, and its lower end at *j* is extended forward and provided with a socket to embrace the pivot *h*, on which it is secured in this instance by a pin, 3. The carrier is free to turn on the pivot, and a strong spiral spring, *l*, holds the roller temple-head pressed forward toward the reed, and permits the temple to yield or reciprocate as usual. One arm or end, 4, of this spring enters an upwardly-cut holding-notch, 5, in the carrier, (see Figs. 1 and 3,) and when engaged acts to throw the temple-head forward; but when it is desired to throw and keep back the temple-head and carrier to take out a mispick or correct other errors, the end 4 of the spring may be moved laterally by the operator, thereby disengaging the carrier, and then the carrier will fall back against the breast-beam, as shown by dotted lines, Fig. 1.

In Fig. 1 the lay is almost in its forward position, and is nearly ready to strike the portion 1 of the carrier, and it will be observed that the pivot is substantially under the center of the lay when in its forward position, and the temple-head will vibrate over the surface of the race of the lay in an arc denoted by dotted lines 6, and the head is made to move in an arc as closely as possible to the raceway, the slots and adjusting-screws and bolts in the stand and plate *g* permitting the adjustment of the pivot *h*, about which the carrier moves, so as to cause the head to sweep as closely to the raceway as possible, thereby lifting and straining the selvage-warps as little as possible from a horizontal line. Were the carrier pivoted to the lower end of the stand, the head would move in an arc rising very much higher from the forward portion of the lay.

I do not confine myself to the exact shape of the stand or carrier, for the latter may be more or less curved, as at 2, and instead of

permitting the lay to strike the portion 1 of the carrier, it might strike an adjustable projection on the carrier.

The temple-head or the parts composing it, viz, the toothed roller, trough, and cap, may be of any usual construction.

The plate *p* of the temple-head is attached to the carrier by screws *r*, to permit the head to be adjusted toward or from the reed.

It is obvious that a temple constructed as described may be readily applied and correctly adjusted to any loom, no matter what may be the distance of the lay from the breast-beam or the width of the raceway in front of the reed.

The part *j* of the carrier is provided with a projection, 9, or forward stop, adapted to extend under the edge of the plate *g*, to form a stop to determine the extent of forward motion of the carrier about its pivot.

It will be noticed that this construction of temple affords very much space between the carrier and breast-beam, and permits the temple-head to be swung backward so as to pass beyond a vertical line drawn through the pivotal point of the carrier, to afford ample space for correction of imperfections of weaving.

By placing the carrier on an offset at the side of the plate, the carrier is adapted to have a great extent of movement to throw it back, and by the use of the spring shown I am enabled to use a spring of much less power than in the ordinary reciprocating-bar temple, thereby lessening the strain on the lay at the time it acts to move the temple back, which is a great desideratum.

The pivot *h*, instead of being held positively on or forming part of plate *g*, may project from the carrier and enter an opening in the plate, or a separate bolt or pin may be employed to connect them. On referring to Fig. 4, it will be noticed that a portion of the movable carrier projects laterally, forming a hub, as at a^2, and a portion of the plate *g* is made to project laterally at b^2, and that these projecting hubs meet at c^2, near the center of spring *l*. The end of the spring connected with the carrier must and does move with the carrier, and the other end of the spring, connected with the plate, must remain fixed, and if the spring was wound on a stationary pin or pivot, instead of on the hub a^2 of the carrier, and was wound moderately close to the pin, the wear would be much the greatest on that coil of the spring next the moving carrier; but by coiling the spring on the hub a^2 it moves with the hub, and rubbing friction on the interior of the spring is obviated. If the hub of the carrier ran entirely through the spring, the wear would be greatest at the end of the spring next the plate *g;* but by placing the joint c^2 at or near the center of the spring the friction of the spring is obviated.

I claim—

1. The temple-head and its carrier, adapted to turn on a pivot substantially under the beam of the lay when the lay is nearest the breast-beam, in combination with a spring to throw the head and carrier forward, substantially as described.

2. The adjustable stand and adjustable pivot-plate, in combination with the carrier and temple-head and spring, to enable the adjustment of the carrier and head with reference to the lay, substantially as described.

3. The combination with the carrier and plate *g* of the detachable spring, to permit the carrier to be disengaged and to be thrown back to the breast-beam to correct imperfections in the weaving, as set forth.

4. the plate *g* and its pivot, in combination with the carrier, head, and spring, and forward stop, substantially as described.

5. The combination with the breast-beam of a vertically-adjustable stand and a pivot-plate and carrier and temple-head, to place the head in proper vertical position with reference to the cloth-making point and top of breast-beam.

6. The carrier and its hub a^2 and the coiled spring, in combination with the plate and its hub, adapted to terminate within the spring, substantially as described.

7. The plate and pin *h*, in combination with the carrier pivoted at one side of the plate, substantially as shown and described, whereby the carrier may be turned back and rest with reference to the breast-beam, as set forth.

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

WARREN W. DUTCHER.

Witnesses:

F. J. DUTCHER,

G. W. GREGORY.