

# W. H. Howard. Loom Temple.

N<sup>o</sup> 24,306.

Patented Jun. 7, 1859.

Fig: 1.

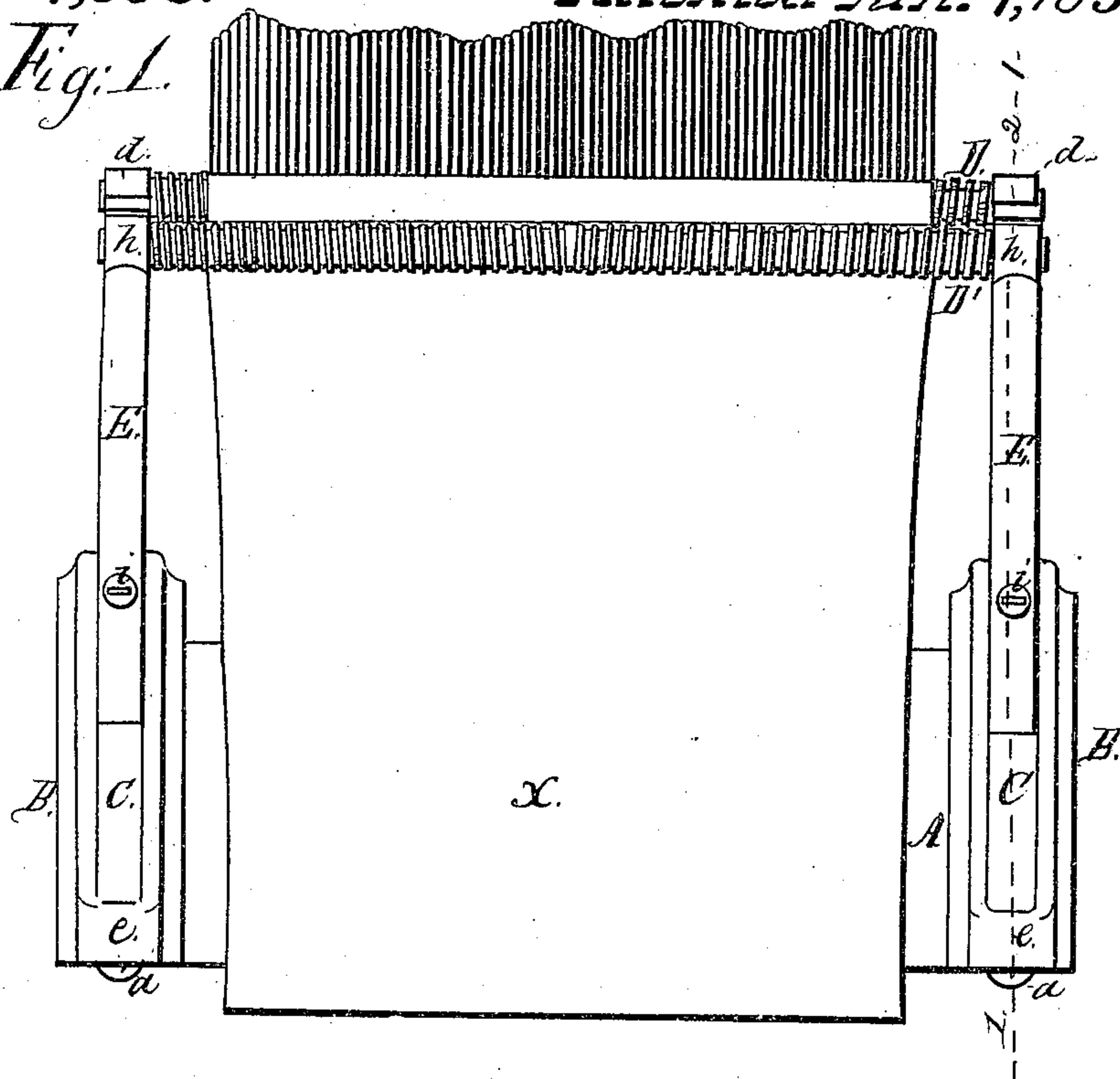


Fig: 2.

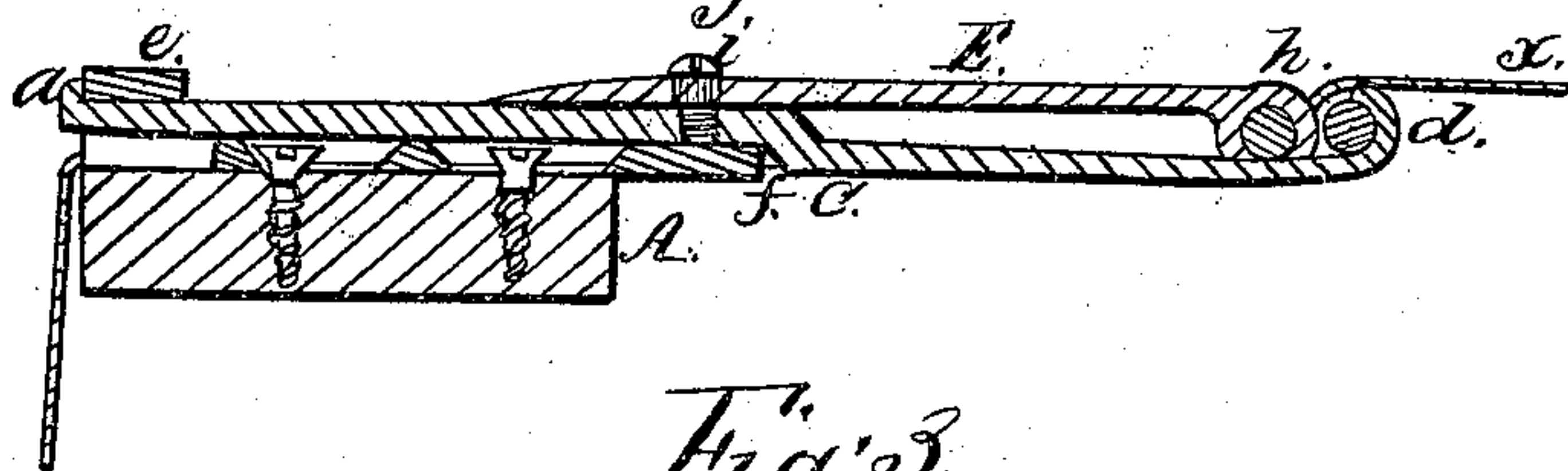
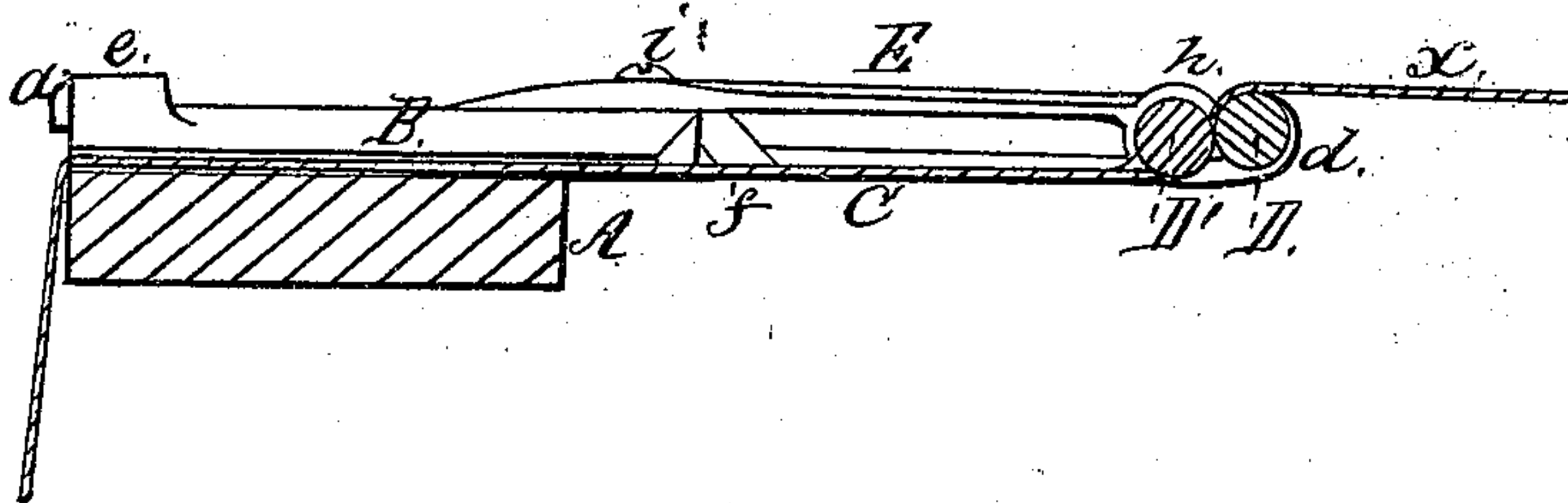


Fig: 3.



Witnesses.  
Henry Howard.  
H. H. See.

Inventor.  
Wm. H. Howard.



# UNITED STATES PATENT OFFICE.

WILLIAM H. HOWARD, OF PHILADELPHIA, PENNSYLVANIA.

## LOOM-TEMPLE.

Specification of Letters Patent No. 24,306, dated June 7, 1859.

*To all whom it may concern:*

Be it known that I, WILLIAM H. HOWARD, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Temples for Looms; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to an improvement in that class of temples for looms, in which two rollers each having right and left handed screws and the threads of the latter having serrated edges, so as to lay hold of, and distend the fabric, and my improvement consists in two such rollers turning in bearings or steps arranged to yield independently of, and in contrary directions to each other substantially in the manner set forth hereafter, so as to allow the rollers to rise and fall in obedience to the varying tension of the warp caused by the constant opening of the threads at each stroke of the lay, thereby relieving the threads from the tendency to break and the loom itself from excessive strains.

In order to enable others skilled in the class of machinery to make and use my invention I will now proceed to describe its construction and operation.

On reference to the accompanying drawing which forms part of this specification, Figure 1, is a plan view of my improved temple for looms. Fig. 2, a section on the line 1, 2, Fig. 1. Fig. 3, a section through the breast beam.

Similar letters refer to similar parts throughout the several views.

A, is the breast beam of the loom to each end of which is secured a bracket B, by screws passing through oblong holes in the said bracket so that the latter may be readily adjusted on the breast beam.

Between the side flanges of each bracket B, fits an arm C, which is maintained in its proper horizontal position by the portion *e*, of the bracket, and which is prevented from moving forward by a lip *a*, bearing against the end of the said portion *e*.

The end of the bracket which projects over the breast beam is inclined as is also a collar F, on the underside of the arm C, so that in case of the shuttle accidentally catching in the opened threads of the warp the arm C, may be elevated and moved back, thereby

preventing any injury to the working parts of the loom.

As regards the above described arrangement, it is in all essential respects, similar to that of the brackets of temples heretofore used.

The portion of the arm which rests on this bracket is made sufficiently strong to be rigid, but the overhanging portion is made so thin and of such material as to act as a spring.

On the extreme end of the elastic portion of the arm *c*, a bearing *d*, is formed for the journal of the forward roller D; the bearing *h*, for the journal of the rear roller D', being formed on the end of the arm E, which is also made so thin and of such material as to act as a spring. The latter arm is secured to the arm C, by means of a screw *i*, passing through a slightly oblong opening in the arm E, which can thus be adjusted longitudinally to a limited extent. The rollers D, and D', have right and left handed screws cut on their surfaces, the threads of the screws being serrated so as to take hold of the fabric; this arrangement is too well known as a means of distending the cloth to need a more minute description.

The cloth *x*, passes over the front roller D, and under the rear roller D', and thence over the breast beam to the "take up" roller.

Now in all looms, the warp or web is subjected to constant strains and inequalities of tension owing to the constant opening of the warp threads for the passage of the shuttle. The threads of the warp are thus stretched more or less and rendered liable to frequent breakages, the constant stretching of the warp having likewise a tendency to disarrange and strain the entire loom.

If the rollers of the temple are small in diameter, which is well known to those familiar with this class of machinery to be an advantage, they are apt on the stretching of the warp by the opening of the threads, to yield or spring in the middle only, in consequence of which the serrated threads of the screws on the surfaces of the rollers do not take hold of the cloth evenly throughout its breadth.

By my improvement every time the threads of the warp are opened and the latter thereby stretched the roller D, will be depressed and the roller D', raised evenly throughout their whole length, and without



springing in the middle, and the moment the threads of the warp are slackened, at the time they pass each other, the rollers will return to their former position. This is  
5 owing to the portions of the arms C, and E, which project beyond the bracket, being arranged to yield, the bearings of the rollers, rising and falling in obedience to the varying tension of the warp at each stroke of the  
10 lay, and thereby equalizing the tension of the warp throughout the movement of the loom, the rollers at the same time keeping the fabric properly distended.

15 I lay no especial claim to the two rollers with right and left handed screws or to any peculiarity in the construction of the brackets B, as essentially the same devices have been heretofore used. Nor do I claim

broadly hanging roller temples to springs or yielding bars, but

I claim and desire to secure by Letters Patent—

The rollers D, and D', turning in bearing or steps arranged to yield independently of and in contrary directions to each other on  
25 the opening of the warp threads, substantially as and for the purpose herein set forth.

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

WILLIAM H. HOWARD.

Witnesses:

HENRY HOWSON,

CHARLES D. FREEMAN.