2 Sheets--Sheet 1.

D. B. THOMPSON.

Type-Setting Machine.

No. 168,591. Patented Oct. 11, 1875.

Fig. 1.

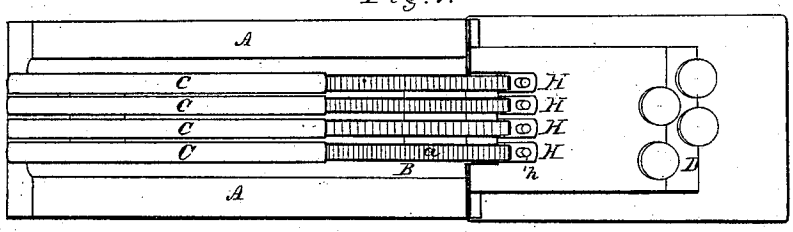
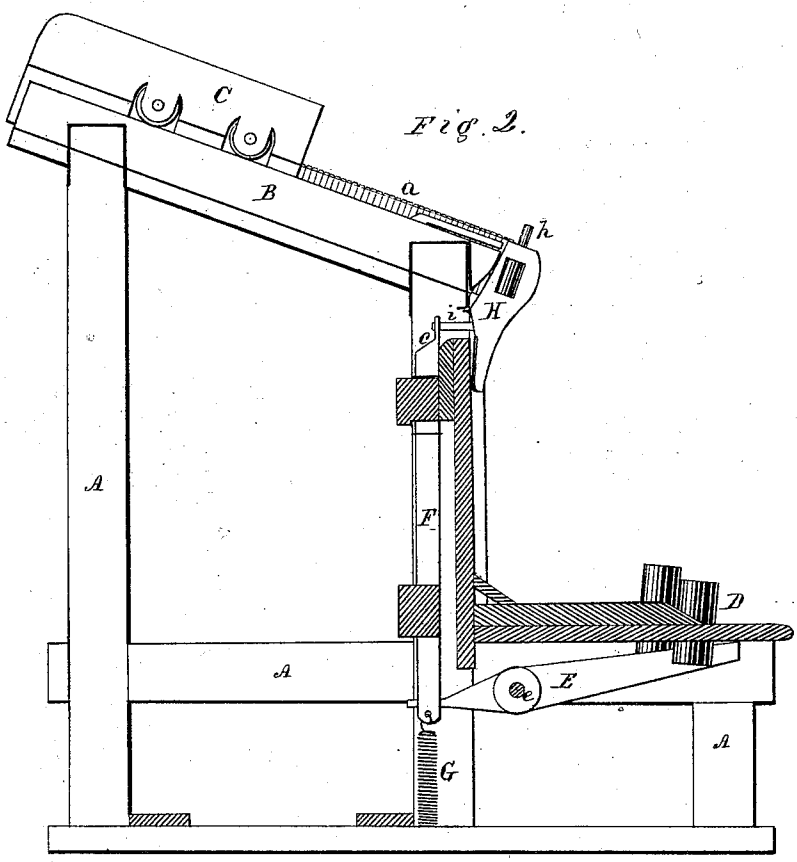


Fig. 2.



Witnesses

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2 Sheets--Sheet 2.

D. B. THOMPSON.

Type-Setting Machine.

No. 168,591. Patented Oct. 11, 1875.

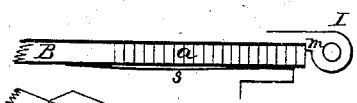


Fig. 6.

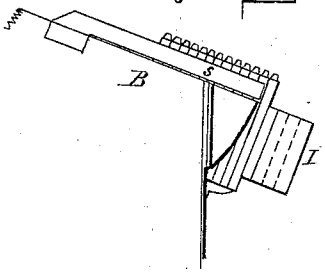


Fig. 7.

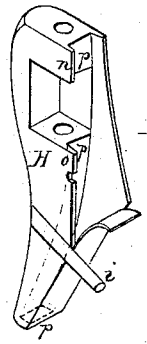


Fig. 5.

Fig. 3.

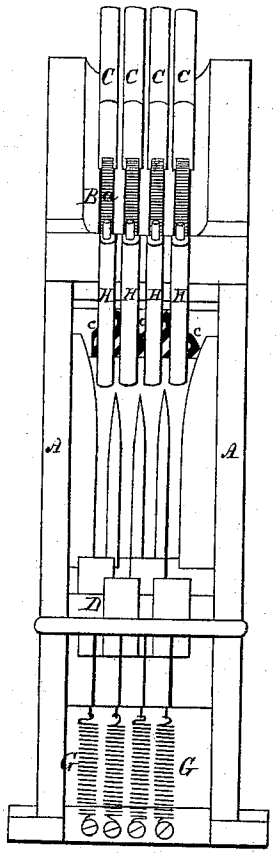
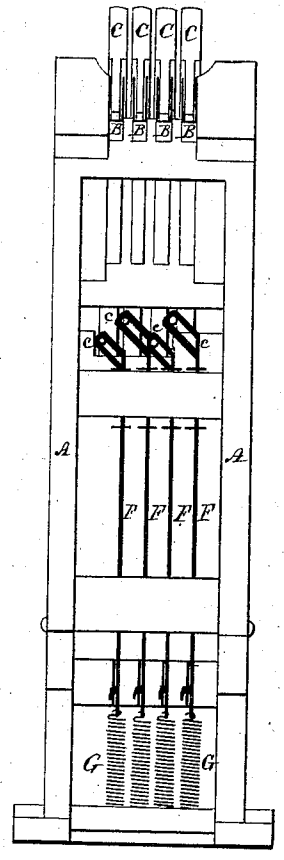


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

DAVID B. THOMPSON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE FARNHAM TYPE-SETTER MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN TYPE-SETTING MACHINES.

Specification forming part of Letters Patent No. **168,591**, dated October 11, 1875; application filed May 22, 1875.

To all whom it may concern:

Be it known that I, DAVID B. THOMPSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in 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 drawings and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to that class of type-setting machines in which the types are arranged in inclined channels, and are released, one by one, by the action of keys, so that they drop to the composing mechanism in the desired order.

My invention consists in a new cut-off mechanism for releasing the types from the inclined channels with greater certainty and precision, and to avoid crowding and clogging of the types as they are taken, one by one, from the row in which they are placed in the machine.

In the accompanying drawings, on two sheets, Figure 1 is a top view of part of a machine having my improved cut-off mechanism. Fig. 2 is a side view with a part of the frame removed to show the working parts. Fig. 3 is a front view, and Fig. 4 is a rear view, of my improved mechanism. Fig. 5 is a detached enlarged view in perspective of the device for pushing the type out of the channel and releasing it. Fig. 6 is a top view, and Fig. 7 is a side view, of the end of the channel to which Fig. 5 is attached.

A A are parts of the frame of the machine. B is one of the type-channels, in which a row of type of any letter, as *a*, is placed in the machine. C is a weight, on rollers, for pressing the row of type down toward the lower end of the channel B. D is one of the keys to be pressed by the operator to release a type. E is a rocking lever turning on a pivot, *e*, the forward end of which is pressed down by means of the key D to raise the rear end. F is a vertical bar moving in suitable guides in the frame of the machine. It rests upon the rear end of the lever E, and is raised by it. G is a spring which draws down the bar F, and brings it and the lever E back into position after it has been raised by pressing the key. H is the releasing or cut-off lever, which pushes the end type laterally out of its channel, and allows it to fall down through a groove to the composing mechanism. This lever is hinged to the end of the channel B so as to turn upon the pin *h*. The arm *i* extends backward and enters into the slot *c* at the top of the bar F. This slot stands at an angle so as to form an inclined plane, which pushes the arm *i* to one side when the bar F is raised. (See Fig. 4.) I is a projection which forms the support and hinge of the releasing-lever H. The removable pin *h* passes through it and the lever to connect the parts and form the axis of motion. This pin can be taken out and the parts readily separated. The part I is furnished with a shoulder, *m*, against which the end type rest before it is released, and retains the line of type in place in the channel B. The releasing-lever H is provided with the lips *n o* for pushing the end type laterally off from the shoulder *m* when the lever is turned, and also for sustaining the column or row of types until the lever has returned to its position. When the part H is turned by pressing the key D the lips *n* and *o* act upon the side of the end type and force it off from the shoulder *m*. It then lies in the groove *p*, and is free to fall. The row of types is then sustained by the ends of *n* and *o*, with which it comes in contact as soon as the first type is released. When the part H returns to its first position under the influence of the spring *g* the lips *n* and *o* pass out from before the types, and the line falls against the shoulder *m* with the end one in a proper position to be pushed out by the next movement of the lever, and released as before. *s* is a spring which presses against the sides of the types at the top at the lower end of the row. It serves to create a slight friction at the top of the line, and prevent a tendency to fall forward at the top during the act of releasing the end type, as described, and causes the row to move bodily downward with the types in parallel lines.

What I claim as my invention is—

1. The oscillating lever H, with its arm *i* and lips *n* and *o*, in combination with the shoulder *m* as a releasing mechanism for types retained in a channel, B, and pressed forward toward it, substantially as herein described.

2. The bar F, having the inclined slot *c* near its top, in combination with the releasing-lever H, for giving it a lateral rotating motion, substantially as herein described.

D. B. THOMPSON.

Witnesses:

THEO. G. ELLIS,

S. D. SPERRY.