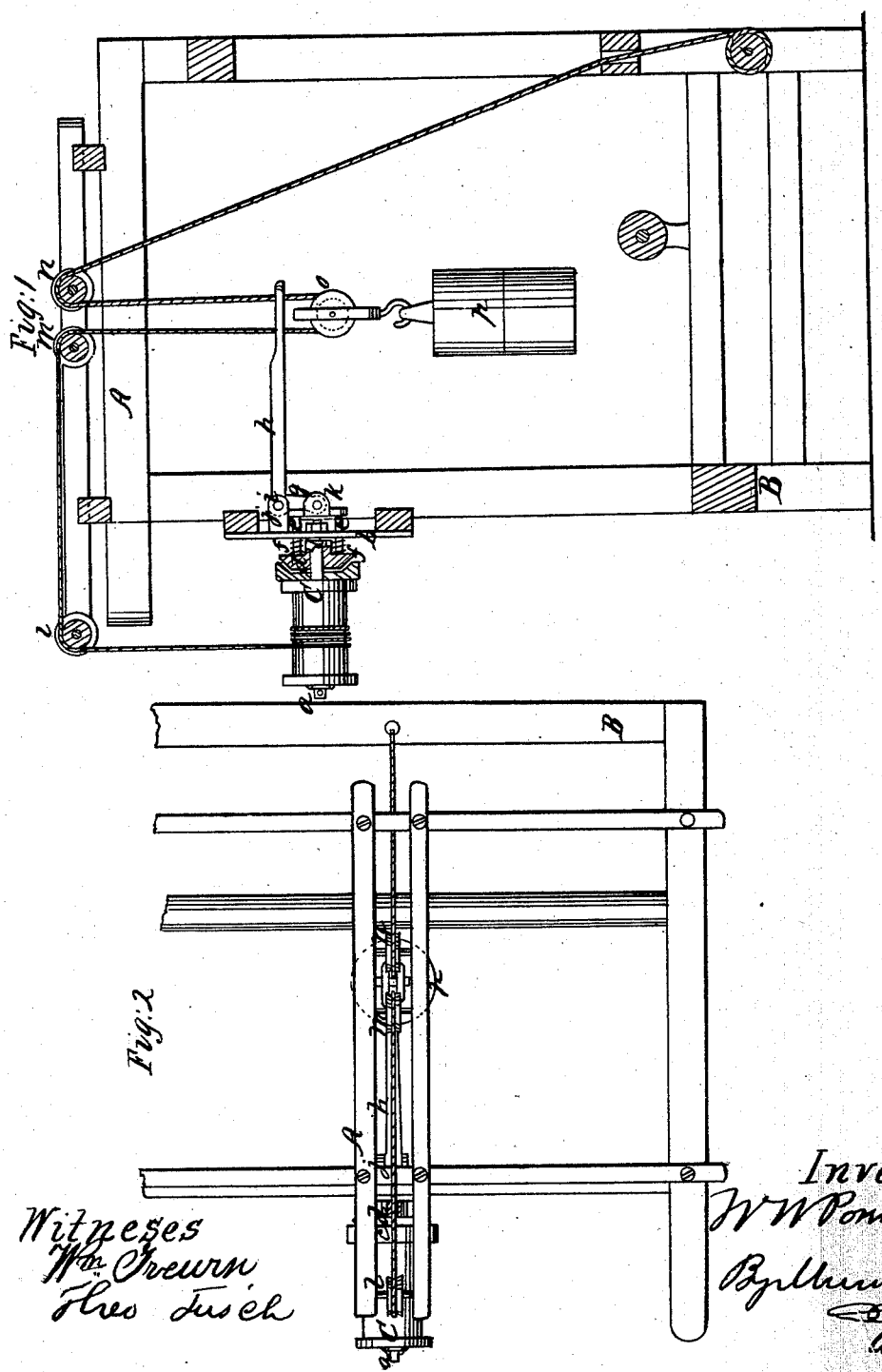
W. W. POMEROY.

LET-OFF FOR LOOMS.

No. 49,479. Patented Aug. 15, 1865.



Witnesses
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UNITED STATES PATENT OFFICE.

WM. W. POMEROY, OF EAST HAMPTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND J. W. WILSON, OF SAME PLACE.

IMPROVEMENT IN LET-OFFS FOR LOOMS.

Specification forming part of Letters Patent No. **49,479**, dated August 15, 1865.

To all whom it may concern:

Be it known that I, WILLIAM W. POMEROY, of East Hampton, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Let-Off Motion for 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, in which—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention consists in the combination, with the mechanism hereinafter described, which holds the yarn-beam and prevents it from turning spontaneously, of a weight suspended from a sheave which rests in a bight of the warp in such a manner that by the action of said weight against the mechanism which holds the yarn-beam the warp is set at liberty whenever the loom requires it, and at the same time by the weight all the slack in the warp is taken up and allowed to pass to the loom as required.

The friction apparatus consists of a concave conical socket or seat in the end of the warp-beam, in combination with a conical plug sliding on the axle of said warp-beam and connected to the lever, which is acted upon by the weight, as above stated, in such a manner that when said lever is left to follow its own inherent gravity, assisted by the action of spiral springs, the conical plug is pressed into the conical seat with sufficient force to hold the warp-beam stationary; but as soon as the lever is raised the warp-beam is released and a portion of the warp is let off.

A represents the top castle or upper part of a loom, the working parts of which have their bearings in a frame, B, constructed of wood or any other suitable material in the usual manner.

C represents the warp-beam, or one of a series of spools from which the warp is taken. The axle *a* of this warp-beam is secured to a plate, *b*, of cast-iron or other suitable material, which is rigidly attached to the frame B. Said axle is stationary, the warp-beam being arranged to turn on it freely. The end of the warp-beam is provided with a conical socket or seat, *c*, which is intended to receive a corresponding conical plug, *d*, that slides back and forth on the axle *a* of the warp-beam. Said plug is guided by a pair of pins, *e*, which pass through the plate or bracket *b*, and spiral springs *f*, placed between said bracket and the plug, have a tendency to force the latter into the conical socket or seat of the warp-beam.

From the inner end of the bracket *b* extends an elbow-lever, *g h*, which has its fulcrum on a pin, *i*, secured in lugs *j*, that are rigidly attached to or cast solid with the bracket. The short arm *g* of this elbow-lever is pivoted to a cross-head, *k*, which connects the guide-pins *e*, and the long arm *h* extends in a horizontal direction under the top castle of the loom, and it is provided with a slot through which the warp passes up and down, as shown. As the warp leaves the warp-beam it is drawn over two pulleys, *l m*, in the top castle, and from the last-named pulley *m* it passes down through the slot in the lever *h*, thence up over the pulley *n*, and down to the loom. In the bight formed by the warp passing down and up through the slotted lever hangs a pulley-block, *o*, from which a weight, *p*, is suspended, as clearly shown in Fig. 1 of the drawings. This weight may be composed of a series of slip-weights, so that the strain on the warp can be increased or decreased at pleasure. As the warp is taken up by the loom the weight *p* rises gradually until the pulley-block *o* strikes the lever *h*, and by forcing the same up the conical block is withdrawn from the socket in the end of the warp-beam, and said warp-beam is free to revolve. A quantity of warp being thus let off the weight descends and the lever *g h* returns to its original position, forcing the conical plug back in its socket or seat and holding the warp-beam stationary. All the slack in the warp is taken up by the weight, and if the work has to be let back for some cause, it is not necessary

to turn the yarn-beam back in order to turn up the warp, and much labor and time are saved. By means of this let-off motion a perfectly uniform strain on the warp can be effected, and the fabric produced is of uniform density throughout.

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

The conical socket or seat in the end of the warp-beam, in combination with the sliding friction-plug, elbow-lever, and weight suspended from the bight in the warp, substantially in the manner and for the purpose set forth.

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Witnesses:
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