

(No Model.)

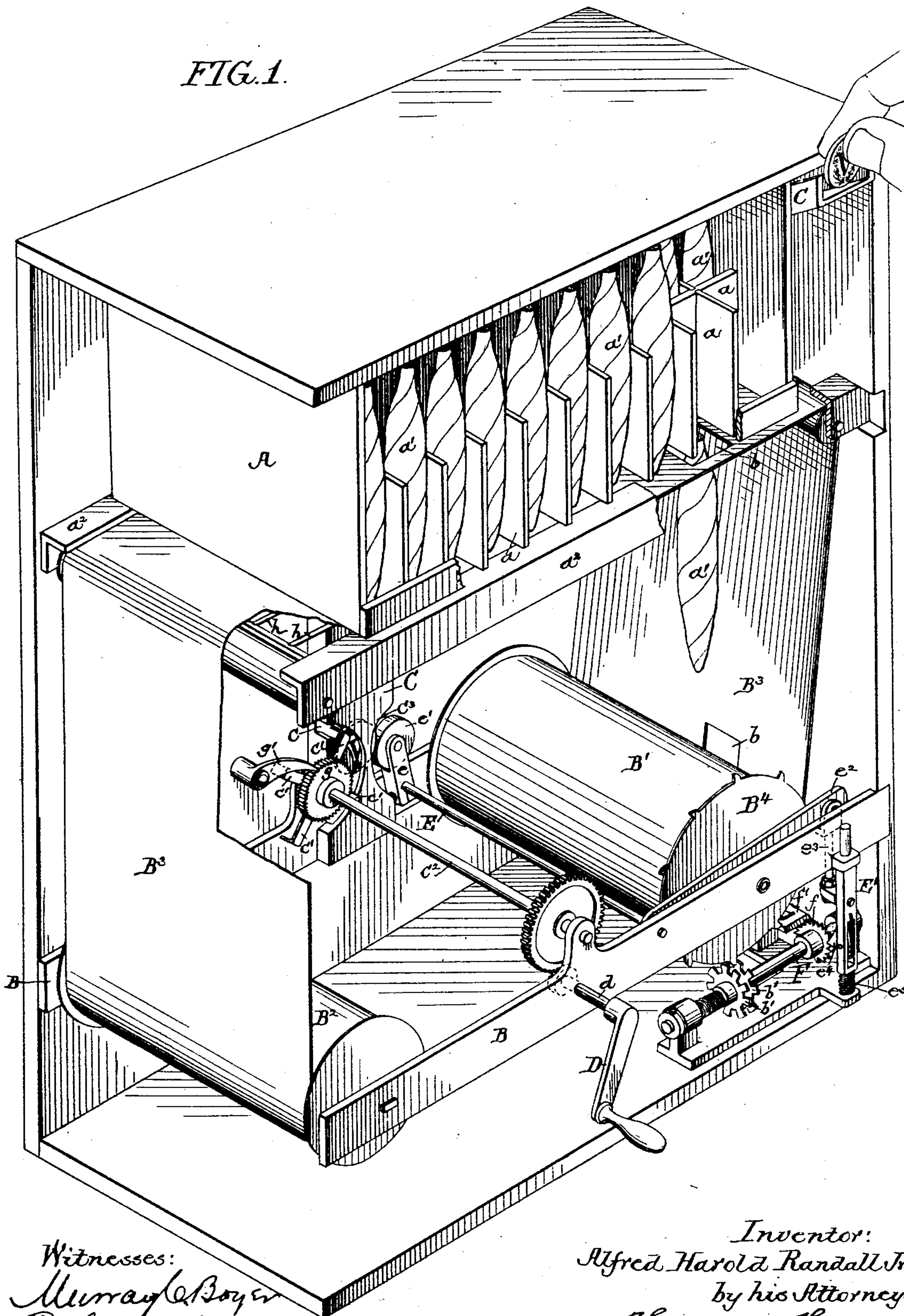
3 Sheets—Sheet 1.

A. H. RANDALL, Jr.
CIGAR VENDING MACHINE.

No. 520,243.

Patented May 22, 1894.

FIG. 1.



Witnesses:

Murray Boyer
R. Schleicher.

Inventor:
Alfred Harold Randall Jr.
by his Attorneys
Horton & Horton

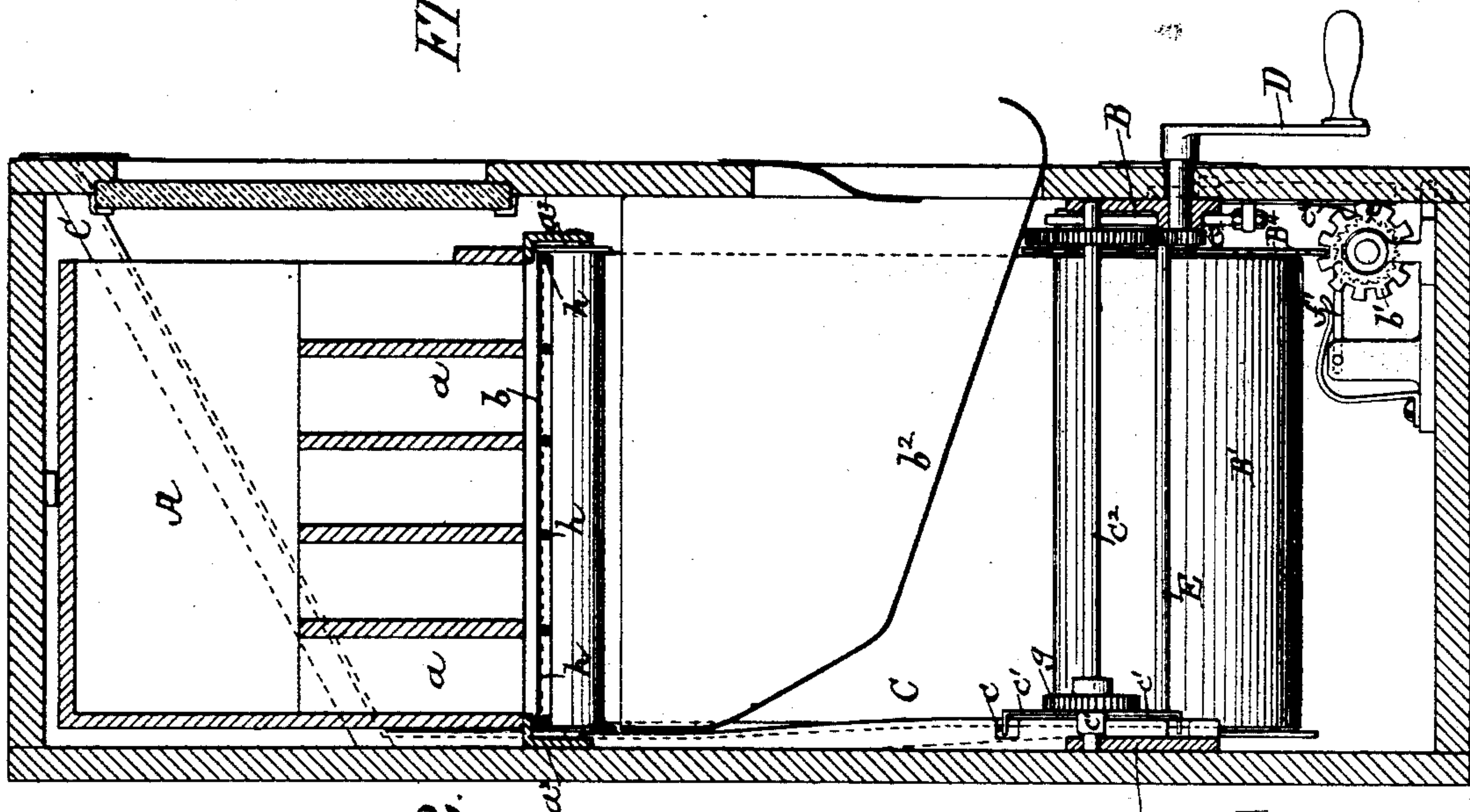
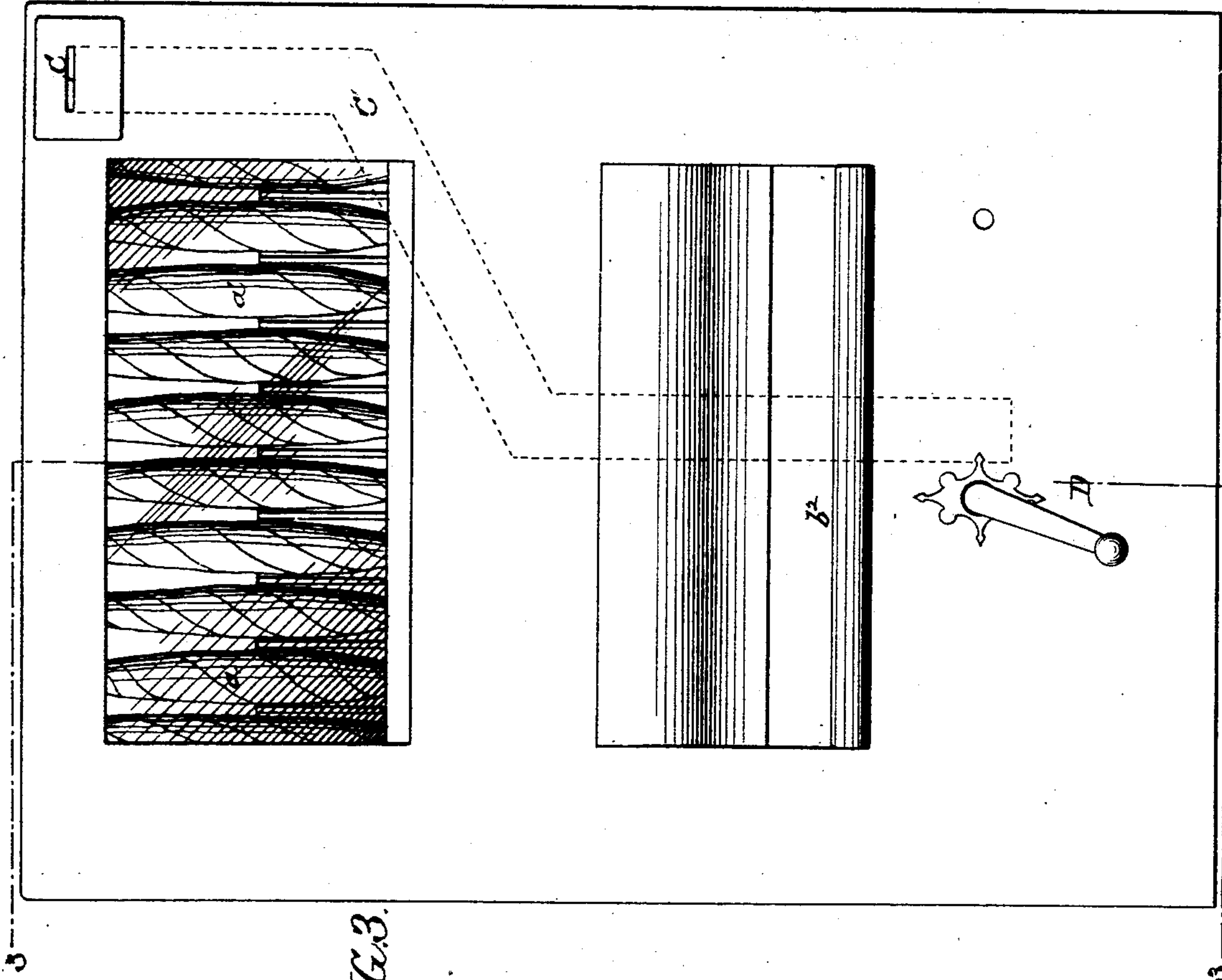
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FIG. 4.

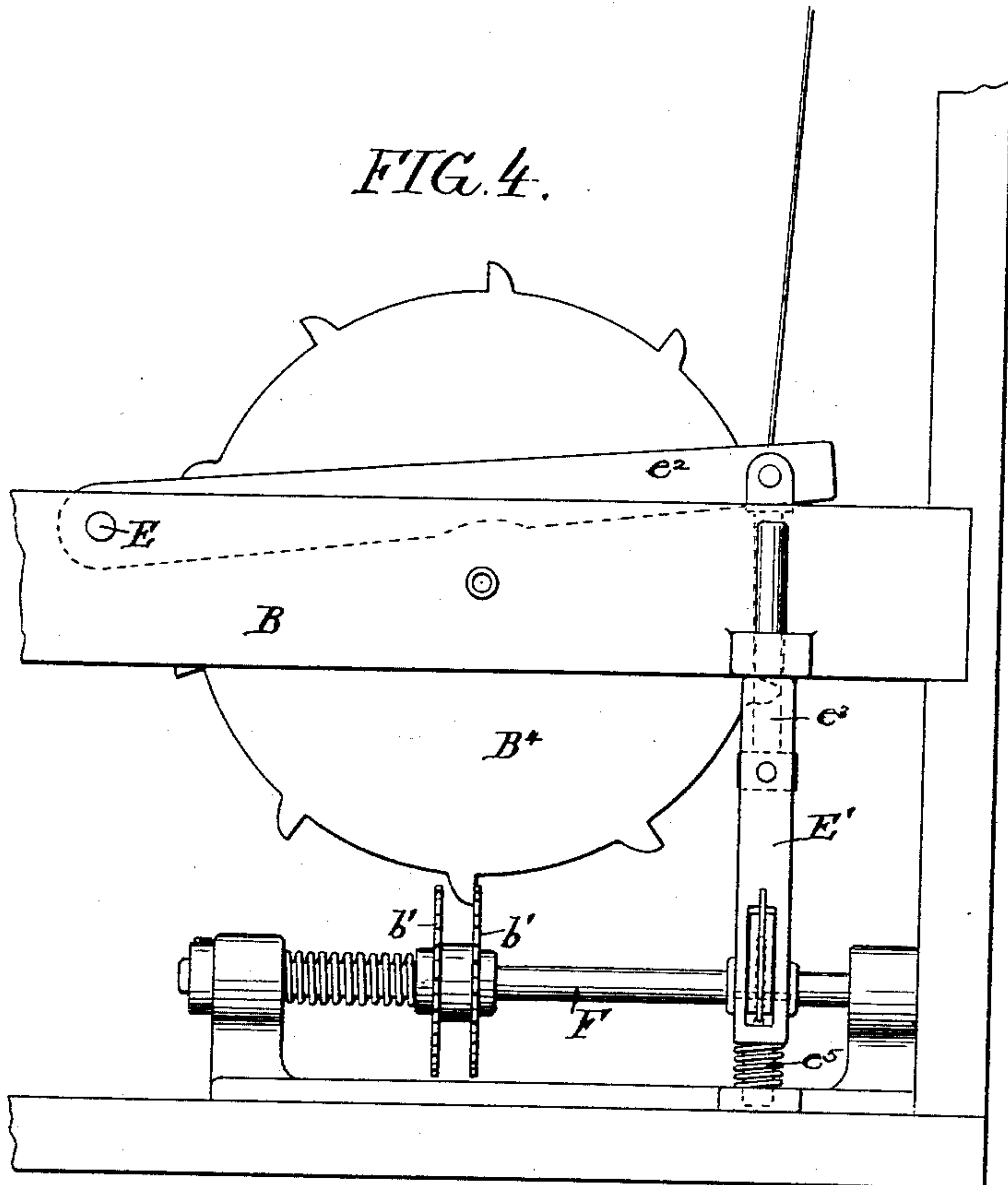


FIG. 5.

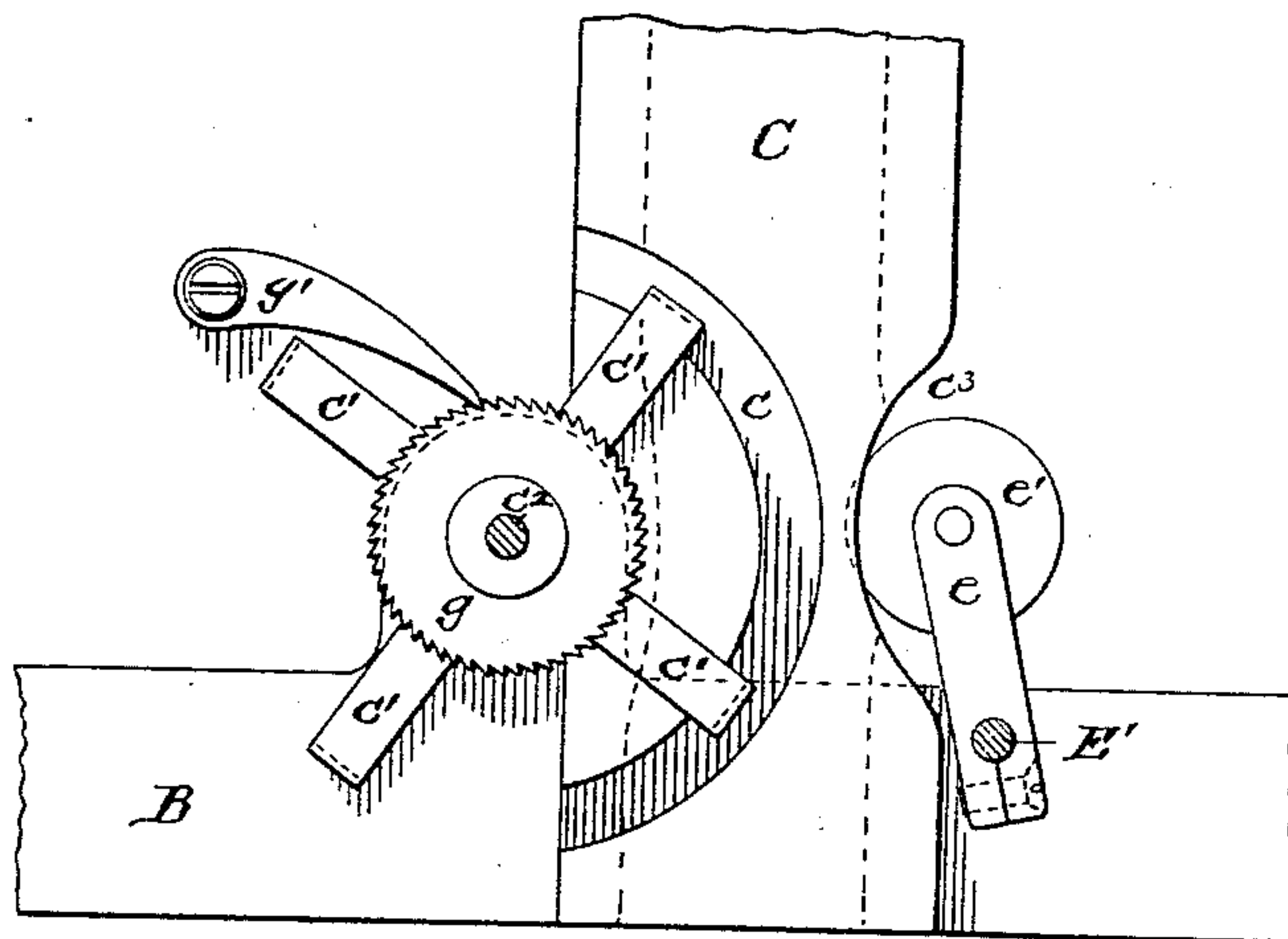
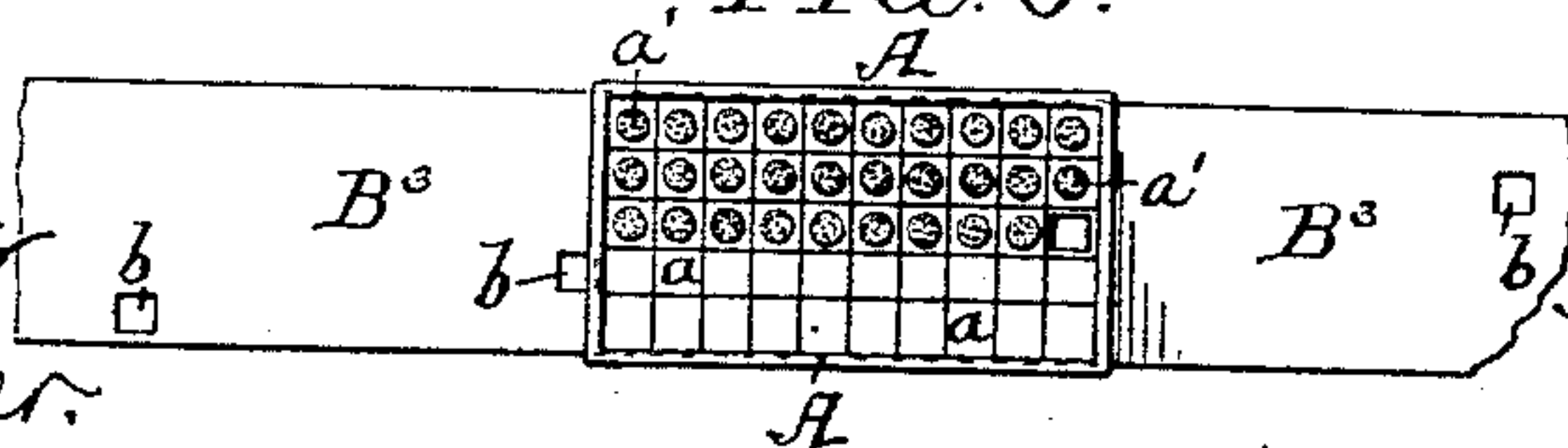


FIG. 6.



Witnesses:
Murray C. Boyer
R. Schleicher

Inventor:
Alfred Harold Randall
by his Attorneys
Howe & Howe

UNITED STATES PATENT OFFICE.

ALFRED HAROLD RANDALL, JR., OF PHILADELPHIA, PENNSYLVANIA.

CIGAR-VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 520,243, dated May 22, 1894.

Application filed August 11, 1893. Serial No. 482,940. (No model.)

To all whom it may concern:

Be it known that I, ALFRED HAROLD RANDALL, Jr., a citizen of the United States, residing in Philadelphia, Pennsylvania, have
5 invented an Improved Cigar-Vending Machine, of which the following is a specification.

My invention consists of improvements in that class of machines known as coin operated vending machines and is intended to be
10 used as a means for selling or vending cigars from the original package; it further consists of a receptacle or box for the cigars and means whereby they are withdrawn from the
15 machine one at a time by mechanism adapted to be set in motion after the insertion of a coin.

My invention is fully illustrated in the accompanying drawings, in which—

20 Figure 1, is a perspective view of the machine, with the front and one of the sides detached, and a part of the structure broken away in order to more clearly show the interior mechanism. Fig. 2, is a sectional view
25 on the line 3—3, Fig. 3. Fig. 3, is a front elevation of the machine. Figs. 4 and 5, are enlarged views of parts of the mechanism, and Fig. 6, is a diagram view of the belt.

In the selling of cigars it is required that
30 they be sold from the original package only, or in other words from the box in which they were packed, and in order to do this with my improved machine, I have constructed a cigar box having compartments, each of said com-
35 partments containing a cigar, the cigars being sold or vended in the manner hereinafter set forth.

In Fig. 1, A is the cigar box having the compartments *a* for the reception of the cigars
40 *a'*. Secured to the inner surface of the front and back of the machine are angle pieces *a''* which serve as supports for said cigar box.

The mechanism for vending the cigars is constructed as follows:—B B are bearing bars
45 which extend across the front and rear of the machine near the base and mounted in these bars are the rollers B' B² containing the belt B³. The roller B² is a spring roller similar to a spring shade roller and the roller B' is a
50 detent roller having mechanism which limits the movement of the belt, this belt having a series of perforations *b* shown clearly in the diagram Fig. 6, as well as in Fig. 1, the per-

forations being sufficiently large to allow the free passage of a cigar from the box to the
55 delivery tray. The perforations are arranged at intervals across the belt as shown in Fig. 6, so that the cigars will be discharged in rotation one at a time, the first row being dis-
60 charged first and after the last cigar has been discharged from this row the first cigar from the second row is discharged and so on until the entire box is emptied.

On the end of the roll B' is a toothed disk B⁴ which engages with notched wheels *b'*
65 mounted on the shaft F, which is suitably connected to the coin operated mechanism so that when the coin is dropped into the coin chute C and the crank D turns, the roller B' is released and is moved the distance between
70 the teeth on the disk B⁴ by the spring in the roll B² through the medium of the belt B³, this movement transfers the perforated portion *b* of the belt under a compartment in the cigar box allowing a cigar to drop there-
75 through onto the tray *b''*, where it may be removed by the person operating the machine.

C is the coin chute extending along one side and down the back of the machine to a point near the bottom of the casing as clearly shown
80 in Figs. 2 and 3. A curved path *c* is cut in the chute to let the arms *c'* secured to the shaft *c''* pass into the chute and push the coin that has been placed therein. This shaft *c''*
85 is mounted in the bearing bars B B and is geared to a shaft *d* at the front of the machine which is provided with a suitable handle D. On the shaft *c''* is a ratchet wheel *g* with which engages a pawl *g'*, this pawl preventing the shaft from being turned in the
90 reverse direction so that a coin cannot possibly be removed from the machine after once having passed the curved path *c*. The chute is cut away at *c''* directly opposite the shaft *c''* and in this cut away portion is a roller *e'*
95 which extends into the chute a sufficient distance to prevent the passage of a coin. This roller is mounted on an arm *e* of the rock shaft E having its bearings in the frame of the machine, and on the opposite end of this
100 shaft is an arm *e''* connected with a slide E' by a rod *e'''* so that when the coin is forced through the chute by one of the arms *c'* the roller *e'* is moved out of the path of the coin and consequently this motion is transmitted
105 to the vertical slide E' as shown clearly in

Figs. 1 and 4. On this slide is a pawl e^4 which engages with the ratchet wheel f on a detent shaft F so that on the movement of the roller e' by the coin the shaft will be moved a certain distance, a spring pawl f' preventing the shaft from moving in the opposite direction.

On the shaft F are two notched wheels b' the notches of one wheel being placed in line with the projections of the other and acting as an escapement movement for the roll B' , the teeth of said roll being held by these notched disks and when the shaft F is turned by the coin it allows the roll to move one tooth, feeding the belt the proper distance.

Mounted under the vertical slide E' is a spring e^5 which returns the slide and the several arms to their normal position so that a coin inserted in passing through the chute will be detained by the roller e' .

The operation of the mechanism is as follows: A coin of a denomination to be specified as the price of a cigar, which in this instance is a nickel five cent piece, is dropped into the chute and slides along and down the same to a point c where it comes in contact with the roller e' . When the coin reaches this point the handle should be turned one full revolution, turning the shaft c^2 , a quarter turn and one of the arms c' will force the coin past the roller e' giving a rocking motion to the shaft E and forcing the vertical slide E' down, its pawl engaging with the ratchet of the shaft F , consequently turning the shaft and allowing the escapement disk b' and the roller B' to turn the proper distance and as the opposite roller is a spring roller, it will draw the belt from one compartment a in the cigar box to another compartment and allow a cigar to pass through the perforation and escape into the tray b^2 to be removed by the purchaser. When the cigars of one row have been removed, a second perforation comes in line with the second row of cigars and this row will be removed one at a time and the operation carried on until the cigars contained in the box are exhausted.

In order to support the cigars and the belt, I preferably mount under the belt a wire frame h , as it will be remembered that the bottom of the box is removed when the same is inserted in the machine.

It will be understood that the arrangement of the belts may be modified, and that the belt may be moved forward by the direct connection of a crank, and that a spring may be mounted on the roller from which the belt is unwound so as to give a tension to the belt; but I prefer to use the belt construction as shown and described.

I claim as my invention—

1. The combination, in a cigar vending machine, of the coin chute having a curved path cut in the lower end of the same, a cut out portion in said chute opposite said path, a lever projecting within the cut out portion, a detent mechanism operated solely by the move-

ments of said lever, a series of arms adapted to move on said path and force the coins forward against said lever, with mechanism for moving said arms, substantially as described.

2. The combination, in a cigar vending machine, of the coin chute having a curved path in the lower end of the same, said coin chute having also a cut-out portion opposite said path, a rock shaft, a lever on the end of said rock shaft, a roller carried thereby and projecting into the cut out portion of the coin chute, detent mechanism controlled solely by the movements of the lever and rock shaft, and a series of arms moving in said curved path to force the coins through the chute against the roller, thereby forcing said roller out of the way and operating the detent mechanism, substantially as and for the purposes described.

3. The combination in a cigar vending machine, of the coin chute, bearing bars extending across the lower part of the machine, a rock shaft supported in said bearing bars, a lever on one end of said rock shaft connected to a sliding bolt, a detent shaft secured in bearings on the bottom of the machine, a ratchet wheel mounted on the same, with which said sliding bolt engages, and a pawl to prevent back movement of the ratchet wheel, substantially as described.

4. The combination in a cigar vending machine, of the belt, rollers on which said belt is wound, a detent shaft at the bottom of the machine, notched wheels mounted thereon, one of said rollers being provided with a toothed disk with which the notched wheels alternately engage, and mechanism for moving said notched wheels whereby the rolls can be moved a certain distance, substantially as described.

5. The combination in a cigar vending machine, of the belt, rollers on which said belt is wound, one of said rollers being provided with a spring, and the other roller having a toothed disk, a detent shaft, a ratchet wheel and a pair of notched wheels on said shaft, a slide, a pawl thereon adapted to engage with said ratchet wheel, and mechanism for operating the slide, substantially as described.

6. The combination in a cigar vending machine, of the coin chute having a cut out portion at its base, a rock shaft, bearings therefor, levers secured to the ends of said rock shaft one lever extending into the cut out portion of the chute, a slide connected to the other lever, a detent shaft, a ratchet wheel mounted on said detent shaft, a pawl on the slide engaging with the ratchet wheel, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED HAROLD RANDALL, JR.

Witnesses:

WILLIAM A. BARR,
JOSEPH H. KLEIN.