

(No Model.)

3 Sheets—Sheet 1.

J. W. JOHNSTON & J. H. ROGERS.

SAFE.

No. 306,018.

Patented Sept. 30, 1884.

Fig. 1.

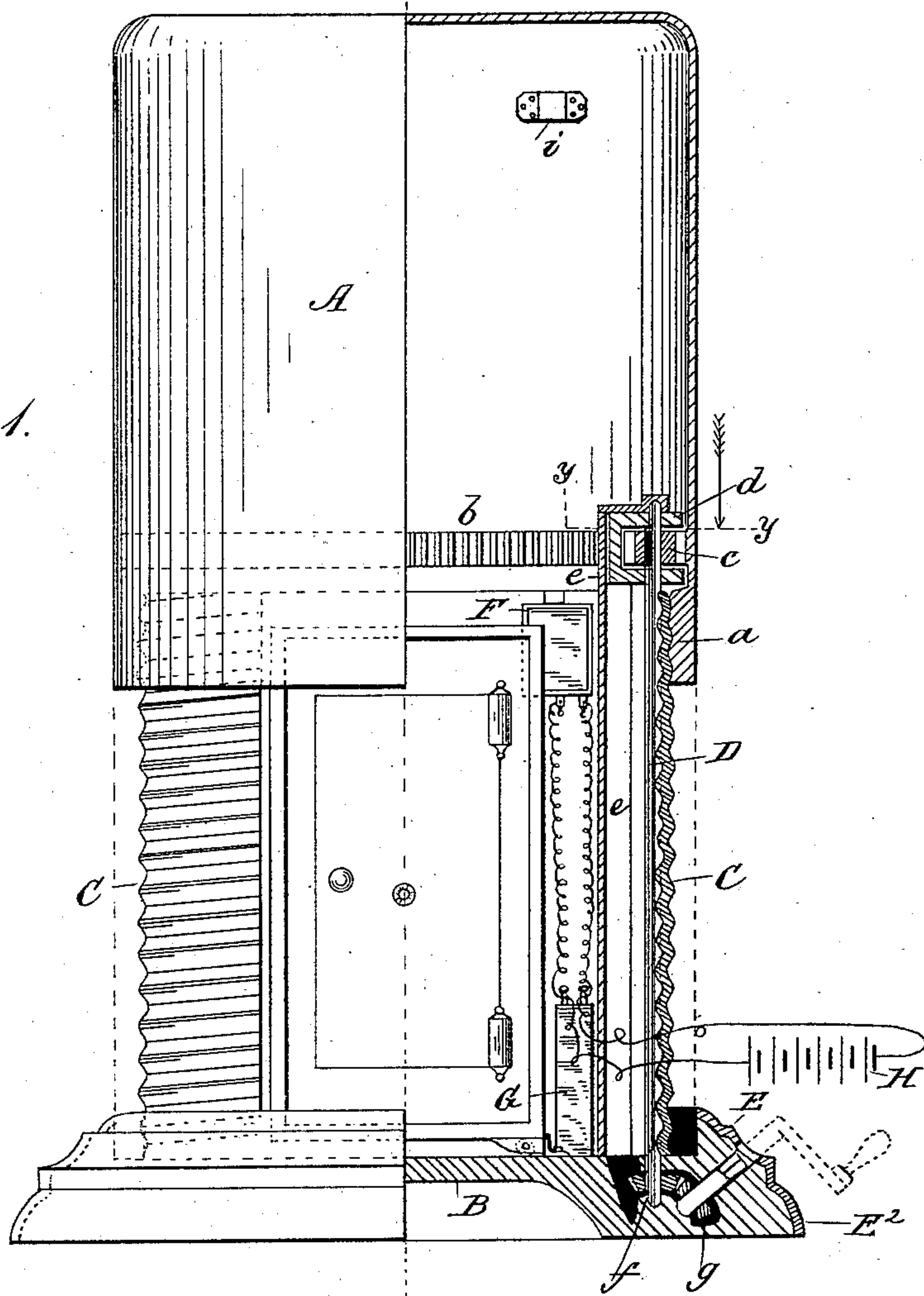
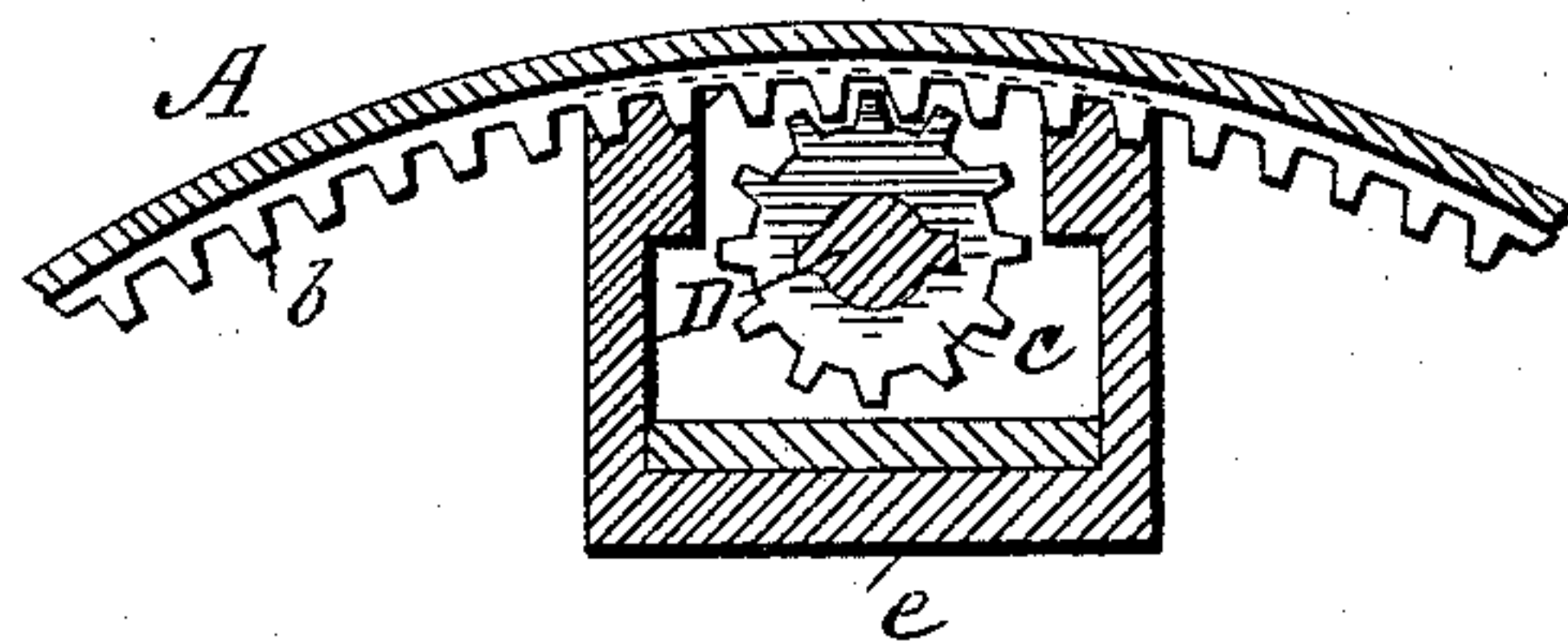


Fig. 6.



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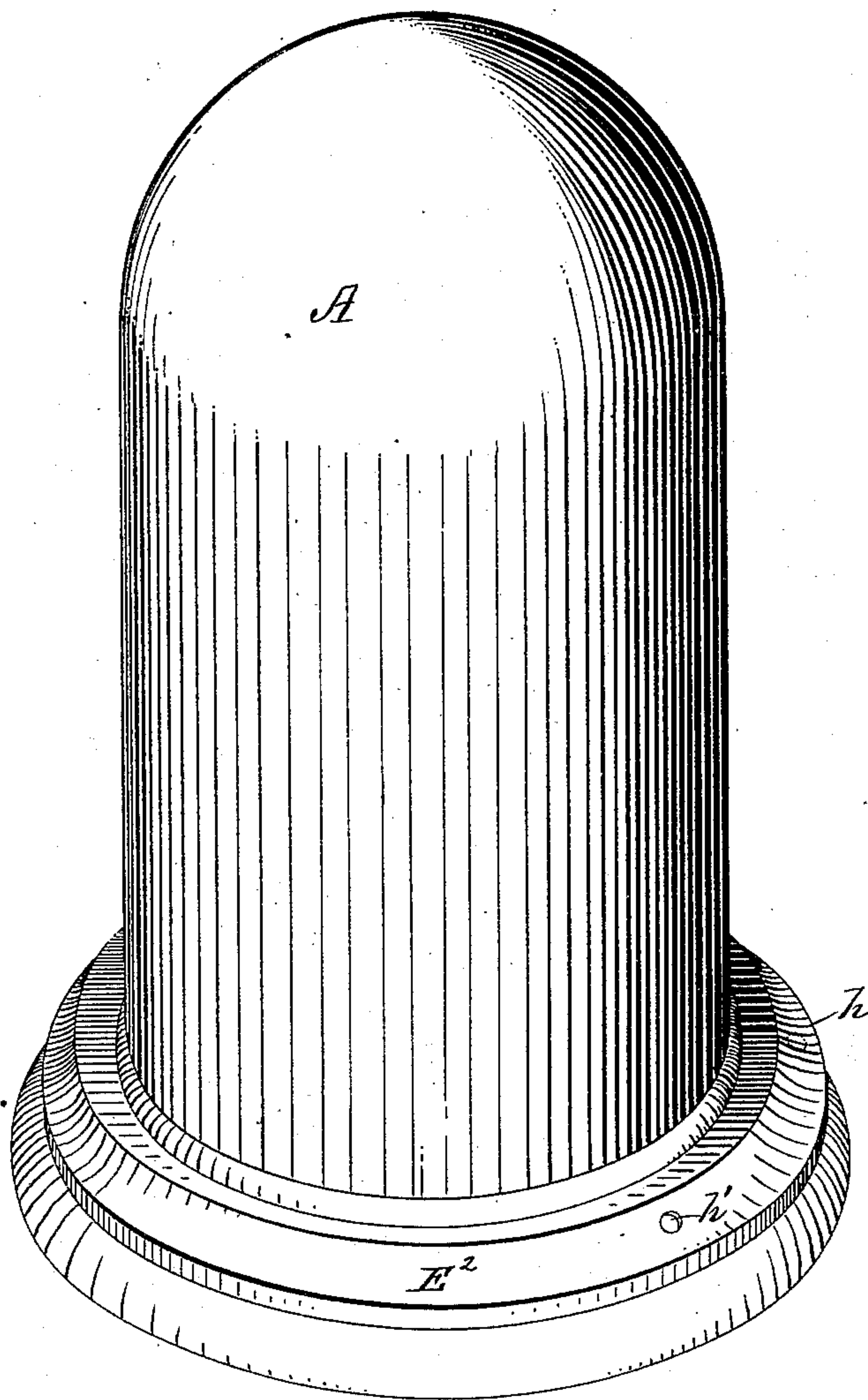
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Fig. 2.



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Fig. 3.

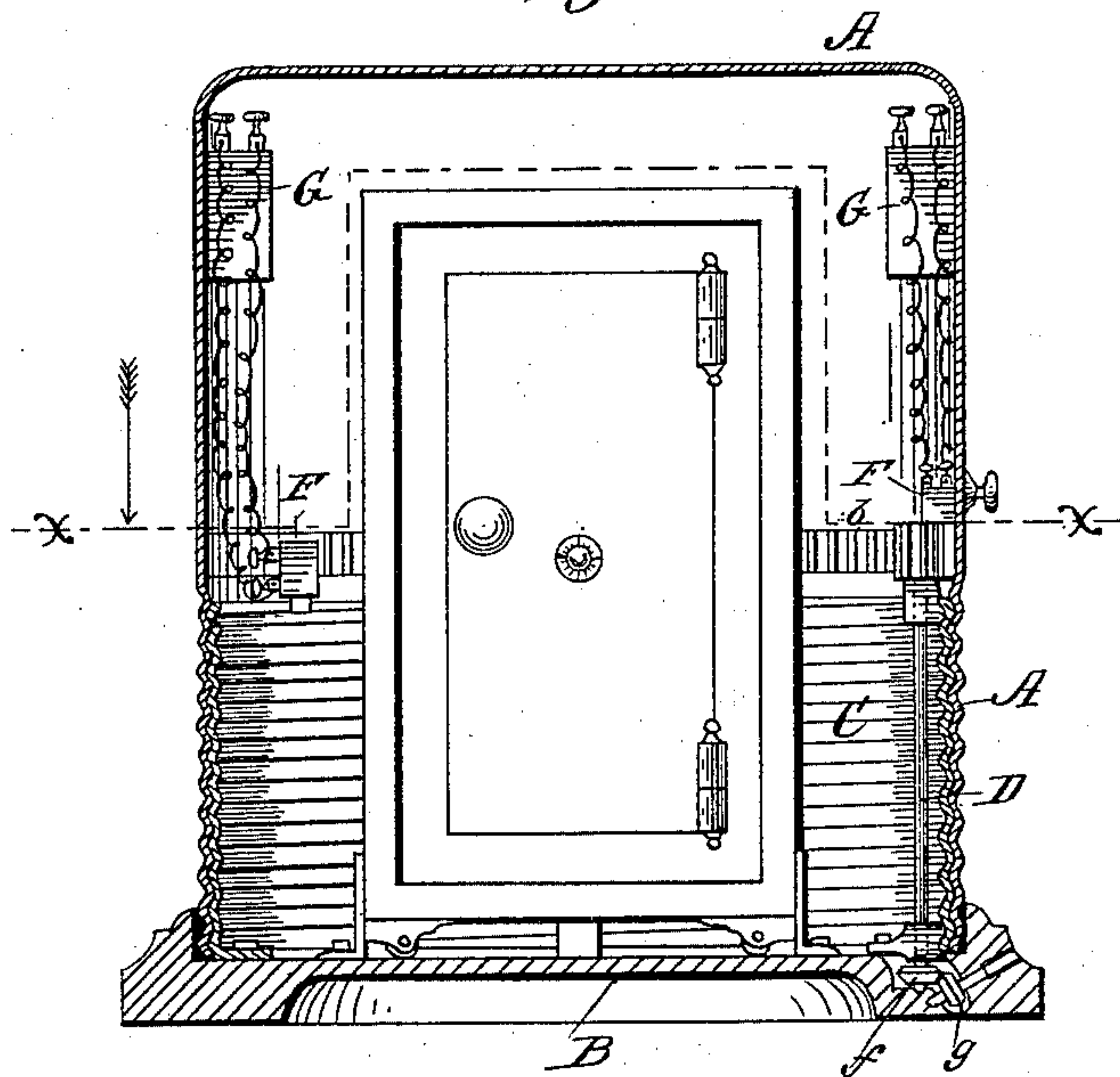


Fig. 4.

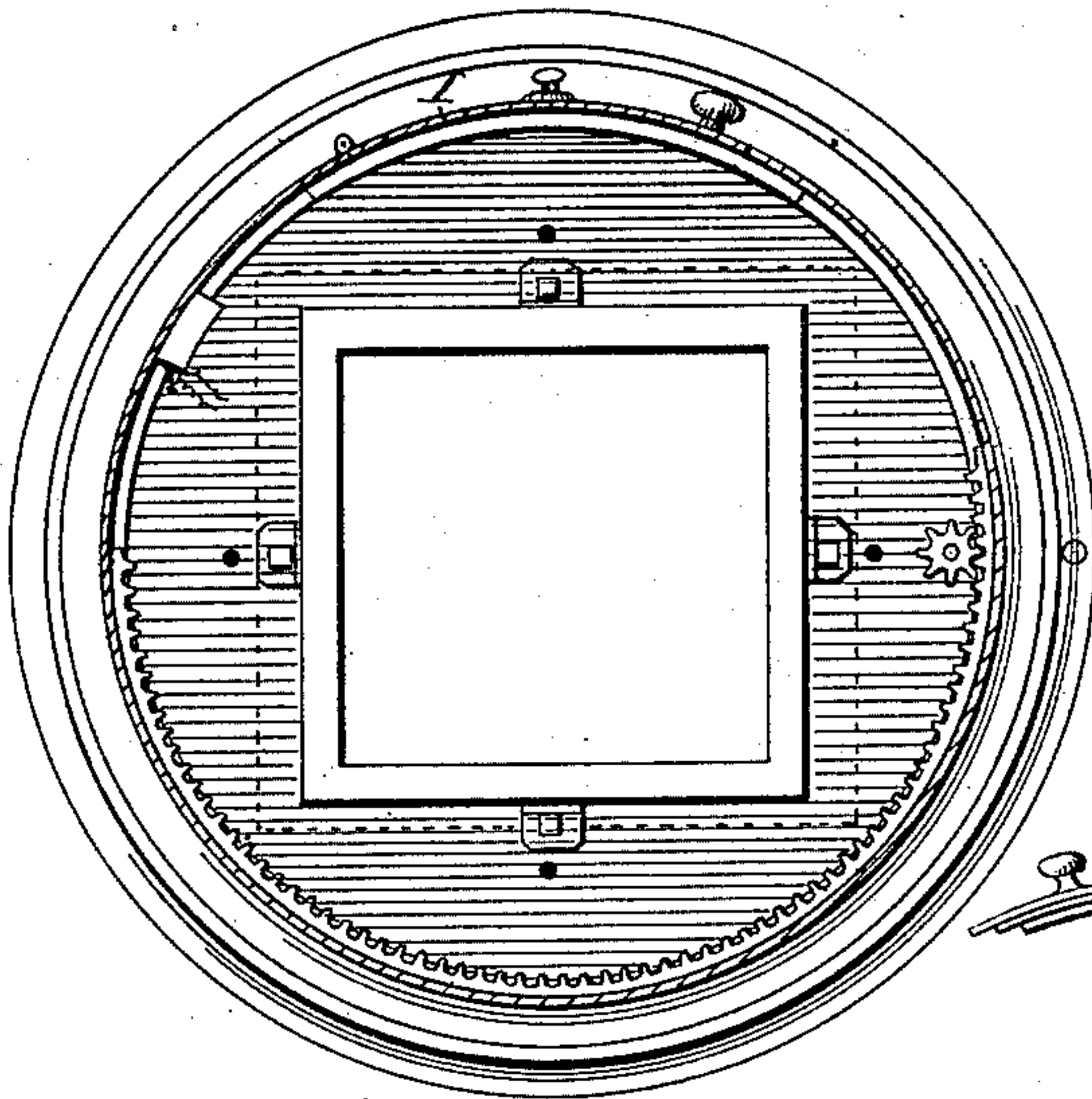
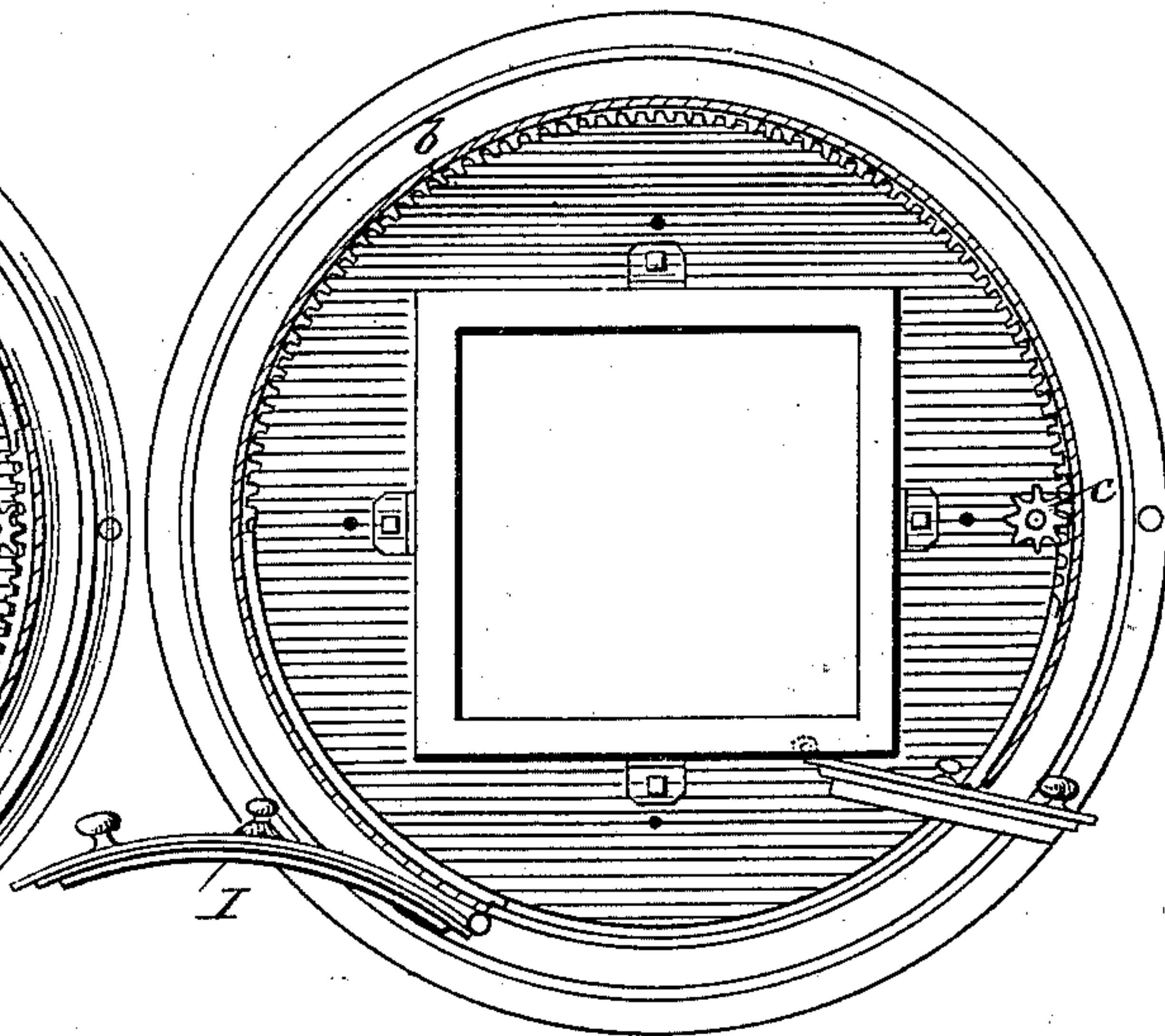


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN W. JOHNSTON, OF RICHMOND, VIRGINIA, AND J. HARRIS ROGERS, OF WASHINGTON, DISTRICT OF COLUMBIA.

SAFE.

SPECIFICATION forming part of Letters Patent No. 306,018, dated September 30, 1884.

Application filed February 18, 1884. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. JOHNSTON, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, and JAMES H. ROGERS, a citizen of the United States, residing at Washington city, District of Columbia, have invented certain new and useful Improvements in Protecting-Envelopes for Safes, of which the following is a description.

Figure 1 is a half sectional and half side elevation of our invention, showing the envelope raised. Fig. 2 is a side elevation showing the envelope down and completely inclosing the safe. Fig. 3 is a sectional elevation of a modification of the invention. Figs. 4 and 5 are horizontal sections through the line $x x$ of Fig. 3, showing two positions for the enveloping-case; and Fig. 6 is a detail view of part of the adjusting mechanism.

Our invention is designed to provide a protecting envelope of iron or steel for safes containing valuables which shall afford better protection against the attack of burglars or the influence of fire, and which may be capable of integral adjustment, to give access to the safe when desired by the proper parties.

It consists in an envelope made to cover the entire safe, and which is made wholly or partially adjustable therefrom to give access to said safe in connection with means for adjusting said envelope and an electro-magnetic locking device for precluding the movement of the envelope, except within certain intervals of time.

In the drawings, A represents our adjustable envelope, which is made of iron or steel in the form of an inverted bell-jar without door or opening, and which in this instance is made to rise vertically, so as to expose the safe as in Fig. 1, or to shut down and completely inclose the same without apparent means of access, as in Fig. 2. For giving this adjustment to the envelope a base, B, is provided for the safe, upon which is firmly erected a wall, C, of iron or steel corrugated horizontally to form screw-threads, and having an opening directly in front of the safe-door. The envelope has at its lower edge, on the inside, a screw-thread, a ,

of a size and pitch to correspond with that of the corrugated wall, and when a rotary motion is given to the envelope it is made to screw up or down on the wall C, and to expose or inclose the safe according to the direction of its movement. For rotating the envelope to give it this motion, a toothed ring, b , is fixed to the inside of the envelope, and is made to mesh with a pinion, c , sliding vertically on a feathered or squared shaft, D. (See Fig. 6.) This pinion revolves inside of a case or boxing, d , which embraces and travels up and down with the ring of teeth b , and which moves vertically in guides e , fixed to the base, and in a vertical slot in the wall C. The shaft D has at its lower end a bevel-wheel, f , that engages with another bevel-wheel, g , on short shaft E, having squared end which turns in a bearing in the base-plate. Now, when a key or crank is applied to the squared end of this shaft, as shown in dotted lines in Fig. 1, the shaft D is turned, and the pinion c at its upper end, by operating upon the teeth of the ring, turns the envelope about the wall C, and in traversing the screw-thread thereof slowly rises and exposes the safe.

In order to hide the opening h , through which the crank or key is inserted to turn the shaft, the base is made with a swiveling-ring, E^2 , which has an opening, h' , which may be turned into registration with the opening h when it is desired to insert the crank.

To prevent the safe-envelope from being moved during the interval in which the safe is out of use, an electro-magnetic lock, F, is connected with a secondary battery, G, and the bolt of this lock is arranged in relation to the magnets so as to be projected into a socket or keeper, i , when the envelope is down on the safe, as long as the secondary battery is active. Now, as the lock is rigidly connected to the side wall, C, and the keeper is on the envelope, it will be seen that as long as the magnet is charged by the battery the envelope cannot be turned around its vertical axis.

H is a diagram view of an external battery for charging the secondary battery. By regulating the charge of the secondary battery the

time of its activity may be as definitely fixed as that of a mechanical clock. When it ceases to act, a spring or gravity is made to withdraw the bolt and allow the envelope to
5 be turned.

We have not shown in detail the construction of this lock, as any well-known electro-magnetic lock can be used, and the construction of said lock forms no part of our in-
10 vention.

In Figs. 3, 4, and 5 we show a modification of our invention in which the envelope or shell is itself formed with a door, I, and the envelope, instead of rising above the safe, is
15 designed to turn horizontally only until its door is in front of the door of the safe. The screw-threaded relation of the envelope and wall C is, however, preserved to prevent the envelope from being lifted off, and the lock-
20 ing and turning devices remain the same.

In some cases we may use our envelope or case as a place of deposit for valuables without inclosing a safe within.

Having thus described our invention, what
25 we claim as new is—

1. The combination, with a base and a firmly-attached spirally-corrugated wall, C, of a rotary-adjustable and vertically-moving envelope made without door or opening, and hav-
30 ing spiral corrugations on its inner periphery

meshing with the spiral corrugations of the wall C, for raising and lowering said case, substantially as shown and described.

2. The combination, with an envelope or case for inclosing valuables, of an electro-
35 magnetic lock and a secondary battery arranged within and connected to the said lock, and adapted to hold the latter locked during its period of activity, as set forth.

3. The combination, with the base B and
40 spirally-corrugated wall C, of the envelope A, having internal spiral corrugations, and toothed ring *b*, the sliding pinion *c*, and box *d*, the shaft D, with bevel-wheel *f*, and the shaft E, with the bevel-wheel *g*, substantially
45 as and for the purpose described.

4. The combination, with a base, B, having an opening, *h*, for operating the mechanism within, of a swiveling base-ring, E², having opening *h'*, adapted, when turned, to reg-
50 ister with *h*, as and for the purpose described.

The above specification of our invention signed by us in the presence of two subscribing witnesses.

JOHN W. JOHNSTON.
J. HARRIS ROGERS.

Witnesses:

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