(No Model.) 4 Sheets—Sheet 1.

E. E. ANGELL.

APPARATUS FOR BRANDING CHECKS.

No. 588,940. Patented Aug. 31, 1897.

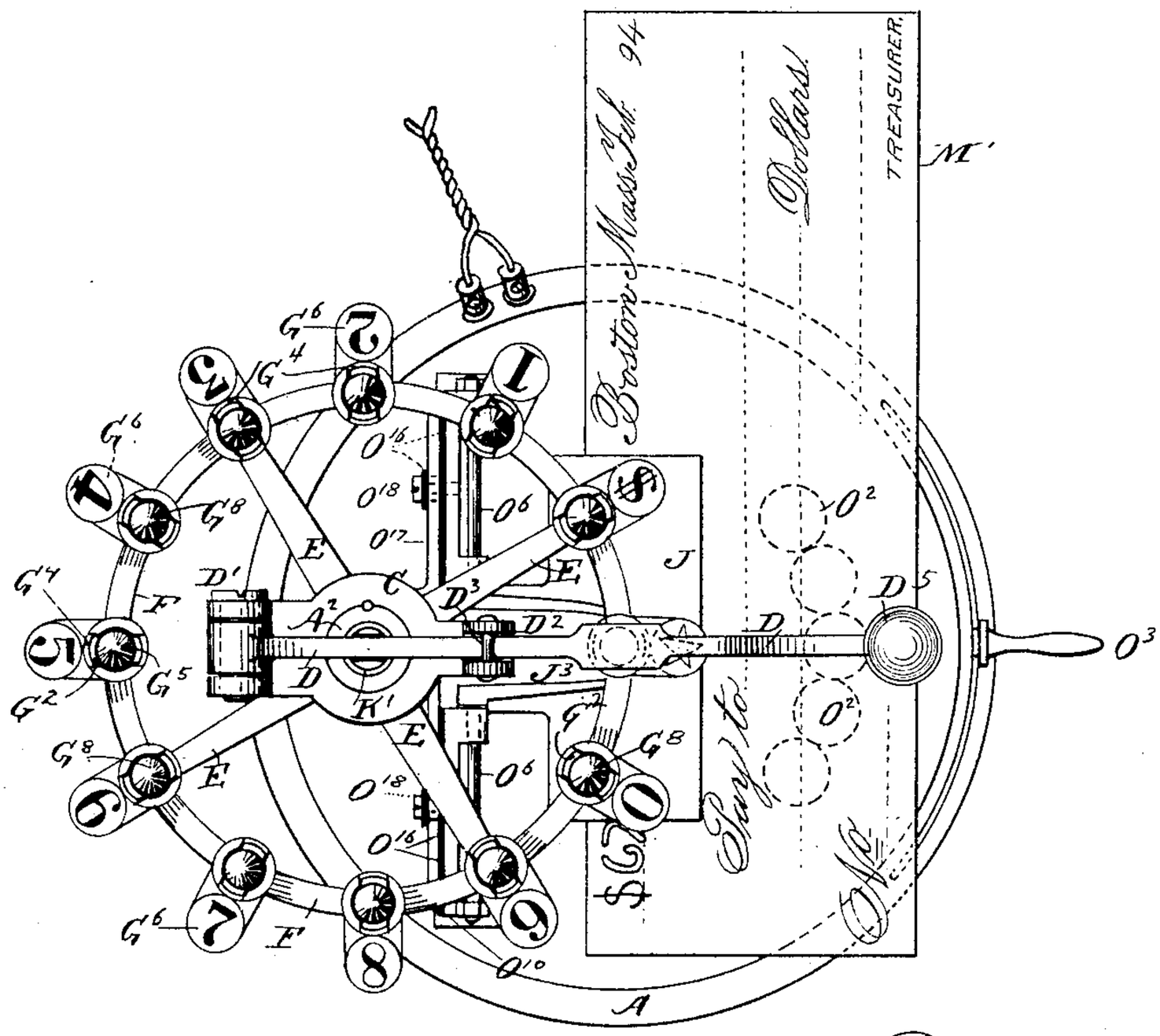

Fig. 1.

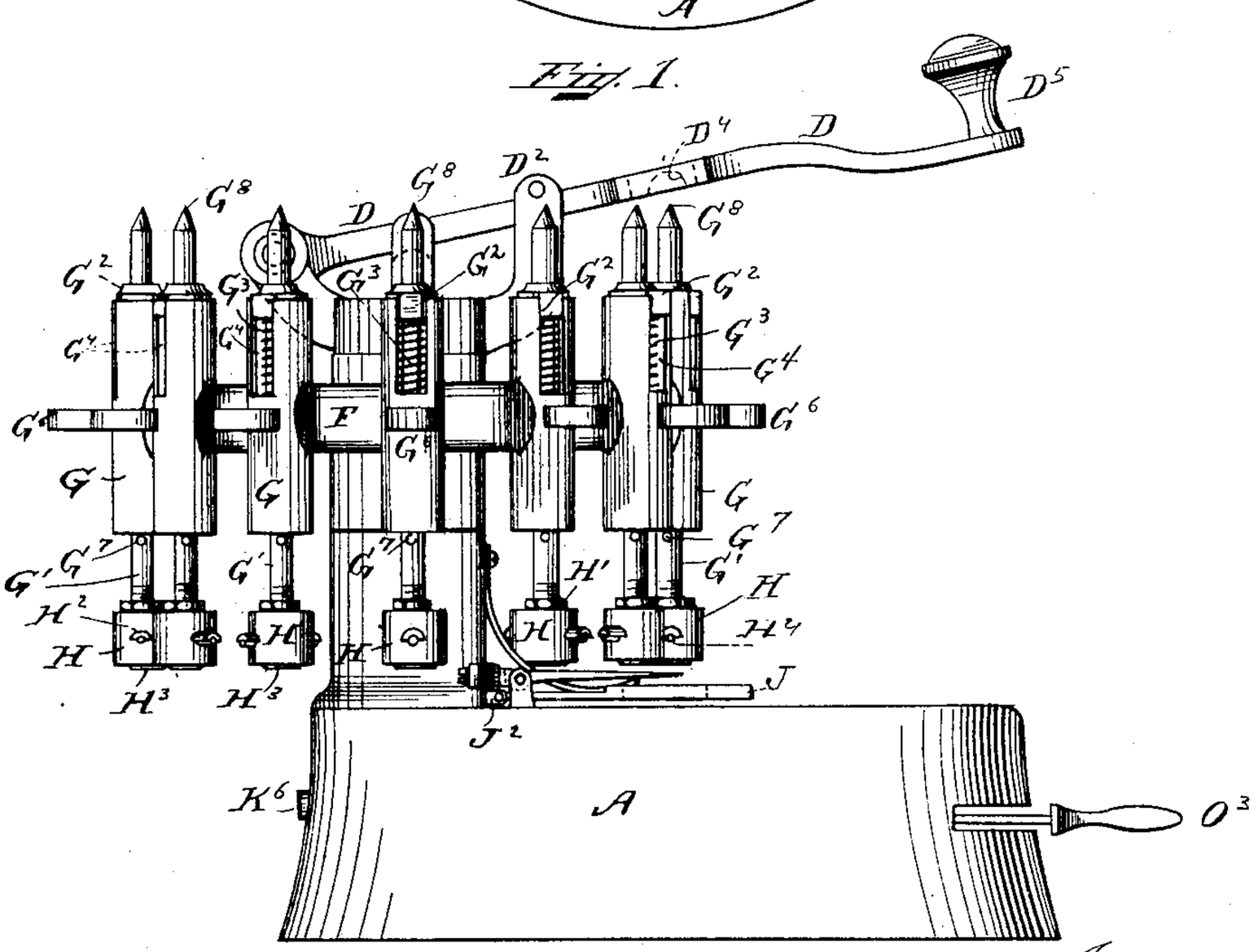

Fig. 2.

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L. H. Brown.

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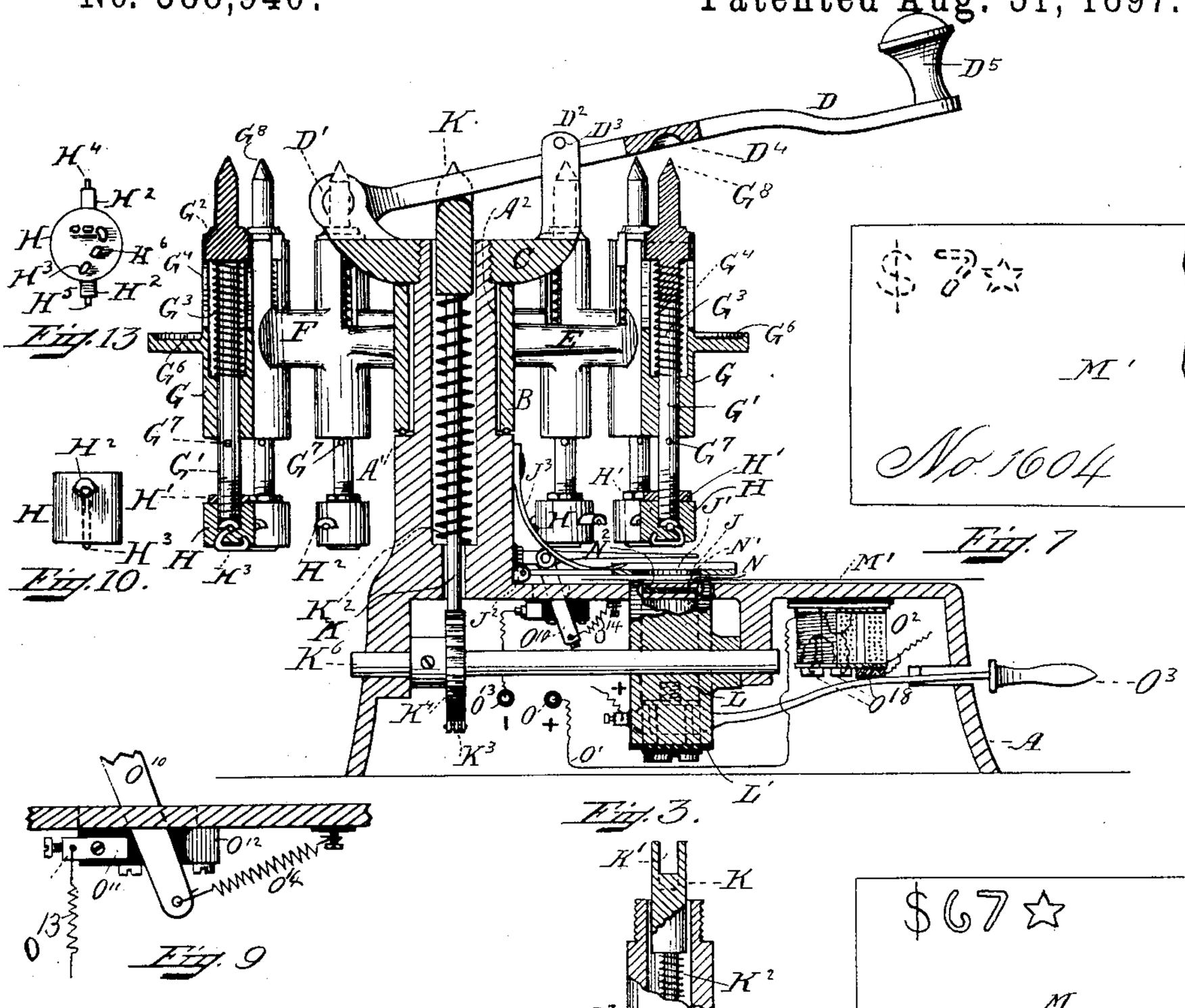

Fig. 13

Fig. 10.

Fig. 9

Fig. 15

Fig. 3.

Fig. 7

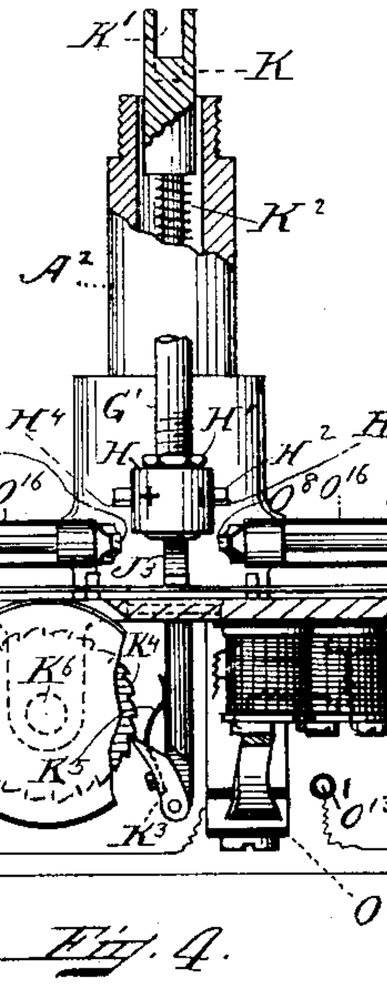

Fig. 11.

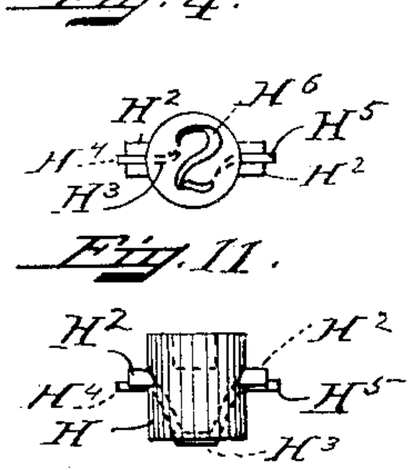

Fig. 12

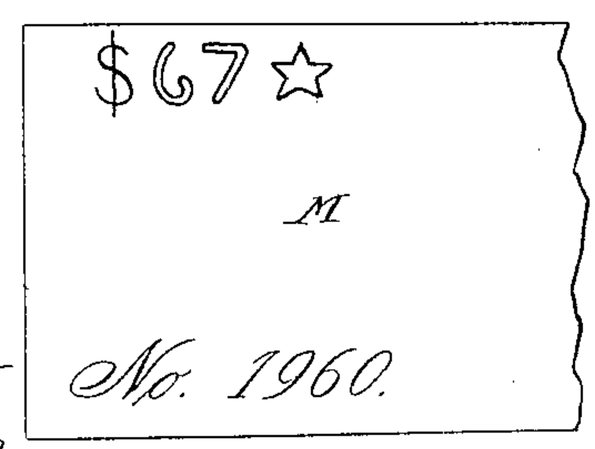

Fig. 8

Fig. 4.

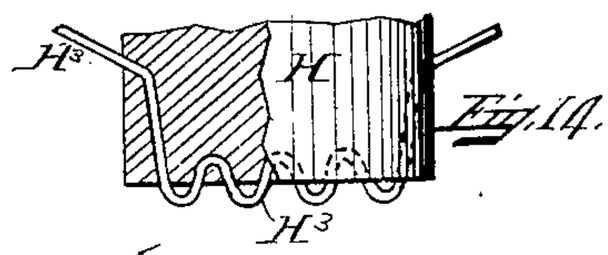

Fig. 14.

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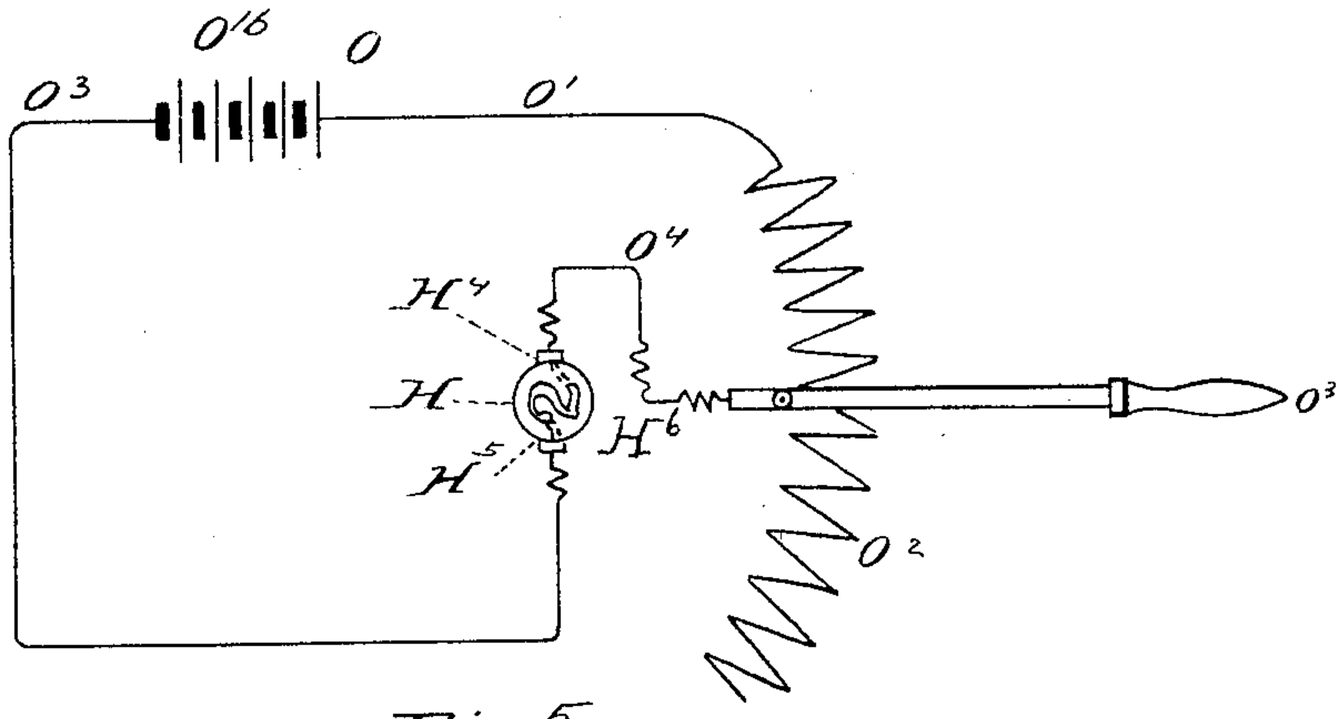

Fig. 5.

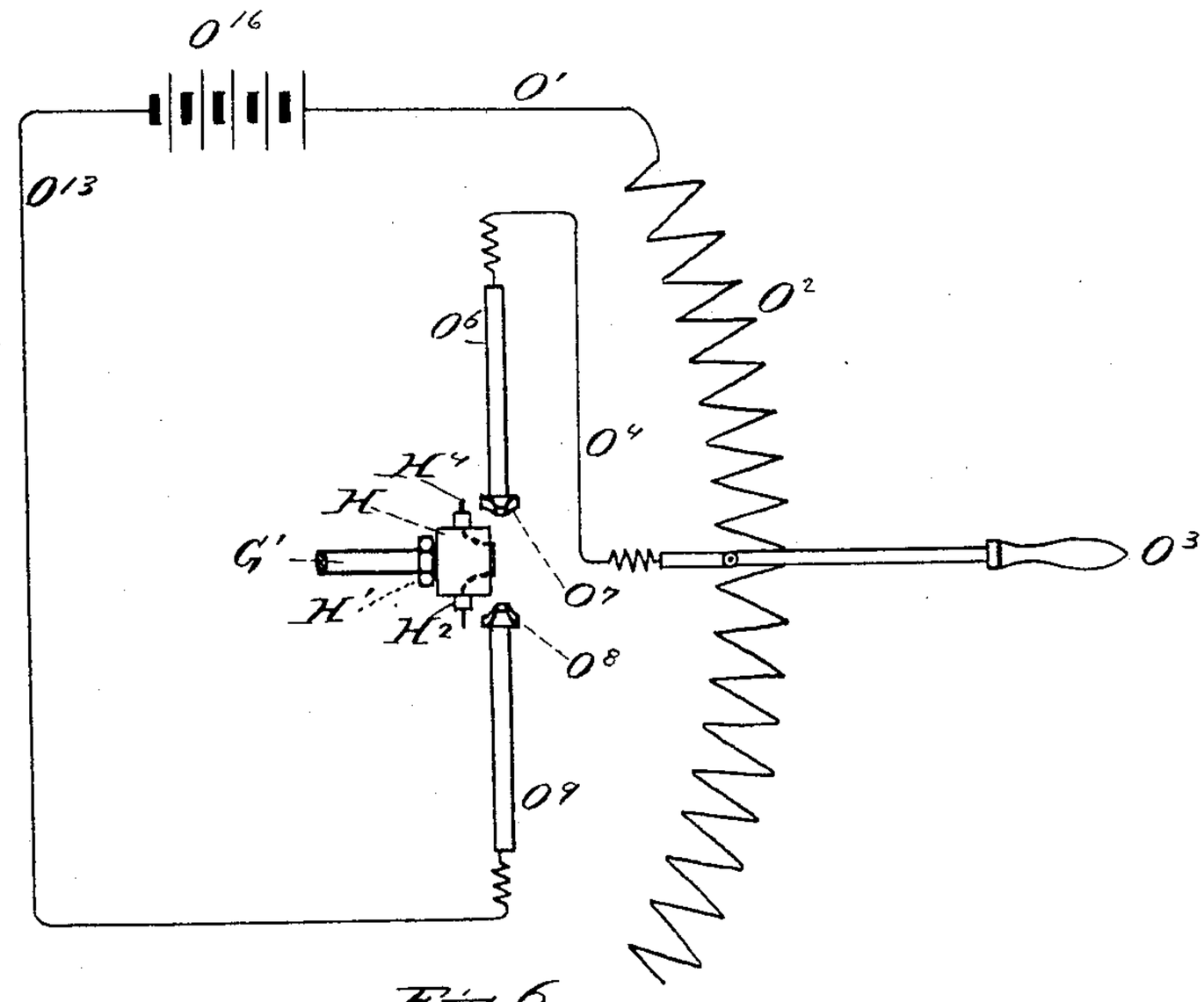

Fig. 6.

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APPARATUS FOR BRANDING CHECKS.

No. 588,940. Patented Aug. 31, 1897.

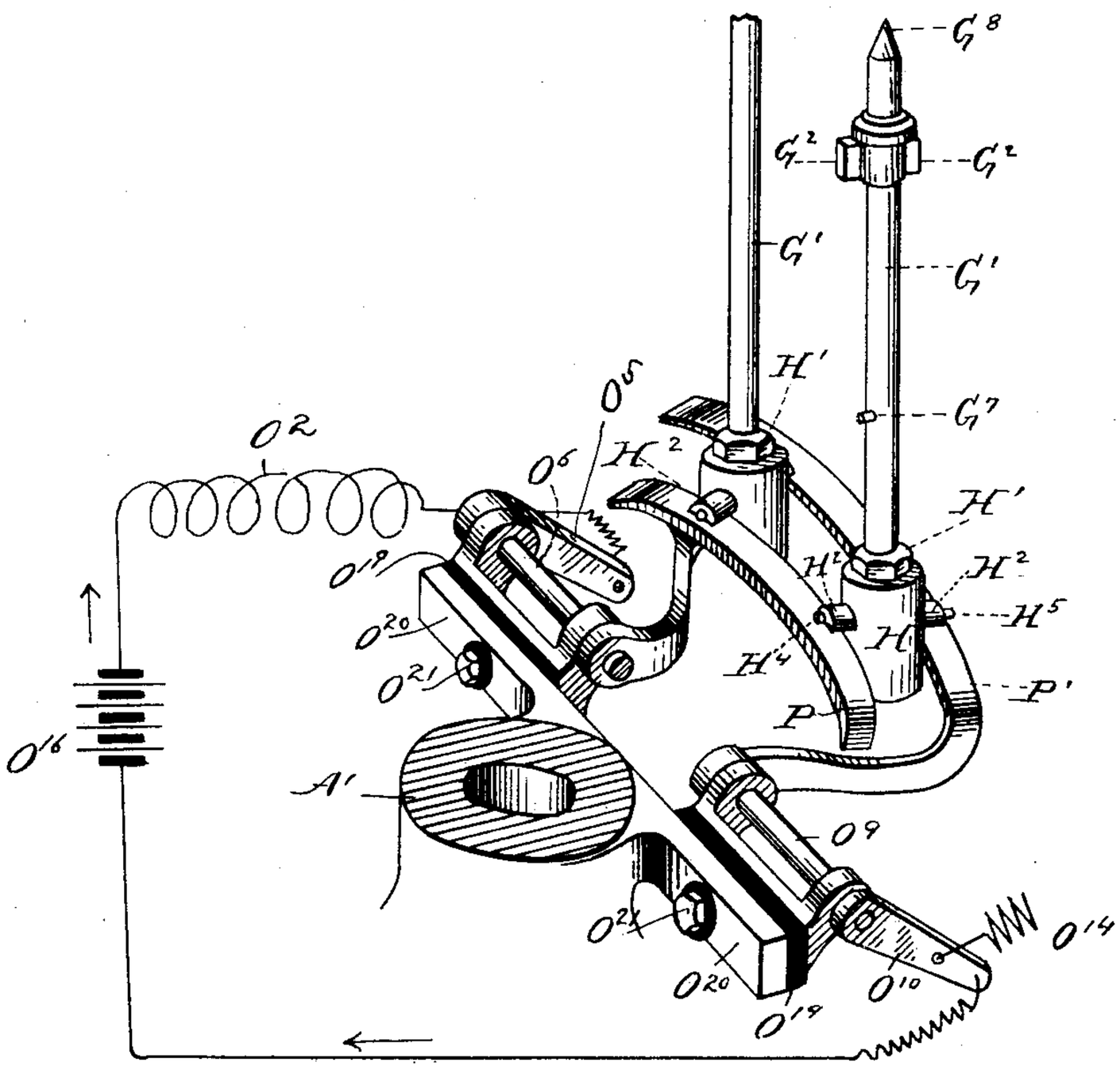

Fig. 16.

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Inventor.
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UNITED STATES PATENT OFFICE.

EDWIN E. ANGELL, OF SOMERVILLE, MASSACHUSETTS.

APPARATUS FOR BRANDING CHECKS.

SPECIFICATION forming part of Letters Patent No. 588,940, dated August 31, 1897.

Application filed April 8, 1895. Serial No. 544,872. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. ANGELL, of Somerville, county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Electric Punches or Branders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an electric punch or brander for marking or branding checks, bonds, and other articles to prevent the value of the same being changed, as it is not an uncommon thing at the present time for bank-checks which have been marked with the ordinary bank-punch to have the perforations filled up and then repunched or perforated of a higher value to correspond with the change of value which has been fraudulently made in the body of the check.

One object of my invention is to pass an electric current through the branding or marking figures, letters, or characters, which are thereby raised to a proper degree of heat for the purpose of branding or marking said letters, figures, or characters on, into, or through the check or article to be marked or branded.

My invention consists of certain novel features, arrangements, and combinations hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a plan view of the punch or defacer. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section through the punch or defacer. Fig. 4 is a view with certain parts omitted and showing the base in section and the revolving punch-holding head removed, with the vertical column and feed-operating spindle in section at the top. Figs. 5 and 6 are diagrams showing the electric circuit, Fig. 5 being a reversed plan view showing the punch-holder in circuit and Fig. 6 an elevation with the circuit broken. Figs. 7 and 8 represent two checks in which the figures have been branded or perforated in the upper left-hand corner by the apparatus. Fig. 9 is a detail view, hereinafter explained. Figs. 10, 11, 12, and 13 are detail views of the punch and holder, showing the same respectively in side, plan, side, and plan views. Fig. 14 is an enlarged view showing the manner in which the punch-wire is embedded or molded into the holder. Fig. 15 shows a diagram representing a modification of the resistance with means for regulating the current. Fig. 16 is a perspective view of a modification, showing two punch-holders in circuit at the same time.

In the drawings like letters of reference refer to like parts throughout the several views.

The cylindrical base A has at one side a vertical column A′, cast therewith, which at its upper end A^2 is of reduced diameter, which forms a bearing for the hub B of the revolving punch or defacer. From said hub B radial arms E extend and terminate in the circular ring F. On the top of said column A′ there is screwed down a cap C, to which is pivoted an operating-lever D at D′, and this lever is guided by the guide-slot formed in the lug D^2, cast on the opposite side of the cap end C, and at the upper end of said slot there is a pin D^3, which limits the upward movement of said lever. With the ring F there is cast a series of hollow vertical lugs G, through each of which passes the punch-holding spindle G′, and near the upper end there are provided two opposite splines G^2, made solid upon the spindle for the purpose of engaging the slot G^4 in the casting G, in which they are adapted to move up and down, and a spring G^3, mounted around the spindle within the lug G, bears against the under side of the splines G^2 for the purpose of holding the spindle in the upper position.

G^6 represent ears projecting from the ring F, on the upper side of which there is a figure or character corresponding to the figure or character on the under side of the punch, in order that the operator may bring the proper figure or character over the article to be punched or branded by following the characters on the said arms.

G^7 represent pins on the spindle adapted to limit the upward movement of said spindle in the lug G. G^8 represents the upper end of said spindle, which is made cone shape, and is adapted to engage with the recess D^4 for

the purpose of bringing the punches into a central working position by engaging the recess D^4 in the lever D, which is provided with a knob D^5 for easy manipulation.

The lower end of each spindle is threaded for the purpose of mounting the punch-holder H. A check-nut H′ is for the purpose of adjusting the punch-holder in the proper position on the spindle. On each side of the punch-holder there are provided ears H^2 for the purpose of holding the punch-wire H^3 in position and form a bearing for the punch-wire H^3.

H^4 and H^5 are the terminals of the punch-wire in the punch-holder.

H^6 represents a character which is to be raised to the proper degree of temperature by the current passing through it for branding the article.

Through the central part of the vertical column A′ there is arranged a vertical feed-spindle K, at the upper end of which there is provided a fork K′, in which is arranged the lever D, and by means of the spring K^2 this spindle is held in its upper position. The lower end of said spindle is provided with the pawl K^3, which engages with the feed ratchet-wheel K^4, and is held in contact with the feed ratchet-wheel by a spring K^5. This feed ratchet-wheel is mounted on the shaft K^6, which has suitable bearings arranged in the casting A. Mounted on the same shaft K^6 there is a feed-wheel L, having a rubber periphery L′ for the purpose of engaging with the under side of the material to be marked for the purpose of moving it along as the characters are branded. The said material is held down on the feed-wheel by the pressure of the plate J, having an opening J′, through which the punch passes, and said plate is pivoted at J^2, and is held on the paper by means of the spring J^3, secured to the column A′.

In the upper side of the casting A there is provided a recess N, directly under the working position of the punch, and in said recess there is arranged a piece of rubber backing N′ for the glass or any other suitable non-conducting material N^2 for the purpose of preventing short-circuiting, which, while not absolutely necessary, may be used, if desired.

M represents a check through which characters have been branded in full lines in the upper left-hand corner, and M′ represents a check through which the characters have been perforated in the upper left-hand corner.

In Fig. 11 is shown a full-line figure, while Fig. 13 represents a holder in which the figure is formed in loops and not in full lines, as Fig. 11. The current, Fig. 3, enters at O, passes through the wire O′, through the regulating-resistance device O^2, to the regulating-lever O^3 by the contact-pieces O^{18} on the bottom of each coil, and then through the regulating-lever, (see Fig. 4,) O^3, through the wire O^4, Fig. 4, to the arm O^5, and then through the oscillating spindle O^6 to the contact-arm O^7, through the punch by means of the punch-wire H^3, through the punch-terminals H^4 and H^5 to the contact-arm O^8 on the oscillating spindle O^9, through the vertical arm O^{10} to the contact-piece O^{11}, Fig. 9, mounted on the insulating-block O^{12}, and out at O^{13} to the source of supply. The spring O^{14} holds the arms O^5 and O^{10} and the contact-arms O^7 and O^8 in their normal positions (shown in Fig. 4) when not pressed down by the contact-ears H^2 of the punch, so that the circuit is not completed through the arm O^{10} to the contact-piece O^{11} until the arm O^{10} is brought into contact with the contact-piece O^{11} by the downward movement of the punch. In the downward movement of the punch the terminals H^4 and H^5 come in contact with the contact-arms O^7 and O^8 and move the arm O^{10} into contact with the contact-piece O^{11} against the tension of the spring O^{14}, and thereby completes the circuit through the punch to bring the character on the bottom of the said punch to such a degree of heat as to brand the character on or through the paper or article to be marked. In order to brand a check or other article, it is simply necessary to revolve the ring F, in which are mounted the punches, so that the character desired is brought under the recess D^4 in lever D and the spindle of the punch is pressed down and the character branded on the article, as previously explained, and then by releasing the pressure on the lever D the punch moves up by reason of the tension of the spring G^3, and at the same time the spring K^2 raises up the feed-spindle K and the lever D, and at the same time the pawl K^3 engages with the feed ratchet-wheel K^4 and automatically feeds the check or other article by causing a revolution of the feed-wheel L, and thus brings the paper into position to be further branded or removed, as may be desired.

The resistance device O^2 is shown as composed of five spools in Fig. 1 and three spools each in Figs. 3 and 4, as these last views show sections of the machine. This resistance is arranged in spool form with circuit contact-pieces O^{18} at the bottom of each spool, with which the lever O^3 is adapted to contact in its movements. Of course any form of regulating-resistance device can be used, and I have shown this simply to illustrate a device to carry out the operation of my device.

The diagram of the resistance is more clearly illustrated in Fig. 15. Five resistance spools or coils O^{15} are shown, and contact-pieces O^{18} at the bottom, with which the lever O^3 is adapted to contact as it moves around. At the right hand there is one spool in the circuit, and as you move toward the left the resistance increases until the last spool or coil on the left is reached, where the resistance is the greatest, as all the spools are then in circuit.

O^{16} represents the battery or source of supply and the current passing out through the positive wire, through the resistance-spools,

contact-pieces O^{18}, lever O^3, to the cross O^{17}, which in this view represents the punch to be heated and the work to be acted upon, and from there back to the source of energy.

Fig. 14 represents a sectional view of a part of the punch-holder, and H represents earthenware or porcelain in which the wire H^3 is molded in a loop form, one half the loop being molded into the punch-holder H and the other half of the loop, extending below the earthenware or like material, being used to form a character on the lower end of the punch-holder, and when the circuit is closed, as in a manner previously described, the loops which are in the form of a designating-character projecting out from the holder are raised to a sufficient heat to brand the character on the material to be marked.

Figs. 5 and 6 are diagram views of the circuit.

Referring now to Fig. 16, the circuit passes from the battery O^{16} in the direction indicated by the arrow to the arm O^5, and then through the oscillating arm O^6 to the oscillating arm P, from the arm P through the wire H^4, through the punch and designating-character on the bottom, and out through the contact H^5 to the oscillating arm P′ and from the arm P′ to the oscillating arm O^9 and from the arm O^9 to the arm O^{10} and back from the arm O^{10} to the source of energy O^{16}.

All the parts in Fig. 16 are the same as in the other views excepting the arms P and P′, through which the circuit is entered and carried off. These arms are adapted to bring a second punch into circuit before the last operating-punch has moved out of circuit, and two punches are shown in contact with the arms P and P′, and the right-hand punch, having performed its work, is at its highest point and passing off to the right away from contact with the two arms P P′, and the left-hand punch has passed into circuit, so that as the right-hand punch passes off the current passes through the left-hand punch and prevents arcing. In other words, there is always one punch in circuit ready to be pushed down to perform its work, so that the difference between the two systems, as shown in the previous figures, is that in Fig. 16 there is a continuous circuit working, whereas in other views the circuit may be put on or off, as required, and the circuit is established in the operation of the punch.

I do not limit myself to the arrangement and construction shown, as the same may be varied without departing from the spirit of my invention.

Having thus ascertained the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus for punching or branding checks or other articles, a holder of non-conducting material, and a wire of conducting material partly embedded in said non-conducting material and having a series of sections of the same projecting from said non-conducting material to form a character.

2. In an apparatus for punching or branding checks or other articles, a holder of non-conducting material, and a wire of conducting material partly embedded in said non-conducting material, bent into an irregular form, and having a series of sections projecting from said non-conducting material to form a character of a broken outline.

3. In an apparatus for punching or branding checks or other articles, a holder of non-conducting material, and a corrugated wire of conducting material partly embedded in said non-conducting material, and having the apexes of said corrugations projecting from said non-conducting material to form a character of a broken outline.

4. In an apparatus for punching or branding checks or other articles, an electric circuit normally open, hinged arms forming movable terminals for said circuit, a series of supports, characters formed of conducting material mounted on said supports and insulated from the same, a carrier for said supports adapted to move one or the other of the same into a position to cause the character carried by the support so moved to engage with said arms to close said circuit.

5. In an apparatus for punching or branding checks or other articles, an electric circuit, a hinged spring-arm forming one of the terminals of said circuit, a metallic block forming the other terminal, a hinged spring-pressed arm adapted to contact with said block, a movable support, a character formed of conducting material mounted on said support and insulated from the same, and a mechanism for moving said support to bring said character into contact with said levers and to press the second-mentioned lever into contact with said block and thereby close the circuit.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 2d day of April, A. D. 1895.

EDWIN E. ANGELL.

Witnesses:
L. H. TROW,
E. L. HARLOW.