Dutcher & Draper.
Loom Temple.

No. 63,872. Patented Apr. 16, 1867.

Fig. 1.

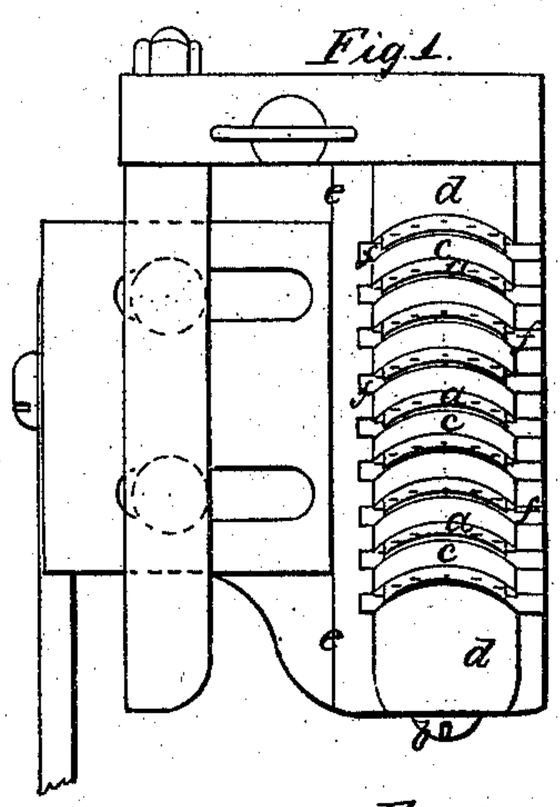

Fig. 2.

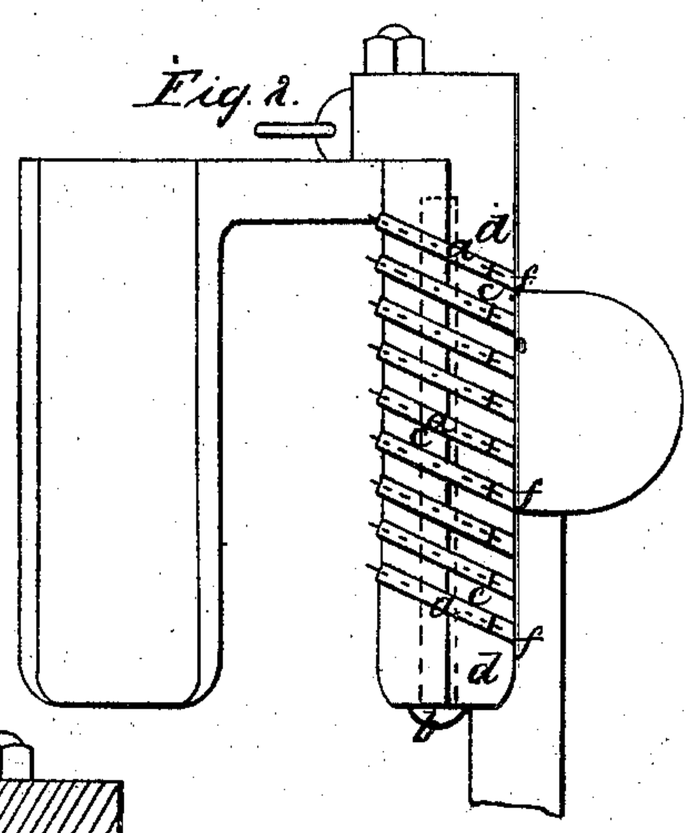

Fig. 4.

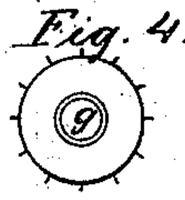

Fig. 5.

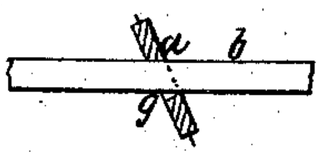

Fig. 6.

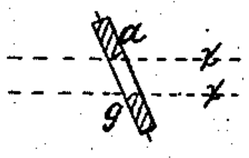

Fig. 3.

Witnesses,
Samuel N. Piper.
Geo. H. Andrews.

Inventors,
Warren W Dutcher and George Draper
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

WARREN W. DUTCHER AND GEORGE DRAPER, OF MILFORD, MASS.

IMPROVEMENT IN LOOM-TEMPLES.

Specification forming part of Letters Patent No. **63,872,** dated April 16, 1867.

To all whom it may concern:

Be it known that we, WARREN W. DUTCHER and GEORGE DRAPER, of Milford, in the county of Worcester and State of Massachusetts, have made a new and useful invention having reference to Loom-Temples; and we do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view of one of our improved toothed-wheel temples and its supporting spring. Fig. 2 is a front elevation of it. Fig. 3 is a longitudinal and vertical section taken through the wheel-carrier, the toothed wheels, and their supporting-pin, the cap of the temple being exhibited as turned back from over the wheels. Fig. 4 is a side view, and Fig. 5 a vertical section, of one of the toothed wheels.

The temple on which our improvement is based is that described in Letters Patent of the United States of America (No. 54,269,) granted, April 24, 1866, to H. Kayser, assignee of J. Mathes.

In the construction of the patented temple of the said Mathes each of the toothed wheels, arranged between disks or supports placed in a rod or pin, instead of being placed directly on such pin, going through the entire series, is supported on a shoulder or cylindrical projection, whose periphery is necessarily arranged at right angles with the faces of the next adjacent cheeks or disks on opposite sides of such wheel. The construction of the temple, as represented in said patent, renders the temple a very costly one in comparison with roller-temples in common use.

In carrying out our invention we have endeavored to effect a cheaper construction of the temple so patented, and we have provided a better means of supporting the series of oblique wheels employed in the formation of the said patented temple—that is to say, we have made the wheel-carrier and separating-disks in one piece of metal, and in form analogous to a comb. We also apply each of the wheels directly to one supporting-pin going through the carrier and all the wheels and their separating plates or disks; and in order that each wheel arranged obliquely on such pin may freely revolve thereon, and between the supporting-plates of such wheel, we make the pin-receiving orifice or eye of such wheel in the form of a conic frustum, instead of cylindrical, for were it cylindrical, and with a diameter equal, or about equal, to that of the pin, it could not be revolved on the pin, as the cheeks for sustaining the wheel would prevent it from being so revolved.

In the drawings, *a a a*, &c., denote the series of toothed wheels as arranged axially and obliquely on one common pin, *b*, going through them and their supporting-disks or separate plates *c c c*. These supporting-plates *c c c d d* we project from one common plate, *e*, and obliquely thereto, and parallel to one another, in manner as represented; or we construct the whole from or in one piece of metal, and by cutting oblique and parallel recesses therein, as shown at *f f f* in the drawings. Each of the wheels, provided with teeth extended from its periphery, we make with a frusto-conical aperture, *g*, through its middle, the slope of the side of such aperture being at, or about at, an angle with the greater base of such aperture equal to the acute angle which the side of the wheel makes with the pin on which the wheel is supported. The wheel so formed will be capable of freely revolving between its cheek-pieces and on the center-pin.

We sometimes form the eye *g* conical in opposite directions, as shown in section in Fig. 6. In this figure the dotted lines *x x x x* exhibit the pin or its arrangement with the wheel having the conical eye formed with two frusta. The advantage of this eye is, that it enables the wheel to be placed on the pin without rendering it necessary to always introduce the pin at one particular end of the eye.

Instead of employing a series of such partitional cheek-pieces to go between the several wheels, we can substitute for each of such cheek-pieces a wheel made with a frusto-conical aperture, and provided or not with teeth, cheeks being employed against outer wheels to maintain the series of wheels at their proper obliquity to the center-pin. We mention this mode of making the temple, although we do not deem it so advantageous as that in which stationary cheek-pieces projecting from a plate are employed.

Instead of teeth being inserted in the wheels, such teeth may be formed thereon, as they are in a saw.

We make no claim to a loom-temple composed of a series of toothed wheels made and arranged in manner, and upon separate journals or axes, as represented in the patent hereinbefore mentioned.

What we claim as our invention or improvements is as follows:

1. Each toothed wheel as constructed with the frusto-conical eye, substantially as described.

2. The toothed wheels so made, and their arrangement directly on and so as to bear on one common pin and in a carrier, substantially as specified.

3. Our improved carrier as made with the cheek-pieces extended from and combined with a single supporting-plate, as specified.

4. The arrangement of a series of toothed wheels between cheek-pieces, or their equivalents, and on and so as to bear on one common pin or axis, and with each wheel inclined thereto, and provided with an eye which, while resting on the pin, will allow the wheel to be freely revolved thereon and between the cheek-pieces.

WARREN W. DUTCHER.
GEORGE DRAPER.

Witnesses:
R. H. EDDY,
F. P. HALE, Jr.