

(No Model.)

J. G. GOFF.
PERFORATING DEVICE.

No. 526,777.

Patented Oct. 2, 1894.

Fig: 1

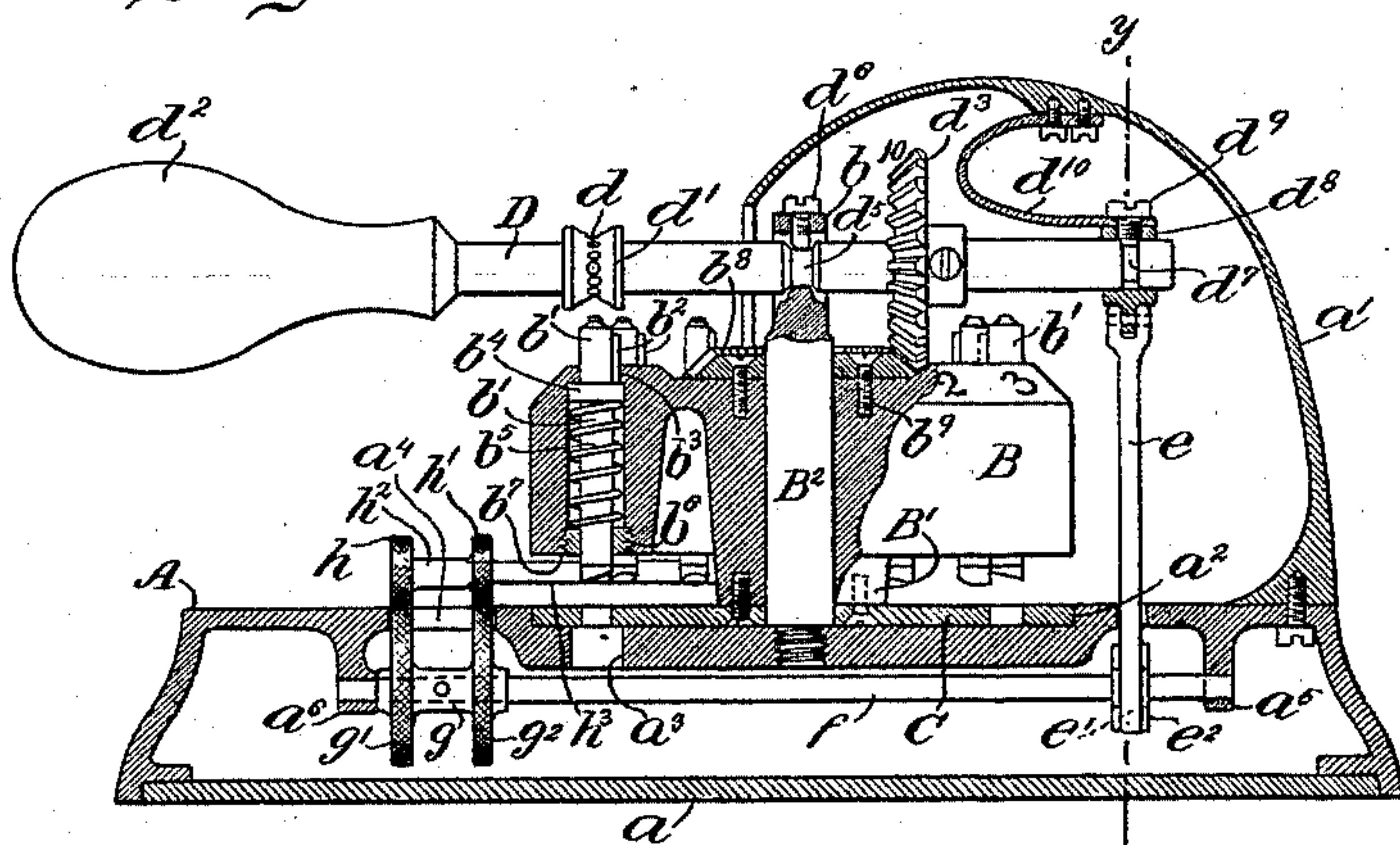


Fig: 2

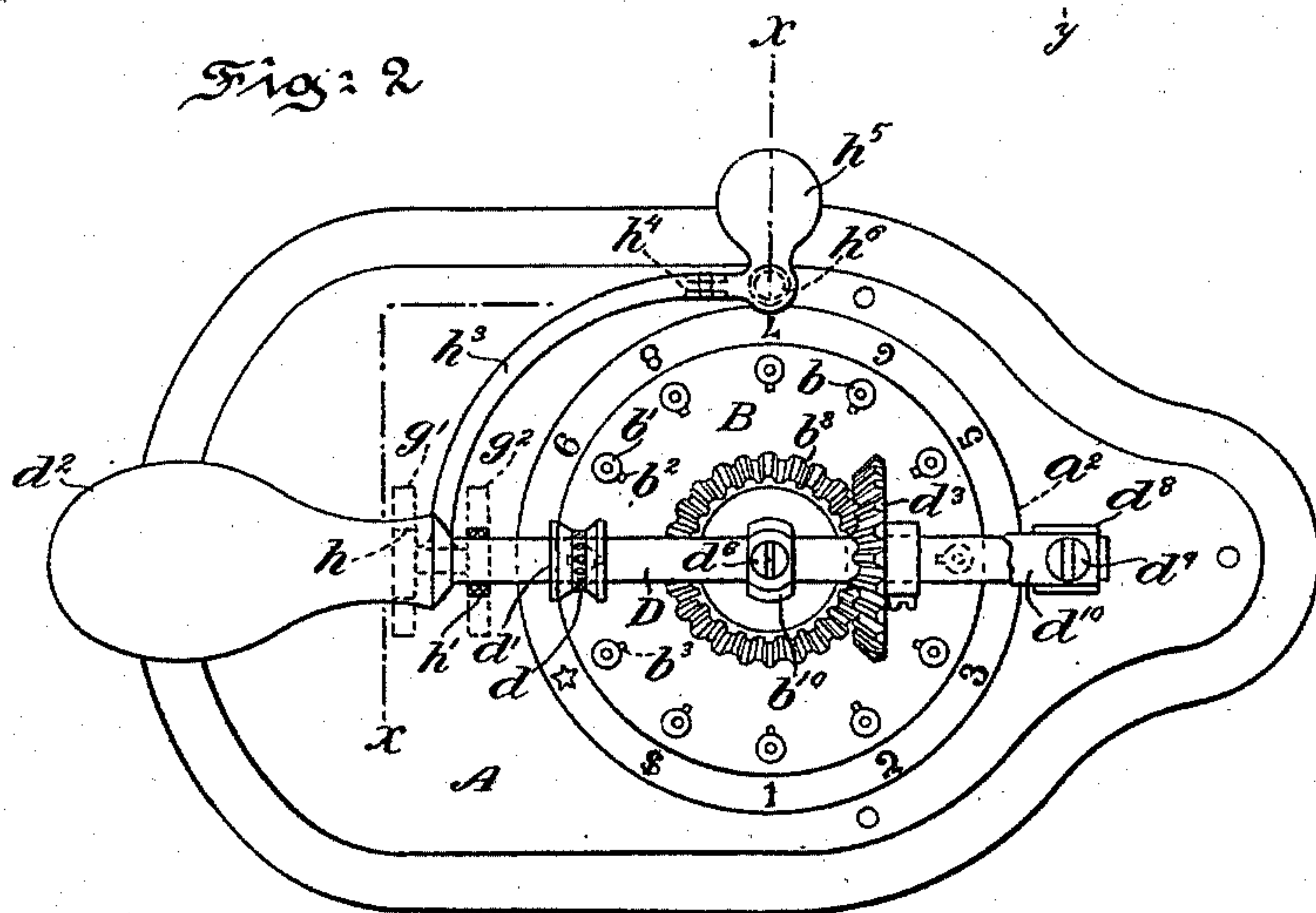


Fig: 4

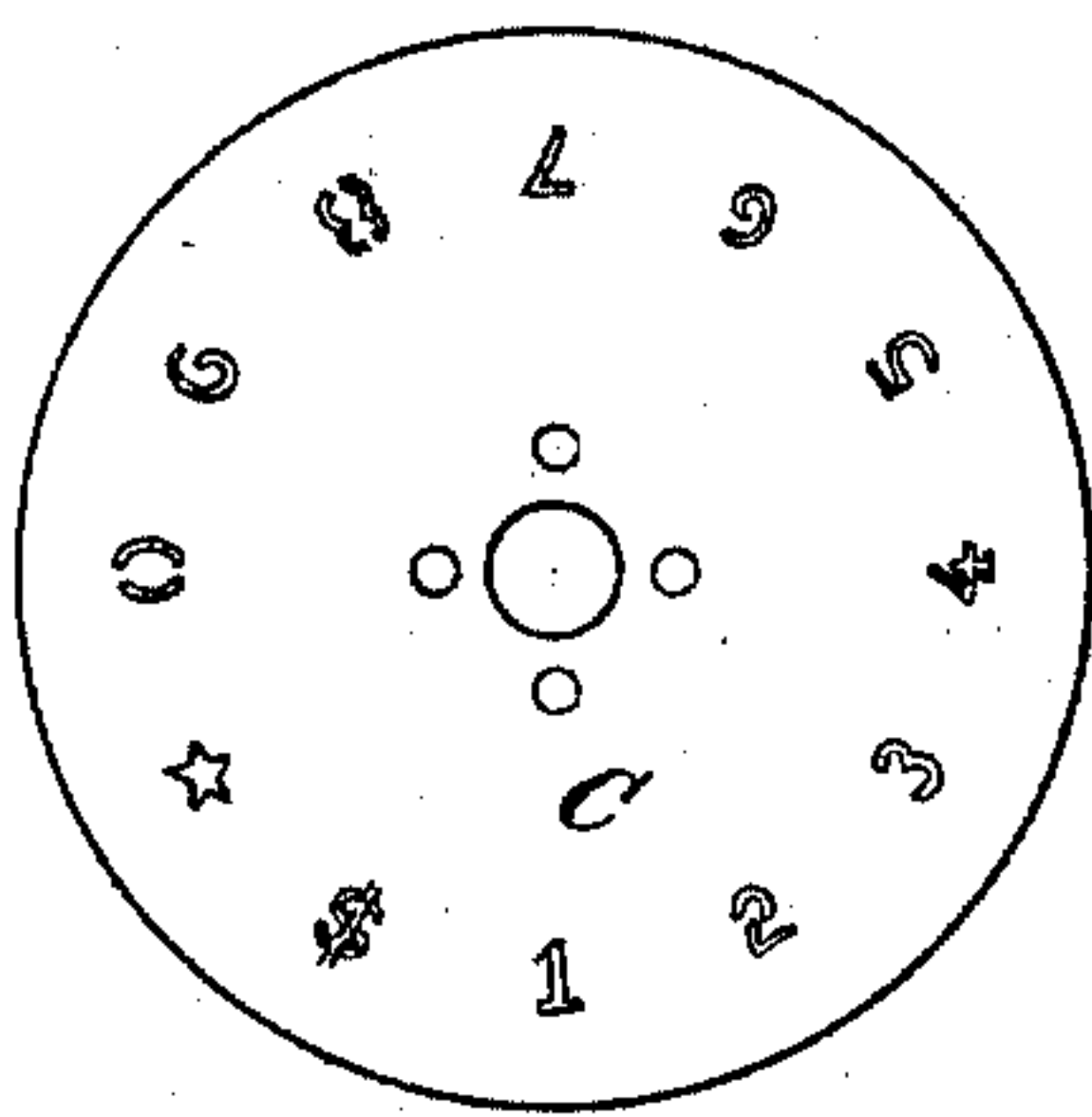
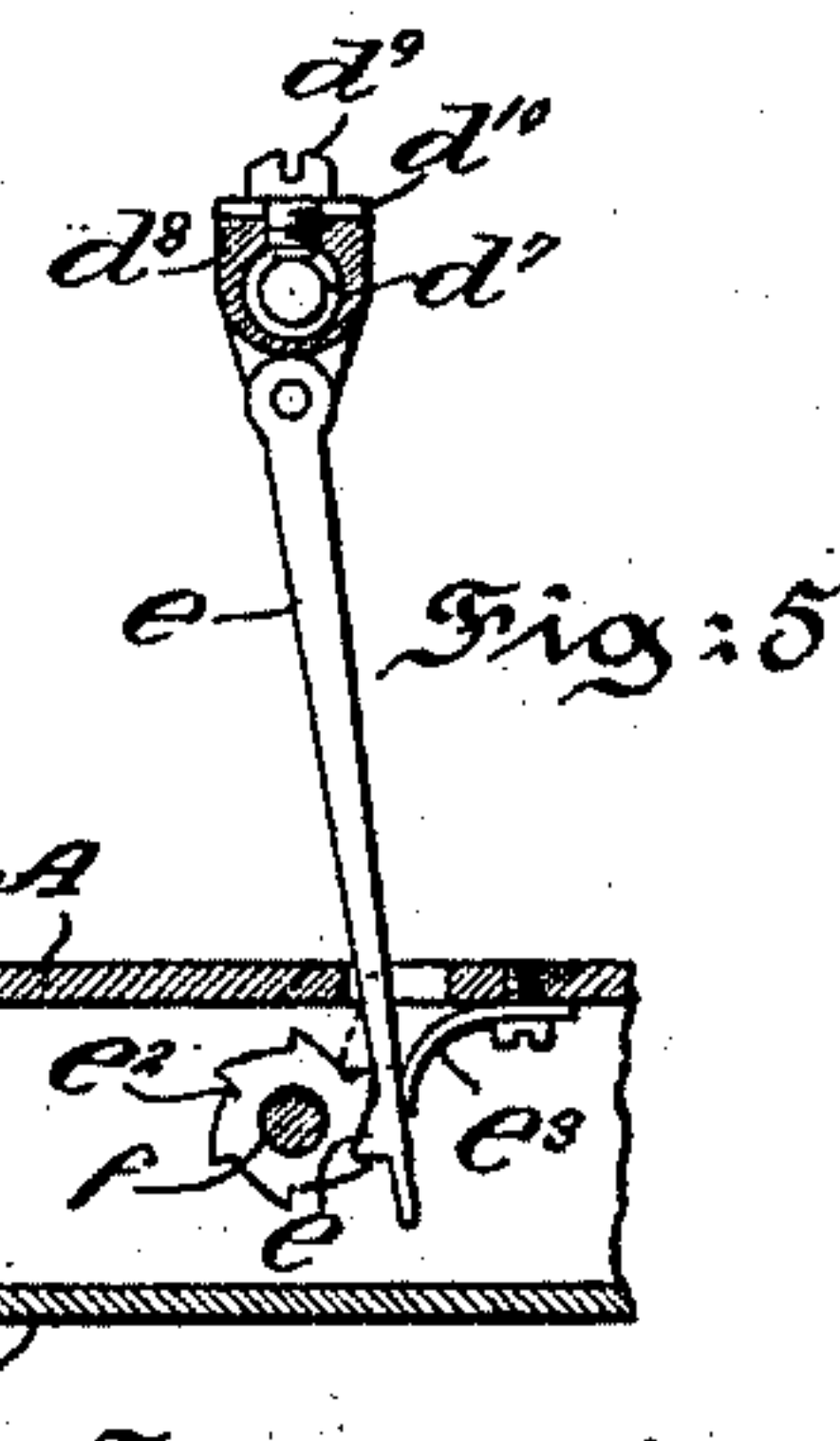
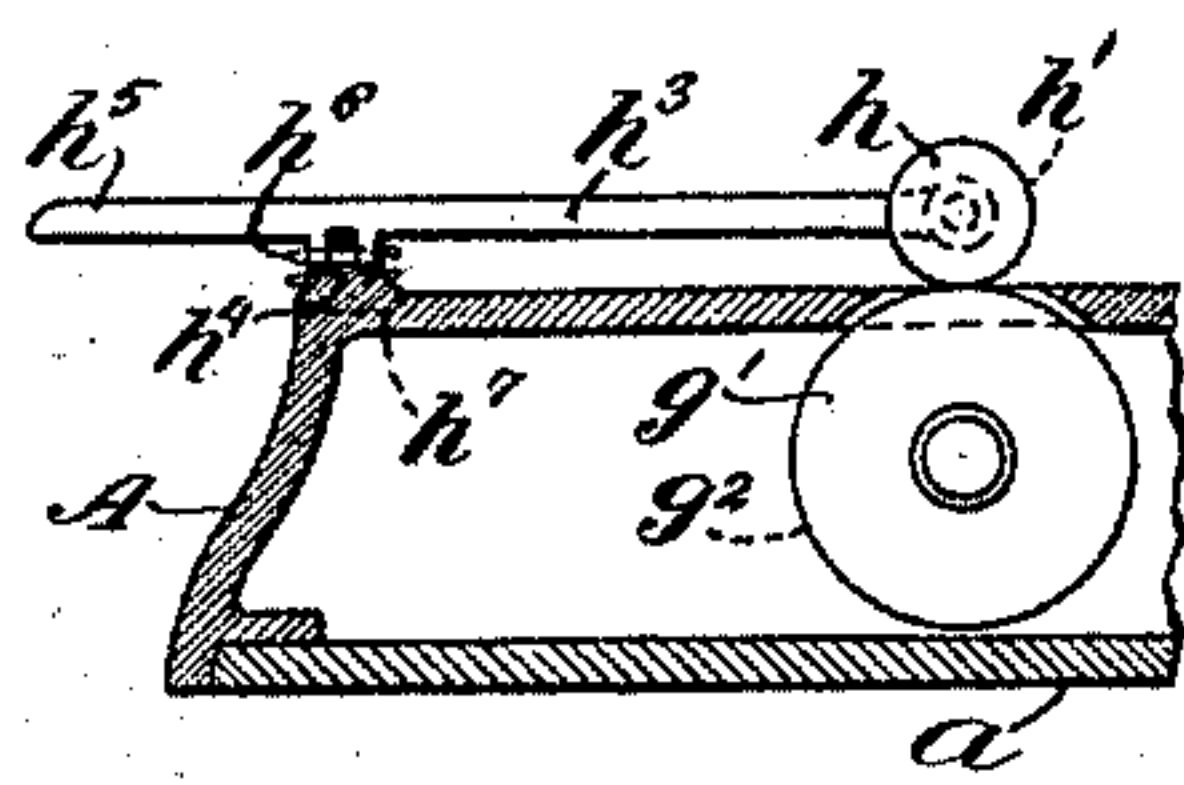


Fig: 3



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH G. GOFF, OF PHILADELPHIA, PENNSYLVANIA.

PERFORATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 526,777, dated October 2, 1894.

Application filed December 8, 1893. Serial No. 493,188. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. GOFF, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Perforating Devices, of which the following is a specification.

My invention has relation to a perforating device; and it relates more particularly to the construction and arrangement thereof.

The principal objects of my invention are, first, to provide a simple, durable and effective device for mutilating or perforating checks and the like; second, to provide a perforating punch with feeding and spacing means controlled automatically by the plunger die operating lever of the device; third, to provide a perforating device with spring plunger dies mounted in a circular holder which is rotated by a gear-mechanism and the respective dies actuated through the intervention of a lever; fourth, to provide a perforating device with spring controlled plunger dies mounted in a holder which is rotated by gears through a lever controlling feeding and spacing means; fifth, to provide a perforating device with means for releasing an interposed sheet, check or the like from the feeding and spacing mechanism of the device; and, sixth, to provide a perforating device having the mechanism thereof simplified and the operative parts controlled by a lever.

My invention consists of the improvements in a perforating device hereinafter described and claimed.

The nature and general features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a vertical longitudinal section of a perforating device embodying features of my invention. Fig. 2, is a top or plan view thereof. Fig. 3, is a transverse section on the line $x-x$, of Fig. 2, showing the finger or thumb piece for releasing the sheet, check or the like from the feeding and spacing mechanism of the device. Fig. 4, is a top or plan view of the perforated die plate carried by and rotated with the spring controlled plun-

ger die holder of the device; and Fig. 5, is a transverse sectional view on the line $y-y$, of Fig. 1, of the pivotal pawl lever-arm which is connected with the operating lever of the device for automatically controlling the feeding and spacing mechanism thereof.

Referring to the drawings A, is a hollow base provided with a removable bottom a , a detachable arched cap or cover a' , with an opening in the side thereof, and which cap partially conceals the working parts of the device. The top plate of the hollow base A, is provided with a recessed bed plate a^2 , having openings a^3 and a^4 therein, and lugs a^5 and a^6 , formed therewith, for purposes to be presently described.

B, is a cylindrical die-holder provided with a series of circular or other openings b , for the reception of dies b' , each of which is provided with a feather b^2 , engaging a complementary groove b^3 , in the holder, a collar b^4 , and a spiral or coiled spring b^5 . The holder B, is recessed or hollowed out to form a hub B' , which is loosely mounted on a vertical shaft B^2 , screwed into the recessed bed a^2 , as clearly shown in Fig. 1.

b^6 , is a removable screw plug having a central opening b^7 , therein and engaging the threaded portion of each of the plunger die openings b , of the holder B. The respective ends of each coiled or spiral spring b^4 , of the series surrounding the dies b' , engage the collar b^4 and threaded plug b^6 , and the upper end of each die is made to taper so as to engage one of the openings d , in the recessed tapering collar d' , mounted on and keyed or otherwise secured to the operating lever D, of the perforating device.

b^8 , is a miter-gear secured to the top of the die holder B, by means of screws b^9 , or in any other preferred manner.

C, is a die plate perforated with characters or numbers corresponding to those of the series of spring controlled plunger dies b' , and secured to the hub portion B' , of the holder B, by means of screws or in any other preferred manner.

The operating lever D, is provided with a handle d^2 , and a miter-gear d^3 , meshing with the gear b^8 , of the holder B. This lever is recessed at d^5 , and engaged by a tightening screw d^6 , extending through an arched bear-

ing post b^{10} , of the shaft or axis B^2 , for preventing sidewise or other abnormal motion of the lever and in order to insure by a positive and reliable up and down movement in regular sequence the depression of a plunger die for effecting the perforation of paper, pasteboard or the like inserted in the path of each die b' , and its complemental perforated character in the plate C. The rear end portion of the operating lever D, is recessed at d^7 , and the same is embraced by a collar or sleeve d^8 , provided with a tightening screw d^9 , and by a leaf or other stiff spring d^{10} , one end of which engages the cap or cover a' , and the other end the sleeve or collar d^8 , for enabling the lever to be maintained in its required longitudinal position with the gear d^3 , meshing with its complemental gear b^8 , of the holder B.

e , is a lever pivotally connected with the sleeve or collar d^8 , and having a toothed lower end e' , held in contact with a toothed wheel e^2 , which is mounted on the shaft f , by means of a spring e^3 , secured to the under side of the top plate of the hollow base A.

The shaft f , is loosely journaled to the lugs a^5 and a^6 , formed preferably integral with the base A. This shaft carries at its forward extremity a sleeve g , provided with two milled edged wheels g' and g^2 . This sleeve is keyed or otherwise secured to the shaft f .

h and h' , are two similar milled edged wheels frictionally contacting with the wheels g' and g^2 , and coupled together at h^2 and having an integral curved lever arm h^3 , which is pivotally connected with a bearing or bracket h^4 , extending from the top of the hollow base A, and with a finger or thumb-piece h^5 , formed preferably integral with the lever h^3 , and engaged by a spring h^6 , which is seated in a socket h^7 , in the upper surface of the base A, in order to maintain the wheels h and h' , in their normal position in frictional contact with the peripheral surface of the wheels g' and g^2 , so that in the operation of the respective spring controlled plunger dies b' , by means of the operating lever D, the same will hold the paper, pasteboard or the like firmly during the perforating operation and further that in the movement of the operating lever D, the same will be fed and spaced for successive perforations by the movement of the wheels g' and g^2 by a push through the intervention of the pawl e' , and ratchet or toothed wheel e^2 , mounted on the longitudinal shaft f .

The mode of operation of the perforating device hereinbefore described is as follows:—The check or the like to be perforated with the required characters or numerals is inserted between the feeding and spacing mechanism hereinbefore described by depressing the thumb-piece h^5 , of the curved lever arm h^3 , so as to raise the wheels h and h' , and the thumb is then released from the button or piece h^5 , in order to permit the respective wheels g' , g^2 , h and h' , to frictionally contact with the interposed article. The required

plunger die b' , of the holder B, is then caused to assume a position for effecting the depression thereof by the rotation of the holder the required distance by means of the miter gears b^8 and d^3 , through the intervention of the operating lever D, when by a downward pressure of the lever D, exerted against the plunger die b' , in position in the rotatable holder B, the numeral or character in perforated form will be stamped or impressed into and through the check with the clippings or particles removed passing through the opening a^3 , in the recessed bed of the hollow base A, and periodically such matter deposited therein may be discharged therefrom by removing the bottom plate a . Upon the release of pressure exerted by hand against the operating lever D, the same by means of the leaf or other spring d^{10} , will assume its normal position as clearly illustrated in Fig. 1, and during this movement through the intervention of the lever e , the pawl e' thereof will move the wheel e^2 one tooth, thereby rotating the shaft f , and causing the respective wheels g' , g^2 , h and h' , in contact with the check or like article to feed or space the same the required distance to permit again by a downward movement of the operating lever D, against the particular spring controlled plunger die b' , to present the article at a proper distance from the perforated character or numeral previously impressed into the check or like article. Consequently in like manner other characters or numerals may be stamped into a check or the like for preventing unwarranted alterations thereto.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a perforating device, of a recessed bed plate with a rotatable die plate, a vertical shaft secured into said bed plate, a holder mounted on said shaft and provided with a series of spring controlled plunger dies and a miter-gear, a feeding or spacing device, an operating lever provided with a miter-gear adapted to mesh with the complemental gear of said holder, a pawl-lever and a ratchet-wheel mounted on a horizontal shaft, substantially as and for the purposes set forth.

2. The combination, in a perforating device, of a bed plate provided with a vertical shaft, a holder provided with spring controlled plunger dies, and a die plate with perforations therein and mounted on said shaft, a gear applied to the top of said holder, an operating lever and a gear wheel mounted on said lever and adapted to mesh with the gear of said holder and a spring adapted to maintain said lever in required position so as to cause said gears to normally mesh with each other, substantially as and for the purposes set forth.

3. The combination, in a perforating device, of a recessed bed provided with an aperture and with depending lugs, a vertical shaft pro-

vided with a bearing post having an adjusting screw connected therewith, a rotatable holder having plunger dies and a perforated die-plate connected with the hub of said holder, said holder having a peripheral gear, an operating lever engaging the bearing post of said shaft and provided with a detachable gear adapted to mesh with the gear of said holder, a bent leaf spring connected with the housing of the device and with a collar mounted on said operating lever, a pivotal pawl lever connected with said collar and held by means of a spring in engagement with a ratchet-wheel mounted on a horizontal shaft supported in the lugs of said bed plate, a feeding or spacing mechanism with a controlled releasing lever and said mechanism operated by said horizontal shaft in the actuation of said operating lever, substantially as and for the purposes set forth.

4. The combination, in a perforating device, of a rotatable holder provided with spring controlled feathered plunger dies and with a perforated die-plate, a gear-wheel connected with said holder, an operating lever journaled to a bearing post integral with the shaft supporting said holder and die-plate and engaging the bed-plate of the device, a gear-wheel mounted on said lever and adapted to mesh with the gear of said holder, and a tapering apertured collar connected with said lever and adapted to engage the upper ends of said disk, substantially as and for the purposes set forth.

5. The combination, in a perforating device, of a bed plate having apertures therein and with lugs projecting therefrom, a detachable bottom, a cap with an opening therein, a holder provided with plunger dies and with a perforated die-plate, a gear connected with said holder and meshing with the complementary gear of an operating lever supported under a spring tension to position in a bearing therefor, a pawl and ratchet connection, a horizontal shaft, and a spacing or feeding mechanism controlled by said operating lever through the intervention of said pawl and ratchet connection and shaft, substantially as and for the purposes set forth.

6. The combination, in a perforating device, of a vertical shaft connected with a bed plate, a rotatable holder provided with plunger dies and with a detachable die-plate, a gear connected with said holder and adapted to mesh with the gear mounted on a supported operating lever, a feeding and spacing mechanism with a releasing lever, a horizontal shaft supported in lugs depending from the bed-plate of the device, and a pawl and ratchet connection between said operating lever and said horizontal shaft, substantially as and for the purposes set forth.

7. The combination, in a perforating device, of a rotatable holder provided with spring controlled plunger dies, a perforated die-

plate detachably connected with the hub of said holder and engaging in a recessed bed, a miter gear wheel connected with said holder and adapted to mesh with a complementary gear detachably mounted on an operating lever supported in an arched bearing by means of an adjusting screw engaging with a recessed portion of said lever, a spring for maintaining said lever in required position so as to cause said gear wheels to mesh with one another, a spacing or feeding mechanism, a horizontal shaft and pawl and ratchet connections between said operating lever and shaft, substantially as and for the purposes set forth.

8. The combination, in a perforating device, of a recessed bed, a rotatable holder having spring controlled plunger dies, a gear-wheel connected with the top thereof and with the hub portion of said holder provided with a die plate engaging in the recessed portion of said bed, an operating lever provided with a gear adapted to mesh with the gear of said holder, said operating lever being supported to position in a bearing post having an adjusting screw, a spring connected with the housing and engaging a sleeve mounted on said lever for maintaining said gear wheels in engagement with each other, a pivotal pawl lever, a horizontal shaft carrying a ratchet-wheel said pawl-lever held in contact with said ratchet-wheel by means of a spring, a feeding or spacing mechanism provided with a releasing lever, and said feeding or spacing mechanism comprising two members, whereof one is mounted on said shaft and frictionally contacts with the other, substantially as and for the purposes set forth.

9. The combination, in a perforating device, of a recessed bed provided with a shaft engaging therewith and having an arched bearing post with a tightening screw, a holder provided with spring controlled feathered plunger dies, a gear wheel and a detachable die plate, an operating lever provided with a gear adapted to mesh with the gear of said holder, a collar with a tightening device, a spring engaging the housing of said device and said collar, a pivotal lever suspended from said collar with a spring controlled pawl, a shaft mounted in the base-plate of said housing and provided with a ratchet-wheel and with wheels extending through the base of the device and engaging complementary wheels journaled to a spring controlled lever having a thumb-piece and pivotally supported from the bed-plate, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOSEPH G. GOFF.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.