W. W. Dutcher,

Lawn Temple.

No. 106,797. Patented Aug 30. 1870.

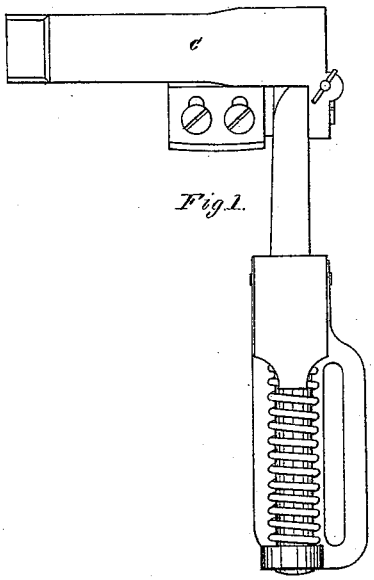

Fig. 1.

Fig. 2.

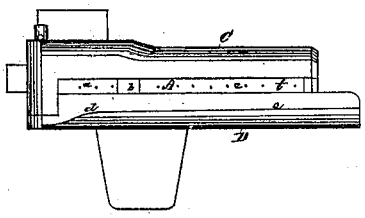

Fig. 3.

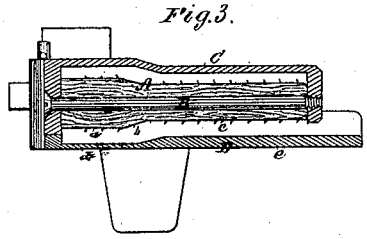

Fig. 4.

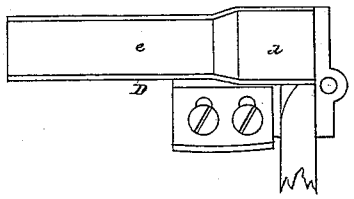

Fig. 6.

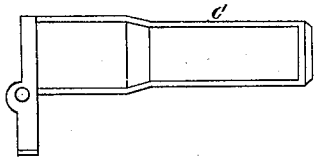

Fig. 5.

Witnesses.

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J. R. Brown

Warren W. Dutcher.

by his attorney

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WARREN W. DUTCHER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE DUTCHER TEMPLE COMPANY, OF SAME PLACE.

Letters Patent No. 106,797, *dated August* 30, 1870.

IMPROVEMENT IN ROLLER-TEMPLES FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, WARREN W. DUTCHER, of Hopedale, of the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Roller-Temples for Looms for Weaving Cloth; and do hereby declare the same to be fully described in the following specification, and represented in the drawing, of which—

Figure 1 is a top view, and

Figure 2, a front elevation of one of my improved loom-temples.

Figure 3 is a vertical section taken in line of the axis of the compound or differential roller.

Figure 4 is a top view of the trough.

Figure 5 is a top view of the compound or differential roller.

Figure 6 is an under-side view of the roller-cover.

In weaving broadcloth, or other fabrics leaving a list at either or each edge, it is customary to employ a much coarser wool or material for the list than for the body of the cloth. Owing to the fact that in the process of pulling the cloth after it is woven the list will, or generally does, shrink very much more than the body part of the cloth, it becomes necessary to weave the list longer than the body, whereby the list, after being woven, has a corrugated or ruffled appearance, all of which becomes removed by the process of fulling the cloth.

Previous to my invention it has been found very difficult to produce a temple which would answer well for use in a loom for making a listed cloth. I have, however, succeeded in accomplishing such result.

In carrying out my invention I make that part of the temple-roller which is to operate on the list cylindrical, and of a diameter greater than the cylindrical part which is to operate on the body of the cloth, and I also form the temple-trough, and the cap thereof, larger in diameter about the list-part of the roller than they are about the body-portion, each part of the trough being preserved at a like distance, or about so, from the part of the roller encompassed by it.

In the drawing the temple-roller A is represented as composed of two cylindrical portions, *a c*, united by an intervening conic or tapering frustum, *b*, the part *a* being of greater diameter than the part *c*, which is to operate on the body part of the cloth, while the part *a* may be in operation on the list.

Each part *a c* is to be studded with teeth, *t*, like an ordinary temple-roller.

The duplex or differential roller thus made is mounted on a spindle, B, supported in and by the cap C of the trough D.

Those portions *d e* of the trough which extend about the roller are to be arranged at such a distance or distances from it as to admit the list and body of the cloth to properly pass through the trough and against the roller, in order that the teeth of the latter may suitably act on the cloth. The interior of the cap, where encompassing the roller, is to be concentric with it, and generally at the same distance from it throughout.

From the above it will be seen that, while the temple may be in use, the part *a* of the roller will revolve with the part *c*, and will take up the list faster than the part *c* does the body of the cloth. The diameters, as well as the circumferences of the parts *a* and *c*, should be in proportion to the length of list to any given length of body of the cloth.

The temple-roller spindle, instead of being supported by the cap, may be sustained by the trough, as in various other roller-temples, but I prefer to apply the spindle directly to the cap, as, when so applied, it may be supported at or near each of the ends of the spindle, whereas, when supported by the trough, the support has to be at one end only thereof.

I would also remark that the differential roller, as made with its parts *a c* connected by a conic or tapering frustum, *b*, is much preferable to a differential roller composed only of two cylinders of different diameters, with the end of one abutted against and connected to that of the other, as such a roller, though useful, cannot be employed to the advantage of one having its cylinders connected by a tapering frustum.

I claim—

1. The temple-roller, as made of the connected list and body-cylinder *a c*, having different diameters, as and for the purpose as described.

2. In combination with the differential roller A, formed of the connected list and body-cylinders *a c* of different diameters, as described, the trough, as made with its list and body-receiving parts of different diameters, and arranged with the parts *a c* of the roller, as explained.

3. In combination with the differential temple-roller and trough, substantially as described, the cap, as formed, with its parts embracing the list part *a* of the roller of a greater diameter than the part covering the body part *c* of such roller, the whole being as set forth.

4. The temple-roller, as made with the parts *a c* of different diameters, and connected by a conic frustum *b*, the trough and cap to operate with such roller, being substantially as described and represented.

WARREN W. DUTCHER.

Witnesses:

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J. R. SNOW.