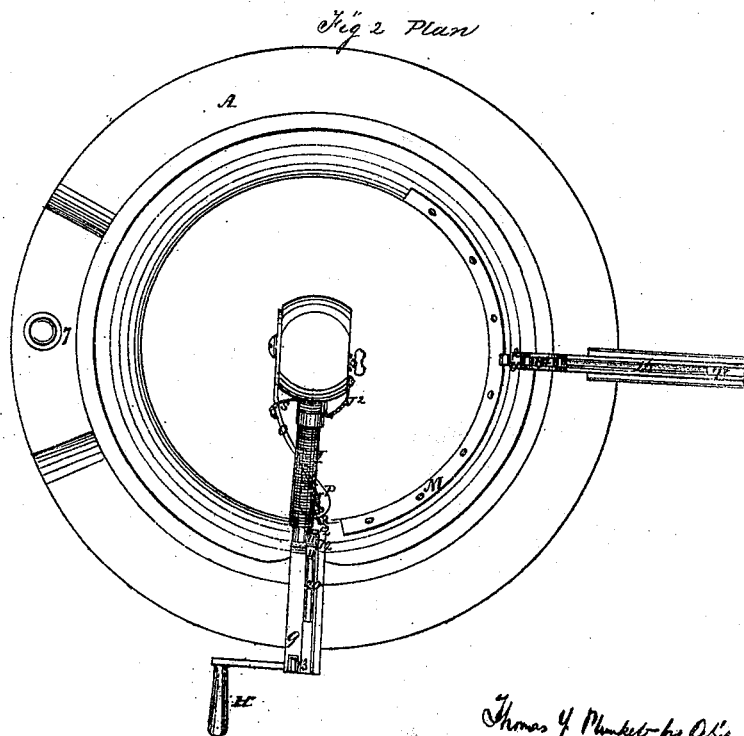
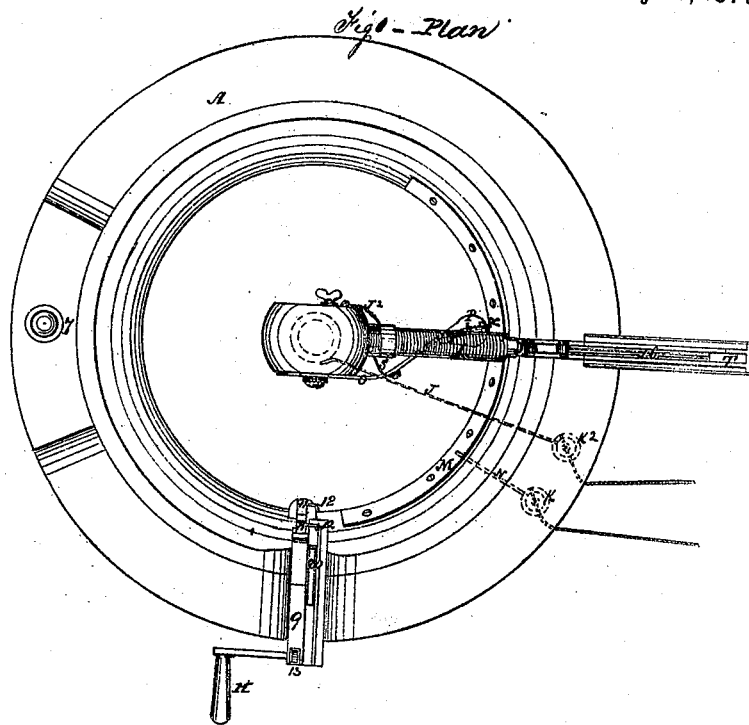


THOMAS J. PLUNKET
Improvement in Type-Setting Machines.
No. 114,850.

2 Sheets--Sheet 1.

Patented May 16, 1871.



*W. Kirkup
T. Sheridan*

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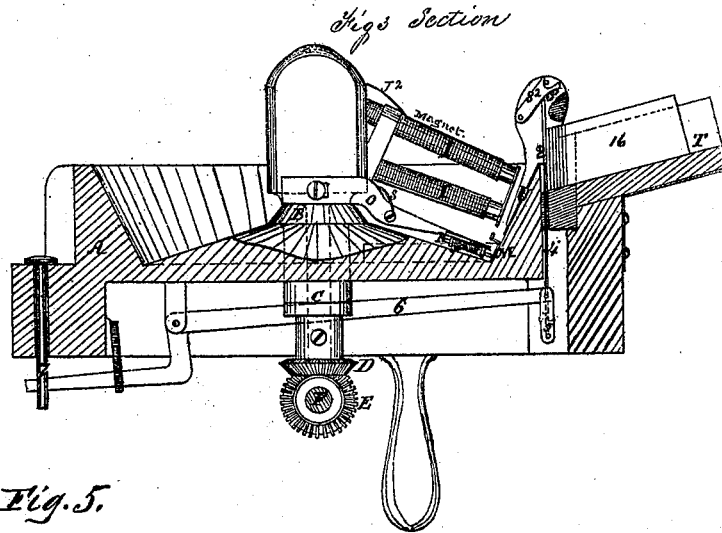
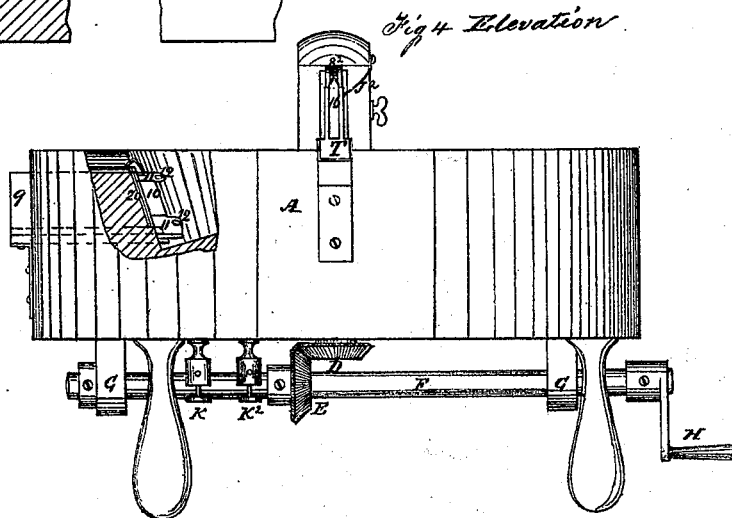
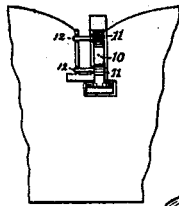
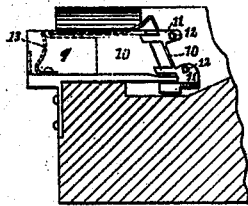


Fig. 5.



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United States Patent Office.

THOMAS J. PLUNKET, OF NEW YORK, N. Y.

Letters Patent No. 114,850, dated May 16, 1871.

IMPROVEMENT IN TYPE-SETTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS J. PLUNKET, of the city, county, and State of New York, have invented, made, and applied to use certain Improvements in the construction of Machines for Setting Type; and that the following is a full, clear, and correct description of the same, reference being had to the accompanying drawing making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a plan view of my invention, the magnet being shown in the act of taking or receiving a type.

Figure 2 is a plan view of the same, the magnet being shown in the act of delivering the type.

Figure 3 is a transverse section of the machine, showing more particularly the construction of the type-chamber T.

Figure 4 is a transverse section of the machine, showing the delivery-chamber.

Figure 5 is a view of the delivery-chamber.

In the drawing like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists—

a. In the use or employment in a type-setting machine of one or more electro or permanent magnets for the purpose of collecting and carrying the type or types from the chambers from which they may be fed to a general delivery-chamber.

b. In breaking the electric current (when a battery connected with the magnet or magnets is used) to facilitate the delivery of the type, as more fully hereinafter set forth.

c. In constructing the type-chambers as more fully hereinafter set forth.

d. In constructing the delivery-chamber, as more fully hereinafter set forth.

The object of the present invention is the production of a type-setting machine rapid and reliable in its operation, as more fully hereinafter will be explained.

To enable those skilled in the arts to make and use my invention, I will describe its construction and operation.

A shows a circular frame for supporting the operative parts of my machine.

B shows a cap inserted in a central opening in the frame A and extending through the frame, through which cap is passed an upright shaft, C.

The metal is continued in the manufacture of the shaft to form a head upon the same, in which head, after being perforated, the magnet or magnets employed by me are inserted.

Upon the lower extremity of the shaft C is keyed the bevel-wheel D, gearing into the bevel-wheel E, held upon a shaft, F, extending across the lower por-

tion of the circular frame A, and resting in and supported by the hangers G, secured upon the under side of the frame A.

Upon one end of the shaft F is the crank or handle H, by which the shaft F may be operated as desired.

Secured in the head of the shaft C, by means of a set-screw or in any convenient way, is a magnet, I, which may be a permanent magnet, or, if desired, may be an electro-magnet, connected with or to a battery by the wires J J², the ends of which are inserted in the caps K K², secured upon the under side of the frame A, while the cap K² is connected to the metallic strip M arranged upon a portion of the inner bevel of the frame A by means of a wire, N.

O shows a projecting arm secured at one end upon the side of the head formed upon the shaft C and provided with a foot, P, upon the under side of which is secured a pin, R, operated by a spring, r, so that the pin R shall have a bearing upon the metallic strip secured upon the inner bevel of the frame A.

This projecting arm O is connected to the magnet I by means of a wire, S, so that the current of electricity can be broken as desired.

T shows one of a series of type-delivering chambers employed, secured in the circular frame A in a position inclining to the front or interior of the frame A. This chamber T consists of a type-channel formed of any suitable material, in which the types to be set are placed.

Directly in front of the channel and forming a continuation of the same is placed a type-deliverer or feeder, U, consisting of a perforated plate of metal, provided upon its lower front portion with an inclined way, 2, and also upon its upper rear portion with the inclined way 3 placed a little back of the inclined way 2.

Through the bottom of this type-deliverer or feeder, a pusher, 4, rises, the lower end of which is secured in a plate of metal, 5, upon one end of a bent lever, 6, the opposite end of which rod is received in the slotted end of a key, 7.

A spiral spring, 8, is attached at one end upon the under side of the frame A, while its opposite end is attached to the lever 6, so as to assist in the operation of the same.

8² shows a weight held within the perforated portion of a plate of metal to assist in delivering or feeding the type, as more fully hereinafter set forth.

9 shows the delivery-chamber into which the type, after being collected by the magnet or magnets employed, are delivered.

This delivery-chamber consists of a plate of metal, or any suitable material, secured in the frame A, and provided with a channel in which the type is received, the bottom of which projects slightly beyond the interior of the frame A.

Into one side of this plate of metal the slide 10 is inserted, provided on its forward end or face with the toes 11, which hold the bent pins 12 projecting laterally across the channel.

Directly behind the slide 10 is placed a spring, 13, by which a forward movement is given to the slide after it has been forced back by the foot P upon the projecting arm O, which foot P is brought into contact with the lower portion of the slide.

Such being the construction, the operation is as follows:

If electro-magnets are to be employed, connection is established between them and a battery by means of the wires J J² and wire N, and the types, which have magnetic properties, are placed in their proper channels, a channel being used for each letter, sign, or symbol, (one of said channels being shown on the drawing,) and a pusher, 16, having its front end made inclined, is placed behind the line of type contained in the channel, the first or forward type of which rests directly over the pusher 4.

The machine is now ready for operation.

The compositor depresses the key 7, a key being employed for and connected with each channel, (one of said keys being shown in the drawing,) that the desired type may be fed from its proper chamber.

The depression of the key, in the slotted portion of which one end of the bent lever is received, causes the pusher 4 secured upon the opposite end of the bent lever to be elevated.

As this pusher is elevated the first or foremost type is pushed or raised up out of the channel and into the inclined way 3, behind which the weight 8² is swiveled, and which, as the type is elevated in the inclined way, is thrown back, so that, as it returns to its former position, it impinges upon the type, and the same glides into the inclined way 2 placed below and in advance of the inclined way 3, and is received on the projecting bottom of the same. The finger meanwhile having been removed from the key, the spiral spring causes the lever to be returned to its former position, carrying with it the pusher 4.

While the pusher 4 is receding to its former position the pusher 16, placed, as shown, behind the line of type, causes the same to be advanced and a second type to assume its position in the place of the type which formerly stood directly over the pusher 4.

The type delivered from the channel and upon the projecting bottom, the other hand of the compositor is placed upon the crank or handle H and the same is turned, by which a rotary movement is given to the shaft F and through the shaft to the magnet I.

As the magnet revolves the type fed from its appropriate channel or chamber, as first described, is attracted by the magnet and carried by the same until brought directly opposite the delivery-chamber of the machine.

When the magnet has been revolved thus far the pin R secured in the foot of the projecting arm O ceases to bear upon the strip of metal, by which the circuit is thus broken.

The type now is received into the channel of the delivery-chamber, the bent pin serving to guide the type and prevent its falling out of the channel, a rest, 20, having its face slightly inclined, having been previously placed in the channel against which the type rests; and, as the foot P impinges upon or against the lower portion of the slide 10, the slide is moved back, carrying the type with it; which, having been accomplished, the spring placed behind the slide causes the same to be advanced to its former position ready to assist in the delivery of the succeeding type.

Any number of magnets that can be advantageously employed may be used, and it will be found that a machine constructed and operating as just recited will collect and deliver the type rapidly and reliably, provision of course being made for driving the machine by power.

Having thus set forth my invention,

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

1. The use or employment, in a type-setting machine, of one or more electro or permanent magnets for the purpose of collecting and carrying the type or types from the chambers from which they may be fed, substantially as herein set forth.

2. Suspending the operation of the electric current (when the battery is connected with the machine, substantially as described, for the purposes set forth.

3. Combining with the type-chamber T the type-deliverer U, provided with an inclined way, 2, a pusher, 4, connected to the key, as shown, and a weight, 8², when constructed and operating substantially as and for the purpose set forth.

4. The combination, with the delivery-chamber 9, of the slide 10, bent pins 12, spring 13, and foot P of the projecting arm O, when the same shall be constructed and operate substantially as and for the purposes set forth.

THOS. J. PLUNKET.

Witnesses:

A. SIDNEY DOANE,
WM. HASTINGS.