J. Mathis.

Loom Temple.

No. 54,269. Patented Apr. 24, 1866.

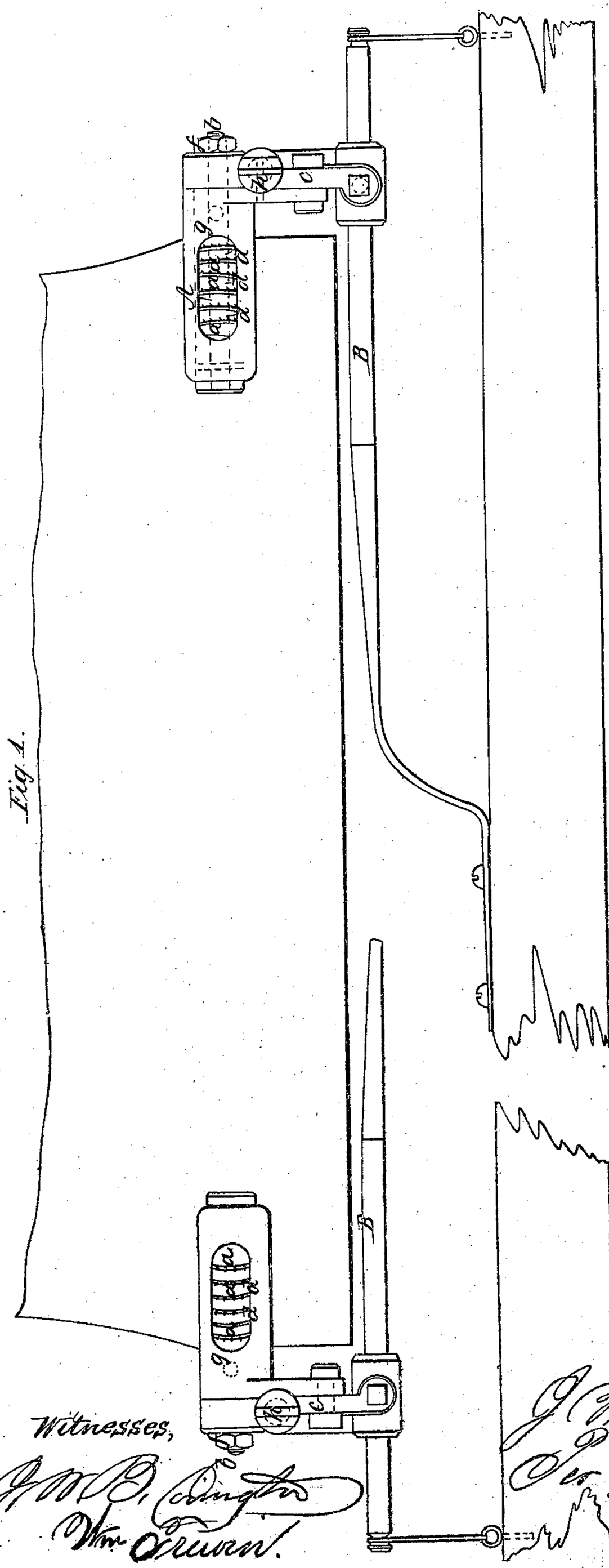

Fig. 1.

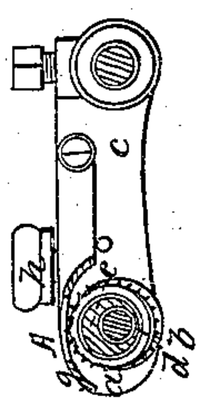

Fig. 3.

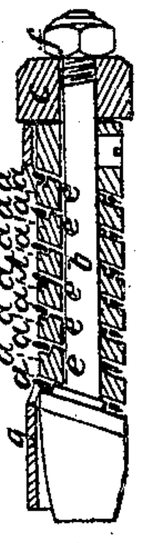

Fig. 2.

Witnesses,

J. W. P. Dingle

Wm. Brown.

Inventor,

J. Mathis

per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

J. MATHIS, OF DORNBEIN, AUSTRIA, ASSIGNOR TO H. KAYSER, OF NEW YORK CITY.

IMPROVEMENT IN ROLLER-TEMPLES FOR LOOMS.

Specification forming part of Letters Patent No. **54,269**, dated April 24, 1866.

To all whom it may concern:

Be it known that I, JOHANN MATHIS, of Dornbein, in the Empire of Austria, have invented a new and useful Improvement in Loom-Temples; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a plan or top view of this invention, showing its application to a loom. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a transverse section of the same.

Similar letters of reference indicate like parts.

This invention relates to a revolving temple with automatic tension, produced by placing the wheels over the circumference of which the woven fabric passes in an oblique position, so that by the revolution of said wheels a lateral tension of uniform power is exerted on the fabric, whereby the said fabric is kept properly distended, and a fabric of uniform width and density can be produced; and, furthermore, the tearing of the selvages is avoided. This temple is also constructed so that the lateral tension which it produces on the fabric can be increased or decreased at pleasure.

A A represent a pair of my temples, one right and the other left. These temples are adjustable on rods B, which are secured to the breast-beam of the loom, by screws or other means, in the usual manner, and by moving the temples on said rods they can be adjusted to the width of the fabric to be woven. Each of these temples is composed of a series of thin disks or wheels, *a*, provided with points on their periphery, and set in an oblique direction on a pin, *b*, which is firmly secured in an arm, *c*. The wheels *a* are kept apart by disks *d* interposed between them, and they are so arranged that they are free to revolve in either direction. This purpose is effected by providing the disks with shoulders *e* (see Fig. 2) of such a depth that the wheels *a* will not be clamped when the disks *d* are forced close together. The shoulders of the disks, however, are not concentric to the peripheries of said disks, and the diameters of the wheels *a* are smaller than those of the disks *d*, so that the points of said wheels will rise above the peripheries of the disks only for about one-half of the circumference. The pin *b* is screwed in the arm *c* by a nut, *f*, so that the same, together with the disks *d* and wheels *a*, can be turned in either direction, and a cap, *g*, which is hinged to the arm *c* and held down by an adjustable button, *h*, keeps the fabric in contact with the upper part of the wheels *a*.

As the fabric passes through between the cap and the wheels (being drawn along by the action of the loom) said wheels revolve, and the fabric is stretched laterally, since those teeth or points of the two temples which simultaneously take hold of the fabric on its edges move apart as the wheels *a* revolve, on account of their oblique position. The amount of strain exerted by the temples on the fabric by reason of the oblique position of the wheels *a* can be determined by the distance of a vertical line drawn through that tooth of one of the wheels which first takes hold of the fabric, from another vertical line drawn down through the same tooth as it passes its highest position on the point where it releases the fabric. By turning the pins *b*, therefore, and thereby varying the obliquity, the degree of strain exerted by the temples on the fabric as the wheels revolve can be adjusted or adapted to the nature of the fabric to be woven, and if desired said strain can be reduced to nothing.

By this arrangement my temples form regulators for the uniform thickness of the fabric, because if the weaver fails to give a uniform tension to the warp-beam the tension produced by the temples becomes irregular, and this inequality would be visible to the attendant, inasmuch as the independent action of each wheel would allow the cloth to gather or not pass those which had not been caused to revolve, or which had moved slower than the others. Furthermore, the breadth of the fabric, no matter how heavy or wide, can be kept uniform from beginning to end.

My temples are readily applied to looms of any desired construction, and they cover up

but a very small area of the fabric, so that all defects can be readily detected. They are not liable to get out of order, and if one of the wheels should wear out it can be easily taken out and replaced by a new one.

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

1. A temple composed of a series of wheels, *a*, set in an oblique position, substantially as and for the purpose herein shown and described.

2. The eccentric shoulders *e* on the disks *d*, which separate the oblique wheels *a*, substantially as and for the purpose set forth.

The above specification of my invention signed by me this 20th day of January, 1866.

JOHANN MATHIS.

Witnesses:
M. M. LIVINGSTON,
W. HAUFF.