E. OLDFIELD.

Warp-Beam for Looms.

No. 162,188. Patented April 20, 1875.

Fig. 1.

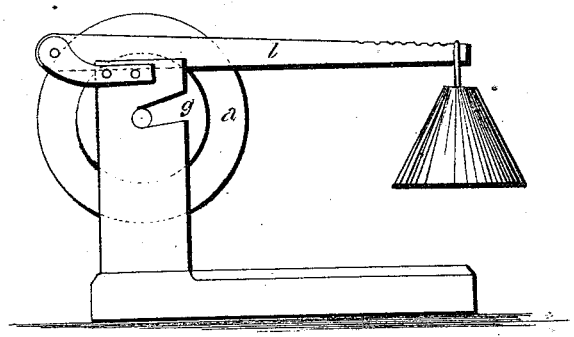


Fig. 2

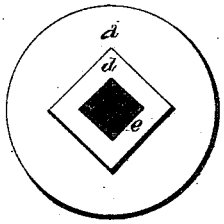


Fig. 3.

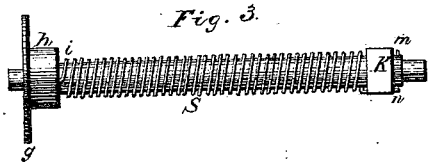
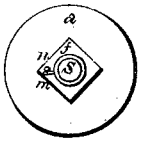


Fig. 4



WITNESSES.

J. Wm. Garner,
T. F. Lehmann.

INVENTOR.

E. Oldfield
per
F. A. Lehmann, Atty

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

EDWIN OLDFIELD, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN WARP-BEAMS FOR LOOMS.

Specification forming part of Letters Patent No. **162,188**, dated April 20, 1875; application filed October 3, 1874.

To all whom it may concern:

Be it known that I, E. OLDFIELD, of Norwich, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Warp-Beams for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in warp-beams for looms; and it consists in the arrangement and combination of the devices, which will be more fully described hereafter.

The accompanying drawing represents my invention.

a represents a reel or warp-beam, with a hole, *b*, through its center, sufficiently large for the spindle *s* to pass through. One end of this reel or warp-beam has a round hole, and on the other a plate, *d*, in which is a square hole, *e*, for the reception of the square block *f* upon the spindle *s*. The spindle *s*, passing through the warp-beam *a*, has on one of its ends, next to its bearing, a friction-plate, *g*, upon which the weighted lever *l* presses to maintain a uniform tension of the threads. Adjoining the friction-plate *g* is a collar or circular projection, *h*, which serves as a bearing for the warp-beam *a*, and on the inside of this collar or projection *h* is fastened one end of the spiral spring *i*, which surrounds the spindle *s*. The other end of the spring *i* is attached to a square block, *k*, which fits into the square hole *e* of the plate *d* on the reel or warp-beam *a*. This block turns freely upon the spindle. Outside of the warp-beam *a*, and in the spindle *s*, is a pin, *m*, to form a stop for a projection, *n*, in the square block *k*, the object of which device is to regulate the tension of the spring, which may be increased or diminished by pushing the block *k* inward, and then turning the spindle as may be required, either to release or tighten the spring. A convolute spring may be used with the same result simply by fastening it to one end of the spindle and engaging with a projection on the end of the beam. Either of these springs may be used, as is desired.

The object of this invention is to keep the warp-threads in a loom of a uniform desired tension, and to give them the required elasticity for the opening and closing of the shed. Though applicable to the weaving of all kinds of fabric, it is especially of great utility on narrow-fabric looms. As at present constructed, whenever the filling-thread runs out, unless instantly observed by the operative, the warp has to be rewound on the beam; and to avoid this loss of time and trouble, and to do away with the necessity of thereby exposing several yards of warp to the action of light, which is injurious to delicate colors of fine silk threads, to give sufficient elasticity to the threads to prevent their breaking, this invention performs automatically what, without it, would have to be done by operatives under great disadvantages.

Having thus described my invention, I claim—

The combination of the warp-beam *a*, spindle *s*, frictional plate *g*, rigid collar *h*, spring *i*, movable angular collar *k*, and pins *m n*, whereby the tension of the spring can be increased and diminished at will, substantially as set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 23d day of September, 1874.

EDWIN OLDFIELD.

Witnesses:

HUGH KING,

ADDISON MONROE.