L. B. HOIT.

STOP MOTION FOR LOOMS.

No. 8,740. Patented Feb. 17, 1852.

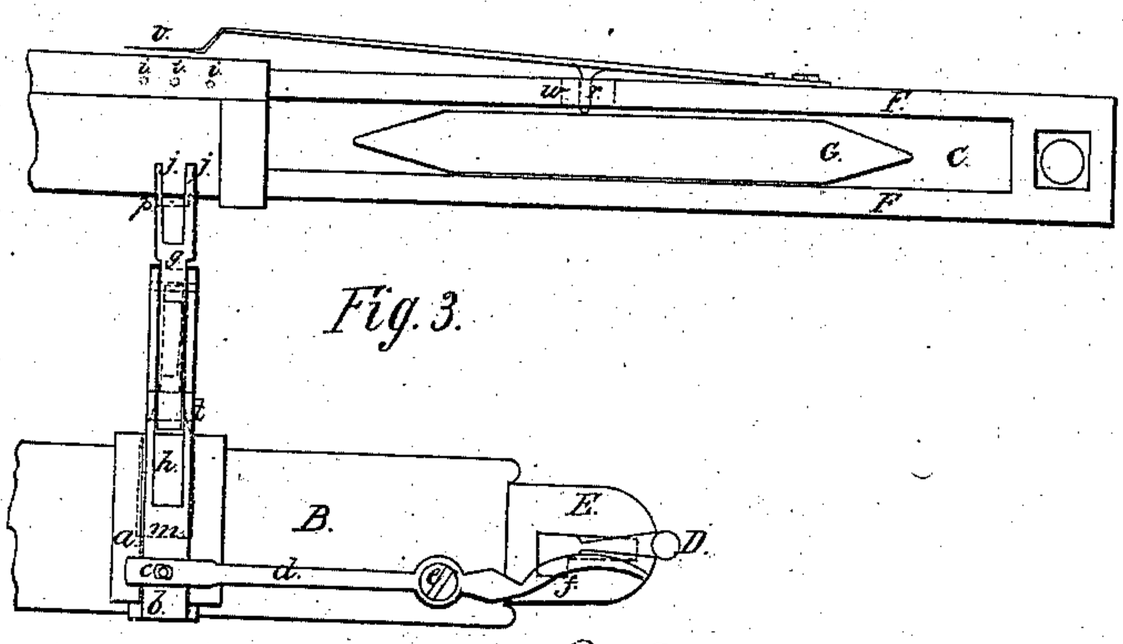

Fig. 3.

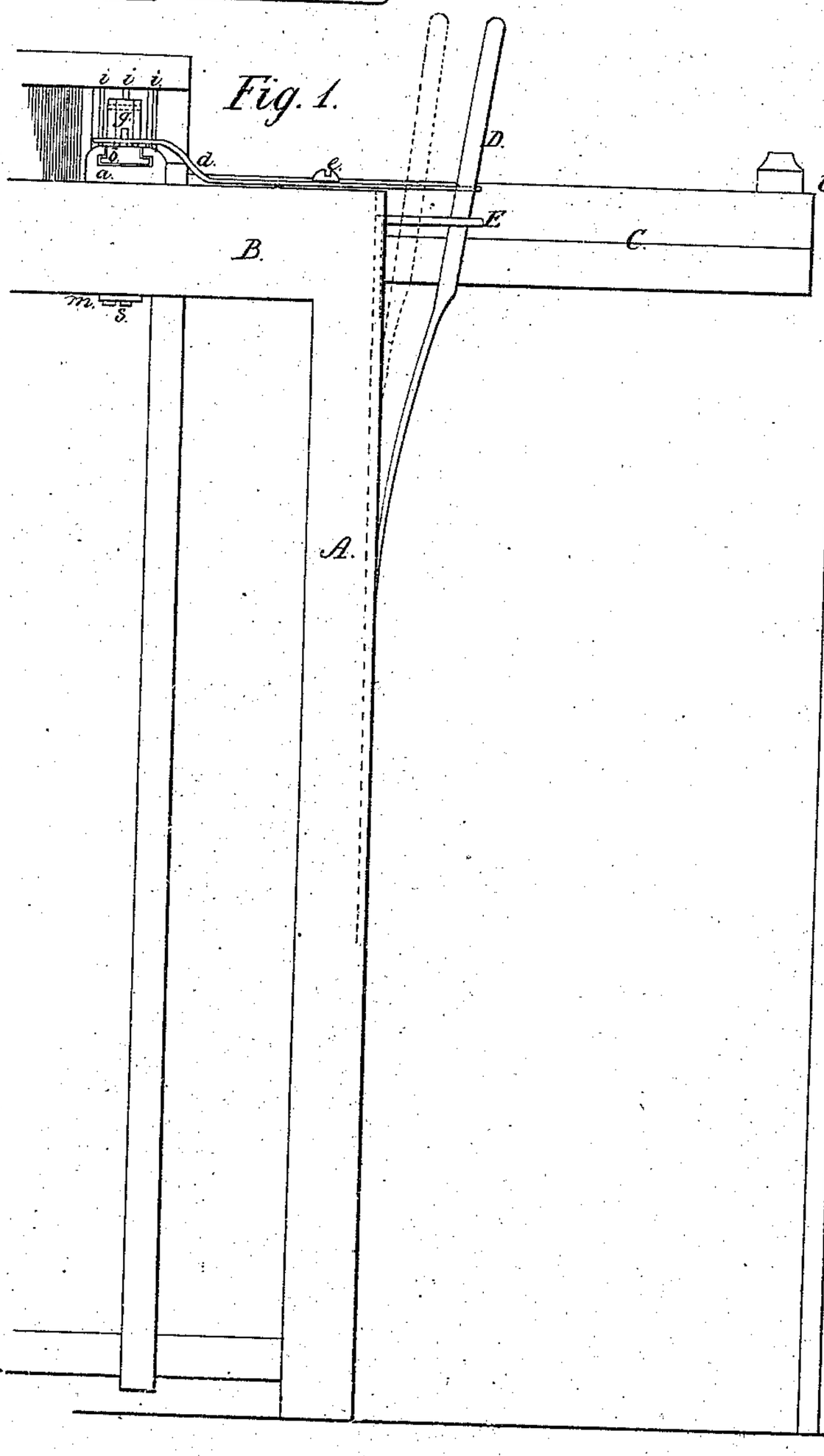

Fig. 1.

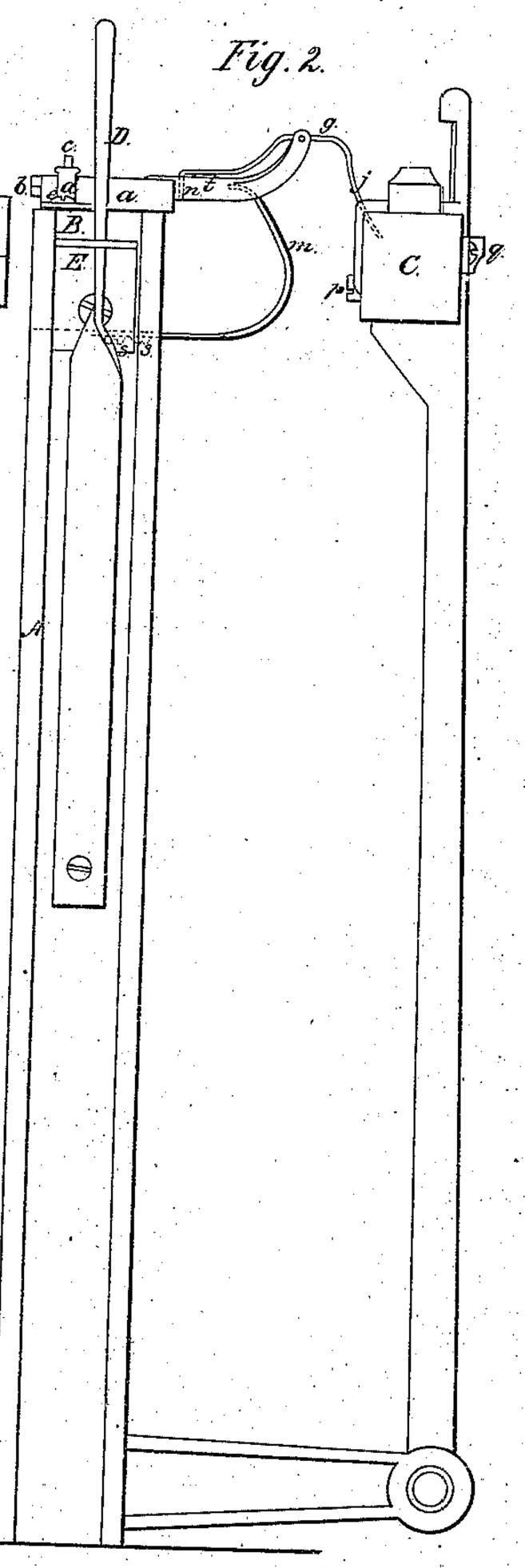

Fig. 2.

UNITED STATES PATENT OFFICE.

L. BALDWIN HOIT, OF MILLBURY, MASSACHUSETTS.

STOP-MOTION OF LOOMS.

Specification of Letters Patent No. 8,740, dated February 17, 1852.

To all whom it may concern:

Be it known that I, L. BALDWIN HOIT, of Millbury, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Apparatus for Stopping Looms When the Weft Breaks or Runs Out, called an "Independent Stop-Motion;" and I do hereby declare that the same is described and represented in the following specification and accompanying drawings.

The nature of my invention consists in providing a spring which is acted upon by the lathe or a screw in it, to traverse a slide and cause the belt that propels the loom to be thrown upon the loose pulley and stop the loom when the weft breaks or runs out; thereby dispensing with the lever, cam and stud upon which the lever is vibrated; and in applying a spring or its equivalent to act upon the prongs of the lever which has a catch upon it; so as to raise said catch when the shuttle is in the box at the opposite end of the lathe.

In dispensing with the lever, cam and stud above mentioned, I save sixty per cent. of the expense in the construction and save twenty five per cent. of the repairs; and I can apply my apparatus to looms already in use with very little delay as I do not take the loom apart to adjust the apparatus to it. Besides there are many looms in common use upon which it would be very difficult to fix any apparatus for stopping the loom when the weft breaks or runs out heretofore invented, and to which my invention can be applied with the greatest facility; besides my invention does not require 1 per cent. of the oil that is required by those heretofore used.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation referring to the accompanying drawings.

Figure 1, is a front elevation; Fig. 2, an end view; Fig. 3 a view of the top.

The same letters of reference denote the same parts in each drawing; such parts of the loom being represented as are necessary to illustrate the invention.

A, part of the loom, B breast beam, C lathe, D spring lever (to which the belt guide is usually connected) which vibrates in the stand E; all of which parts may be constructed and made to operate in the usual manner. Upon the top of the breast beam I fasten the grooved stand *a* to which I fit the slide *b* and insert the pin *c*, which vibrates the lever *d* upon the screw *e*, which lever acts against the spring-lever D, forcing it out of the notch *f* in the stand E. The end of the slide *b* toward the lathe is made in two parts and turned up with the space *h* between them for the forked lever *g*, which lever vibrates upon a pin passing through the end of the slide and the lever *g* which lever has two fork prongs *j j* that play through between the grid or pins *i i i* in the lathe. Upon the opposite end of the lever *g* there is a catch *n* against which the end of the spring *m* acts when it is struck by the screw *p* in the lathe. The spring *m* is fastened to the underside of the breast beam by the screws *s s* and the opposite end is bent in the form represented and made narrow so as to traverse freely in the space *h*. The cross piece *t* on the slide *b* sustains the lever *g* in a proper position when at rest. F F the sides of the shuttle box, G the shuttle *q* a spring fastened to the back side of the shuttle box with a projection *r* upon it that passes through the mortise *w* in the side F of the shuttle box. The shuttle G acts against the projection *r* and presses the spring back carrying the end *v* away from the pins *i i i* so as to let the prongs *j j* of the lever *g* pass through between the pins *i i i* unless the weft from the shuttle prevents them.

The apparatus being completed and arranged as above described, the weaver seizes the handle of the spring lever D and draws it to the position represented by dotted lines Fig. 1, traversing the belt guide and carrying the belt from the loose to the fast pulley, which puts the loom in motion. As the shuttle leaves the box and the spring *q* comes to the side F and the end *v* comes to the pins *i i i;* and as the lathe strikes up the end *v* stops the prongs *j j* of the lever *g* from passing through between the pins, and raises the opposite end of the lever *g* with the catch *n* out of the reach of the end of the spring *m* which is pressed toward the breast beam by the screw *p*. When the shuttle returns again it acts upon the projection *r* and carries the end *v* away from the pins *i i i* but leaves a thread of weft extending across in front of the pins which stops the prongs *j j* of the lever *g* and raises the catch *n* out of the reach of the spring *m*. But if the shuttle should cease

to deliver the weft in consequence of its breaking or running out so as not to leave a thread extending across the pins *i i i* the end *v* being removed by the shuttle acting upon the projection *r* the prongs *j j* pass through between the pins *i i i* so that the lever *g* and catch *n* remain at rest until the end of the spring *m* acted upon by the screw *p* strikes the catch *n* and traverses the slide *b* and pins *c*, which vibrates the lever *d*, which shoves the lever D out of the notch *f*, so that it springs out and operates the belt guide carrying the belt from the fast to the loose pulley, allowing the loom to stop until the weaver adjusts the weft and draws the lever D into the notch *f*, setting the loom in motion as heretofore described. As the lever D is drawn into the notch *f* it vibrates the lever *d*, which pushes the slide *b* with the lever *g* forward, prepared to operate as heretofore described and stop the loom whenever the filling breaks or runs out or the shuttle ceases to draw the weft across the pins *i i i*, so as to prevent the prongs *j j* from passing through between them.

I contemplate that when my apparatus is applied to looms that run so fast as to render it uncertain about the catch *n* upon the lever *g* falling down between the strokes of the lathe; (after it is raised as described) quick enough to insure the spring *m* to take effect; that a very slender spring may be attached to the pin on which the lever *g* vibrates; or to the slide *b*, so as to act gently upon the lever *g*, so as to compel it to resume its position, after it has been raised as described; and also that instead of the spring *m* a slide may be fastened to the breast beam in the same place, and a lever connected to it so as to vibrate; with a spring to force it from the breast beam; after the screw *p* has forced it toward said beam, and left; the upper end of said lever being made to act against the catch *n* of the lever *g* to push it back so that the loom may stop as above described.

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

1. The forked lever *g* and spring *m* constructed and arranged substantially as herein described, in combination with the grid (or pins *i i i*) and slide *b* to release the slide when the weft is properly drawn across the grid; and to traverse it to stop the loom when the shuttle ceases to draw the weft across said grid.

2. The spring *q* or its equivalent to stop the prongs of the lever *g* and raise the catch *n* so as not to stop the loom when the shuttle is in the box at the opposite end; the parts being arranged substantially as herein described.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

LORA B. HOIT.

Witnesses:
ABRM. G. RANDALL,
THOS. R. HARRINGTON.