

W. Hall.

Let-Off for Looms.

N^o 80,625.

Patented Aug. 4, 1868.

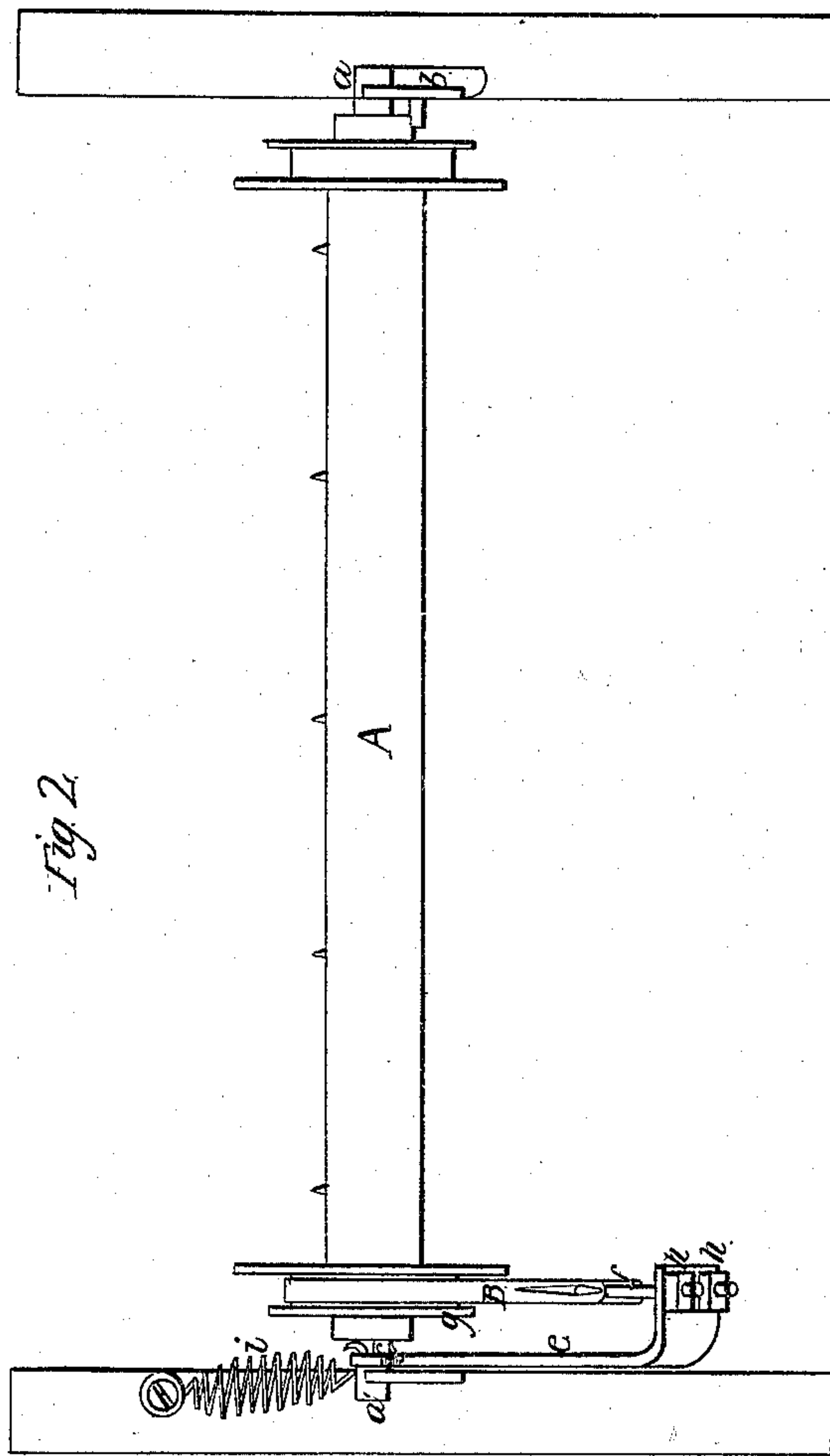


Fig. 2.

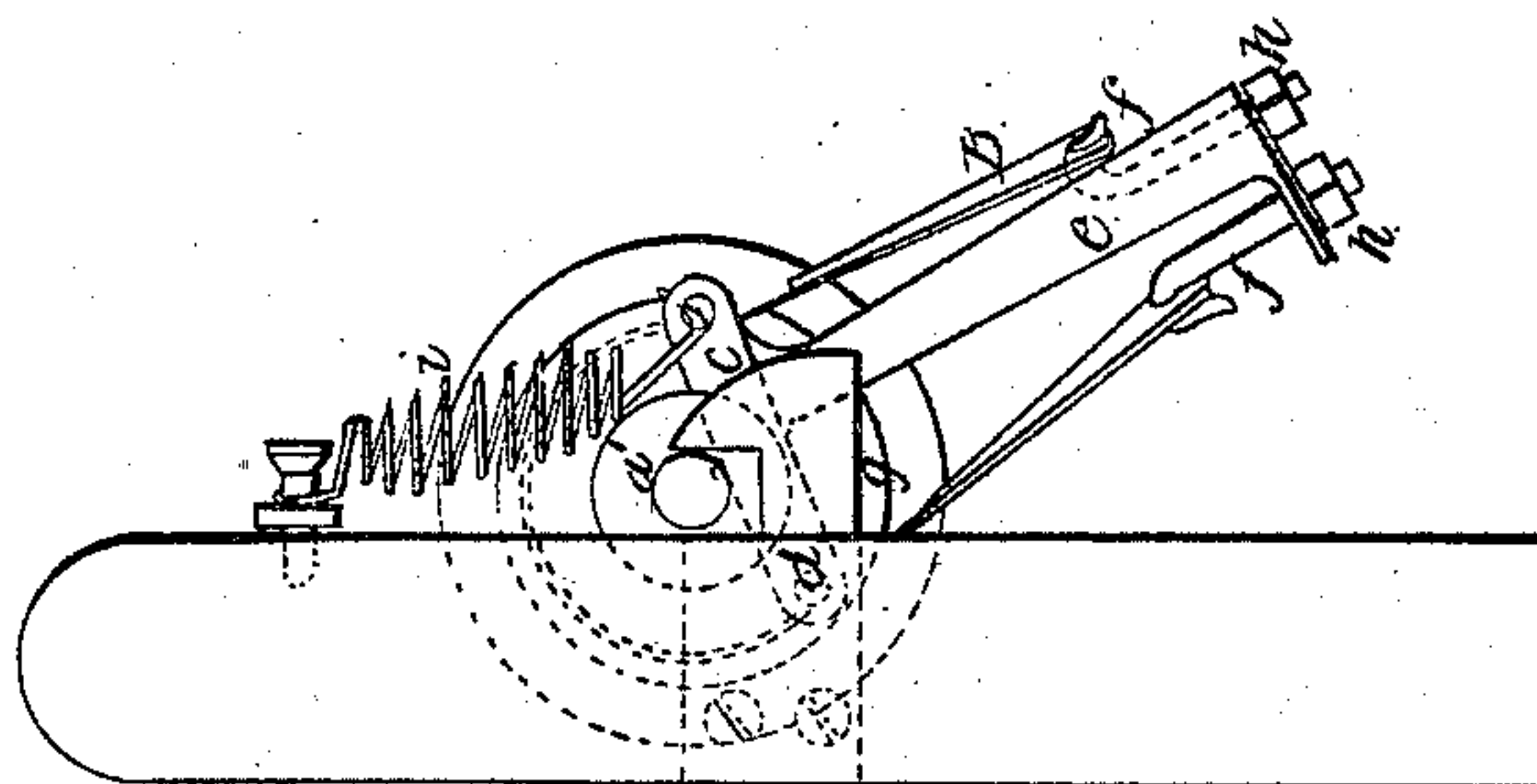


Fig. 1.

Witnesses:

Wm. A. Morgan

J. C. Cotton

Inventor

Wm. Hall

per *Wm. Morgan*

Wm. Morgan

United States Patent Office.

WILLIAM HALL, OF NORTH ADAMS, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JOHN W. PITT, OF SAME PLACE.

Letters Patent No. 80,625, dated August 4, 1868.

IMPROVEMENT IN LET-OFF MECHANISM 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, WILLIAM HALL, of North Adams, in the county of Berkshire, and State of Massachusetts, have invented a new and improved Let-Off Mechanism for Looms and other machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those 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 improved let-off mechanism for looms and other machines in which a warp or web is required to be unwound or let off from a shaft with as uniform a tension as possible.

The object of the invention is to obtain a simple means to effect the above result, and one which will keep the warp or web at a uniform tension throughout, or from the commencement of the let-off to the end of the same.

In the accompanying sheet of drawings—

Figure 1 is a side view of my invention.

Figure 2, a front view of the same.

Similar letters of reference indicate corresponding parts.

A represents a shaft, on which the warp or web is wound.

One journal, *a*, of this shaft is fitted in a fixed bearing, *b*, on the loom or other machine, and the other journal, *a'*, is fitted on a bearing, *c*, which is pivoted to the machine, as shown at *d*, said bearing extending forward, and having a bar, *e*, extending down from it, as shown clearly in fig. 1.

This bearing *c* and bar *e* form what may be termed a bent lever, having *d* for its fulcrum.

The lower end of the bar *e* of this lever has two hooks, *ff*, fitted to it, on which the ends of the belt B are secured, and this belt passes over a pulley, *g*, on shaft A, a greater or less degree of tension being given the belt by turning screw-nuts, *h*, on the lower ends of the hooks.

To the front end of the bearing *c* there is connected one end of a spiral spring, *i*, the opposite end being attached to the frame of the machine.

This spring has a tendency to keep the bar *e* elevated to a certain extent, and the belt B rather loose on the pulley *g*.

By depressing the bar *e*, the tension of the belt B is increased, as will be fully understood by referring to fig. 1.

From the above description it will be seen that when the warp or web on the shaft A is first put into the machine, its weight will keep the bar *e* considerably depressed, and the belt B comparatively taut, so that the friction thus produced will compensate for the length of leverage due to the large diameter of the warp or web.

As, however, the warp or web is unwound from the shaft, the diameter of the former, and consequently the leverage-power, correspondently decreases, and also the weight of the web, and the arm *e* gradually rising under the action of the spring *i*, the tension of the belt B gradually relaxes and decreases the friction, thereby compensating for the reduction of leverage, and rendering the tension of the warp or web uniform throughout.

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

The pivoted bearing *c* with the bar *e* attached, in combination with belt B, pulley *g*, on shaft A, and spring *i*, all constructed and arranged substantially as and for the purpose set forth.

WILLIAM HALL.

Witnesses:

A. G. POTTER,
EDWIN THAYER.