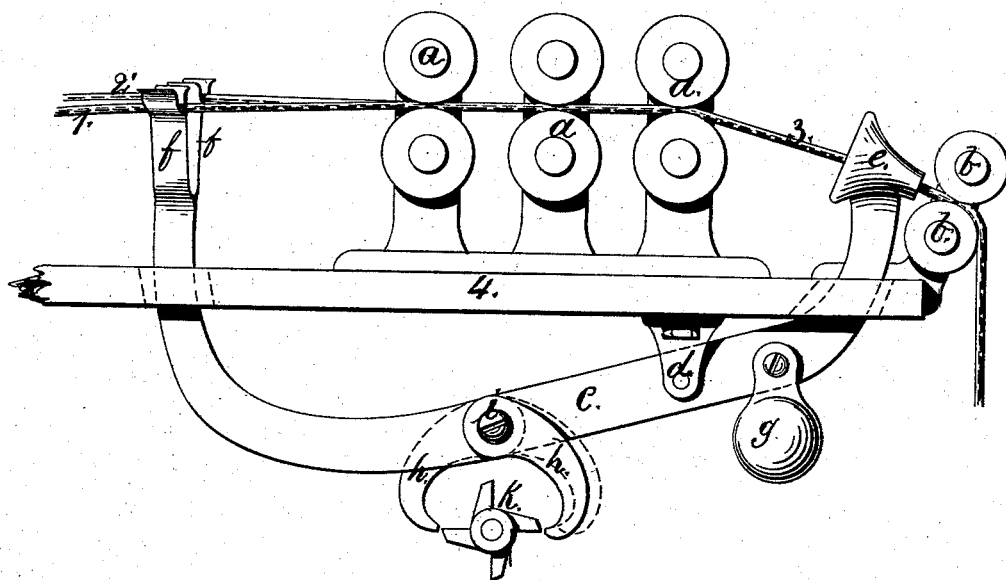


H. C. GRAYSON.  
Stop-Motion for Drawing-Frames.

No. 214,647.

Patented April 22, 1879.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY C. GRAYSON, OF CENTREVILLE, RHODE ISLAND.

## IMPROVEMENT IN STOP-MOTIONS FOR DRAWING-FRAMES.

Specification forming part of Letters Patent No. **214,647**, dated April 22, 1879; application filed September 9, 1878.

*To all whom it may concern:*

Be it known that I, HENRY C. GRAYSON, of Centreville, in the county of Kent and State of Rhode Island, have invented a new and useful Improvement in Stop-Motions for Drawing-Frames; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

The drawings represent my improved stop-motion as connected with the rolls of a drawing and doubling frame.

The object of this invention is to produce a stop-motion or mechanism for drawing-frames that shall be quickly controlled by any variation in the size of the sliver, and that can be readily adjusted so as to stop the drawing-frame when variations occur in the size of the sliver, so as to produce a uniform, or nearly uniform, weight of sliver.

The invention consists in the combination, with a hinged and balanced lever having a trumpet at one end and guide-forks on the other end, of two hinged stop-pawls, adjustable with reference to the revolving gear of a drawing-frame, as will be more fully set forth hereinafter.

In the drawings, *a a* represent the drawing-rolls, and *b b* the delivery-rolls. *c* is the trumpet-lever, hinged at *d*, and provided at the delivery end with the trumpet *e*, of the usual construction, and on the other end with two forks, *f f*. *g* is an adjustable balance-weight, secured to the lever by a clamp-screw. *h h* are hinged and adjustable stop-pawls, secured to the lever *c* by the screw *i*, and arranged to be adjusted with reference to the revolving gear *k*, so as to interfere with and stop the same.

The pawls *h h* are secured to the lever by nuts and bolts, so that they may be adjusted and the interfering ends placed closer to or farther from the revolving gear *k*.

For a uniform sliver the pawls must be adjusted close to the revolving gear, so that the slightest variation in the friction of the sliver on the trumpet will stop the frame.

For ordinary work the frequent stoppages would be objectionable, and slight variations within practical limits preferable. The pawls

may therefore be adjusted with the interfering ends farther apart, and a fixed amount in the variation of the sliver will not stop the machine, whereas a greater difference in the size, or a break, which is frequently caused by the choking of the trumpet, will always stop the drawing-frame.

When the lever *c* is moved through a given distance by either the choking of the trumpet *e*, the breaking of the sliver, or the increase of weight of the same, or extra strain on the sliver while passing over the guide-forks, the pawls will be brought into contact with the gear *k*, and thus the stoppage of the frame effected.

The stop-pawls *h*, being secured by a screw to the lever *c*, can be adjusted with reference to the revolving gear, so that the slightest variation in the sliver will stop the drawing-frame by stopping the revolving gear *k*, and thus by the usual mechanism ship the belt to the loose pulley, or otherwise stop the frame or a portion of the same.

1 and 2 represent the two slivers passing through the guides *f f* to the drawing-rolls. 3 is the united sliver passing through the trumpet. 4 represents the table of the drawing-frame.

This stop-motion may be made without the guide-forks *f f*, and, by the use of the trumpet only, will stop for a bunch on the sliver by the extra strain exerted on the trumpet, causing one of the pawls *h* to interfere with the revolving gear, or by the breaking of the sliver causing the other pawl to so interfere.

I am aware that stop-motions for drawing-frames have heretofore been made in various forms to perform the same functions performed by my invention; but such stop-motions were not so simple in construction as mine, nor could the same be as readily adjusted.

Instead of hinging the lever *c* at the place shown in the drawings, the same may be hinged near the stop-pawls *h h*, or these pawls may be secured to the lever *c* near its present fulcrum.

The shaft on which the revolving gear *k* is secured is usually driven by a clutch, which, when the gear *k* is held by the stop-motion or pawls, disengages by sliding laterally. Such arrangements, forming no part of this invention, are not shown in the drawings,

they being in common use with other stop-motions for drawing-frames.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with the hinged and balanced lever *c*, provided with the trumpet at one end and the forked guides at the other end,

substantially as described, of the adjustable stop-pawls *h h* and gear *k*, said pawls being arranged to interfere with the revolving gear, substantially as and for the purpose set forth.

HENRY C. GRAYSON.

Witnesses:

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