(No Model.) 3 Sheets—Sheet 1.

F. W. SMITH, Jr., & S. S. WILLIAMSON.

BANK CHECK PUNCH.

No. 419,161. Patented Jan. 7, 1890.

Fig. 1.

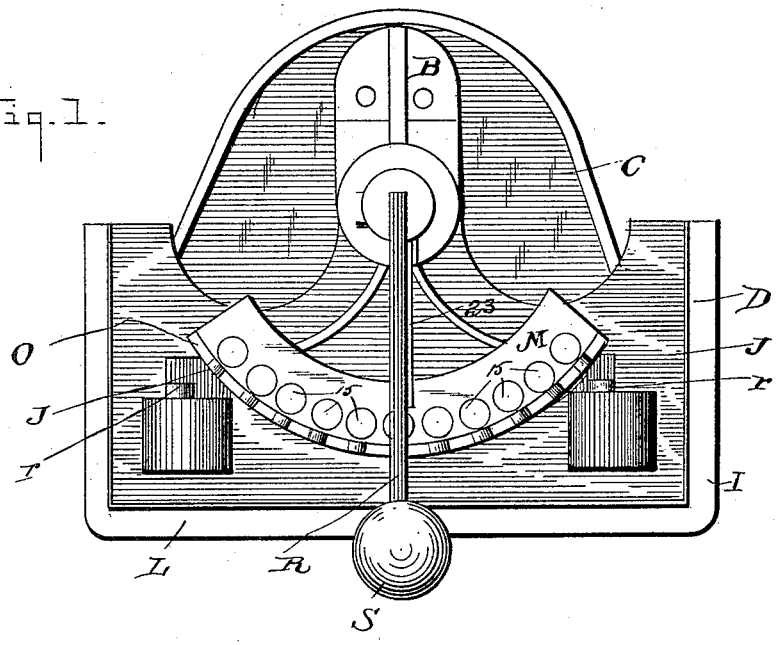
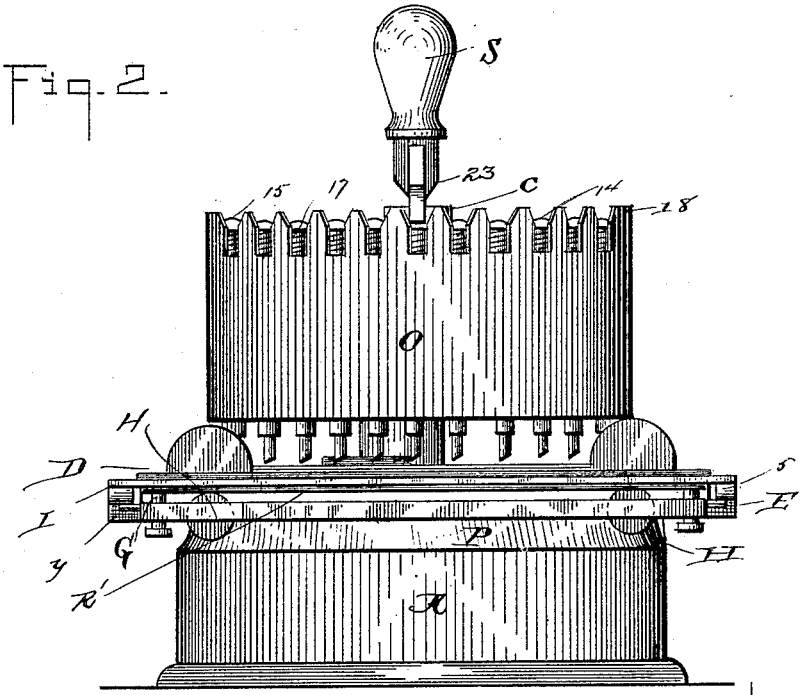


Fig. 2.



Witnesses.
Will E. Aughinbaugh
Shipley Brashears Jr.

Inventors:
F. W. Smith, Jr. & S. S. Williamson
per S. Brashears
Asso. Atty.

(No Model.) 3 Sheets—Sheet 2.

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Fig. 3.

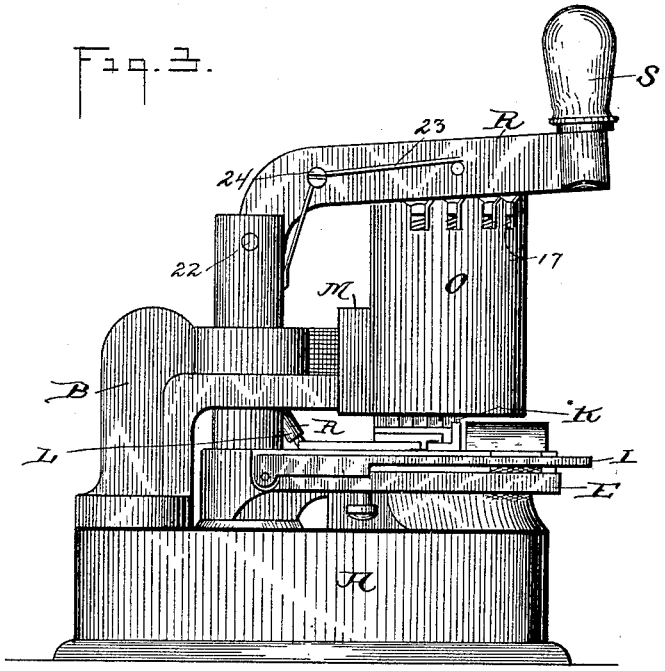
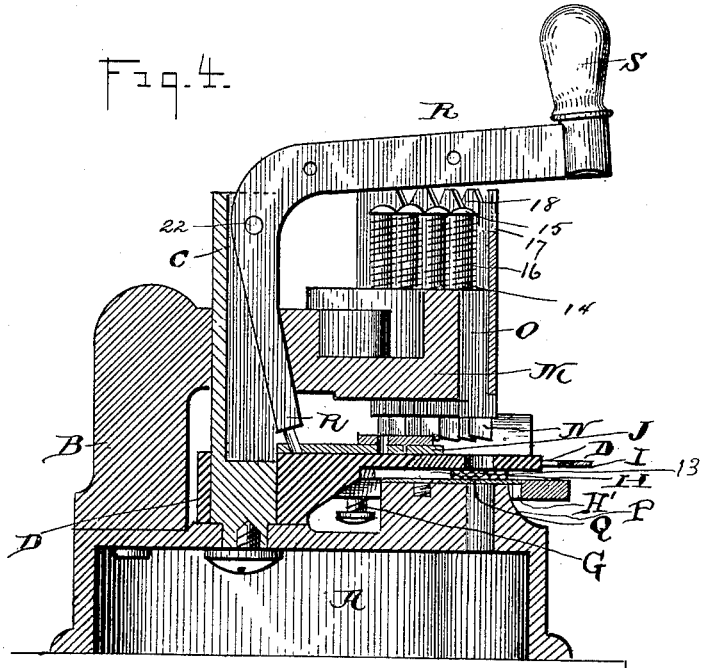


Fig. 4.



Witnesses:
Will E. Aughinbaugh
Shirley Brashears Jr

Inventors
F. W. Smith Jr. & S. S. Williamson
per S. Brashears
Asso. atty.

(No Model.) 3 Sheets—Sheet 3.

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Fig. 5.

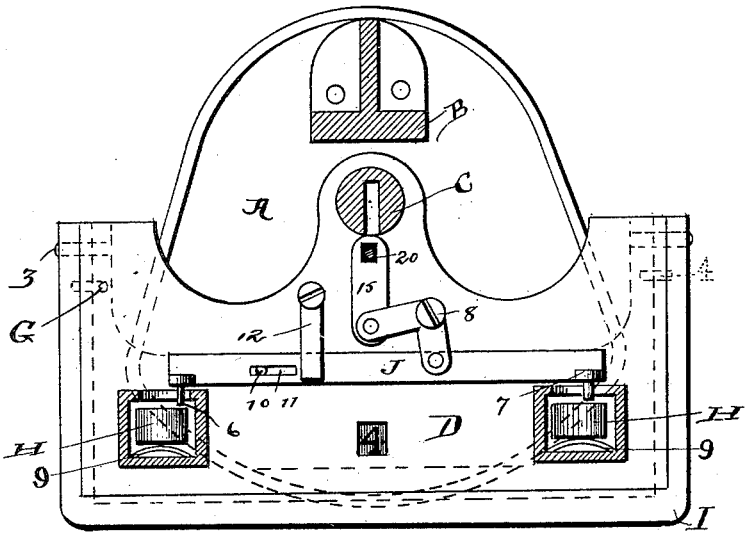
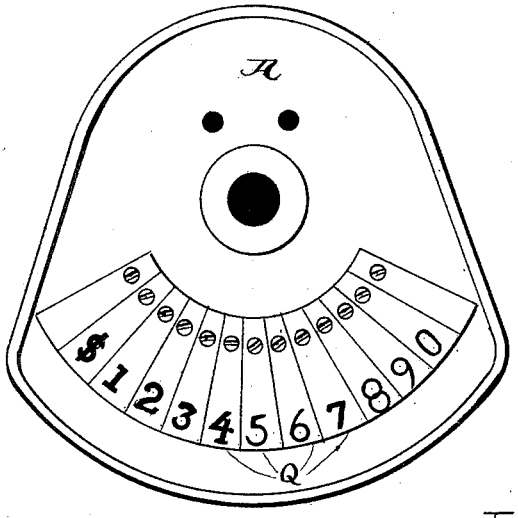


Fig. 6.



Witnesses:
Will C. Aughinbaugh
Shipley Brashears Jr.

Inventor:
F. W. Smith, Jr.
S. S. Williamson
per S Brashears
Asso. Atty

UNITED STATES PATENT OFFICE.

FRIEND W. SMITH, JR., AND SAMUEL S. WILLIAMSON, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE LIGHTNING CHECK PUNCH COMPANY, OF SAME PLACE.

BANK-CHECK PUNCH.

SPECIFICATION forming part of Letters Patent No. 419,161, dated January 7, 1890.

Application filed December 3, 1889. Serial No. 332,458. (No model.)

To all whom it may concern:

Be it known that we, FRIEND W. SMITH, JR., and SAMUEL S. WILLIAMSON, both citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Bank-Check Punches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to certain new and useful improvements in check-punches, and has for its object to simplify the construction of said devices and to greatly facilitate the adaptation of the same in practical use.

With these ends in view our invention consists in the details of construction and combination of elements, such as will be hereinafter fully set forth, and then specifically designated by the claim.

In the drawings, Figure 1 is a plan of our improvement. Fig. 2 is a front elevation. Fig. 3 is a side elevation. Fig. 4 is a central vertical section, the operative lever being in elevation. Fig. 5 is a section on the line *x x* of Fig. 3. Fig. 6 is a detail plan showing the die-bed.

Similar letters denote like parts in the several figures.

A is the bed, and B a standard extending upward therefrom and rigidly secured thereto. C is a spindle journaled within said bed and standard, so as to be capable of a free rotary movement.

D is a plate rigidly secured to the spindle C, so as to revolve therewith, and E is a tray pivoted at 3 between ears F, depending from said plate.

G are pins extending from the plate D through the tray and terminating in heads 1, between which latter and the bottom of the tray are coiled springs 2, whereby the downward movement of said tray is rendered resilient. The pins G pass loosely through the tray and the heads 1 limit the downward movement of the tray, the spring serving to keep the latter in elevated or normal position.

H H′ are feed-rolls journaled, respectively, in the plate D and tray E, one above the other. We prefer to use two sets of these rolls—one at each end of said plate and tray—in order to insure a constant and uniform feed movement, as will be clearly understood from the description hereinafter to be given. The rolls H H′ are normally in contact, owing to the action of the springs 2.

I is a lever extending around the plate D and pivoted at 3 to the ears F, and 4 are pins extending laterally from opposite sides of the tray, upon which rest pins 5, which depend from said lever. The function of this lever is to depress the tray, so that the rolls H H′ will be separated for the purpose of introducing a check, as will be presently set forth.

6 are ratchet-wheels rigidly secured to the inner side of rolls H.

J is a pawl-carrier resting on the plate D and having at each extremity pawls 7, which project in operative engagement with the ratchet-wheel 6.

K is a bell-crank lever pivoted at 8 to the plate D, the ends of said lever being pivoted, respectively, to the carrier J and to a link L, so that it will be readily understood that the reciprocation of said link in the direction indicated by the arrow will effect a lengthwise reciprocation of the carrier, whereby the pawls 7 will operate to turn the ratchets 6 and thereby revolve the rolls.

9 are low springs, which bear against the outer sides of the rolls H and serve as frictional detents to prevent the reverse movements of said rolls while the pawls are returned to normal position.

10 is a pin projecting from the plate D through a guide-slot 11 in the carrier, whereby the movement of the latter is rendered uniform and steady.

12 is a flexible flat spring secured to the plate D and bearing directly upon the carrier J to further steady the movement of the

latter and to permit said carrier to rise and fall with a spring action as the pawls ride over a ratchet-wheel 6 and drop into position behind succeeding teeth.

The mechanism consisting of the rolls H H′, ratchet 6, pawls 7, carrier J, guided as set forth, bell-crank K, link L, and detents 9 constitute our check-feeding means, and the insertion and step-by-step feed is accomplished as follows: The operator depresses the lever I, inserts the check between the rolls within the space 13, releases the said lever, thereby causing the rolls to grip the check, and by reciprocating the link L in the direction indicated by the arrow effects the intermittent revolution of said rolls.

We will now proceed to describe the means by which the feed is operated and the punching of the check effected.

M is a head integral with or secured to the standard B and having vertically extending therethrough pins 14, capable of a free up-and-down movement. These pins terminate at their upper ends in heads 15, between which latter and the head M are coil-springs 16, whereby the movement of said springs are rendered resilient and the normal elevated position of the latter insured. The pins extending below the head M and on their lower ends are secured the punches N.

O is a guide-plate secured to the head M and provided with slots 17 immediately in front of the pins 14. These slots have flared gates 18, and at the lower end of said slots and upon the plate O are the signs or numbers $ 1 2 3 4 5, &c., which identify the punches.

P is the die-bed, secured upon or cast with the bed A, and having a channel 19, through which the punchings drop from the die within the bed A.

Q are the dies, secured on the bed P and adapted to register with the punches.

R is an L-shaped operating-lever, the heel of which terminates in a pin 20, fitting loosely in a socket 21 in the link L. The knee of this lever is pivoted at 22 within the spindle C, and the spring 23, secured to the lever by a pin or screw 24 and bearing at its free ends against the said spindle and lever, respectively, keeps said lever in a normal elevated position. The said lever extends forward above and beyond the guide-plate O, and in cross diameter said lever is of such dimension as to fit easily within the slots 17. Any suitable knob S is secured to the outer end of this lever. By grasping the knob S the lever R, spindle C, plate D, and parts carried thereby are swung in the arc of a circle, and in operating the punches it is merely necessary to swing the lever R until it is above the particular punch to be operated, when the said lever is depressed, thereby forcing the punch into proper engagement with the corresponding die. When the knob is released, the springs 16 and the springs 23 co-operate to return the lever to its normal position. When the forward end of the operating-lever is depressed, the heel end thereof will be thrown rearward, thereby operating the link L, bell-crank K, and carrier J. To return the pawls 7 to normal position and when said lever is elevated, the pawls will be operated against the ratchet 6 to turn the feed-rolls H H′, as and for the purpose hereinbefore set forth.

The most prominent features of our improvement are that the punches and dies are stationary, while the check carrying and feeding mechanism are shifted in synchronism, and this will be readily understood when it is borne in mind that the lever R and plate D are both secured to the same rock-shaft or spindle C.

We desire it to be understood that we make no claim to the following combinations in this application: In a check-punch, the combination of the bed having a standard projecting therefrom and terminating in a head, a series of dies supported on said bed, and a series of spring-actuated punches mounted on said head, a spindle journaled within said bed and standard, and an operating-lever and plate secured to the top and bottom, respectively, of said spindle, as set forth; in a check-punch, the combination, with a series of stationary punches and dies, of a rotary spindle journaled within the body of the check-punch, a single operating-lever pivoted within said spindle and adapted to rotate therewith, a plate rigid with said spindle, a tray pivoted to said plate, feed-rolls journaled one above the other in the plate and tray, respectively, a spring adapted to keep the tray in elevation, whereby said rolls are normally held in contact, and means controlled and operated by the head of said lever for actuating said rolls, as set forth; in combination, the bed-plate A, carrying the dies, the standard B, projecting upward therefrom and having perforated head N, the punch-pins carried by said head, and curved vertical guide-plate O, having slots in its upper edge in front of said pins, the rotary spindle C and the lever R, adapted to engage in said slots, as set forth; in combination, the stationary die-plate, the stationary punch-carrying head, the rotary spindle, the plate D, rigidly secured to said spindle, the tray E, pivoted to plate D, and the two sets of feed-rolls H and H′, journaled in said tray and plate, whereby two parts of the check to be punched are grasped at the same time and the check kept taut and prevented from sagging, as set forth, such combinations being claimed in a former application of ours, Serial No. 325,768, filed October 2, 1889.

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

In combination, the bed-plate carrying stationary dies, a head rising therefrom car-

rying non-rotary punches, a rotary spindle rising from said bed, feed-rolls and their operative mechanism carried by said spindle, and the elbow-shaped lever pivoted in the upper end of said spindle, whose lower end engages and operates the feed mechanism, and its upper end engages and operates the punches, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FRIEND W. SMITH, JR.
SAMUEL S. WILLIAMSON.

Witnesses:
J. P. FINCH,
G. F. BARDEU.