(No Model.) 3 Sheets—Sheet 1.

A. V. LANE.

BANK PUNCH.

No. 423,609. Patented Mar. 18, 1890.

Fig. 1.

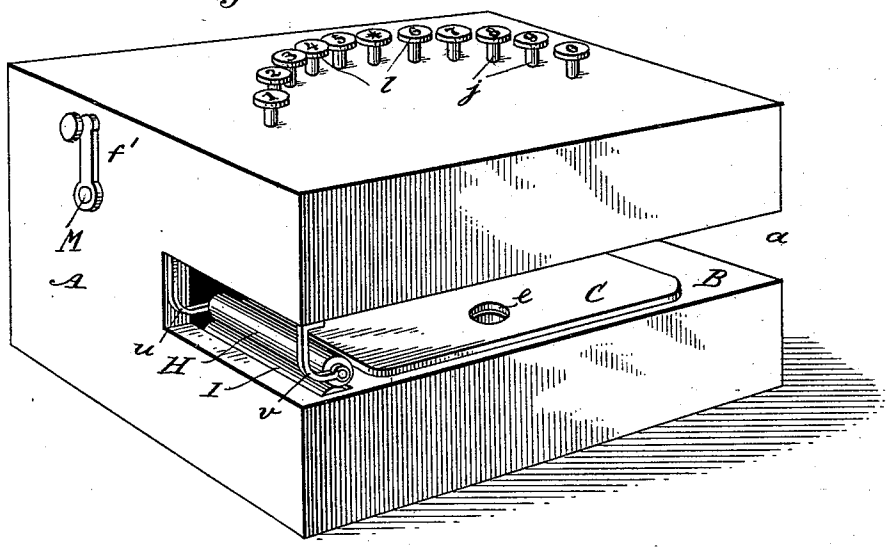
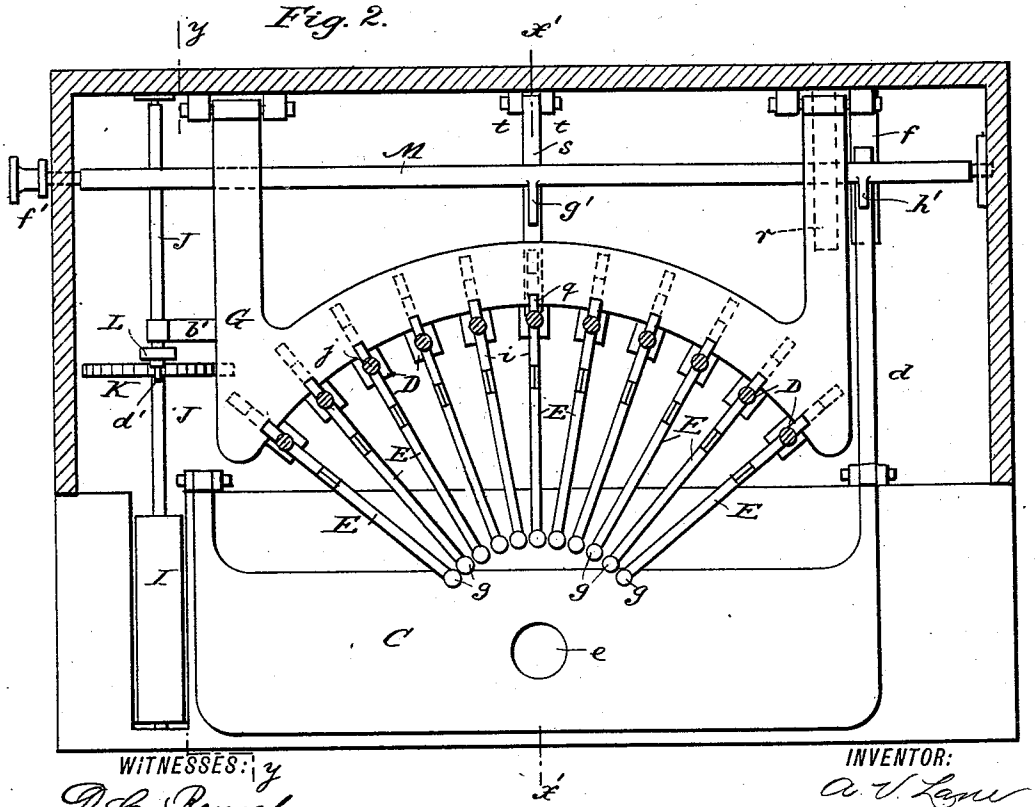


Fig. 2.



WITNESSES:

D. C. Reusch

C. E. Holsky

INVENTOR:

A. V. Lane

BY Munn & Co.

ATTORNEYS.

W. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

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Fig. 3.

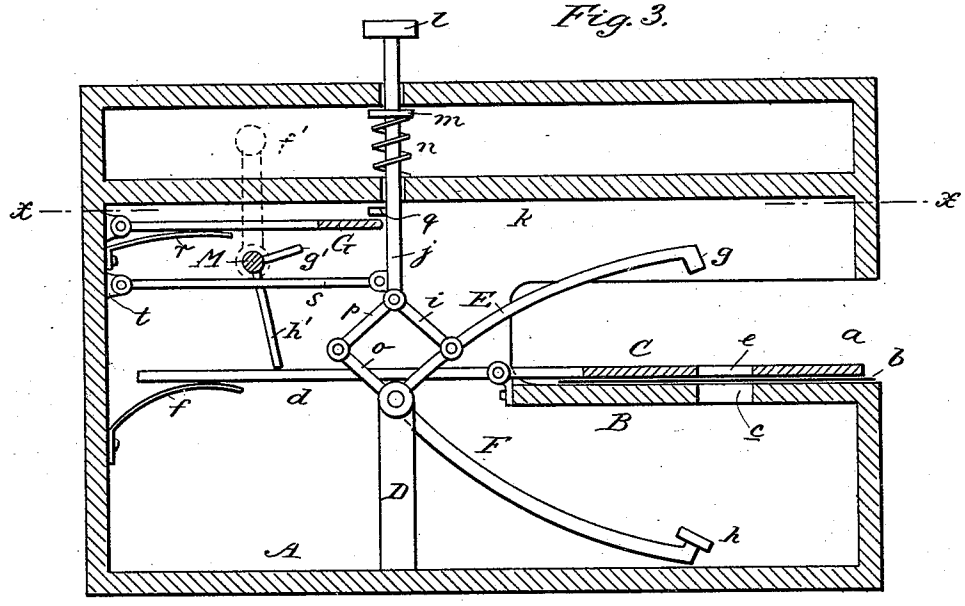
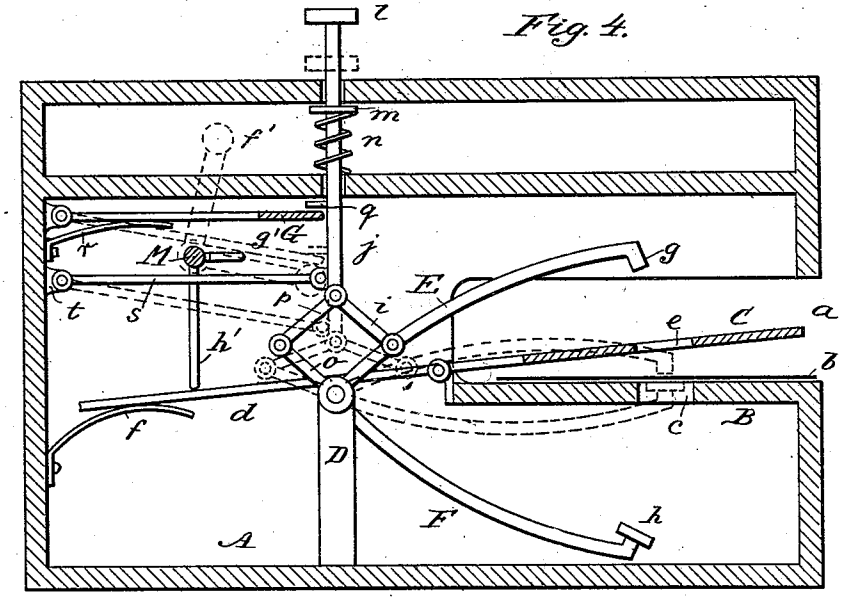


Fig. 4.



WITNESSES:

D. C. Rensch.

C. E. Holske

INVENTOR:

A. V. Lane

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

A. V. LANE.

BANK PUNCH.

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Fig. 5.

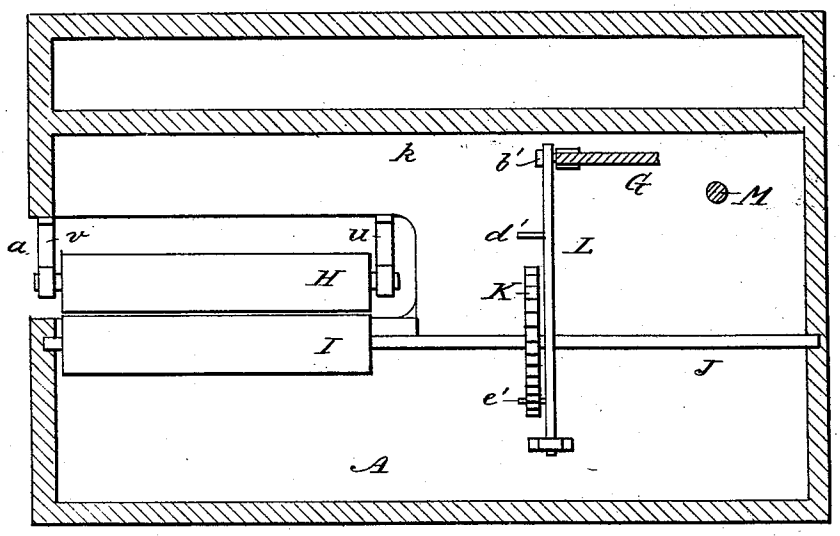


Fig. 8.

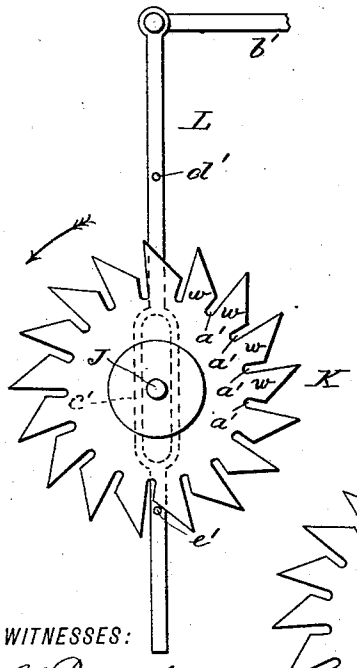


Fig. 6.

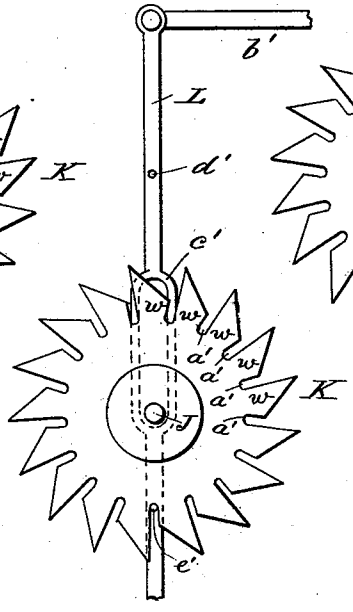
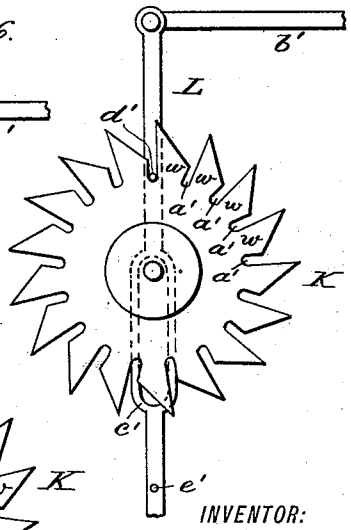


Fig. 7.



WITNESSES:

D. C. Reusch

C. D. Holske.

INVENTOR:

A. V. Lane

BY Munn & Co.

ATTORNEYS.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

ALVIN V. LANE, OF DALLAS, TEXAS.

BANK-PUNCH.

SPECIFICATION forming part of Letters Patent No. 423,609, dated March 18, 1890.

Application filed June 27, 1889. Serial No. 315,743. (No model.)

To all whom it may concern:

Be it known that I, ALVIN V. LANE, of Dallas, in the county of Dallas and State of Texas, have invented a new and Improved Bank-Punch, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a perspective view of my improved bank-punch. Fig. 2 is a sectional plan view on the line *x x* in Fig. 3. Fig. 3 is a vertical transverse section taken on line *x' x'* in Fig. 2. Fig. 4 is a vertical transverse section taken on the same line, showing in dotted lines one of the keys depressed. Fig. 5 is a vertical transverse section taken on line *y y* in Fig. 2; and Figs. 6, 7, and 8 show the feeding mechanism in different positions.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a punch for the use of banks, counting-houses, &c., which will cut figures and characters out of the material of a check or other paper, and which will cut in the said paper before and after the figures representing the value of the check a star or other character to prevent the raising of the check by the addition of other figures.

My invention consists in the combination, with suitable and feeding mechanism, of a series of levers carrying at their extremities dies for punching holes in the checks, keys connected with the levers for operating the same, and a device for insuring the operation of the dollar-mark or blank-character punch before and after cutting the figures, all as will be hereinafter more fully described.

The box A, forming the casing of the machine, is provided in the front thereof with an opening *a*, which extends from one end of the box to the other and reaches inwardly to a point about midway between the front and back of the box. Within the box and below the opening *a* is arranged a table B, for supporting the paper *b*, in which the characters are to be cut. In the table B, near the center thereof, is formed an opening *c*, and to the inner edge of the table is hinged a clamping-plate C, which is provided with an arm *d*, extending rearwardly into the box A. The clamping-plate C is provided with an aperture *e*, which coincides with the aperture *c* of the table B. The arm *d* is pressed upwardly by a spring *f*, attached to the back of the box, which causes the clamping-plate C to normally bear upon the paper *b*, resting on the table B.

In standards D in the box A are pivoted the levers E F, the standards D being arranged on a circle struck from the center of the aperture *c*, and all of the levers E F are arranged so that when they are operated in a manner presently to be described, their free ends will pass through the openings *c e* of the table B and the clamping-plate C.

Each lever E carries at its free end a punch *g*, and each lever F carries at its free end a die *h*, the die and punch of each pair of levers being counterparts of each other. Each lever E is connected by a link *i* with a rod *j*, which extends upwardly through a horizontal partition *k* in the box A and through the top of said box, the rod being provided at its upper end with a finger-piece *l*. To the rod *j*, underneath the cover of the box, is secured a collar *m*, and between the said collar and the horizontal partition *k* is placed a spiral spring *n*, which serves to return the rod *j* after it has been depressed in the operation of making a character in the paper *b*.

The lever F is prolonged beyond its pivot, and its shorter arm *o* is connected by a link *p* with the rod *j*. By this arrangement, whenever the rod *j* is depressed, the lever E is forced downward and the lever F is raised upward. Each rod *j* is provided with an ear *q*, which engages the edge of a swinging frame G, pivoted to the rear of the box A. The frame G is supported by a spring *r*. One of the pairs of levers E F, preferably the central pair, is provided with a punch and die for cutting a star, dollar-mark, or other character in the paper on the table B, and the rod *j*, connected with this pair of levers, is pivoted to one end of a bar *s*, the opposite end of which is pivotally supported in ears *t*, projecting inwardly from the back of the box A.

At one end of the table B are journaled rollers H I. The roller H is journaled in spring-arms *u v*, attached to the edge of the box A, and the roller I is secured to a shaft J, which is journaled in the box and carries a feeding-wheel K. The feeding-wheel K is provided with series of bevel-teeth *w*, between

which there are slots a'. An arm b' projects from the frame G, and is pivoted to a bar L, which is provided with an enlarged slotted central portion c', which embraces the shaft J. In the bar L are inserted two pins d' e', which project laterally in position to engage the teeth of the wheel K. The teeth of the said wheel are so disposed that when one of the pins is in one of the slots a' a tooth w on the diametrically-opposite side of the said wheel K will be in position to be engaged by the other pin when it is moved toward the shaft J. For example, in Fig. 6 the pin e' is within the slot a', between the two lower teeth of the said wheel, while the pin d' is above the tooth w, which is diametrically opposite the slot a', in which the pin e' rests.

In Fig. 7 the pin d' is shown in its lowest position after having moved forward one of the upper teeth in the wheel. In Fig. 8 the bar L is shown as making its return movement, the pin e' being in engagement with the inclined bevel-surface of one of the lower teeth w.

It will thus be seen that for each complete excursion of the frame G and arm b', attached thereto, the wheel K is advanced one notch, thereby moving forward the feed-rollers I H, bringing the check or other paper engaged by the rollers and extending between the table B and the clamping-plate C into a new position.

The series of punching-levers E F is preferably arranged in the natural order of the numbers to be cut by the punches and dies, with the exception of the central pair of levers, (which cuts a star or other character,) the numbers running as follows: 1, 2, 3, 4, 5, star, 6, 7, 8, 9, 0.

In the box A is journaled a shaft M, which is provided at one end with a hand-lever f', by which it may be turned. The said shaft M is provided with two arms g' h'. The arm g' is adapted to engage the bar s, connected with the rod j of the star-cutting levers, and the arm h' is arranged to engage the arm d, projecting inwardly from the clamping-plate C.

To introduce a check or other paper between the clamping-plate C and the table B, the shaft M is turned, thereby raising the clamping-plate by depressing the arm d through the action of the arm h'. The check is introduced while the clamping-plate is raised, and the further turning of the shaft M liberates the arm d and allows the plate C to press the paper b, then brings the arm g' into engagement with the bar s, thereby depressing the rod j and causing the levers E F to approach each other and cut in the check a star or dollar-mark, as before described. The further turning of the shaft M liberates the rod j of the star or dollar-mark and allows the levers E F to separate, when the required figures may be cut in the check by the use of the other punches and dies.

Whenever one of the finger-pieces l is depressed, it operates the feeding mechanism, as previously described, so that a new space in the check or other paper is presented for cutting.

When it is desired to remove the check from the machine, the hand-lever f' is turned in the opposite direction, first cutting the star or dollar-mark and afterward lifting the clamping-plate C.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a bank-punch, the combination of a series of pairs of levers, each pair provided with a punch and die, a table for holding the paper to be punched, and means, substantially as described, for operating the punching-levers.

2. In a bank-punch, the combination of a series of pairs of levers provided with punches, a series of spring-pressed rods connected with the pairs of levers and adapted to operate the same, feeding mechanism consisting of a toothed feed-wheel, a bar provided with pins adapted to engage the teeth of the feed-wheel, a frame connected with the said bar and arranged to be moved by either of the lever-operating rods, and feed-rolls connected with the toothed wheel, substantially as specified.

3. In a bank-punch, the combination, with the punching devices, of a spring-pressed clamping-plate for holding the paper to be punched, and a shaft provided with two arms—one for moving the clamping-plate and the other for operating the star-punch—substantially as specified.

4. In a bank-punch, the combination of the lever E, provided with the punch g, the lever F, having the die h, the spring-pressed rod j, the bar s, pivoted to the said rod j and to a fixed support, the shaft M, having arms g' h', the table B, provided with the aperture c, the clamping-plate C, provided with the arm d, and the spring f, arranged to press the arm d, substantially as specified.

5. In a bank-punch, the combination of the punching-levers E F, provided with punches g and dies h, the rods j, having the ears q, the frame G, the bar L, the toothed wheel K, and the rollers H I, substantially as specified.

ALVIN V. LANE.

Witnesses:
S. PHILP,
G. A. TRUMBULL.