

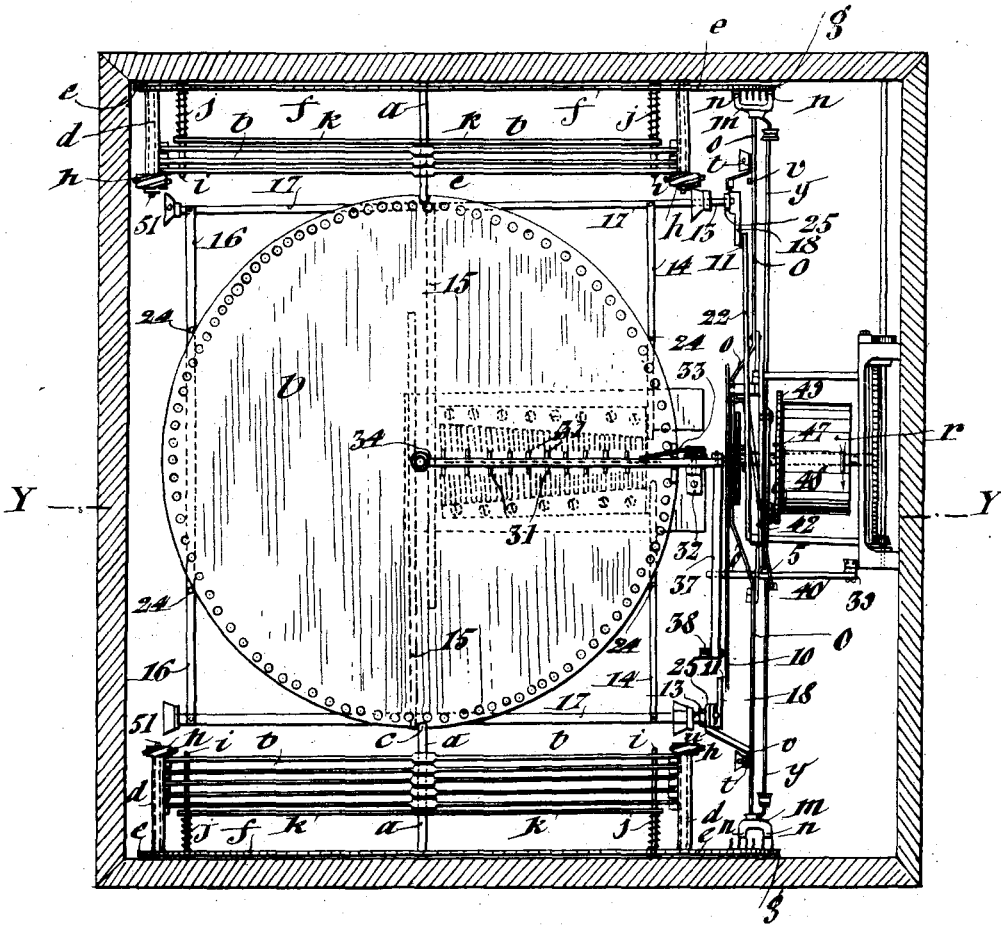
H. THORENS.
MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

(No Model.)

7 Sheets—Sheet 1.

Fig. 1.



Witnesses:
S. D. Gray
W. C. Mahon
E. Koffman

Hermann Thorens Inventor,
by J. Singer Att'y.

H. THORENS.
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7 Sheets—Sheet 2.

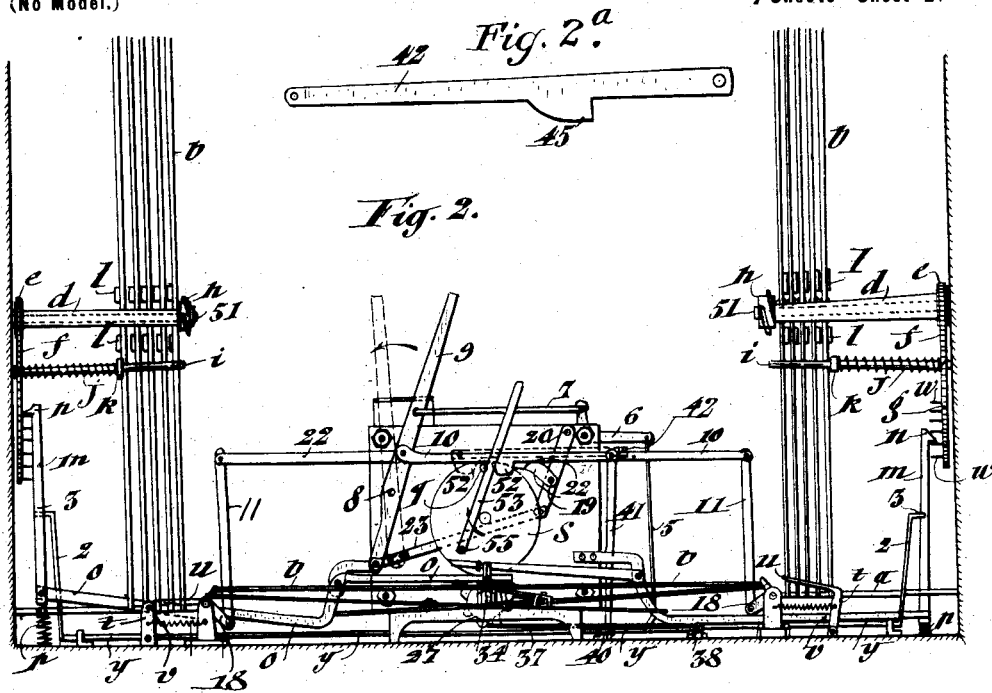
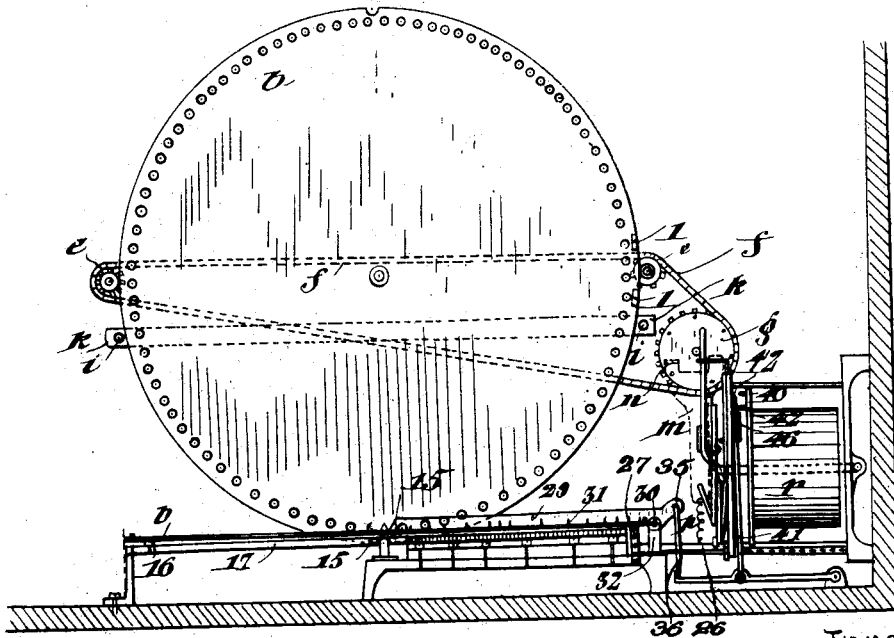


Fig. 3.



Witnesses:
 J. D'Arcy McMahon,
 E. Hoffman.

Inventor,
 Hermann Thorens
 by T. King Atty.

No. 681,895.

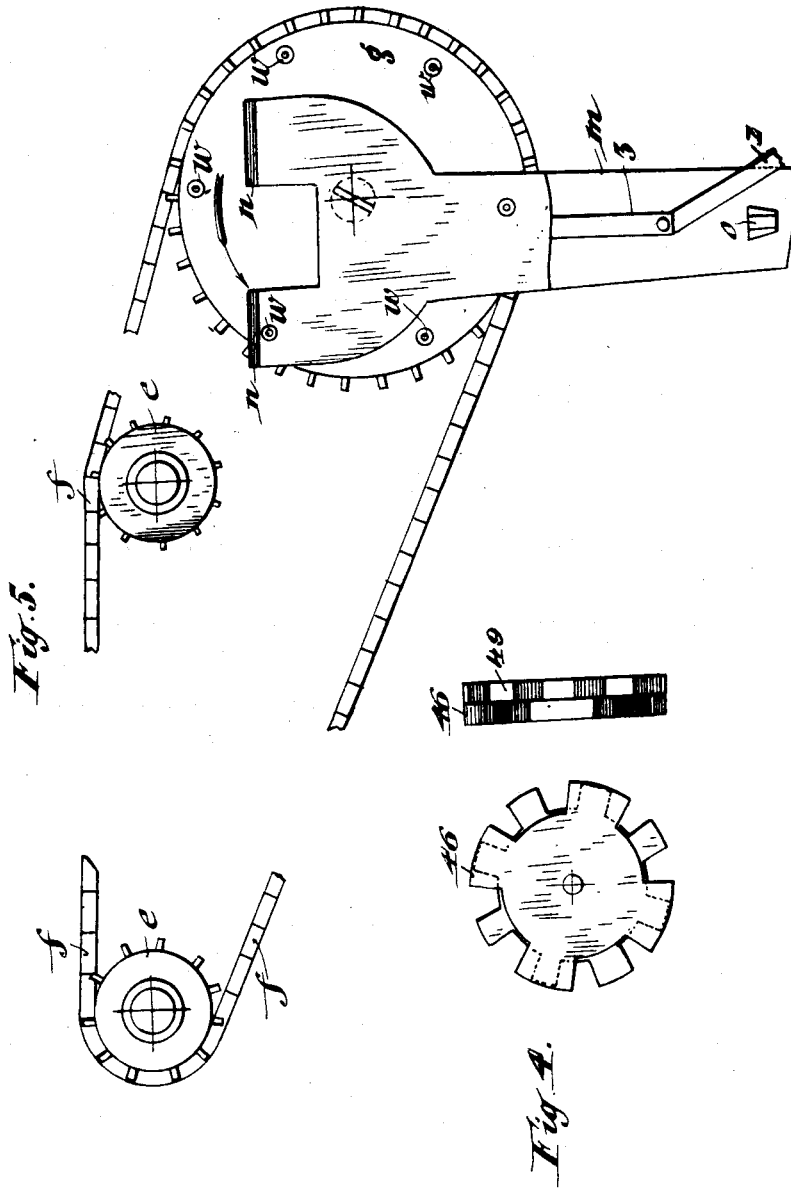
Patented Sept. 3, 1901.

H. THORENS.
MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

7 Sheets—Sheet 3.

(No Model.)



Witnesses:
S. D. Gray W. Mahon.
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No. 681,895.

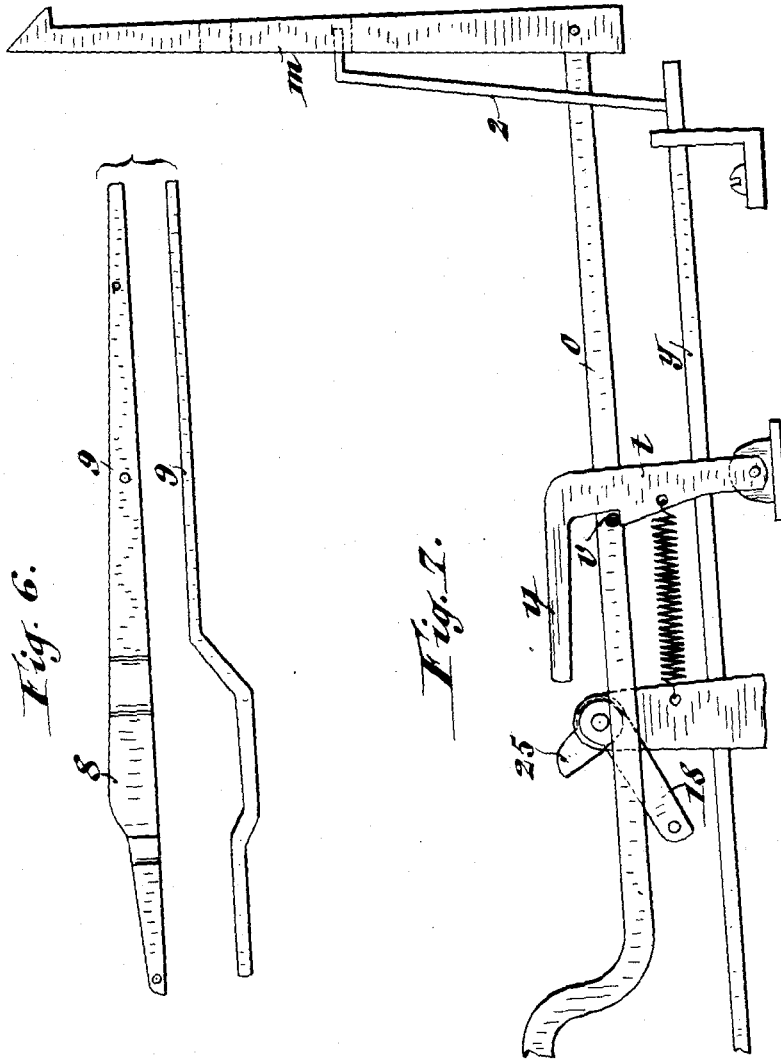
Patented Sept. 3, 1901.

H. THORENS.
MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

7 Sheets—Sheet 4.

(No Model.)



Witnesses:
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H. THORENS.
MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

(No Model.)

7 Sheets—Sheet 5.

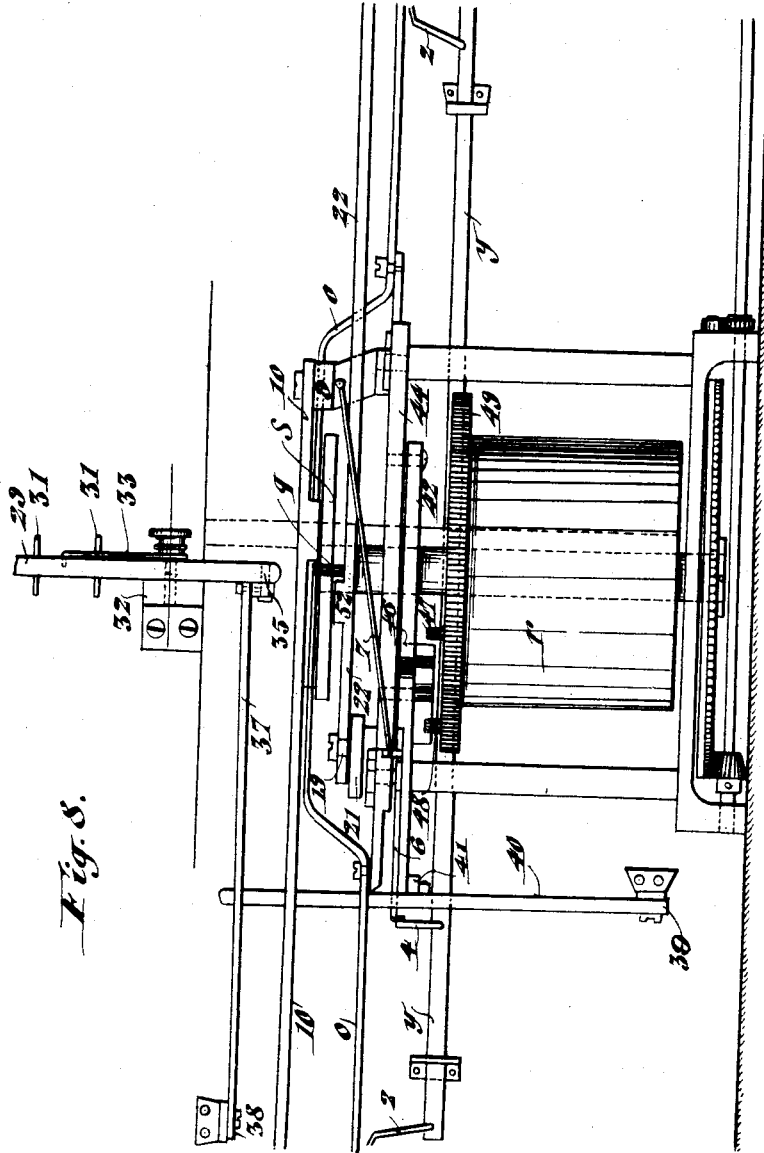


Fig. 8.

Witnesses:

J. D. Gray
W. Mahon
E. Hoffmann

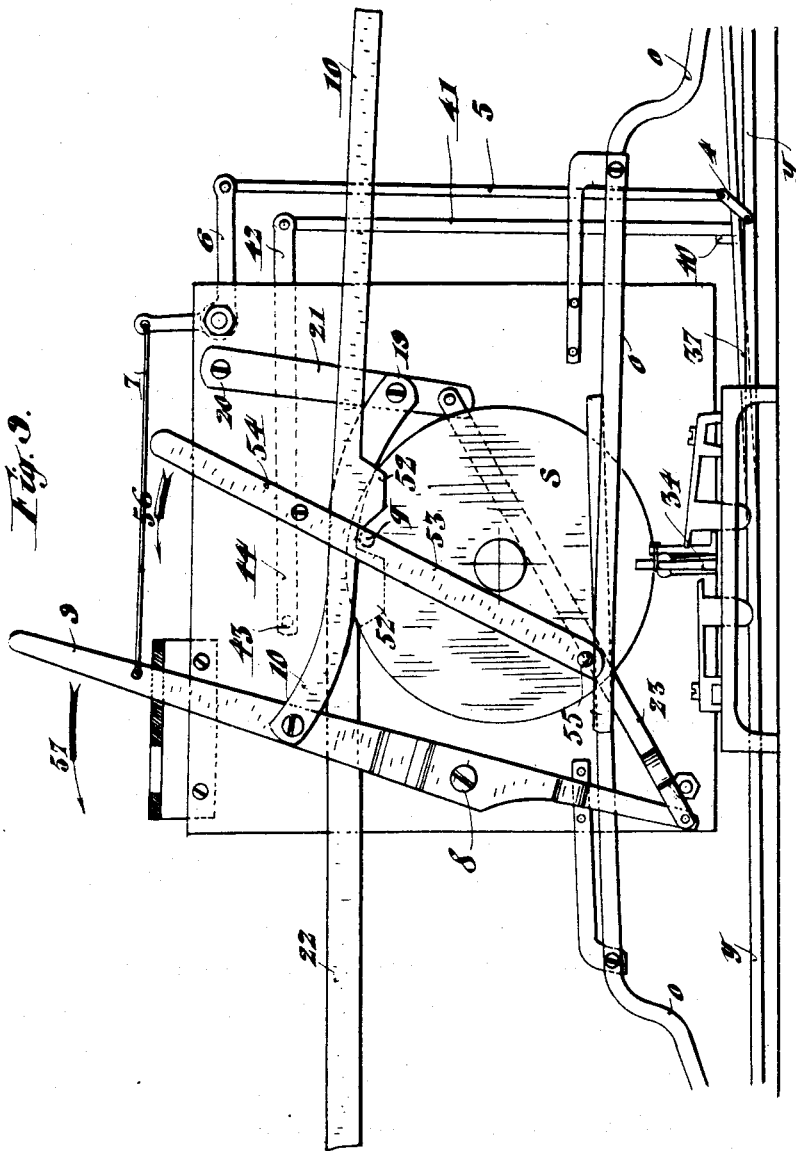
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MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

(No Model.)

7 Sheets—Sheet 6.



Witnesses:

S. D. May
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No. 681,895.

Patented Sept. 3, 1901.

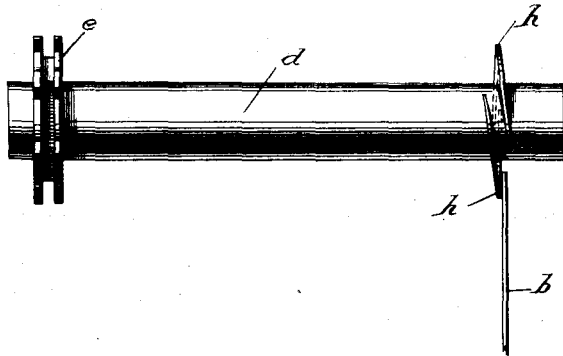
H. THORENS.
MECHANICAL MUSICAL INSTRUMENT.

(Application filed Mar. 27, 1901.)

(No Model.)

7 Sheets—Sheet 7.

Fig. 10.



Witnesses.

Jacob Heller.
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UNITED STATES PATENT OFFICE.

HERMANN THORENS, OF STE. CROIX, SWITZERLAND.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 681,895, dated September 3, 1901.

Application filed March 27, 1901. Serial No. 53,074. (No model.)

To all whom it may concern.

Be it known that I, HERMANN THORENS, a citizen of Switzerland, and a resident of Ste. Croix, Switzerland, have invented certain new and useful Improvements in Mechanical Musical Instruments, of which the following is a specification.

My present invention relates to improvements in mechanical musical instruments of that class in which the comb or sound-producing device is actuated by a rotatable disk; and the object of the invention is to provide an apparatus of this kind of compact construction, in which a series of music disks or plates are automatically moved successively to and from operative position with relation to the sound device or mechanism.

The invention consists in the construction and arrangement of parts that will be hereinafter described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of an apparatus embodying my invention, the case or box in which it is preferably arranged being shown in section. Fig. 2 is an elevation of the apparatus shown in Fig. 1, the left-hand side wall of the casing shown in said Fig. 1 and some of the interior parts being removed. Fig. 2^a is a detail view. Fig. 3 is an elevation, partly in section, on the line Y Y of Fig. 1. Figs. 4, 5, 6, and 7 are detail views on a larger scale. Fig. 8 is a view, on an enlarged scale, of part of the apparatus shown in Fig. 1. Fig. 9 is a view, on an enlarged scale, of part of the apparatus shown in Fig. 2. Fig. 10 is a view, on an enlarged scale, of one of the worm-wheels for engaging the peripheries of the disk, together with its connected sleeve and sprocket-wheel.

Similar letters and numerals of reference designate corresponding parts in the several views.

Referring to the drawings and particularly to Figs. 1 and 2, it will be seen that the apparatus has two holders or supports for music disks or plates, said holders being arranged on opposite sides of the comb or sound-producing device, which is arranged horizontally and may be of any preferred construction. Each of said holders or supports is adapted to maintain a series of music-disks in inoperative vertical position, and suitable auto-

matic means are provided for transporting a music-disk from either of said holders to operative position relative to the sound-producing device and for removing such disk from its operative position to either of said holders. Each music-disk *b* is provided at diametrically opposite points with two peripheral notches *c*, one of which engages with a stud or bar *a* when adjusted into inoperative position. It will be seen that each of said music-disk holders, which are of similar construction, so that but one need be described in detail, consists of a stud or bar *a*, above referred to, which is secured to a wall of the case or box in which the apparatus is arranged, and suitable means for maintaining the disks in position on and adjusting them longitudinally of said stud or bar. These retaining and adjusting devices will now be described.

On opposite sides of the stud or supporting-bar *a* are arranged sleeves *d*. These sleeves are loosely mounted on pins *51*, projecting inwardly from the wall of the casing, and each is provided at its end adjacent the casing-wall with a sprocket *e*. At the opposite end of each of said sleeves is arranged a worm *h*, which is adapted to engage with the peripheries of the disks mounted on the bar *a* successively, and as the sleeves *d* are rotated said worms act to move the disk engaged thereby longitudinally of the bar *a* toward or from the sound-producing device, according to the direction of rotation of the sleeves. The sprockets *e* are connected together and to a drive-wheel *g* by means of a chain *f*, so that the sleeves *d* will be simultaneously rotated in the same direction as said wheel *g* turns. The series of music-disks on each supporting-stud *a* are pressed toward the free end of said stud and the sound-producing device by means of a bar *k*, arranged between the sleeves *d*, being loosely mounted on supports *i* and pressed toward the series of music-disks by springs *j*. Each of the music-disks *b* is provided on its face or side opposite that which engages with the sound-producing device when in operative position with suitable lugs or projections *l*, which serve to separate the inoperative disks one from another in the holder in which they are arranged. Said lugs *l* may be formed by

punching a small tongue from the body of the disk and bending its free end laterally or toward the disk. The drive-wheel *g* and the sleeves *d* are intermittently rotated through suitable connections with the motor mechanism of the apparatus. The wheel *g* is provided on its inner face with a series, preferably six, of pins *w*, arranged at equal distances apart near the periphery of the wheel.

A pawl or latch *m* is arranged to successively engage said wheel *g* with a step-by-step movement. The pawl *m* is provided at its upper end with two hook-shaped projections *n*, and said pawl is adapted to be reciprocated vertically to cause one or the other of said projections to successively engage with the pins *w*, and thereby rotate the wheel *g*. The upper end of the pawl, however, is of such width, being less than the diameter of the circle in which the pins *w* are arranged, that but one of said projections *n* can be moved into engagement with the wheel *g* at any reciprocation of the pawl. Means are provided by which said pawl can be adjusted or shifted laterally, so that either of the projections *n* thereon can be rendered operative, and by this means the direction of rotation of the wheel *g* is easily controlled. It will be seen that when the pawl *m* occupies the position shown in Fig. 5 at each reciprocation it will revolve the wheel *g* one step in the direction of the arrow in said figure. If, however, the pawl be shifted laterally, so that the right-hand projection *n* is brought into position to engage the pins *w* and the left-hand projection moved from the path of said pins, then at each reciprocation of the pawl the wheel will be rotated one step in the opposite direction from that indicated by said arrow. A spring *p* is connected with the lower end of the pawl *m* and acts to draw it into its lowermost position. It is this downward movement of the pawl which effects the rotation of the wheel *g*, and the action of the spring is assisted by the weight of the pawl.

To elevate the pawl or latch *m* so that its operative projection *n* will be brought above one of the pins *w*, a lever *o* is employed. This lever is fulcrumed on a suitable support, and one end thereof extends into a socket formed in the inner face of the pawl *m*, near the lower end thereof, while the other end extends into the path of a pin *q*, that projects laterally from a power-disk *s*, which is connected to and adapted to be rotated by the motor mechanism conventionally illustrated at *r*. The socket in the pawl *m*, into which the outer end of the lever *o* extends, is of such size as to permit of the lateral adjustment of said pawl above referred to without affecting the connection of the pawl and lever or the position of the latter. At each revolution of the power-disk *s* both levers *o* will be actuated to elevate the pawls connected therewith and bring the operative projection *n* of each into position above one of the pins

w, as shown most clearly in Fig. 5. The pin *q* projects beyond both faces of the disk *s* for a purpose to be hereinafter described. The pawl *m* is locked in the elevated position to which it is adjusted by the lever *o* by reason of a pin *v* on said lever engaging a latch or dog *t*. This dog, as shown in Fig. 7, is pivotally mounted at its lower end and is provided on its edge toward the motor *r* with a projection, which is drawn under the pin *v* by a suitable spring as the inner end of the lever *o* is depressed. At its upper end the dog *t* is provided with a finger *u*, that extends into the path of a lug 25, secured on a horizontally-arranged rock-shaft 17, to be hereinafter more particularly referred to.

The lateral adjustment of the pawl *m*, before referred to, is accomplished through connections between the pawl and a rock-shaft *y*. This shaft, which is journaled in suitable bearings, is provided at or near its ends with upwardly-extending arms 2, the upper ends of which enter slots 3, formed in the stems of the two pawls *m*, so that as said shaft *y* is rocked both pawls will be simultaneously shifted to bring the previously-inactive projections *n* thereof into position to actuate the wheels *g*. The shaft *y* is connected by an arm 4 upon the shaft and a link 5 with one arm of a bell-crank lever 6, pivotally mounted on a suitable portion of the motor-framework, and the other arm of said lever 6 is connected by a link or rod 7 with a shift-lever 9, which is fulcrumed at 8 upon the framework of the motor mechanism. In suitable bearings arranged adjacent to each of the holders or supports for the inoperative music-disks are mounted rock-shafts 17. Both of these shafts are connected to the aforesaid shift-lever 9. One end of a link or rod 10 is pivotally connected at one end to said lever 9, and its other end is secured to the upper end of a link 11, the lower end of which is connected to an arm 18 on one of said rock-shafts 17. An arm 21 is pivotally connected at 20 to a part of the motor-frame on the opposite side of the power-disk *s* from the lever 9, and the lower end of this arm is connected with the lower end of said shift-lever 9 by means of a link 23. To said arm 21 is pivotally connected one end of a link or rod 22, the other end of which is fastened to the upper end of a rod 11, the lower end of which is connected to an arm 18 on the other rock-shaft 17. Each of said rock-shafts 17 is also provided with a series of arms or fingers 14 15 16, (see Fig. 1,) which are adapted to extend beneath the music-disk *b*, that is in operative position, and when either of said shafts 17 is rocked said arms will act to lift the music-disk from its said operative position and move it through an angle of about ninety degrees to bring said disk into a vertical inoperative position upon one of the studs *a*. It will be seen that said shafts will be so rocked whenever the levers 10 and 22 are raised or caused to move about the

pivots by which they are connected to the lever 9 and arm 21, respectively. To effect such vertical movement of the levers 10 and 22, each of them is provided with a depending cam-shaped lug 52, which extends into the path of movement of the pin *q* on the power-disk *s*. The said disk extends between the levers 10 and 22, so that the movement of neither is hindered. The pin *q*, as before stated, projects beyond both faces of the power-disk.

The rock-shafts 17 and their arms form what may be termed the "transporting devices," by which a music-disk can be conveyed from inoperative position in or on one of the holders to operative position above the sound-producing device and from such operative position to inoperative position on or in one of said holders. Secured to each of the rock-shafts 17 is a lug 25, which as said shaft is rotated to bring the arms 14 15 16 thereof into vertical position bears on the arm *u* of the dog *t* and moves said dog about its pivot to withdraw the projection thereon from beneath the pin *v* on the adjacent lever *o*. The pawls *m* are thereby released and under the force of gravity and the tension of springs *p* actuate the wheels *g*. The arms 14 and 16 are provided with lugs or pins 24, which act to hold the music-disk in proper position on said arms. The music-disk which is in operative position is held against the sound-producing device by a presser-arm 29, provided with suitable rollers 31, and said disk is rotated while in such position by the motor *r* through a shaft 26 and driver 27. (See Figs. 2 and 3.) The presser-arm 29 is pivotally supported at 30, and the free end thereof extends into a slot formed in the stud 34, about which the operative music-disk rotates when in use. Said presser-arm is maintained in position to properly hold the operative music-disk against the sounding device by the following means: An arm 35, attached to said presser-arm, is connected by a link 36 with a lever 37, which is suitably fulcrumed at 38. This lever 37 extends over and bears on the free end of a lever 40, fulcrumed at 39, which is connected at an intermediate point in its length with a lever 42, fulcrumed at 43 on the frame of the motor mechanism. The lever 42 is provided on its lower edge with a lug or finger 45, which is adapted to be engaged by a toothed disk 46, which is revolubly mounted on the framework of the motor. The toothed disk 46 is provided with a driving-gear 49, which is actuated by two pins 47 48, projecting from a rotating part of the motor mechanism. Normally the finger 45 of the lever 42 rests on the outer end of one of the arms of the toothed disk 46, and therefore the free end of said lever 42 is held in its uppermost position, and by reason of the engagement of the levers 40 and 37 the arm 30 of the presser-bar is held in such position as to maintain said bar in engagement with the stud 34 and the music-disk in operative po-

sition. When, however, the toothed disk 46 is moved so that the finger 45 on lever 42 enters a recess between two of the arms of said disk, the free end of the lever 42 falls, and the lever 40 being thus moved from engagement or contact with lever 37 the presser-bar 29 is swung about its pivot 30 into an elevated position by the action of a spring 33. This spring is connected to a stationary post 32 and to said presser-arm. When the disk 46 is moved to again bring the finger 45 onto one of the arms thereof, the levers 42, 40, and 37 act to return the presser-arm 29 to its horizontal position against the action of spring 33. The driving-gear 49 is provided with twice as many teeth as there are arms on the disk 46, so that when said drive-gear is moved one step by the action of the pin 47 the disk 46 will be adjusted only far enough to bring one of the recesses thereof into alinement with finger 45 of lever 42, and when said drive-gear is moved another step by action of the pin 48 said disk 46 will be moved sufficiently to bring the next arm thereof beneath said finger 45. It will be understood that the pins 47 48 are so positioned that their time of action will be separated by an interval of time sufficiently long to permit the transporting devices to remove the played music-disk from operative position to one of the holders and to bring another disk from one of the holders to operative position.

The operation of the invention may be briefly described as follows: Assuming that a music-disk is in operative position, the motor is started by means of any suitable controlling device (not shown in detail) and the music-disk thereby rotated in engagement with the sound-producing device. The power-disk *s* is adapted to make a complete revolution with every revolution of the operative music-disk. During this revolution the pin *q* of said power-disk will actuate the levers *o* to elevate the pawls *m*, and said pawls will be locked in their elevated positions by the dogs *t*. As the revolution of the music-disk is completed the pin 47 will adjust the toothed disk 46 so as to bring a notch or recess therein into alinement with the finger 45 on lever 42. The presser-arm 29 will be thereby released, and the spring 33 connected therewith acts to move said arm into a position where it will not interfere with the removal of the music-disk that has just been played. At this time the pin *q* will come into engagement with the finger 52 of lever 10 and raising said lever will rock the shaft 17 connected therewith and cause the arms 14 15 16 on said shaft to lift the said disk from the stud 34 and raise it to a vertical position, the pin or stud *a* entering one of the notches *c* in the disk. The music-disk is thus brought into position to be engaged by the worms *h* on the sleeves *d*, and as said sleeves are rotated by the pawl *m*, which has been released by the action of the lug 25 on the arm *u* of the locking-dog *t*, the said disk will be moved longitudinally of

the supporting stud or pin *a* toward the spring-bar *k*. The sprocket *g* is preferably provided with three times as many teeth as either of the sprockets *e*, and the parts are thus so arranged that at each step-by-step movement of the driver-sprocket *g* the sleeves *d* connected therewith will be turned through half a revolution. As the revolution of the disk *s* continues the pin *q* thereon engages with finger 52 of lever 22 and by raising said lever actuates the rock-shaft 17 connected therewith. This brings the arms 14 15 16 on said shaft into a vertical position in front of the other holder for inoperative disks, and the worms *h* on the sleeves *d* of said holder, which are revolved by their controlling-pawl *m*, act to withdraw the foremost of the series of disks from the stud *a* and deliver the same to the arms 14 15 16. As the pin *q* passes from engagement with the operative surface of finger 52 of lever 10 said lever returns to its normal position and the "transporting device" 14 15 16 17 connected therewith again takes the position in which said arms lie horizontal. When the pin *q* passes from engagement with the operative surface of lever 22, that lever will return to its lower position and the music-disk which is resting on the arms 14 15 16 connected therewith will be carried into operative position about the stud 34. At this time the pin 48 will move the toothed disk 46 sufficiently to bring one of the arms thereof beneath the finger 45 of lever 42 and through the action of levers 40 and 37 the presser-bar 29 will be returned to its horizontal position and caused to properly clamp the music-disk then in operative position against the sound-producing device.

In the above description it was assumed that the music-disks were moved from operative position to the holder at the right-hand side of the sound-producing device and that disks to be played were withdrawn from the left-hand holder. By adjusting the lever 9 to vary the relative position of the fingers 52 of the levers 10 and 22 the movements described will be reversed and the disks successively moved from operative position to the left-hand holder and withdrawn from the holder at the right of the sound-producing device. By shifting said lever 9 while a disk is in operative position that disk can be returned to the holder from which it was withdrawn. It may be desirable to have a disk make more than one revolution, and therefore I have provided a lever 53, which is fulcrumed at 54 and is provided with a pin 55, adapted to engage the levers *o* and adjust them out of the path of the pin *q* on power-disk *s*. By this lever the pawls *m* will not be actuated, and therefore the sleeves *d* of the holders for inoperative disks will not be rotated.

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

1. In a musical instrument of the character

described, the combination with a sounding device, and a series of disks adapted to actuate said sounding device, of two holders or supports for said disks arranged adjacent to the sounding device, means for automatically removing a disk from either one of said holders to operative position relative to the sounding device and for automatically transporting said disk from said operative position to the other holder. 70 75

2. In a musical instrument of the character described, the combination with a horizontally-arranged sounding device, and a series of disks adapted to actuate said sounding device, of two holders arranged on opposite sides of the sounding device and each adapted to support a series of said disks in vertical position, and means for automatically moving the disks successively from either of said holders into operative position relative to the sounding device and for transporting the disks successively from said operative position to the opposite holder. 80 85 90

3. In a musical instrument of the character described, the combination with a sounding device, of two holders or supports for music-disks adapted to actuate the sounding device, and means for automatically transporting a disk from either of said holders to operative position relative to the sounding device. 95

4. In a musical instrument of the character described, the combination with a sounding device, of two holders or supports for music-disks adapted to actuate the sounding device, means for successively moving the disks from one of said holders to operative position relative to the sounding device, means for moving said disks from such operative position to the other of said holders or supports, and means for reversing the action of said transporting devices. 100 105

5. In a musical instrument of the character described, the combination with a sounding device, of a series of music-disks each adapted to actuate the sounding device and provided with a peripheral notch or recess, a stationary rod or bar arranged at one side of said sounding device and on which a series of said disks can be supported, by having a notch or recess in each engaging said bar, means for moving the foremost disk of said series from said support and into position to actuate the sounding device, and means for moving the remaining disks longitudinally of their support toward the sounding device. 110 115 120

6. In a musical instrument of the character described, the combination with a sounding device, of two holders for supporting music-disks adapted to actuate the sounding device, means for automatically moving the disks on one of said holders to release one therefrom, means for automatically transporting said released disk to operative position relative to the sounding device, means for transporting a disk from said operative position to the other of said holders, and means for moving the series of disks on the last said holder and 125 130

removing said disk from the transporting device to said holder.

7. In a musical instrument of the character described, the combination with a sounding device, of two holders for supporting music-disks adapted to actuate the sounding device, a transporting device arranged between the sounding device and each of said holders and adapted to convey a disk to or from operative position, and means for successively actuating said transporting devices, whereby a disk can be moved from operative position to one of said holders and another disk moved from the other of said holders to operative position.

8. In a musical instrument of the character described, the combination of a sounding device, holders arranged on different sides of the sounding device for supporting music-disks adapted to actuate the sounding device, a transporting device arranged between each of said holders and the sounding device for moving disks to and from operative position relative to the sounding device, means for adjusting the series of disks on each of said holders, and a single power-disk adapted to successively actuate the feeding devices for adjusting the disks mounted on said holders and said transporting devices, whereby a disk can be moved from operative position to either of said holders and another disk conveyed from the other holder to operative position.

9. In a musical instrument of the character described, the combination of a sounding device, a stationary rod or bar arranged at one side of the sounding device, a series of music-disks adapted to actuate the sounding device, each having a peripheral notch through which said bar or rod extends to support said disks in inoperative position, means for moving the series of disks longitudinally of said supporting-bar, a rock-shaft mounted between the sounding device and said support for inoperative disks, a series of arms connected to said rock-shaft and adapted to extend substantially in the plane of the sounding device, below the operative music-disk, or parallel to the disks supported on said bar, means for moving a disk from operative position at the completion of a revolution thereof, means for thereafter actuating said rock-shaft to cause the arms thereon to move toward and from the series of inoperative disks, and means for feeding the foremost of said inoperative disks onto said arms of the rock-shaft while they are extending parallel thereto.

10. In a musical instrument of the character described, the combination of a horizontally-arranged sounding device, a rod or bar *a* arranged at one side of the sounding device for supporting a series of music-disks adapted to actuate the sounding device, a spring-pressed bar forcing the series of disks on said support toward the sounding device, a rock-shaft arranged between the sounding device and said

disk-support and provided with a series of arms adapted to extend beneath the operative music-disk, a lever connected with said rock-shaft, a power-disk adapted to move said lever at the completion of a revolution of the operative disk to actuate said rock-shaft and adjust the arms thereof to and from a position parallel to the inoperative disks, rotatable sleeves mounted on opposite sides of the inoperative disks and provided with means for moving said series of disks longitudinally of their support, and power devices controlled by the movement of said rock-shaft, for causing said feed devices to release one of the inoperative disks from its holder and deliver the same to the arms of said rock-shaft while extending parallel thereto.

11. In a musical instrument of the character described, the combination of a horizontally-arranged sounding device, a bar or rod *a* arranged at one side of the sounding device to support a series of music-disks adapted to actuate the sounding device, two rotatable sleeves mounted above said support and each provided at its end adjacent the sounding device with a worm and at its opposite end with a sprocket, a chain connecting said sprockets with a drive-gear, a vertically-movable pawl adapted to actuate said drive-gear, a lever for raising said pawl, a lock for holding the pawl in its elevated position, a rock-shaft mounted between the sounding device and the holder or support for the music-disks, a series of arms connected to said rock-shaft and adapted to support a music-disk while moving it from said inoperative to operative position, a lever for actuating said rock-shaft, a finger connected to said rock-shaft and adapted to release the lock of said pawl as said shaft is actuated, and a power-disk adapted to successively move the levers connected with said pawl and rock-shaft, as and for the purpose described.

12. In a musical instrument of the character described, the combination of a horizontally-arranged sounding device, a bar or rod *a* arranged at one side of the sounding device to support a series of music-disks adapted to actuate the sounding device, two rotatable sleeves mounted above said support and each provided at its end adjacent the sounding device with a worm and at its opposite end with a sprocket, a chain connecting said sprockets with a drive-gear, a vertically-movable pawl adapted to actuate said drive-gear, means for adjusting said pawl laterally to vary the direction of rotation of said drive-gear, a lever for raising said pawl, a lock for holding the pawl in its elevated position, a rock-shaft mounted between the sounding device and the holder or support for the music-disks, a series of arms connected to said rock-shaft and adapted to support a music-disk while moving it from said inoperative to operative position, a lever for actuating said rock-shaft, a finger connected to said rock-shaft and

adapted to release the lock of said pawl as said shaft is actuated, and a power-shaft adapted to successively move the levers connected with said pawl and rock-shaft, as and for the purpose described.

13. In a musical instrument of the character described, the combination with a sounding device, of two holders each arranged to support a series of music-disks adapted to actuate the sounding device, means for automatically transferring a disk from either of said holders to operative position relative to the sounding device, and means for moving a disk from said operative position to the other of said holders.

14. In a musical instrument of the character described, the combination with a sounding device, of two holders each arranged to support a series of music-disks adapted to actuate the sounding device, a transporting device operating between each of said holders and the sounding device to move a disk from either holder to operative position relative to the sounding device or from such operative position to said holder, and means for successively actuating said transporting devices upon the completion of a revolution of the operative music-disk whereby said disk will be automatically transported from its operative position to one of the holders and another disk transported from the other holder

to operative position relative to the sounding device.

15. In a musical instrument of the character described, the combination with a sounding device, of two holders each arranged to support a series of music-disks adapted to actuate the sounding device, means for moving the series of disks in each holder toward or from the delivery end thereof, a transporting device operating between each of said holders and the sounding device to move a disk from its associated holder to operative position relative to the sounding device or from such operative position to said holder, and means adapted to be operated at the completion of a revolution of the music-disk which is engaging the sounding device to successively actuate the disk-adjusting devices of both holders and both transporting devices, whereby the played disk will be automatically removed from its operative position to one of said holders and another disk withdrawn from the other holder and moved to operative position.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

HERMANN THORENS.

Witnesses:

MICHEL PIERALLIUS,
FRANK CUENOD.