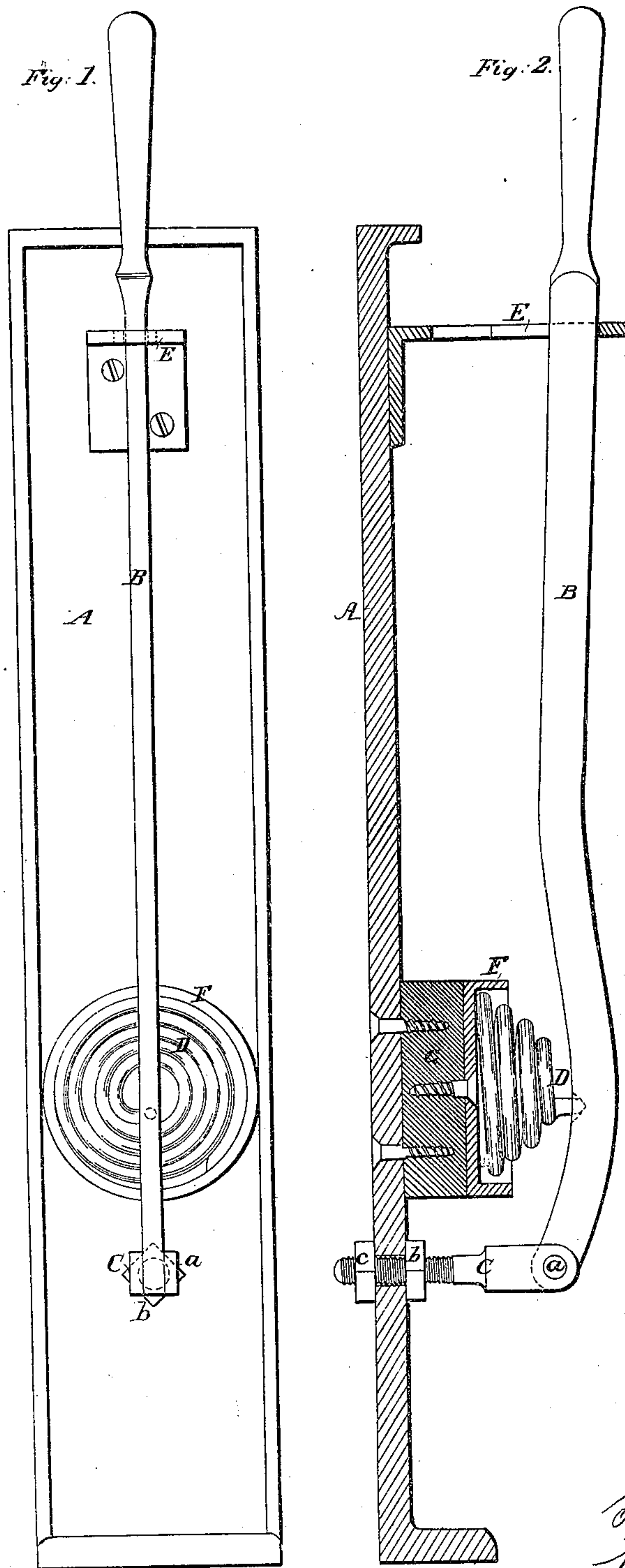


*G. W. Hathaway.*  
*Stop Motion.*

*N<sup>o</sup> 37,577.*

*Patented Feb. 3, 1863.*



*Witnesses:*  
*J. W. Coombs*  
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# UNITED STATES PATENT OFFICE.

GEORGE W. HATHAWAY, OF HINSDALE, MASSACHUSETTS.

## IMPROVED SHIPPER-LEVER FOR LOOMS.

Specification forming part of Letters Patent No. 37,577, dated February 3, 1863.

*To all whom it may concern:*

Be it known that I, GEORGE W. HATHAWAY, of Hinsdale, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in the Shipper-Levers of Power-Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of a shipper-lever having my invention applied in connection with it. Fig. 2 is a front view of the same.

Similar letters of reference indicate corresponding parts in both figures.

The shipper-lever commonly used in power-looms for shipping the belt from the fast to the loose pulley, and vice versa, and otherwise stopping and starting the loom, has its lower portion made to constitute a spring, and this spring is very liable to be broken by the violent concussion to which the lever is subject in the movement effected by the said spring for stopping the loom, and when it is broken, the stoppage of the loom until the lever and spring have been taken off and carried to the smith for repair and put on again, results in serious loss to the manufacturer. Another difficulty is that the spring cannot be adjusted to give it more or less tension while it remains attached to the loom.

The object of my invention is to obviate both of these difficulties; and to this end it consists in the combination, with each other and with the loom, of a rigid lever, an independent spiral or conical volute spring, and an adjustable fulcrum, as hereinafter described.

A is the front right leg of the loom. B is the shipper-lever; C, an adjustable stud which carries the pin *a*, constituting the fulcrum of the lever; D, the spring, and E the guard-plates in which the lever is locked to keep the belt on the fast pulley, or keep the loom in operation, and which limits the movements of the lever by which the stoppage of the loom is effected.

The lever is made perfectly rigid, and con-

nected at its lower extremity by its fulcrum-pin *a* to the stud C, which is made with a screwed stem passing through the leg A, and secured by two nuts, *b* and *c*, one of which is applied to it outside and the other inside of the leg.

The spring D is represented as made of round steel wire of conical volute form, and is applied in an open iron box, F, between the leg A and the lever, the largest coil, constituting the base of the cone, fitting into and resting against the back of the box, and the opposite extremity of the spring entering a slight recess provided in the inner edge of the lever for its reception. The box E is bolted to the leg A with a wooden block, G, behind it to hold it out to the required position.

When the spring and lever have been applied, to the loom, the tension of the spring is adjusted to the exact degree required by drawing out or setting in the fulcrum-stud by means of the two nuts *b* and *c*, and in case of the spring becoming too limber by long and continued use, the stud is set inward to compress it in a greater degree, and thereby make it stiffer.

The provision thus afforded for making the spring stiffer, when it has become limber by wear, constitutes an important advantage of my invention. In case of the spring breaking, (which has never happened in a trial of some months,) it could in a very few minutes be replaced by a spare one, and hence very little loss would result from the temporary stoppage of the loom.

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

The combination, with each other and with a loom, of the rigid lever B, the spiral or volute spring D, and the adjustable fulcrum C *a*, substantially as and for the purpose herein specified.

GEO. W. HATHAWAY.

Witnesses:

JAMES ROCKWELL,

CHAS. A. WAKEFIELD.