

A. Jilison. Loom Temple.

N^o 8,368.

Patented Sep. 16, 1851.

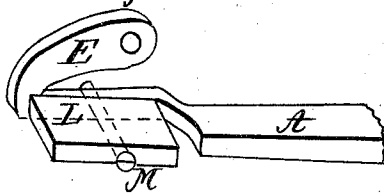
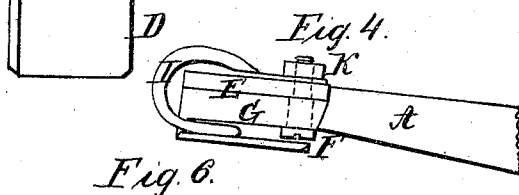
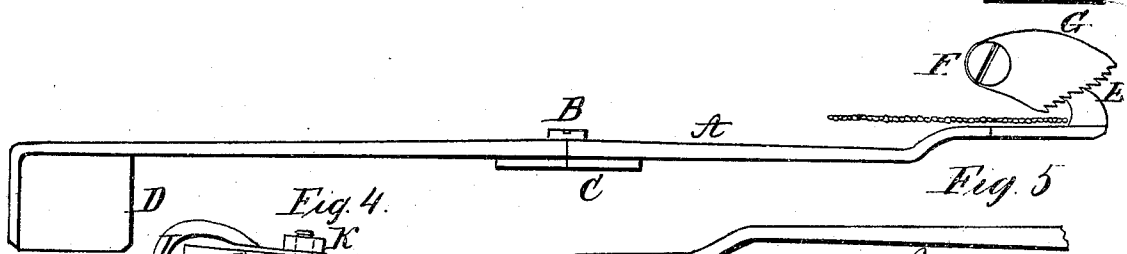
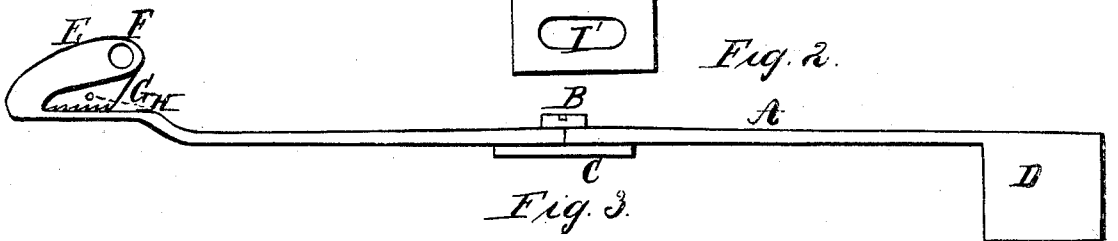
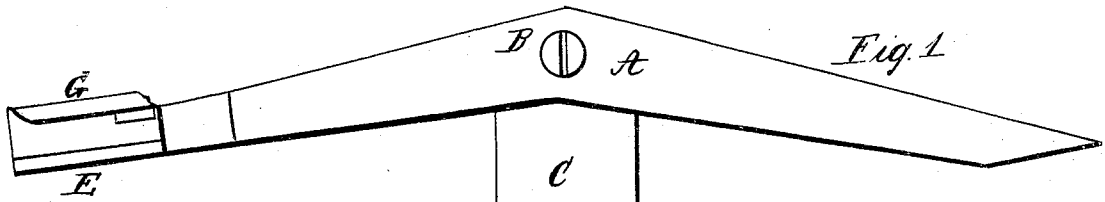


Fig. 6.

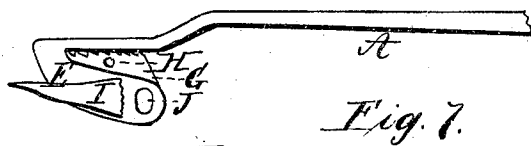
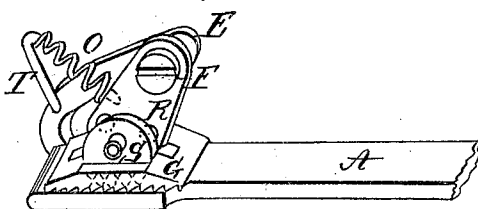
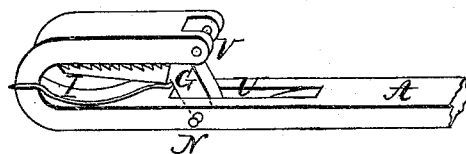


Fig. 9.



UNITED STATES PATENT OFFICE.

ARNOLD JILLSON, OF WOONSOCKET, RHODE ISLAND.

IMPROVEMENT IN WEAVERS' TEMPLES.

Specification forming part of Letters Patent No. 8,368, dated September 16, 1851.

To all whom it may concern:

Be it known that I, ARNOLD JILLSON, of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and Improved Self-Acting or Self-Adjusting Jaw-Temple for Weaving-Looms; and I do hereby declare that the following is a full description of the same.

The nature of my invention consists in so arranging the jaws of the temple and hanging the vibrating jaw so that if it is kept in contact with the cloth by its own or additional weight or by a spring it will be drawn toward the fixed jaw by the cloth as it shrinks after it has been spread by the action of the reed upon the warp and cause the jaws of the temple to grip the cloth and hold it at a proper width until it is spread again by the action of the reed upon the warp. When the cloth is so spread, it carries the vibrating jaw with it so far as to cause it to yield its grip upon the cloth and allow it to be drawn through the jaws of the temple or the jaws to be slipped forward upon the cloth. By my invention I use the motion of the cloth caused by its own elasticity and the action of the reed upon the warp to open and close the jaws of the temple, and dispense with the devices heretofore used for opening the jaws and the strong spring for closing them.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation in connection with the accompanying drawings, numbered from 1 to 9, inclusive. The drawings numbered from 1 to 3 are drawn ten inches to the foot.

The same letters of reference refer to similar parts in all the drawings.

Figure 1 is a top view of a left-hand temple. Fig. 2 is a view of the side next to the breast-beam, and Fig. 3 the side next to the lathe. A is a bar or lever moving freely on the screw B, which fastens it to the stand C, which is fastened to the breast-beam of the loom by a bolt through the slot I', which slot allows the temple to be varied to suit the width of the cloth. When it is desirable to screw the stand C onto the side of the breast-beam instead of the top, it may be bent or curved so that the ends will stand at right angles. D is a projection extending down from the end of the bar next to the center of

the loom for the lathe or some proper fixture attached to it to strike against to move the jaws toward the reed at the opposite end of the bar when they are drawn from the reed by the cloth. The opposite end of the bar is made a little wider toward the end to form the fixed jaw of the temple and has an ear E projecting from one corner up over the side of the jaw, to which the vibrating jaw G is attached by the screw F, which screws into the ear, allowing the jaw G to move freely upon it so far as the pin H will permit it, which pin strikes the ear E and prevents the vibrating jaw from being thrown too high by any unusual motion of the cloth, so that when the cloth resumes its usual position upon the fixed jaw the vibrating jaw falls down upon it by its own weight, it being sufficiently heavy to press the cloth gently and insure the temple to take effect. Besides, the surface of the vibrating jaw that comes in contact with the cloth is fluted one or both ways. The edges of the flutes are represented as standing out toward the end of the temple.

In Fig. 3 there is a representation of the edge of the cloth lying upon the fixed jaw.

Fig. 4 is a top view of a section of a right-hand temple, showing the end of the bar-jaw, &c. Fig. 5 is a view of the side next to the breast-beam of the same section, the bar A, ear E, screw F, jaw G, pin H, and the crooked spring I. In this modification there is a slot J in the ear E and a hole in the spring I, through which the screw F passes and is held in its place by the nut K, which also secures the spring I, which acts gently upon the vibrating jaw G, pressing it against the cloth to insure it to take effect, but does not press it so hard but that the cloth may be drawn through between the jaws when it is spread by the action of the reed upon the warp. The barrel of the screw F, upon which the jaw G vibrates, is larger than that part of the screw which passes through the slot J, so as to form a shoulder, which is drawn against the ear by screwing the nut K against the spring I, so that the screw supports the jaw and holds the spring. The slot J enables the operator to set the vibrating jaw and adapt it to the thickness of the cloth. When the temples are made without the slot J, the ear or part bent over may be bent a little either way to adjust the jaw to the thickness of the cloth.

Fig. 6 is a section of the bar A and ear E. The end of the bar, instead of being made wide to form the fixed jaw, is made narrow, the thickness of the ear, and the fixed jaw L is fastened to the narrow part by the screw M, which passes through it and screws into the bar A, the jaw L moving freely upon the screw M. When the fixed jaw is made in this way, it turns upon the screw by the pressure of the vibrating jaw acting upon the cloth and adapts itself to the thickness of the cloth wove, if it be more or less.

Temples upon this principle may be made of various forms. The form of jaws best suited for looms of the ordinary construction is represented by Fig. 7. A is the bar, made of a uniform width and turned over at the end, and a space cut out for the hinge of the jaw G, which vibrates upon the pin N and is pressed against the cloth by the spiral spring O, the lower end of which encircles the knob P upon the jaw and the upper end is in the hole Q. This spring acts gently upon the jaw G to insure it to take effect, as described in the preceding figures. If a weight is preferred to a spring, the jaw G may be made as large as it is represented by the dotted line. The dotted lines upon the jaw G are designed to show that the face of the jaw which comes in contact with the cloth is fluted diagonally both ways. The end bent over may be bent a little either way to adjust the jaws to the thickness of the cloth.

Fig. 8 is another form so constructed that the jaw G adapts itself to cloth of different thicknesses. The bar A, ear E, screw F, and the jaw G are made of the form represented in the drawings, furnished with two cheeks, one of which is behind the connecting-piece R, which connects it to the ear by the screw F. The end of the connecting-piece is between the cheeks, the pin S passing through the cheeks and the connecting-piece, allowing the jaw to work upon the pin, so that it will lie flat upon the cloth without regard to the thickness. This jaw is fluted both ways, as shown by the dotted lines. The stand T, fastened to the ear, holds one end of the spring O. The other end penetrates and acts gently upon the connecting-piece R to close the jaw. The lower end of the connecting-piece is made wide and has several holes in it at different distances from the screw F, so that by changing the pin S the jaw may be made to work more directly under the screw or farther from it and act with greater or less pressure, as may be desirable.

Fig. 9 is another form of jaws, in which the vibrating jaw may be used either under or on the top of the cloth. A is the bar, made of a uniform width, turned over, so that the part bent over forms the permanent jaw. U is a mortise, which receives the hinge of the jaw G, which vibrates upon the pin N. The vibrating jaw is pressed against the fixed jaw by the spring I. If the spring I and pin N are removed, the vibrating jaw may be taken

out and its position reversed by placing the hinge in the space V, which is made to receive it, and putting the pin N through for it to vibrate upon, and then reversing the spring I and putting it in its place.

Operation: To set the temple at work, fasten it to the breast-beam of the loom by a bolt through the slot I' and place it so that when the lathe is nearest to the breast-beam the side of the lathe or a screw in it will press the projection D when the jaws are between one-eighth and one-half an inch from the end, or at such other distance as may suit the view of the weaver. The temple should be placed so that the cloth will lie or press lightly upon the fixed jaw; but the cloth should not be pressed out of its proper position by the fixed jaw, neither should it be set so that the cloth will not press against it gently, for if the fixed jaw is placed far from the cloth the weight of the jaw or the spring will be insufficient to press the cloth against the fixed jaw. After adjusting the temple as directed, place the cloth between the jaws, and as the cloth is woven and drawn from the reed it pulls the jaws of the temple with it toward the breast-beam; but the side of the lathe or screw in it strikes the projection D every time the reed strikes up the weft and forces the opposite end of the bar A with the jaws toward the reed. The cloth, at the same time being spread by the action of the reed upon the warp, loosens the grip of the temple upon the cloth, so that it slips freely between the jaws of the temple; but when the reed leaves the cloth it shrinks, and the teeth of the vibrating jaw being in contact with it as it shrinks it carries the vibrating jaw with it until it is pressed so hard by the vibrating jaw against the fixed jaw that it is held fast and can shrink no more. Thus the temple holds the cloth at a proper width after the reed leaves it until the reed returns again and brings up another thread of weft, when the action of the reed upon the warp again spreads the cloth, so as to relieve the pressure of the jaws upon it and allow the temple to slip forward upon it or the cloth to be drawn through the temple. One of these temples is required at each selvage, and consequently they must be made in pairs adapted to each edge of the cloth. I consider the construction or form of bar described the best for looms as they are usually made; but I apprehend that circumstances may occur that may render it desirable to construct the temples so that the bar or lever may stand perpendicular above or below the jaws or to lay in the opposite direction—that is, with the D end of the bar out toward or opposite the shuttle-box, or at such other position or angle as may suit the fancy of the weaver, and also to flute the fixed jaw is necessary to suit peculiar circumstances; or, instead of fluting, one or both jaws may be furnished with a series of sharp points.

What I claim as my invention, and desire to secure by Letters Patent, is—

Connecting the movable jaw to its point of suspension by an arm or equivalent in such a manner that the point of suspension will be nearer the middle of the cloth than its other extremity, which extends out toward or beyond the selvage at such an angle that the jaws of the temple will be released by the cloth as it is spread by the action of the reed upon the warp when it strikes up a thread of weft and closed by the contraction of the cloth caused by its own elasticity as the reed leaves it, so that the cloth by its own action

is released when the reed advances and is gripped and held as it recedes, thereby dispensing with the strong spring, wedge, and other devices heretofore used for operating the jaws of temples.

In testimony whereof I have hereunto subscribed my name before two subscribing witnesses.

ARNOLD JILLSON.

Witnesses:

AMASA S. ARNOLD,
JERVIS COOKE.