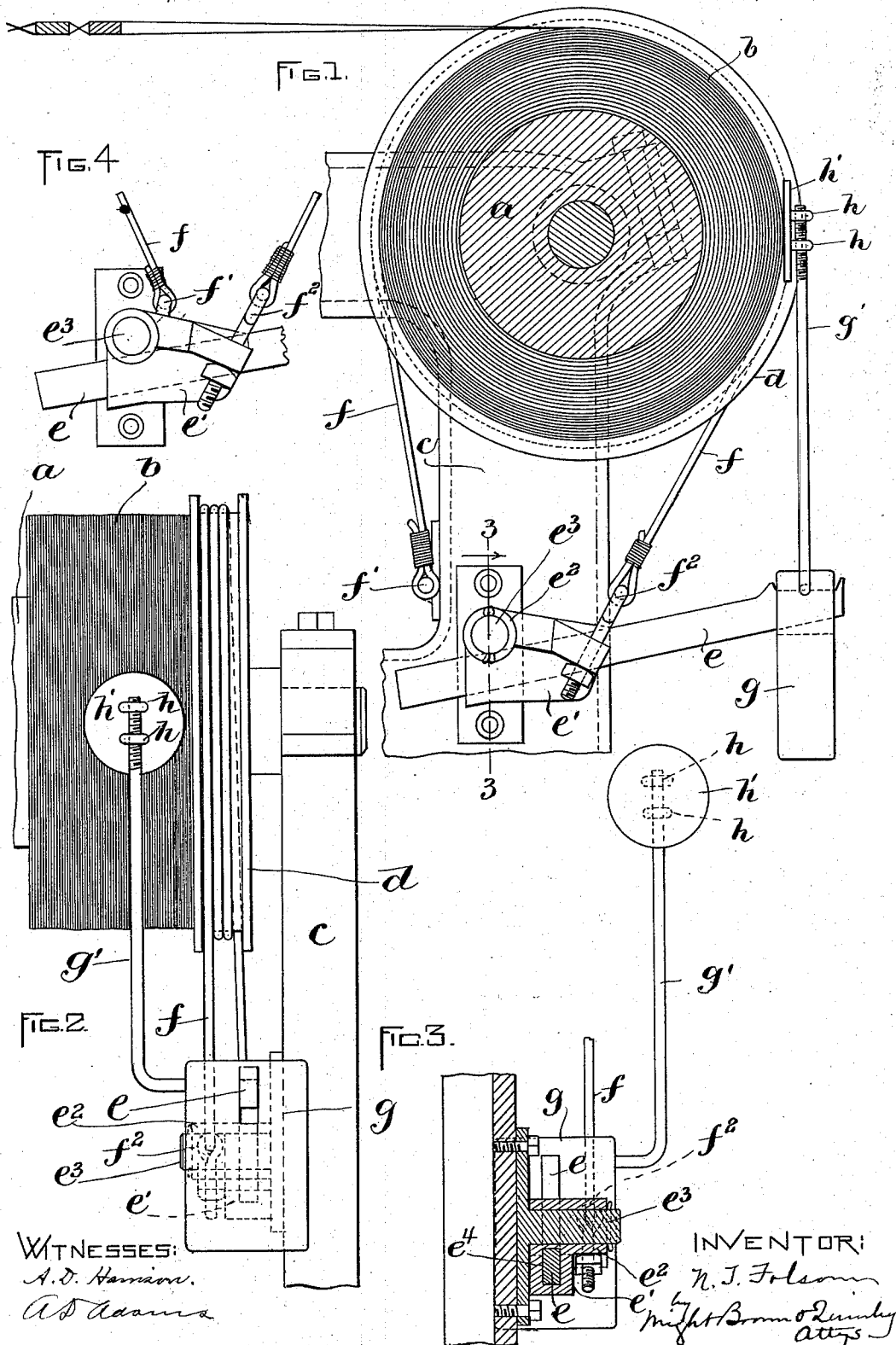


(No Model.)

N. T. FOLSOM.
LET-OFF MECHANISM FOR LOOMS.

No. 562,598.

Patented June 23, 1896.



UNITED STATES PATENT OFFICE.

NEHEMIAH T. FOLSOM, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR OF
ONE-HALF TO JOHN S. FOLSOM, OF MILLIS, MASSACHUSETTS.

LET-OFF MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 562,598, dated June 23, 1896.

Application filed March 21, 1896, Serial No. 584,240. (No model.)

To all whom it may concern:

Be it known that I, NEHEMIAH T. FOLSOM, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Let-Off Mechanism for Looms, of which the following is a specification.

This invention relates to appliances designed to vary the resistance to the unwinding of the warp from the warp-beam of a loom according to the decrease in diameter as the warp unwinds.

In my application for Letters Patent of the United States filed October 14, 1895, Serial No. 565,568, I show a let-off mechanism comprising a lever pivoted at one end to the frame of the machine under the warp-beam and having an upward inclination, a brake-strap connected at one end to the frame of the machine and at the other end to the said lever near its pivot, said brake-strap winding on a pulley on the warp-beam, a weight embracing the inclined part of the lever and adapted to slide on the same, and having a rigid upstanding arm, and a shoe on said arm adapted to be pressed against the roll of warp by the downward tendency of the weight on the lever.

My present invention has for its object to prevent the inconvenience caused by the projection of the said lever outside of the warp-beam, particularly when the warp-beam is nearly empty, the outer end of the lever being farther from the periphery of the accumulation of warp upon the beam when the beam is nearly empty than when it is full.

The invention consists in a let-off mechanism comprising the general features set forth in the former application above referred to, with the following difference, namely, the weight, instead of sliding on a lever which is pivoted to the frame of the loom, and has no endwise movement, is affixed to a bar or lever which slides with the weight in a lever-head which is pivoted to the frame of the machine and has a guide or slot in which the weighted lever is movable endwise, so that as the weight moves inwardly the lever moves with it and does not project outside of the accumulation of warp when the beam is comparatively empty any farther than when the beam is full.

Of the accompanying drawings, forming a

part of this specification, Figure 1 represents a side elevation of my improved let-off mechanism, the warp-beam being shown in section. Fig. 2 represents a front elevation. Fig. 3 represents a section on line 3 3 of Fig. 1.

In the drawings, *a* represents the warp-beam; *b*, the accumulation of warp thereon; *c*, the frame of the loom, and *d* the disk or pulley affixed to one end of the warp-beam.

e' represents a lever-head, which is pivoted to the frame of the machine, preferably by means of a socket *e²*, formed on said head, and a stud *e³*, affixed to the loom-frame and entering said socket, the head being adapted to oscillate in a vertical plane. The head *e'* is located under the warp-beam, and in close proximity thereto, as shown in Fig. 1, and is provided with a guide or slot *e⁴*, Fig. 3, which extends through it, below the pivot or stud *e³*.

f represents a brake-strap, which is wound several times about the pulley *d*, and is fastened at one end to the frame of the machine at *f'*, and at the other end to the lever-head *e'* at *f²*, said strap being arranged to hold the lever-head with its slot or guide *e⁴* in an inclined position.

g represents a weight, which is secured to one end of a bar or lever *e*, and has an upwardly-projecting arm *g'*, the upper end of which is engaged with ears *h h* on a shoe *h'*, adapted to bear against the accumulation of warp *b*, said arm being rigidly attached to the weight *g*, so that it cannot swing independently. The bar or lever *e* is fitted to slide in the slot or guide *e⁴* of the lever-head, and is adapted by the inclination of said slot or guide to move by gravitation in the direction required to carry the shoe *h'* toward the axis of the warp-beam.

It will be seen that as the accumulation of warp decreases, the weighted bar or lever *e* slides inwardly as fast as the shoe *h'* will permit, the weight *g* being thus moved toward the pivot of the lever-head, as the diameter of the roll lessens. Hence the tension exerted by said weight upon the brake-band *f* is lessened as the accumulation of warp decreases.

It will be seen that by making the lever which supports the weight *g* movable inwardly with said weight, I avoid any inconvenient projection of the lever from the sur-

face of the accumulation of warp, the lever
receding with the weight, so that it projects
no farther from the warp when the beam is
comparatively empty than when the beam is
5 full.

The strap *f* may be connected at both ends
to the lever-head, as shown in Fig. 4, instead
of being connected at one end to the frame.

I claim—

10 A let-off mechanism for looms, comprising a
lever-head pivoted to the frame of the ma-
chine under the warp-beam and having a
longitudinal guide or slot, a brake-strap ar-
ranged to hold the head with its guide or slot
15 in an inclined position, said strap encircling
a pulley on the warp-beam, a weighted bar or

lever fitted to slide in said inclined guide and
adapted by the inclination thereof to move by
gravitation in the head, an upwardly-project-
ing arm rigidly connected with said lever, 20
and a shoe on said arm adapted to be pressed
against the roll of warp by the gravitating
movement of the weighted lever.

In testimony whereof I have signed my
name to this specification, in the presence of 25
two subscribing witnesses, this 12th day of
March, A. D. 1896.

NEHEMIAH T. FOLSOM.

Witnesses:

C. F. BROWN,

A. D. HARRISON.