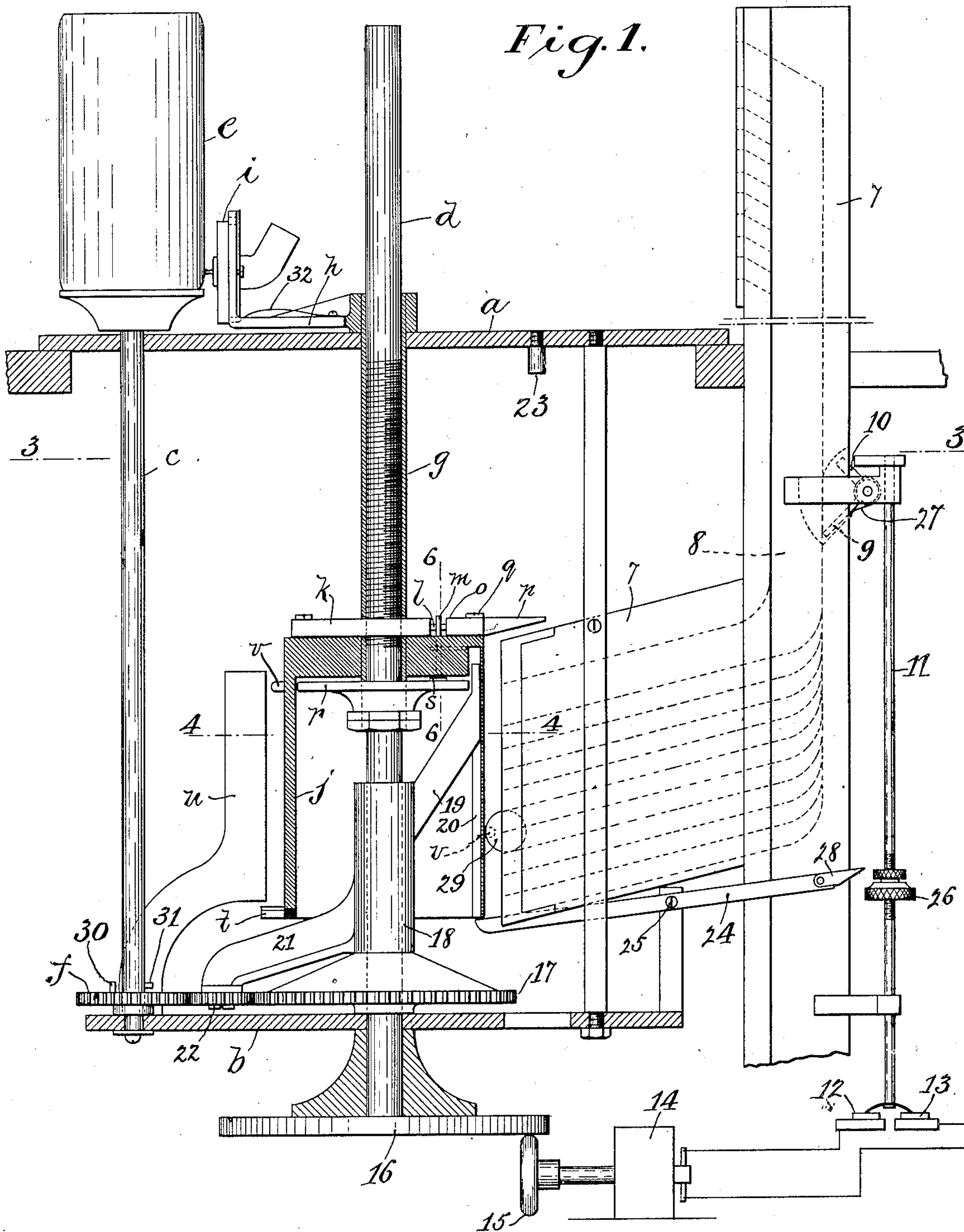


E. LESCHBRANDT.
TALKING MACHINE.
APPLICATION FILED MAR. 14, 1905.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

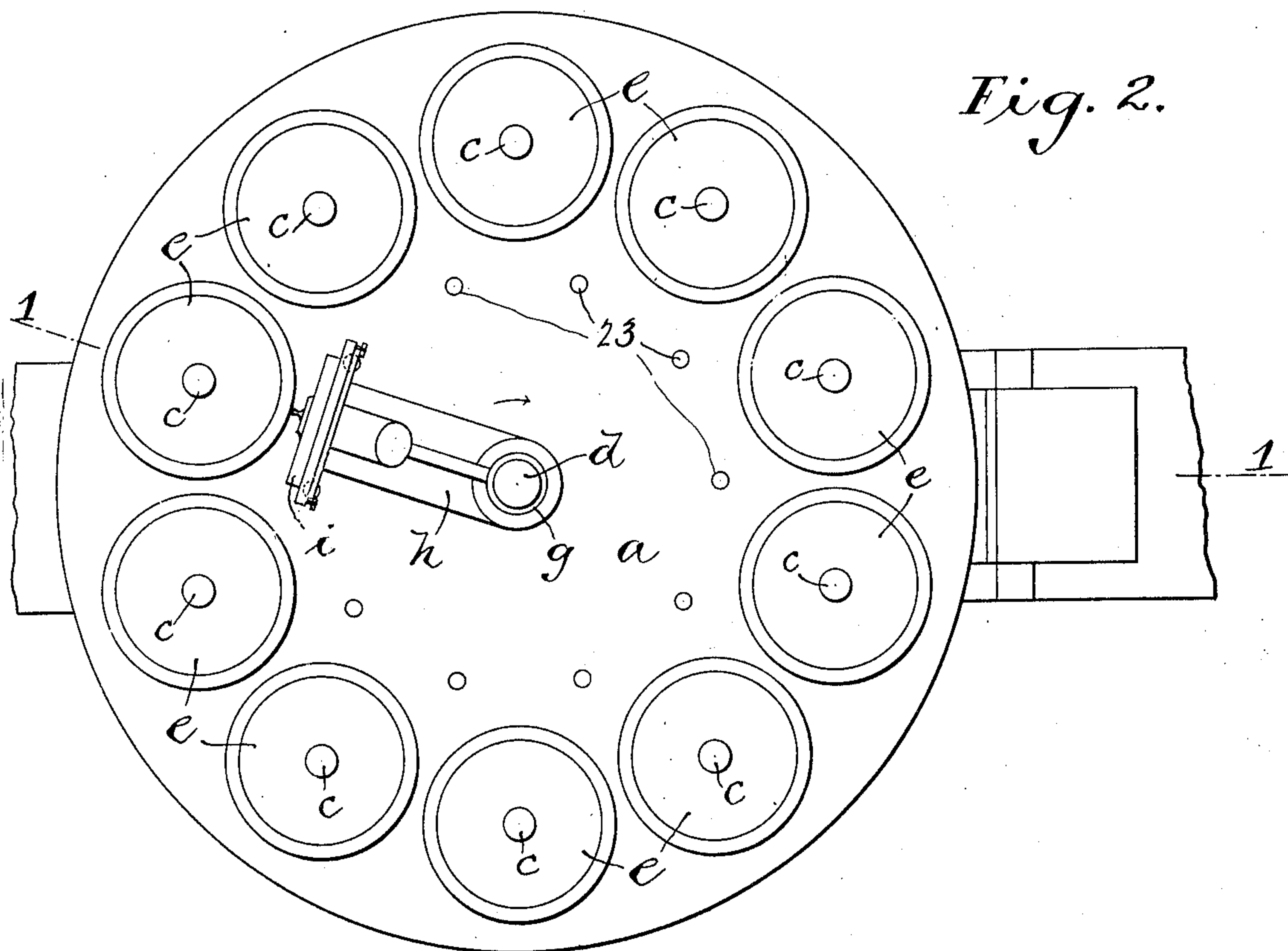
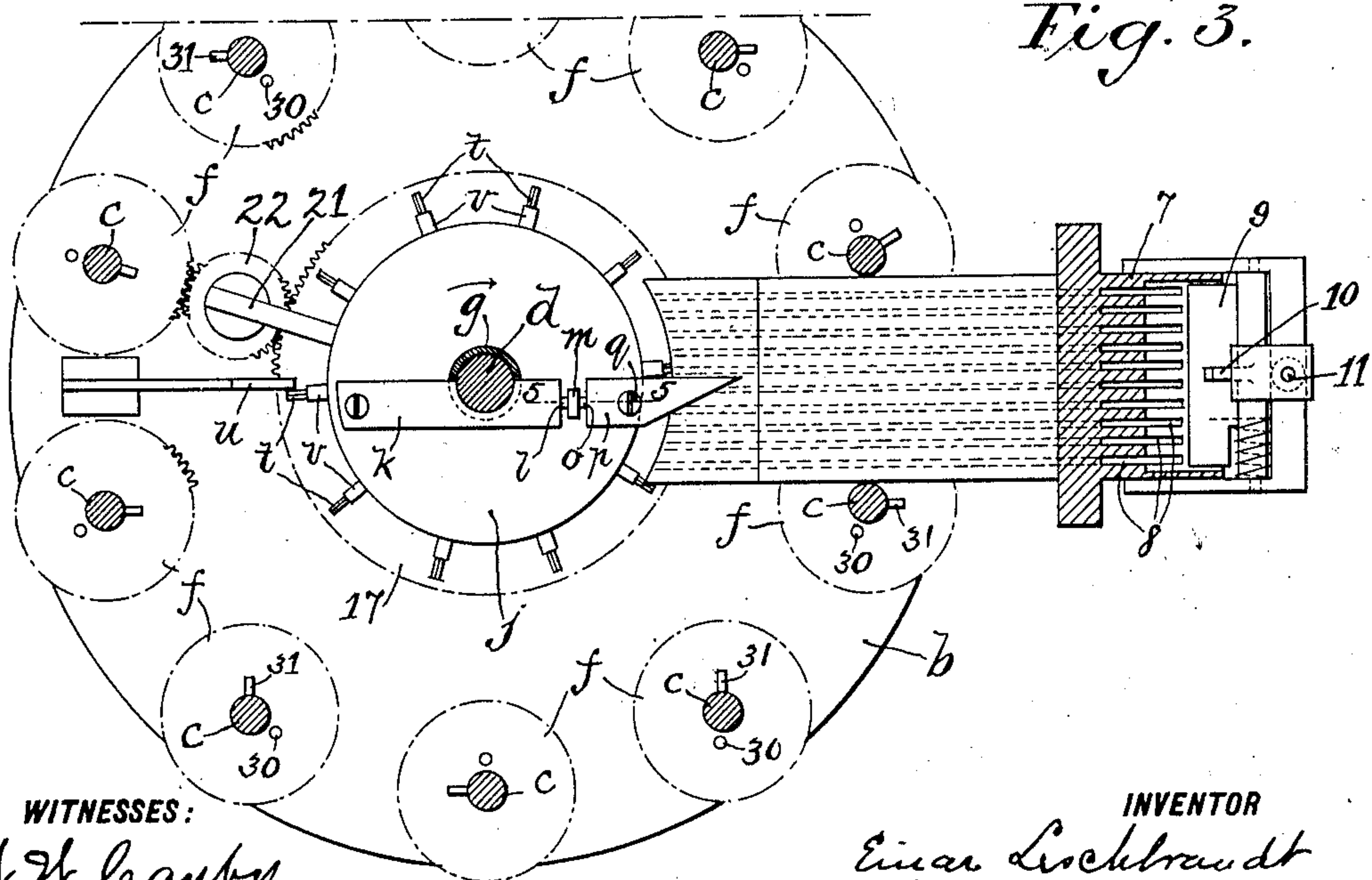


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

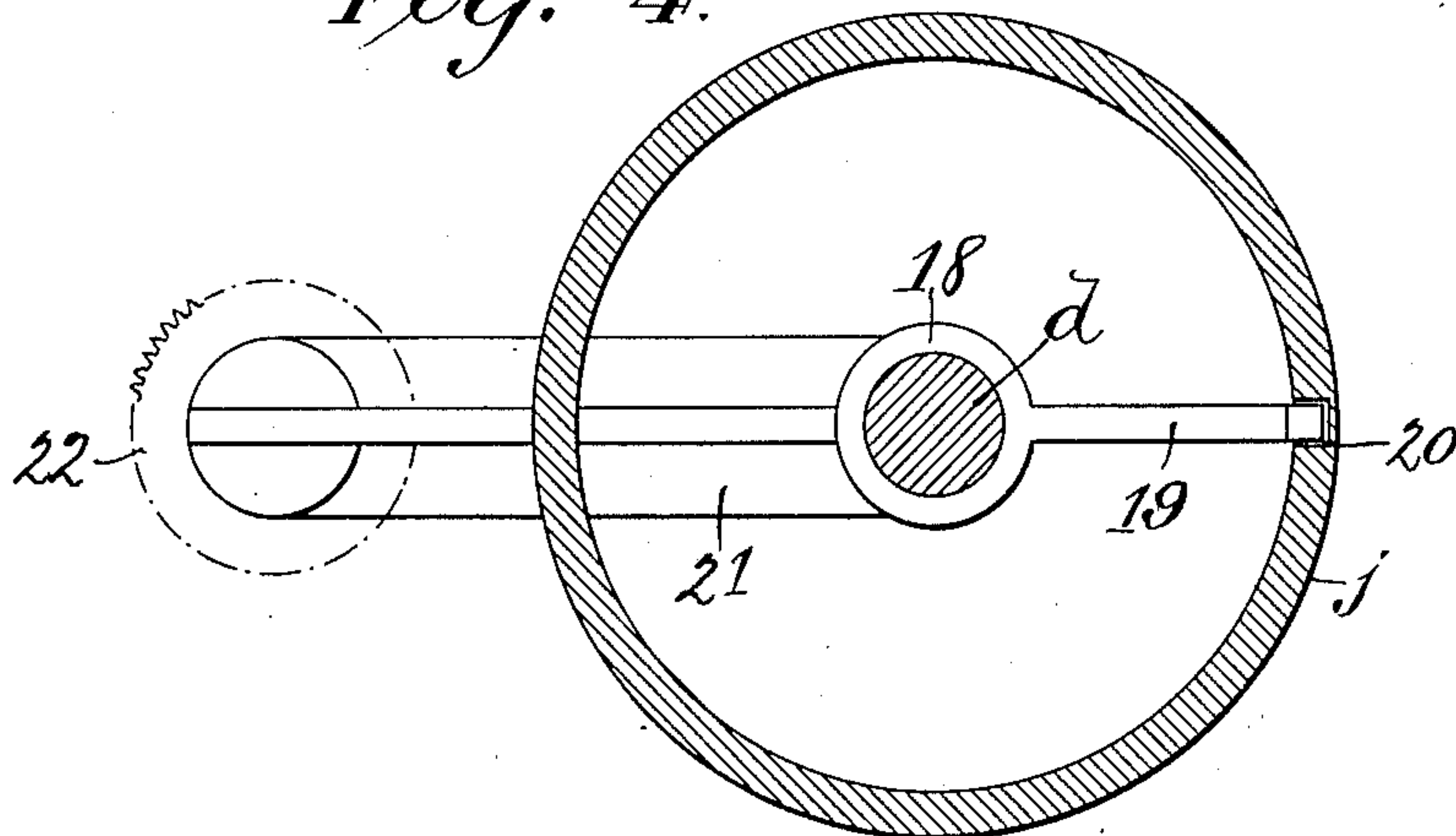


Fig. 5.

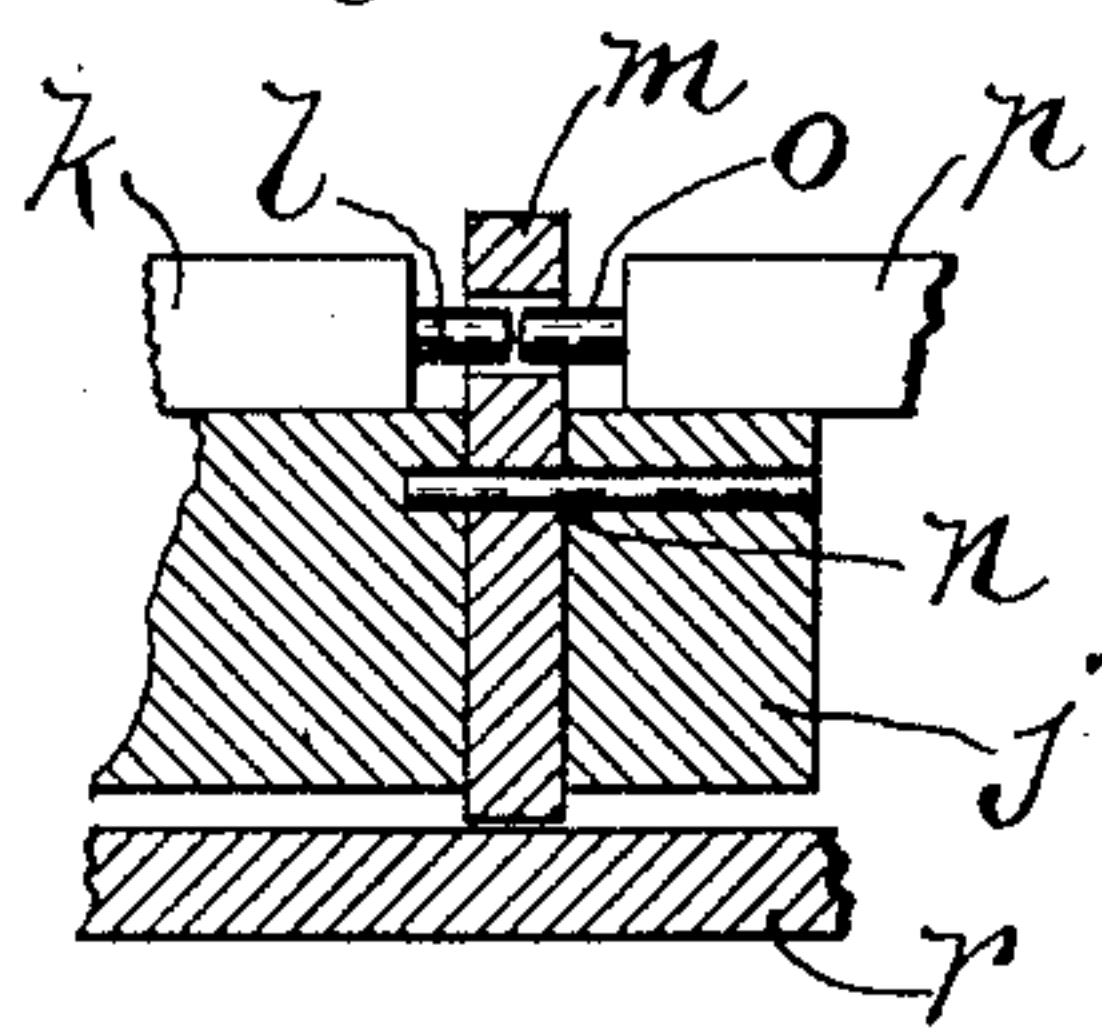


Fig. 6.

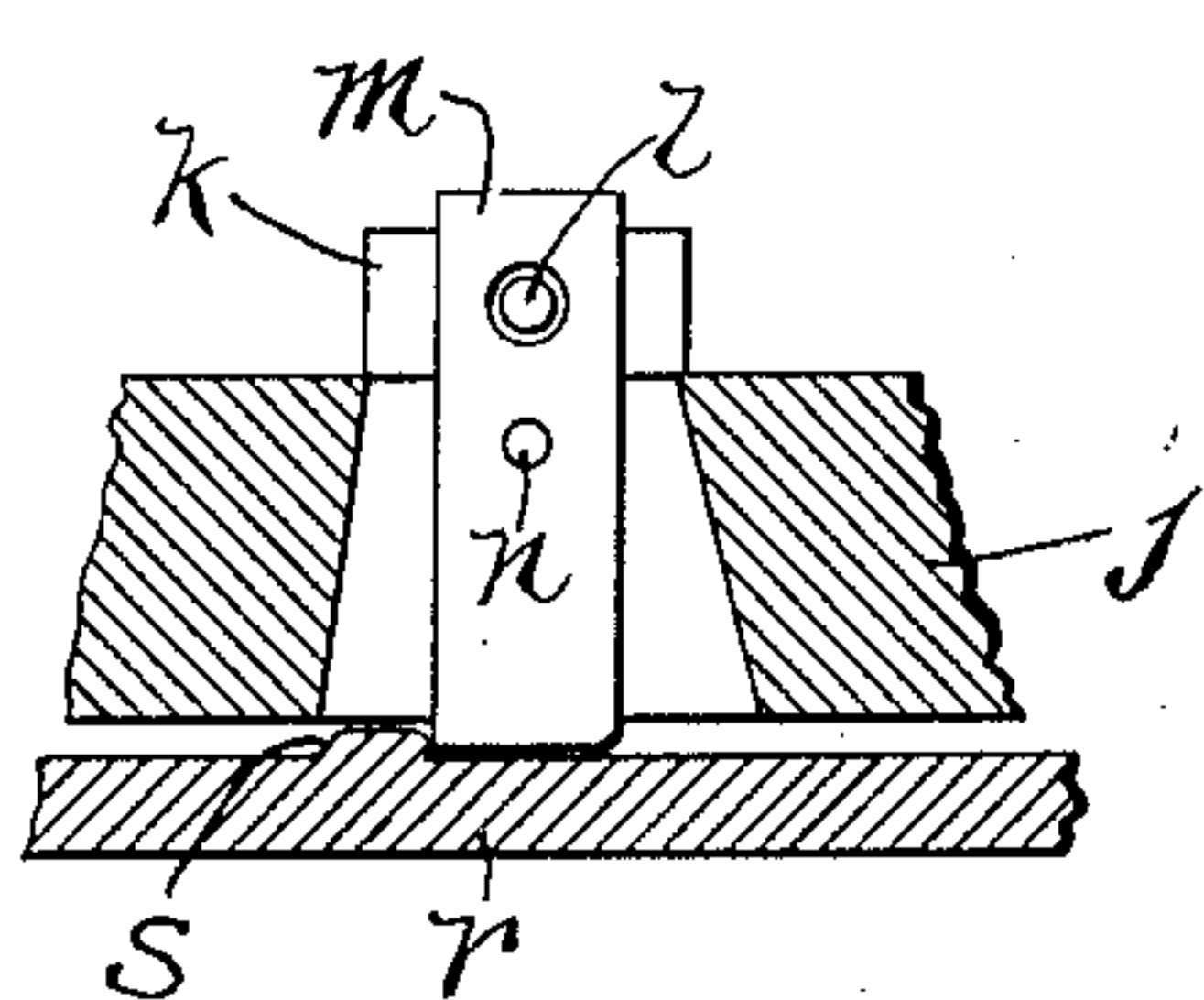
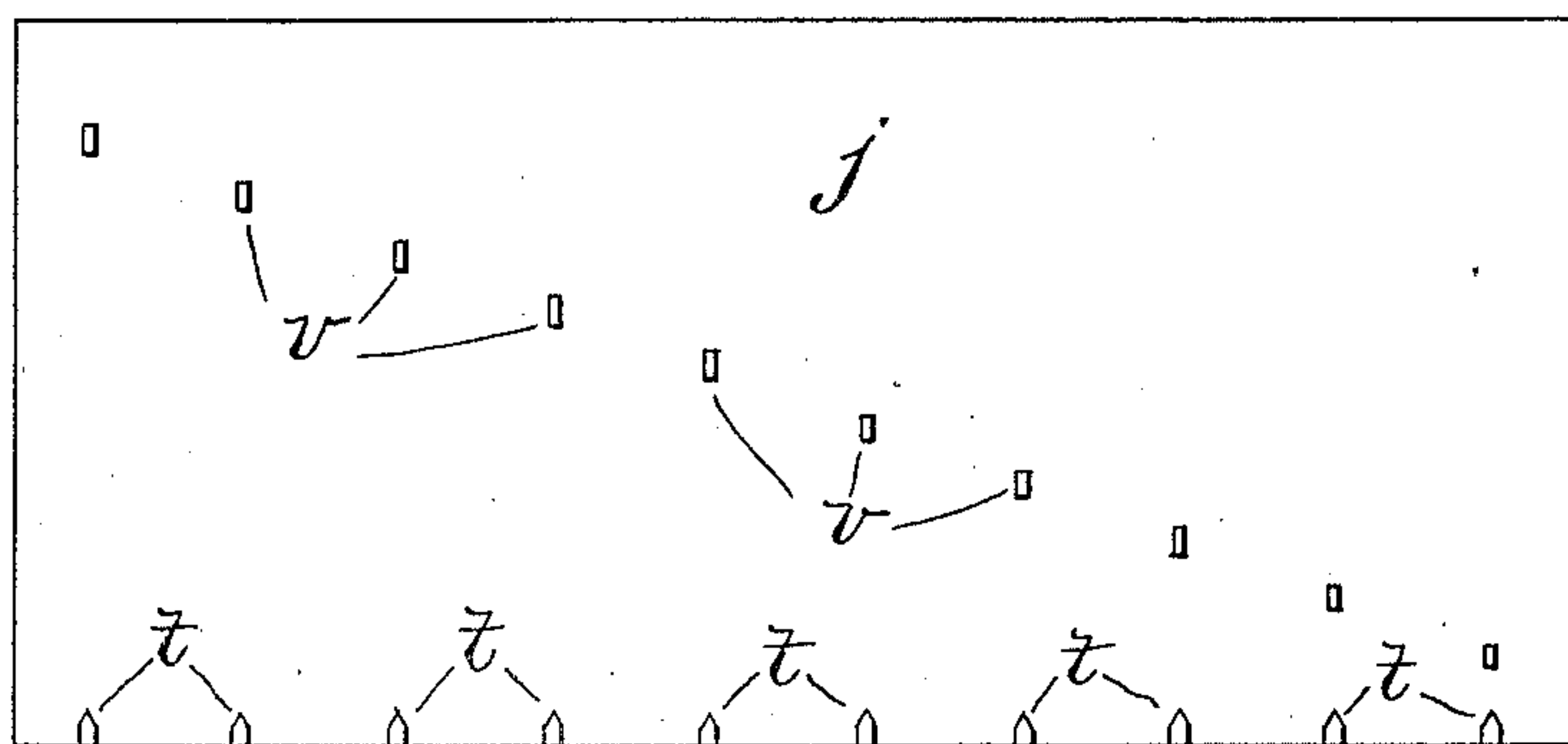


Fig. 7.



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UNITED STATES PATENT OFFICE.

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TALKING-MACHINE.

No. 821,045.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed March 14, 1905. Serial No. 249,975.

To all whom it may concern:

Be it known that I, EINAR LESCHBRANDT, a subject of the King of Sweden and Norway, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Talking-Machines, of which the following is a specification.

My invention relates to improvements in talking-machines; and the object of my invention is to furnish an improvement in coin-operated multiplex talking-machines, as more fully set forth hereinafter.

In the accompanying drawings, forming part of this specification, and in which similar characters of reference indicate similar parts throughout the several views, Figure 1 is a side elevation, partly in central sectional elevation, of a multiplex talking-machine embodying my improvements; Fig. 2, a plan of Fig. 1; Fig. 3, a section of Fig. 1 on line 3 3; Fig. 4, a section of the cup *j* on line 4 4, Fig. 1; Fig. 5, a section of Fig. 2 on line 5 5; Fig. 6, a section of Fig. 1 on line 6 6; Fig. 7, an expanded view or development of the cylinder *j*.

a is an upper, and *b* a lower, plate which form part of the frame of the machine. These plates are stationary and are carried in any suitable manner. *c* designates spindles, in the present case ten, which are arranged concentrically around the central shaft *d*. At their upper ends the spindles carry each a record *e* and at their lower ends each a gear-wheel *f*. The spindles *c* are supported in suitable bearings in the plates *a b*.

The central shaft *d* is surrounded for part of its length by a sleeve *g*, the upper end of this sleeve carrying an arm *h*, which carries a sound-box *i*, which may be of usual construction. The lower end of the sleeve is attached to a cup *j*, which is closed at its upper and open at its lower end. Carried by the upper end of cup *j* is a pivoted arm *k*, one side of which is grooved and threaded, so as to form a nut which will partly surround and engage the thread cut on the shaft *d*. At its outer or free end the arm *k* carries a pin *l*, (best shown in Fig. 5,) which passes about half-way through a trigger *m*, which is carried upon a pivot *n*, carried by the top of cup *j*.

o is a pin in line with pin *l* and also passing about half-way through trigger *m*. The pin *o* is carried by the inner end of an arm *p*, which is pivoted at *q* to the top of cup *j*.

r is a plate fast to shaft *d* and so located that when the cup *j* is in its lowest position it

engages or almost engages the under side of the top of the cup.

s is a stop carried by plate *r*, which is adapted to engage the bottom of trigger *m*, as and for a purpose to be presently described.

t designates stops projecting out from the lower end of cup *j*, adapted to engage a standard *u*.

v designates pins projecting out from the sides of cup *j*, adapted to engage a coin to arrest a rotary movement of said cup at a particular point.

There are as many stops *t* and as many pins *v* as there are records carried by the machine, and these stops and pins are so placed upon the cup that they each correspond to one of the records—that is, one stop and one pin each represents one particular record.

7 is a coin-chute which is provided with as many coin-passages 8 as there are records carried by the machine.

9 is an arm of a bell-crank lever which extends across all of the coin-passages 8. 10 is the other arm of this lever, which normally is adapted to engage and hold in a raised position a rod 11, which is adapted when lowered to close or join the contact-points 12 13 on a line-wire to energize a motor 14, which drives a friction-wheel 15, which drives a friction-wheel 16, which is fast to and drives the shaft *d*.

Normally the entire machine is at rest and the rod 11 is raised and no current is passing from point 13 to point 12. If now a coin be dropped into one of the coin-chutes, it will on its descent engage the arm 9 of the bell-crank, lowering this arm and arm 10, so that the rod 11 will be dropped, connecting the points 13 12 and permitting a current to pass to start the motor 14, which through wheels 15 16 will drive shaft *d*. In the meantime the coin will have run down its passage and will have engaged the side of the cup *j*, as shown in Fig. 1.

The motor 14 having been started, the shaft *d* commences to revolve and carries around with it the cup *j* until the pin *v*, that corresponds with the coin-passage 8, that contains the coin 29, engages the coin, which is held in place partly by the passage 8 and partly by the periphery of the cup *j*. As soon as the pin engages the coin the revolution of the cup *j* ceases, but the shaft *d* continues to revolve, carrying around with it the plate *r*, the stop *s*, which will presently engage the trigger *m*, which will move the nut-forming arm *k* into engagement with the

threads on shaft *d*. As soon as this engagement takes place the cup *j*, being held from turning, commences to rise, and presently and before the pin *v* leaves the coin 29 the stop *t*, which corresponds to the pin *v* and to one particular record, will engage the standard *u*, which will prevent a rotary movement of the cup *j* so long as the stop *t* is in contact with it.

When the rotary movement of the cup *j* is arrested by the pin *v* and coin 29, the sound-producer *i* will be in position to engage the particular record *e* corresponding to the passage 8 in which the coin has been placed, and the vertical movement of the cup *j* will, through sleeve *g*, cause the reproducer to be moved laterally of the record.

As the cup *j* is revolved it carries around with it the arm 19 of the sleeve 18, the outer end of this arm engaging a slot 20, formed vertically on the inside of the cup. This arm and sleeve in turning carry around with them the arm 21, also carried by the sleeve. On the arm 21 is a gear-wheel 22, which meshes with and is driven by the gear-wheel 17, fast on shaft *d*. The arm 21 is directly under the arm *h*, which carries the sound-producer *i*, and hence when the cup *j* is stopped rotating by the pin *v* and the coin the gear-wheel 22 is in engagement with the gear-wheel *f*, that is upon the spindle *c*, that carries the record that the sound-reproducer is in engagement with, the movement of the gear-wheel 17 being transmitted through gear 22 to gear *f* to drive the spindle and the record.

It will be understood that the vertical movements of the sound-box and the rotary movement of the record are properly timed to secure the proper reproduction of the latter by the former.

The cup *j* rises until the stop *t* is raised above the top of standard *u*, and as soon as this occurs, the stop being released, the cup will revolve with the shaft until presently the outer end of arm *p* will strike a stop 23, carried by top plate *a*. This will cause the inner end of arm *p* to move outward, tripping trigger *m* and at the same time moving the arm or nut *k* out of contact with the screw on shaft *d*. There being nothing now to support the cup *j*, it will fall by gravity, the plate *r* forming an air-cushion to prevent a too rapid fall to its lowest position. On its way down the cup will engage the inner end of a lever 24, which is pivoted at 25, and the outer end of this lever, which engages a button 26 on rod 11, will raise this rod, breaking the electrical connection at 12 13 and stopping the motor. When the rod 11 is raised, the arm 10 of the bell-crank lever will be moved by a spring 27 under the top of the rod, which will be thus held in its raised position until the passage of a coin, which will drop the rod 11, as before described, causing its lower end to close the

contacts 12 13, which will establish the electric circuit and again start motor 14.

The gear-wheel 22, carried by arm 21, upon being swung around from its starting-point to its final position of engagement with the gear that is to rotate the spindle carrying the record to be reproduced will engage and partly rotate the several gear-wheels *f* that it will pass in its swinging movement. In order that this may be done with the least expenditure of power, the gear-wheels *f* are loose on the spindles *c* and are furnished with pins 30, which are adapted to engage pins 31, carried by the spindles *c*, in order to drive the spindles when the gears *f* are constantly driven by the gear 22.

In order to be self-adjusting, the sound-reproducer *i* is not rigidly secured to the arm *h*, but is loosely held by this arm to the arm which carries a spring 32, upon which the reproducer *i* rests.

The coin-operated means for operating the electric switch which controls the movements of the motor which drives the central shaft, the record-carrying spindles, &c., is not claimed herein. It will form the subject of a separate application for patent.

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

1. In a talking-machine, in combination, a multiplicity of record-supports placed concentrically around a central shaft, said shaft, a sound-reproducer guided by and capable of a movement of rotation around and a longitudinal movement along said shaft, means for bringing said sound-reproducer into coöperative relation with any predetermined one of the records carried by said record-supports, means for rotating said shaft, means actuated by said shaft for advancing said sound-reproducer longitudinally of said record-support, and means for rotating said record-support upon its longitudinal axis.

2. In a talking-machine, in combination, a multiplicity of vertically-arranged cylindrical record-supports placed concentrically around a central vertical shaft, said shaft, a sound-reproducer capable of a movement of rotation around and a lateral movement upon said shaft, means for bringing said sound-reproducer into coöperative relation with a record carried by any predetermined one of said record-supports, means actuated by said shaft for advancing said sound-reproducer vertically in contact with a record carried by one of said supports, means for rotating said record-supports around their vertical axis, and means for rotating said central shaft.

3. In a talking-machine, in combination, a central vertical threaded shaft, a multiplicity of record-supports surrounding said shaft, a sound-reproducer carried by a sleeve surrounding said shaft, means for rotating said shaft, means for rotating said record-sup-

ports, means for bringing said sound-reproducer into coöperative relation with a record carried by any one of said record-supports, and means operated by the screw-thread on
5 said central shaft for advancing said sound-reproducer longitudinally in contact with a record carried by one of said supports.

4. In a talking-machine, in combination, a
10 central vertical threaded shaft, a multiplicity of vertical record-spindles surrounding said shaft, a cup closed at its upper end surrounding said central shaft, a sleeve carried by said cup and surrounding said shaft, an arm carried by said sleeve, a sound-reproducer carried by said arm, means for locking said cup
15 to the thread on said central shaft, means for preventing a rotary movement of said cup while the sound-reproducer is in operative connection with one of the records carried by
20 said spindles, means for rotating said central shaft and means for rotating the record-carrying spindles.

5. In a talking-machine, in combination, a

central threaded shaft, means for driving said shaft, an inverted cup surrounding said shaft, 25 a sound-reproducer carried by said cup, means for carrying and means for rotating a record, a swinging nut carried by said cup, a trigger connected with said nut, a pivoted arm connected with said trigger, a plate carried by said shaft, a stop carried by said plate
30 adapted upon the revolution of said shaft and plate to engage said trigger to cause said nut to engage the thread on said shaft, means for preventing said cup from turning when said
35 sound-reproducer is in contact with a record, and means for tripping said pivoted arm, trigger and swinging nut so as to throw the latter out of engagement with the threads of the central shaft when the sound-reproducer 40 has traversed a record.

EINAR LESCHBRANDT.

Witnesses:

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