S. Kimballe.

Take-Up and Let-Off.

No. 758. Patented May 30, 1838.

Fig. 2.

Fig. 1.

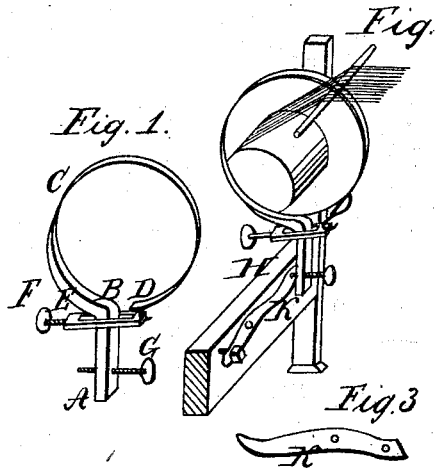

Fig. 3

UNITED STATES PATENT OFFICE.

STEPHEN KIMBALL, OF PUTNEY, VERMONT.

MODE OF APPLYING FRICTION TO THE YARN-BEAMS OF POWER-LOOMS.

Specification of Letters Patent No. 758, dated May 30, 1838.

To all whom it may concern:

Be it known that I, STEPHEN KIMBALL, of Putney, in the county of Windham and State of Vermont, have invented a new and Improved Friction-Belt or Mode of Applying Friction or Resisting Power to Yarn-Beams of Power-Looms; and I do hereby declare that the following is a full and exact description.

The belt is made of steel or iron and is formed in the following manner, commencing at the lower end at A, (under Figure 1 on the drawing,) thence passing up six inches to B, in a straight line and of the size of one half by three fourths of an inch square. From B it is trimmed off in nearly a right angle onto a circle of fifteen inches in diameter and extends around to D, where it forms nearly a circle; from B to C, which forms about one fourth part of the circle. It is graduated down from half an inch in thickness to one eighth or less thence forming a thin plate or strap of three fourths of an inch in width. Below B, and immediately under the circle and parallel with it is placed a slide E, which is made of iron through which the lower end of the belt is passed in a slot of two inches in length. To this slide the end of the belt at D is connected by a hook, passing through holes made in each for that purpose.

At the opposite end of the slide under the letter E, is inserted a screw F; which passes through into the slot and takes a bearing on the perpendicular or large part of the belt.

By turning the screw F, the circle of the belt is contracted or expanded at pleasure which serves to increase or diminish the friction or resisting power. Through the lower end of the belt and parallel with the glide is inserted a screw G, which passes through the belt and bears on an elliptic spring, K, which is attached to the girt of the loom marked H.

Under Fig. 2 on the drawing is represented a section of the loom with a section of the yarn beam to which the belt is attached. The spring K, is attached to the girt H, by two bolts on screws one of which passes through the spring near the center and the other near the back end. This spring is made of steel of one inch or more in width and one fourth of an inch in thickness in the center and is graduated down at each end to one eighth or less and eight or nine inches in length and formed in an elliptic.

Fig. 3 represents the elliptic spring K detached from the girt. The use of this spring is to permit the beam to have a small motion forward at each revolution of the laths, in order to favor the warp and permit its breaking and also to facilitate the movement of the beam in the belt and give it an even movement which it would not receive if it had a dead bearing on the girt. It also preserves an evenness in the cloth. One or two of these belts may be applied to the beam according to the quantity of power required. The beam head where the belt comes in contact should be wound or covered with woolen cloth.

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

The steel or iron spring constructed as herein described in combination with the elliptic spring and warp beam in manner substantially as herein described.

STEPHEN KIMBALL.

Witnesses:

WILLIAM ROBERTSON,

PETER W. DEAN.