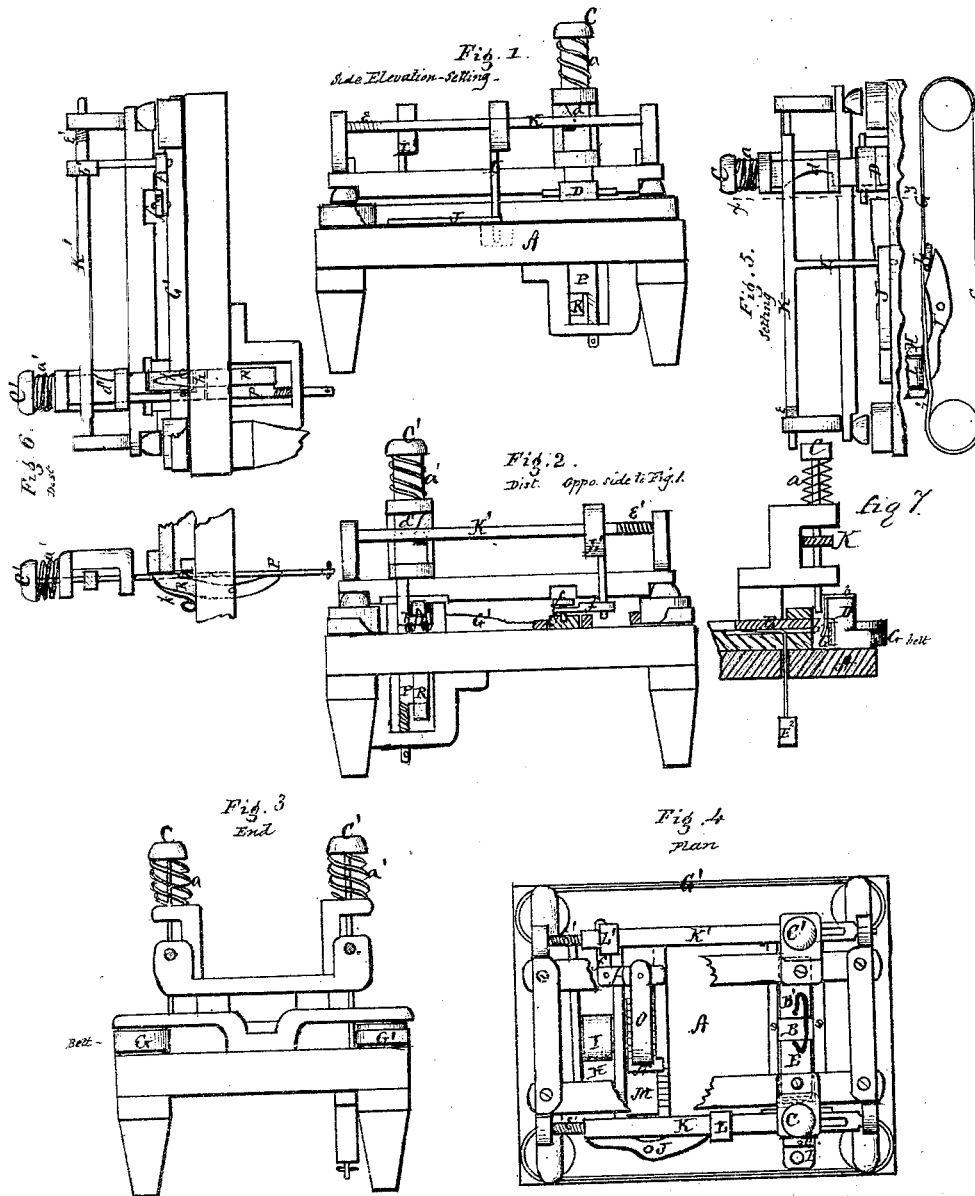


Neff & Scruggs, Type Setter.

No. 113,912.

Patented April 18, 1871.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRANK M. NEFF AND JOHN E. SCRUGGS, OF MONROE, IOWA.

IMPROVEMENT IN TYPE SETTING AND DISTRIBUTING MACHINES.

Specification forming part of Letters Patent No. **113,912**, dated April 18, 1871.

To all whom it may concern:

Be it known that we, FRANK M. NEFF and JOHN E. SCRUGGS, of Monroe, in the county of Jasper and in the State of Iowa, have invented certain new and useful Improvements in Type-Setting Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a type setting and distributing machine, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation, showing the type-setting side of our machine. Fig. 2 is a view of the other side, showing the distributing side of the machine. Fig. 3 is an end view, and Fig. 4 a plan view, of the machine. Fig. 5 is a detailed view of the type-setting mechanism, and Fig. 6 is a similar view of the distributing mechanism. Fig. 7 is a section of Fig. 5 through line *xy*. Fig. 8 is an enlarged side view of a bar placed below the distributing-key. Fig. 9 is an enlarged side view of the distributing-key. Fig. 10 is an enlarged view of the letter-box; and Fig. 11 is an enlarged cross-section of Fig. 4 through the distributing portion thereof.

In the drawing we have only deemed it necessary to represent so much of our machine as relates to one letter.

A represents the bed of our machine, upon which is placed a letter-box, B, open at both ends. At the ends of said letter-box are attached two keys, C C', one (C) being the dropper, and the other (C') the distributor. For each letter-box placed or formed on the bed A there will be similar keys. The dropper-key C is so arranged with a spring, *a*, as to have its lower end always just above the end of the letter drawer or box B, and the letters in said box are forced, by means of the slide E, out to and against a plate, *b*, attached to a post, D, so that one letter or type is actually outside of the box and beneath the lower end

of the key C. The slide E may be operated either by a spring or by a weight, E², from underneath. Between the plate *b* and post D passes an endless belt, G, around rollers at the ends of the bed A. This belt being in continuous motion, and the type pressed down by the key C, the belt carries the type to the box H, made to receive all the type in the order of printing, the letter being intercepted at the opening of this box by a slight extension, *i*, of one side of the box, as shown in Fig. 5, and is kept there by a small slide, I, in the box H, till another drops, when it is forced into said box by the lever J.

The lever J is operated by the following means: The key C passes through a slot or mortise in a horizontal bar, K, to which is attached a vertical arm, L, bearing against one end of the lever J, said lever being pivoted on the bed A, and this end thereof inclined, as shown in Fig. 5. At the point where the key C passes through the bar K the key is provided with an inclined notch, *d*, so that when the key is forced down, the bar K will be moved sufficient to cause the arm L to turn the lever J on its pivot, so as to force the type or letter caught by the extension *i* into the box H. A spring, *e*, upon the end of the horizontal bar K, brings said bar back in its original position as soon as the key C is raised up by its spring *a*. The box H should be portable, so that when filled the type can be taken out, and by a short process be placed ready for printing. The belt G is intended to be made of india-rubber or other suitable elastic material. The distributor on the other side works in the same manner as the dropper, C' being the key with its notch *d'* and spring *a'*, K' the horizontal bar with vertical arm L' and spring *e'*. G' is the endless rubber belt. The types for distribution are placed in a movable box, M, with a ratchet-slide, N, behind them. This slide is moved sufficiently to push one letter out of the box M by means of the ratchet-hook O, operated by means of the intermediate pivoted levers *f f'*, upon one of which the arm L' acts when the key C' is moved up and down. The key C' being forced down one letter is moved out of the box M and caught by the moving belt G', which carries to the end of the box B, where it is stopped by the lower end of the key. The key C', when forced

downward, moves a spring sliding bar, P, down, the office of which bar is, when up in its original position, to fill up a level surface in the bed for the type to pass over to a more remote key, and also to move a lever, R, as shown in Fig. 6, which lever pushes the letter into the box B. Upon the lower end of the key C' is a small hook, *h*, which, when the key is moved downward, will be on a level with the surface over which the letter must pass, and will receive the letter pushed out of the box M, and carried by the belt G', as above described. When now the key C' is allowed to move upward by the action of the spring *a'*, the hook *h* will lift the letter up to the end of the box B. This hook, being less in width than the letter, will give a spring, *k*, acting on the upper end of the lever R, the power of holding the letter against the others in the box until another downward move of the key, when said lever is made to force the letter previously pulled up into the box, by means of the sliding bar P, and opens the way for letters to pass along to other boxes or drawers. In the box B is another slide, E¹, operated by spring or weight, to keep the letters close up to the keys sufficiently strong to admit of pressure before moving. The box H receives the letters in the order of printing as dropped from the boxes. After printing the type is placed in the box M for distribution just in the order of printing, and the printer, taking the printed matter or copy before him, will, by touching the keys corresponding with the

letters in the print, distribute each letter to its proper place.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The letter-box B, provided with slides E E¹ and spring-keys C C', substantially as and for the purposes herein set forth.

2. The combination of the spring-key C, post D, with plate *b* and endless belt G, substantially as and for the purposes herein set forth.

3. The arrangement of the spring-bar K, arm L, and lever J, operating in combination with the endless belt G and projection *i* of the box H, substantially as and for the purposes herein set forth.

4. The combination of the spring-key C' with hook *h*, spring-bar P, lever R, and spring *k*, constructed and arranged to operate substantially as and for the purposes herein set forth.

5. The ratchet-slide N, hook O, and levers *f f*, operated by means of the spring-bar K' and arm L', in combination with the endless belt G', substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 5th day of February, 1870.

F. M. NEFF.

JOHN E. SCRUGGS.

Witnesses:

LEVI YOUNG,

ELIAS E. EDWARDS.