

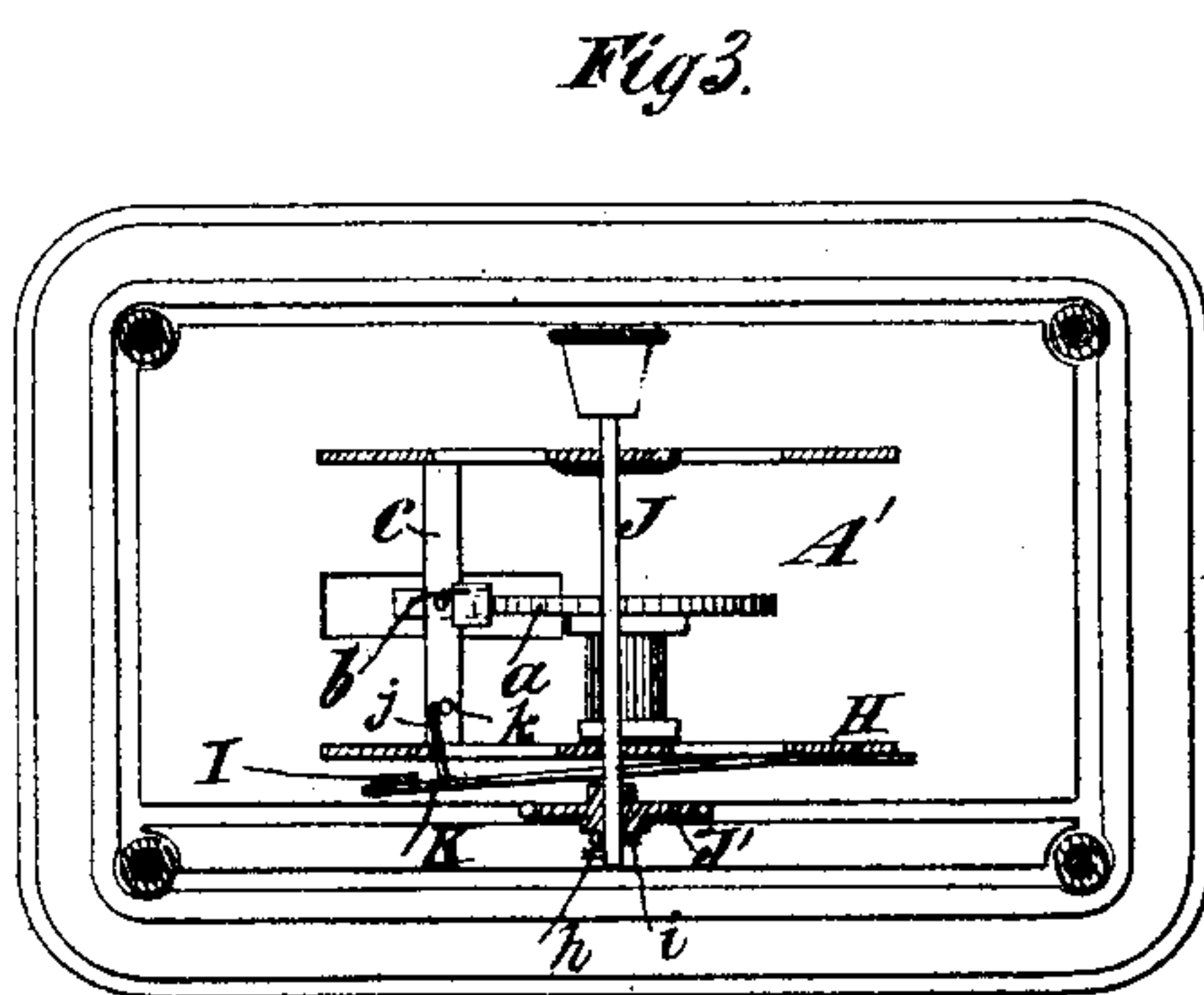
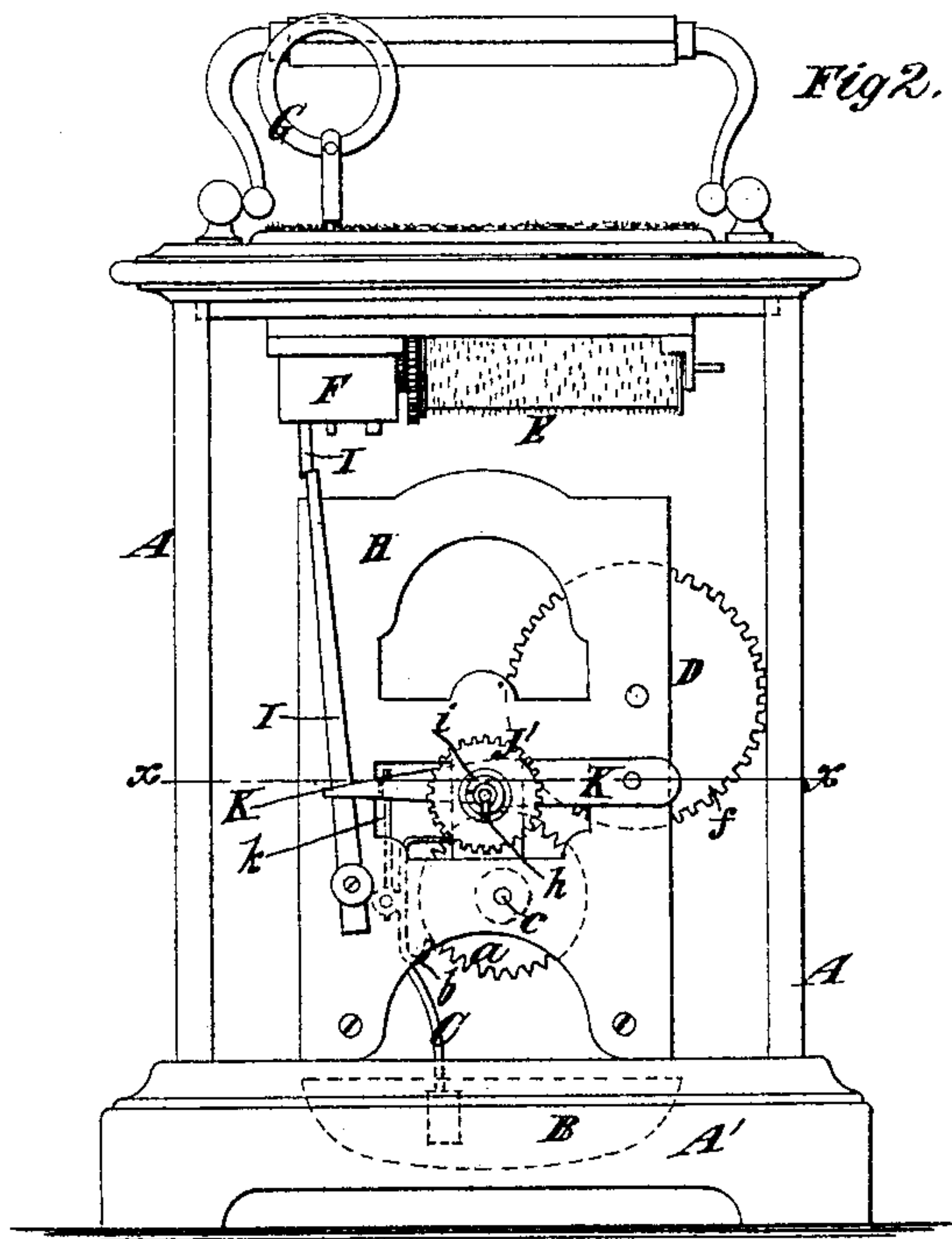
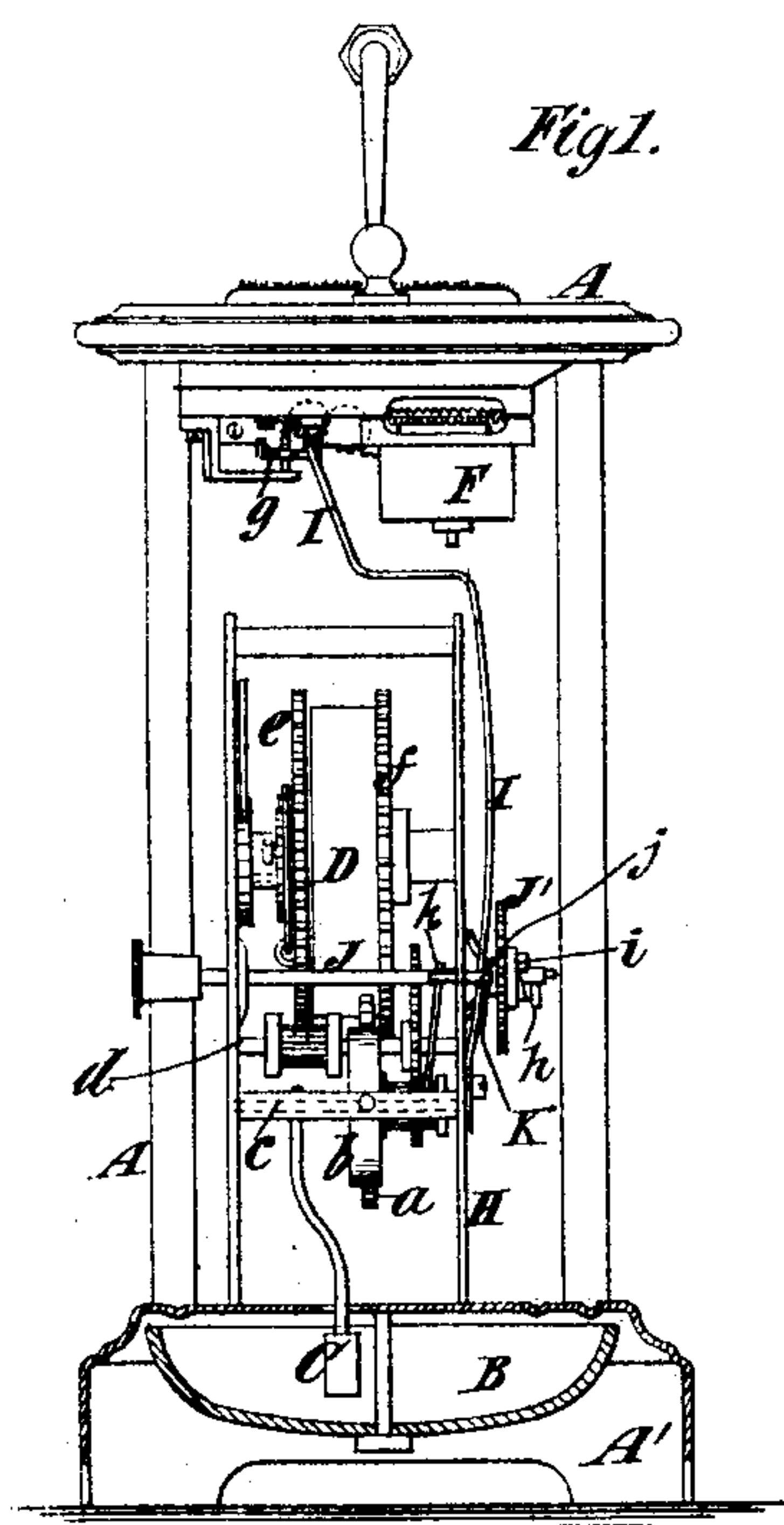
(No Model.)

H. J. DAVIES.

ALARM CLOCK.

No. 270,400.

Patented Jan. 9, 1883.



Witnesses:

Geo. Wagner
Ed. L. Moore

Inventor:

Henry J. Davies
by his Attorneys
Rowntree & Rowntree

UNITED STATES PATENT OFFICE.

HENRY J. DAVIES, OF BROOKLYN, NEW YORK.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 270,400, dated January 9, 1883.

Application filed June 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. DAVIES, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Alarm-Clocks, of which the following is a specification.

The object of my invention is to provide in an alarm-clock for playing a tune or tunes immediately after sounding of an ordinary alarm.

The invention consists in the combination, in a clock, of a bell-alarm and a tune-playing device, a spring for actuating the alarm and a spring for actuating the tune-playing device, devices for dogging or locking the train which operates the alarm and that which operates the tune-playing device to prevent their operation, and a trip or trips adjustable to time, adapted to be operated by the time-movement, and serving at any desired predetermined time to release the alarm and the tune playing device. The alarm-bell may be located in the base of the clock, as is common, and the tune-playing or musical device may be attached to the inner side of the top of the case, or otherwise arranged, as may be desirable.

The invention also consists in various details of construction and combinations of parts hereinafter described.

In the accompanying drawings, Figure 1 represents a partly-sectional elevation of a clock embodying my invention. Fig. 2 represents a front elevation thereof; and Fig. 3 represents a horizontal section on the dotted line *x x*, Fig. 2.

Similar letters of reference designate corresponding parts in all the figures.

A designates the case, which may be of any construction, only such parts thereof being shown as are necessary to illustrate my invention.

B designates an alarm-bell arranged in the hollow base A' of the case A, and C designates the hammer, which is operated by an escape-wheel, *a*, and anchor *b*, the said bell-hammer being carried by the spindle or arbor *c* of the anchor *b*. The escape-wheel *a* is operated, through an intermediate spindle or arbor, *d*, and suitable wheels, from a wheel, *e*, on one side of a spring-barrel, D, and all together form an alarm-train. The spring which is arranged

within the barrel D operates at one end upon the wheel *e* to move the alarm-train and at the other end upon a wheel, *f*, which operates the time-train. (Not here shown.) This spring is of the kind shown and described in Letters Patent of the United States No. 188,865, granted to Henry J. Davies and Walter D. Davies on March 27, 1877, and no further description thereof is necessary.

In lieu of the alarm-train and time-train being actuated by the same spring, they might be actuated by different springs or by weights.

Upon the under side of the top of the case A is secured a tune-playing or musical device, which, as here represented, consists of the ordinary musical-box movement. E designates the pegged barrel, which acts upon a series of spring-tongues. F designates the spring-barrel, containing a spring which may be wound by a key, G, inserted through the top of the case, and *g* designates the fly of the movement.

The musical device may be arranged otherwise than as here shown.

To the front plate, H, of the clock-movement I attach a spring-arm, I, the end of which is so formed that it is adapted to engage with the fly *g* of the musical device, and thereby stop or dog the same. The natural tendency of this arm I is to spring away from the plate H, and thus move its end out of engagement with said fly.

J designates the setting-spindle, and J' designates a wheel mounted thereon, and adapted to be operated by the time-train of the clock.

Upon the setting-spindle J is a pin, *h*, and the hub *i* of the wheel J' is constructed so as to form a cam which bears upon said pin.

Behind the wheel J' is a lever, K, which is made of spring metal, or is actuated by a spring, so as to give it a constant outward tendency away from the plate H, and said lever, in connection with the cam *i* and pin *h*, forms a well-known kind of trip. The lever K carries a pin or arm, *j*, which engages with an arm, *k*, projecting from the spindle or arbor *c* of the escapement-anchor *b*, and said lever also bears upon the arm I. Consequently it will be understood that so long as the wheel J' is held inward by the cam *i* and pin *h* the alarm-escapement cannot operate and the arm

I will be held in engagement with the musical device; but as soon as the trip liberates the lever K the alarm will sound and the musical device will play, and the musical box will continue playing long after the alarm has done sounding. Instead of employing the trip here shown, some other form of trip adjustable to time might be used.

Obviously the portion of the tune which is played during the sounding of the alarm will not be heard if the musical device commences playing simultaneously with the sounding of the alarm, and to prevent this I may construct the trip so as to first release the alarm, and afterward, and as soon as the alarm has done sounding, to release the musical device. This may be accomplished by making the cam *i* larger and forming it with two steps, the first of which, when it passes the pin *h*, allows the lever K to move out sufficiently to carry the arm *j* out of reach of the arm *k*, and thus permit the sounding of the alarm, and the second of which, when it passes the said pin *h*, allows the lever to move out still farther to release the arm I and permit it to move out of the way of the fly *g* of the musical device. If the cam *i* were thus formed, the pin *h* should have a knife-edge, so as to make the time between the sounding of the alarm and the playing of the musical device as short as is desirable. The same result might, however, be attained in other ways than by the peculiar form of the cam.

All that is necessary to add my invention to a clock of common construction is to attach the musical device to the top or other part of

the case and the spring-arm I to the plate of the movement.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a clock, of a bell-alarm and a spring for actuating it, a tune-playing device and an independent spring for actuating it, stops for dogging or locking both the alarm-train and the tune-playing device to prevent their operation, and a trip or trips adjustable to time and adapted to be operated by the time-movement of the clock to release both said alarm-train and tune-playing device, substantially as described.

2. The combination, in a clock, of an alarm-train and a tune-playing device, means for actuating them, stops for dogging or locking both said alarm-train and tune-playing device to prevent their operation, the spring-actuated lever K, controlling both of said stops, and the setting-spindle J, wheel J', cam *i*, and pin *h*, substantially as described.

3. The combination, in a clock, of an alarm-train comprising the escape-wheel *a*, anchor *b*, spindle or arbor *c*, and arm *k*, a tune-playing device, driving mechanism for actuating said alarm-train and tune-playing device, the spring-arm I, forming a stop for the tune-playing device, the spring-actuated lever K, having the arm *j*, the setting-spindle J, wheel J', cam *i*, and pin *h*, substantially as described.

HENRY J. DAVIES.

Witnesses:

E. J. BRAUNSDORF,
S. SCHWEEZER.