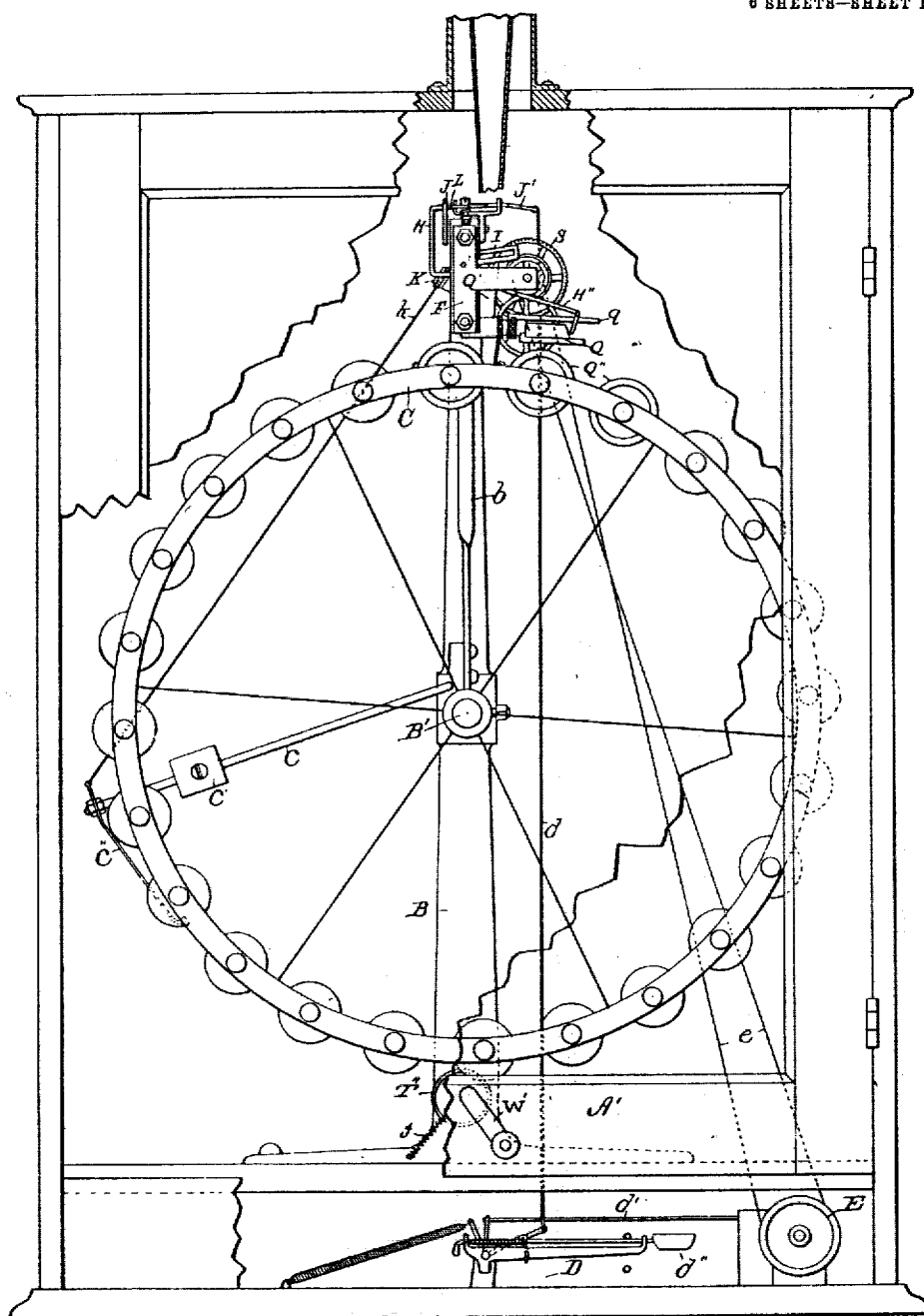


No. 816,608.

PATENTED APR. 3, 1906.

C. C. SHIGLEY.
MAGAZINE PHONOGRAPH.
APPLICATION FILED OCT. 26, 1904.

6 SHEETS—SHEET 1.



Witnesses:
W. b. Margeson
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Fig 1

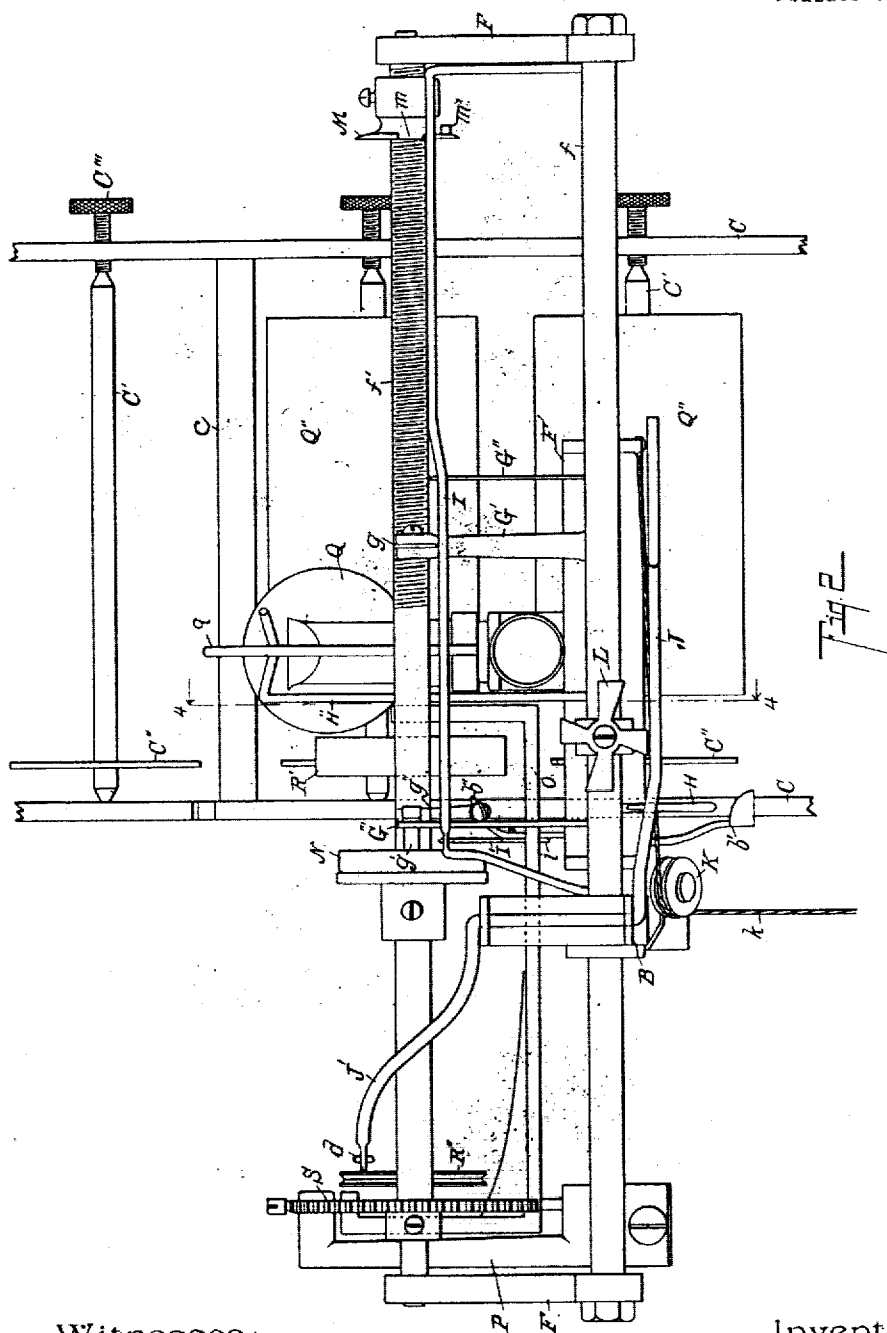
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6 SHEETS—SHEET 2.



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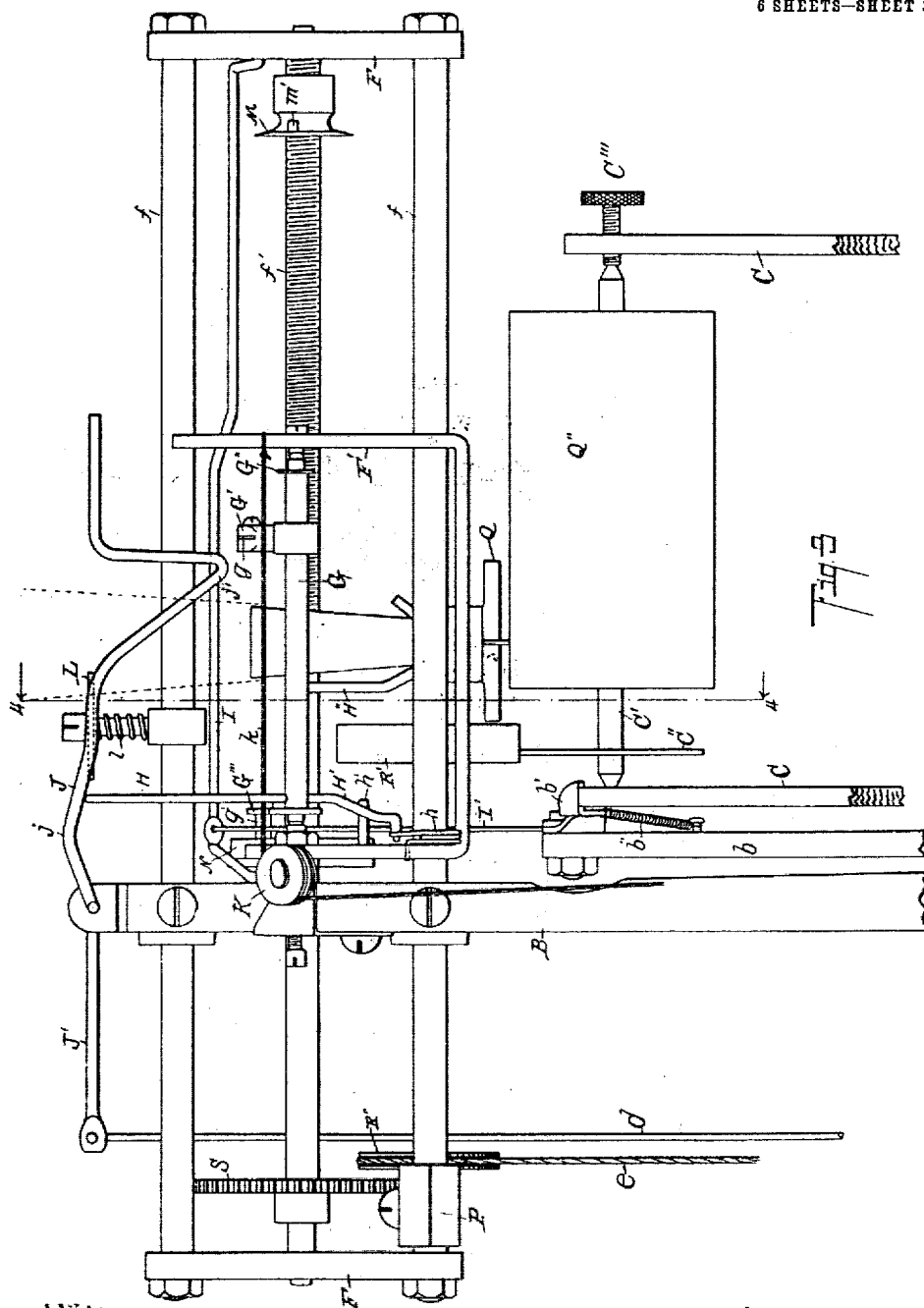
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6 SHEETS—SHEET 3.



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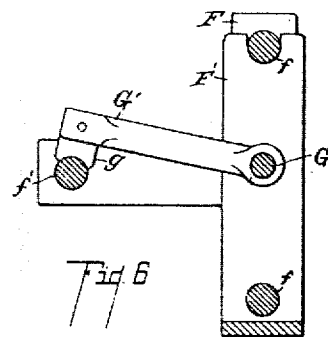
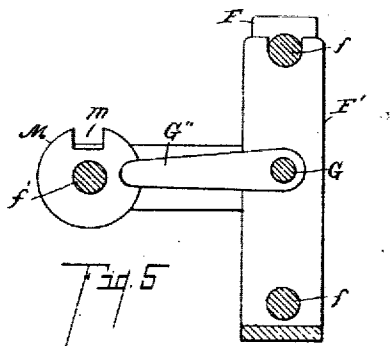
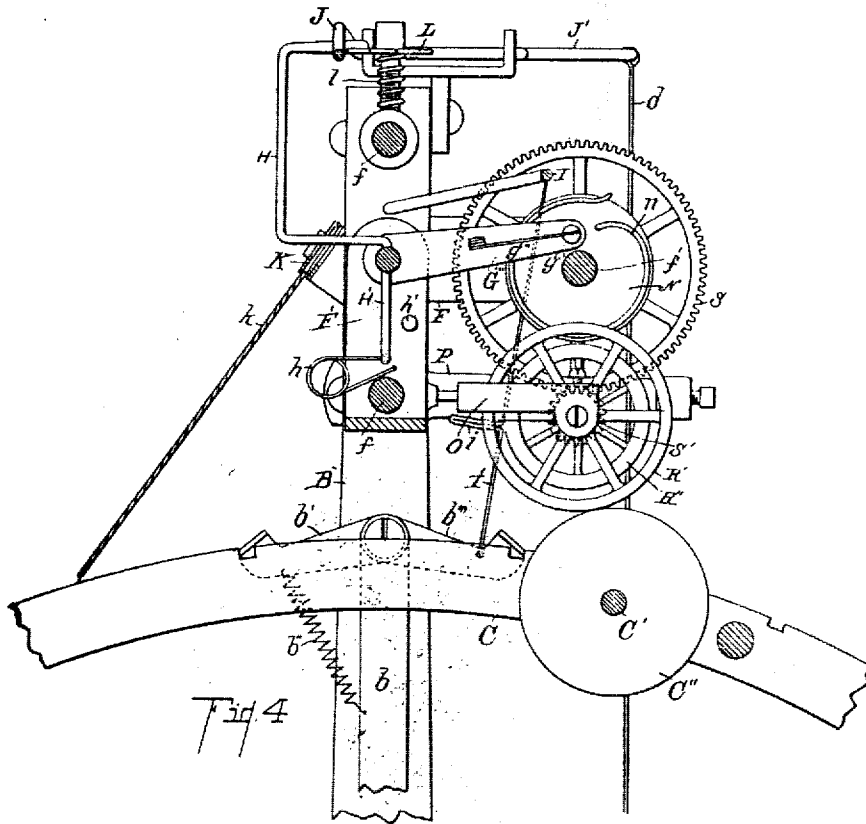
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No. 816,608.

PATENTED APR. 3, 1906.

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APPLICATION FILED OCT. 28, 1904.

6 SHEETS—SHEET 4.



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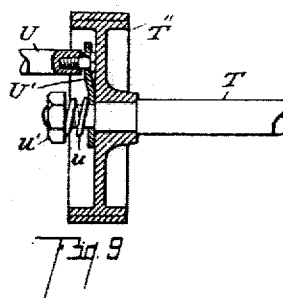
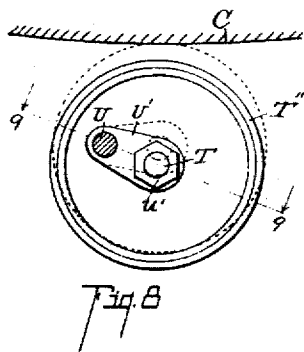
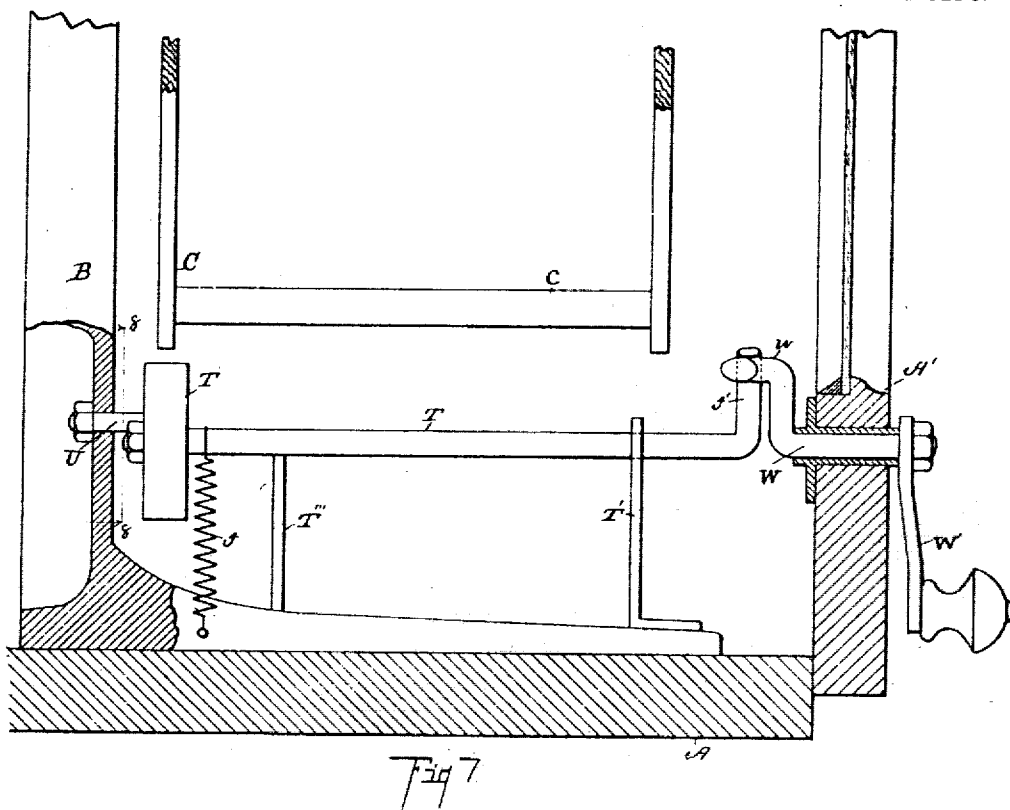
Cyrus C. Shigley.
By Chappell & Carl
Att'ys

No. 816,608.

PATENTED APR. 3, 1906.

C. C. SHIGLEY.
MAGAZINE PHONOGRAPH.
APPLICATION FILED OCT. 28, 1904.

6 SHEETS—SHEET 5.



Witnesses:
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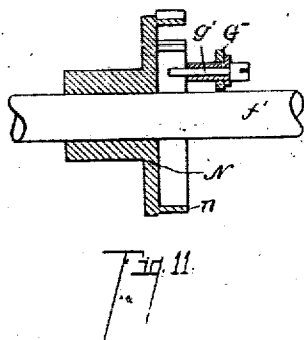
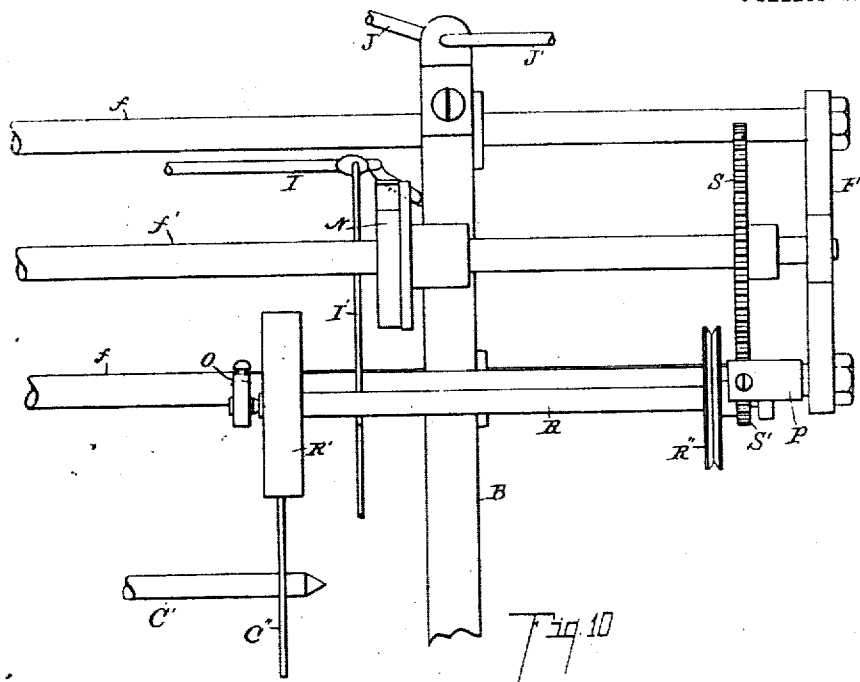
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No. 816,608.

PATENTED APR. 3, 1906.

C. C. SHIGLEY.
MAGAZINE PHONOGRAPH.
APPLICATION FILED OCT. 26, 1904.

6 SHEETS—SHEET 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

CYRUS C. SHIGLEY, OF HART, MICHIGAN.

MAGAZINE-PHONOGRAPH.

No. 816,608.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed October 26, 1904. Serial No. 230,076.

To all whom it may concern:

Be it known that I, CYRUS C. SHIGLEY, a citizen of the United States, residing at the village of Hart, county of Oceana, State of Michigan, have invented certain new and useful Improvements in Magazine-Phonographs, of which the following is a specification.

This invention relates to improvements in phonographs.

It relates particularly to improvements in magazine-phonographs of the class illustrated and described in United States Letters Patent issued to me on May 5, 1903, No. 727,002, and No. 773,164, dated October 25, 1904, and the same is in some respects an improvement on the structures there shown, although it contains features adapted for use in other relations.

The objects of my invention are, first, to provide in a magazine-phonograph an improved means by which the record-rolls are automatically brought into position for the reproduction of the records and the reproducer automatically adjusted; second, to provide in a magazine-phonograph an improved means by which any desired record may be brought into position for reproduction or the several records reproduced successively, as desired; third, to provide in a magazine-phonograph an improved means by which the reproducing mechanism is automatically thrown into and out of engagement with the record-rolls; fourth, to provide in a magazine-phonograph means by which the record-magazine and the reproducer mechanism are actuated in proper relation to each other; fifth, to provide in a magazine-phonograph an improved means which may be readily adjusted so that two or more records will be reproduced upon the introduction of a single coin; sixth, to provide in a magazine-phonograph means by which the bringing of the reproducer into engagement with the record-roll is timed so that the vibrations due to the adjustment of the magazine have practically ceased; seventh, to provide in a magazine-phonograph an improved means for throwing the reproducer into and out of engagement with the record-roll.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation view of my improved phonograph, portions of the casing being broken away and portions being shown in section to show the arrangement of the parts. Fig. 2 is an enlarged detail plan view of the mechanism removed from the casing. Fig. 3 is a detail elevation view looking from the right of Fig. 2. Fig. 4 is a transverse sectional view taken on a line corresponding to line 4 4 of Figs. 2 and 3. Fig. 5 is an enlarged sectional view through the reproducer-carriage, showing the means of throwing the reproducer out of engagement with the record-roll and checking the carriage. Fig. 6 is a transverse sectional view through the reproducer-carriage, showing the means for driving the same. Fig. 7 is an enlarged detail transverse sectional view through the casing, showing the mechanism for adjusting the mechanism by hand. Fig. 8 is an enlarged detail sectional view taken on a line corresponding to line 8 8 of Fig. 7. Fig. 9 is a sectional view taken on a line corresponding to line 9 9 of Fig. 8. Fig. 10 is an enlarged detail elevation view showing the arrangement of the driving means for the record-rolls and of the trip-wheel N for throwing the reproducer into engagement with the record-roll and connecting the carriage with the driving-shaft. Fig. 11 is an enlarged sectional view through the wheel N for throwing the reproducer into engagement with the record-roll and connecting the carriage with the driving-shaft.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, the casing A is of any desired form and material and is preferably suitably glazed, so that the mechanism is visible to the operator. The casing is provided with a door A'. A standard B, by which the operative parts of the machine are supported, is arranged within the casing, preferably at the rear thereof. The record-rolls are supported by a wheel consisting of a pair of rims C, which are rigidly secured together by suitable cross-pieces c'. The

spokes are secured to these cross-pieces c' . The hub is preferably provided with suitable antifriction-bearings. One of the rims is provided with suitable pivot-sockets in its inner face for the inner ends of the mandrel-shafts C' , which are provided with pivot-bearings. Thumb-screws C''' , having suitable bearing-sockets in their inner ends, are inserted through the opposite rim to form bearings for the outer ends of the mandrel-shafts C' . This enables the ready removal or insertion of the record-rolls and the accurate adjustment of the bearings therefor. The record-rolls are thus supported so that they revolve freely and at the same time are held steadily in position. By this arrangement I am enabled to support in a comparatively compact space a large number of record-rolls, as Q'' , so that they may be readily brought into proper relations to the reproducer mechanism as desired. The means by which this is accomplished will be hereinafter pointed out.

On each of the mandrel-shafts C' is a thin-rimmed wheel C'' . These wheels C'' as the magazine-wheel is revolved to bring the record-rolls into proper relation with the reproducer mechanism are engaged in turn by the friction driving-wheel R' . (See Figs. 3 and 4.) This driving-wheel R' is preferably provided with a soft-rubber tire, as is illustrated in my first patent heretofore referred to. The driving-wheel R' is mounted on the shaft R . This shaft R is provided with a grooved pulley R'' , which is connected to the motor E , which is shown in conventional form in Fig. 1, by the belt e . The shaft R is mounted in suitable bearings on the frame O . This frame O is pivoted at its outer end to the bracket P . (See Figs. 2 and 4.) This allows the friction-wheel R' to swing up and down, permitting the mandrel-shaft wheel C'' to pass under the same and allowing it to be held out of the engaging position when the machine is being adjusted, as will be hereinafter described. The shaft R is provided with a pinion S' , which meshes with the gear S on the screw driving-shaft for the reproducer-carriage. This mechanism is substantially that described in my first patent heretofore referred to.

The bracket P is secured to the supporting-frame for the reproducing mechanism. This frame consists of the rods f and the T-shaped end brackets F , which are secured thereto. The rods f are arranged in the upper end of the standard B . The driving screw-shaft f'' is arranged in suitable bearings in the end brackets F . The rods f are arranged parallel and serve as ways or bearings for the reproducer-carriage F' , which is provided with suitable bearings, so that it is adapted to reciprocate back and forth on the rods. (See Figs. 1 to 6.)

It is desirable that the reproducer mechanism be automatic in its operation in relation

to the record-rolls, so that it is only necessary to start the mechanism to have any desired record reproduced and the mechanism automatically readjusted for the next reproduction. To accomplish this, the reproducer Q is pivotally supported on the carriage F' . The carriage F' is driven in one direction by the screw-shaft f'' . The driving connections for the screw-shaft f'' have been heretofore described.

A rock-shaft G is carried by the carriage F' . On this rock-shaft is an arm G' , having a blade g adapted to engage the threads of the driving-shaft f'' , so that as the shaft is revolved the carriage is driven along thereby. The carriage is returned to its initial position by the weighted lever c , which is connected thereto by a suitable cord k . The cord k is arranged on the pulley K , as clearly appears from the drawings. The lever c is pivoted on the standard B and is provided with a suitable weight c' . The lever c is provided with a spring-pawl c'' at its outer end adapted to engage suitable notches on the periphery of one of the rims of the magazine-wheel. These notches are spaced, one to each record-roll carried by the magazine-wheel, so that upon each actuation of the lever c the magazine-wheel is advanced one step to bring the next succeeding record-roll into proper position for reproduction. The magazine-wheel is provided with a suitable stop or escapement mechanism, which will be described later.

When the carriage is returned to its initial position for the reproduction of a record, the driving-arm G' thereof is automatically brought into engagement with the driving-shaft f'' by means of the arm G''' , carried by the rock-shaft G . The arm G''' is provided with a laterally-projecting pin g' . (See Fig. 11.) This pin is arranged through the arm and is yieldingly held in position by a spring g'' . (See Fig. 4.) When the carriage reaches its initial position, this pin g' is engaged by the cam-shaped flange n of the wheel or disk N . (See Figs. 4 and 11.) This wheel N is carried by the driving-shaft f'' . The flange n extends practically around the wheel and is deflected inwardly at its inner end, so that the rock-shaft G is thrown forward, thereby bringing the driving-arm G' into engagement with the driving-shaft and the reproducer into engagement with the record-roll. When the carriage reaches the end of its movement, the driving-arm G' is automatically thrown out of engagement with the driving-shaft by the disk M on the driving-shaft, which engages the arm G'' of the rock-shaft G . This arm G'' is a spring, and as the carriage is carried forward by the driving-shaft it engages the disk M and contacts with the inner face thereof until the notch m in the disk is reached, when the arm snaps through the notch and is engaged by the lug m' on the opposite side of the disk, which throws the arm

upward, thereby rocking the rock-shaft and lifting the driving-arm G' out of engagement with the shaft. The reproducer Q is lifted from the record-roll. At the same time the driving-arm is thrown out of engagement with the driving-shaft by a forwardly-projecting arm H'' on the rock-shaft G . The forward end of this arm is formed into a V shape to engage the forwardly-projecting rod or pin b , which is carried by the reproducer. It is apparent that when the rock-shaft is thrown down at the initial end of the carriage movement the reproducer is brought into contact with the record-roll, as heretofore stated.

The particular style of disengaging disk M is very economical to produce, which is the main advantage of the same over the structure of my former patents referred to herein. Another advantage is that there is no strain upon the carriage as it is carried forward upon the driving-screw until the same is disengaged, the spring-arm G'' yielding to allow this. It also avoids the necessity of accurate adjustment.

In order that the reproducer be brought into and thrown out of contact with the record-roll at the proper points, the disks M and N are adapted to be adjusted on the driving-shaft.

The rock-shaft G is retained in its adjusted positions by the spring h , one end of which is secured to the end of the downwardly-projecting arm H' on the rock-shaft and the other end of which rests upon one of the bearing-rods f . This spring holds the driving-rod G' into yielding engagement with the driving-shaft when the shaft G is rocked into that position and holds the same in its elevated position when the shaft is rocked to its opposite position. These parts clearly appear in Fig. 4.

When the rock-shaft G is operated by the disconnecting means, the upwardly-projecting arm H , carried by the rock-shaft G , is withdrawn from under the motor-controlling lever J , which allows the same to drop. The arm J' of this lever is connected to the motor by means of the rod d , so that the motor is stopped thereby.

The short arm J' of the lever J is, as above stated, connected by the rod or link d to the motor. The connection of the rod d to the motor is by means of a coin-controlled mechanism D , so that when a coin is introduced into the cup d'' the weight of the coin throws the cup downwardly and by means of the connecting-link d' starts the motor. This revolves the driving screw-shaft f' , and when the notch or slot m of the disengaging disk M reaches the spring-arm G'' it snaps through the same, thus freeing the carriage and allowing the same to return to its initial position, the carriage being returned by the weighted

lever c , as hereinbefore pointed out. At the same time the magazine-wheel is advanced one step.

When the carriage reaches its initial position, the pin g' on the arm G''' of the rock-shaft G is engaged by the cam-shaped flange n of the wheel or disk N and the rock-shaft is rocked forwardly, thus bringing the driving-arm into engagement with the driving-shaft and at the same time bringing the reproducer into engagement with the record-roll. This forward movement of the rock-shaft G brings the arm H under the motor-controlling lever J . The lever J is provided with a downwardly-projecting cam-shaped bend j'' therein, so that as the arm H is carried along under the same the arm is elevated, and this through the connection to the coin-holder d'' ejects the coin therefrom. I desire to state in this connection that the particular object of the cam-shaped flange n of the disk or wheel N is that the reproducer is not brought into engagement with the record-roll until after the vibrations of the machine have ceased, resulting from the adjustment of the magazine-wheel. This reduces the wear and strain upon the reproducer to a minimum.

When the arm G' is thrown upwardly, it engages the pivoted bail I . This bail I is connected by the link I' to the dog b''' . The upward movement of the bail I disengages the dog from the magazine-wheel, allowing the same to be adjusted to bring any record-roll desired into position to be reproduced. A dog b' is oppositely arranged to the dog b''' to prevent the backward revolution of the magazine-wheel. These dogs are supported upon the upper end of the arm b . A spring b'' holds the dog b' downwardly into contact with the periphery of the rim.

The link I' is provided with a lateral projection i , adapted to engage the frame O , by which the friction-wheel R' is carried, so that when the bail is thrown upwardly the friction-wheel is elevated, so that it is not engaged by the wheels C'' of the mandrel-shafts, allowing the same to pass freely under the said wheels. The dog b''' is also held out of engagement, so that the magazine-wheel can be revolved to any position desired by the manipulation of the crank W' . (See Fig. 7.) The shaft W of the crank is supported in a suitable bearing in the door A' of the casing. The inner crank-shaped end w of the shaft W engages the laterally-projecting end t' of the shaft T . This shaft T is supported at its outer end by the standard T' , through which it is arranged, the bearing therefor being sufficiently large to allow the tilting of the shaft therein. On the inner end of the shaft T is a friction-wheel T'' . The inner end of the shaft T is supported by the link U' , one end of which is pivoted on the

pin U on the standard B and the other end is pivoted on the shaft T. The link U' is held against the face of the wheel T'' by a coiled spring u. The spring u is adjustably retained on the end of the shaft by means of the nut u'. The friction of the link U' on the face of the wheel is sufficient so that when the shaft T is revolved the friction-wheel T'' is thrown up into engagement with one of the rims C, thereby driving the magazine-wheel.

A coiled spring t is connected to the shaft T to return it when released to its normal position against the post or stop T'''. I thus provide means for adjusting the magazine-wheel independently of the automatic adjusting means, so that the magazine-wheel may be adjusted to bring any desired record into position to be reproduced. This particular means of connecting the crank-shaft W to the shaft T is of special value, as no matter in what position the crank-shaft may be left the door carrying the crank may be closed without any danger of injuring the parts due to their not properly engaging, as might otherwise be the case.

It is sometimes desirable that two records be reproduced upon the introduction of a single coin. To prevent the stopping of the motor at the completion of each reproduction, I provide a catch or stop L for the lever J. This stop consists of a star-wheel having long and short arms, the long arms being of sufficient length to extend under the lever J to prevent its dropping far enough to stop the motor, as I have heretofore described. The arms of this wheel L are adapted to be engaged by the arm H on the forward movement of the carriage, which revolves the stop one step. This brings a long arm into position to support the controlling-lever J of the motor. When the motor-controlling lever J is supported by the stop, the reproducer-carriage is returned to its initial position at once, and as the driving-shaft is in motion the driving-arm of the carriage is thrown into engagement with the driving-shaft. The forward movement of the carriage again acts upon the stop, carrying the long arm out of engaging position, so that at the end of the movement of the carriage the controlling-lever J is allowed to drop to stop the motor.

The stop I have illustrated is adapted to operate so that two records are reproduced upon the introduction of a single coin. It is evident, however, that by the arrangement of the long and short arms more than that number could be reproduced.

I have illustrated and described my improved multiphonograph in detail in what I believe to be its preferred form on account of its structural simplicity and economy and its durability. I am aware, however, that it is capable of very considerable variation in structural details without departing from my invention.

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

1. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon, adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog, whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; connections from said rock-shaft to said adjustable support for said driving-wheel for the said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; means for adjusting said magazine-wheel independently of said pivoted lever; a controlling-lever for the motor; an arm H on said rock-shaft, adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock-shaft is in its rearward position, thereby permitting it to drop to stop the motor; a stop L for the said controlling-lever, consisting of a wheel having long and short arms thereon, the long arms of which are adapted to support the lever when released by the said arm H, said arm H being adapted to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling lever, all coacting for the purpose specified.

2. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported

on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; 5 a wheel or disk N on said driving-shaft, having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on 10 said rock-shaft; a disk M on said driving-shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; 15 connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to 20 engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog, whereby 25 said locking-dog is held out of engagement when said rock-shaft is in its rearward position; means for adjusting said magazine-wheel independently of said pivoted lever; a controlling-lever for the motor; an arm H on 30 said rock-shaft, adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock-shaft is in its rearward position, thereby permitting it to drop to stop 35 the motor; a stop L for said controlling-lever, consisting of a wheel having long and short arms thereon, the long arms of which are adapted to support the lever when released by the said arm H, said arm H being adapted 40 to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling lever, all coacting for the purpose specified.

3. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a 50 carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a 55 rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having 60 a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to

engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact 70 with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon, adapted to engage said magazine-wheel; connections from said lever to said carriage; connections from said rock-shaft to 75 said adjustable support for said driving-wheel for the said mandrel-shaft wheels, whereby the said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; a controlling-lever for the 80 motor; an arm H on the said rock-shaft, adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock-shaft is in its rearward position, thereby per- 85 mitting it to drop to stop the motor; a stop L for the said controlling-lever, consisting of a wheel having long and short arms thereon, the long arms of which are adapted to support the lever when released by the said arm 90 H, said arm H being adapted to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling lever, all coacting for the purpose specified.

4. In a magazine-phonograph, the combination of a frame; a magazine-wheel; man- 95 drel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded 100 driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange *n* thereon adapted to 105 engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving- 110 shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock- 115 shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from 120 said lever to said carriage; a controlling-lever for the motor; an arm H on said rock-shaft adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock- 125 shaft is in its rearward position, thereby permitting it to drop to stop the motor; a stop L for said controlling-lever, consisting of a wheel having long and short arms thereon, the long arms of which are adapted to sup- 130

6

port the lever when released by the said arm H, said arm H being adapted to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling lever, all coacting for the purpose specified.

5. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon, adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog, whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; connections from said rock-shaft to said adjustable support for said driving-wheel for the said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; means for adjusting said magazine-wheel independent of said pivoted lever; a controlling-lever for said motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

6. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange n thereon adapted

to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog, whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; means for adjusting said magazine-wheel independent of said pivoted lever; a controlling-lever for the motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

7. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon, adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog, whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; means for adjusting said magazine-wheel independent of said pivoted lever; a controlling-lever for the motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

a controlling-lever for the motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

8. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a controlling-lever for the motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

9. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' , where-

by said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; connections from said rock-shaft to said adjustable support for said driving-wheel for said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; and means for adjusting said magazine-wheel independent of said pivoted lever, for the purpose specified.

10. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; and means for adjusting said magazine-wheel independent of said pivoted lever, for the purpose specified.

11. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-

shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; connections from said rock-shaft to said adjustable support for said driving-wheel for said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; and means for adjusting said magazine-wheel independent of said pivoted lever, for the purpose specified.

12. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; and means for adjusting said magazine-wheel independent of said pivoted lever, for the purpose specified.

13. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-

shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'', whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; and connections from said rock-shaft to said adjustable support for said driving-wheel for said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels, for the purpose specified.

14. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch *m* therein to allow said spring-arm G'' to pass therethrough, and a lug *m'* adapted to engage said arm G'' whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; a locking-dog for said magazine-wheel; and

connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position, for the purpose specified.

15. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' , whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl thereon adapted to engage said magazine-wheel; connections from said lever to said carriage; and connections from said rock-shaft to said adjustable support for said driving-wheel for said mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels, for the purpose specified.

16. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft having a cam-shaped flange n thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; a driving-arm G' adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm G'' on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' , whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said re-

producer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; a pivoted lever having a pawl therein adapted to engage said magazine-wheel; and connections from said lever to said carriage, for the purpose specified.

17. In a magazine-phonograph, the combination of a frame; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped flange thereon adapted to engage said arm G''' to throw said rock-shaft forwardly; driving connections for said carriage to said driving-shaft, adapted to be thrown into and out of engaging position by said rock-shaft; a spring-arm on said rock-shaft; a disk M on said driving-shaft, having a notch m therein to allow said spring-arm G'' to pass therethrough, and a lug m' adapted to engage said arm G'' , whereby said rock-shaft is thrown rearwardly; connection from said rock-shaft to said reproducer, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; means for advancing said magazine-wheel with a step-by-step movement; connections from said means to said carriage whereby said carriage is returned to its initial position; connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; a controlling-lever for the motor; an arm H on the said rock-shaft, adapted to engage the said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock-shaft is in its rearward position, thereby permitting it to drop to stop the motor; a stop for the said controlling-lever consisting of a wheel having long and short arms thereon, the long arms of which are adapted to support the lever when released by the said arm H , said arm H being adapted to actuate said wheel for bringing the long arms into and out of position to engage the said motor-controlling lever, all coacting for the purpose specified.

18. In a magazine-phonograph, the combination of a frame; a magazine-wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having suitable driving connections to said motor; a rock-shaft carried by said carriage; an arm G''' on said rock-shaft; a wheel or disk N on said driving-shaft, having a cam-shaped

flange *n* thereon adapted to engage said arm *G'''* to throw said rock-shaft forwardly; driving connections for said carriage to said driving-shaft, adapted to be thrown into and out of engaging position by said rock-shaft; a spring-arm on said rock-shaft; a disk *M* on said driving-shaft, having a notch *m* therein to allow said spring-arm *G''* to pass therethrough, and a lug *m'* adapted to engage said arm *G''*, whereby said rock-shaft is thrown rearwardly; connections from said rock-shaft to said reproducer, whereby said reproducer is thrown into and out of contact with the record-rolls upon the actuation of said rock-shaft; means for advancing said magazine-wheel with a step-by-step movement; connections from said means to said carriage whereby said carriage is returned to its initial position; connections from said rock-shaft to said locking-dog whereby said locking-dog is held out of engagement when said rock-shaft is in its rearward position; a controlling-lever for the motor; connections from said rock-shaft to said motor-controlling lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, all coacting for the purpose specified.

19. In a magazine-phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel with said record-roll; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having a suitable driving connection to said motor; a rock-shaft carried by said carriage; an arm *G'''* on said rock-shaft; a wheel or disk *N* on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm *G'''* to throw said rock-shaft forwardly; a driving-arm *G'* adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm *G''* on said rock-shaft; a disk *M* on said driving-shaft, having a notch *m* therein to allow said spring-arm *G''* to pass therethrough, and a lug *m'* adapted to engage said arm *G''*, whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-roll upon the actuation of said rock-shaft; and connections from said rock-shaft to said motor, for the purpose specified.

20. In a magazine-phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel with said record-roll; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having a suitable driving connection to said motor; a rock-shaft carried by said carriage; an arm *G'''* on said rock-shaft; a wheel or disk *N* on said driving-shaft having a cam-

shaped flange *n* thereon adapted to engage said arm *G'''* to throw said rock-shaft forwardly; driving connections for said carriage to said driving-shaft adapted to be thrown into and out of engaging position by said rock-shaft; a spring-arm *G''* on said rock-shaft; a disk *M* on said driving-shaft, having a notch *m* therein to allow said spring-arm *G''* to pass therethrough, and a lug *m'* adapted to engage said arm *G''*, whereby said rock-shaft is thrown rearwardly; connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-roll upon the actuation of said rock-shaft; and connections from said rock-shaft to said motor, for the purpose specified.

21. In a magazine-phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel with said record-roll; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having a suitable driving connection to said motor; a rock-shaft carried by said carriage; an arm *G'''* on said rock-shaft; a wheel or disk *N* on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm *G'''* to throw said rock-shaft forwardly; a driving-arm *G'* adapted to engage said driving-shaft when said rock-shaft is in its forward position; a spring-arm *G''* on said rock-shaft; a disk *M* on said driving-shaft, having a notch *m* therein to allow said spring-arm *G''* to pass therethrough, and a lug *m'* adapted to engage said arm *G''*, whereby said rock-shaft is thrown rearwardly; and connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and out of contact with the record-roll upon the actuation of said rock-shaft, for the purpose specified.

22. In a magazine-phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel with said record-roll; a phonograph-reproducer pivotally supported on said carriage; a motor; a screw-threaded driving-shaft having a suitable driving connection to said motor; a rock-shaft carried by said carriage; an arm *G'''* on said rock-shaft; a wheel or disk *N* on said driving-shaft having a cam-shaped flange *n* thereon adapted to engage said arm *G'''* to throw said rock-shaft forwardly; driving connections for said carriage to said driving-shaft adapted to be thrown into and out of engaging position by said rock-shaft; a spring-arm *G''* on said rock-shaft; a disk *M* on said driving-shaft, having a notch *m* therein to allow said spring-arm *G''* to pass therethrough, and a lug *m'* adapted to engage said arm *G''*, whereby said rock-shaft is thrown rearwardly; and connections from said reproducer to said rock-shaft, whereby said reproducer is thrown into and

out of contact with the record-roll upon the actuation of said rock-shaft, for the purpose specified.

3. In a phonograph, the combination of a
5 record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally sup-
ported on said carriage; a rock-shaft adapted
to raise and lower said reproducer to throw the
10 same into and out of engagement with said
record-roll; a screw-threaded driving-shaft; a
driving-arm on said rock-shaft adapted to en-
gage said driving-shaft when said rock-shaft is
in its forward position; a spring-arm on said
15 rock-shaft; and a disk on said driving-shaft
having a notch therein and having a laterally-
projecting lug on its outer face adapted to en-
gage said spring-arm to actuate said rock-
shaft, for the purpose specified.

20 24. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
supported on said carriage; a rock-shaft
25 adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a screw-threaded driv-
ing-shaft; driving connections for said car-
riage to said driving-shaft; a spring-arm on
30 said rock-shaft; and a disk on said driving-
shaft having a notch therein and having a
laterally-projecting lug on its outer face
adapted to engage said spring-arm to actuate
said rock-shaft, for the purpose specified.

35 25. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
supported on said carriage; a rock-shaft
40 adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a screw-threaded driv-
ing-shaft; a driving-arm on said rock-shaft
adapted to engage said driving-shaft when
45 said rock-shaft is in its forward position; an
arm on said rock-shaft; and a disk on said
driving-shaft having a notch therein and
having a laterally-projecting lug on its outer
face adapted to engage said arm to actuate
50 said rock-shaft, for the purpose specified.

26. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
55 supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a screw-threaded driv-
ing-shaft; driving connections for said
60 carriage to said driving-shaft; an arm on
said rock-shaft; and a disk on said driving-
shaft having a notch therein and having a
laterally-projecting lug on its outer face
adapted to engage said arm to actuate said
65 rock-shaft, for the purpose specified.

27. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
70 supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a screw-threaded
driving-shaft; a driving-arm on said rock-
shaft adapted to engage said driving-shaft
75 when said rock-shaft is in its forward posi-
tion; a spring-arm on said rock-shaft; and a
disk on said driving-shaft having a notch
therein adapted to engage said spring-arm to
actuate said rock-shaft, for the purpose speci-
fied. 80

28. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
85 supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a screw-threaded
driving-shaft; driving connections for said
90 carriage to said driving-shaft; a spring-arm
on said rock-shaft; and a disk on said driv-
ing-shaft having a notch therein adapted to
engage said spring-arm to actuate said rock-
shaft, for the purpose specified. 95

29. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
100 supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
throw the same into and out of engagement
with said record-roll; a spring-arm on said
rock-shaft; a disk having a notch therein
and having a laterally-projecting lug on its
105 outer face adapted to engage said spring-arm
to actuate said rock-shaft; and driving con-
nections for said disk or wheel, for the pur-
pose specified.

30. In a phonograph, the combination of a
110 record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
115 throw the same into and out of engagement
with said record-roll; a spring-arm on said
rock-shaft; a disk having a notch therein
adapted to engage said spring-arm to actuate
said rock-shaft; and driving connections for
120 said disk or wheel, for the purpose specified.

31. In a phonograph, the combination of a
record-roll; means for revolving the same; a
carriage adapted to reciprocate parallel there-
with; a phonograph-reproducer pivotally
125 supported on said carriage; a rock-shaft
adapted to raise and lower said reproducer to
throw the same into and out of engagement
with the record-roll; a screw-threaded driv-
ing-shaft; a driving-arm on said rock-shaft adapt-
130

ed to engage said screw-threaded driving-shaft when the rock-shaft is in its forward position; an arm on said rock-shaft having a laterally-projecting yielding pin thereon; and
 5 a disk or wheel on said driving-shaft having a flange with an inwardly-deflected end thereon adapted to engage said pin on said arm to throw the same downwardly to bring the reproducer into contact with the record-roll,
 10 and the driving-arm into engagement with the driving-shaft, for the purpose specified.

32. In a phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel therewith; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft adapted to raise and lower said reproducer to throw the same into and out of engagement with the record-roll; a screw-threaded driving-shaft; a
 20 driving-arm on said rock-shaft adapted to engage said screw-threaded driving-shaft when the rock-shaft is in its forward position; an arm on said rock-shaft; and a disk or wheel on said driving-shaft having a flange with an
 25 inwardly-deflected end thereon adapted to engage said arm to throw the same downwardly to bring the reproducer into contact with the record-roll, and the driving-arm into engagement with the driving-shaft, for the purpose
 30 specified.

33. In a phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel therewith; a phonograph-reproducer carried by
 35 said carriage; a rock-shaft adapted to raise and lower said reproducer to throw the same into and out of engagement with the record-roll; an arm on said rock-shaft having a laterally-projecting yielding pin thereon; a disk
 40 or wheel having a flange with an inwardly-deflected end thereon adapted to engage said pin on said arm to throw the same downwardly to bring the reproducer into contact with the record-roll; and driving connections
 45 for said disk or wheel, for the purpose specified.

34. In a phonograph, the combination of a record-roll; means for revolving the same; a carriage adapted to reciprocate parallel therewith; a phonograph-reproducer carried by
 50 said carriage; a rock-shaft adapted to raise and lower said reproducer to throw the same into and out of engagement with the record-roll; an arm on said rock-shaft; a disk or wheel
 55 having a flange with an inwardly-deflected end thereon adapted to engage said arm to throw the same downwardly to bring the reproducer into contact with the record-roll; and driving connections for said disk or wheel,
 60 for the purpose specified.

35. In a magazine-phonograph, the combination of a suitable frame; a motor; a magazine-wheel carrying mandrels; record-rolls on
 65 said mandrels; driving connections for said

parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage adapted to raise and lower said reproducer
 70 to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said
 75 magazine-wheel; connections for said locking-dog to said rock-shaft; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; a controlling-lever for said
 80 motor; an arm on said rock-shaft adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when said rock-shaft is in its rearward position, thereby permitting the said
 85 lever to drop and stop the motor; a stop for said controlling-lever consisting of a wheel having long and short arms thereon, the long arms of which are adapted to support the controlling-lever when released by said rock-shaft arm, said rock-shaft arm being adapted
 90 to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling lever, for the purpose specified.

36. In a magazine-phonograph, the combination of a suitable frame; a motor; a magazine-wheel carrying mandrels; record-rolls
 95 on said mandrels; driving connections for said mandrels; a carriage adapted to reciprocate parallel with said record-rolls; a
 100 phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means
 105 for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; means for returning said carriage to its initial position, adapted to actuate said magazine-
 110 wheel with a step-by-step movement; a controlling-lever for said motor; an arm on said rock-shaft adapted to engage said controlling-lever when said rock-shaft is in its forward position, and to release the same when
 115 said rock-shaft is in its rearward position, thereby permitting the said lever to drop and stop the motor; a stop for said controlling-lever consisting of a wheel having long and short arms thereon, the long arms of which
 120 are adapted to support the controlling-lever when released by said rock-shaft arm, said rock-shaft arm being adapted to actuate said wheel for bringing the long arms into and out of position to engage said motor-controlling
 125 lever, for the purpose specified.

37. In a magazine-phonograph, the combination of a suitable frame; a motor; a magazine-wheel carrying mandrels; record-rolls
 130 on said mandrels; driving connections for

said mandrels; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; a controlling-lever for said motor; connections from said rock-shaft to said controlling-lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, for the purpose specified.

38. In a magazine-phonograph, the combination of a suitable frame; a motor; a magazine-wheel carrying mandrels; record-rolls on said mandrels; driving connections for said mandrels; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; a controlling-lever for said motor; connections from said rock-shaft to said controlling-lever; and a stop for said motor-controlling lever adapted to be thrown into and out of engaging position by the reciprocation of said carriage, for the purpose specified.

39. In a magazine-phonograph, the combination of a casing; a door therefor; a record-roll magazine; record-rolls carried thereby; a carriage adapted to reciprocate parallel with said record-rolls; means for actuating said carriage; a controlling-lever for said motor; connections from said carriage to said lever, adapted to be released at the end of the movement of said carriage to stop the motor; and a stop for said controlling-lever, adapted to be thrown into and out of engaging position by the reciprocation of said carriage, for the purpose specified.

40. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage,

adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T'; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T' normally out of engagement with said magazine-wheel, all cooperating for the purpose specified.

41. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheels; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T'; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T' normally out of engagement with said magazine-wheel, all cooperating for the purpose specified.

42. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheels; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage,

nation of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

43. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally

out of engagement with said magazine-wheel, all coacting for the purpose specified.

44. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheels; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

45. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; means for returning said carriage to its initial position, adapted to actuate said magazine-wheel with a step-by-step movement; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' nor-

mally out of engagement with said magazine-wheel, all coacting for the purpose specified.

46. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported in said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; connections from said rock-shaft to said adjustable support for the driving-wheel of the mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

47. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shaft; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to en-

gage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

48. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; connections from said rock-shaft to the motor; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

49. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; connections from said rock-shaft to said adjustable support for the driving-wheel for the mandrel-shaft wheels, whereby said driving-wheel is thrown into and out of position to engage said mandrel-shaft wheels; a pivotally-supported shaft T having a friction-wheel T'' and a laterally-projecting arm t' thereon; a pivotally-supported link on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T''; a crank-shaft W adapted to engage said arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T'' normally out of engagement with

said magazine-wheel, all coacting for the purpose specified.

50. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; wheels on said mandrel-shafts; a driving-wheel for said mandrel-shaft wheels; an adjustable support therefor; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; connections from said rock-shaft to said adjustable support for the driving-wheel for the said mandrel-shaft wheels, whereby said driving-shaft is thrown into and out of position to engage said mandrel-shaft wheels; a pivotally-supported shaft T having a friction-wheel T' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T'; a crank-shaft W adapted to engage the arm t' of said shaft T, carried by the door of said casing; and a spring for holding said friction-wheel T' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

51. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; mandrel-shafts having record-rolls thereon carried by said wheel; a carriage adapted to reciprocate parallel with said record-rolls; a phonograph-reproducer pivotally supported on said carriage; a rock-shaft carried by said carriage, adapted to raise and lower said reproducer to throw the same into and out of contact with said record-rolls; means for actuating said carriage; means for automatically actuating said rock-shaft at the end of the movement of said carriage; a locking-dog for said magazine-wheel; connections for said locking-dog to said rock-shaft; a pivotally-supported shaft T having a friction-wheel T' and a laterally-projecting arm t' thereon; a pivotally-supported link U' on the inner end of said shaft T; a spring adapted to hold said link in frictional contact with the face of said wheel T'; a crank-shaft W adapted to engage the arm t' of said shaft T carried by the door of said casing; and a spring for holding said friction-wheel

T' normally out of engagement with said magazine-wheel, all coacting for the purpose specified.

52. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; a pivotally-supported shaft having a friction-wheel and a laterally-projecting arm thereon; a pivotally-supported link on said shaft; a spring adapted to hold said link in frictional contact with the face of said wheel; and a crank adapted to engage the arm on said shaft carried by the door of said casing, for the purpose specified.

53. In a magazine-phonograph, the combination of a casing; a door therefor; a magazine-wheel; a pivotally-supported shaft having a friction-wheel and a laterally-projecting arm thereon; a pivotally-supported link on said shaft; and a crank adapted to engage the arm on said shaft carried by the door of said casing, for the purpose specified.

54. In a magazine-phonograph, the combination of a casing; a magazine-wheel; a pivotally-supported shaft having a friction-wheel thereon and a laterally-projecting arm thereon; a pivotally-supported link on said shaft; a spring adapted to hold said link in frictional contact with the face of said wheel; and a crank adapted to engage the arm on said shaft, for the purpose specified.

55. In a magazine-phonograph, the combination of a casing; a magazine-wheel; a pivotally-supported shaft having a friction-wheel and a laterally-projecting arm thereon; and a crank adapted to engage the arm on said shaft, for the purpose specified.

56. In a magazine-phonograph, the combination of a magazine-wheel; a pivotally-supported shaft having a friction-wheel and a laterally-projecting arm thereon; a pivotally-supported link on said shaft; and a spring adapted to hold said link in frictional contact with said wheel; for the purpose specified.

57. In a magazine-phonograph, the combination of a magazine-wheel; a pivotally-supported shaft having a friction-wheel thereon and a laterally-projecting arm thereon; and a pivotally-supported link on said shaft, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

CYRUS C. SHIGLEY. [L. s.]

Witnesses:

ALEXANDER S. PALMER,
T. H. PAXTON.