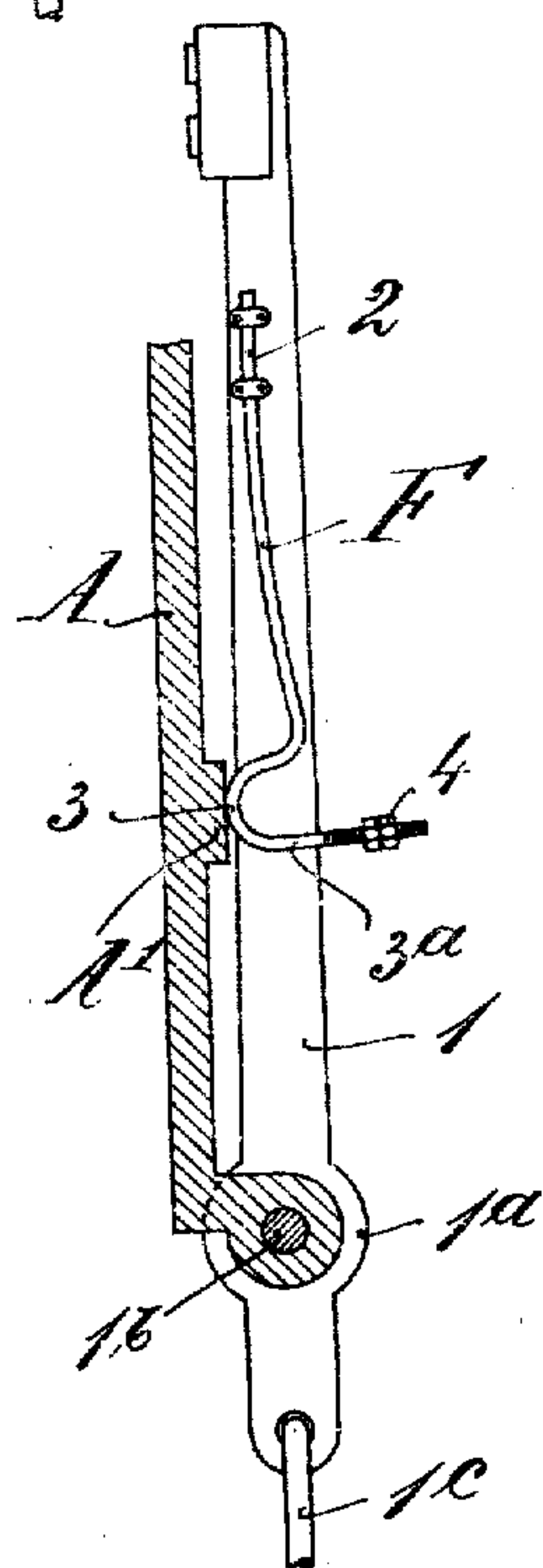
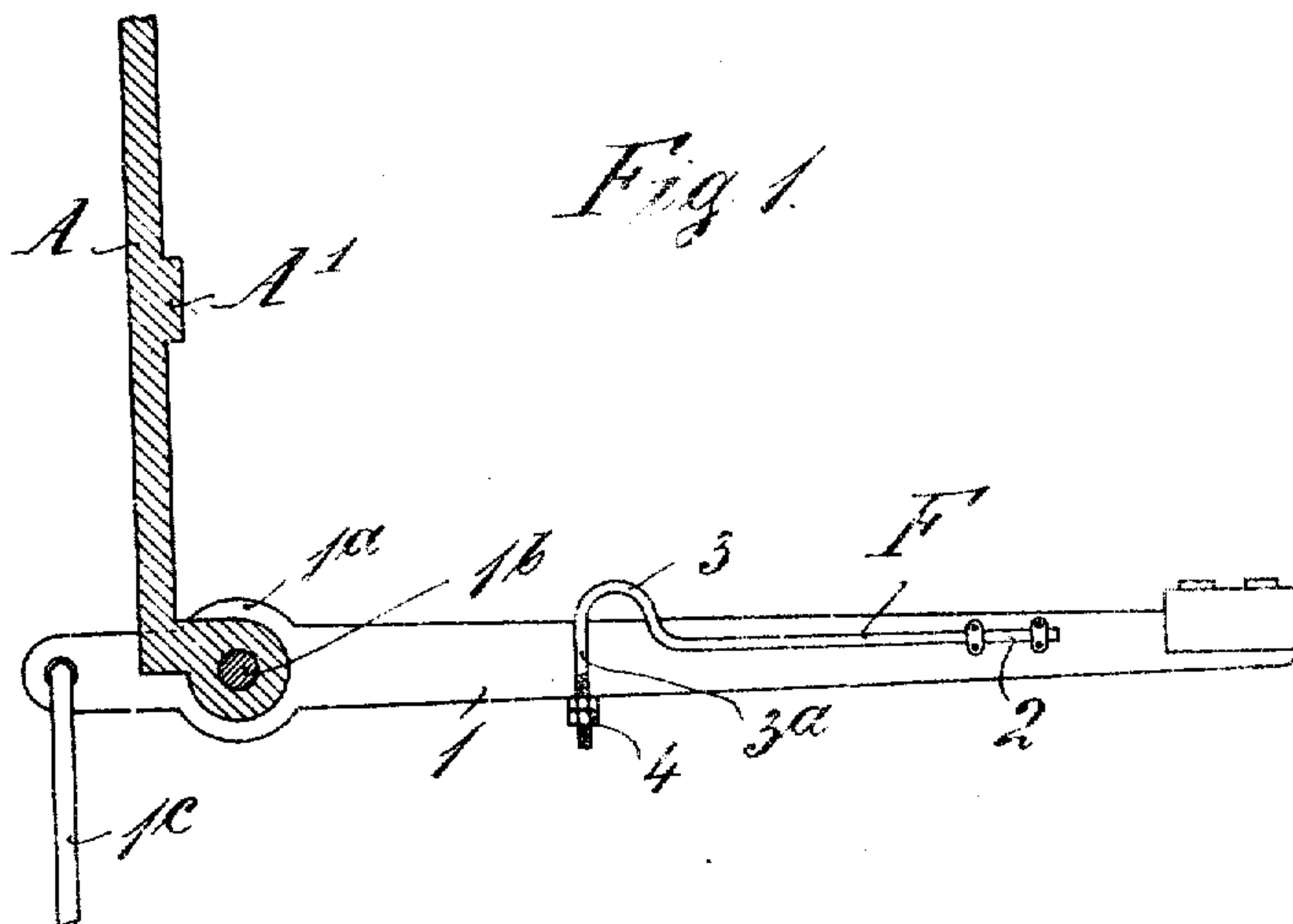


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TYPE WRITING MACHINE.
APPLICATION FILED MAY 31, 1907.

Patented Feb. 23, 1909.

913,215.



Witnesses:
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UNITED STATES PATENT OFFICE.

MAX KLACZKO, OF RIGA, RUSSIA.

TYPE-WRITING MACHINE.

No. 913,215.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed May 31, 1907. Serial No. 376,527.

To all whom it may concern:

Be it known that I, MAX KLACZKO, a subject of the Emperor of Russia, and resident of 19 Scheunenstrasse, Riga, in the Empire of Russia, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is an exact specification.

My invention relates to an improvement in typewriting machines of any make and in particular refers to a stop and rebounding arrangement attached to the type bars.

In the class of machines, commonly in use, the type bars are free to strike with full force upon the paper, and in consequence an unclean blotted type impression is made whenever the bar is struck too hard. Moreover sharp edged letters, as for instance "e," "o" and "i" are cut right through the paper. Another disadvantage has been found in the slow return motion of the type bar, which means a loss of time and practically reduces the working speed of machines. Attempts have been made to do away with the first mentioned drawback by placing a fixed stop in the path of the moving type bar, and making said type bar shortly before touching the paper first strike against the stop. Such arrangements however produce quite a noise, which is very objectionable and besides, they do not accelerate the return motion of the type bars.

It is therefore the object of the present invention to overcome both drawbacks mentioned and for this purpose I provide for a stopper arrangement, which at the same time acts as a rebounding device.

The invention consists in a peculiarly bent spring attached to each type bar, the curved part of which spring projects beyond the type face and thus strikes against a fixed stop shortly before the type touches the paper. The spring is provided with adjusting means to regulate the advanced position of the projecting part in relation to the position of the type face.

Whenever a type bar is moved, the advanced projecting part of the spring strikes first against the fixed stop. Thus the spring takes up the principal blow and acts as a buffer. On account of the weight of the moved type bar the latter overcomes to a certain extent the force of said spring stopping its forward motion and due to this inertia the type bar is moved forward until

the type touches the paper. In this way the type touches the paper with just enough force to make a good and clean impression and this the more inasmuch as the advanced position of the bent portion of the spring in relation to the face of the type can be regulated to a nicety by the operator himself. The forward move of the heavy type bar brings the spring under a certain tension which in turn immediately after the impression of the type on the paper causes the type bar to return to its starting position with an accelerated motion.

All the disadvantages as observed on prior constructions of type bars are hereby avoided. A cutting through or a blotting of sharp edged letters is perfectly avoided, the objectionable noise reduced and due to the accelerated return motion of bar the working speed of the machine considerably increased.

In order to make my invention better understood I accompany same by a drawing in which—

Figure 1 represents a type bar constructed according to my invention and illustrated in its non-operative position. Whereas Fig. 2 illustrates the type bar in a position, where the type touches the paper.

On this drawing 1 represents the type bar pivoted at 1^a on rod 1^b. The short arm projecting beyond the pivoting point is attached to the actuating rod 1^c, which puts the bar in motion whenever the key connected to said member is struck. To the long arm and near the type block of the bar 1 a spring F is firmly attached at 2. The other free end of said spring is bent in the form of a hook. The bent portion 3 of this hook projects a certain length beyond the edge of the type, whereas the straight part 3^a of the hook points in the opposite direction and is made long enough to project beyond the outer edge of the type bar 1. This projecting part is threaded and provided with two small nuts 4. By means of these nuts the advance position of the bent portion 3 of the spring is regulated. A represents a fixed plate provided with a projection A¹ at a suitable place, against which the bent portion 3 of the spring F strikes as shown in Fig. 2.

The operation of the device illustrated and described is as follows: When the bar is in the position shown in Fig. 1 and a key

in connection with rod 1^c is struck, said rod makes a motion in a downward direction and thereby causes the long arm 1 of the type bar to make an upward motion.

5 Inasmuch as the bent portion 3 of the spring F affixed to the arm 1 is thus set by nuts 4, that said portion 3 is positioned somewhat ahead of the face of the type fixed to the outermost end of arm 1, that portion 10 3 is bound to strike first against the projection A¹ of the fixed plate A, and inasmuch as it forms a part of a resilient spring must give way to a certain extent and allow for a further movement of the arm 1 due to the 15 latter's weight and inertia of motion. This condition is shown in Fig. 2, in which position the type just touches the paper. The spring F comes under tension by this action and in turn causes the bar 1 to make its re- 20 turn motion with accelerated velocity.

I do not limit myself to the shape of the spring F as illustrated and described, said spring may have any convenient form to suit the purpose.

25 The principal feature of the invention lies in the fact, that resilient means are provided which being attached to the moving type bar strike against a fixed projection prior to the touching of the paper by the 30 type face and due to their resiliency cause the type bar after the impression has taken place to return to its starting position with accelerated motion.

Having thus fully described the nature of 35 my invention what I desire to secure by Letters Patent of the United States is:—

1. In combination with a type writer, buffer means for each type bar comprising a spring projecting from and firmly attached 40 with its one end to the type bar and having its free end bent round, a stop on the machine frame cooperating with the bent portion of said spring and means for adjusting the amount of projection of said spring,

substantially as described and for the purpose set forth.

2. In combination with a type writer buffer means for each type bar comprising a spring firmly attached with its one end to the type bar and having its free end bent round, said round portion forming a bow projecting over the face edge of the type attached to the end of the bar, and a stop on a machine frame cooperating with said spring substantially as described and for the purpose set forth.

3. In combination with a type writer buffer means for each type bar comprising a spring firmly attached with its one end to the type bar and having its free end bent round in form of a bow and projecting over the face edge of the type attached to the end of the bar, and an end portion adjacent to the bow provided with adjusting means for the advance position of the bow and a stop on the machine frame cooperating with said spring substantially as described and for the purpose set forth.

4. In combination with a type writer buffer means for each type bar comprising a spring firmly attached with its one end to the type bar and having its free end bent round in form of a hook, the bow portion of which projects over the face edge of the type attached to the end of the bar, and the straight end portion being threaded and provided with nuts to adjust the advance position of the bow and a fixed stop on a machine frame cooperating with said spring substantially as described and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

MAX KLACZKO.

Witnesses:

LAURANCE HILL,
H. RASKIER.