F. SHAFFER.

TALKING MACHINE.

APPLICATION FILED MAR. 9, 1909.

929,505.

Patented July 27, 1909.

5 SHEETS—SHEET 1.

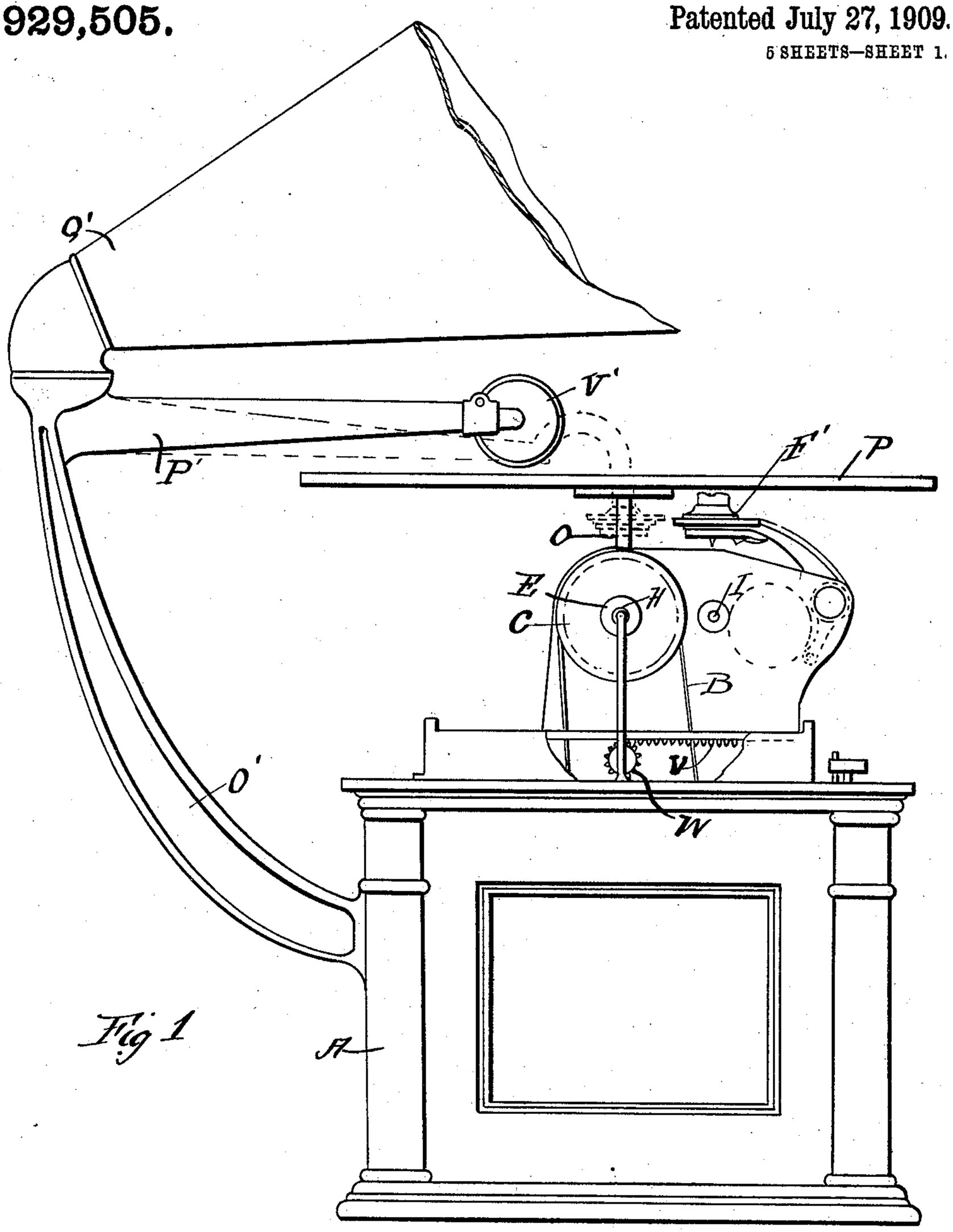


Fig 1

WITNESSES

S. M. Gallagher.

Francis A. Pocock

INVENTOR

Fred Shaffer

BY

W. Preston Gillespie

ATTORNEY

F. SHAFFER.

TALKING MACHINE.

APPLICATION FILED MAR. 9, 1909.

929,505.

Patented July 27, 1909.

5 SHEETS—SHEET 2.

Fig 6

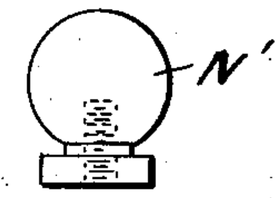


Fig 7

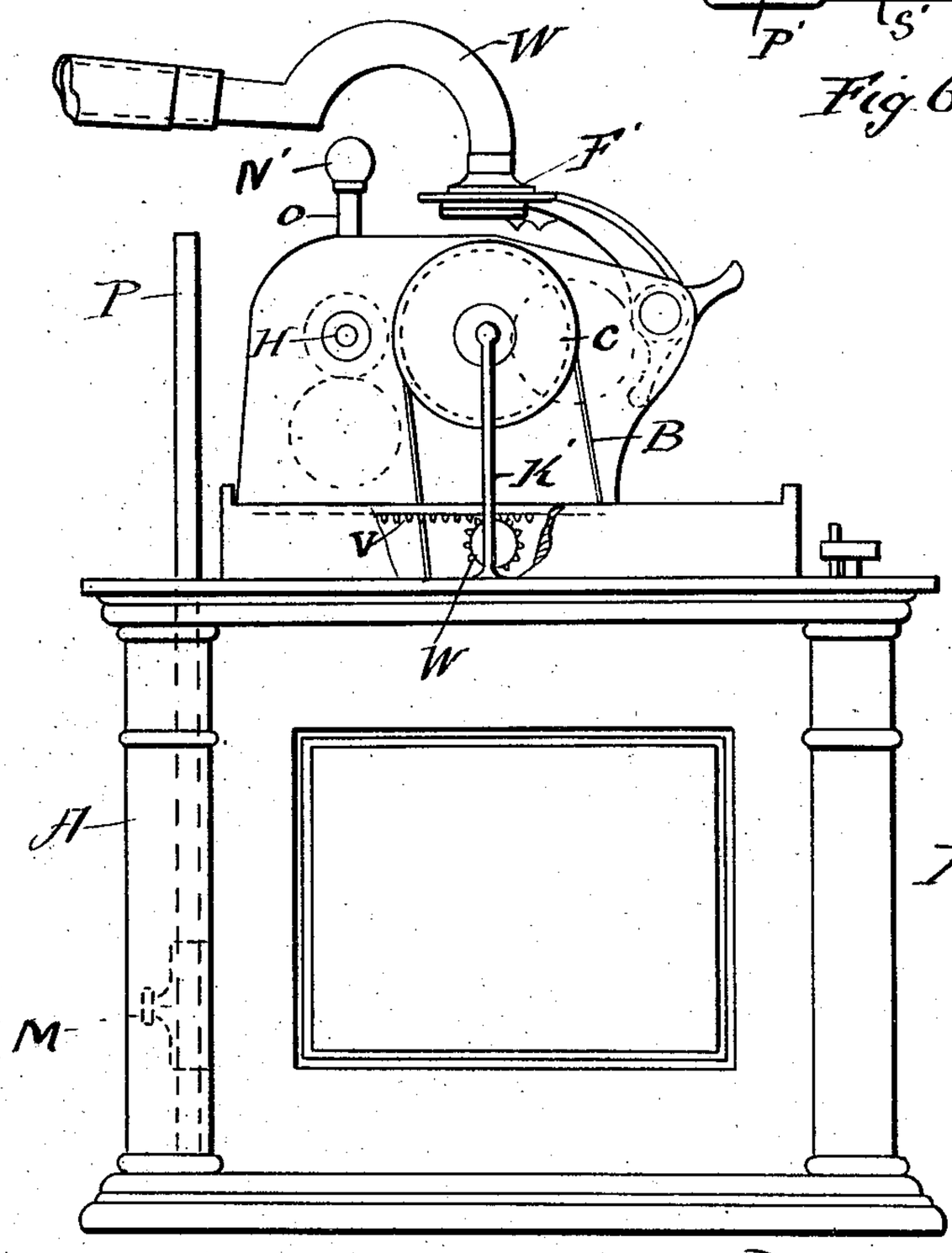


Fig 2

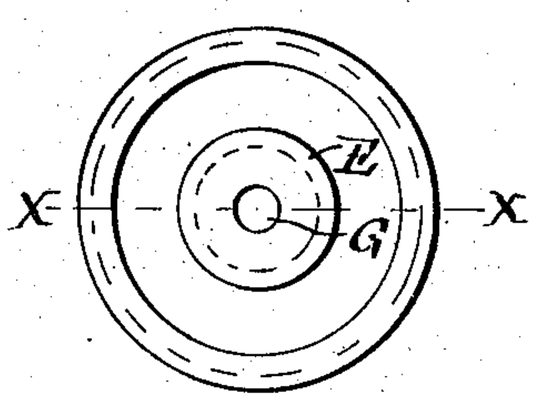


Fig 8

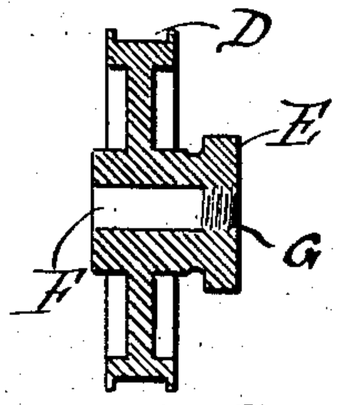


Fig. 9.

WITNESSES

Francis A. Pocock.

S. M. Gallagher

INVENTOR

Fred Shaffer

BY

W. Preston Hitchcock

ATTORNEY

F. SHAFFER.

TALKING MACHINE.

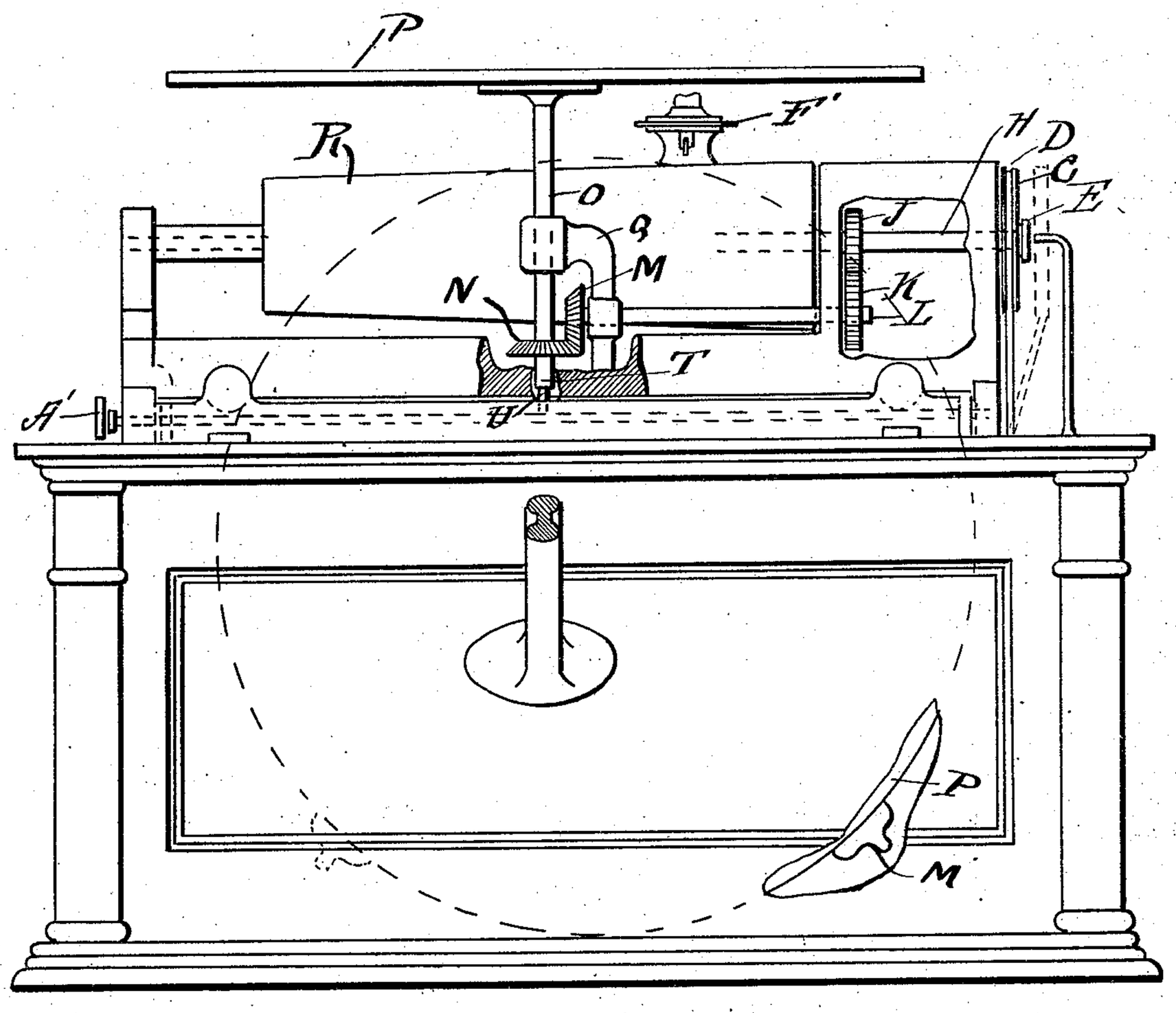
APPLICATION FILED MAR. 9, 1909.

929,505.

Patented July 27, 1909.

5 SHEETS—SHEET 3.

Fig 3



WITNESSES

S. M. Gallagher.

Francis A. Pocock.

INVENTOR

Fred Shaffer

BY

W. Preston Hildebrand

ATTORNEY

F. SHAFFER.

TALKING MACHINE.

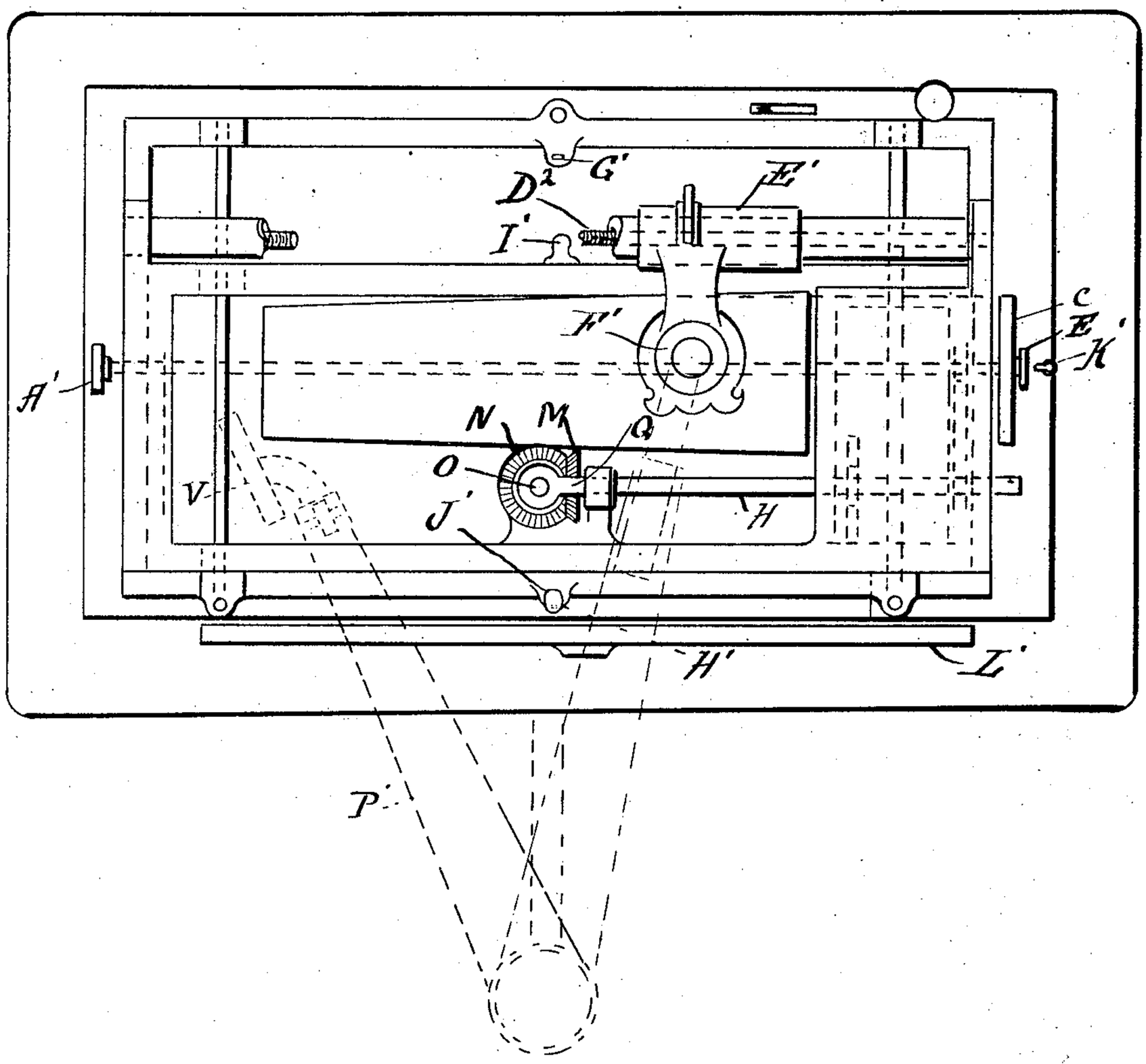
APPLICATION FILED MAR. 9, 1909.

929,505.

Patented July 27, 1909.

5 SHEETS—SHEET 4.

Fig. 4.



WITNESSES

S. M. Gallagher

Francis A. Pocock

INVENTOR

Fred Shaffer

BY

W. Preston Gilbreath

ATTORNEY

F. SHAFFER.

TALKING MACHINE.

APPLICATION FILED MAR. 9, 1909.

929,505.

Patented July 27, 1909.

5 SHEETS—SHEET 5.

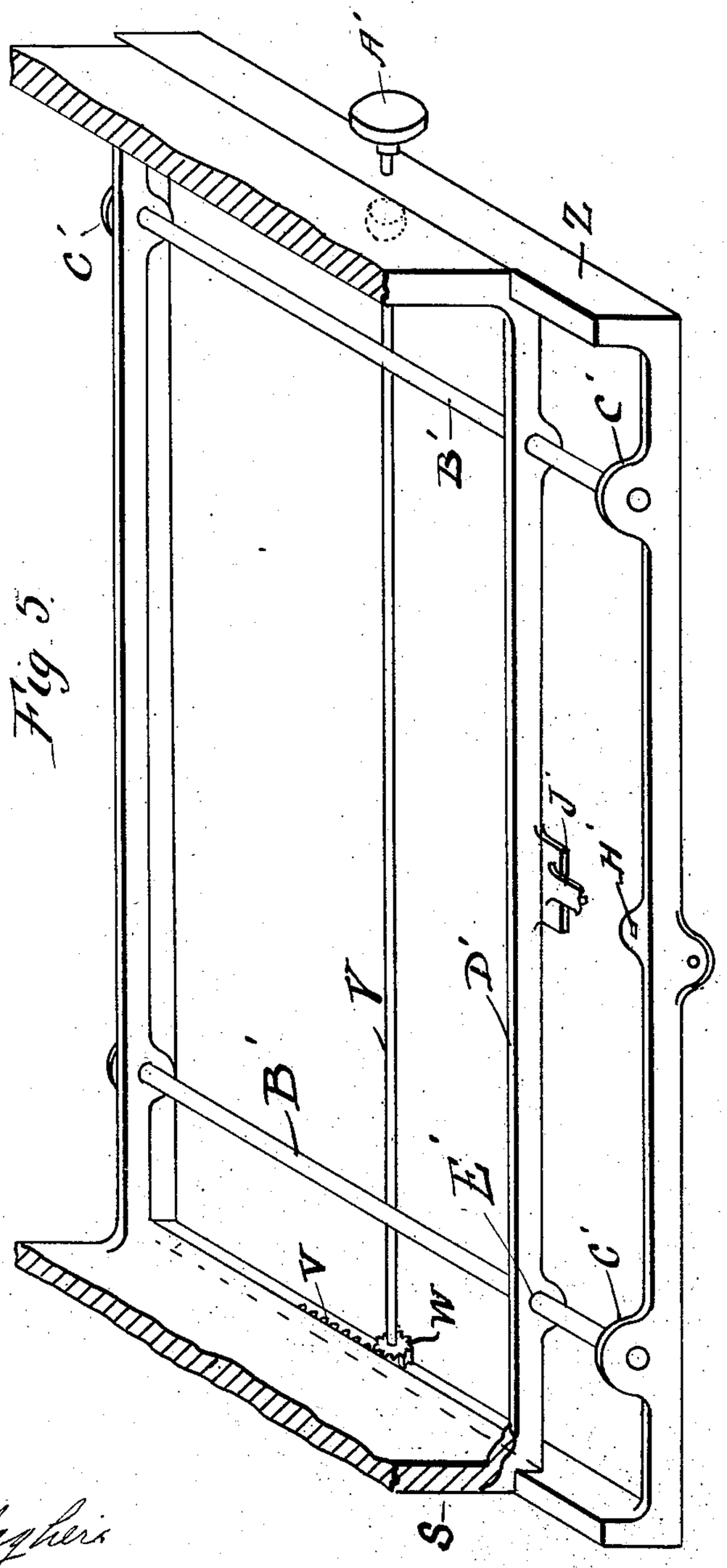


Fig 3.

WITNESSES

S. M. Gallagher

Francis C. Pocock

INVENTOR

Ford Shaffer

BY

W. Preston Hitt Jr. ATTORNEY

UNITED STATES PATENT OFFICE.

FRED SHAFFER, OF VANDERGRIFT, PENNSYLVANIA.

TALKING-MACHINE.

No. 929,505. Specification of Letters Patent. Patented July 27, 1909.

Application filed March 9, 1909. Serial No. 482,344.

To all whom it may concern:

Be it known that I, FRED SHAFFER, a citizen of the United States, residing at Vandergrift, in the county of Westmoreland and State of Pennsylvania, have invented a certain new and useful Improvement in Talking-Machines, of which the following is a specification.

My invention relates to a new and useful improvement in talking machines, and has for its object to provide an exceedingly simple and effective device of this character whereby either disk or cylinder records may be used upon the same machine.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an end view, parts thereof being broken away showing the machine in position for playing disk records. Fig. 2, a similar view showing the machine in position for playing cylinder records. Fig. 3, a rear view of Fig. 1, parts of the machine being broken away to more clearly show the operating parts. Fig. 4, a plan view showing the arm carrying the reproducer in dotted lines. Fig. 5, an enlarged perspective view of the frames showing the shifting mechanism. Fig. 6, a view in elevation of the clamp for adjusting the disk reproducer to the tapering arm of the horn. Fig. 7, a view in elevation of a knob or shield to be placed on the end of the disk or cylinder shaft. Fig. 8, a face view of the drive pulley, and Fig. 9, a section at the line X—X of Fig. 8.

In carrying out my invention as here embodied, A represents the box or cabinet in which is placed a suitable motor from which leads the drive belt B passing around the drive pulley C, said pulley being constructed with a groove D around its periphery and having formed integral therewith a thumb nut E. Through said pulley passes an opening F in the walls of which are formed the left hand threads G, said threads adapted to engage with threads formed on the end of the shafts H and I. When the drive pulley C is on the shaft H and revolving said shaft it will revolve the gear J secured thereto, and as said gear meshes with the gear K this gear will be revolved, and as this last named gear is secured to the shaft L this shaft will be revolved, and on the opposite end thereof is secured a bevel gear M which meshes with the bevel gear N secured to the disk table shaft O, to the upper end of which is removably secured the disk table P. The shaft L and the disk table shaft O are journaled in suitable bearings formed in the bracket Q which is integral with the upper frame S to be hereinafter described. The lower end of the shaft O is journaled in the lower portion of the upper frame as indicated by T, and entering said frame from beneath so that it rests against the lower end of the shaft O is a set screw U whereby the shaft O may be adjusted to overcome the wearing away of the same by constant use. When the drive pulley C is on the shaft I as shown in Fig. 2 it is then a direct drive, for on the shaft I is secured the conical cylinder holder R on which are placed the cylinder records when being played.

S is the upper frame with the lower surface of each end of which is formed the rack V or said rack may be formed separately and attached to said frame if found desirable. Engaging with these racks are the pinions W which are securely fastened to the shaft Y, the ends of which are journaled in the lower frame Z, one of said ends extending through the frame and having thereon a thumb nut A′ whereby said shaft may be revolved for moving the upper frame S to and fro.

B′ denotes guides which are immovably secured to the lugs C′ formed with the lower frame Z, and on these guides slides the upper frame S, the sides D′ of which are provided with openings E′ through which pass said guides B′. The ends of the upper frame S extend upward so as to form suitable journaling places for the different shafts of the mechanism.

Journaled in the ends of the upper frame S is a worm D^2 which is revolved in suitable ratio to the shaft I whereby the traveler E′ carrying the cylinder reproducer F′ will be moved along at a suitable speed.

In order that the movable parts will be held stationary in any one position I provide the lower frame with the oppositely disposed apertures G′ and H′, and on the sides of the upper frame are secured the op-

positely disposed spring catches I′ and J′ so that when the upper frame is moved to the rear the spring catch J′ will automatically engage with the aperture H′ thereby holding the movable parts in the position to the rear of the machine. Now when it is desired to shift the upper frame forward the catch J′ is disengaged from the aperture H′, said frame is then moved forward until the catch I′ automatically engages with the aperture G′ at which time the parts will be held in the forward position.

Secured to the top of the box A is a support K′ which will be in the center of the shaft H when the frame is moved forward, and in the center of the shaft I when the frame is moved to the rear. This support is adapted to receive and hold the pulley C while the shifting is taking place.

In the rear of the box or cabinet A is formed the opening L′ in which are placed the supports M′ against which will rest the disk table P when it has been removed from the shaft O and placed in the opening L′, and when the disk table has been removed the knob N′ may be placed on the end of the shaft O which will preserve the threads thereon and assist in beautifying the machine.

To the rear of the box or cabinet A is fastened the bracket O′ to the upper end of which is pivoted the tapering arm P′, the rear end of which carries the horn Q′. The forward end of the tapering arm P′ is reduced in size as indicated by R′ and over this reduced portion fits the clamp S′ which is drawn together by a circular nut T′ having the screws U′ formed integral therewith, one of which is provided with a left hand and the other a right hand thread. This clamp is used to secure the disk reproducer V′ to the tapering arm P′. When the machine is to be used for playing the cylinder records the clamp S′ and the disk reproducer V′ are removed and the connector W′ is placed in the forward end of the tapering arm P′ and over the outlet of the cylinder reproducer F′.

The operation of the machine is as follows: Assuming that the machine is playing the disk record as shown in Fig. 1 and it is desired to change it so that it will play cylinder records as shown in Fig. 2 I first unthread the pulley C from the shaft H allowing it to rest upon the support K′, then by turning the thumb nut A′ which will cause the pinions W to revolve through the medium of the shaft Y which will slide the upper frame S to the rear, carrying the center of the shaft I to where the center of the shaft was before the change took place or in alinement with the upper end of the support K′, it being understood that the catch I′ has first been disengaged from the aperture G′, and when the rearward movement is complete the catch J′ will automatically engage the aperture H′. Next I unclamp the disk reproducer V′ and remove the disk table P placing it in the opening L′ at the rear of the cabinet, then I insert the connector W′ in the tapering arm and place it over the cylinder reproducer F′. Now the pulley C may be threaded on to the shaft I at which time the change will be complete and the machine ready for playing cylinder records. This change will take but very little time yet it increases the value of the device as either style record commonly in use may be used.

Of course I do not wish to be limited to the exact details of construction here shown as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame provided with racks having upwardly extending ends, said frame adapted to carry the disk and cylinder operating mechanism, the sides of said upper frame having openings therein through which pass the guide rods, a shaft, the ends of which are journaled to the lower frame, pinions secured thereto engaging with the rack on the upper frame, and a thumb nut secured to one end of the shaft for revolving the same, as specified.

2. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame having upwardly extending ends and side pieces connecting said ends, said side pieces having openings formed therein through which pass the guide rods, spring catches secured to said sides adapted to engage with the apertures in the lower frame, racks mounted on the under surface of the upper frame, a shaft journaled in the lower frame, pinions securely mounted thereon meshing with the racks, a thumb nut fastened to the end of said shaft, a disk playing apparatus, a cylinder playing apparatus, both of which are carried by the sides of the upper frame, and means for operating the same, as and for the purpose set forth.

3. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame having upwardly extending ends and side pieces connecting

said ends, said side pieces having openings formed therein through which pass the guide rods, spring catches secured to said sides adapted to engage with the apertures on the lower frame, racks mounted on the under side of the upper frame, a shaft journaled in the lower frame, pinions securely mounted thereon meshing with the racks, a thumb nut fastened to the end of said shaft, a bracket formed integral with the upper frame having a vertical and horizontal bearing, a disk playing shaft mounted in the vertical opening and having its lower end journaled in the lower portion of the upper frame, means for adjusting said shaft to take up the wear, a bevel gear mounted on said shaft, a horizontal shaft mounted in the horizontal bearing, a bevel gear mounted on one end thereof engaging with the bevel gear on the disk table shaft, a gear mounted on the opposite end of said shaft, another horizontal shaft journaled in the sides of the upper frame, said shaft having threads formed on its upper end, a gear mounted on said shaft adapted to mesh with the gear mounted on the first named horizontal shaft, another horizontal shaft having threads formed on its outer end journaled in the sides of the upper frame, a conical cylinder holder secured to said shaft, and means for revolving either of the last two named horizontal shafts.

4. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame having upwardly extending ends and side pieces connecting said ends, said side pieces having openings formed therein through which pass the guide rods, spring catches secured to said sides adapted to engage with the apertures on the lower frame, racks mounted on the under side of the upper frame, a shaft journaled in the lower frame, pinions securely mounted thereon meshing with the racks, a thumb nut fastened to the end of said shaft, a bracket formed integral with the upper frame having a vertical and horizontal bearing, a disk playing shaft mounted in the vertical bearing and having its lower end journaled in the lower portion of the upper frame, a driving pulley having a thumb nut formed integral therewith adapted to be threaded on one of the last named horizontal shafts, and means for transmitting power from a power shaft to said pulley.

5. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame having upwardly extending ends and side pieces connecting said ends, said side pieces having openings formed therein through which pass the guide rods, spring catches secured to said sides adapted to engage with the apertures on the lower frame, racks mounted on the under side of the upper frame, a shaft journaled in the lower frame, pinions securely mounted thereon meshing with the racks, a thumb nut fastened to the end of said shaft, a bracket formed integral with the upper frame having a vertical and horizontal bearing, a disk playing shaft mounted in the vertical bearing and having its lower end journaled in the lower portion of the upper frame, a driving pulley having a thumb nut formed integral therewith adapted to be threaded on one of the last named horizontal shafts, means for transmitting power from a power shaft to said pulley, a support secured to the cabinet on which may be placed the drive pulley while the machine is being shifted, a disk table secured to the upper end of the table carrying shaft, a horn, a disk reproducer, a cylinder reproducer, a horn having a tapering arm, and means for connecting said arm with either of the reproducers, as specified.

6. In a talking machine, a cabinet provided with an opening in the rear, supporting members placed in said opening, a lower frame provided with apertures and having lugs formed therewith, guide rods secured to said lugs, an upper frame having upwardly extending ends and side pieces connecting said ends, said side pieces having openings formed therein through which pass the guide rods, spring catches secured to said sides adapted to engage with the apertures on the lower frame, racks mounted on the under side of the upper frame, a shaft journaled in the lower frame, pinions securely mounted thereon meshing with the racks, a thumb nut fastened to the end of said shaft, a bracket formed integral with the upper frame having a vertical and horizontal bearing, a disk playing shaft mounted in the vertical bearing and having its lower end journaled in the lower portion of the upper frame, a driving pulley having a thumb nut formed integral therewith adapted to be threaded on one of the last named horizontal shafts, means for transmitting power from a power shaft to said pulley, a support secured to the cabinet on which may be placed the drive pulley while the machine is being shifted, a disk table secured to the upper end of the table carrying shaft, a horn, a disk reproducer, a clamp for securing said reproducer to the arm of the horn, a connector adapted to slide within the arm of the horn, a cylinder reproducer over which slides said connector, and a knob adapted to be threaded on the end of a shaft, as specified.

7. In a device of the character described, a cabinet, a lower frame secured thereto, an

upper frame carrying a disk and cylinder mechanism slidably secured to the lower frame, and means for sliding said upper frame, as shown and described.

8. In a device of the character described, a cabinet, a lower frame mounted on said cabinet, an upper frame slidably mounted on said lower frame, means for sliding said upper frame, horizontal shafts carried by the upper frame, a disk table connected to one of said shafts, a cylinder holder connected to the other shaft, a drive pulley adapted to be placed on either of the shafts whereby said shafts will be revolved, thus revolving either the disk table or cylinder holder, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

FRED SHAFFER.

Witnesses:
A. E. YOUNG,
F. H. MCLAUGHLIN.