

No. 670,925.

Patented Apr. 2, 1901.

C. T. BRADSHAW.
COIN OPERATED TALKING MACHINE.

(Application filed June 8, 1900.)

(No Model.)

3 Sheets—Sheet 2.

Fig. 3.

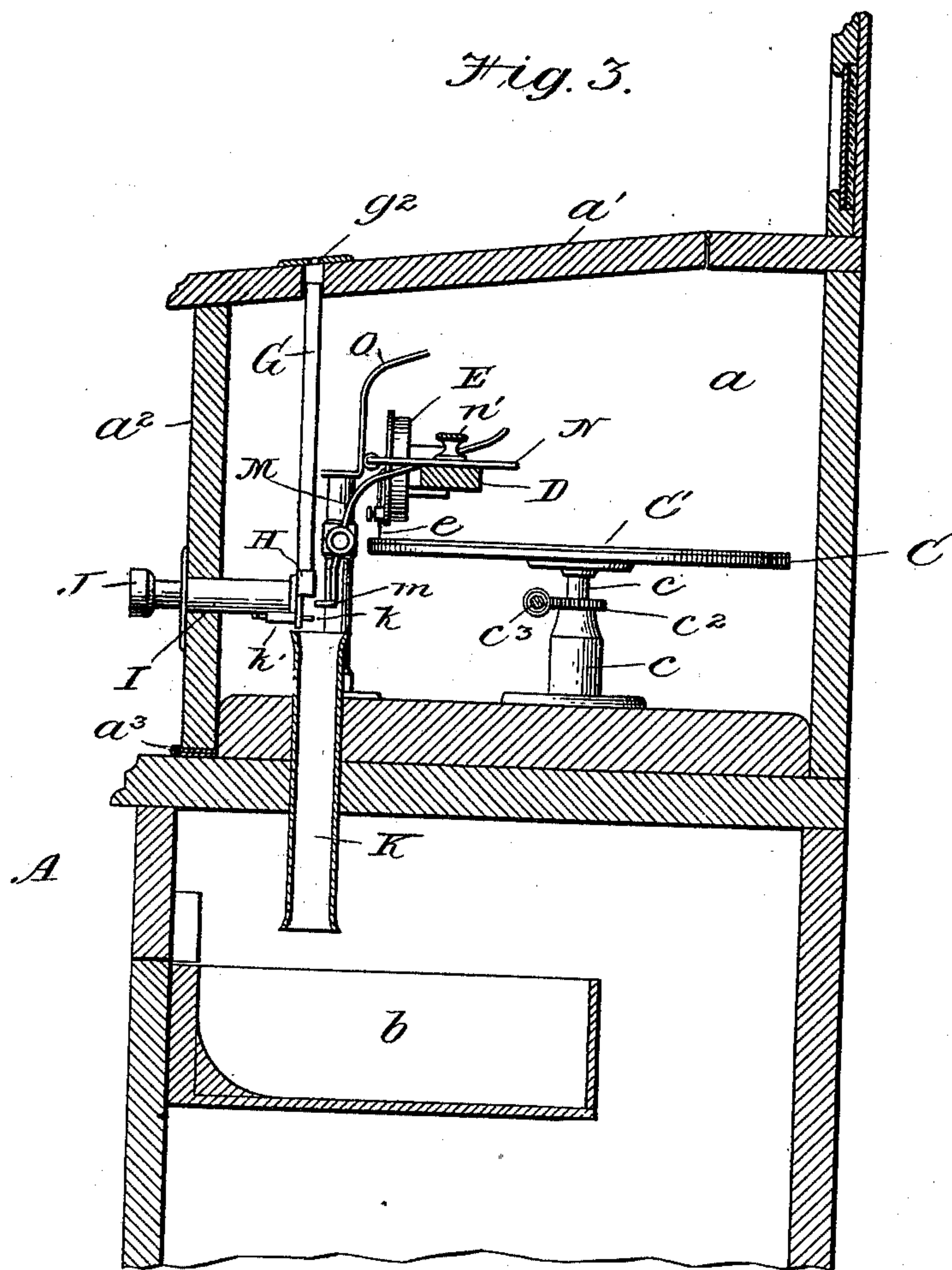
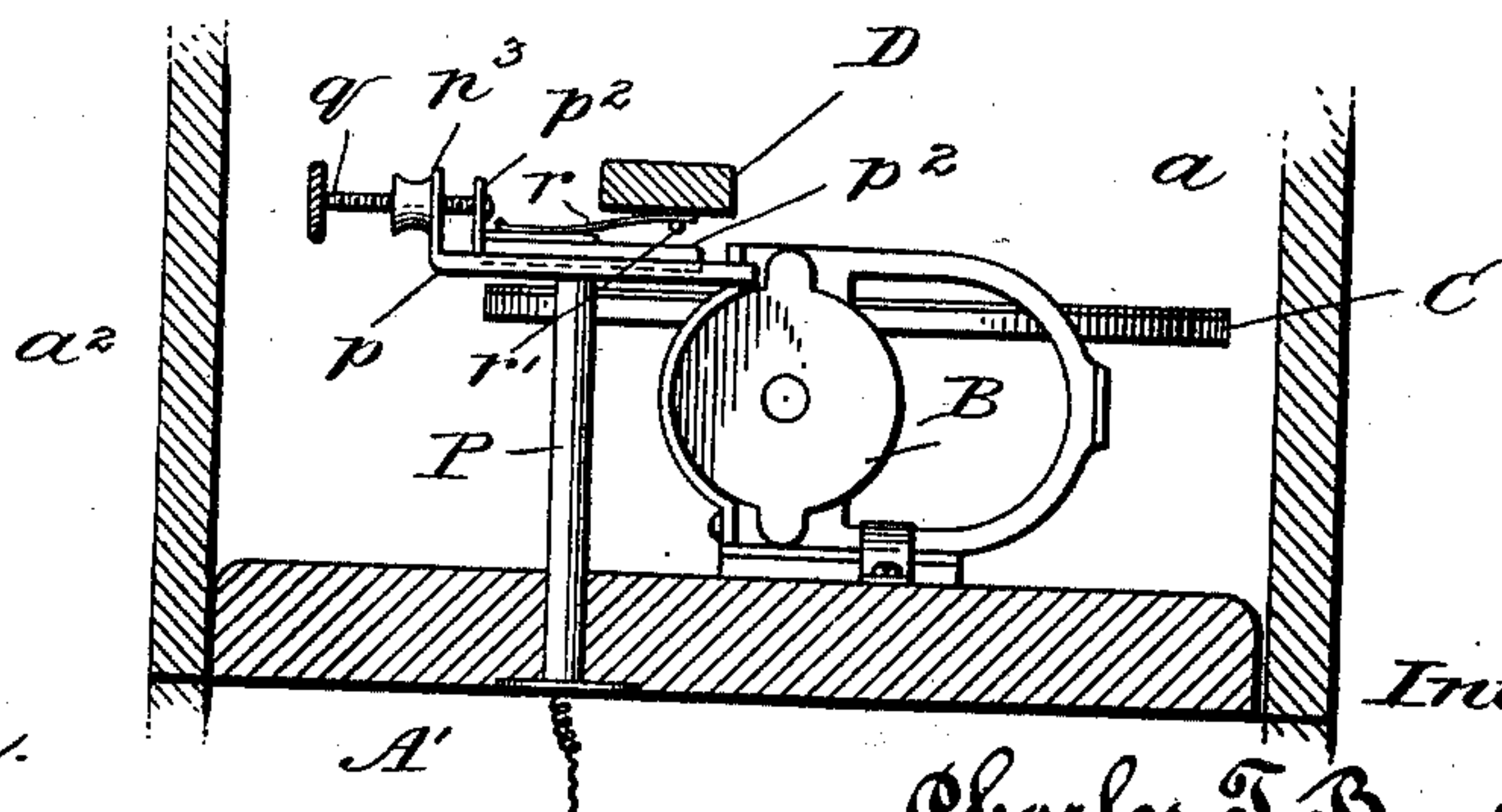


Fig. 4.



Witnesses.

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3 Sheets—Sheet 3.

Fig. 5.

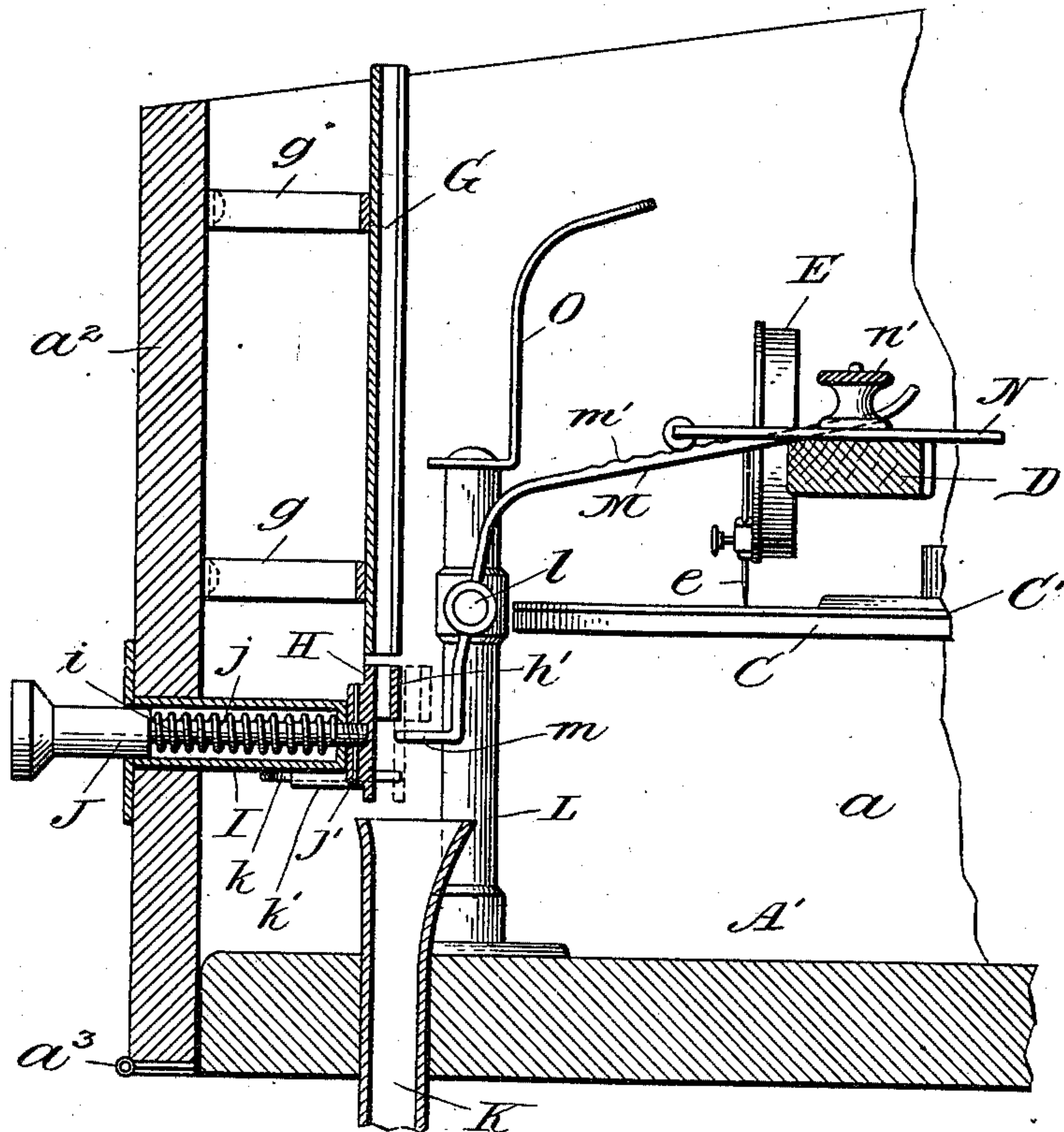


Fig. 6.

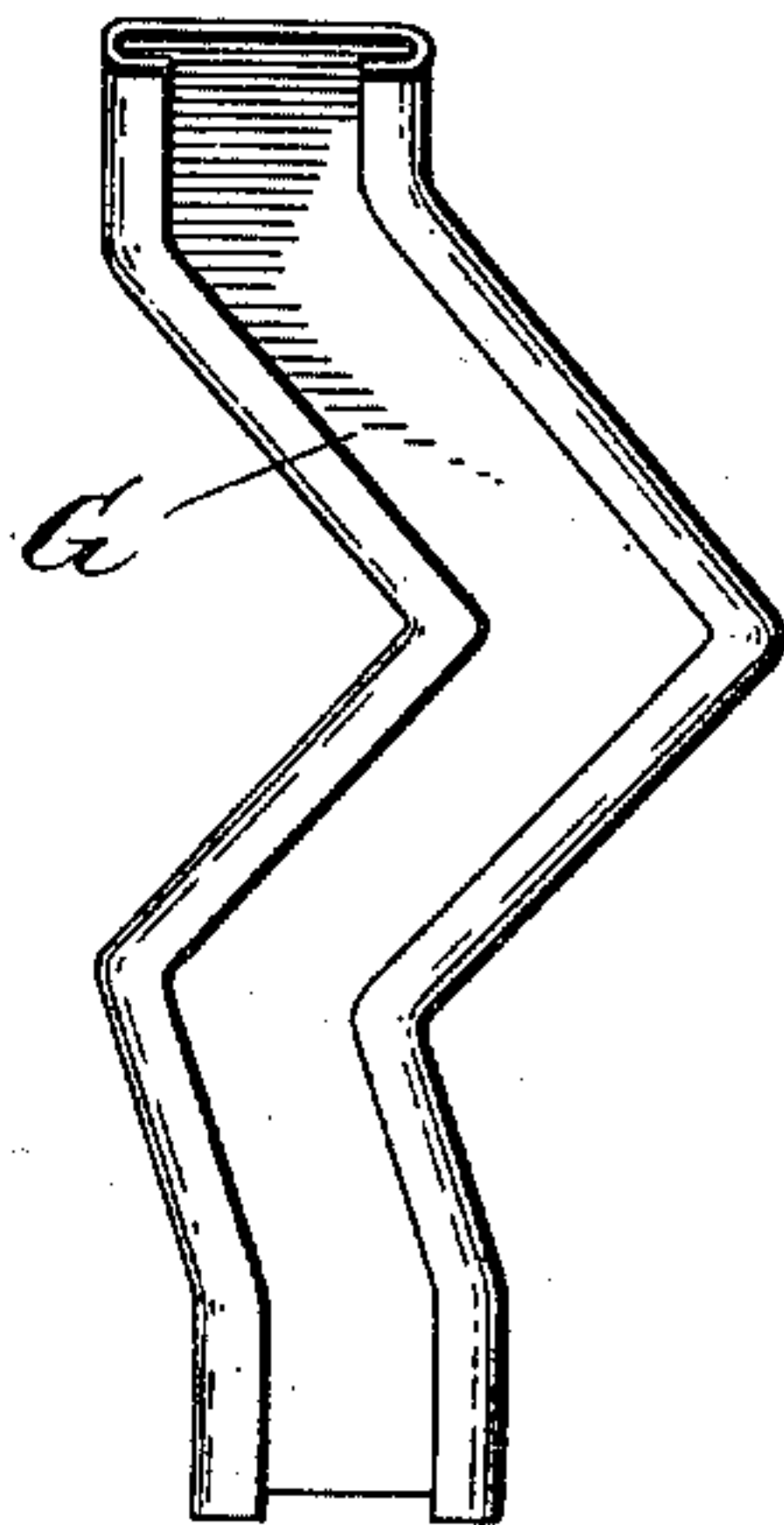
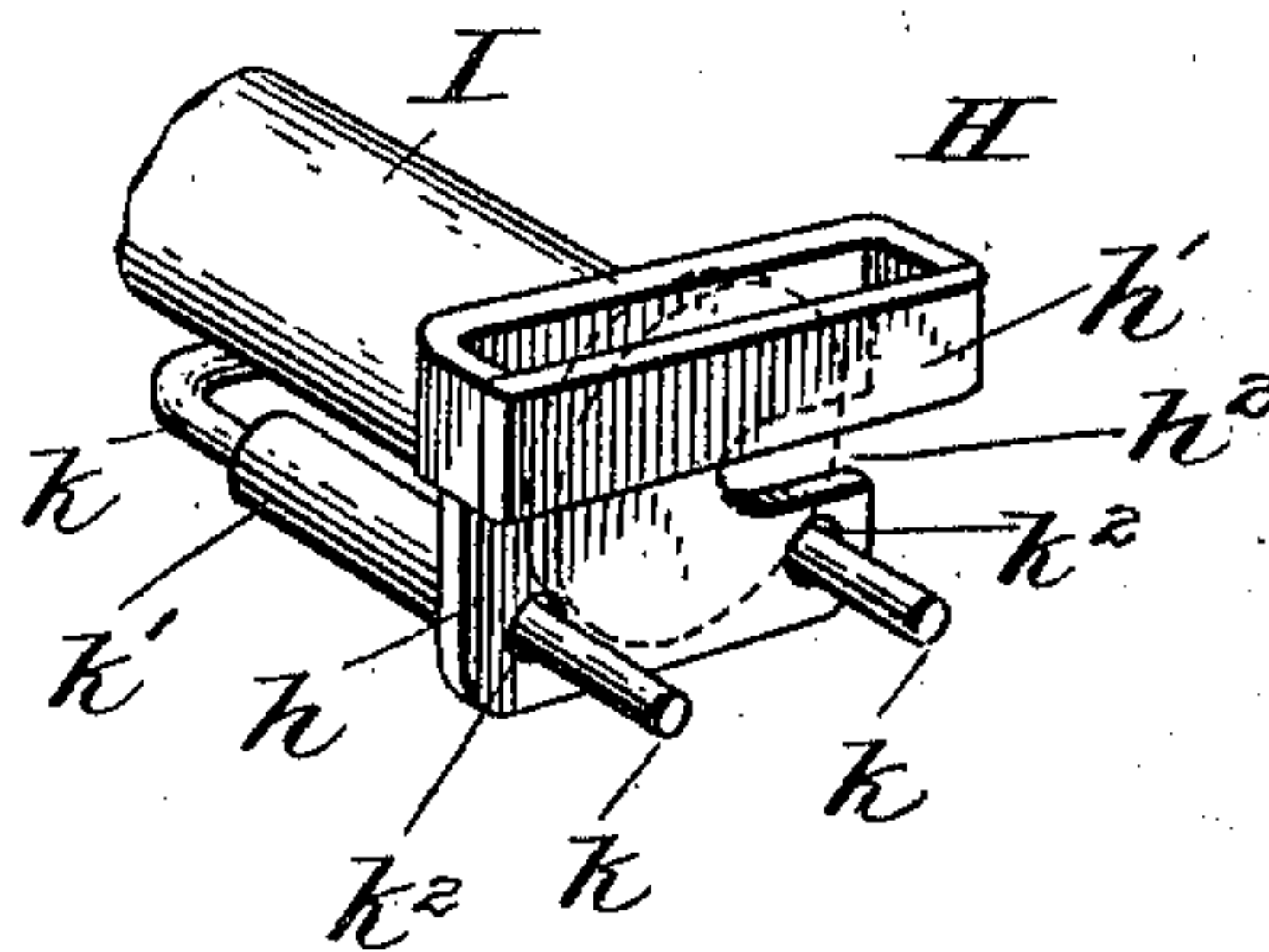


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES T. BRADSHAW, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
TO THOMAS S. PARVIN, OF SAME PLACE.

COIN-OPERATED TALKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 670,925, dated April 2, 1901.

Application filed June 8, 1900. Serial No. 19,570. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. BRADSHAW, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Coin-Operated Talking-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in automatically-operated talking-machines, and particularly to that class commercially known as the "gramophone."

The main object of this invention is to provide a machine so constructed as to be thrown in operation for a certain time, subject to the deposit of a suitable coin; and the invention consists in the improved construction of the coin-operating mechanism and the combination and arrangement of various other mechanisms acting in conjunction with the said coin-operated mechanism, such as is herein fully set forth, and particularly pointed out in the claims made hereto.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference are used to indicate similar parts, Figure 1 is a plan view of a machine constructed in accordance with my invention, the inclosing casing being shown in section. Fig. 2 is a side elevation of the same with the coin chute and holding mechanism removed, also the shifting lever and its supporting standard being removed and the inclosing casing shown in section. Fig. 3 is a cross-sectional view taken about on the line 3 of Fig. 1. Fig. 4 is a cross-sectional view taken about on the line 4 4 of Fig. 1. Fig. 5 is an enlarged detail section taken through the coin holder and chute, illustrating the push-lever and also the lever for turning the reproducer to normal position. Fig. 6 is a detail view of the coin-chute, and Fig. 7 is a detail perspective of the coin-holder.

The outer casing of the machine comprises a suitable cabinet, as A, having an upper compartment a , in which are located the gramophone and its operating mechanism. The top of the section a is formed with a hinged lid a' , so that access may be had to the interior mechanism, and the front wall a^2 of this compartment is also hinged at its bottom, as

at a^3 , so that it may be swung outwardly, so as to give easy access to the turn-table when it is desired to change the record. The coin-chute and coin-holder are supported on this hinged wall a^2 , and consequently move with the same when the said wall is let down. The lower portion of the cabinet A is provided with a cash-drawer b to receive the coins as they pass through the coin-chute and also provides room for the batteries which run the motor for driving the turn-table.

B designates the motor, which may be of any of the well-known constructions and is connected by the usual wiring with the source of the electrical supply.

The turn-table C is rigidly mounted on a spindle c , which is supported in a bearing-post c' , secured to the base A', the said base being supported on the partition B', which separates the upper and lower sections of the cabinet. On the turn-table spindle directly above the bearing-post c' is rigidly secured a gear c^2 , which meshes with a spiral gear c^3 , carried by the forwardly-extending portion of the motor-shaft b' . This construction of gearing the turn-table to the motor gives a uniform speed, the said table acting as a governor. The record C' may be secured to the turn-table in any well-known manner.

The reproducer-arm D is universally mounted in a post d , carried by the base A', and on the forward end of this arm D is secured the sound-box E, carrying a stylus-point or needle e , both of which may be of the usual construction employed on machines of the gramophone type. At the rear end of the arm D, I secure a flat metallic arm d' , which is adjustable on said reproducer-arm by means of the slot d^2 and the set-screw d^3 . The rear portion of the arm d' extends some distance beyond the end of the reproducer-arm and is twisted, as illustrated in Figs. 1 and 2, so as to present a surface to contact with the lug or pin f , carried by the rear wall of the casing, and thus limit the movement of the reproducer-arm in the one direction. This arm d' can be adjusted by means of its slot d^2 and set-screw d^3 , so as to regulate the movement of the reproducer-arm and prevent the stylus-point from moving beyond the last line of the record.

G designates the coin-chute, which is secured by means of brackets g to the hinge-section a^2 of the casing. This chute G is pref-

erably made in zigzag form, as illustrated in Fig. 6 of the drawings, the purpose of which will be hereinafter described.

Directly below the coin-chute G is the coin-holder H, which comprises a flat metallic plate *h*, having ears extending from its upper edges, which are bent at right angles, as illustrated most clearly in Fig. 7 of the drawings, and are connected by the cross-bar *h'*, thus forming a slot in the upper portion of the plate *h* of a size large enough to admit the coin to be used.

In front of the coin-holder H is located a hollow sleeve I, the forward end of which is secured in an aperture formed in the hinged section *a*² of the casing and the rear end of which bears against the said coin-holder H. A plunger J is fitted into the sleeve I, having its inner portion reduced to form the stem *j*, which extends through an aperture formed in the end of said sleeve and is screw-threaded into a boss formed on the rear face of the plate *h* of the coin-holder, and a pin *j'* passes through this boss and through the stem *j*, so as to prevent the plunger J from being removed from the outside of the casing. Around the stem *j*, inside of the sleeve I, is a coiled spring *i*, which is compressed when the plunger J is pushed in and serves to return the said plunger to normal position after it is released.

On the lower side of the sleeve I are secured two pins or thin rods *k*, extending rearwardly on each side of said sleeve and passing through the sleeves *k'*, formed on the coin-holder H, and through apertures *k*², as most clearly illustrated in Fig. 7 of the drawings. These pins serve as rests, against which the lower edge of the coin bears when it enters the coin-holder. The said pins are of such a distance apart as to allow small coins to pass between them and drop down into the receiving-chute K without operating the machine.

To one side of the coin holder and chute I provide a post L, which has located thereon a short distance above the coin-holder a pivoted stud *l*, to which is rigidly secured a bent lever M, the lower end of said lever extending down to about the center of the coin-holder, where it is bent outwardly and forwardly to form the arm *m*, which is located directly in front of the coin-holder H, as illustrated in Fig. 5 of the drawings. A recess *h*² is formed in the plate *h* of the coin-holder directly opposite the end of the arm *m*, so that when the push-lever J is operated to move the coin-holder inwardly the arm *m* will enter the aperture *h*². The upper end of the arm M is bent inwardly, as illustrated in Figs. 3 and 5 in the drawings, and rests against the upper surface of the reproducer-arm D. The upper surface of the portion *m'* of the arm M is serrated, as illustrated.

On the top of the reproducer-arm D, to one side of the arm *m'*, I secure an L-shaped arm N, having a slot *n*, through which passes a set-screw M', so that the said arm may be ad-

justed back and forward for the purpose hereinafter described. The member N' of the L-shaped arm N is a slight distance above the arm *m'* of the lever M, and around this member is a piece of rubber tubing or other similar material for deadening the sound as the said lever M comes in contact with the bar N' for the purpose of shifting the reproducer-arm, as hereinafter described.

Secured to the top of the post L is an arm O, extending upwardly and then curving inwardly, as illustrated in Figs. 3 and 5 of the drawings, the purpose of this arm being to act as a stop, against which the member N' of the bar N strikes when the reproducer-arm is returned to its initial position.

To the right of the coin-holding mechanism is a hollow post or standard P, the lower end of which passes through an aperture in the base *a'* and is secured therein by suitable means, and on the upper end is a supporting-plate P, having upturned sides *p'*, to form a guideway for the adjustable contact-plate *p*². On the outer end of the plate *p* is an arm *p*³, carrying a boss having a screw-threaded aperture for the reception of the screw *q*. The inner end of the screw *q* is swiveled in a vertical lug carried by the contact-plate *p*², and the outer end of said screw is provided with a milled head for operating the same. One of the supply-wires from the battery passes up through the post P and electrically connects the adjustable contact-plate *p*².

On the lower side of the reproducer-arm D is a spring contact-plate *p*², which is electrically connected, by means of the wire *r'*, with the other pole of the battery. The contact-spring *r* is adapted to bear on the contact-plate *p*², which completes the circuit and starts the motor; but as soon as the stylus-point reaches the end of the record-groove the contact-plate *p*² is so adjusted as to break the current, and thereby stop the motor until the coin-operating mechanism is actuated to return the reproducer-arm to its initial position.

In operation the coin is deposited in the slot *g*² into the coin-chute G, which guides it to the coin-holder H, the projecting pins *k* serving to support the coin and prevent its dropping through said holder to the receiving-chute. The push-lever J is then operated, which action carries the coin-holder forward and the coin comes in contact with the arm *m* of the lever M and swings the same upon its pivot *l* and causes its arm *m'* to bear against the arm N' of the bar N, which is secured to the reproducer-arm D and lift the same and move it forward until the arm N' strikes against the guard O, carried by the post L. This action brings the stylus-point *e* in engagement with the first line of the record. The movement of this arm and the reproducer can be adjusted to suit different widths of records by adjusting the arm N by means of the set-screw *n'* and the slot.

As soon as the lever M has been tilted by the operation just described and the reproducer-arm is being returned to its initial position the contact-spring r' will engage the electrically-connected portion of the contact-plate p^2 , which immediately starts the motor, so that by the time the stylus-point is brought into contact with the first line of the record the turn-table will have reached its normal rate of speed and the reproduction will be commenced. A controller, such as t , which may be of the usual construction, may be employed for regulating the amount of current, and thereby regulating the speed of the motor. As soon the stylus-point reaches the end of the record-groove the contact-spring r' will leave the electrically-connected portion of the contact-plate p^2 , thus breaking the circuit and stopping the motor. Just as the last line of the record is reached the arm d' , which is adjustably secured to the rear end of the reproducer-arm D, will strike against the stop-pin f , and thereby prevent the said reproducer-arm from carrying the stylus-point beyond the last line of the record. This arm d' is adjustable, so as to accommodate records of different widths. The contact-plate p^2 is also adjustable by means of the feed-screw q , which is threaded in the boss p^3 , carried by the supporting-plate p , the said screw q being swiveled in the lug, which carries the movable contact p^2 . The starting and stopping of the motor are thus regulated by the adjustment of the contact-plate p^2 , so that the feed of the reproducer-arm can be regulated to suit the length of the record. When the plunger J is pushed in after the insertion of a coin and the lever M is operated as heretofore described, the coin will drop out of the holder into the receiving-chute K, as the pins k are stationary, and the coin-holder on its inward movement moves away from the said pins, thereby releasing the coin and allowing it to drop in the chute to the cash-drawer. The coil-spring j , located around the plunger-stem inside of the sleeve I, returns said plunger to normal position as soon as the operator releases it.

The coin-chute G is preferably constructed, as illustrated in Fig. 6 of the drawings, so as to prevent the insertion of wires or light pieces of cardboard, by means of which the machine might be fraudulently operated.

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

1. In a coin-operated talking-machine, the combination with the reproducing mechanism, of a slidable coin-holder, mechanism actuated by the coin for automatically lifting and returning the reproducer from its position at the end of the record to the first line of said record, and means for regulating the distance of the return movement for the accommodation of records of different lengths.

2. In a coin-operated talking-machine, the combination of a slidable coin-holder, a

plunger for operating the same, means for holding the coin in its holder, until the plunger is pushed in, a pivoted lever adapted to be operated by the coin in the holder, and a connection between the said lever and the reproducer, whereby the said reproducer is returned to its initial position when the coin-holder is operated, substantially as described.

3. In a coin-operated talking-machine, the combination of a slidable coin-holder, a pivoted lever adapted to be operated by contact with the coin in the holder, a reproducer adapted to engage and be fed by the grooves of the record, a connection between the pivoted lever and the reproducer for returning said reproducer to the first line of the record when the lever is operated, and means for regulating the distance of this return movement to accommodate the width of the record, substantially as described.

4. In a coin-operated talking-machine, the combination of a coin-holder adapted to receive and hold the coin, a plunger for sliding the said coin inwardly, means operated by the plunger for releasing the coin after the coin-holder has moved a short distance, a pivoted lever adapted to be actuated by contact with the coin, a reproducer adapted to engage and be fed by the record-groove, and a connection between the pivoted lever and the reproducer for returning said reproducer to the first line of the record, substantially as described.

5. In a coin-operated talking-machine, the combination of a reproducer adapted to engage and be fed by the record-groove, a pivoted lever, M, adapted to rest loosely on the reproducer-support, an L-shaped arm carried by the reproducer-support having its free member resting on the pivoted lever, a coin-holder adapted to receive and hold the coin, means for sliding the said coin-holder and bringing the coin in contact with the lower end of the pivoted lever for actuating said lever, and means for releasing the coin immediately after the pivoted lever has been actuated, substantially as described.

6. In a coin-operated talking-machine, the combination with the reproducer, of a pivoted lever having its upper end bearing on the reproducer-supporting arm, an L-shaped bar, secured to the reproducer-arm, having its free arm resting on the pivoted lever, means for adjusting the said L-shaped bar, a coin-holding device, means for sliding the said coin-holder and bringing the coin in contact with the lower end of the pivoted lever for oscillating the same to return the reproducer to its normal position on the first line of the record, and a stationary guard for limiting the return movement of the reproducer, substantially as described.

7. The combination of a coin-holder, H, open at its top and bottom, a plunger, J, having its inner end secured to said coin-holder, a sleeve, I, carried by the outer casing of the machine for supporting said plunger, a coil-spring

within the sleeve for returning the plunger to normal position after it has been operated, and rods, k secured to the under side of the sleeve, l , said rods passing through apertures 5 in the lower portion of the coin-holder and serving to retain the coin in the holder until the plunger is operated to slide the said holder inwardly, substantially as described.

8. The combination with the outside casing, of a hinged front, a^2 for said casing, a coin-chute supported on said hinged section, a plunger supported on said hinged section and a coin-holder secured to the inner end of the plunger below the coin-chute, whereby 15 upon the letting down of the section, a^2 , the coin receiving and holding mechanism is removed from the machine, for the purpose substantially as described.

9. In a coin-operated talking-machine, the 20 combination with the reproducer-supporting arm, a reproducer carried by said arm, a turn-table for supporting the record, an electric motor for revolving the turn-table, a slidable coin-holder, mechanism actuated by the coin 25 in the holder for returning the reproducer to its initial position, and means for completing the electric circuit and starting the motor simultaneously with the return of the reproducer, substantially as described.

30 10. In a coin-operated talking-machine the combination with the reproducer-arm, a reproducer carried thereby, a turn-table for supporting the record, an electric motor for revolving the turn-table, a coin-holder adapted 35 to receive and hold the coin, mechanism actuated by the coin in the holder for returning the reproducer to its initial position, a contact-plate arranged in close proximity to the reproducer-arm, and a spring contact- 40 arm carried by the reproducer-arm adapted to contact with the stationary contact upon the beginning of the return movement of the reproducer, substantially as described.

11. In a coin-operated talking-machine the 45 combination with the reproducer-arm, a reproducer carried thereby, a turn-table for supporting the record, an electric motor for revolving the turn-table, a coin-holder adapted to receive and hold the coin, mechanism 50 actuated by the coin in the holder for returning the reproducer to its initial position, a contact-plate arranged in close proximity to the reproducer-arm, means for adjusting the said contact-plate toward and from the re- 55 producer-arm, and a spring contact-arm carried by the reproducer-arm, adapted to contact with the adjustable contact at certain times, substantially as described and for the purpose stated.

60 12. In a coin-operated talking-machine, the combination with the reproducer mechanism, of an electric motor for driving the record-support, mechanism controlled by the coin for returning the reproducer to normal posi- 65 tion, a spring contact-arm carried by the reproducer-arm having electric connection with

the battery, a supporting-standard located near the reproducer-arm, a sliding contact-plate carried by said standard electrically connected with the battery, and means for 70 adjusting the said sliding contact to regulate the starting of the motor, substantially as described.

13. The combination with the pivoted lever, M , of a slidable coin-holder, mechanism for 75 sliding said coin-holder, means for retaining the coin in the holder and automatically releasing the same at the proper interval, and an aperture, h^2 , provided in the coin-holder adapted for the entrance of the lower end of 80 the pivoted lever during the absence of a suitable coin, substantially as described.

14. In a coin-operated talking-machine, the combination of a slidable coin-holder, means 85 for operating said coin-holder and returning it to normal position, a recess or aperture formed in one side of the coin-holder, a lever, M , pivotally mounted having its lower end bent outwardly and located directly opposite the aperture in the coin-holder, and its up- 90 per end bent inwardly and adapted to engage the reproducer-arm, for the purpose specified.

15. In a coin-operated talking-machine, the combination of a slidable coin-holder, a plunger-rod for operating same, means for retain- 95 ing the coin in the holder and releasing the same as the plunger is operated, a recess, h^2 , formed on one side of the coin-holder, a pivoted lever, M , having on its lower end an arm, m , registering with the recess, h^2 , an arm, 100 m^2 , extending inwardly adapted to engage the reproducer-arm and an adjustable connection between the reproducer-arm and the pivoted arm whereby the extent of the return movement of the reproducer is regulated to 105 suit the width of the record, substantially as described.

16. In a coin-operated talking-machine, the combination of a slidable coin-holder, mechanism actuated by the coin for automatically 110 lifting and returning the reproducer to its initial position on the first line of the record, and an adjustable stop carried by the reproducer-arm for preventing the stylus from passing beyond the last line of the record, 115 substantially as described.

17. In a coin-operated talking-machine, the combination of a slidable coin-holder, mechanism actuated by the coin for automatically 120 lifting and returning the reproducer to its initial position on the first line of the record, an arm, d' , having an elongated aperture, a set-screw adapted to said aperture, and a lug or projection carried by the frame of the machine located in the path of the arm, d' , sub- 125 stantially as described.

In witness whereof I have hereunto set my hand this 27th day of March, A. D. 1900.

CHARLES T. BRADSHAW.

Witnesses:

HORACE PETTIS,
JNO. T. CROSS.