

P. C. DAWSON.

Stopping-Mechanisms for Drawing-Frames.

No. 146,881.

Patented Jan. 27, 1874.

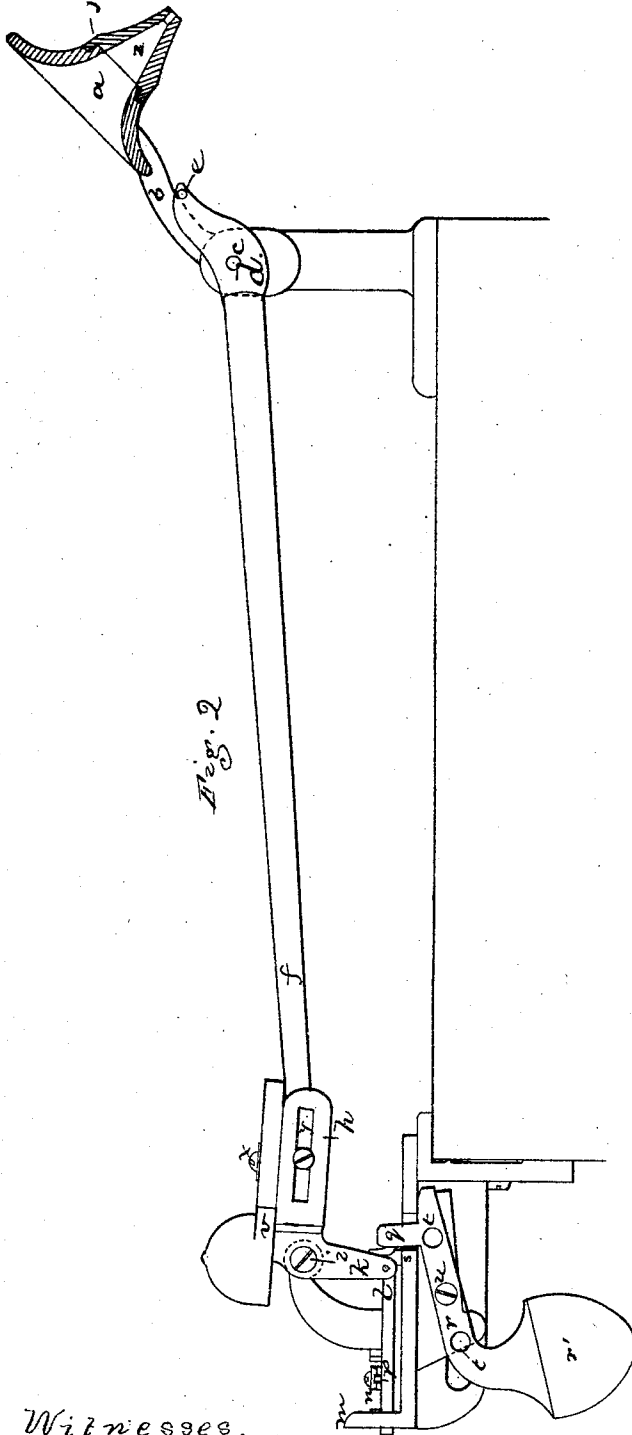


Fig. 2

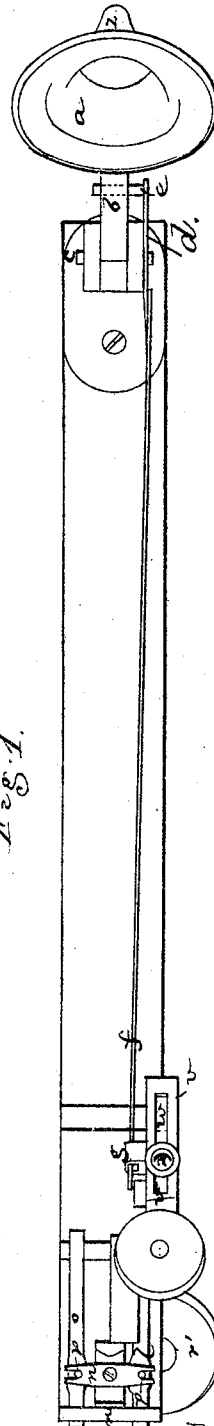


Fig. 1

Witnesses.
 M. W. Frothingham.
 L. H. Atwater.

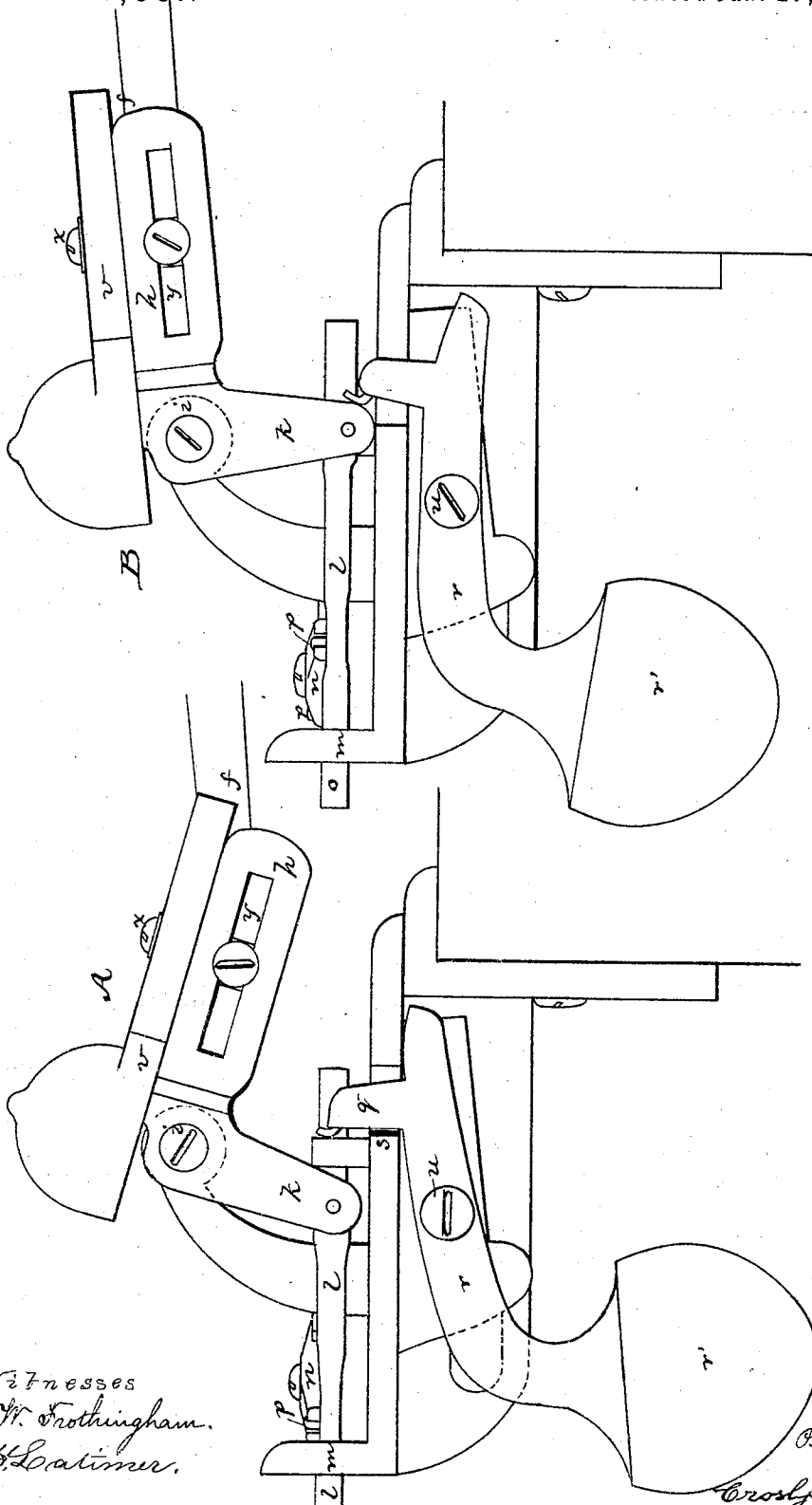
Inventor.
 Patrick C. Dawson.
 By his Atty.
 Crosby & Gould.

P. C. DAWSON.

Stopping-Mechanisms for Drawing-Frames.

No. 146,881.

Patented Jan. 27, 1874.



Witnesses
 M. W. Frothingham.
 L. H. Latimer.

Inventor,
 P. C. Dawson.
 By his Atty.
 Crosby & Gould

UNITED STATES PATENT OFFICE.

PATRICK C. DAWSON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN STOPPING MECHANISMS FOR DRAWING-FRAMES.

Specification forming part of Letters Patent No. **146,881**, dated January 27, 1874; application filed October 2, 1873.

To all whom it may concern:

Be it known that I, PATRICK C. DAWSON, of Providence, in the county of Providence and State of Rhode Island, have invented an Improved Stop-Motion for Drawing-Frames; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to a new construction or organization of mechanism to be used in drawing-frames, to effect stoppage of the machine in case either of breakage of the sliver or of bunches or other defects upon the sliver.

The mechanism is used in connection with the ordinary stop-wheel, and is placed outside of said wheel, and the invention consists in the peculiar combination or arrangement of link-and-lever mechanism intervening between the stop-wheel and the trumpet through which the sliver passes.

The drawing represents, in plan and in side and sectional elevation, a mechanism embodying the invention.

a denotes the trumpet at the end of an arm, *b*, pivoted at *c*. On the same pivot is fulcrumed a lever, *d*, having a short arm, from which projects a pin, *e*, the trumpet-arm *b* resting by gravity against this pin, and the long horizontal arm *f* extending into an eye, *g*, fixed to one arm, *h*, of a lever, pivoted at *i*, and having jointed to its other or pendent arm, *k*, a horizontal slide-pin, *l*, this slide-pin extending through a bearing-plate, *m*. By a button or lever-link, *n*, the slide *l* is connected to a similar slide, *o*, the link having two slots, into which, respectively, enter two pins, *p*, extending from the slides. Just back of the jointed end of the slide *l* is an arm, *q*, extending from a weighted lever, *r*, and in the normal position of the mechanism, when the drawing-frame is in operation, the lever-arm *k* abuts against the arm *q* of the weighted lever held there by the stress of the sliver, the arm *q* resting against a stop, *s*, so that it exerts no stress upon the lever. Without the stress of the sliver, the

arm *h* of the lever *h k* is thrown down by its weight from the position seen in the drawing to the position shown at *A*. In normal position the outer ends of the two slides *l o* extend out equally from the bearing-plate, as seen in Fig. 1; but if a sliver end breaks down, the weight of the lever-arm *h k* throws the slide *l* forward to the position shown at *A*, the stop-wheel then engaging with the pin *l*, and stopping the machine. If a knot, bunch, or enlargement of any kind is upon the sliver, it will choke in the trumpet-passage, which is gaged to the sliver, and the strain will cause the trumpet-arm *b* to press down the pin *e*, thereby raising the arm *f* and the arm *h*, and causing the slide *l* to move back, its connection with the slide *o* throwing the latter slide forward, as seen at *B*, into position to engage with and arrest the stop-wheel and stop the machine. In this action the movement of the lever *h k* is resisted by the lever *r*, the strain pressing down the lever-arm *q* against the stress of its weight *r'*. To adjust the lever *r* for different yarns, it is made with a series of fulcrum-holes, *t*, by either of which it may be hung upon the fulcrum-pin *u*; and to adjustably weight the lever *h k*, so that the strain upon the sliver will be just sufficient to hold the lever *h k* in normal position, a weighted slide, *v*, may be used, this slide having a slot, *w*, and being connected to the lever by a screw, *x*, extending through said slot, the slot and screw enabling the slide to be adjusted in position upon the lever, as may be required. The connection of the eye *g* with the lever may also be effected by a screw extending through a slot, *y*, thereby enabling such connection to be adjusted as may be desirable.

The simplicity of these connections and the provisions for adjustment, enable my mechanism to be readily applied to any drawing-frame or railway-frame, and to work with the utmost certainty to stop the machine, both at breakage of the sliver and at any obstruction to the passage of the sliver through the trumpet-nozzle.

Ordinarily, trumpets of different sizes have to be interchangeably used for different sizes

of sliver to be drawn; but to enable the same trumpet to be used, I form it with a removable nozzle, *z*, united to it by a screw-thread connection, *j*, so that for any change the nozzle has simply to be unscrewed and replaced by another.

I claim—

The combination of the lever *f d*, bell-crank

lever *h k*, and its connected slide *l*, button *n*, slide *o*, and weight *r'*, substantially as and for the purpose described.

P. C. DAWSON.

Witnesses:

S. B. KIDDER,

M. W. FROTHINGHAM.