

J. STEWART.
CHECK PUNCH.

No. 505,577.

Patented Sept. 26, 1893.

Fig 1

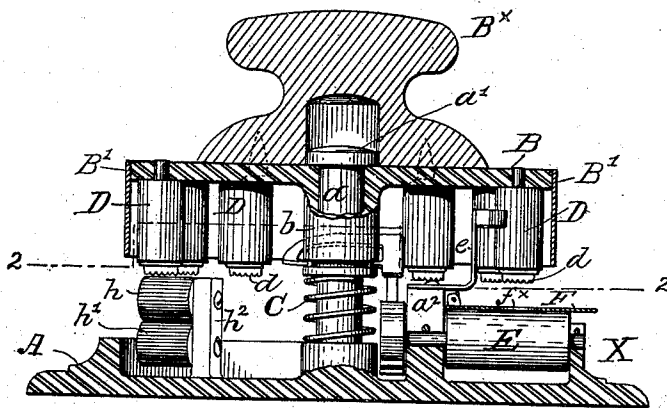


Fig 3

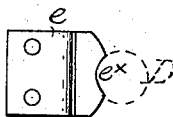
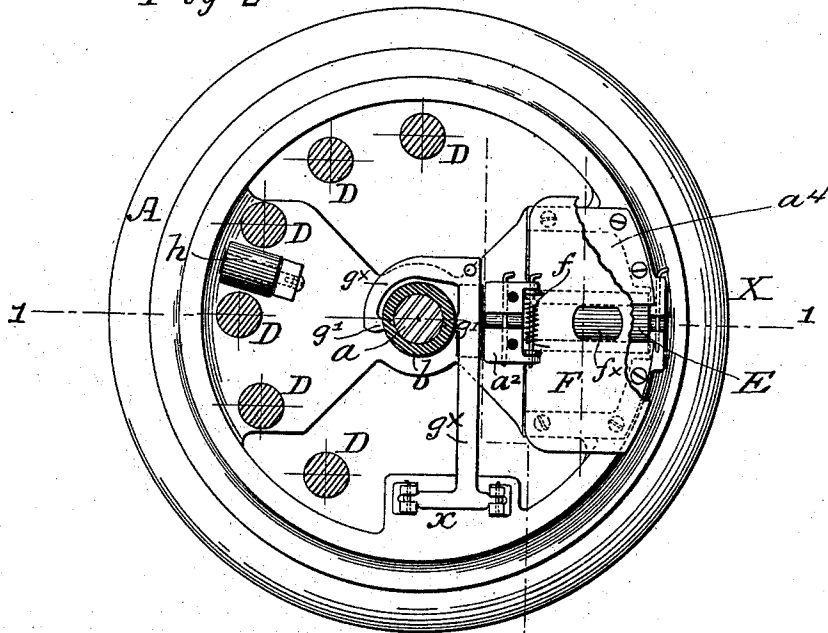


Fig 2



INVENTOR:

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By *Henry Connors*
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WITNESSES:

W. B. Shepley

Harbert Bloom

(No Model.)

2 Sheets—Sheet 2.

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Fig 4

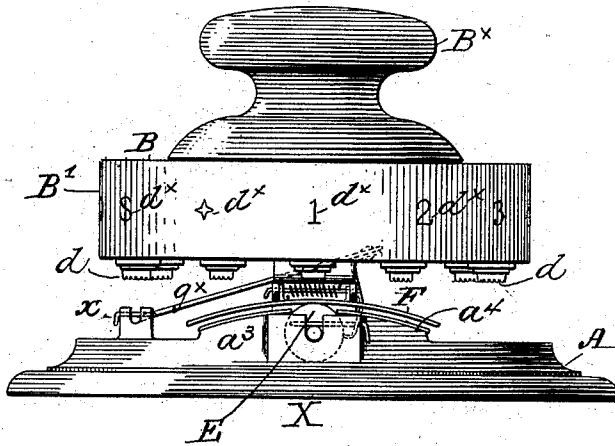


Fig 5

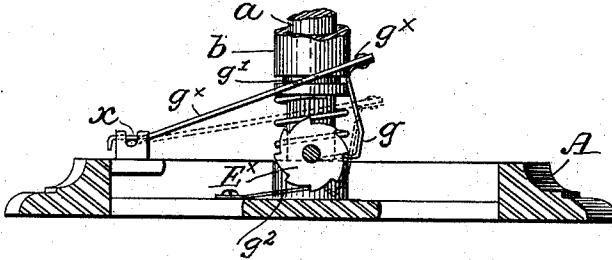


Fig 6

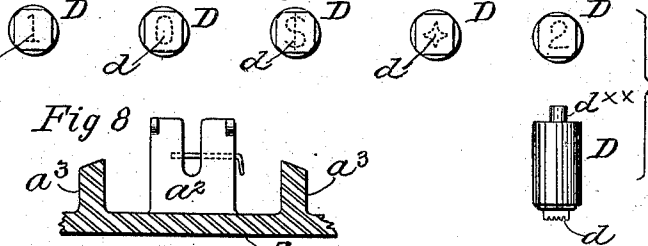


Fig 7

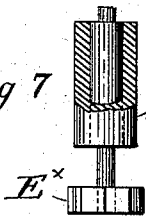


Fig 8

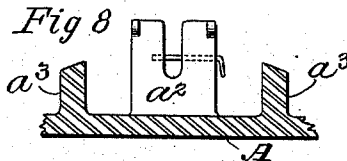
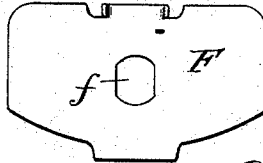


Fig 9



WITNESSES:

W. B. Shepherd.
Herbert H. Poffen.

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN STEWART, OF NEW YORK, N. Y.

CHECK-PUNCH.

SPECIFICATION forming part of Letters Patent No. 505,577, dated September 26, 1893.

Application filed April 13, 1892. Serial No. 428,994. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEWART, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Check-Punches, of which the following is a specification.

My invention relates to the class of devices used for punching numerals and other characters in checks, receipts, and the like, designating the amount of money for which the check or receipt is drawn, &c., and the object of the present improvements is, in general, to provide an efficient and, at the same time, a cheaper and more conveniently operated punch than those usually employed.

The invention will be fully described hereinafter and its novel features carefully defined in the claims.

In the accompanying drawings—Figure 1 is a vertical midsection of a check-punch embodying my improvements, the plane of the section being indicated by line 1, 1, in Fig. 2. Fig. 2 is a sectional plan, the plane of the section being substantially indicated by the broken line 2, 2, in Fig. 1. The spring detent *e* is removed from this view. Fig. 3 is a plan view of the spring detent, *e*, detached. Fig. 4 is a front elevation of the punch; this view represents the punch as seen from the right in Figs. 1 and 2. Fig. 5 is a fragmentary view designed to illustrate the mechanism for feeding the check. Fig. 6 shows the faces of five of the numeral dies, and also shows one of the dies detached in side elevation. Figs. 7, 8 and 9 show detached details which will be hereinafter described.

A represents the base of the punch, which may be circular in form, and *a* is an upright stem on the base. This stem will be cylindrical and it forms a shaft or arbor on which is rotatively mounted a die-carrying plate, B. The plate B has a boss or hub *b*, in which the stem *a* has its bearing, and on the upper end of said stem is a head or stop-flange, *a'*, which takes over the plate B and resists the upward pressure of a retracting or lifting spring C, which embraces the stem *a*, and takes under the boss *b* on the plate B and provides an elastic or spring support for said plate, permitting it to be depressed in operating

the punch. On the plate B, is an operating knob B^x.

The plate B may be of circular form, and fixed to its under side is a series of dies, D, arranged concentrically about the axis of the stem *a*, and preferably equally spaced. Each of these dies has formed on its lower end, or operating face, a numeral or character *d*. As herein shown there are twelve punches, on which are formed respectively, the nine digits, a cipher, a dollar mark, and a star; some of these characters are represented in Fig. 6. These characters *d* are formed of numerous fine points adapted to prick through the paper of the check. I do not limit myself as to the mode of forming said points, but they may be composed of needles set in the proper manner to produce a character of the correct form, and the body of the die be then cast of some easily fusible metal—as type metal,—about the bodies of the needles, leaving only the points of the needles exposed and slightly projecting. There are, however, other ways of accomplishing the result sought in a satisfactory manner. The dies D may be conveniently secured to the plate B by forming on each (seen at the right in Fig. 6) a tenon *d*^x, which passes up through a hole in the plate B and is riveted at its upper end.

The punching point is at the side X, seen at the front in Fig. 4, and at the right in Figs. 1 and 2; and any one of the series of dies may be brought to this point by simply rotating the die-carrying plate B.

In order to stop the die at the punching point and hold it there with some firmness while the punching is being effected, a spring detent *e*, is employed. This device is somewhat like a ratchet in its operation; Fig. 3 represents it detached, in plan, and Fig. 1 shows it in position in the punch, in side elevation. It is omitted from Fig. 2. This detent consists of a bent piece of spring sheet metal, secured by its lower base flange to a block or support *a*², on the base A; in its front edge it has a concave recess, *e*^x, to receive the cylindrical body of the die D. When the plate B is rotated, the dies wipe into the recess *e*^x, in succession, and out again, the springiness of the metal of the detent allowing it to yield sufficiently for the purpose.

When the body of the die is in the recess e^x , as indicated by the dotted circle in Fig. 3, the die will be held with sufficient firmness in that position to insure its punching the check at the proper point when pressure is applied to the knob B^x . At the punching point, where the detent e is situated, is arranged a support for the check while it is being punched; a pressure plate under which the check is placed to be punched, and means for feeding the check automatically after each punching operation.

Mounted rotatively in bearings on the base A, is a supporting roller, E, forming a bed on which the check rests while being punched. This roller has its axis arranged radially with respect to the plate B, and directly under the particular punch D which may, for the time being, be held at the punching point by the detent e . This roller rests in a recess in the base between raised cheek-pieces a^3 , on the base, on which is secured a convex plate, a^4 , through which the crown of the roller E projects. This plate a^4 helps to support the check at each side of the roller. Over the roller E and plate a^4 , is a pressure plate, F, which is hinged at its rear or inner edge to the block a^2 on the base, so that it may be conveniently raised at its front edge for the insertion of the check, and is kept pressed down, so as to clamp the check against the crown of the roller E, by a spring. As here shown, a coil spring f at the hinge, arranged in a well known way, serves this purpose. The plate F is curved to correspond substantially to the convex surface beneath it, and in it is an aperture f , for the passage of the die D.

So far as described the operation is as follows: The operator raises the front edge of the plate F, slips the check under it and over the roller E, and pushes it in or back until the upper edge of the check finds a bearing against the face of block a^2 , on the base. This block a^2 on the base forms a limiting stop in placing the check and a guide to keep the check in line when it is fed along. After the check is placed, the operator grasps the knob B^x and rotates the plate B until he brings the proper die to the punching point, being aided in the selection of the punch by characters, d^x , (see Fig. 4) marked opposite to the respective dies, on the edge of the plate B, or on a pendent flange B' , thereon. He then presses down the plate B, when the die above the roller E will impress its character in the check. When the pressure is removed from the plate B, the spring C will raise it quickly to its first, or normal position, and I provide means, which I will now describe, for feeding the check along the proper distance to receive the next character. This is done by rotating the roller E, which is also a feed roller, part way on its axis, and this rotation is effected through the medium of a ratchet wheel E^x , fixed on the inwardly prolonged journal of the roller E, and a spring pawl, g , which engages the teeth of said ratchet wheel and is

secured at its upper end to a pawl-carrier g^x , which is in the nature of an arm, pivoted to the base at x , and provided with a lip or lips g' , which engage a circumferential groove in the boss b , of the plate B. The pawl g is a hook pawl, and when its carrier g^x , is raised by the plate B, through the medium of the lips g' , it rotates the ratchet wheel E^x to the extent of one tooth. This construction is clearly shown in the sectional view, Fig. 5, wherein the dotted lines show the pawl and its carrier depressed. It is desirable, however, that the die D shall rise to a sufficient extent to free the points forming the character d from the check before the feeding operation begins, and to effect this I give to the pawl a little greater extent of movement than the space of one ratchet tooth requires, whereby the plate B, the die, and the pawl, may rise a little before the latter actually engages the tooth on wheel E^x , and thus the feed-roller E will not be operated until the points on the die shall have freed themselves from the check.

Fig. 8 shows a part of the base A, with the blocks or parts a^2 and a^3 thereon; and Fig. 9 represents the plate F in plan, detached.

In order to provide a suitable surface on the roller E to receive the points on the dies D, and to cause it to feed the check along after each impression, I prefer to make this roller of vulcanized rubber, or other similar yielding material, and provide it with a cover of metal or wood, somewhat in the manner of a wringer roller. This construction is illustrated in Fig. 7, which represents the roller E detached and its yielding surface partly broken away.

In order that the characters punched in the check may be the more conspicuous, and the less easily erased or obscured in an attempt to "raise" the check, I prefer to provide the punch with an inking device for applying ink of some kind,—for example, like that used with rubber stamps,—to the points on the dies which form the characters d ; and as herein shown this inking device consists of two rollers, h and h' , (seen in Fig. 1) mounted rotatively on studs set in a post or block, h^2 , on the base A of the punch. The upper roller has its upper surface so arranged, as to level, with respect to the dies D, that when the plate B is elevated and in its normal position, and is rotated, the points on the die-faces, forming the characters d , will barely touch the crown of said roller h , receive ink therefrom, and rotate it. The lower roller is merely for the purpose of distributing the ink, and is not essential to the device. The ink will be applied to the upper roller, h , and distributed by turning the rollers. As the inking rollers must not be in the way of the dies when the impression is made, for all the dies move down simultaneously, they must be arranged so as to occupy the space between two adjacent dies D when one of said dies is at the punching point, and held in position there by the

detent *e*. Before operating the punch, the operator should impart at least one full rotation to the plate B, so as to insure the inking of all the characters *d*. The ink rollers and the roller E, may all be readily removable.

The ratchet wheel *E*^x may be provided with a stop-pawl *g*² to prevent its backward rotation when the pawl *g* is depressed.

I have herein referred to the characters *d* as being formed or made up of minute points, and I would add that I contemplate making these points in the manner of tubular or hollow punches capable of cutting out minute disks from the paper of the check. To facilitate this cutting of the paper, the roller E, or equivalent bed, may be of some more unyielding substance than rubber, as soft metal, for example. In either case, whether the points prick through or cut out a disk or piece, no female die will be needed.

My punch is especially designed and constructed to employ an imperforate bed to receive the dies, which do not cut out the numerals but form them with punctures, and I thus avoid the serious expense attendant upon the use of female dies, as well as the nicety of adjustment required where such dies are used.

Having thus described my invention, I claim—

1. In a check punch, the combination with

a base, A, a die-carrying plate B, mounted rotatively on a vertical axis on the base and supported by a spring so that it may move up and down, a series of concentrically arranged dies D carried by said plate, a radially arranged inking roller, *h*, mounted on the base and arranged to occupy a position between two dies when a die is brought to the punching point, and a radially arranged roller, E, at the punching point to receive the impression, as set forth.

2. In a check punch the combination with the base A, having an upright stem *a*, the die-carrying plate B, having a boss *b*, provided with a circumferential groove as described, the dies carried by said plate, of the roller E, mounted in the base at the punching point and provided with a ratchet wheel *E*^x, the pawl *g*, engaging the teeth on said wheel, its hinged carrier engaging the groove in boss *b*, and the pressure plate, arranged over the roller E and adapted to press the check down thereupon, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN STEWART.

Witnesses:

GEORGE H. WEISS,
JAS. H. MUDGE.