E. S. STIMPSON.

Temple for Looms.

No. 159,050. Patented Jan. 26, 1875.

Fig. 1.

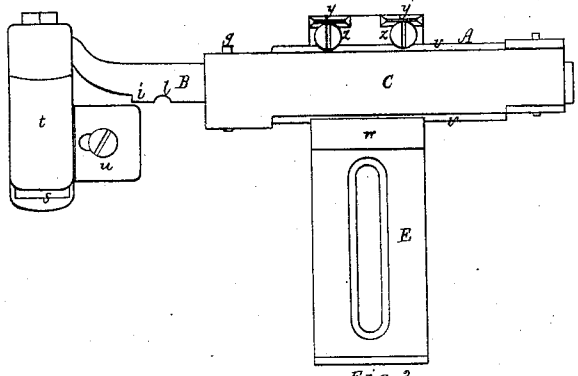


Fig. 2.

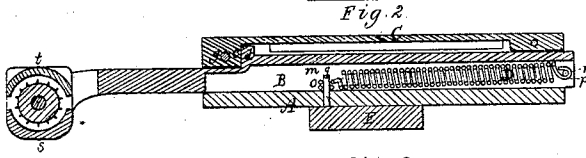


Fig. 3.

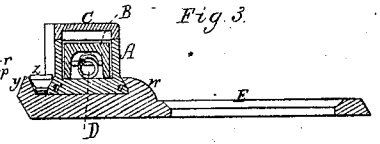


Fig. 5.

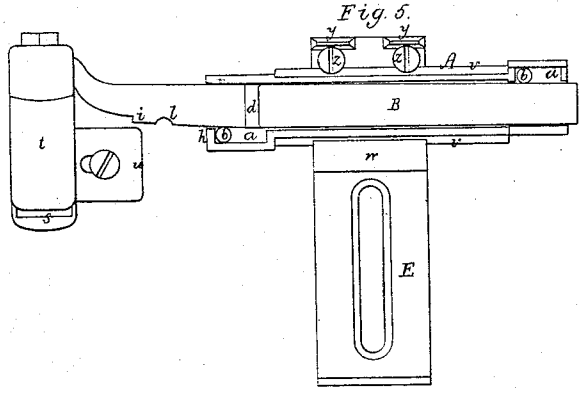


Fig. 4.

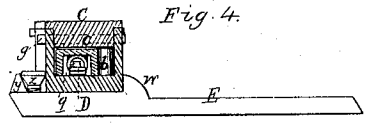


Fig. 6.

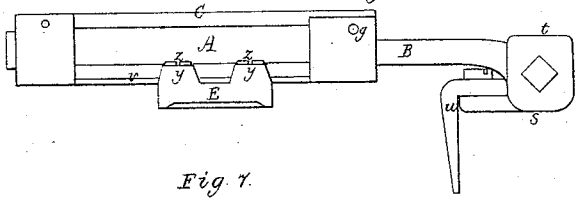


Fig. 7.

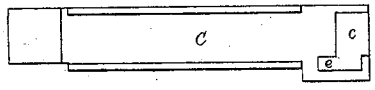


Fig. 8.

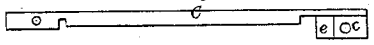
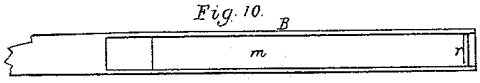


Fig. 9.

Fig. 10.



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UNITED STATES PATENT OFFICE.

EDWARD S. STIMPSON, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE DUTCHER TEMPLE COMPANY, OF SAME PLACE.

IMPROVEMENT IN TEMPLES FOR LOOMS.

Specification forming part of Letters Patent No. **159,050**, dated January 26, 1875; application filed December 9, 1874.

To all whom it may concern:

Be it known that I, EDWARD S. STIMPSON, of Hopedale, of the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Temples for Looms; and 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 a roller-temple, containing my invention. Fig. 2 is a longitudinal section of it. Fig. 3 is a transverse section of it, taken through the support-plate stand or carrier. Fig. 4 is a transverse section of the temple, taken through one of the friction-rollers to be described. Fig. 5 is a top view of the temple, with the cap of its case removed. Fig. 6 is an outer side elevation of the temple. Fig. 7 is an under-side view, Fig. 8 an edge elevation, and Fig. 9 a transverse section, of the cap of the shank-case.

My invention is, properly speaking, an improvement in the well-known "Dutcher Temple."

In carrying out my said invention, I construct the case A for receiving the toothed roller, case supporter or slide-bar or shank B, with two chambers or recesses, *a a*, for reception of two short friction-rollers or cylinders, *b b*. These chambers I arrange at or near the ends of the case, one chamber being on one side and the other on the other side of such case, as shown. Each chamber is to contain one or more friction-rollers, *b*, against the peripheries of which the shank B is to bear. These rollers, while the shank is being moved forward or backward, support it, and roll back with it and against the backs of the recesses or chambers. They are to prevent friction and wear of the shank and its bearings in the case, such as usually result when the case is without any such recess and rollers. The length of each roller corresponds with the depth of its recess, the cap or cover C, and the bottom of the recess, serving to keep the roller in its upright position. The cap, as usual, I provide with an abutment, *c*, for the shoulder *d* of the shank to bring up against, in order to arrest the forward motion of the shank. From this abutment and the cap there is extended, in manner as shown, a projection, *e*, to enter and fit in the upper part of the foremost friction-roller chamber. The said projection *e* supports and guides the friction-roller, and by bearing against the front end of the recess *a* thereof, relieves the front connection-pin *g* of the cover and case from the strain incident to the blows of the shank-shoulder against the abutment, such strain operating to cut off or loosen the pin.

The stop or shoulder to operate with the front part *h* of the case in holding back the shank, and by the lateral strain of the cloth, is shown at *i*. In order that the front friction-roller may not prevent the shank from moving laterally for the shoulder *i* to engage with the part *h*, I form in the side of the shank, and at a short distance in rear of the shoulder *i*, a curved recess, *l*, which, when the roller is against the rear end of its chamber, comes opposite to said roller, and thereby enables the shank to move laterally.

Furthermore, I provide the shank B with a groove or chamber, *m*, (see Fig. 10, which is an under-side view of the said shank B,) to receive the helical spring D, for advancing the shank. At its ends the said spring is provided with eyes *o p*, the forward one of which, when the spring is in place, is hitched upon or receives a stud, *q*, projecting up from the bottom of the case. A pin, *r*, going through the shank B and the rear eye of the spring, serves to connect the spring to the shank.

From the above it will be seen that the spring does not encompass the shank or a rod arranged therein, and acts by contractile force to advance the shank. With my application of the spring there is no danger of it being suddenly contracted and closed so as to break or be injured, as it is liable to when it encompasses the shank and acts by expansion to drive the shank forward.

The shank is to be provided with the roller case or trough *s* with its cover *t*, and adjustable shoulder *u*, all as usual, or as shown.

The case A has two flanges, *v v*, projecting from the opposite sides at their lower parts, as shown, each of said flanges being beveled or inclined on its upper edge, as represented.

The temple carrier or plate E, which sup-

ports the case A, is provided with a lip, *w*, to overlap one of said flanges. Such carrier extends, as usual, underneath and across the case, and projects at one end beyond it a short distance, the part so projecting being provided with two inclined abutments, *y y*, whose edges next the case make obtuse angles with the top surface of the carrier. Between these inclined edges and the inclined edge of the next adjacent flange *v* of the case, screws *z z*, with tapering heads, as shown, are arranged. These screws screw loosely into the carrier, in order that they, on being screwed down against the abutments, may be forced by them hard against the inclined flange in manner to press the case close up to the lip *w*. By applying the screws directly against the inclined abutments and flange, I avoid the use of a "gib" arranged with the screw and flanges, in manner as shown in the United States Patent No. 154,837, dated September 8, 1874, and simplifying the temple.

I do not claim the combination of friction-rollers, moving on fixed axes or journals, with the case and shank of a loom-temple, such being shown in the United States Patent No. 9,502, granted to E. and W. W. Dutcher, December 28, 1852, in which case the rollers were not in closed chambers, but were exposed, so that waste and dust could readily accumulate within, so as to obstruct their operations, all of which is obviated by my improvement, viz., by having the rollers in closed chambers in the case; and besides by having the rollers to roll against the backs of the chambers there will be less friction and wear of them. Nor do I claim a gib arranged with one or more screws and flanges, in manner as shown in the aforementioned patent No. 154,837.

The improved temple described effects a great saving of power in comparison with most if not all other reciprocating temples now or heretofore used, for the large lateral strain of the cloth on these latter temples necessarily induces much friction between the sides of the shank and their supports, such requiring a very strong and stiff spring to overcome this friction and advance the shank during the recession of the lay. The lay in beating up had to overcome this friction and the elastic force of the spring. With my improvement a very much lighter spring or one with less power can be used, thus effecting a saving of power, and greatly reducing the friction and wear of the rubbing surfaces.

I claim as my invention—

1. The shank-supporting case A, provided with the closed friction-roller chambers *a a*, and their rollers *b b*, in combination, and arranged with the shank or bar B, all substantially as specified.

2. The cap C, provided with the abutment *e* and projection *e*, arranged as decribed, in combination with the case A, provided at its front end with the friction-roller *b*, and its receiving-chamber *a*, all being substantially as described.

3. The shank B, provided with the recess *l* and shoulder *i*, in combination with the case A, friction-roller *b*, and chamber *a*, all arranged as set forth.

4. The shank B, provided with the chamber *m*, in combination with the spring D and case A, all arranged and operating together as set forth.

EDWARD S. STIMPSON.

Witnesses:

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