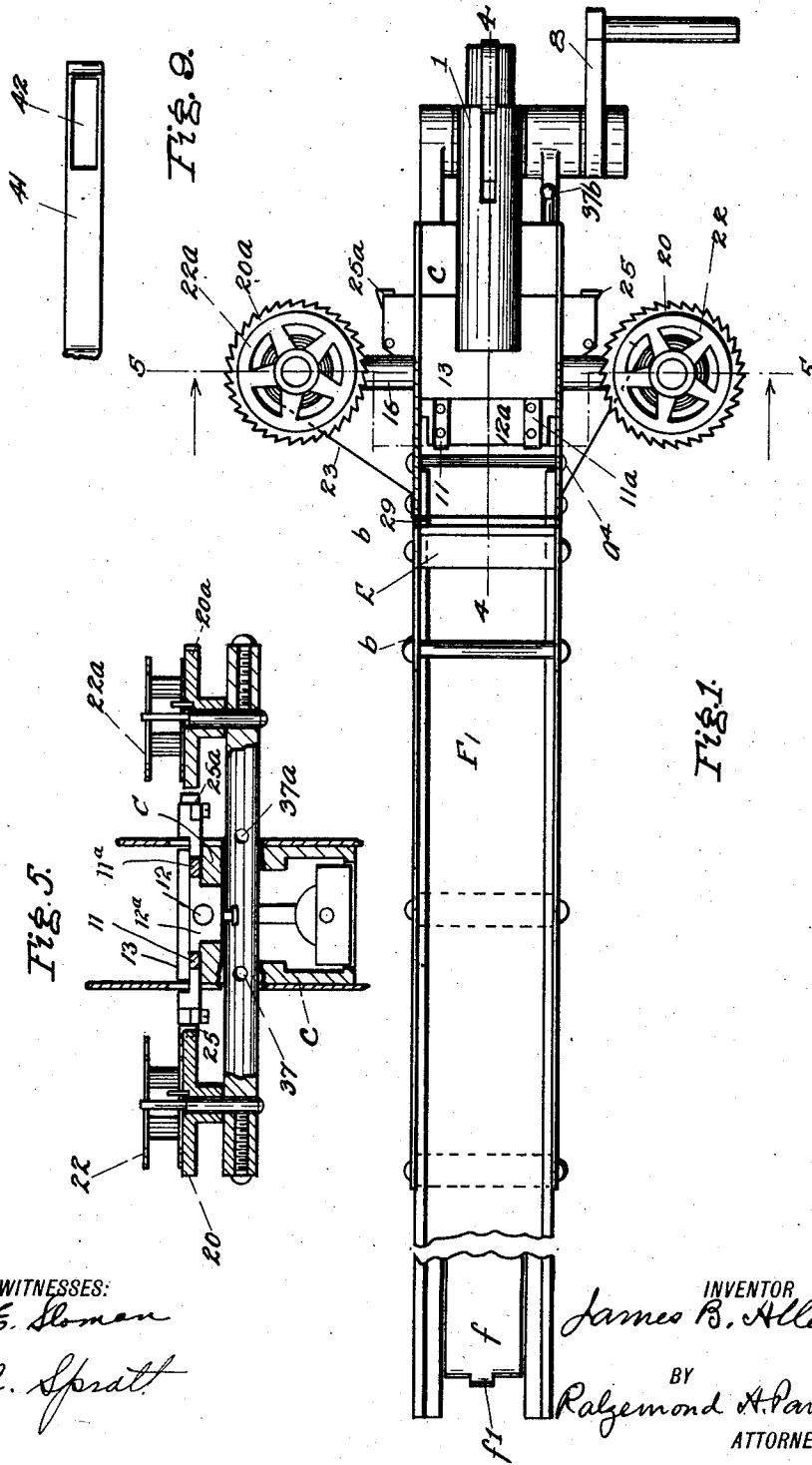


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ADDRESS PRINTING MACHINE.
APPLICATION FILED FEB. 21, 1912.

1,048,121.

Patented Dec. 24, 1912.

3 SHEETS-SHEET 1.



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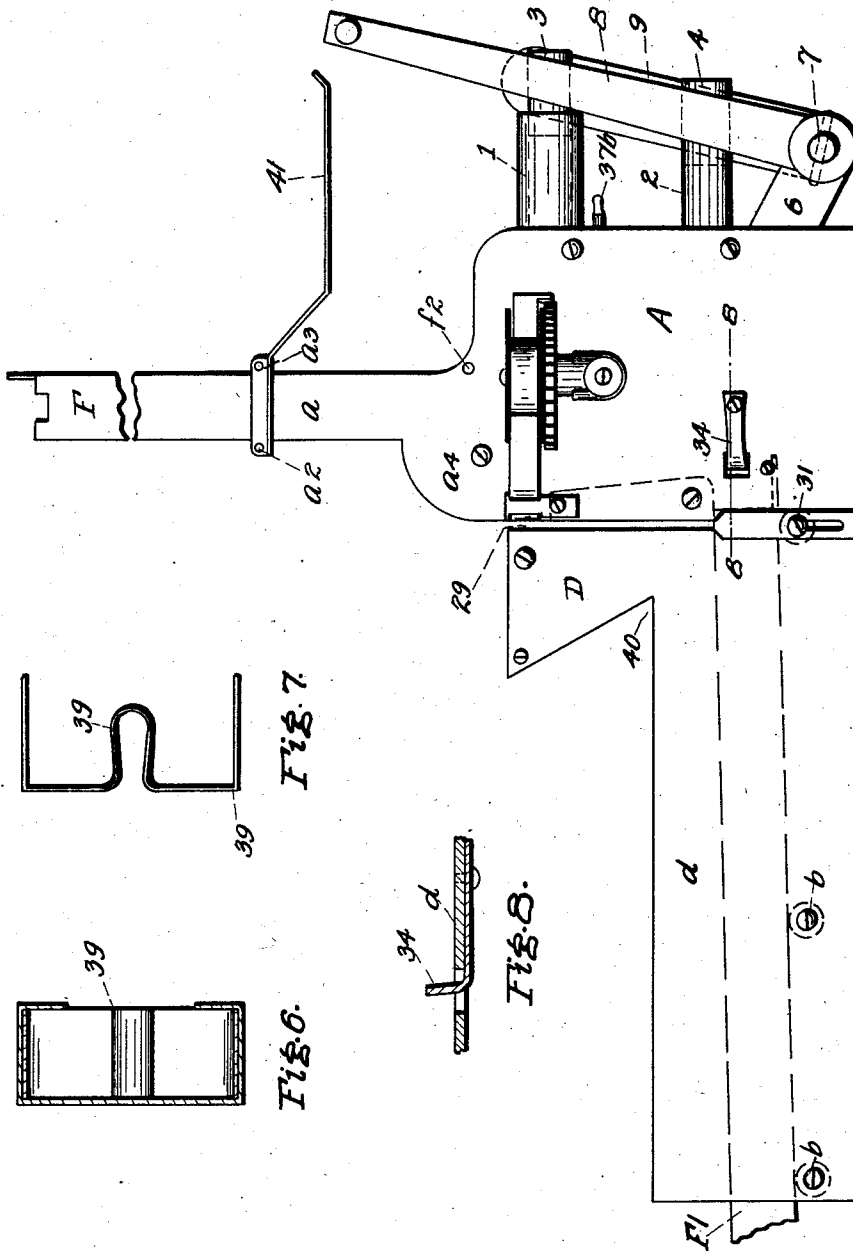


Fig. 2.

Fig. 8.

Fig. 6.

Fig. 7.

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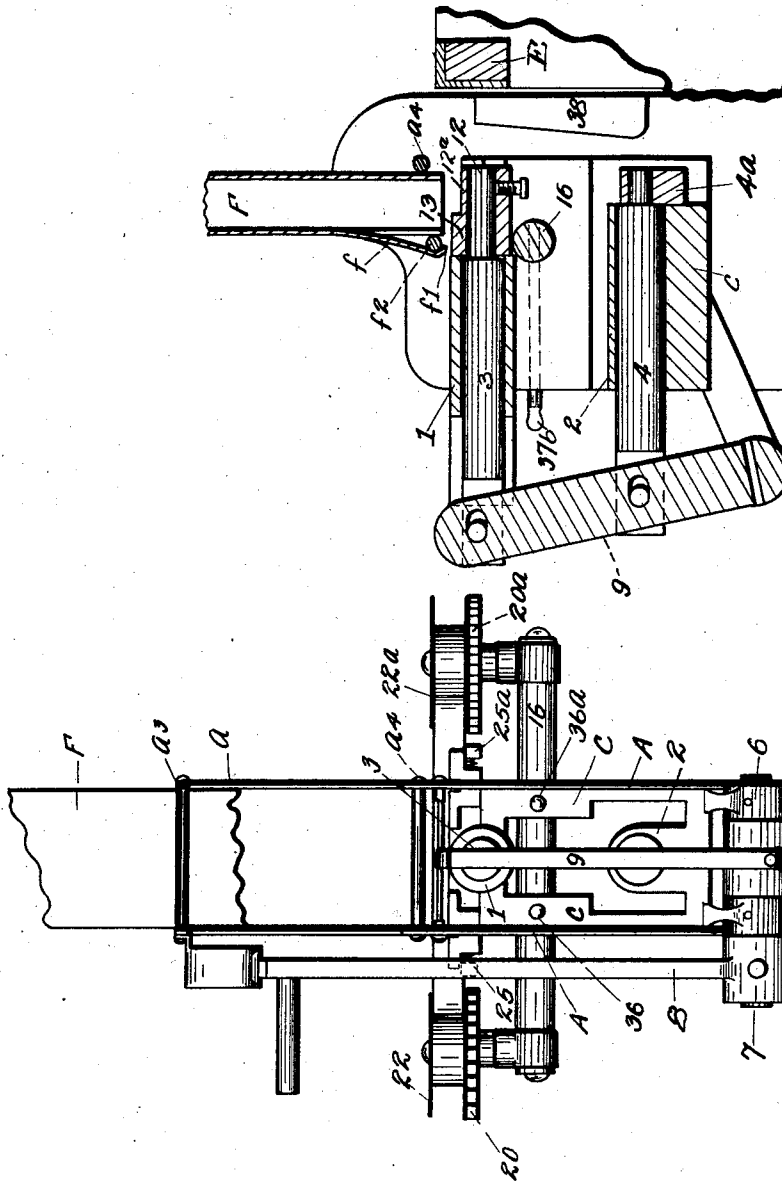


Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES B. ALLEN, OF DETROIT, MICHIGAN.

ADDRESS-PRINTING MACHINE.

1,048,121.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed February 21, 1912. Serial No. 679,079.

To all whom it may concern:

Be it known that I, JAMES B. ALLEN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Address-Printing Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to address printing machines, and has for its object an improved printing machine adapted to employ "lines of type" in making imprints and addresses contained thereon. In the action of the machine, the lines of type are transferred from a vertically arranged magazine to a horizontally arranged magazine, and during the period of transfer make an imprint through the inked ribbon on the envelop (or whatever is presented to receive the imprint).

One of its salient features is its cheapness in this form of construction as compared with other address printing machines on the market.

In the drawings:—Figure 1, is a plan view of the machine. Fig. 2, is a side elevation. Fig. 3, is a rear elevation. Fig. 4, is a vertical section along line 4—4 of Fig. 1. Fig. 5, is a vertical cross section on line 5—5 of Fig. 1. Fig. 6, is a section of one of the magazines. Fig. 7, is a detail of a type supporter. Fig. 8, is a detail section of a small part of one of the side members, the view is taken along the line 8—8 Fig. 2. Fig. 9, is a detail of the repeating device.

The frame of the machine comprises a pair of side members A, each of which has a vertical branch *a* and a horizontal branch *d*; in the angle between the vertical and horizontal branches is a member D rising from the horizontal branch, this is spaced from the base of the vertical branch by a deep notch 29 which serves as a guide for the article upon which the imprint is made; the side of the member D which is opposite the notch 29 rises from the horizontal branch *d* and is inclined thereto making an angular opening 40; envelops, or sheets of paper resting on the two horizontal branches *d* with their edges in engagement with the inclined side of the member D assume a position with the edge of the top sheet overhanging all

underlying sheets and a single sheet is easily separated from the pile of sheets. The side members are held together by tie bars *a*² *a*³ at the top of the side extensions between which the vertical magazine is supported, and by *a*⁴ at the bottom of the side extensions and by the bars *b* which cross from one to the other of the horizontal extensions of the two members A. A tie bar 31 (Fig. 2) is utilized to support the inner end of the horizontally arranged magazine. At the turn between the horizontal and vertical branches is a fillet member C provided with horizontal guides 1, 2 and with a transverse passage for a spool carrier 16; in the guide passage 1 a plunger 3 reciprocates, in the passage 2 a plunger 4 reciprocates, these are pivotally connected with a lever 9 (each pivot passes through an oval hole in the lever). The lever is in parallel relation with a crank arm 8 which is keyed to the same shaft 7; the shaft 7 is journaled in brackets 6 that hang from the fillet block C and extend to the rear of the main frame; the fillet block is provided with holes 36 36^a; the carrier bar 16 is provided with holes 37 37^a. The hole 37 may be brought into register with hole 36 and the carrier held by a pin 37^b and the spool 22 will then be actuated to wind the ribbon thereon or the pin may be withdrawn, the carrier bar shifted to bring holes 37^a 36^a into register the pin inserted to hold the carrier and the spool 22^a will then be actuated.

The pawls which actuate spools 22 22^a are pivotally connected to cross head 13 carried by the plunger 3; the ends of the cross-head 13 extend through openings in the side members A and hanging pawls 25 25^a engage the ratchet wheels 20 20^a. When the pawl 25 engages the wheel 20 the pawl 25^a passes the wheel 20^a without engaging, when the carrier 16 is shifted the pawl 25^a engages the wheel 20^a the pawl 25 passes the wheel 20 without engaging it. The wheels are mounted on studs that rise from the carrier member 16. When the plunger 3 is drawn back it pulls the cross-head 13 with it by reason of the cross head 13 being fastened to the reduced portion 12 of the plunger by the set screw engaging against such reduced portion as shown in Fig. 4. The column of lines of type in the vertical magazine F drops until the bottom line rests on ribs or guides 11 11^a which are secured to the

fillet C. The cross head 13 has part of its front upper surface cut away forming a depression 12^a, that is slotted to run on the guides 11 and 11^a, which project slightly above the surface of the depression. When the plunger advances the cross-head 13 by reason of the step formed between the higher surface of the cross head and the depressed surface pushes the address lines forward (the number depending upon the height of the step) until they have entirely cleared the ribs 11 11^a and continuing to push them forward brings the type faces into engagement with the ribbon 23 and makes an imprint against the envelop inserted in front of block E; when the lever 8 is oscillated to the rear the depressed surface 12^a withdraws from under the type the lowermost of which engages against the end of the ribs 11 11^a and is, thereby, prevented from returning with the cross head; another address or a given number of lines drop to the ribs 11 11^a and the used address type or types drop into magazine F¹, they are guided to an upright and "right side up" position by inclined guides 38 and assume a position between the end 4^a of plunger 4 and a retaining yielding spring 34, the next advance of the plunger 4 pushes the address lines past the spring 34 into the body of the magazine F¹.

The magazines F and F¹ are interchangeable so that when one has been emptied in the vertical position it can be interchanged with the magazine in the horizontal position. Each of the magazines near its end has its bottom cut by two lengthwise slits united by a transverse slit near the magazine end. This transverse slit is notched into the bottom web near the center so as to form a lug f'. The lug f' which is turned off ordinarily permits the type-lines from escaping from the free end of the magazine, but when the magazine is set up in vertical position for feeding, the retaining spring f may be drawn back and the pin f² (Fig. 4) passed between it and the magazine bottom, thereby holding the lug f' out of the way and allowing the column of type-lines to drop down on the plate 12^a or the cross-head 13. 39 shows a bent metal strip or clip which acts as a type-supporter as the type builds into a column in the horizontal magazine. If it be desired to repeat the impression with one line of type before it drops into the magazine below, the spring-bar 41 is pressed down and the slot 42 engages the top of the lever 8 and restrains it from pulling far enough back to drop the type off.

What I claim is:—

1. In combination with an address printing machine provided with a reciprocating plunger, a spool-carrier shaft, a spool held at each end thereof, a ribbon winding on one spool and unwinding from the other, a

ratchet wheel connected with each spool, a pawl carried on each side of the plunger, and means for adjusting the spool-carrier shaft so that one pawl engages the ratchet of one spool and, when one spool is exhausted of ribbon, whereby the shaft can be changed so that the other pawl engages the other ratchet and the ribbon is reversed winding on the exhausted spool, substantially as described.

2. An address printing machine, having in combination with a frame, an upright magazine adapted to rest thereon and to hold a column of type-lines, a reciprocating plunger and cross-head adapted to press a given number of the lowermost type-lines against a paper or envelop, and returning drop the said type-line or type-lines, repeating said operation at each complete reciprocation of the plunger, a lever adapted to reciprocate said plunger, and a spring bar attached to said frame and adapted to be pressed down to stop the lever on its return oscillation, thereby affording means for repeating the impression when desired, substantially as described.

3. An address printing machine, having in combination, an upright magazine, a reciprocating plunger and cross-head adapted to impress a given number of the lowermost type-lines against a paper or envelop, and returning drop the type-line or type-lines, repeating said operation at each complete reciprocation of the plunger, means for guiding the type-lines into upright position, and means for holding the rear end of the column up, comprising a spring forward of the type-line, when the same is dropped and a projection adapted to push said type-line or lines forward of the spring as the plunger is brought forward to cause the next impression with the succeeding type-lines, substantially as described.

4. An address printing machine, having in combination, an upright magazine, adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block disposed in front of the magazine and spaced therefrom, means for holding the matter to be printed in front of said block, the said cross-head having a depression in its surface adapted to take a given number of the type-lines on its forward movement and impress the same against the matter in front of the printing block and means for catching the type-line or lines and holding the same while the cross-head withdraws from under the same on the return stroke and drops the same through the space intervening between the magazine and block, substantially as described.

5. An address printing machine, having in combination, an upright magazine

adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block disposed in front of and spaced from the magazine, means for holding the matter to be printed in front of said block, the said cross-head having a depression in its surface adapted, thereby, to take a given number of the type-lines on the forward movement of the cross-head and impress the same against the matter in front of the printing block and fixed ribs or guides projecting through slots in the depressed portion of the cross-head and adapted to normally hold the column of type-lines in the magazine, the said ribs being adapted, when the cross-head enters upon its return movement, to hold the type-line or lines and allow the cross-head to withdraw from under it or them and drop the same into the space intervening between the magazine and block, substantially as described.

6. An address printing machine, having in combination, an upright magazine adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block spaced from the magazine, means for holding the matter to be printed in front of said block, the said cross-head having a depression in its surface adapted thereby to take a given number of the type-lines on its forward movement and impress them against the matter in front of the printing block, an automatically shiftable inking ribbon located in front of the matter to be printed and adapted to be forced against such matter by the impact of said type-line or type-lines and means for catching the type-line or lines and holding the same while the cross-head withdraws from under the same on the return stroke and drops the same through the space intervening between the magazine and block, substantially as described.

7. An address printing machine, having in combination, an upright magazine adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block spaced from the magazine, means for holding the matter to be printed in front of said block, an automatically shiftable ribbon located in front of the matter to be printed, means for permitting the reversal of the shifting direction of the said ribbon, the cross-head being provided with a depression adapted, thereby, to take a given number of the type-lines on its forward movement and impress the same against the said ribbon and force the ribbon against the matter to be printed, and means for catching the type-line or lines and holding it or them while the plunger withdraws from under the same on the return stroke

and drops the same through the space intervening between the magazine and block, substantially as described.

8. An address printing machine, having in combination, an upright magazine adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block spaced from the magazine, means for holding the matter to be printed in front of said block, a ribbon disposed across the matter to be printed on the block, a spool upon which the ribbon winds, a ratchet wheel on said spool, the said cross head being provided with a depression in its surface adapted to take a given number of the type-lines on its forward movement and impress the same against the ribbon and thereby force the same against the matter to be printed, a pawl on said reciprocating cross-head adapted to engage the ratchet-wheel and thereby shift the ribbon and means for catching the type-line or lines and holding the same while the cross-head withdraws from under the same on the return stroke and drops the same through the space intervening between the magazine and block, substantially as described.

9. An address printing machine, having in combination, an upright magazine adapted to hold a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine, a printing block spaced from the magazine, means for holding the matter to be printed in front of said block, a shiftable ribbon disposed across the matter to be printed when on the block, a pair of spools upon which and from which the ribbon winds and unwinds, a ratchet-wheel on each spool, the said cross-head being provided with a depression adapted to take a given number of the type-lines on its forward movement and impress the same against the ribbon and the ribbon against the block, pawls carried on each side of the cross-head, one to engage with each ratchet-wheel, means for permitting the shifting of the relative position of the pawls and the ratchet-wheels so as to throw one pawl out of engagement and the other pawl into engagement with its companion ratchet wheel, whereby the shifting of the ribbon may be reversed and means for catching the type-line or lines and holding the same while the cross-head withdraws from under the same on the return stroke and drops the same through the space intervening between the magazine and block, substantially as described.

10. An address printing machine, having in combination, a pair of side members provided with a vertical slot into which the matter to be printed is inserted, a block held back of the matter to be printed in said slot,

a vertical magazine adapted to feed a column of type-lines, a horizontal cross-head adapted to reciprocate across the bottom of said magazine and provided with a depression adapted to take a given number of type-lines and force them against the matter in front of said block, the said block and vertical slot being spaced from said vertical magazine and means for holding the type-line or lines when the cross-head returns, whereby the cross-head withdraws from under the same and drops them in the space intervening between the block and vertical magazine, substantially as described.

11. An address printing machine, having in combination, a pair of side members provided with a vertical slot to hold the matter to be printed, a block in front of said slot, means for holding a pair of interchangeable magazines, one in vertical position and the other in substantially horizontal position, a horizontal cross-head adapted to reciprocate across the bottom of the magazine in vertical position and provided with a depression adapted to take a given number of the type-lines fed from the vertically disposed magazine and to impress the same against the block, the said block being spaced from the vertically disposed magazine, and means for holding the type-line or lines upon the return stroke of the cross-head, whereby the cross-head withdraws from under the same and drops them through the intervening space into the horizontally disposed magazine, substantially as described.

12. An address printing machine, having in combination, a pair of side members, means for holding a pair of interchangeable magazines, one vertically disposed and the other substantially horizontally disposed, a block held between said side members, means for holding matter to be printed in front of said block, a horizontal cross-head adapted to reciprocate across the bottom of said vertically disposed magazine and provided with a depression adapted to take a given number of the type-lines from the vertically disposed magazine and impress the same against the matter in front of the said block, means for holding the type-line or lines upon the return stroke of the cross-head, whereby the cross-head withdraws from under them and drops them into the horizontally disposed magazine, and means for guiding them into upright position in said magazine, substantially as described.

13. An address printing machine, having in combination, a pair of side members, means for holding a pair of interchangeable magazines, one vertically disposed and the other substantially horizontally disposed, a block held between said side members, means for holding matter to be printed in front of said block, a horizontal cross-head adapted to reciprocate across said vertically disposed magazine and provided with a depression adapted to take a given number of the type-lines from the vertically disposed magazine and impress the same against the matter in front of the said block, means for holding the type-line or lines upon the return stroke of the cross-head, whereby the cross-head withdraws from under them and drops them into the horizontally disposed magazine, means for guiding them into upright position in said magazine, and means for temporarily holding, in upright position, the line or lines dropped at one operation, substantially as described.

14. An address printing machine, having in combination, a pair of side members, means for holding a pair of interchangeable magazines, one vertically disposed and the other substantially horizontally disposed, a block held between said side members, means for holding matter to be printed in front of said block, a horizontal cross-head adapted to reciprocate across the bottom of said vertically disposed magazine and provided with a depression adapted to take a given number of the type-lines from the vertically disposed magazine and impress them against the matter in front of the said block, means for holding the type-line or lines upon the return stroke of the cross-head, whereby the cross-head withdraws from under the same and drops the same into the horizontally disposed magazine, means for guiding the line or lines into upright position in said magazine, and means for temporarily holding, in upright position, the line or lines dropped at one operation, and means for taking the said type from said temporary position and packing it in the horizontal magazine, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

JAMES B. ALLEN.

Witnesses:

STUART C. BARNES,
VIRGINIA C. SPRATT.