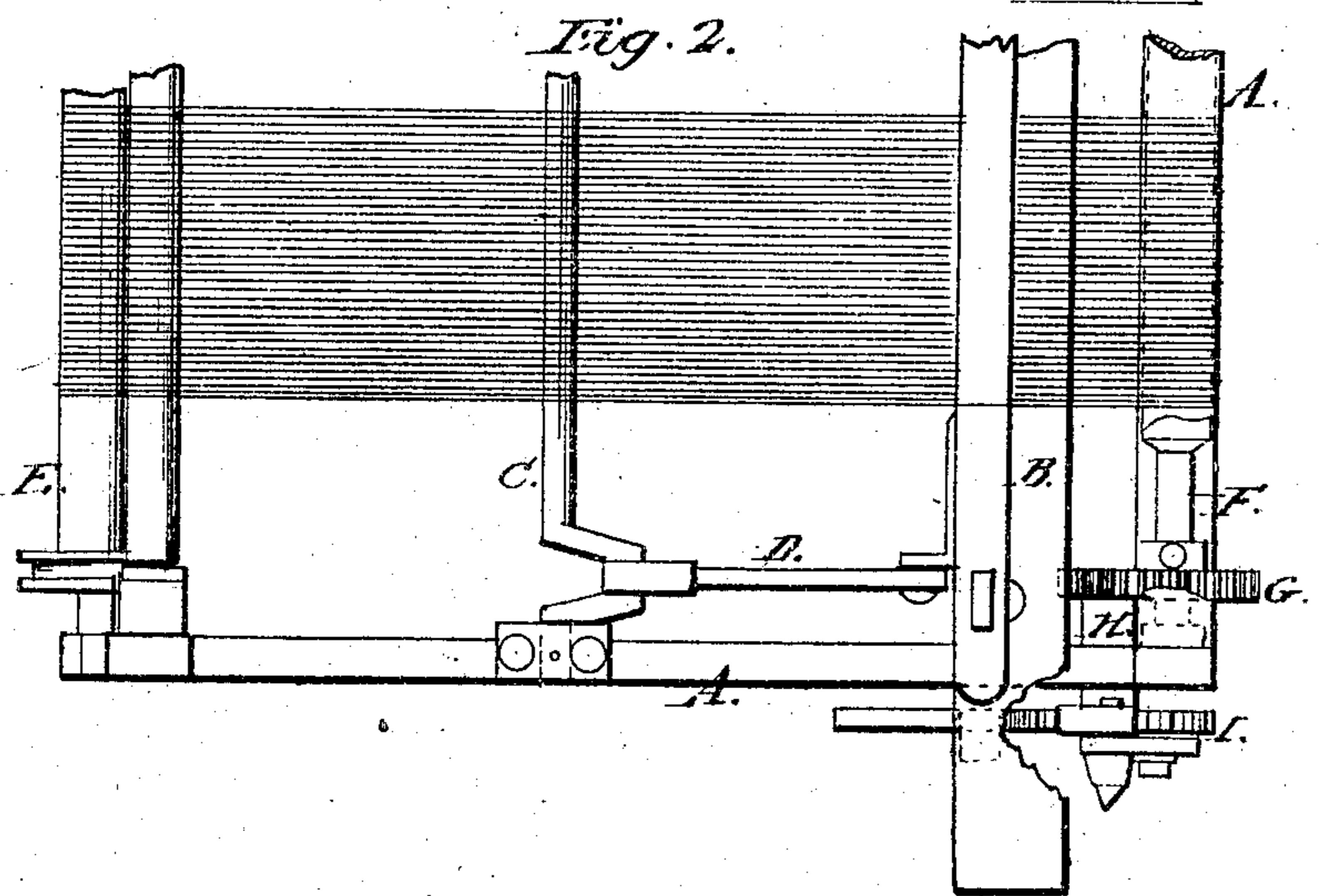
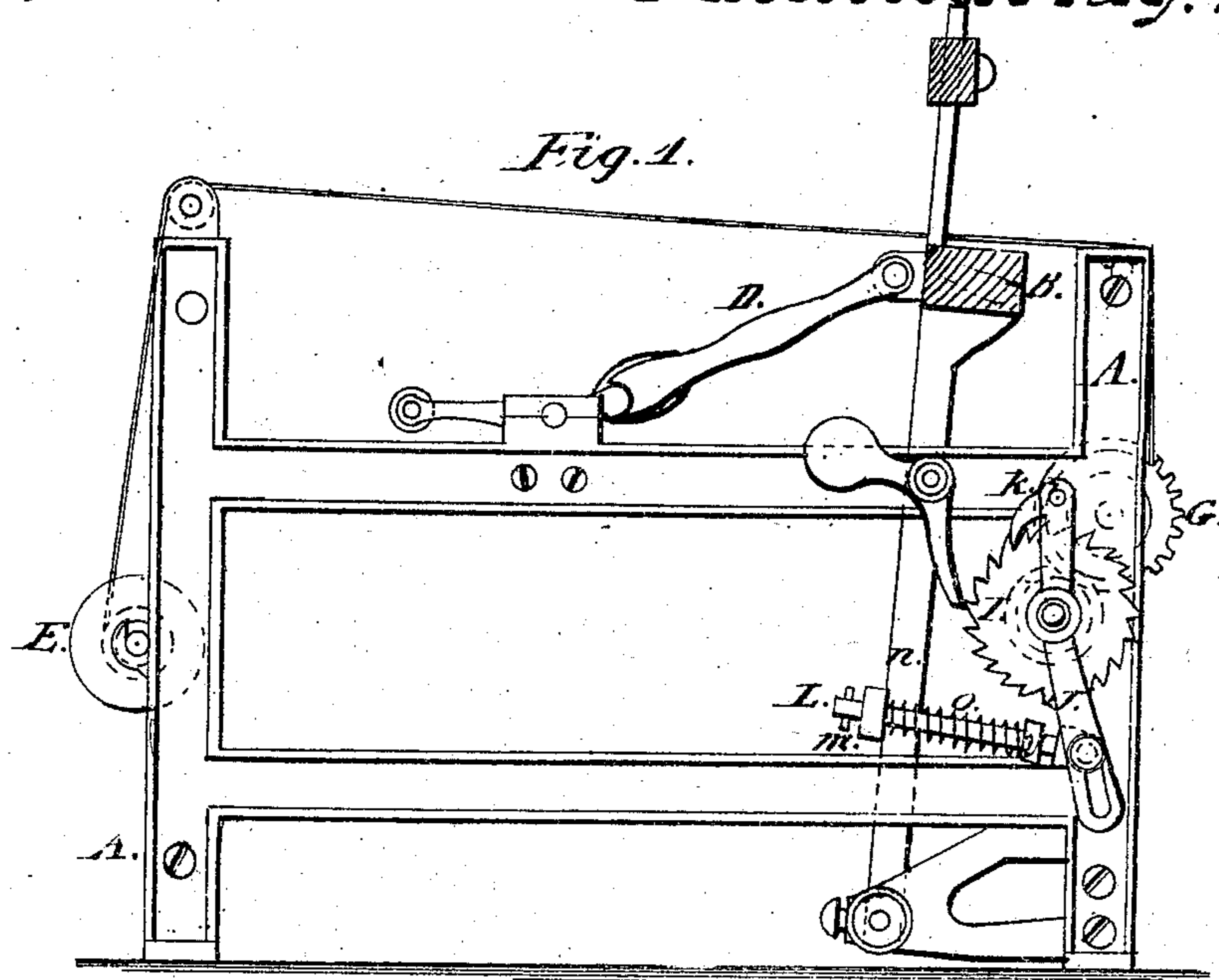


# G. H. Holmes.

## Take-up for Loom.

N<sup>o</sup> 93,441.

Patented Aug. 10, 1869.



Witnesses:  
*Orinichman*  
*Geo W. Mabee*

Inventor:  
*G. H. Holmes*  
*per Munn & Co*  
*attorneys*

*The drawing in this patent  
is not in print.*

# United States Patent Office.

GEORGE H. HOLMES, OF NEW BRUNSWICK, NEW JERSEY.

Letters Patent No. 93,441, dated August 10, 1869.

## IMPROVEMENT IN TAKE-UP FOR LOOMS.

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

To all whom it may concern:

Be it known that I, GEORGE H. HOLMES, of New Brunswick, in the county of Middlesex, and State of New Jersey, have invented a new and useful Improvement in Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in looms, for weaving cloth, having particular reference to the "take-up" of the cloth; and

It consists in the arrangement of mechanism, hereinafter described, whereby the tension of the cloth is regulated.

In the accompanying plate of drawings—

Figure 1 represents an end elevation of the loom, showing the "take-up" mechanism by which the tension is controlled.

Figure 2 is a top view of the loom.

Similar letters of reference indicate corresponding parts.

A represents the frame of the loom.

B is the "lay."

C is the crank-shaft, by which the lay is operated.

D is the connecting-rod.

E is the warp-beam.

The cloth-beam is seen at F, where the frame is broken away in the drawing.

G is a gear-wheel on the end of the cloth-beam, which meshes into another and smaller wheel, on a short shaft which passes to the outside of the loom, through a sleeve-box, H, attached to the frame which bears the ratchet-wheel I.

J is a lever confined on the ratchet-shaft, but free to oscillate thereon.

Upon its upper end is pivoted a dog or pawl, k, which engages with the ratchet-teeth and revolves the cloth-beam when the cloth is taken up.

There may be a slot in the upper end of the lever, so that this pawl k can be adjusted to larger or smaller ratchet-wheels, if desired, which would be found convenient in attaching my "take-up" to old looms.

L is a rod, which connects the lower portion of the lever with the "lay" of the loom, by means of an arm, m, projecting from the leg n.

The lower portion of the lever J is slotted, and the rod is fastened, by a bolt, in this slot, so that the throw of the upper end or pawl k, may be increased or diminished at pleasure.

On the rod L there is a spiral spring, O, one end of which bears against the arm m, and the other end against a nut, p, by which the tension of the spring is increased or diminished as may be desired.

The arm m of the "lay" slides on the rod L, and against the spring O, compressing the spring more or less at each stroke or beat of the lay, according to the tension of the cloth.

When the cloth is slack, the spring will be but slightly (if at all) affected by the arm m, its strength when forced by the arm will move the lever sufficiently to make the pawl revolve the cloth-beam and take up the cloth, but when there is sufficient tension on the cloth, the arm will expend its blow in compressing the spring, and will not throw the lever far enough to move the ratchet.

By this arrangement, the "take-up" is more uniform than by any method now in use, the texture of the fabric is left even and uniform.

The nut p, by which the tension of the spring is adjusted, may be turned automatically, by suitable mechanism connected with the warp-beam E, so that the tension of the spring may be regulated according to the diameter of the warp-roll on the beam.

I do not confine myself to the use of a spiral spring on the rod L, other forms of springs may be applied, so as to produce the same or similar effect.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The slotted lever J, pawl k, ratchet-wheel I, gear-wheel G, the rod L, spring O, nut p, and arm m, the "lay" B, and cloth-beam F of the loom, when arranged, with reference to each other, substantially as herein shown and described, for the purpose specified.

The above specification signed by me, this 6th day of May, 1869.

GEORGE H. HOLMES.

Witnesses:

FRANK BLOCKLEY,  
C. L. TOPLIFF.