

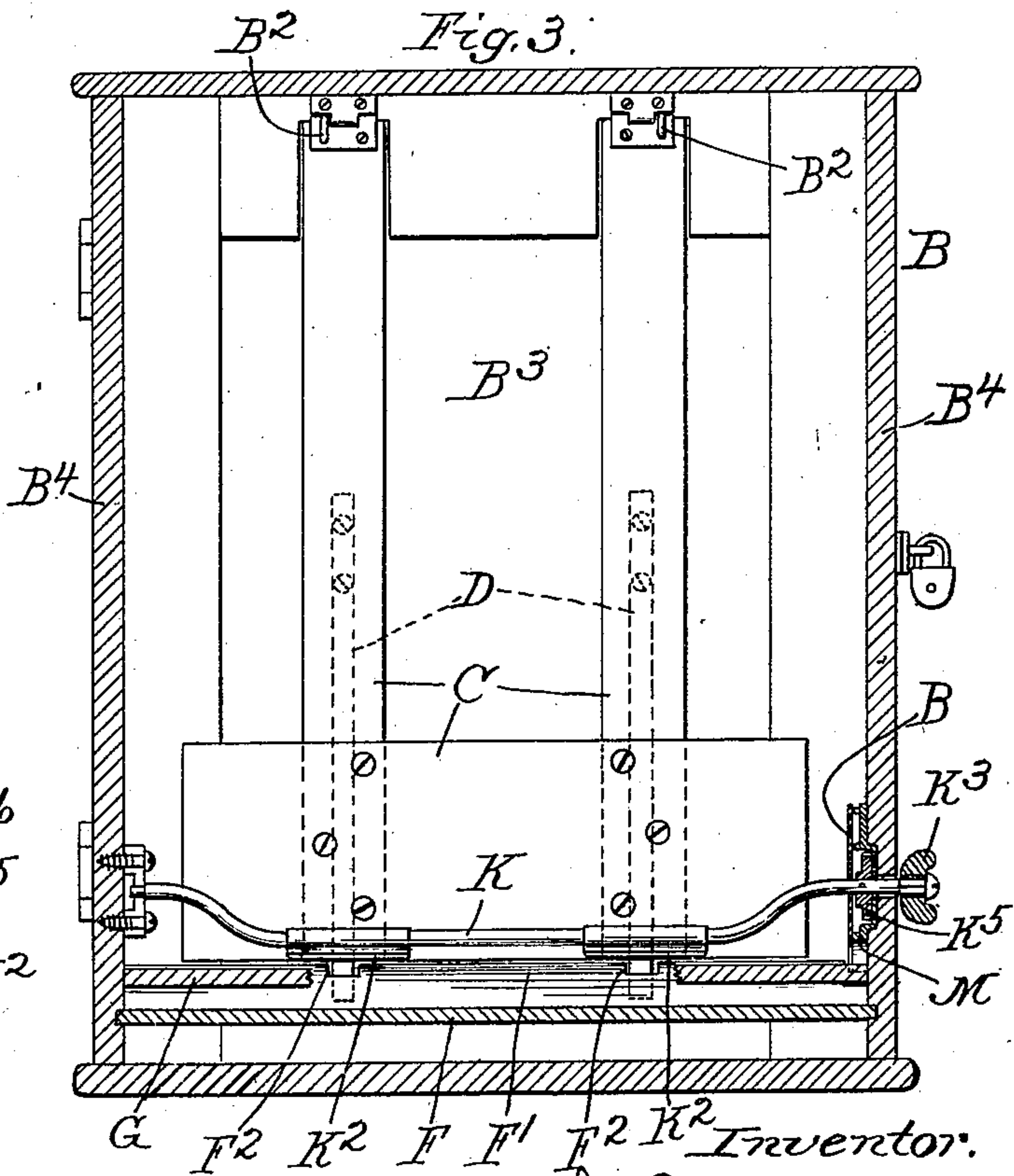
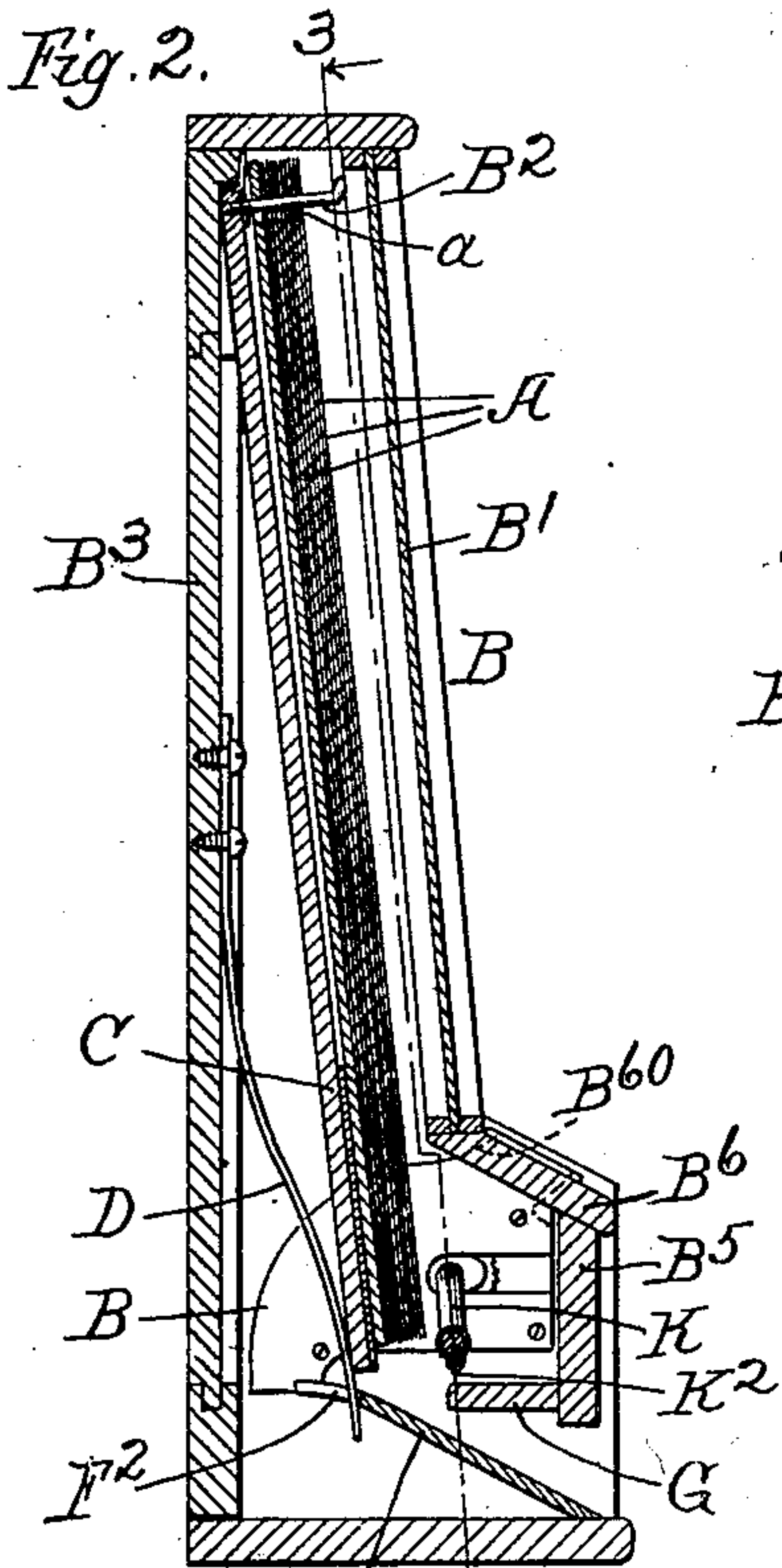
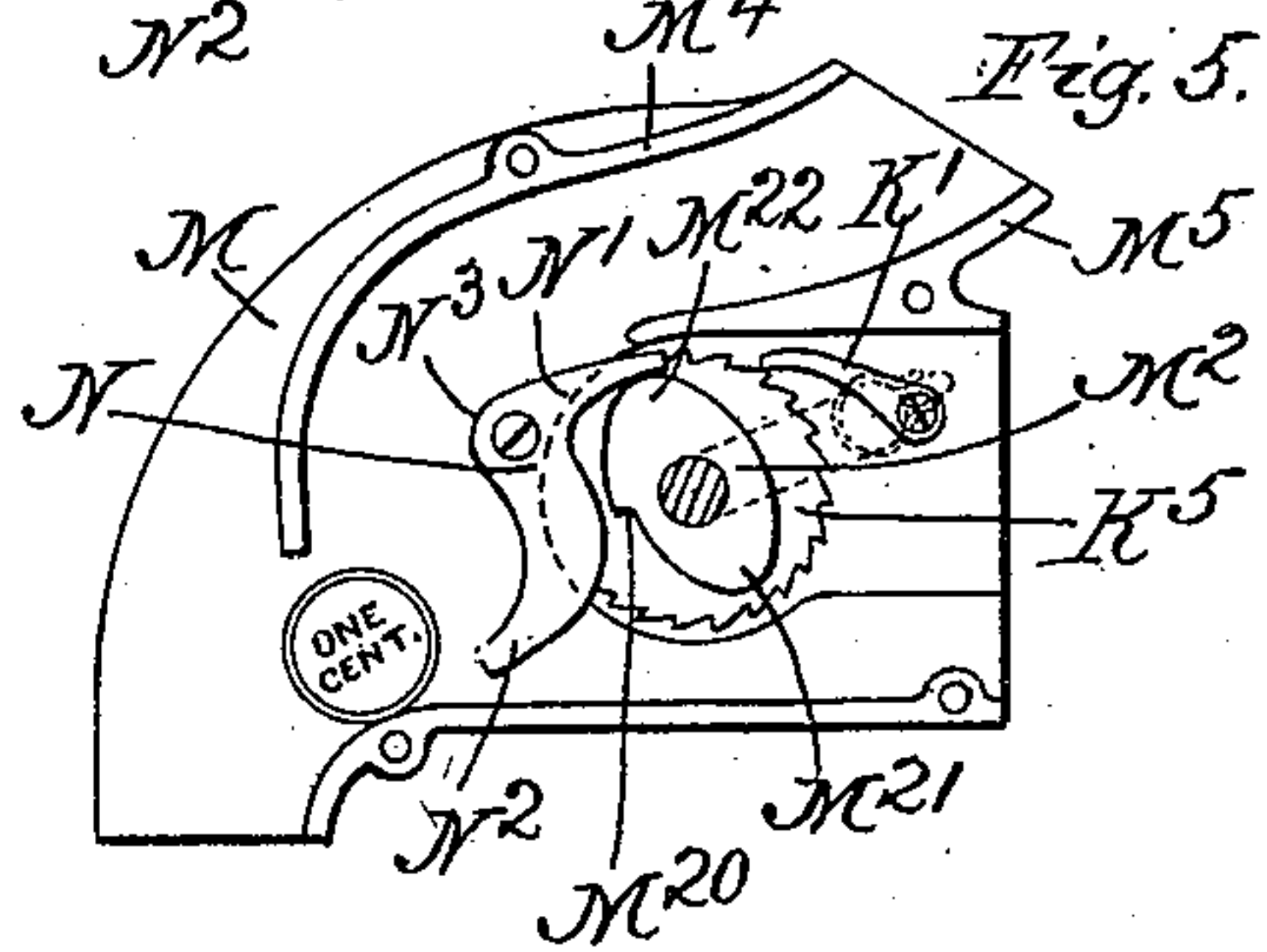
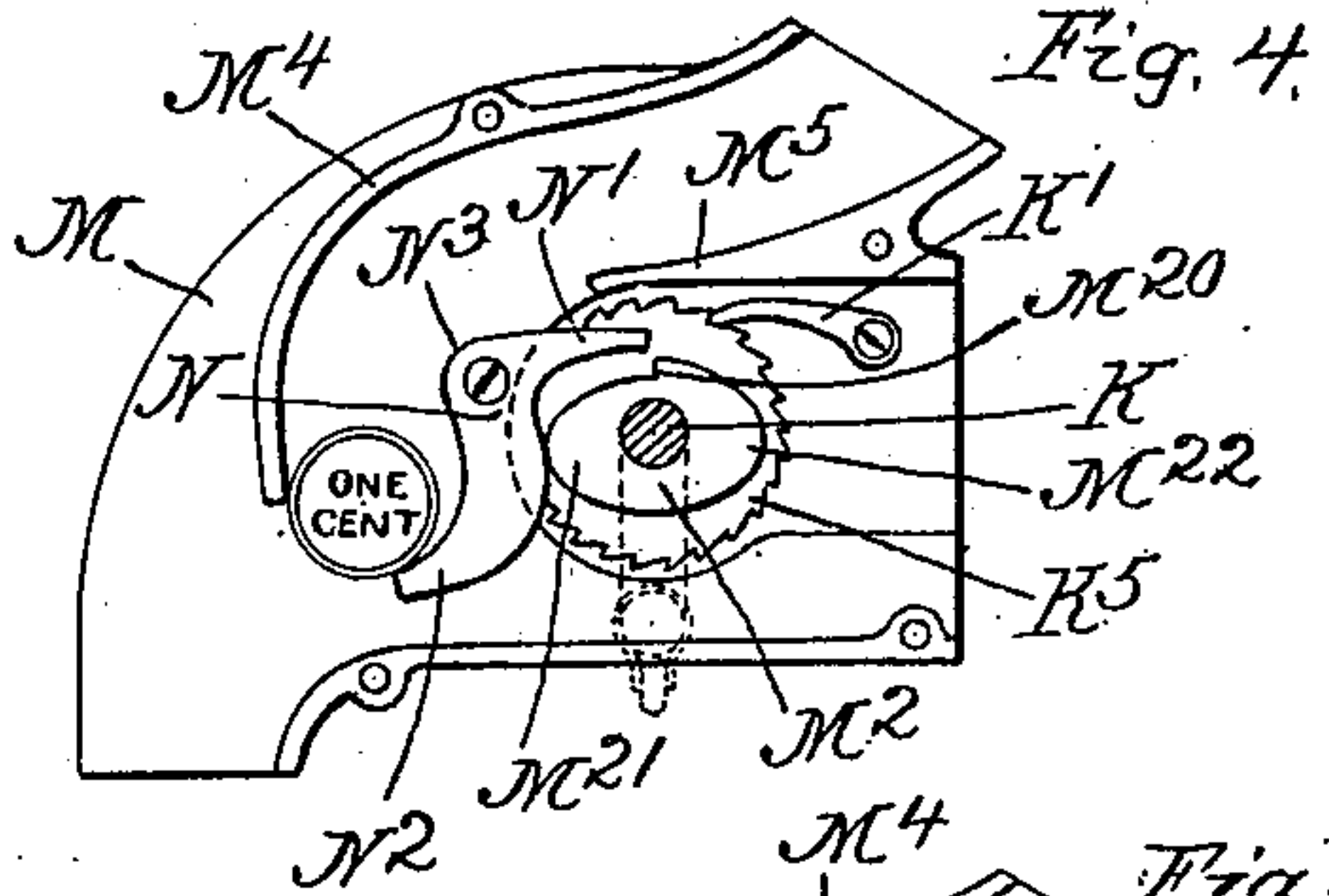
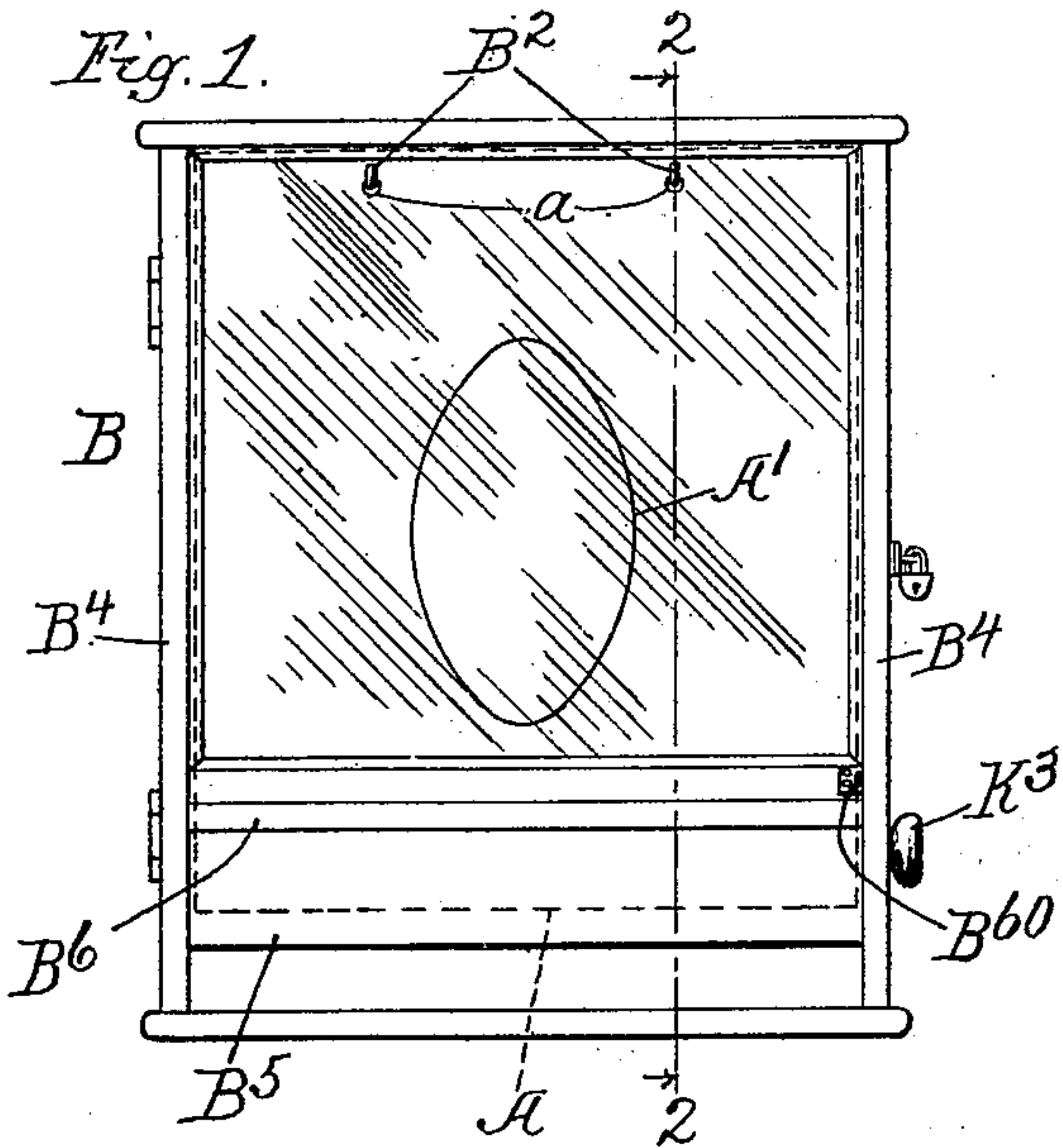
No. 669,178.

Patented Mar. 5, 1901.

C. G. PETERSON.  
TOILET PAPER SERVING APPARATUS.

(Application filed Oct. 6, 1897.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## TOILET-PAPER-SERVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 669,178, dated March 5, 1901.

Application filed October 6, 1897. Serial No. 654,307. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES G. PETERSON, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Toilet Apparatus, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

10 The purpose of this invention is to provide a novel toilet apparatus adapted to contain toilet-sheets of a form described and mechanism for delivering sheets of that form one by one. This mechanism is shown in connection with mechanism adapted to control its operation and to be controlled by the deposit of a coin.

20 In the drawings, Figure 1 is a front elevation of a cabinet embodying my invention and containing toilet-sheets. Fig. 2 is a vertical section at the line 2 2 on Fig. 1. Fig. 3 is a section at the line 3 3 on Fig. 2. Figs. 4 and 5 are detail elevations of the coin-controlled mechanism in positions after the deposit of the coin respectively before and after the manipulation of the delivering device.

30 The toilet-sheet which I employ is seen at A in Fig. 1. It is made of paper, preferably paraffined or otherwise waterproofed, of sufficient size to substantially cover the seat of the water-closet and provided with a suitable aperture A'. My apparatus for delivering this sheet comprises a cabinet B, having, preferably, a glass front B', behind which the toilet-sheets are suspended on the hooks B<sup>2</sup> B<sup>2</sup>, the sheets being apertured at *a a* to adapt them to be thus hung on the hooks in quantity. Preferably and as illustrated the hooks B<sup>2</sup> are set not in the fixed frame of the cabinet, but in a frame or plate C, which is required for purposes hereinafter explained, and is hinged at its upper edge to the back wall B<sup>3</sup> of the cabinet and hangs from said hinges. Springs D D, secured to the back wall of the cabinet, act against the lower part of the suspended frame or plate C, with a tendency to force the lower end of said plate forward and to cause it, therefore, to hang in a slightly-inclined position, so that the sheets A, suspended from the hooks, tend to lie against the frame C. The advantage of securing the hooks in the hinged and oscil-

lating frame or plate, rather than in the fixed rear wall of the cabinet, is that thereby they partake of the movement of the plate C and 55 of the sheets A, which are suspended from the hooks and rest against the plate, whereas if they were rigid with the back wall of the cabinet the movement of the plate C would compel the sheets to move as pivoted on the 60 hooks, and there would arise a liability to wear out the paper about the eyes or apertures *a a*, with which the sheets are provided for the purpose of suspending them on the hooks. The back plate B<sup>3</sup> of the cabinet is 65 hinged at one vertical edge and swings as a door to give access to the cabinet.

F is an inclined ledge or shelf which is rigidly secured in the cabinet and has at its upper rear edge a horizontal lip F', which projects under the lower edge of the oscillating frame or plate C. The springs D D project below the edge of said plate C, and the lip F' of the ledge F is notched at F<sup>2</sup> F<sup>2</sup> to admit the ends of the springs, while permitting the 75 oscillating frame or plate C to pass forward of the rear edge of the lip, above the latter.

G is a guard-ledge which extends from side to side of the cabinet above the inclined ledge F, leaving a narrow crevice or mouth between 80 the face of the ledge and the rear edge of the guard through which the toilet-sheets may be delivered.

K is a shaft journaled in the side cheeks B<sup>4</sup> B<sup>4</sup> of the cabinet, having fingers for engaging and delivering the toilet-sheets. To 85 form such fingers, the shaft is bent out of line with the journaled ends at suitable points between the ends and is provided with rubber lips K<sup>2</sup> K<sup>2</sup>, the deflected portion and such lips 90 constituting the sheet-feeding fingers. One end of the shaft extends out through one of the side cheeks B<sup>4</sup> and is provided with a handle K<sup>3</sup>, by which the shaft may be rotated. On the inner side of the cheek B<sup>4</sup>, through 95 which the shaft thus projects, I mount a plate M, which is penetrated by the shaft. Fast on the shaft, inside the plate, is a ratchet-wheel K<sup>5</sup>, and pivoted to the plate is a detent pawl or dog adapted to engage the ratchet and 100 prevent the rotation of the shaft, except in one direction. Rigid with the ratchet-wheel and with the shaft and at the inner side of the former is a cam M<sup>2</sup>, having one abrupt



shoulder  $M^{20}$  and two eccentric protuberances  $M^{21}$  and  $M^{22}$ , meeting at the shoulder  $M^{20}$  at one side the center of the shaft and merging in each other at opposite sides, so that the periphery of the cam is in general an oval spiral track once encompassing the axis. Pivoted to the plate M is the trip-dog N, of which one finger overhangs the periphery of the cam  $M^2$ , the end of the finger being adapted to engage the shoulder  $M^{20}$  of the cam, said shoulder being faced in a direction opposite to the teeth of the ratchet-wheel, and the dog therefore being adapted to cooperate with said shoulder to lock the cam and the ratchet-wheel against the rotation which is permitted by the dog  $K'$ . The plate M has a depression on its inner face which receives the ratchet-wheel, so that the trip-dog N, pivoted to and lying close against the face of the plate beyond the depression, projects past the face of the ratchet-wheel into the plane of the cam. On the inner face of the plate M, above and beyond the depressed portion in which the ratchet-wheel is lodged, I provide upraised ribs  $M^4$  and  $M^5$ , which extend from the upper forward edge of the plate in a course which follows over and down behind the ratchet-wheel, constituting the chief portion of the coin-track, a portion of the lower side of the track being formed, however, by the upper edge of the finger  $N'$  of the trip-dog and the rear edge of the finger  $N^2$  of the same. The trip-dog is hung at a point such that the finger  $N'$  of the trip-dog, normally under the action of gravity, tends to ride on the periphery of the cam  $M^2$  and to be engaged behind the shoulder  $M^{20}$ , when said shoulder reaches the end of the finger. At this position of the parts the sheet-feeding fingers on the shaft K stand at the forward side of the vertical plane of the shaft overhanging the guard-shelf G in a recess bounded at the bottom by said guard-shelf, at the forward side by a vertical panel  $B^5$ , and at the top by the ledge-panel  $B^6$  of the cabinet. The plate M extends into the angle formed between the front panel  $B^5$  and the ledge-panel  $B^6$ , and through the latter the coin-slot  $B^{60}$  is made, which leads into the coin-track made by the ribs  $M^4$  and  $M^5$ . All the mechanism mounted on the plate M is protected by a cover plate or shield B, suitably apertured to admit the shaft K and guard the coin-track to a point beyond—that is, below—the ledge F, so that, thus guarded, the coin-track leads into a chamber bounded at the bottom by the bottom of the cabinet, at the rear by the back plate or door  $B^3$ , and at the front and top by the inclined ledge F. This chamber therefore constitutes the coin-receptacle, to which access is gained by opening the door, which is secured by a proper lock. The width of the coin-track is designed to be such as to admit any coin not larger than a five-cent nickel, and the pitch of the lower side of the track is such that a coin thus entered through the coin-slot will roll down onto the upper edge of the fin-

ger  $N'$  of the trip-dog and over the shoulder  $N^3$  of the dog, and will lodge on the tail or finger  $N^2$ . The weight of the lightest United States coin which can enter the slot, being a ten-cent coin, is sufficient to tilt the dog down at the rear and up at the forward point sufficiently to cause the latter to clear the shoulder  $M^{20}$ , as seen in Fig. 4. The form of the cam  $M^2$  is such that at this position the end  $M^{21}$  of the cam is encountered by the edge of the finger  $N^2$  of the dog, and the dog is prevented from swinging farther in that direction and the coin is still prevented from escaping from the coin-track, which is not sufficiently open without further movement of the dog. The cam, however, being released, the operator may rotate the shaft K, and in such rotation the protuberance  $M^{22}$  of the cam, operating under the point of the finger  $N'$ , swings the dog positively in a direction to open the mouth of the coin-track sufficiently to allow the coin to escape and pass into the coin-chamber, such swinging movement of the dog being permitted by the retreating edge of the protuberance  $M^{21}$  at the opposite edge of the cam. One rotation of the shaft K causes the rubber tips  $K^2$   $K^2$  of the sheet-feeding fingers to be pressed against the forward surface of the lower end portion of the outer sheet A, suspended on the hooks, and to press back the entire quantity of sheets on the plate C against the springs D, causing sufficient frictional engagement of the lips with the outer sheet to detach the sheet from the hooks by pulling it down and causing the eyes  $a$   $a$  to be torn out, and the lower edge thus pulled down onto the ledge F is protruded through the rift or crevice between the ledge and the guard-shelf G and brought into reach of the operator and may be removed. One revolution of the shaft being completed, the coin having been released and passed into the coin-receptacle during such revolution, the shaft is locked by the engagement of the finger  $N'$  of the trip-dog with the shoulder  $M^{20}$  of the cam and a second revolution cannot be made without the deposit of another coin adapted to operate the trip-dog. It is important that the sheet-feeding fingers after pressing the outer sheets during a sufficient portion of their rotation to detach the sheet from the hooks revolve off and away from the sheet thus detached, leaving it, as well as the entire pile, not only free from the pressure of the fingers, but also free from any pressure, for if it were otherwise the presence of the large central aperture in the sheets would render them liable to be torn in withdrawing if they were restrained at all, because the user would naturally seize the paper at the middle or near the middle of the lower edge and so pull in line with the central opening, with the certainty of tearing it in two instead of pulling it out whole. For this reason, therefore—that is, in order that the paper may be held forward with sufficient force to cause the fingers to engage it fric-



tionally with enough force to detach it from the pins, but shall be free from all restraint thereafter—the springs D are stopped at the bottom of the notches F<sup>2</sup> in the ledge F at such point that they shall advance the carriage only so far as to carry the sheets sufficiently forward to be engaged by the fingers during a short arc of the rotation of the latter, sufficient only to detach the sheet from the pins. For like reason it is important that lines from the engagement of the fingers with the paper to the points of suspension, respectively, of the paper shall extend not across the central opening, but at opposite sides of it, so that the pull by which the paper is detached shall be exerted along the uninterrupted side portions and not across the aperture, which would merely spread under the pull of the fingers, so that the paper would be liable to be torn in two across the central aperture instead of being pulled off the pins. These features of my device distinguish it from familiar devices for delivering newspapers or other solid or continuous sheets, as well as from devices designed for the delivery of smaller sheets or cards, which are continuous and may be fed without regard to the point of application of pressure or the lines of resistance and strain due to the delivering action.

I claim—

1. In combination with a cabinet having a delivering-slot and a paper-carriage therein, means for suspending paper sheets against such carriage, springs adapted to advance the paper-carriage toward the delivering-slot, and a stop which without pressure on the paper arrests the advancing action of the spring upon the carriage and suitable fingers adapted to engage the paper by rotary movement, and to pass out of such engagement by the continuance of such movement.

2. In combination with the cabinet having a delivery-slot; a paper-carriage therein; two widely-separated pins adapted to suspend the paper sheets; a spring adapted to advance the carriage limitedly toward the delivery-slot, and suitable means for arresting such advance independently of any encounter of the paper; the feed-fingers adapted to engage the face of the paper substantially in line with the pins respectively, and means for rotating them toward the paper to cause them to engage the face thereof and to pass out of en-

gagement by the continuance of such rotation; whereby the paper is first detached from the pins by the action of the fingers, and subsequently freed from all detention by the continuous rotation of the fingers.

3. In combination with a cabinet-case, the plate or frame C, hinged at the upper end and suspended from such hinge within the case; a spring acting upon the suspended frame or plate to force its lower end forward; a ledge which makes a widely-obtuse angle with the plane of the general extent of the plate or frame and protrudes under said lower end when the latter is thus forced forward, and which leads to a crevice or rift in the case adapted to permit the passage of a sheet edgewise; means for suspending toilet-sheets at the upper part of the suspending frame or plate, and a rotatable shaft within said obtuse angle having fingers adapted to engage frictionally the forward surface of the outer sheet at the lower end to detach it from its support, and to pass out of engagement by the continuance of rotation; whereby the sheet is first engaged and detached by the fingers, and directed edgewise obliquely onto the ledge toward the crevice and then released by the fingers and left free to be passed out through the crevice.

4. In combination with the cabinet having the ledge F, the swinging frame or plate C adapted at its end to swing over the inner edge of the ledge, and the springs D which tend to hold the plate forward and overhanging such ledge; suitable means at the upper part of the cabinet for suspending toilet-sheets, whereby they may rest against the frame or plate C, means adapted to be operated at will to disengage the outermost sheet, the springs D being arranged to protrude below the lower end of the suspended plate or frame C, and the ledge F having notches at suitable points to admit the ends of the springs, whereby the springs are stopped at the depth of the notches, and the forward movement of the plate past the rear edge of the ledge is limited by said depth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 4th day of October, 1897.

CHARLES G. PETERSON.

Witnesses:

CHAS. S. BURTON,  
JEAN ELLIOTT.