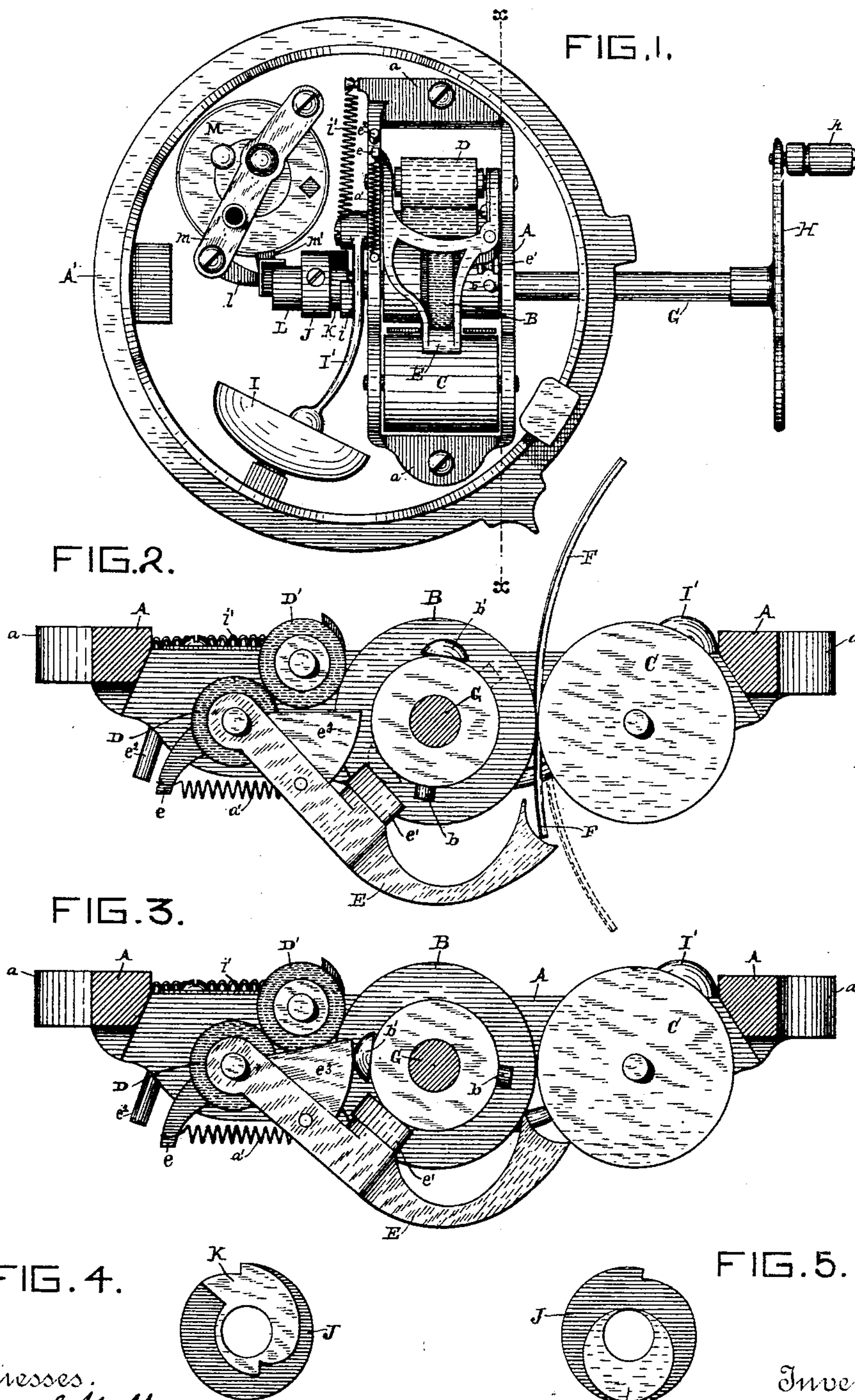


R. G. WOOD.

REGISTERING AND CANCELING BALLOT BOX.

No. 393,953.

Patented Dec. 4, 1888.



Witnesses.
Frederick L. Millward.
W. D. Murray.

Inventor.
Richard G. Wood.
By his Attorney *Geo. J. Murray.*

(No Model.)

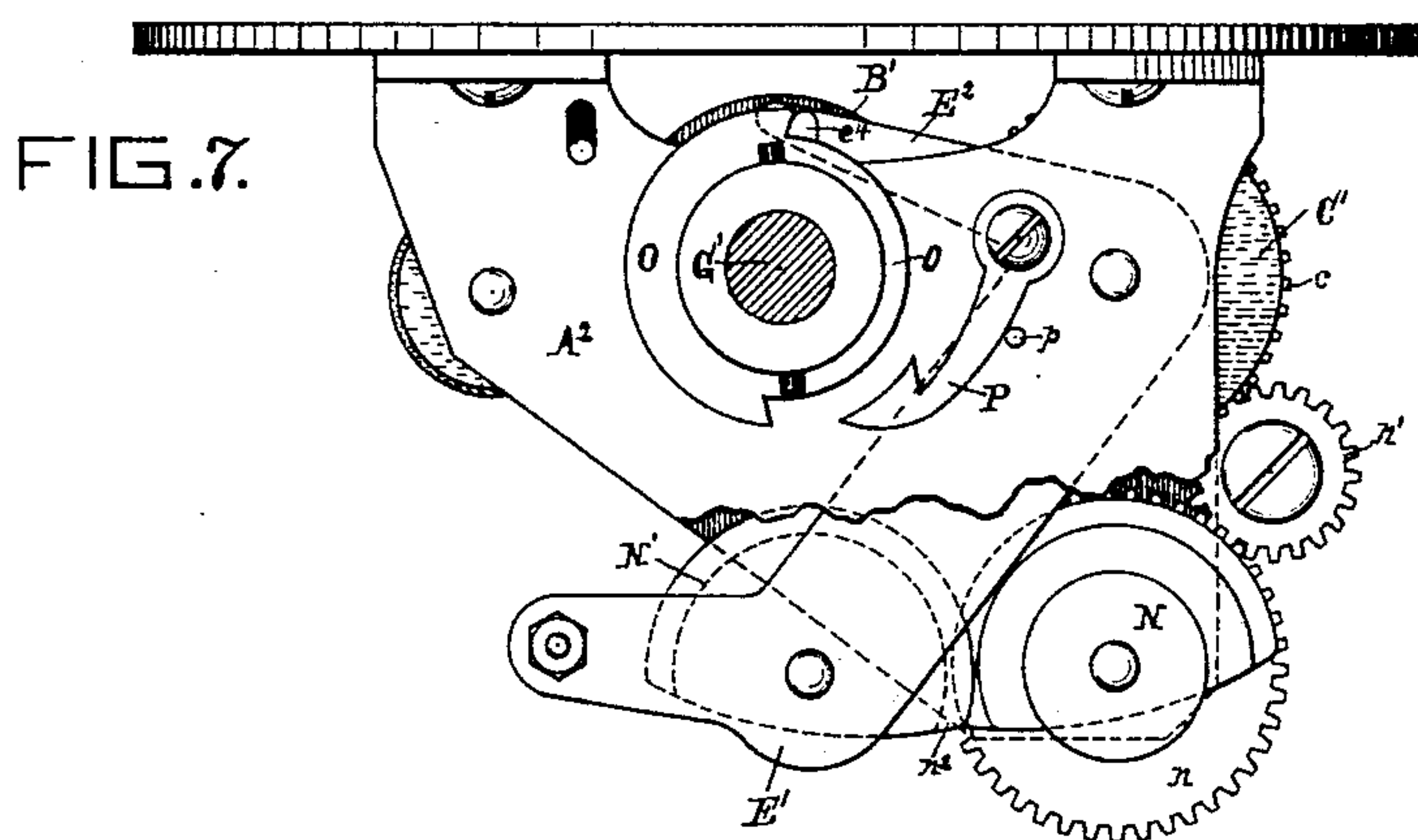
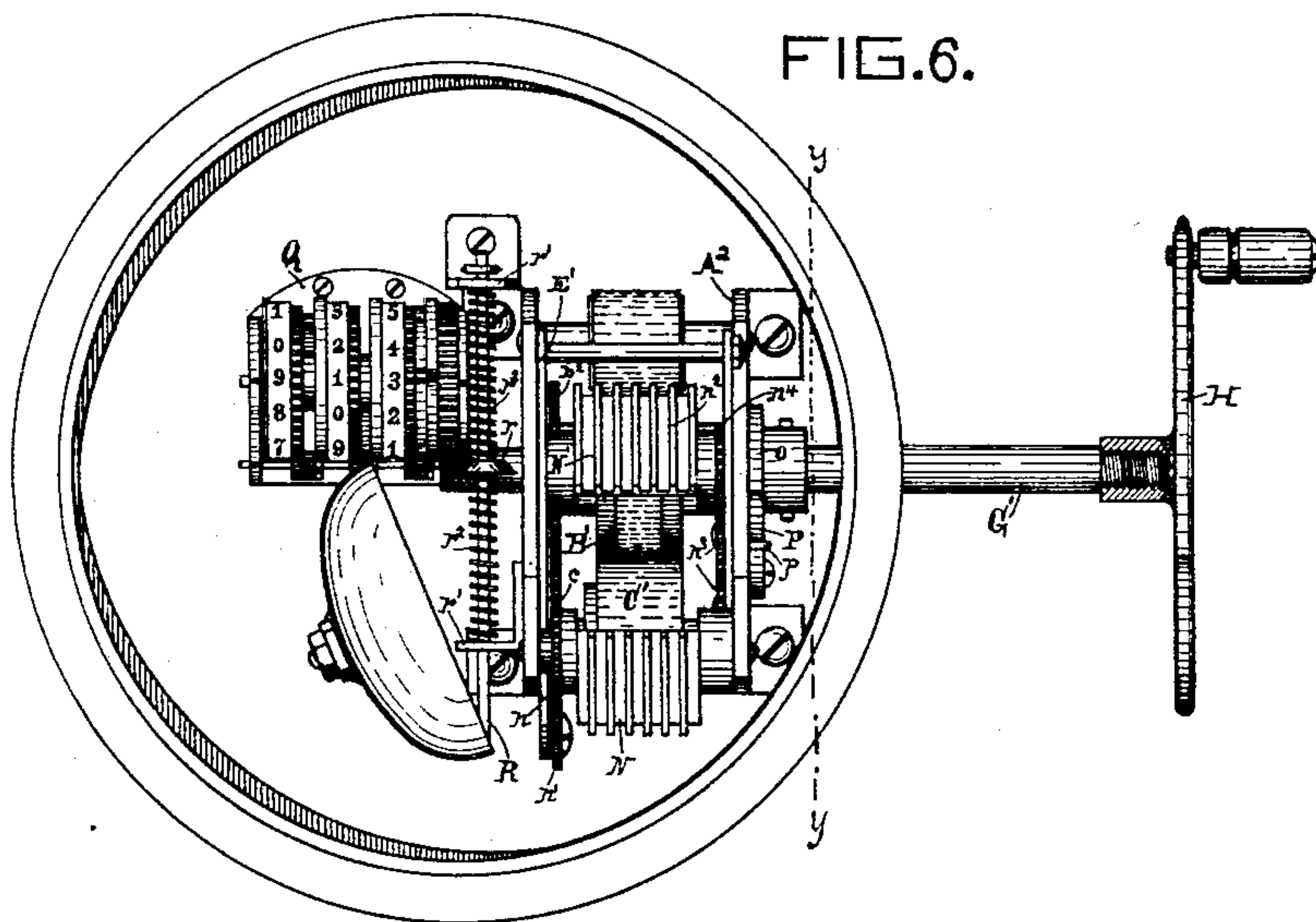
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

RICHARD G. WOOD, OF CINCINNATI, OHIO, ASSIGNOR TO THE HALL & WOOD
BALLOT BOX COMPANY, OF SAME PLACE.

REGISTERING AND CANCELING BALLOT-BOX.

SPECIFICATION forming part of Letters Patent No. 393,953, dated December 4, 1888.

Application filed July 16, 1888. Serial No. 280,064. (No model.)

To all whom it may concern:

Be it known that I, RICHARD G. WOOD, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Ballot-Boxes, of which the following is a specification.

This invention relates to means for preventing false registration in balloting, and while the inventions herein shown and described may be applied to any well-known ballot-box they are peculiarly adapted to that class of ballot-boxes shown and described in my patent, No. 387,572, dated August 7, 1888.

The invention will be first fully described in connection with the accompanying drawings, and then particularly referred to and pointed out in the claims.

Referring to the drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is an inverted plan view of my improved mechanism for carrying the ballots into the box, printing and canceling them, registering the number of ballots cast, and giving audible notice when each ballot passes into the box. The mechanism is shown as secured to the inside of the ballot-box top, which in this case is the turret shown in my said former patent. Fig. 2 is a view in vertical section through the frame of the mechanism and crank-shaft, taken in line *x x* of Fig. 1. This view shows the mechanism in side elevation (removed from the box) and in the position it occupies when a ballot is started into the box. Fig. 3 is a similar view after the ballot has passed into the box and in position to receive another. Fig. 4 is a side elevation of the cam-shaft which operates the alarm. Fig. 5 is a similar view of the cam which actuates the register. Fig. 6 is an inverted plan view of a modified form of my invention intended for use when very light ballots are used. Fig. 7 is a side view of the same, taken through line *y y* of Fig. 6.

Referring first to Sheet 1, Figs. 1 to 5, inclusive, A is an open cast-metal box provided with lugs *a a*, by which it is to be secured to the under side of the box-top A'. Its office is to furnish bearings for the mechanism which conveys the ballots into the box, prints and cancels them on their passage, registers

the ballots cast, and sounds an alarm as each ballot is deposited.

B is the rubber-covered printing and canceling roll; C, a rubber friction-roll in contact with roll B, for conveying the ballots into the box, and D D' are rolls covered with felt or some absorbent material for supplying the rubber-covered printing and canceling roll with ink. These rolls differ from those shown in my patent, No. 340,069, of April 13, 1886, in having a small circle surrounding the puncturing-point upon the printing and canceling roll, so as to more readily detect false ballots should they by any irregular means be passed into the box.

The bite of the printing and friction rolls is just beneath the ballot-opening in the top of the ballot-box A', and beneath the discharge of these rolls is arranged a swinging frame, E. This frame is pivoted upon the journals of the roll D, and is held up against the rolls B C by a spring, *a'*, one end of which is secured to a downwardly-projecting arm, *e*, of frame E. The opposite end is secured on a stud projecting from frame A.

The frame E has an upwardly-projecting stud, *e'*, which, when the free end of the frame guards the passage from rolls B C, bears upon the iron core of roll B in the path of a pin, *b*, as clearly seen in Fig. 3, for the purpose of blocking the rolls from turning, except when a ballot is passing between them, and thus prevent false registration.

The ballot F, Fig. 2, on its passage through the rolls, carries the frame E downward, taking its stud *e'* out of the path of pin *b*, permitting the rolls to be revolved until the ballot is discharged from the bite of the rolls into the box.

The roll B is secured upon the shaft G, which is long enough to extend to the outside of the ballot-box to receive a cross-head or crank, H, provided with a handle, *h*, by which the shaft is rotated.

The circumference of the rolls B C should be a little greater than the length of the folded ballot, so as to insure the passage of one ballot by a single revolution of the rolls. For certainty in starting the ballot at the proper point of the rolls, the cross-head H should be secured upon the shaft in a plane nearly at right angles to the axis of the pin *b*. Thus, the rolls being in proper position, as seen in

Fig. 3, to receive a ballot into their bite, the handle *h* should be in its lower position. Now, the end of a ballot being pressed into the bite of the rolls and the handle turned, the ballot will reach the position shown in Fig. 2, and, pushing down the frame E, will carry the stud *e'* out of the path of pin *b* and permit the complete revolution of the rolls B C, which is indicated by the sounding of the bell I. The frame E is prevented from moving too far by the arm *e* coming against a stop, *e*², projecting down from the frame A, and after the pin *b* has passed the projection *e'*, and the leading end of the ballot has passed the end of the frame E, the frame is partially returned by a screw, *b'*, striking a cam-plate, *e*³, secured upon the frame E, so as to bring the stop *e'* in the path of pin *b* and prevent the too rapid revolution of the handle getting the pin *b* a second time past the stud before the spring *a'* could return the frame to its upper position. This action also being positive obviates any danger from the weakening of the spring *a'*.

Upon the inner end of the shaft G is secured a cam-collar, J, the inner end of which is formed into the wiper-cam K, and the outer is formed with the eccentric L, which actuates the register M. This register is of ordinary construction, and is secured to the top A' of the box by screws passing through the ends of bar *m*, which is secured upon the register-case. Upon one of these securing-screws is pivoted an arm, *l*, which carries at its free end a shoe to bear upon the eccentric L, and intervenes it and the spring push-rod *m'* of the register.

The knocker-arm I' is pivoted upon a screw secured in the side of frame A, and has a shoe, *i*, projecting from one side, which rides over the notched cam K, with which it is held in contact by a spring, *i'*, connected to an extension of arm I' and a stud-pin in frame A. The purpose of notching the cam is to prevent the handle *h* and shaft G being turned back after the ballot has been started between the rolls, without carrying it and indicating upon the register that a ballot has been deposited. The shaft G is thus locked against turning in either direction sufficiently to affect the register, except when a ballot is on its way into the box, and that it cannot be turned in a wrong direction far enough to affect the register at any time.

In using a ballot-box provided with my registering mechanism, the handle *h* being in its lower position and the register set at zero, a folded ballot is pressed into the bite of the rolls B C, the handle is turned one revolution, and the time to stop is indicated by the sound of the bell. This operation carries the ballot into the box, prints and punctures it, and advances the register, indicating thereon the fact that one ballot has been deposited. The same operation is performed with each ballot presented until the balloting is closed.

The mechanism above described for convey-

ing the ballots into the box and printing and canceling them (the ballot itself automatically releasing the mechanism so as to admit it into the box) in their passage is adapted for use in nearly all of the States the laws of which provide for but one ballot-box at each of the voting-precincts, and the names of all the candidates of each party being printed upon a single ticket, the ballots in these cases being large, each will, when folded, have sufficient body to force down the frame E when carried inward by the feeding-rolls; but in some States each candidate or set of candidates are voted for separately, a separate ballot being provided for each set of candidates—as, for instance, at a general election one box is provided for congressional candidates, another for candidates for State, another for county, and still another for municipal offices, &c., at each polling-precinct. In such cases the ballots are small, or, at least, some of them, and would not have body enough when folded to affect the frame E. I have therefore provided the modification shown on Sheet 2 for use when small or light ballots are to be used.

Referring now to Figs. 6 and 7, Sheet 2, the printing and canceling roll B' and friction-roll C' are substantially the same as the rolls B and C shown in the preceding figures; but both rolls are geared together by cog-wheels *b*² and *c*, secured upon their respective shafts. The frame A² is extended farther down than the frame A to furnish bearings for the grooved cam-roll N, the shaft of which carries a cog-wheel, *n*, which is geared to the cog *c* on the shaft of roll C' through an intermediate pinion, *n'*. Pivoted upon the journals of roll C' is a swinging frame, E', which carries at its lower end another grooved cam-roll, N', similar to cam-roll N, except that its annular flanges *n*² are arranged, when the cam-rolls are brought together, to come opposite to the spaces between the flanges on cam-roll N—in other words, the cam-rolls N and N' are matched one into the other. The cam N' is geared to revolve in the opposite direction by two intermediate pinions, *n*³, journaled upon one arm of frame E', the upper one meshing with a pinion upon the shaft of roll C', and the other meshing with pinion *n*⁴ upon the shaft of arm-roll N'.

The frame E' has an arm, E², which carries a laterally-projecting stop-finger, *e*⁴, which projects through a cut-away portion of frame A² to bear upon cam O, secured upon shaft G' outside of the frame E'. This finger rests upon the lower portion of the cam O when the cam-rolls N N' are together, as in Fig. 7, and prevents the shaft G' and rolls B' C' from revolving more than half a revolution in either direction.

It is evident that a plain concentric disk may be substituted for the cam O, having pins projecting from its periphery, as the high portions of the cam between the projecting edges perform no function.

The mechanism being in the position shown

in Fig. 6, the end of a ballot is placed in the bite of the rolls B' C', and the shaft G' being turned carries the ballot down between the rolls. When the rolls have turned about a quarter-revolution, the lower end of the ballot will have passed between the cam-rolls N N', and as the high parts of these rolls come together upon opposite sides of the ballot by the further revolution of the shaft G', the swinging frame E' will be thrown out, raising the finger e^1 above the cam O, thus allowing the rolls B' C' and cam-rolls N N' to revolve until the ballot is released and allowed to drop into the box, when the frame E' swings by gravity back to its normal position, again locking the rolls to prevent an entire revolution until another ballot separates the rolls N N'. The ribs and grooves of rolls N N', matching neatly together, will be separated by even a tissue-ballot passing between them sufficiently to throw the dogging-finger e^1 out of the path of the cam O, while the ballot is grasped by them.

In order to render the frame E' very sensitive, gravity alone is depended upon to hold the cam-rolls in their position nearest to each other without the use of springs. It is evident, therefore, that if no provision were made to prevent it the rolls might be separated sufficiently to allow the shaft G' to be revolved and the register be advanced by simply turning the box upon the side. To prevent such result, I have provided a gravitating pawl, P, which depends from a pivot-screw passed through it and into the frame A². (See Fig. 7.) A stop-pin, p , holds the pawl P in proximity to the cam O. Now, if the ballot-box should be turned in a position to throw off the dogging-finger e^1 , the pawl P immediately falls upon the lower portion of a cam, O, takes the place of dogging-finger e^1 when it is thrown off, and dogs the rolls from revolving.

The register Q shown in Fig. 6, while differing from the one shown in the other figures, is also of well-known construction and need not be specifically described. The bell is the same as in the preceding figures; but the striking bar or knocker is a sliding plunger or rod, R, instead of a pivoted arm. This rod has centrally secured upon it a collar, r , just opposite the shaft G', between which and the rod-guides r' are two coiled springs, r^2 , which hold one end of the rod in close proximity to the bell. The shaft G' carries a pin or arm, which, when the shaft is revolved, strikes the collar r and carries it and the rod back, compressing the springs r^2 . When the collar r is released, by further revolving the shaft G', the springs impel the rod forward, and its end striking the bell sounds an alarm at each revolution of the shaft G'.

In Fig. 6 I have shown the handle H secured upon the shaft by screw-thread connection. The object of this is to prevent any injury to the mechanism by attempting to forcibly turn the driving-shaft in the wrong di-

rection. Should such attempt be made, the handle will unscrew from the shaft before force enough could be exerted to injure the mechanism.

What I claim herein, and desire to secure by Letters Patent, is—

1. In a registering mechanism for ballot-boxes, the combination of the rolls for conveying ballots into the box, and a swinging frame normally guarding the passage from said rolls and locking them from revolving, and arranged to be thrown down and disengage the rolls by a passing ballot, and to be returned to its normal position when the ballot has passed, substantially as shown and described.

2. The combination, substantially as specified, of the rolls for conveying ballots, a swinging frame guarding the passage from said rolls, a projection from said frame arranged in the path of a projection upon one of the rolls to lock the rolls until a ballot is passing, a cam secured upon the roll-shaft, and the knocker-arm of the alarm, having a projection bearing upon said cam for the purpose of sounding an alarm at each revolution of the shaft and locking the shaft from being turned backward.

3. In a registering and canceling mechanism for ballot-boxes, the combination of the driving-shaft, the roll B and collar J, secured thereon, said collar having its opposite ends formed with the notched cam K and eccentric L, and the roll having a pin or projection, b , the pressure-roll C in contact with the roll B, the swinging frame E, guarding the passage from said rolls and having a projection in the path of pin b , the alarm actuated by cam K, and the register actuated by the eccentric L, arranged to operate as set forth.

4. In a ballot-box mechanism, the combination, substantially as specified, of the rolls for conveying ballots into the box, a swinging frame guarding the passage from said rolls and arranged to be swung upon its pivot by the passing ballot, a projection upon the driving-shaft, and a stop upon the swinging frame arranged in the path of said projection, to lock the rolls when the frame is in its normal position and to be thrown out of said path by the passing ballot acting upon said swinging frame.

5. The combination, as specified, of the ballot-feeding rolls, the swinging frame guarding the passage from said rolls and having a stop to lock the rolls when no ballot is passing, said stop being thrown inactive by the passing ballot, and a gravitating-pawl to take the place of the stop and lock the rolls when the box is held in an unusual position, substantially as set forth.

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Witnesses:

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