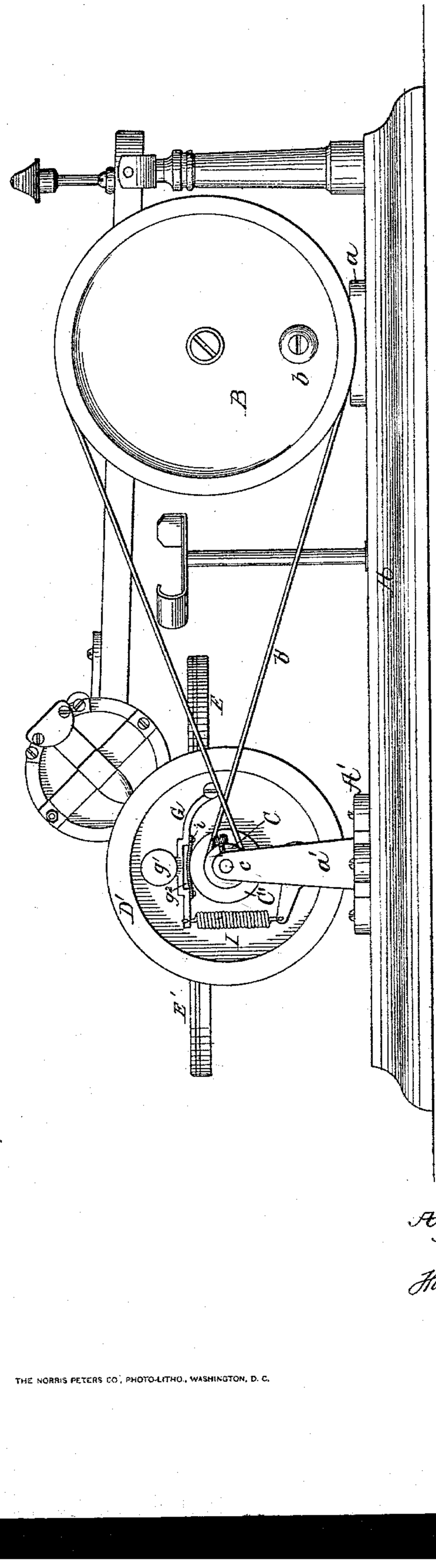
(No Model.) 3 Sheets—Sheet 1.

A. C. CLARK.

GRAMOPHONE.

No. 597,875. Patented Jan. 25, 1898.

FIG. 1.



Witnesses:
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Murray C. Boyer

Inventor:
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(No Model.) 3 Sheets—Sheet 2.

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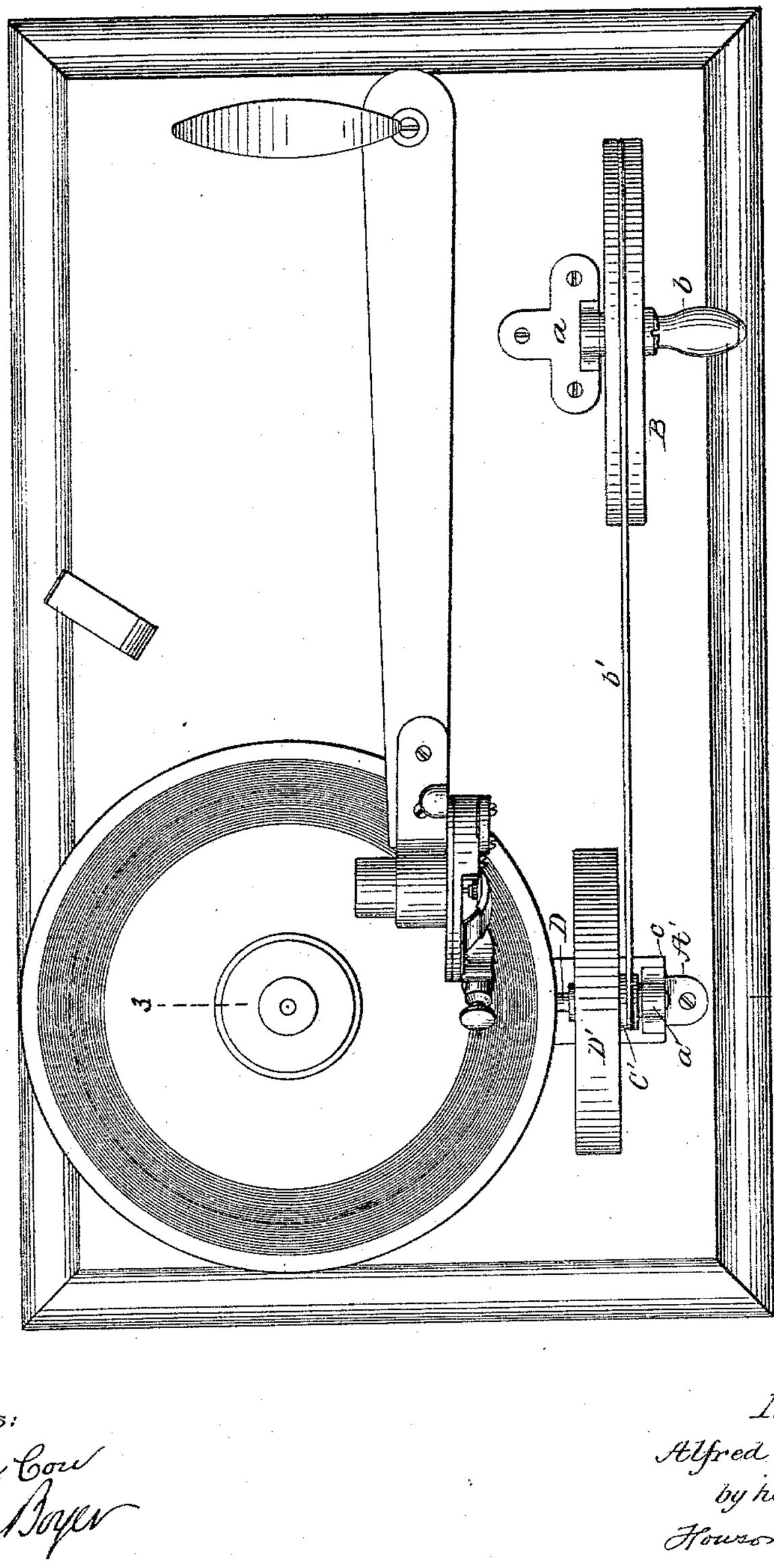
GRAMOPHONE.

No. 597,875. Patented Jan. 25, 1898.

FIG. 2.



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(No Model.) 3 Sheets—Sheet 3.

A. C. CLARK.

GRAMOPHONE.

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FIG. 4.

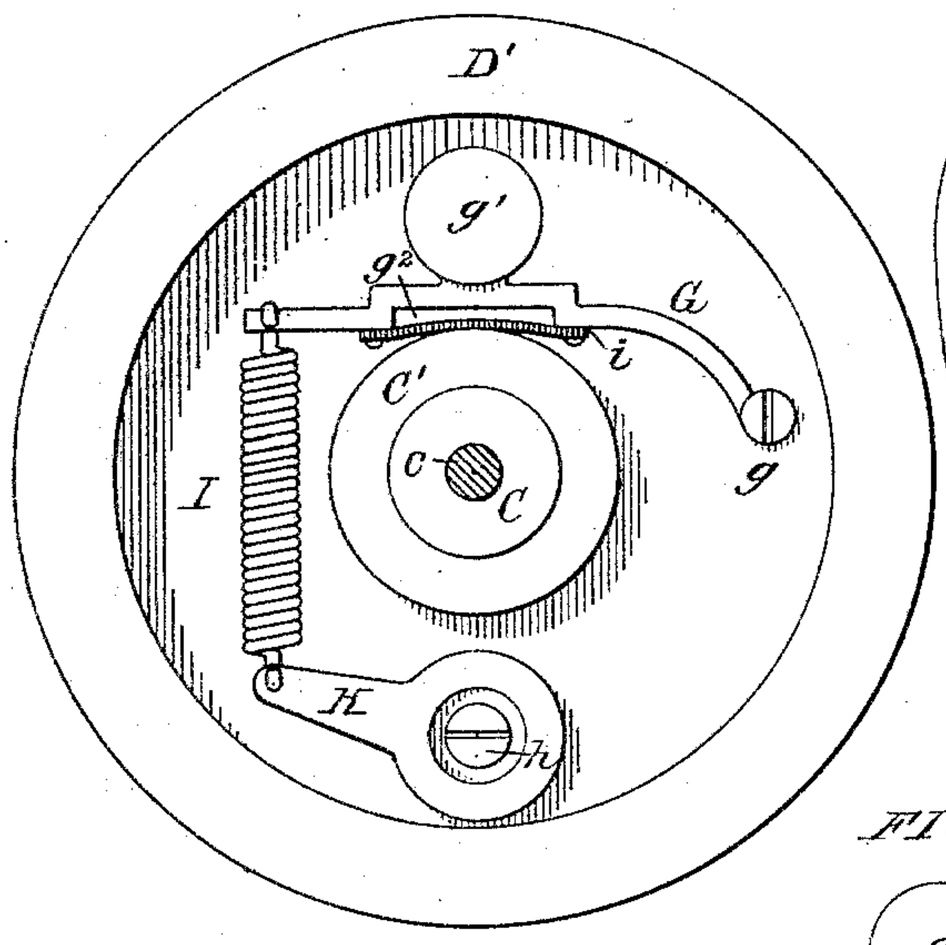


FIG. 5.

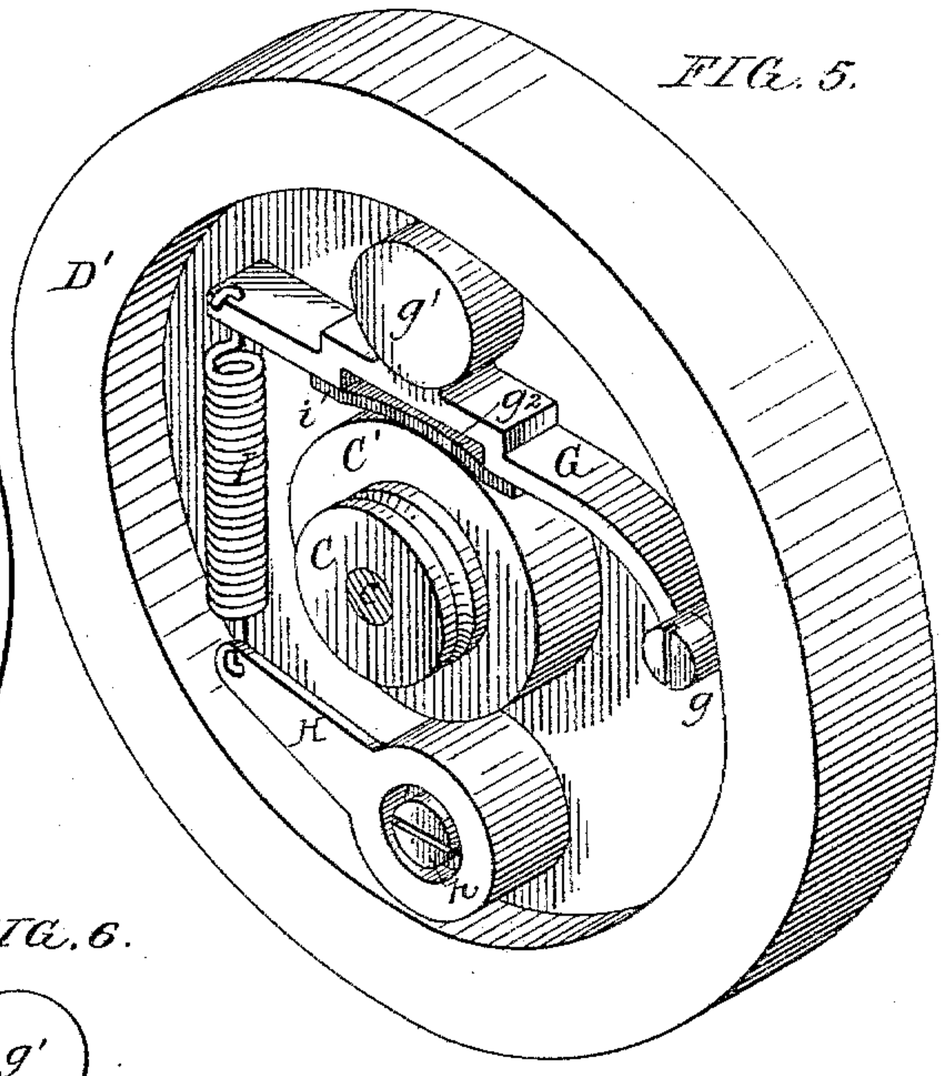


FIG. 6.

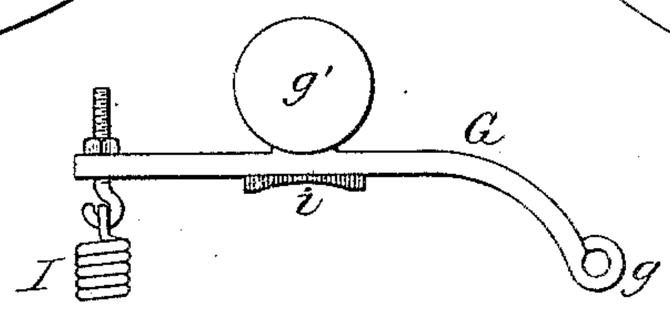
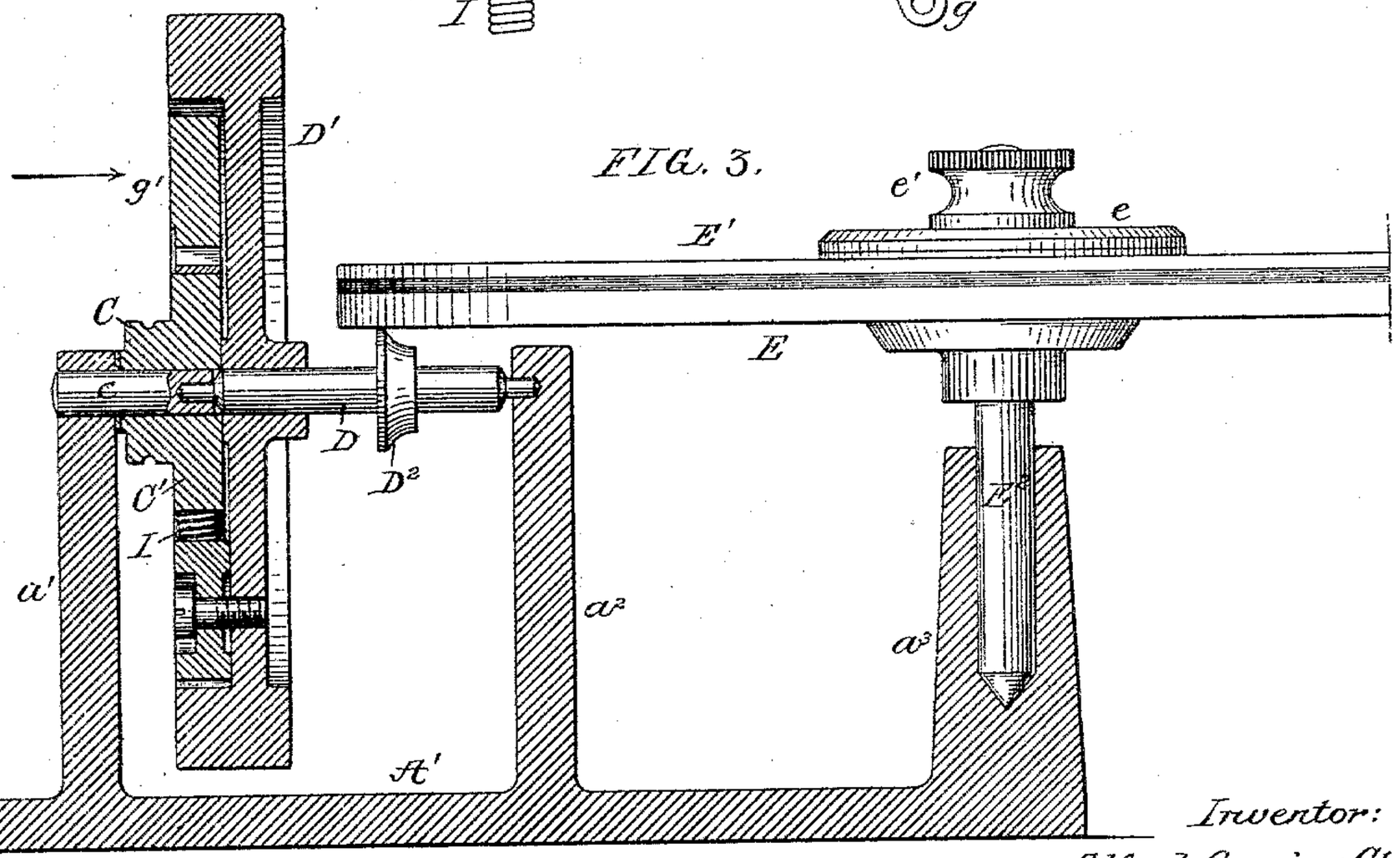


FIG. 3.



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UNITED STATES PATENT OFFICE.

ALFRED CORNING CLARK, OF NEW YORK, N. Y., ASSIGNOR TO THE UNITED STATES GRAMOPHONE COMPANY, OF WASHINGTON, DISTRICT OF COLUMBIA.

GRAMOPHONE.

SPECIFICATION forming part of Letters Patent No. 597,875, dated January 25, 1898.

Application filed December 4, 1896. Serial No. 614,487. (No model.)

To all whom it may concern:

Be it known that I, ALFRED CORNING CLARK, a citizen of the United States, and a resident of New York city, New York, have invented certain Improvements in Gramophones, of which the following is a specification.

The object of my invention is to regulate the speed of the record-tablet of a gramophone in such a manner that uneven turning of the driving mechanism will not affect the tablet, so that the instrument will reproduce in an even tone the sounds recorded on the tablet. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of a gramophone, illustrating my invention. Fig. 2 is a plan view. Fig. 3 is a sectional view on the line 3 3, Fig. 2. Fig. 4 is a view of the fly-wheel, looking in the direction of the arrow, Fig. 3. Fig. 5 is a perspective view of the fly-wheel, and Fig. 6 is a view of a modification of the brake.

My invention is shown in connection with a gramophone for which Letters Patent were granted to Emile Berliner on February 19, 1895, No. 534,543.

A is the base of the machine, on which is mounted the bearing *a* for the driving-wheel B, which has a crank-handle *b* to be grasped by the operator. This driving-wheel is grooved for the reception of a driving-band *b'*, which passes around a small grooved pulley C, having a friction-disk C'. This pulley is mounted loosely on a stud *c*, secured to a post *a'*, projecting from a plate A', mounted on the base A.

D is a shaft having reduced journals, one journal being adapted to an opening in the end of the stud *c*, while the opposite journal is adapted to a post a^2, projecting from the plate A', Fig. 3.

Secured to the shaft D is a fly-wheel D', and also on this shaft is the friction-wheel D^2, which is in frictional contact with the revolving table E, on which is mounted the record-tablet E'. The table is mounted on a vertical shaft E^2, adapted to a deep bearing in the standard a^3, which projects from the plate A'. The record-tablet is clamped to the table in the ordinary manner by the washer *e* and nut *e'*.

Pivoted at *g* to the face of the fly-wheel D' is an arm G, preferably provided with a weight *g'*. To the end of this arm is attached a spring I. The opposite end of this spring is attached to an arm H, secured to the face of the fly-wheel by a clamp-screw *h*. The head of this arm also acts as the counterbalance-weight for the arm G. I preferably recess the arm G at g^2 and stretch across the space friction material, such as leather, which will rest upon the friction-disk of the driven pulley C; but the arm may be made, as shown in Fig. 6, with simply a piece of rubber or felt substituted for the friction-piece *i*. The arm H is so set and the tension of the spring is such that the arm G will, owing to the centrifugal force, move away from the disk and thus break the connection between the fly-wheel and the driving-wheel, so that no matter how irregular the operator turns the driving-wheel the speed of the fly-wheel and the table will always remain the same, providing there is sufficient speed in the first instance to give the proper results.

It is impossible for any one to evenly drive the machine with a small driving-wheel and crank-handle, which is necessary to produce the best results. The record is placed upon the tablet when it is driven at a regular speed, and if the speed of the machine in reproducing is increased or diminished the sound-waves will vary to such an extent that the reproduction will be very imperfect, and in a machine of this character means must be provided whereby any one who undertakes to turn the driving-wheel will reproduce the recorded sounds in the best possible manner. This I accomplish by placing between the driving mechanism and the table mechanism which will govern the rotation of the table.

It will be understood that the mechanism shown may be modified without departing from my invention, and it may be placed in a different position; but the governing mechanism must be between the driving mechanism and the driven table or tablet, so that the speed of the tablet will not be affected by the uneven turning of the driving mechanism.

I claim as my invention—

1. The combination in a gramophone, of the driving mechanism, a rotatable table on which the record-tablet is mounted, a driven shaft, a flanged fly-wheel thereon, a driven

wheel extending within the flange of the fly-wheel and a governor mounted on the fly-wheel within the flange and resting upon an extension of the driven wheel, substantially as described.

2. The combination in a gramophone, of the handled driving-wheel, a pulley driven thereby, said pulley having an extension in the form of a friction-disk, a fly-wheel, a weighted arm pivoted to the side of the fly-wheel and adapted to rest upon the periphery of the friction-disk, a spring tending to draw the arm toward the friction-disk and a table for the record-tablet driven by the fly-wheel, substantially as described.

3. The combination of the driving mechanism consisting of a rotated disk, a driven element through which the tablet-table is rotated, a pivoted arm on said element having a cut-away portion and a strap extending across the cut-away portion adapted to rest upon the surface of the driving element, substantially as described.

4. The combination of the driving element consisting of a disk, a driven element, the rotated tablet-table connected to the driven element, a pivoted arm having a friction-surface adapted to rest upon the driving element, a pivoted arm attached to the driven element, a spring extending from one arm to the other and means for locking the said arm in the adjusted position, substantially as described.

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

ALFRED CORNING CLARK.

Witnesses:
HENRY HOWSON,
WILL. A. BARR.