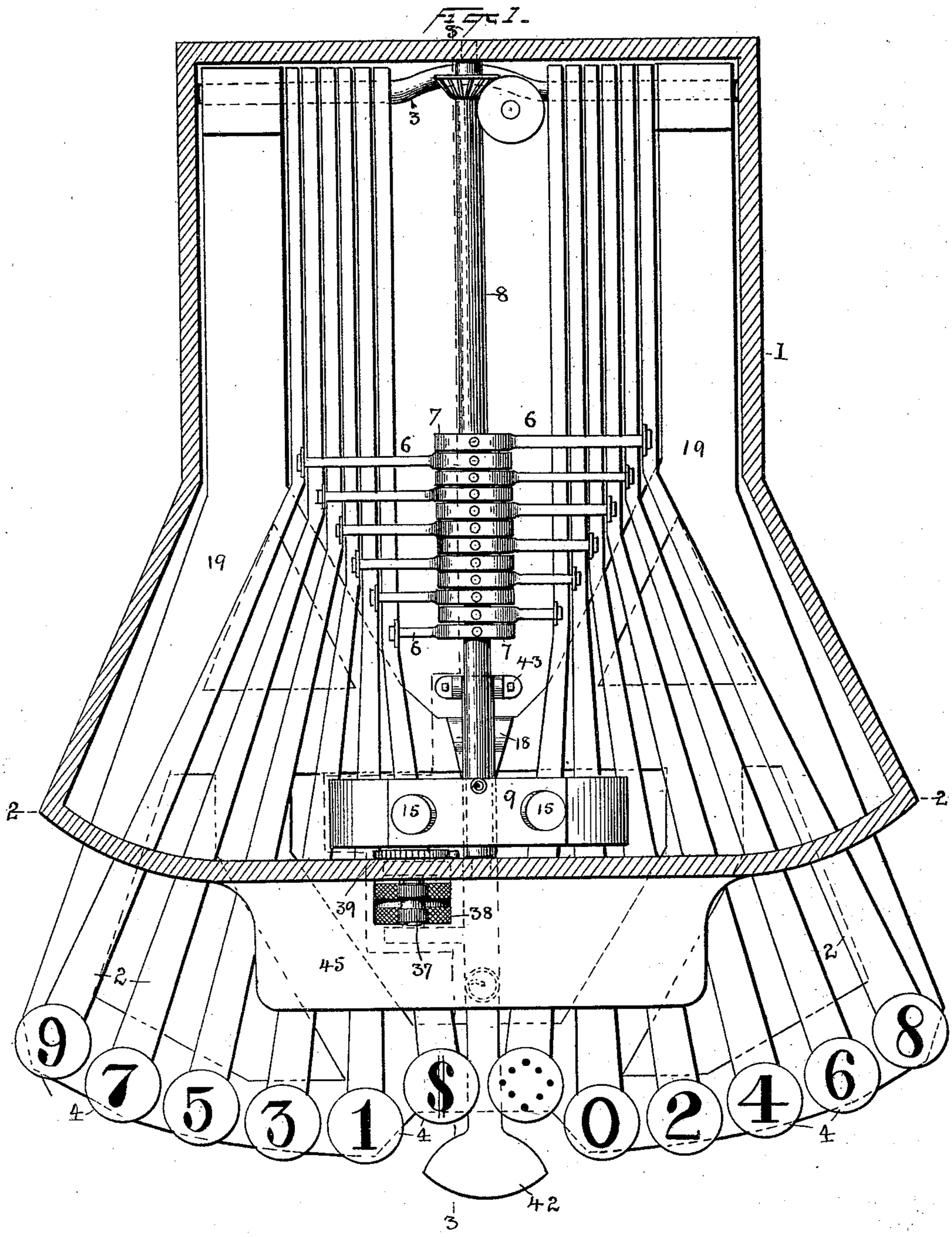
(No Model.) 3 Sheets—Sheet 1.

E. G. BATES.

CHECK PUNCH.

No. 488,052. Patented Dec. 13, 1892.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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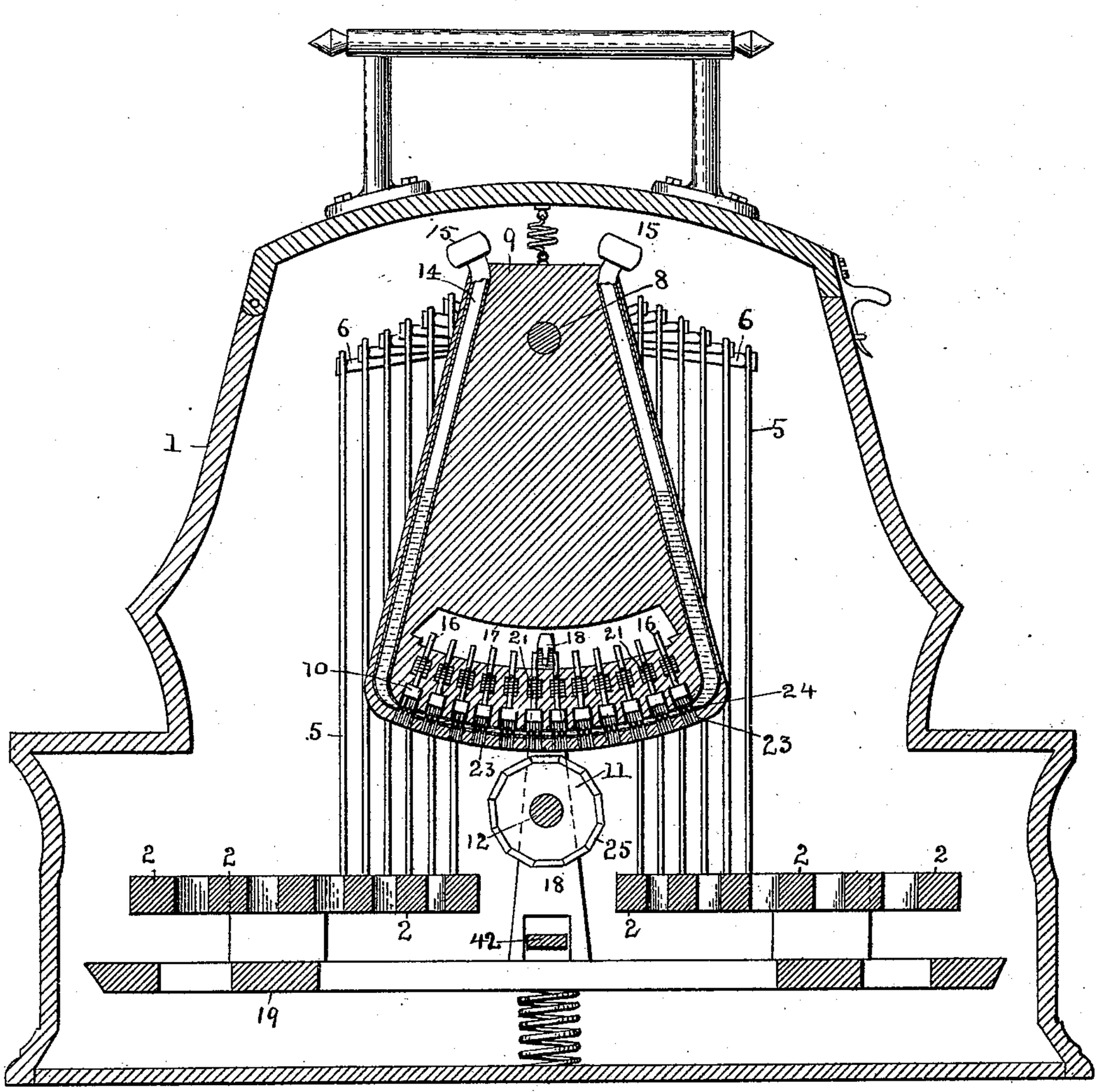
Fig. 2.



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(No Model.) 3 Sheets—Sheet 3.

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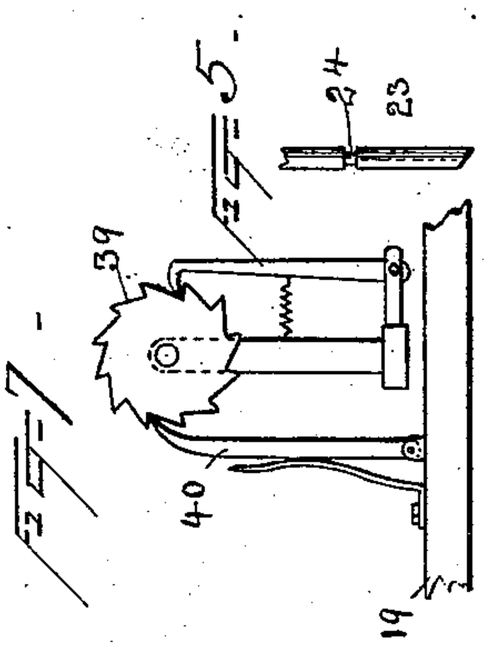

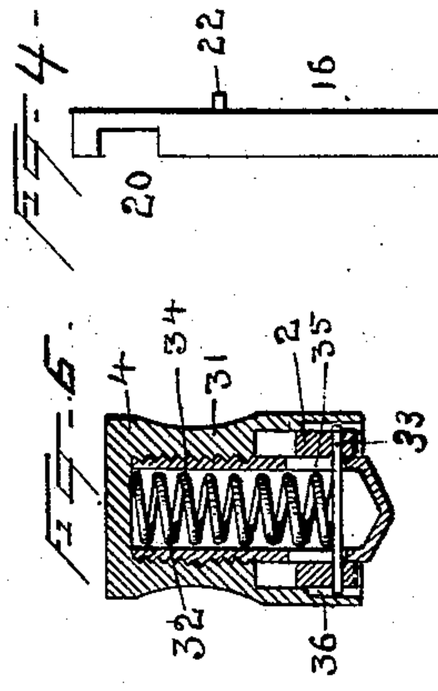

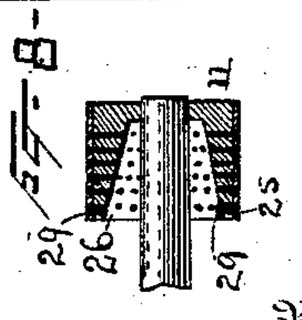

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UNITED STATES PATENT OFFICE.

EDWIN G. BATES, OF NEW YORK, N. Y., ASSIGNOR TO THE BATES MANUFACTURING COMPANY, OF NEW YORK.

CHECK-PUNCH.

SPECIFICATION forming part of Letters Patent No. 488,052, dated December 13, 1892.

Application filed September 15, 1890. Serial No. 365,087. (No model.)

To all whom it may concern:

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

My invention has for its object the more adequate protection of checks, drafts, &c., from alteration.

It consists, essentially, in mechanism for forming the figures by perforations through the paper of the check and inking the fibers left exposed at the edges of the perforations by the same operation.

My invention also consists in the arrangement and combination of mechanism hereinafter described, and specifically pointed out in the claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of an apparatus embodying my invention, with the top of the inclosing frame removed. Fig. 2 is a vertical transverse section taken on the plane of the line 2 2, Fig. 1. Fig. 3 is a vertical longitudinal section taken on the plane of the irregular broken line 3 3, Fig. 1. Fig. 4 is a detail view in side elevation of the shank of a perforating and inking punch. Fig. 5 is an enlarged view of a portion near the point of one of the pins of the perforating printing-punches. Fig. 6 is an enlarged sectional elevation of one of the keys of the key-levers. Fig. 7 is an enlarged detail view of a portion of the mechanism for feeding the check, and Fig. 8 is a sectional elevation of the bed for the perforating printing-punches.

In the drawings, 1 is the frame, in which is inclosed the main operative portions of the machine. 2 are the key-levers, of which there may be any required number. In the drawings I have shown twelve—one for the cipher, each of the numerals, the dollar-mark, and for an arbitrary sign used on checks and drafts to indicate the end of a numerical expression. These key-levers are fulcrumed to a rod 3, supported in opposite sides of frame 1. At its free end each key-lever is provided with a key 4, hereinafter more particularly described, on which is inscribed the character to be recorded by its depression. Each key-lever is connected through the connecting-rods 5 6 and collar 7 with the shaft 8, upon which is carried a swinging pendulum or carrier-case 9. This carrier-case oscillates in proportion to the rotation of the shaft 8, by which it is carried, and by its oscillation brings the perforating printing-punches 10 into operative printing position with relation to the printing-bed 11. The printing-bed is carried by a shaft 12, which is connected through miter-gearing and spindle 13 in such manner that motion imparted to shaft 8 will be transmitted to shaft 12 and in the same direction, whereby the printing-punch carrier and printing-bed will always be maintained in a certain definite relationship. The carrier-case 9 is provided with an ink-duct or supply-reservoir 14, closed by suitable caps 15, removable for the purpose of filling.

The perforating printing-punches 10, hereinbefore referred to, are so arranged in carrier 9 that their shanks 16 project into an arc-shaped slot or recess 17, in position to be engaged by a piece 18, carried by a lever-plate 19, fulcrumed on rod 3. A point on piece 18, acting as a finger, enters a slot on the back of shank 16, and by this means the lever-plate and the punches are operatively connected—that is, are so connected that when said piece is carried downward by the depression of said lever-plate the perforating printing-punch, which is in printing or punching position, is carried with it.

Suitable ways are formed in the case 9 for the reciprocation of the punches, their outward motion being effected, as above stated, by the downward motion of the piece 18 and their inward or return motion by the spring 21, held between the pin 22 on the shank of the punch and a portion of the carrier-case. The head of the punch carries a number of pins 23, arranged to form the desired character, each of the pins preferably being provided with a circular channel 24, cut in such position that when the punch is held in the normal position by the force of the spring 21, the channel 24 is within the ink-duct 14 and

the enlarged portion of the pin both above and below the channel 24 plugs the ways or passages so that no ink can escape, it being understood that the pins 23 fit closely in their passages, a packing being used, if desired. The printing-bed 11 is practically the female member of the punch, it being provided with a series of plates 25, one for each perforating printing-punch, the plates being arranged in the same order as the punches, and each plate containing holes forming the same character as the punch opposite to it in relationship. The printing-bed is preferably recessed, as shown in Fig. 8, and the various holes extend into the recess, so that the dots of paper punched out by the punches are forced through the female die and then through the recess 26. To insure a proper registry between the perforating printing-punches and their respective sections of printing-bed, a series of holes 27 is formed in the lower surface of the arc slot 17 in the case 9, one hole 27 being located opposite the shank of each punch, into which holes 27 a pin 28, depending from the piece 18, is adapted to enter. A series of similar holes 29 is provided in the interior of the recess 26 of the printing-bed, one hole being opposite each plate. Into these holes a pin 30, carried by piece 18, is adapted to enter.

It is obvious that if the pins 28 or 30 fail to register with the holes provided for them there will be no descent of the hook 18 possible until a readjustment is effected.

The keys 4 are provided, as shown in Fig. 6, with an outside shell 31. Within this shell is contained a spring 32, which presses at one end against the cross-pin 33, carried by the mortised end of the key-lever 2, and at the other end against the top of the shell 31. Within the said shell a barrel 34 is located, which incloses the spring 32, and is provided with a slot 35, through which the pin 33 passes, the said shell 31 being provided with a recess 36 to permit its downward motion by the ends of the pin. By this arrangement of parts the key-levers can be depressed until they meet a stop, which may be the bottom of the slot in the frame in which they move, while the key itself has a further downward motion to set in motion other parts.

The feed is imparted to the check or draft through pressure-roller 37 and feed-roller 38, the latter being carried on the same shaft as ratchet 39, which is operated through the pawl 40 on the depression of the lever-plate 19. Both the feed-wheel 38 and ratchet 39 are carried by a U-shaped standard 41 on the lever 42, the latter being pivoted in a post 43, rising from the bottom plate of the frame, a suitable spring 44 being connected with the lever 42 and the under side of the platform 45.

The operation of the machine is as follows: A check or draft on the platform 45 is inserted between the carrier 9 and printing-bed 11, first pressing the lever 42, whereby the feed-wheel 38 and ratchet 39 are lowered to permit such insertion through the horizontal slot in the front plate of the frame. Next, one of the keys 4 is operated, whereby the shaft 8 is partially rotated and swings the case 9, a character corresponding to the character called for by the key being thus brought into printing position. The motion of shaft 8 is transmitted through the beveled gears and shaft 13 to shaft 12, which carries the printing-bed 11, so that the printing-bed receives a movement corresponding to the movement of the carrier-case 9. It is obvious that when the perforating printing-punches carried by case 9 are arranged in the same order as the holes forming the several characters of the printing-bed and both arranged so that the holes of the printing-bed forming a given character will be opposite the pins of the punch forming the same character, a simultaneous movement of the printing bed and carrier in the same degree will always secure the desired relationship of printing-punch and printing-bed. By reason of the construction of key 4 the key-lever 2 is depressed until it is stopped by coming to the end of its slot in the front plate of the frame of the machine. Continued pressure, however, of the key 4 projects the barrel 34 below its normal position into contact with the lever-plate 19, and the lever-plate is in turn depressed and depresses the piece 18, which has had brought into operative relationship with it the shank 16 of the perforating printing-punches through the swinging of the carrier into printing position. The downward movement of the perforating printing-punch thus effected perforates the paper of the check or draft and at the same time carries a quantity of ink in the channel 24 of the pins sufficient to ink the exposed fibers of the paper. Preferably a thick or semi-fluid ink is employed. When the lever-plate 19 is permitted to rise, by removing the finger from key 4 ratchet 39 and feed-wheel 38 are rotated through the pawl 40, and the check is thereby fed a distance corresponding to one space.

What I claim is—

1. In a check-protector, the combination of a perforating printing-punch provided with a series of pins arranged in the form of a character and an inking device permanently located in the path of said punch and traversed by the pins thereof, said pins being normally—that is, when the apparatus is not in use, in contact with the inking device and above the printing-surface, whereby as the pins are moved forward to perforate the paper they ink the same around the perforations, substantially as described.

2. In a check-protector of the character indicated, the combination of a perforating-punch arranged to form the desired character, a printing-bed, and an inking device above the printing-bed for applying ink to the punch above the paper to be perforated, whereby as the punch moves forward it will

be inked and will ink the paper, substantially as described.

3. In a check-protector, the combination of a perforating printing-punch provided with a series of pins arranged in the form of a character, an inking device permanently located in the path of said punch and traversed by the pins thereof, whereby the latter are inked, and a printing-bed provided with a series of holes adapted to register with the said pins, substantially as set forth.

4. In a check-protector, the combination, with a perforating printing-punch, inking device, and printing-bed, of a lever adapted to be depressed by the depression of the printing-key, and a piece, as 18, between said punch and lever adapted to effect the outward movement of the punch, substantially as set forth.

5. In a check-protector, the combination, with the perforating-punch carrier, of perforating-punches carried thereby, a printing-bed below said carrier, gearing connecting said carrier and printing-bed, a key-lever mechanism connecting said punches and key-lever, and connections between said key-lever and gearing, whereby the movement of the carrier and printing-bed is effected synchronously by movement of the key-lever, substantially as set forth.

6. In a check-protector, the combination, with a pendulum punch-carrier case, of perforating-punches carried thereby, a rotary printing-bed, gearing connecting said carrier and bed, a key-lever, mechanism connecting said punches and key-lever, and connections between said key-lever and gearing, whereby the movement of the carrier and the bed is effected synchronously by movement of the key-lever, substantially as set forth.

7. In a check-protector, the combination, with the punch-carrier, perforating-punches, printing-bed, gearing connecting said carrier and bed, and a key-lever, and connections between said key-lever and gearing, whereby the movement of the carrier and bed is effected synchronously by the movement of the key-lever, of mechanism operated by the key-lever for depressing the perforating-punches after the carrier and bed have been brought into printing position, substantially as set forth.

8. In a check-protector, the combination, with the perforating-punch carrier, printing-bed, gearing connecting said carrier and bed, and a key-lever, and connections between said key-lever and said gearing, whereby the movement of the carrier and bed is effected synchronously by the movement of the key-lever, of a plate-lever in the path of said key-lever, a connection between the perforating-punch and the plate-lever, and means carried by the key-lever for depressing said plate-lever after the printing-punch has been brought into printing position, substantially as set forth.

9. In a check-protector, the combination of a case 9, carrying perforating-punches 10, a printing-bed 11, a shaft 8, on which said case 9 is mounted, a shaft 12, on which said printing-bed 11 is mounted, gearing between said shafts, a key-lever 2, and connecting-rods 5 6, connecting said key-lever with shaft 8, whereby on the depression of the key-lever said case and printing-bed are moved synchronously, substantially as set forth.

10. In a check-protector, the combination of a case 9, carrying perforating-punches 10, a printing-bed 11, a shaft 8, on which said case 9 is mounted, a shaft 12, on which said printing-bed 11 is mounted, gearing between said shafts, a key-lever 2, connecting-rods 5 6, connecting said key-lever with shaft 8, a key 4, adapted to project beyond the range of movement of the key-lever 2, a lever 19, adapted to be moved by the act of projecting said key beyond the range of movement of the key-lever, and a piece 18, carried by said lever 19, adapted to engage with the perforating-punches, whereby by the continued depression of the key the printing-punches and printing-bed are synchronously moved into position and the perforating-punches operated, substantially as set forth.

11. The combination, in a check-protector, of a perforating-punch, a pivoted lever, an upwardly-projecting hook or piece for depressing said perforating-punch, said punch being operatively connected to said lever, a printing-bed, a ratchet supported independently of said lever and printing-bed, and a pawl carried by said lever, substantially as set forth.

12. In a check-protector, a perforating printing-punch having a series of pins forming the character, one or more of said pins being provided with a channel adapted to carry the printing-ink, and an inking device permanently located in the path of said punch and traversed by the pins thereof, substantially as set forth.

13. In a check-protector, the combination of a key-lever having a limited range of movement, a key on the key-lever, depressible beyond the lowest position of the key-lever, perforating-punches, and a lever-plate carrying a piece adapted to move the perforating-punches, said lever being operated by the further movement of the key, substantially as set forth.

14. In a check-protector, the combination, with the case carrying the perforating-punches, of a printing-bed, a device for depressing the punches, a coacting registering mechanism carried partly by said device and partly by said printing-bed and carrying-case, respectively, the parts on said device co-operating both with the carrying-case and printing-bed, whereby if either is out of alignment the operating device cannot be moved to advance the punch which has been brought to position, substantially as set forth.

15. In a check-protector, the combination, with the case carrying the perforating-

punches, of a printing-bed, a device for depressing the punches, a coacting registering mechanism consisting of suitable parts carried by said device and adapted to register with openings both in the printing-bed and carrying-case when the machine is adjusted and preventing movement when either the bed or case is out of alignment, substantially as described.

This specification signed and witnessed this 13th day of September, 1890.

EDWIN G. BATES.

Witnesses:
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E. CONRAN.