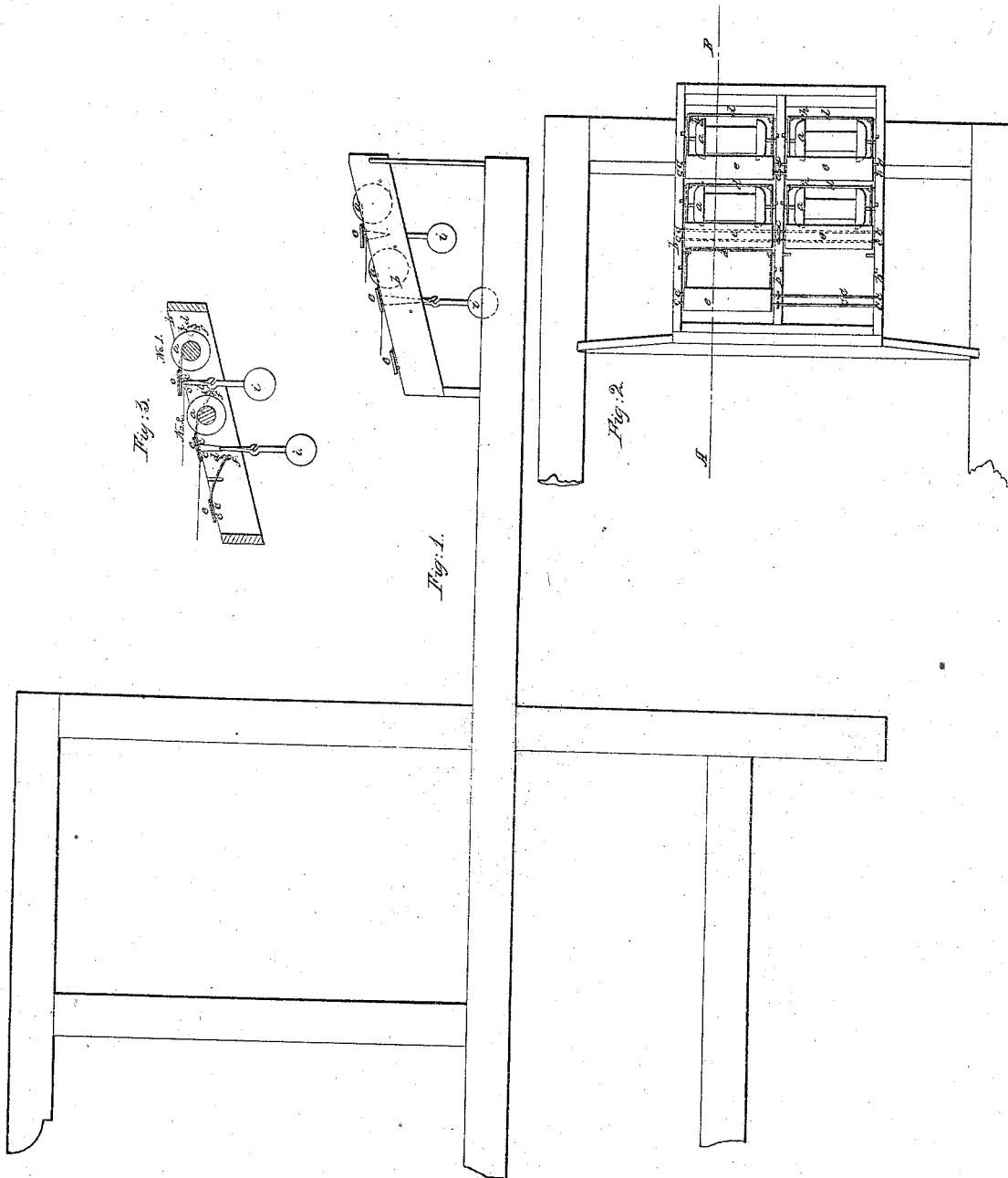


*E. B. Bigelow.*  
*Harp Tension.*

*Nº 3 948*

*Patented Mar. 12, 1845.*



# UNITED STATES PATENT OFFICE.

ERASTUS B. BIGELOW, OF BOSTON, MASSACHUSETTS.

## APPARATUS FOR REGULATING THE TENSION OF WARP IN LOOMS.

Specification of Letters Patent No. 3,948, dated March 12, 1845.

*To all whom it may concern:*

Be it known that I, ERASTUS B. BIGELOW, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful improvement in regulating the tension of warps and regulating their delivery from the bobbins in Brussels and other figured carpets and fabrics of a similar character and for other purposes where a uniform tension is required; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, in which—

Figure 1, is a side elevation of a loom frame with the improvement connected with it. Fig. 2, is a top plan. Fig. 3, is a section through the line A, B, of Fig. 2.

The nature of my invention consists in suspending a weight on the yarn forward of the spool or bobbin, which is so arranged as to unwind the yarn at intervals as the slack is taken up by means of a catch which holds the bobbin from turning till lifted by a weight.

The spools *a*, are arranged in a frame *b*, in the usual way and just in front of each spool two wires *c*, are fixed in the frame; the catch *d*, is formed of wire the ends of which are attached to a thin plate *e*, the position of which is over the wires *c*, above named and extending from end to end of the spool. The wire *d*, curves downward at each end of the spool to a point *f*, just behind it where it is coiled around a pin forming the fulcrum for it in the frame; from thence it is bent upward and crosses over behind and parallel with the spool, and resting against it; from the rim of the spool projects one or more pins *h*, that strike against the wire *d*. This prevents the spool from turning to unwind the yarn. The yarn runs from the spool forward over the wire *c*, nearest to the spool, and thence it passes down to the weight *i*, that is suspended by it, and from that over the other wire *c*, to the shed; by this it will be obvious, that as

the slack yarn is taken up the weight will be raised, and when the yarn is let off from the spool it will fall and all the time continue to keep the yarn stretched with an equal tension. The weight consists of a ball or other shaped poise from which a rod projects; about the middle of the length of this rod is a flattened enlargement through which there is a hole, and from this a slot is cut diagonally downward, thus forming a hook by which the weight is hung onto the yarn, and leaving a portion of the rod to project above it. When the slack of the yarn is used up as above named, and the weight is raised, the upper end of the rod passes up between the wires *c*—strikes against the plate above and raises it; this relieves the pin on the spool from the catch, and allows the spool to turn, which lets off yarn, and causes the weight to descend, the catch being again brought into contact with the spool stops its revolution as it comes around. The position of the weight in raising the catch is shown in No. 2 of the sectional figure 3. No. 1, is represented with the weight down.

It will be obvious that the arrangement of the bobbins in the frame or creel can be varied as well as that of the catches, for instance, placing them endwise toward the loom or vertical and so adapting the catches and weights as to act in that position without changing the general principle.

What I claim as my invention and desire to secure Letters Patent is—

The combination of the weight and catch with the bobbin or spool constructed and arranged in the manner and for the purpose substantially as herein set forth, so that when the weight is drawn up it will relieve the catch, and allow the spool to unwind, and the weight to fall.

E. B. BIGELOW.

Witnesses:

C. HASTINGS,  
J. J. GREENOUGH.