

(No Model.)

A. C. WOEHRLER.
ELECTRIC DOOR KEEPER.

No. 297,096.

Patented Apr. 15, 1884.

Fig. 1.

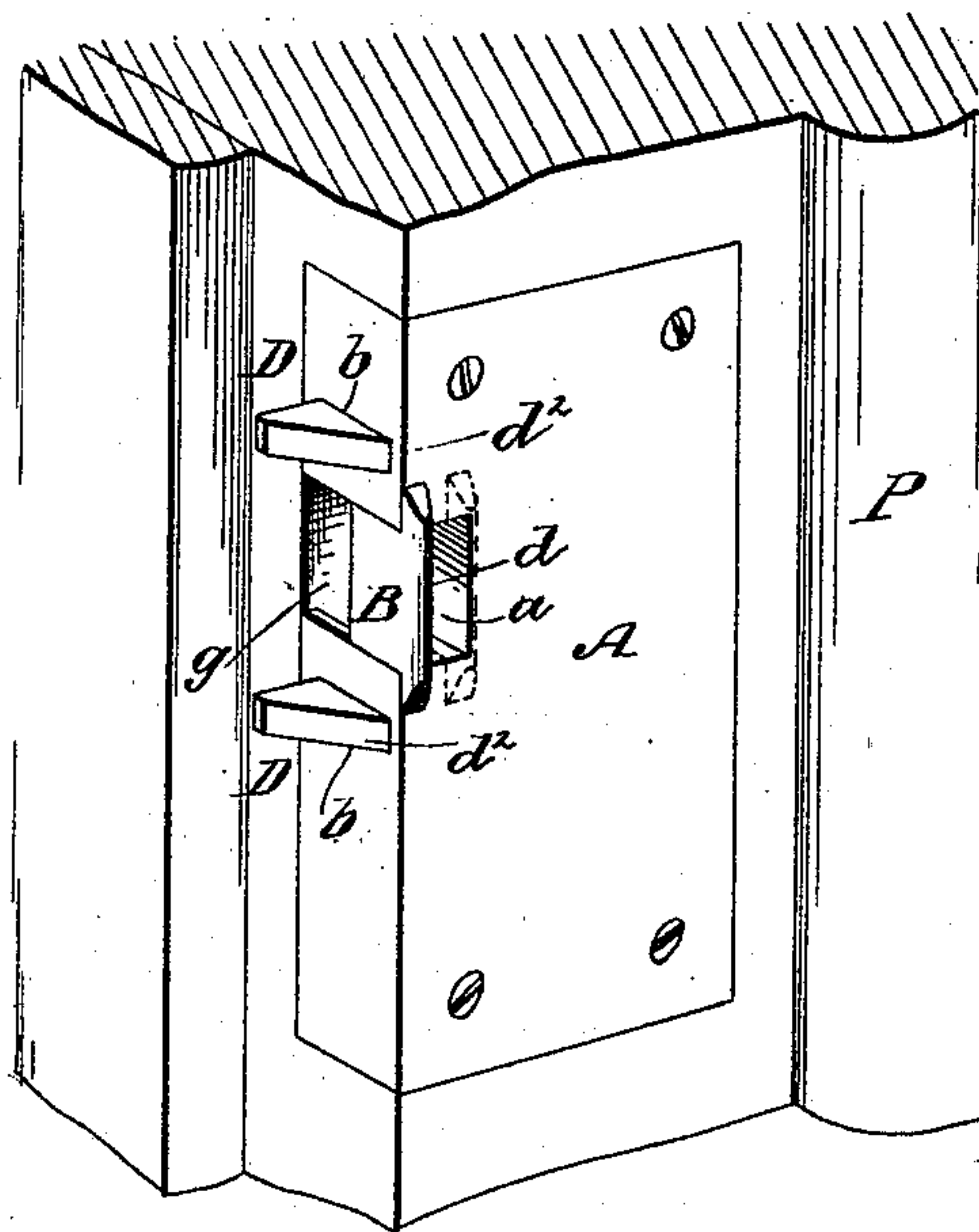
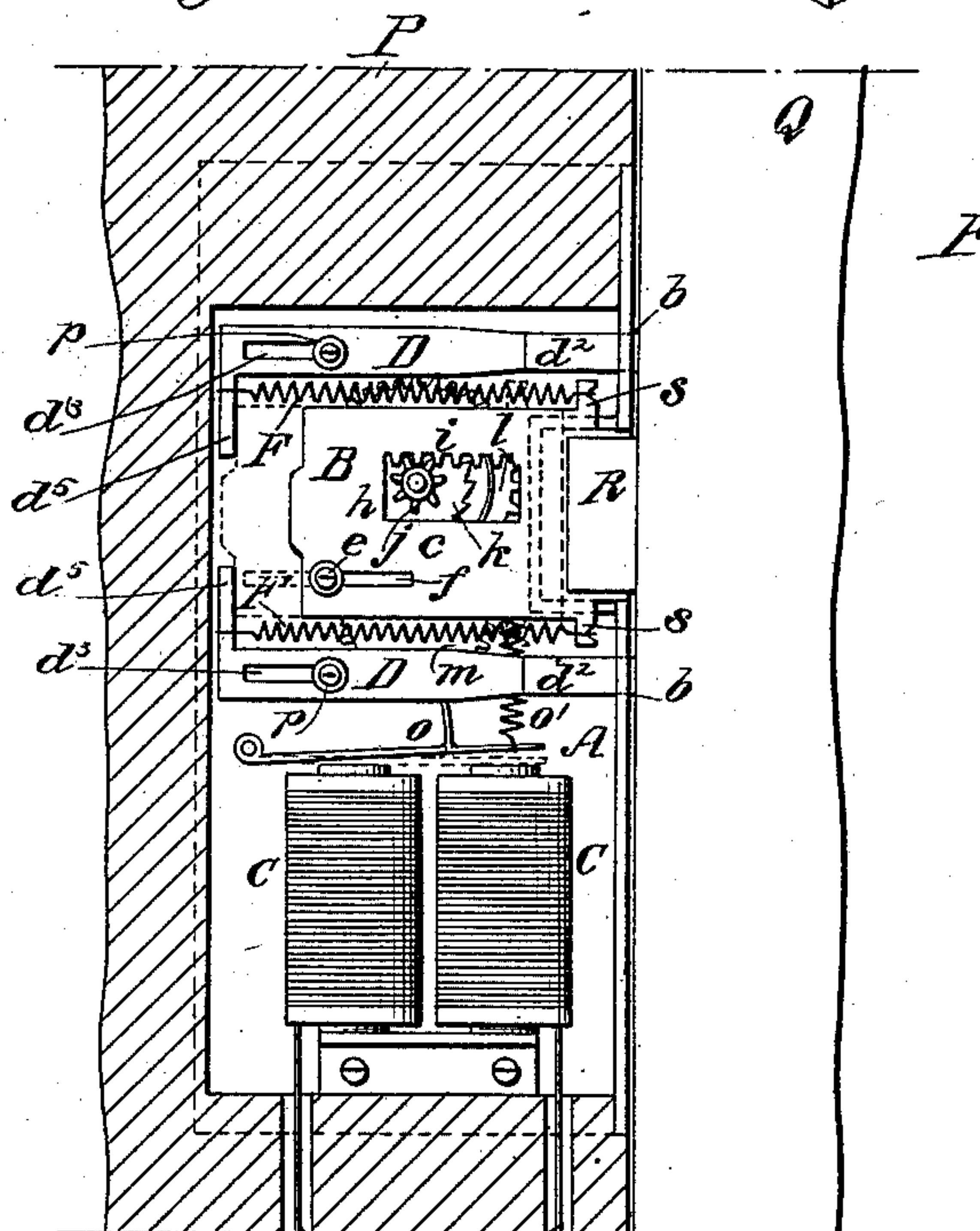


Fig. 2.



WITNESSES: G G

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Fig. 3.

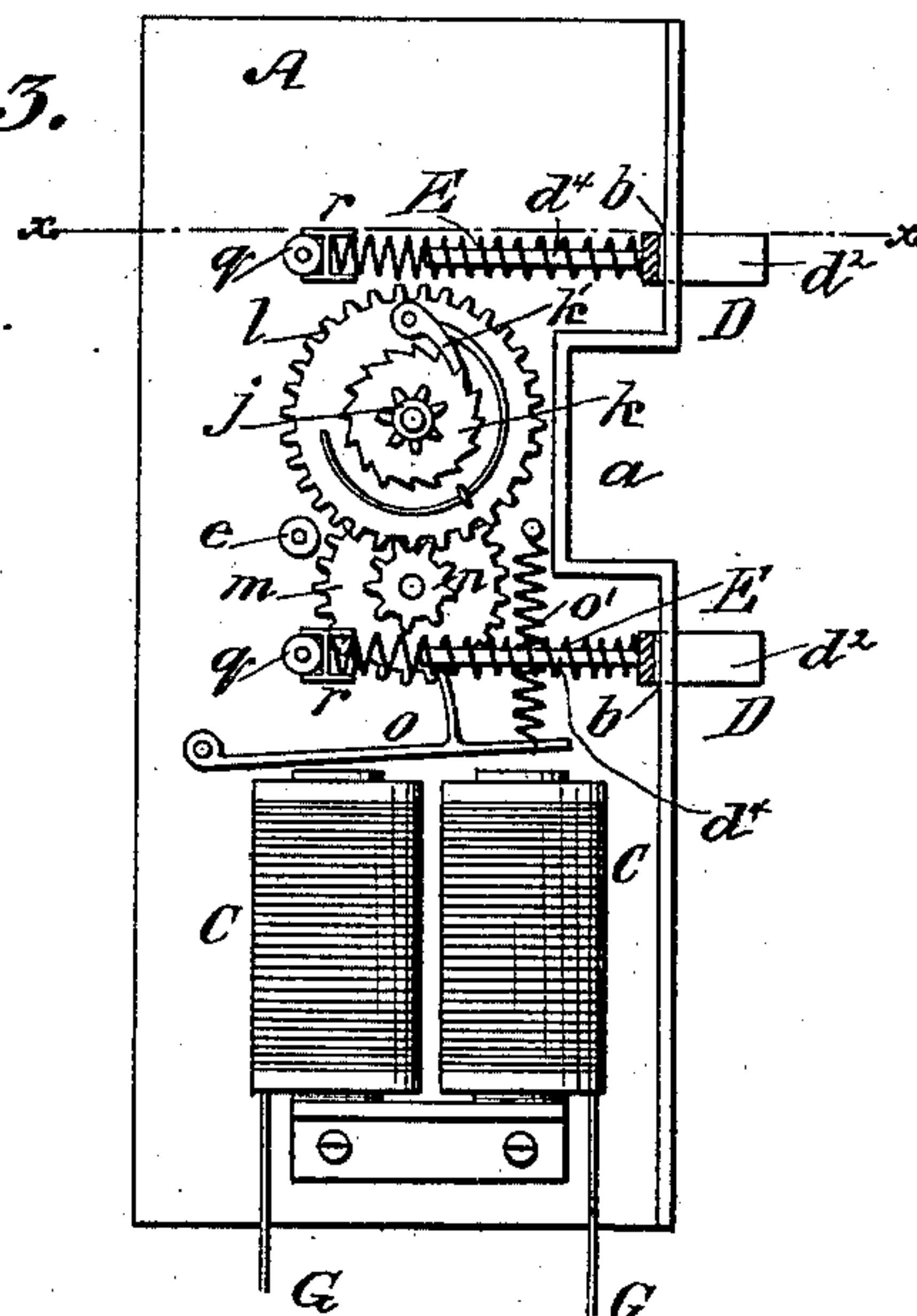
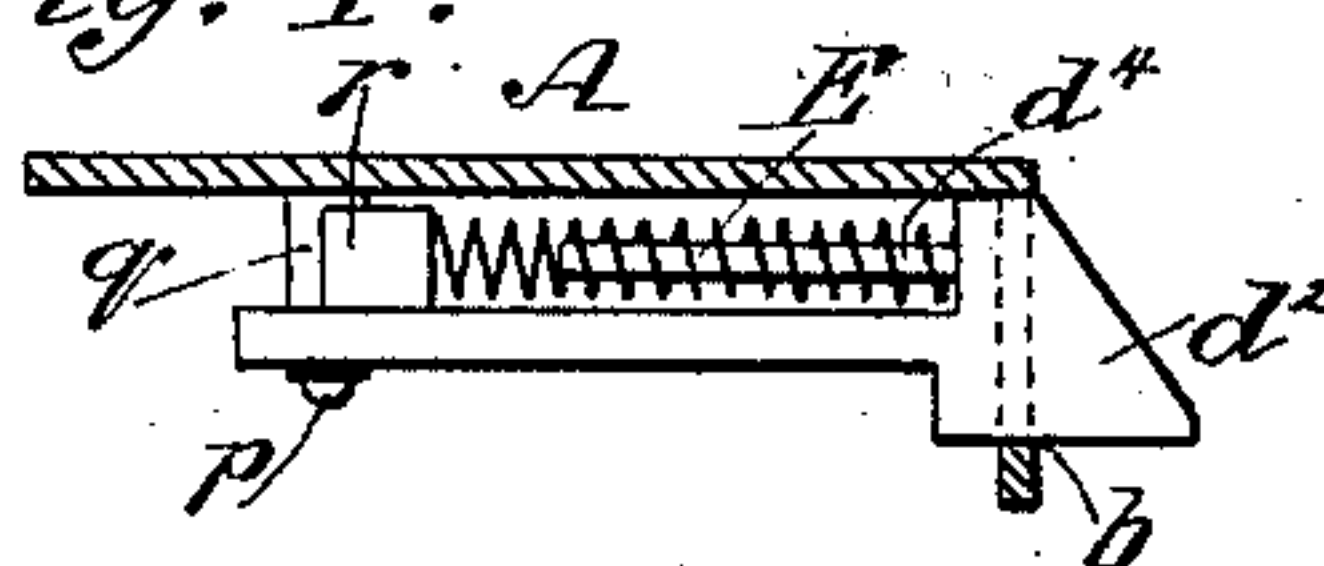


Fig. 4.



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ALBERT C. WOHRLE, OF NEW YORK, N. Y.

ELECTRIC DOOR-KEEPER.

SPECIFICATION forming part of Letters Patent No. 297,096, dated April 15, 1884.

Application filed October 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. WOHRLE, of the city, county, and State of New York, have invented a new and Improved Electric Liberating Door Holder or Keeper, of which the following is a full, clear, and exact description.

My invention relates to improvements in electric liberating door-holders for outside or vestibule doors of buildings known as "French flats;" and it consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my invention as it appears when applied to the door-post, the door being open. Fig. 2 is a section through the door-post, showing the working parts of my invention in the position they occupy when the door is closed. Fig. 3 is a rear elevation of the door plate or shell with the sliding keeper removed. Fig. 4 is a sectional plan view of the same, taken on the line *x x* of Fig. 3; and Fig. 5 is a perspective view of the sliding keeper removed from the other parts of the device.

A represents the main inclosing plate or shell, which is formed with the recess *a* and slots *b b* above and below the said recess, and is adapted to be secured to the door-post P by screws in an ordinary manner, as shown in Fig. 1.

B is the sliding keeper. This is formed with the right-angled portions *c d*, and is held in such manner in the shell A by the screw *e*, passing through slot *f*, that the portion *d* fits in the recess *a*, so that in closing the door Q the bolt R of the lock of the door will chafe against the portion *d* and drop behind the edge *g* of the keeper B, and thus hold the door closed. The portion *c* of the keeper B is also slotted, as shown at *h*, and in this slot is formed the rack *i*, which, in connection with pinion *j*, pawl and ratchet *k k'*, cog-wheels *l m*, pinion *n*, and metal pawl *o*, (which normally engages the cog-wheel *m*,) serves to lock the keeper B forward in the position shown in full lines in Figs. 1 and 2, except when the

pawl *o* is drawn downward against the tension of the spring *o'* by passing a current of electricity through the electro-magnets C C, which are secured to the inside of the shell A under the said pawl, as shown in Figs. 2 and 3.

D D are sliding bolts formed with the beveled ends *d² d²*, placed in the slots *b b*, and held at their inner ends by the screws *p p*, passing through slots *d³ d³*, made in the bolts. The bolts D D are held pressed forward by the coiled springs E E, fitted on the spindles *d⁴ d⁴* and acting against studs *q q*, into which screws *p p* pass, the rear ends of the springs being held in place by the H-shaped pieces *r r*, (shown in Figs. 3 and 4;) and the said bolts D D are connected with the sliding keeper B by the coiled springs F F, which are attached at their forward ends to the projections *s s*, formed at the edges of the said keeper B, and at their rear ends to the arms *d⁵ d⁵* of the said bolts D D, as shown clearly in Fig. 2. When the door Q is open, the bolts D D stand in the position shown in Figs. 1, 3, and 4—that is, with the beveled ends *d² d²* thereof protruding from the slots *b b*, made in the shell A; but when the door is closed the bolts D D will be forced inward by the action of the edge of the door upon the beveled portions *d² d²*, compressing the springs E E and distending the springs F F, which latter springs, when the pawl *o* is drawn downward by the magnets C C, releasing cog-wheel *m*, serve to draw the keeper B within the shell A, (to the position shown in dotted lines in Figs. 1 and 2,) carrying the edge *g* away from in front of the bolt R, thus liberating the door Q, so that it may be forced open by the action of the spring (not shown) attached to it in the ordinary manner. The door having been opened and swung out of contact with the beveled portions *d² d²* of the bolts D D, the springs E E will act to force the bolts D D outward to their original position. This movement, through arms *d⁵ d⁵*, against which the rear end of the portion *c* of the keeper B will have been drawn by the springs F F, (as shown in dotted lines in Fig. 2,) also forces the keeper B forward to its original position for locking the door when closed again as before. The pinion *j* and ratchet *k* are made integral with each other. The cog-wheel *m* and pinion *n* are also made

integral with each other. The pawl *k'* is attached to cog-wheel *l*, and this cog-wheel meshes with the pinion *n*, so that when the pawl *o* locks the cog-wheel *m*, being drawn upward by spring *o'* into contact therewith when the electric current to magnets C C ceases, said pawl *o* will, through this mechanism, also lock keeper B in its outward position, as above mentioned, so that the door Q cannot be opened, except by operating bolt R directly, by door knob or key, or by passing a current of electricity to magnets C C.

G G are the circuit-wires, which connect the magnets C C with the poles of a battery, and with buttons situated in the different stories of the building, where they may be conveniently operated for completing or breaking the circuit for operating the keeper B for opening the door.

I am aware that a sliding keeper for engaging and holding the bolt of a lock and operated by an electric magnet is not broadly new, and I therefore do not claim such invention.

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

1. The combination, with the keeper casing or shell A, provided with the recess *a*, of a sliding keeper provided with a rack-spring, pressed and sliding bolts connected to the keeper by springs, a train of gearing, one pin-

ion of which meshes with the rack of the keeper, a spring-pressed pawl, and an electro-magnet for operating the pawl, substantially as herein shown and described.

2. The combination, with the sliding keeper B, of the spring-pressed sliding beveled bolts D, the springs F, connecting the bolts and keeper together, and mechanism for locking and releasing the keeper, substantially as herein shown and described.

3. The sliding keeper B, having rack *i*, meshing with pinion *j*, in combination with pawls *k' o*, and intermediate gearing for locking the keeper B in its forward position, substantially as and for the purposes set forth.

4. The sliding bolts D, formed with arms *d'*, in combination with sliding keeper B and springs E F, arranged to operate substantially as and for the purposes set forth.

5. The liberating-keeper for doors, herein shown and described, consisting of the recessed shell A, sliding keeper B, having rack *i*, electro-magnets C, beveled bolts D, and springs E F, in combination with pawls *o k*, gear-wheels *l m n*, pinion *j*, and ratchet *k'*, all arranged to operate substantially as and for the purposes described.

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Witnesses:

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FREDERICK W. WORLEY.