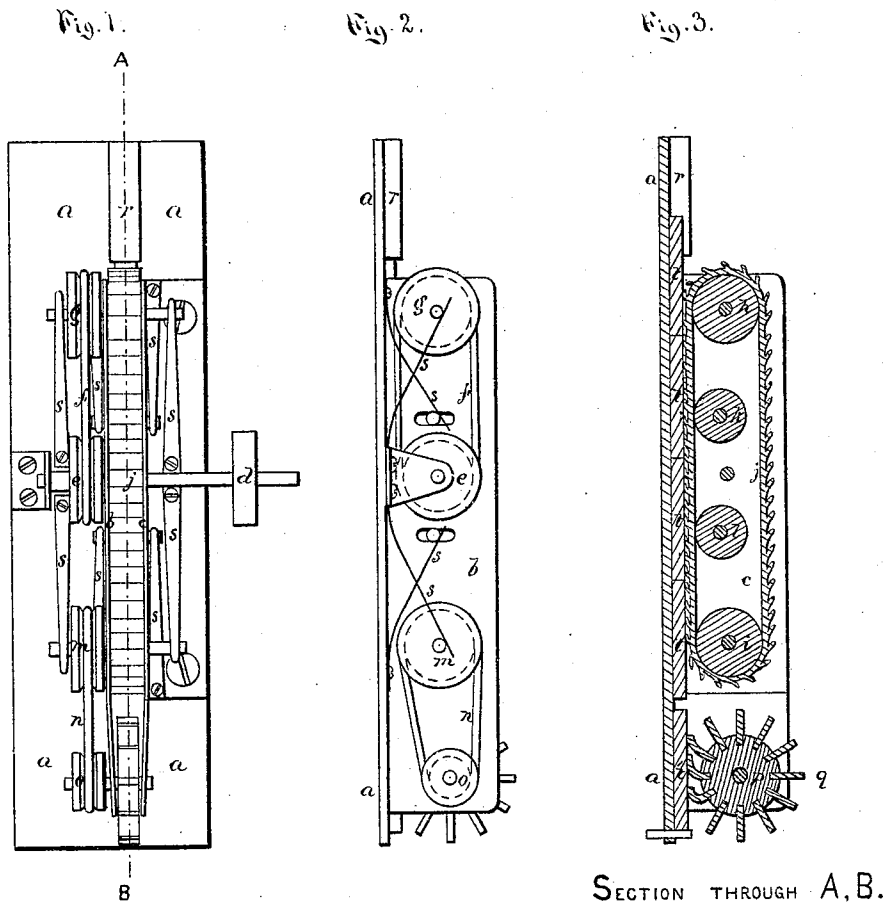


J. M. FARNHAM.

Regulators for Type-Setting Machines.

No. 150,234.

Patented April 28, 1874.



Witnesses:

Ben. A. Crook.
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JOHN M. FARNHAM, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN REGULATORS FOR TYPE-SETTING MACHINES.

Specification forming part of Letters Patent No. **150,234**, dated April 28, 1874; application filed December 12, 1873.

To all whom it may concern:

Be it known that I, JOHN M. FARNHAM, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Regulators for Type-Setting Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention consists in certain improvements upon the regulating mechanism described and shown in the Letters Patent of the United States issued to me May 21, 1872, for improvement in type-setting machines.

The said improvements consist in arranging a band around the wheels of the regulator to press against the types as they descend; also, in providing springs for the axes of the wheels, so that they have an elastic yielding motion as types of different thicknesses pass when in their descent through the type-channel, and are pressed firmly against the types to control their motion. It also consists in making the lower wheel or wheels of the series of regulating-wheels, revolve more rapidly than those above, for the purpose hereinafter stated.

In the accompanying drawing, Figure 1 shows a front view of my improvement. Fig. 2 is a side view of the same. Fig. 3 is a section through the middle of the regulating-wheels.

a is a part of the frame of the machine. *b* and *c* are two side plates, between which the regulating-wheels revolve, and which support the parts of the regulating mechanism. *d* is the pulley which gives motion to the regulator. *e* is a pulley upon the same shaft which drives the pulley *g* by means of the belt *f*. *h* is one of the regulating-wheels on the same shaft as the pulley *g*, and moved by it. *i* is another regulating-wheel, around which and the wheel *h* passes the belt *j*, which presses against the descending types. The belt *j* has leaves or projections, (shown in the drawing,) to preserve the proper pressure and friction against the

type; but my invention is not confined to this particular surface; any surface of rubber, leather, or other material that will hold the type, may be used. *k* and *l* are two pulleys or rollers, for pressing the band *j* against the type. They may be of the same size or smaller than the wheels *h* and *i*. *m* is a pulley fixed upon the same shaft as the wheel *i*, and turns with it. It drives the smaller pulley *o* by means of the belt *n*. *p* is a regulating-wheel fixed to the same shaft as *o*, and moved by it. It has, as shown in the drawings, the elastic projecting radial arms *q*, which press upon the type to guide its descent and regulate its motion. The periphery of this wheel moves with a greater velocity than the surface of the band *j*, so that the type under it is drawn away from those above it, as shown in Fig. 3. The surface of this wheel may be of any form or material that will hold and guide the type, and not necessarily composed of the elastic arms *q*. *r* is the type-channel, through which the types descend to the regulating mechanism. *s s s s*, &c., are springs acting upon the axes of the wheels *h i k l*, to keep them pressed up against the line of descending type. *t t t* are types passing through the regulator. *t'* is a type passing under the more rapidly moving wheel *p*, and is separated thereby from those above it, leaving a space or opening between it and the next, as shown in the drawing. Below the regulating mechanism there is a valve or stop, which is connected with the type-setting mechanism below it, and with the regulating mechanism above it, so that they all move conjointly to release and set the type at regular intervals of time.

When the valve stops the type-channel, the types above move downward, and form a solid column resting upon it. When it is withdrawn, the column moves downward under the influence of the regulator. The lower type, being passed rapidly down by the quicker-moving wheel *p*, drops into the setting mechanism, giving the valve an opportunity to enter the channel and arrest the column before its action is impeded by the arrival of the next type.

My improved regulating mechanism is applicable to any machines which bring the types into one channel to be set by a self-acting setting mechanism.

The types, as they are let out of their proper receptacles above by the operation, are supposed to fall consecutively into the main channel *r*. If dropped farther than the regulator passes them, they are detained by the types below. The revolution of the regulator-wheels, or of the belt surrounding them, carries the types downward, unless stopped by the valve, in which case the wheels revolve against the types until they are released by the withdrawal of the valve, when they move downward, as before described.

By means of this regulating mechanism, the types are delivered one by one, at regular intervals, to be set in line, no matter how fast or irregularly they may drop into the main channel above by the action of the operator, who releases the types in their proper order from their receptacles.

What I claim as my invention is—

1. The band *j* around the wheels of the regulator, with a proper frictional surface for guiding the descent of the types, in combination with the type-channel *r*, substantially as herein described.

2. The springs *s s*, &c., in combination with either or all of the regulator-wheels *h i k l*, substantially as and for the purpose herein described.

3. The combination of two or more revolving regulator-wheels, or moving surfaces having different velocities, so as to separate the lower type in the descending column, substantially as and for the purpose herein described.

J. M. FARNHAM.

Witnesses:

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